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Trade Creation and Trade Diversion: The Welfare Impact of MERCOSUR on Argentina and Brazil

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 Abstract

This paper examines the MERCOSUR trade bloc and assesses how Argentine and Brazilian trade flows have changed since its formation and the extent to which this represents trade creation or trade diversion. These net welfare effects of integration are then assessed in the context of an incomplete MERCOSUR common external tariff (CET) and managed trade agreements between Argentina and Brazil. Overall, there are total welfare gains for both countries although they are small as a percentage of GDP. However, managed trade agreements, particularly in automobiles and exemptions from the CET have been responsible for trade diversion suggesting that full implementation of a common external trade policy will bring additional benefits to MERCOSUR.

Key Words: Regional integration, trade creation, trade diversion, trade policy. Argentina, Brazil.

JEL Classification: F15

Criação e desvio de comércio: O impacto *welfare* no MERCOSUL sobre a Argentina e o Brasil

Ann Bartholomew

Resumo

Este texto calcula os níveis de criação e desvio de comércio de forma a medir os efeitos líquidos de *welfare* sobre a Argentina e o Brasil como resultado da formação do MERCOSUL. Os resultados são analisados no contexto da Tarifa Externa Comum (TEC), as exceções ao TEC, e acordos comerciais condicionados. Os ganhos estáticos ou as perdas de *welfare* da integração econômica são medidos através de uma análise de equilíbrio parcial, de modo a permitir um estudo dos ganhos da integração econômica desde a formação do MERCOSUL até 1998.

A autora indica que os efeitos *welfare* para os dois países difere. Para o Brasil, o desvio de comércio líquido espalha-se por igual entre as várias categorias de produtos. Grande parte do desvio comercial afeta os produtos incluídos nas listas de exceções para permitir o ajuste até 1999 ou 2001, os anos marcados para a convergência do TEC. O desvio comercial no caso do Brasil ocorre principalmente no setor automotor. Assim, embora a criação de comércio seja superior ao desvio comercial, os efeitos *welfare* líquidos seriam superiores se não houvesse acordos comerciais condicionados e se o setor automotor fosse incluído numa política comercial comum.

No caso da Argentina, os efeitos de desvio são mais concentrados, especialmente nos setores de transporte e para alguns produtos manufaturados. Isto tem um impacto mais forte em termos das implicações *welfare* da isenção do TEC dos setores de transporte e bens capitais, indicando que a inclusão mais rápida destes setores no TEC teria resultado num menor desvio comercial no caso argentino.

A autora conclui que houve ganhos *welfare* para ambos os países, embora estes constituam apenas uma pequena percentagem do PIB. No entanto, a existência de listas de isenção nacionais têm produzido perdas a nível de *welfare* para ambos países, visto que ambos experimentaram graus de desvio comercial. Isto ocorre quando os níveis tarifários aumentam e convergem com o TEC, o que indica que um TEC mais baixo teria sido benéfico. A autora sugere que para evitar mais desvio comercial será necessário terminar com os acordos comerciais condicionados no setor automotor, incorporar todos os produtos numa política comercial comum, e baixar o TEC, de forma a aumentar os ganhos *welfare* líquidos tanto para a Argentina como para o Brasil.

Palavras chave: Integração regional, criação de comércio, desvio comercial, política comercial, Argentina, Brasil

Classificação JEL: F15

1.   Introduction

The Common Market of the Southern Cone, MERCOSUR was established by the Treaty of Asuncíon in 1991 and committed the governments of Argentina, Brazil, Uruguay and Paraguay to the creation of a common market. A transition period existed between 1991 and 1994 when the process of tariff reductions began, with MERCOSUR formally coming into existence in 1995. Since 1991, the trade bloc has carried out a program of intra-MERCOSUR trade liberalisation that resulted in 80 per cent of internal trade being tariff free by 1995 and almost 100 per cent tariff free by 2001 apart from a few notable exceptions such as automobiles. In addition, a common external tariff of an average of 12 per cent was established by 1995. As a result, a large increase in trade flows between the member countries was experienced. Intra-MERCOSUR exports increased from $5.1bn in 1991 to $20.3bn in 1998 and fell to $17.7bn by 2000. Imports between MERCOSUR members rose from $5.2bn in 1991 to $20.4bn in 1998 and again fell to $17.6bn in 2000 (INTAL, 2001)[1]. This trade liberalisation program has led to concern regarding the degree to which these reductions in internal tariffs and corresponding increases in internal trade, have resulted in discrimination against producers outside the MERCOSUR area. This is particularly important since the CET has not been fully implemented and various commodities have either been excluded from the CET or managed under separate trade agreements.

To date, the majority of studies on MERCOSUR's welfare effects were carried out before MERCOSUR's formation and were *ex ante.* Therefore, few attempts have been made to establish levels of trade creation and diversion on an *ex post* basis[2]. In addition, most of these *ex ante* studies of MERCOSUR have been carried out when the details of rates of protection, for example of the common external tariff (CET), have not yet been determined. Therefore there results are heavily dependent on the assumptions made.[3] Despite this, the majority of these studies predict that the welfare benefits will be small or non-existent for the MERCOSUR members, and that any benefits

are likely to be unevenly spread.

The purpose of this paper is to calculate *ex-post* levels of trade creation and trade diversion, in order to measure the net welfare effects of the formation of MERCOSUR on Argentina and Brazil and as such, represents a first comprehensive attempt to do so. The results are then examined in the context of the CET, exemptions to the CET and managed trade agreements to assess the implications for MERCOSUR's external trade policy. This is important particularly as some recent discussion at governmental level within MERCOSUR has focused on the possibility of lifting the CET completely[4]. As no reliable method exists for quantifying dynamic effects from integration, the static gains or welfare losses of economic integration will be measured in terms of trade creation and trade diversion, using partial equilibrium analysis. This will enable an evaluation of the short-run gains from economic integration since MERCOSUR's formation until 1998. This time period was chosen as it represents the initial phase of integration before the effects of the Asian crisis and the Brazilian devaluation was fully felt.

The paper is organised as follows: first, changes in the direction and commodity composition of trade flows will be examined for Argentina and Brazil, within the framework of MERCOSUR internal and external trade policy. Second, studies that have attempted to measure the effects of MERCOSUR will be examined, as will the methodologies used and the corresponding results. Third, the concepts of trade diversion and trade creation and how these relate to the measurement of welfare changes for Argentina and Brazil are considered using Hicksian (1946) concepts of compensating variation. Finally, welfare changes due to the formation of MERCOSUR are calculated for Argentina and Brazil and the results evaluated in the context of exemptions to the CET, managed trade agreements and future MERCOSUR trade policy.

2.   MERCOSUR and Argentine and Brazilian Trade Flows

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Both Argentina and Brazil have experienced a reorientation of trade towards MERCOSUR. For Argentina, intra-MERCOSUR trade rose from 18.3 per cent of total trade in 1991 to 30 per cent in 1998 and remained at the same level in 2000. Brazil's intra-MERCOSUR trade increased from 8.6 per cent of total trade in 1991 to 16.9 per cent in 1998, although it had fallen marginally to 14 per cent by 2000. It is worth noting therefore, that the majority of trade for both Argentina and Brazil still remains with the outside world which would suggest that there is less scope for trade diversion than if a larger shift in the direction of trade had occurred.

However, these aggregate figures mask very significant rises in intra-MERCOSUR trade in specific products. In particular, as can be seen from Table 1 below, trade between Argentina and MERCOSUR has experienced the greatest increases in machinery and transport goods. In fact, Argentine exports of machines and transport equipment grew at a yearly average of 193 per cent between 1989 and 1998 and imports rose at 218 per cent per annum. The greatest increase in Argentine exports after machines and transport equipment was food and live animals, followed by chemicals and fuels. The largest rises in Argentine imports from MERCOSUR after machinery and transport equipment occurred in manufactured goods, miscellaneous manufactured goods and chemicals.

Table 1: Commodity composition of Argentine Trade with MERCOSUR at the 1 Digit SITC Level, 1989-1998

($ Thousand)

SITC	MERCOSUR Imports 1989	Imports 1998	MERCOSUR Exports 1989	Exports 1998
0 Food & Live Animals	70,771	561,797	625,537	2,546,255
1 Beverages & tobacco	3,288	17,237	2,280	93,567
2 Raw Materials	194,424	462,751	42,817	267,042
3 Fuels & Lubricants	5,440	228,357	75,963	656,824
4 Animal & Vegetable Oil	4,454	19,883	46,557	212,689
5 Chemicals	225,589	966,918	79,939	828,957
	157,024	1,676,989	262,524	808,837
7 Machinery & Transport Equip.	177,254	3,504,782	207,927	3,267,641
8 Misc. Manufactured Goods	19,297	436,041	53,764	305,684
9 Non-classified Goods	5,423	44	30,717	0
Total	864,953	7,876,797	1,430,014	8,989,494

Source: Calculated from United Nations COMTRADE Statistics

These trends are also reflected in the commodity composition of Argentina's

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trade with MERCOSUR. In 1989, imports of chemicals were the highest category with a 26.1 per cent share, then raw materials with 22.5 per cent of imports, and machinery and transport equipment with 20.5 per cent in 1989. By 1998, machinery and transport equipment had doubled its share of imports to 44.5 per cent, while most other commodities experienced a decline in their percentage of imports. The same pattern was experienced with Argentine exports where again, machinery and transport equipment doubled its share of Argentine exports to MERCOSUR.

Table 2 shows that Brazil experienced a similar increase in intra-Mercosur trade in machinery and transport equipment, with imports increasing at 194 per cent on average per year and exports 296 per annum. Other Brazilian imports which increased rapidly from MERCOSUR where food and live animals, fuels and chemicals. Exports to MERCOSUR followed a different trend, experiencing increases not only in transport, but chemicals and manufactured goods at the same time.

Table 2: Geographic Destination of Brazilian Trade with MERCOSUR at the 1 Digit SITC Level, 1989-1998

($ Thousand)

SITC	MERCOSUR Imports 1989	Imports 1998	MERCOSUR Exports 1989	Exports 1998
0 Food & Live Animals	833,461	2,902,025	168,376	629,795
1 Beverages & tobacco	3,843	17,896	10,970	367,292
2 Raw Materials	296,548	427,144	179,902	362,431

42,331	761,694	56,573	25,130
3 Fuels & Lubricants			
59,982	265,768	5,642	22,756
4 Animal & Vegetable Oil			
178,913	679,336	298,396	1,127,523
5 Chemicals			
397,712	769,642	333,359	1,936,276
173,979	3,279,590	396,004	3,879,455
7 Machinery & Transport Equip.			
79,321	310,264	52,951	519,043
8 Misc. Manufactured Goods			
0	0	4,154	4,901
9 Non-classified Goods			
2,139,736	9,858,902	1,510,307	8,877,102
Total			

Source: Calculated from United Nations COMTRADE Statistics

For Brazil, in 1989 food and live animals overwhelmingly made-up the largest import by category at 38.9 per cent of trade, followed by manufactured goods at 18.5 per cent and raw materials with 13.8 per cent. By 1998, machinery and transport equipment had the largest share of imports with 33.2 per cent, then food and live animals at 29.4 per cent and manufactured goods had fallen to 7.8 per cent. Exports to MERCOSUR showed less change in commodity composition for Brazil, with only machinery and transport again displaying a large increase from 26.2 per cent of total exports to 43.7 per cent in 1998, other commodities showed marginal changes.

Therefore, for both Argentine and Brazilian trade with MERCOSUR, if machinery and transport equipment is eliminated, it's surprising how little the commodity composition of trade has altered during the integration period.

However, these changes in the commodity composition of trade for both Argentina and Brazil are not the result of free trade occurring due to regional integration.

Some of the commodities that have experienced increases in trade are subject to managed trade agreements; these are automobiles, fuels and cereals. Others have been exempted from the CET and have therefore benefited from higher levels of external protection than other products that have been subject to a uniform CET.

Exports of passenger vehicles and lorries are subject to a managed trade agreement between Argentina and Brazil. Duty-free quotas established under Protocol 21, regulated bilateral trade in automobiles between Argentina and Brazil during the 1991 to 1994 transition period. An increase in Argentine automobile exports to Brazil resulted in a dispute in 1995 as increases in Brazilian demand for automobiles were being met by Argentine imports. Brazil felt automobile trade was becoming unbalanced in Argentina's favour leading to a transitional agreement in 1996 allowing tariff-free imports of vehicles and parts, on the understanding that imports match exports. This arrangement then continued until 2000 when a new agreement was eventually reached. Nonetheless, it still continued the managed trade arrangement of balanced trade until 2006, when a uniform common trade regime will come into being under the CET (O'Keefe and Haar, 2001)[5].

Another commodity in which trade agreements exist is minerals and fuels. Crude petroleum was not being exported to Brazil in 1989, although by 1998, $523.8m was exported by Argentina. This stemmed from a strategic decision by Brazil to switch their supply of petroleum imports to Argentina, when

Argentina was having balance of payments problems in the early 1990's. Therefore, this was in practice the political impact of the formation of MERCOSUR which influenced trade flows. Indeed, the majority of trade was between state-owned companies, although this trade had diminished in importance by 1998[6].

The third sector in which managed trade agreements exist is in cereals. Cereal exports rose from $292m in 1989 to $1,170m in 1998. These increases resulted from government decisions to prevent the import of subsidised agricultural products from non-member countries and are again a political decision (Centro Economía Internacional, 1999)[7]. In contrast, in the case of cereals, managed trade does not seem to have had much effect on the commodity composition of Argentine exports at the one digit level.

As these three sectors have not experienced rises in intra-MERCOSUR trade due to reductions in tariff barriers, but through managed trade agreements, it is possible that the welfare effects of these trade flows may be negative. This could result in trade diversion rather than trade creation. Particularly, since the CET is higher for cereals and automobiles are not included in the CET, therefore external tariffs are considerably higher. Furthermore, there were also other commodities that were exempted from the common external tariff and again were subject to higher external tariffs during this time period and this could also have resulted in trade diversionary effects. Capital goods, computers and related software and telecommunications equipment were not included within the CET. Both Argentina and Brazil were able to charge their own tariff rates until 2001 when convergence was scheduled for capital goods and 2006 for computers, related software and telecommunications equipment (INTAL, 2000). Also, sugar was excluded from the CET, with subsidies and incentives allowed to continue until 2001 when sugar should have been included in the CET and intra-zone free trade. However, after a series of disagreements it has proved difficult to agree on a regime for sugar and this

has not yet been resolved, although sugar is not a particularly important item in trade terms.

In addition, each country was allowed its own exceptions to the CET. The main products which Argentina exempted from the CET and whose tariffs had to increase to converge with the CET by 1999, were chemicals, precision instruments, textiles, food products, steel products, rubber, paper, shoes and plastics. Brazil chose to exempt chemicals, textiles, leathers and furs, paper and cardboard and food. Tariffs on these products would have to increase to achieve convergence with the CET (Bouzas, 1997). As external tariffs were going to increase to a level which was higher than before MERCOSUR's formation, scope for trade diversion existed for these products.

As a consequence, increases in intra-MERCOSUR trade combined with rises in specific products in which trade is managed or exempt from the CET, has led to concern regarding the welfare implications of MERCOSUR. Various attempts have been made to measure trade diversion and trade creation within MERCOSUR and these are examined in the following section.

3. Empirical Studies of Trade Creation and Trade Diversion in MERCOSUR

Initial attempts to evaluate the net welfare effects of MERCOSUR, were carried out before MERCOSUR had been fully implemented and were therefore based on assumptions made by the authors regarding tariff levels and the CET. Cristaldo (1994) used data from 1989 to estimate the potential extent of trade creation and trade diversion within MERCOSUR. The model was a partial equilibrium model which used the following variables: changes in tariff levels, differences in regional and rest of world export prices, the share of rest of world imports in total imports, price-elasticity of import-demand and the elasticity of substitution between regional and rest of world imports. A

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number of simulations were carried out using high and low elasticities and the results predicted that Brazil was likely to be the biggest gainer from integration, whereas Paraguay appeared to lose out under all scenarios. Argentina and Uruguay were very much dependent on the parameters used and could equally be as likely to lose as to gain, depending upon which situation prevailed. The primary reason why Brazil was likely to gain was due to the Common external tariff (CET). The MERCOSUR CET was assumed to represent a substantial lowering of trade barriers in the case of Brazil and as a result there was less possibility of trade diversion. Paraguay on the other hand, already had relatively low trade barriers and the CET was presumed to result in a rise in protection, which could in turn result in trade diversion. Therefore, these results were important in terms of pointing to the possibility of member countries receiving uneven gains from MERCOSUR.

An *ex ante* study of the effects of regional trade liberalisation for Brazil was undertaken by Campos Filho (1998) using a computable general equilibrium model (CGE). The study found that under perfect competition the effect of regional trade liberalisation on Brazilian welfare was likely to be relatively small. Changes in output in nearly all sectors were lower than one per cent and as a result welfare gains accounted for a small percentage of GDP. This was attributed to the small role that imports and exports play in overall Brazilian demand and the fact that regional trade is much smaller than total trade. The sectors that were likely to experience output growth due to MERCOSUR were electrical equipment, transport equipment, other manufacturing, plastics, metallurgy and mechanical equipment. Declining output was predicted in agricultural products, textiles, footwear and food beverages and tobacco. In contrast, when the simulation was run using imperfect competition, the welfare gains were higher.

These results have been confirmed by other studies using CGE models under imperfect competition. For instance, Flôres (1997) estimated that under

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oligopolistic markets the welfare gains of regional trade liberalisation could be 1.1% of GDP for Brazil. In addition, global trade models have predicted lower welfare gains, with Brandão *et al* (1996) finding welfare gains of 0.4% of GDP for Brazil from regional integration. Furthermore, an intertemporal CGE model was developed by Diao and Somaru (2001) to capture the dynamic trade and welfare effects of MERCOSUR. Their simulations found that MERCOSUR member countries welfare increased through investment, production and consumption effects and the lowering of the CET would stimulate increased GDP growth and further welfare gains.

An alternative methodology was used by Yeats (1996), who attempted to discover if trade within MERCOSUR was evolving according to members' comparative advantage. A revealed comparative advantage (RCA) index was used to show that the fastest growing commodities traded between MERCOSUR members were mainly capital-intensive products in which the MERCOSUR countries did not have a comparative advantage. Furthermore, MERCOSUR members did not tend to have a strong external export performance in these commodities either. According to Yeats, this has occurred due to higher external trade barriers on the fastest growing commodities, which in some cases have been exempted from the CET so that domestic markets can be protected[8]. However, as Yeats himself points out, his study is not an attempt to calculate net welfare effects; indeed, net welfare effects are calculated by studying import data not export data as was the case in this study. In fact, when Devlin (1996) formulated similar indices based on import data, he did not find evidence of significant trade diversion.

More recently, sectoral studies have been carried out on the petrochemical, automobile and machine tools industries in MERCOSUR. These studies have attempted to measure trade creation and diversion by comparing the income elasticity to import for intra-MERCOSUR and extra-MERCOSUR trade flows, before and after the integration period. In a study of the automobile sector by

Tigre *et al* (1999), the authors' calculations suggest that there has been a trade diversion effect in the vehicle category for Brazil and auto parts for Argentina. Inversely, there is trade creation in automobiles for Argentina and auto parts for Brazil. In the study of the petrochemical industry by Hasenclever *et al* (1999) no indications of trade diversion were found and the authors suggested that probably this was due to reductions in trade barriers for extra-MERCOSUR imports as well as internal trade barriers and the fact that Argentine and Brazilian price levels in this sector were similar to world prices. The study on machine tools by Chudnovsky and Erber (1999) came to a similar conclusion that MERCOSUR had not caused trade diversion in machine tools for either Argentina or Brazil.

Therefore, to-date there have not been any studies of the welfare effects of MERCOSUR that have tried to calculate total trade creation and trade diversion in an *ex post* study and this paper attempts to do so for Argentina and Brazil. However, before doing so, the orthodox Vinerian theory of regional integration will be discussed in order to provide a theoretical basis for the subsequent analysis.

4. Regional Integration and Trade – A Review of the Theory

Orthodox customs union theory based on the work of Viner (1950) emphasised the static effects of regional integration. He argued that although there was free trade between customs union members, there was protectionism vis à vis the rest of the world. As protectionism is distorting, leading to a misallocation of resources, a customs union would not necessarily be welfare enhancing. He introduced the concepts of trade creation and trade diversion. Trade creation being the replacement of expensive domestic production by cheaper imports from a partner and trade diversion the replacement of initial cheaper imports from the outside world by expensive

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imports from a partner country. The impact of customs union's are now ambiguous as trade creation is beneficial and trade diversion harmful, thus a customs union will only be beneficial overall if trade creation outweighs trade diversion.

Further analysis by Balassa (1961) emphasized the dynamic effects of regional integration through expansion of market size and the efficiency aspects of increased competition. However, these effects have proved more difficult to model and are more suited to general equilibrium models, therefore this study focuses on the net welfare effects of trade creation and trade diversion.

Various methodologies have been used to identify trade creation and trade diversion. This study uses a partial equilibrium analysis based on the Hicksian concept of compensated variation[9]. Hence, welfare changes are measured by keeping income constant and varying prices. It draws on the methodology developed by Hausman in his direct differential method and that of Nicholls (1998) who applied it to measure welfare effects of economic integration in the Caribbean Community (CARICOM).

 Hausman (1981) argued, that from an estimate of a Marshallian demand function a measure of exact consumer surplus could be derived using Hicksian concepts. As Hicksian demand functions are unobservable, due to the need for information on consumers utility, Marshallian demand curves can be estimated and reformulated to yield Hicksian demand curves. This demand curve can then be used to gain estimates of the compensating variation, as the area to the left of the Marshallian market demand curve will give the compensating variation.   Assuming Marshall's condition of a constant marginal utility of income holds, this quantity will be the same as the area under the left of the Hicksian compensated demand curve. Consequently, Marshallian consumer surplus will be equal to Hick's' measure of consumer surplus. Hausman also

demonstrated that not only could the deadweight gains and losses be measured, but that also the complete change in consumer surplus which is represented by the trapezoid to the left of the demand curve could be measured too.

The Marshallian observed demand curve is used by Hausman to derive the Hicksian unobserved demand curve. The import demand curve is estimated first, which then allows the observed Marshallian demand curve to be integrated using Roy's identity to derive the indirect utility function. The indirect utility function can then be inverted to give the expenditure function, which is then differentiated to give the unobservable compensated demand curve. The area under the compensated demand curve between initial and new prices can finally be estimated to obtain exact welfare estimates of compensating variation. Hausman uses the evaluation of differential equations as the basis of his method. However, as noted by Vartia (1983) and McKenzie and Ulph (1983)[10], the approach does have its limitations in that the methodology only deals with single price changes and not every demand function will have a closed form solution.

Therefore, compensating trade creating gain can be measured by integrating the compensated import demand curve over the range $P_{m1W}^{(1+t)}$ to P_{m1b} with the appropriate values of U^0, ($P_{m1W}^{(1+t)} > P_{m1b}$)

(1)

$$CV_{TC} = \int_{P_{m1b}}^{P_{m1w}^{(1+t)}} h_1(\ P_{m1}, U^0\ )dP_{m1}$$

Where : CV_{TC} is the trade creating gain measured by compensating variation

$P_{m1W}^{(1+t)}$ is the import price before customs union formation (base

period)

P_{m1b} is the import price after customs union formation (new period)

P_{m1} is the price of imported commodity 1

U^0 is the original level of utility

When this is expanded it gives the following expression:

(2)

$$CV_{TC} = \int_{P_{m1b}}^{P_{m1w}(1+t)} \left(P_{m1}^{\mathbf{a}} \cdot \left[(1-\mathbf{b}) \left(U^0 + \frac{P_{m1}^{\mathbf{a}+1}}{\mathbf{a}+1} \right) \right]^{\frac{\mathbf{b}}{1-\mathbf{b}}} \right) dP_{m1} = e^m \left(P_{m1}, U^0 \right)_{P_{m1b}}^{P_{m1w}(1+t)}$$

(3)

$$e^m(P_{m1}, U^0) = \left[\left[(1\mathbf{b}) \left(U^0 \frac{P_{m1}^{\mathbf{a}+1}}{\mathbf{a}+1} \right) \right]^{\frac{1}{1\mathbf{b}}} \right]_{P_{m1b}}^{P_{m1w}(1+t)}$$

Where $e^m(P_{m1}, U^0)$ is the expenditure function for imports:

And

$$U^0 = \frac{(Y^0)^{1-\mathbf{b}}}{1-\mathbf{b}} \frac{(P_{m1w}(1+t))^{\mathbf{a}+1}}{\mathbf{a}+1}$$

Therefore, to calculate the compensating variation trade creating gain, the following equation is used:

(4)

$$CV_{TC} = \left[(1-b)\left(U^0 + \frac{(P_{mlw}(1+t))^{a+1}}{a+1} \right) \right]^{\frac{1}{1-b}} - \left[(1-b)\left(U^0 + \frac{(P_{mlb})^{a+1}}{a+1} \right) \right]^{\frac{1}{1-b}}$$

The trade diverting loss is calculated in the same way as the trade creating gain in terms of compensating variation. However, in this case the compensated import demand curve is integrated over the range P_{m1b} to P_{m1W} at utility level U_0, this is because P_{m1w} represents the domestic price that consumers would be willing to pay for imports from the rest of the world if tariff barriers were absent. Therefore, what is being measured in this instance is the loss of consumer surplus after the formation of the customs union, when Argentine or Brazilian consumers have to buy imports from a more expensive MERCOSUR partner, rather than importing them cheaply from a country outside the trade bloc. This is measured by calculating the compensation that has to be taken away from consumers to maintain utility levels if customs union prices fell from P_{m1b} to P_{m1w}.

The CV_{TD}, trade diverting loss in terms of compensating variation is measured by:

(5)

$$CV_{TD} = \int_{P_{mlw}}^{P_{mlb}} h_1(P_{m1}, U^0)\, dP_{m1}$$

Where:

(6)

$$CV_{TD} = \int_{P_{m1w}}^{P_{m1b}} \left(P_{m1}^{a} \cdot \left[(1-b) \cdot \left(U^0 + \frac{P_{m1}^{a+1}}{a+1} \right) \right]^{\frac{b}{1-b}} \right) dP_{m1} = e^m (P_{m1}, U^0)_{P_{m1w}}^{P_{m1b}}$$

In order to evaluate CV_{TD}, the following expression is calculated;

(7)

$$CV_{TD} = \left[(1-b) \left(U^0 + \frac{(P_{m1b})^{a+1}}{a+1} \right) \right]^{\frac{1}{1-b}} - \left[(1-b) \cdot \left(U^0 + \frac{(P_{m1w})^{a+1}}{a+1} \right) \right]^{\frac{1}{1-b}}$$

Where:

(8)

$$U^0 = \frac{(Y^0)^{1-b}}{1-b} - \frac{(P_{m1b})^{a+1}}{a+1}$$

Finally, the net welfare effect of customs union formation is measured by the difference between trade creation and trade diversion in terms of the compensating variation as shown below:

$NWE_{CV} = \{CV_{TC} - CV_{TD}\}$

Where NWE_{CV} is the net welfare effect expressed in terms of compensating variation.

5. Measurement of The Net Welfare Effects of MERCOSUR for Argentina and Brazil

The methodology outlined above was used to calculate the trade creation and trade diversion effects of MERCOSUR for both Argentina and Brazil. The base year used for Argentina was 1989 and 1990 for Brazil. Argentine data was in the standard international trade classification (SITC) format, whereas Brazils was in the harmonised system (HS) format. The base years differed due to the difficulty in finding tariff data for the same year for both countries and the trade classification system used was different for the same reason. The period after customs union formation was represented by 1998 in both instances. In addition, other problems were encountered due to the inadequacy of the data available. For example, the methodology implies the need for price and income elasticities of import demand for both countries. As there were not sufficient data to calculate these, the values were drawn from a variety of studies. However, as both countries have used high rates of protection during the years in which these studies were undertaken, it is likely that they may not be an accurate predictor of behaviour now trade barriers are lower. A further problem is that the tariff-exclusive price of imports from MERCOSUR is taken to be the unit price of imports from MERCOSUR countries. However, not all intra-MERCOSUR trade was completely free of restrictions by 1998 and, as such, the unit price of imports is likely to underestimate the actual prices in some cases. Finally, tariff rates were based on the published tariff rates of Argentina and Brazil in 1989 and 1990 respectively. A more accurate approach would be to calculate the *ex post* tariff rate by dividing the total value of customs revenue collected for a commodity by the value of imports of that commodity. Unfortunately this information was not available at a sufficiently disaggregated level.

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6.   Welfare Estimates for Trade Creation and Trade Diversion for Argentina and Brazil

The welfare estimates of customs union formation are shown in Table 3 below. In both countries total trade creation was greater than total trade diversion. Trade creation in the Argentine case was US$194.6 million while trade diversion was US$70.8 million. This represents 0.8% and 0.29% of GDP respectively. Overall, the net welfare effect was US$ 123.8 million, 0.5% of GDP. For Brazil, trade creation was US$854.3 million, trade diversion was US$84.7 million and the overall net welfare effect was US$769.5 million. These represent 1.6%, 0.15% and 1.4 % of GDP respectively.

Table 3: Total Welfare Estimations for Argentina and Brazil
(US$ 000)

	Trade creation	% of GDP	Trade diversion	% of GDP	Net Welfare Effects	% of GDP
Argentina	$194,653	0.8	$70,792	0.29	$123,861	0.5
Brazil	$854,288	1.6	$84,683	0.15	$769,544	1.4

Clearly, trade creation has been overwhelmingly larger than trade diversion in both countries, although the net welfare effects are small relative to GDP. Furthermore, these results are in line with the general equilibrium studies discussed earlier which predicted that, for Brazil, welfare gains would be around 1.1 per cent of GDP or slightly higher under imperfect markets (Flôres, 1997; Campos Filho, 1998). Moreover, studies such as Cristaldo (1994) had estimated Brazilian gains to be higher than Argentine welfare gains. The reason why Brazilian gains overall are so low is likely to be due to the fact that imports and exports play a small role in Brazilian demand and regional trade is relatively smaller than total trade. In the case of Argentina, external trade also

continues to play a large role and is greater than intra-MERCOSUR trade.[11] In addition, for both countries and particularly Brazil, the introduction of a CET led to external tariff barriers that were lower than before, which also encouraged extra-MERCOSUR trade[12].

7. The Impact of Regional Integration on Argentine Welfare

The welfare effects for Argentina are shown at the SITC one-digit level in Table 4. At this aggregated level, the largest trade creation effects have been experienced in raw materials and basic manufactured articles. Whereas the largest trade diversion effects were overwhelmingly in machines and transport equipment. As a result, raw materials and basic manufactured articles also experienced the greatest net welfare effects from regional integration. However, miscellaneous manufactured goods are the only category with an overall negative welfare impact. Therefore, at an aggregate level net welfare effects of MERCOSUR for Argentina are positive.

Nevertheless, once these categories are disaggregated more interesting patterns emerge which give an indication of the types of goods in which Argentina has experienced trade diversion. Commodities that have net welfare effects that are negative at the three digit SITC level are shown in Table A1 in the appendix. In terms of those goods excluded from the CET, trade diversion has occurred in motor vehicles and lorries, which shows the distortionary effect of the high external tariff barriers through exemption from the CET and managed trade agreements[13]. However, it is interesting to note that auto parts experienced trade creation rather than diversion, suggesting competitiveness in this area. Also, trade diversion has occurred in refined and residual petroleum products another commodity in which trade is managed and in which an explicit switch in source from non-MERCOSUR suppliers to Brazil occurred. In the Hasenclever *et al* (1999) study, they found no evidence of trade diversion claiming that prices are similar to those in the rest of the world.

However, these results do not confirm this. The other commodity in which managed trade existed is cereals, however trade diversion was not experienced in this case, probably because it comprises a small percentage of trade and very little is imported.

Overall, the results appear to indicate that managed trade agreements have caused the greatest degree of trade diversion. Particularly as other commodities which Argentina specifically exempted from the CET for a limited period, do not seem for the most part, to have been effected by trade diversion. For example, chemicals, where 80 products saw tariff rates rise from 2 per cent and 8 per cent to an average increase of 12 per cent, did not experience trade diversion, except for the category of other inorganic chemicals. Nevertheless, in textiles, cotton and yarns, some items which saw increases in the average tariff level as they converged towards the CET have experienced trade diversion. Exemption from the CET has not been particularly diversionary probably because in Argentina's case, many of the products experienced falls in tariff levels in order to achieve convergence and this had to be carried out in phases by 1999, therefore by 1998, levels would have been near convergence.

However, capital goods showed a high degree of trade diversion. These were commodities which were concentrated in the SITC 7 category, mainly in industrial machinery, telecommunications equipment and electrical equipment. In this case, these items were specifically exempted from the CET until 2001 and higher external tariff barriers have resulted in negative welfare consequences.

These results show that for Argentina, trade diversion has occurred mainly in commodities where intra-regional trade has not been liberalised. Trade diversion has taken place in automobiles and fuels which have been subject to managed trade and also in capital goods that have been explicitly exempted

from the CET. Other large negative welfare effects were found in commodities like textiles that saw an increase in tariff barriers when included in the CET. These results show that in the absence of managed trade, the net welfare benefits for Argentina would have been greater and these agreements are causing distortions. This is particularly a matter for concern as the new automobile agreement continues this managing of trade until 2006, which is likely to perpetuate these diversionary effects further[14]. In addition, it suggests that the CET is too high for products which saw an increase in protection due to the CET and a lower CET for some products would increase welfare.

Table 4: Total Trade Creation and Trade Diversion for Argentina (US$ 000)

SITC	Trade Creation	Trade Diversion	Net Welfare Effect
0. Food & Live animals	22,393	9,560	12,832
1. Beverages and tobacco	4,593	128	4,465
2. Raw materials	57,463	10,494	46,968
3. Mineral fuels	6,629	3,308	3,320
4. Animal & Vegetable oils	5,368	4,265	1,102
5. Chemicals	26,530	8,304	18,225
6. Basic manufactured goods	43,662	6,476	37,186
7. Machines & transport equipment	27,815	26,172	1,642
8. Misc. manufactured goods	197	2,080	-1,883
9. Non-classified manufactured goods	0	0	0
Total	194,653	70,792	123,861

8. Impact of Regional Integration on Brazilian Trade

For Brazil, estimates of net welfare effects are shown at the two digit level of the harmonised system in Table A2 in the appendix. Many commodities experienced quite large trade creation effects. The greatest were in organic and inorganic chemicals, footwear, iron and steel, plastics, wood and electrical equipment. In contrast, the trade diversion effects were of a smaller magnitude. The products that experienced the most trade diversion were organic chemicals, electrical equipment, articles of apparel, pearls, fur skins and wood. Negative net welfare effects were found in only nine commodities at this level which were fur skins, vegetable textiles, cereals, lac and gums, fertilisers, tin, toys and pearls.

These results are disaggregated at the four-digit level in Table A3 in the appendix to give a better indication of the negative welfare effects on individual products. The commodities subject to managed trade agreements, cereals, fuel and machinery and transport, show differing results to the Argentine case. Cereals have a negative net welfare effect which is not surprising since the trade agreement between Argentina and Brazil was designed to exclude subsidised cereals from other countries. On the other hand, fuel products have experienced trade creation, whereas automobiles and chassis experienced both trade creation and diversion, although overall there are positive net welfare effects. These results are probably because petroleum products were an exception to the CET and tariffs for Brazil were to fall in order to achieve convergence. In addition, by 1998, less petroleum was being imported from Argentina than previously. In the automobile sector, Brazil still imports a significant number of automobiles and auto parts from the rest of the world which probably accounts for the amount of trade diversion being less than trade creation.

The impact on products which Brazil initially exempted from the CET until 1999 is mixed. Trade diversion was experienced in various chemical compounds, although some resulted in trade creation. This probably reflects the fact that some tariff barriers for chemical products rose to converge with the CET and others fell. Leather and fur was another product exempted by Brazil from the CET and tariffs were expected to rise to achieve convergence. This has resulted in trade diversion. Textiles also saw trade diversion as a significant amount of cotton products experienced trade diversion, as did textiles of vegetable origin. Again, tariffs in textiles were expected to rise to reach the level of the CET. In addition, some foods were also exempted and trade diversion in meat and fish was experienced. Conversely, capital goods and computers which achieved convergence in 2001, experienced insignificant amounts of trade diversion, while telecommunication equipment showed higher rates of trade diversion although overall the category was trade creating.

Therefore, for Brazil, the trade diversionary effects are less concentrated than for Argentina and often products have experienced both trade creation and trade diversion, with the net welfare effects having been trade creating over all. In contrast to Argentina, managed trade agreements appear to have had less distortionary impacts for Brazil and it is in products that were exempted by Brazil from the CET that most trade diversion has occurred. As a result, in the Brazilian case the inclusion of more goods within the CET and the elimination of these exemptions would increase welfare.

Conclusions

The results of this analysis indicate that for both Argentina and Brazil the net welfare effect of MERCOSUR has been overwhelmingly trade creating,

although the effects as a percentage of GDP are very small. Nonetheless, the study presented is only a static one and any dynamic effects are not captured. Therefore, the results should be interpreted with caution. Nonetheless, what is interesting is that the welfare effects for the two countries appear to differ. For Brazil, net trade diversion seems to be spread relatively evenly amongst commodity categories and much of it is in commodities that were included on Brazil's national exception lists to allow adjustment until 1999 or 2001 when they were scheduled to achieve convergence with the CET. Therefore, this will no longer be a problem, apart from instances where trade diversion is caused by a rise in protection due to the CET. However, trade diversion is occurring in the automobile sector and despite the fact that trade creation outweighs trade diversion, net welfare effects would be greater if managed trade agreements did not exist and this sector were included within a common trade policy.

In contrast, net trade diversion in the Argentine case appears to be more concentrated, particularly in transport and miscellaneous manufactured products. Clearly, this has stronger implications in terms of the welfare implications of the exemption from the CET of the transport sector and capital goods and suggests inclusion at an earlier date would have resulted in less trade diversion in the Argentine case. In addition, it indicates that Argentina has seen less benefit from managed trade agreements than Brazil. Furthermore, in some products where tariffs had to rise to converge with the CET, it suggests that the level has been set too high.

These results have clear policy implications, not only for the original trade policy of MERCOSUR, but also for agreements that have been negotiated more recently. Undoubtedly, the existence of national exemption lists has resulted in welfare losses for both Argentina and Brazil as both have experienced some degree of trade diversion in these products. This has occurred when tariff levels have had to rise to converge with the MERCOSUR CET and suggests that a lower CET would have been beneficial in these cases. Managed trade agreements have also been distortionary, particularly in

the Argentine case and are important, principally in the case of automobiles which has accounted for a large percentage of total MERCOSUR trade. This is likely to be continued in the new agreement for the automobile sector which allows for managed trade to persist until 2006 and then the implementation of a CET of 35 per cent. This greatly exceeds the average CET, indicating continued scope for trade diversion. Therefore, if further trade diversion is to be avoided, the discontinuation of managed trade agreements in the automobile sector is needed, all products should be incorporated within a common external trade policy and in addition, a lower CET would increase net welfare for both Argentina and Brazil.

Endnotes

[1] Trade volumes fell from 1998 to 1999 due to the impact of the Asian crisis and the Brazilian devaluation. However, a recovery had been experienced by 2000, as both imports and exports rose.

[2] Trade creation is the replacement of expensive domestic production by cheaper imports from a partner and trade diversion is the replacement of initial cheaper imports from the outside world by expensive imports from a partner country (Viner, 1950).

[3] See for instance Benegas Cristaldo (1994) and Baumann (1993).

[4] See Latin American Newsletter, Brazil Report, p.4., 16 October 2001.

[5] Under the new agreement that began in 2001, the value amount of every vehicle or auto part exported from Argentina to Brazil must be matched by a similar amount imported from Brazil. If it is not, then duty-free treatment does not apply and a levy of 70 per cent is applied. An imbalance of 5 percent was allowed in 2000, 7.5 percent in 2002 and 10 per cent in 2003.

[6] In 1993, Petrobas signed an agreement to buy crude oil from Argentina which accounted for 10 per cent of total Brazilian oil imports (Manzetti, 1993).

[7] Special regulations were agreed between Argentina and Brazil in order to compensate for distortions in international markets. As Argentina does not subsidise its production and Brazil is a net importer, since 1995 Brazil has levied a 10 per cent surcharge on wheat products from external countries. Thus a 10 per cent surcharge in addition to a 10 per cent CET compensates for production and export subsidies in third party countries (Bouzas, 1997).

[8] The automobile, capital goods, information technology and communications sectors have all been excluded from the CET.

[9] Compensating variation is the minimum amount by which a consumer would have to be compensated after a price change to remain as well off as before (Hicks, 1946).

[10] These authors have developed methods which improve on the problems confronted in Hausman's

method.

[11] For example, in 1998, total extra-MERCOSUR imports were more than three times the volume of total intra- MERCOSUR imports.

[12] This could be due to a trade augmentation effect. If the CET is lower than previous trade barriers, then trade flows are likely to increase with the outside world. As Argentine average tariffs were 39 percent in 1989 and Brazil's were 51 percent in 1988 and the CET was 15 per cent in 1998, this is quite likely to have occurred.

[13] Many commentators had predicted this result, even though it contradicts the results in the study by Tigre *et al* (1999).

[14] Automobiles were dealt with by a separate managed trade regime, which allowed special treatment under protocol 21 during the 1991-1994 transition period. This was amended in 1996 after a dispute in 1995 when Brazil felt that trade in automobiles was becoming unbalanced in Argentina's favour. The new agreement allowed for tariff-free imports of vehicles and parts between Argentina and Brazil on the understanding that imports match exports. Originally the deadline for establishing a common automotive regime based on unrestricted intra-zone free trade and a CET was 1 January 2000. However, due to differences between Argentina and Brazil this deadline was extended and complete free trade in the automobile industry will not come into effect until 1 January 2006. Nevertheless, the CET for passenger vehicles was set at 35 per cent and for buses and trucks, 35 per cent for Brazil and 18-25 per cent for Argentina, a level that will gradually increase to that of Brazil (MERCOSUR Report, INTAL 2000).

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Appendix

Table A1: Estimates of Trade Diversion for Argentina at the 3 Digit SITC Level (US$'000)

SITC 3-Digit	Commodity	Net Welfare Effect	SITC 3-Digit	Commodity	Net Welfare Effect
011	Meat	-4259	722	Tractors	-921
25	Eggs	-62	724	Textile machinery	-885
34	Fresh Fish	-2474	725	Paper, mill machinery	-895
36	Fish, salted, dried	-1837	726	Printing machines	-2505
37	Fish, prepared	-503	742	Pumps for liquids	-3072
121	Tobacco	-128	751	Office machines	-1655
212	Fur skins	-1178	761	Television receivers	-2676
223	Seeds for oils	-81	762	Radio Broadcast Receivers	-4215
248	Wooden sleepers	-1532	763	Sound recorders	-2315
263	Cotton	-2640	764	Telecom equipment	-3651
274	Sulphur	-4266	773	Electrical distributing equipment	-1
334	Petroleum refined	-449	774	Electro-medical equipment	-7
335	Residual petroleum products	-2829	782	Lorries	-905
411	Animal oils & fats	0	783	Road motor vehicles	-863
523	Inorganic chemicals	-3965	785	Cycles, motorised and not	-1133
562	Fertilisers manufactured	-4266	812	Plumbing, heating equipment	-6

612	Leather manufactures	-11		842	Men's outerwear	-167
634	Veneers	-1702		844	Under garments	-1791
652	Cotton fabrics	-17		845	Outerwear knitted	-144
654	Other woven textiles	-318		882	Optical Goods	-6
656	Lace	-34				
658	Textile articles	-323				

Table A2: Estimates of Brazilian Trade Creation and Trade Diversion at the 2 Digit HS Level

(US$ 000)

HS	Trade Creation	Trade Diversion	NWE	HS	Trade Creation	Trade Diversion	NWE
'01: Live animals	3,910	0	3,910	49: Printed books	1,456	1,320	136
'02: Meat	186	850	-633	50: Silk	4,364	0	4,364
'03: Fish	463	797	333	51: Wool	6,495	1,627	4,868
'04:Dairy Products	537	111	425	52: Cotton	6,889	1,918	4,971
'05: Products of animal origin	1,540	493	1,047	53: Vegetable textiles	0	1,194	-1,194
'06: Live trees	501	0	501	54: Manmade filaments	8,446	12	8,434
'07:Vegetables	1,696	142	1,554	55: Manmade staple fibres	12,141	652	11,488
'08: Edible fruit	1,094	647	446	56: Wadding	9,113	161	8,951
'09: Coffee, tea	2,419	194	2,225	57: Carpets	6,574	0	6,574
10: Cereals	1	332	-331	58: Special woven fabric	5,204	1,130	4,073
11: Milling products	6,461	1,092	5,368	59: Coated fabric	10,856	897	9,958

12: Oil seed	8,232	58	8,174	60: Knitted fabric	3,263	0	3,263
13: Lac, gums,	0	866	-866	61: Articles of apparel-knitted	7,288	4,514	2,774
14: vegetable plaiting materials	4,254	0	4,254	62: Articles of apparel-not knitted	5,017	4,162	855
15: Oils	18,704	443	18,260	63: Other textile articles	5,646	1,202	4,443
16: Meat, fish preparations	6,160	184	5,976	64: Footwear	57,521	272	5,478
17: Sugar	6,364	0	6,364	65: Headgear	4,102	413	3,689
18: Cocoa	2,132	0	2,132	66: Umbrellas	127	0	127
19: Cereal products	8,506	0	8,506	67: Bird skin	765	0	765
20: Vegetable preparations	16,725	0	16,725	68: Stone	15,801	575	15,226
21: Miscellaneous edible preparations	8,994	189	8,805	69: Ceramic products	12,269	1,870	10,398
22: Beverages	16,564	214	16,350	70: Glass	22,549	970	21,579
23: Residues of food industry	4,223	0	4,223	71: Pearls	2,361	3,408	-1,047
24: Tobacco	2,134	403	1,730	72: Iron & Steel	33,175	325	32,849

25: Salt, sulphur	24,478	2,573	21,905	73: Articles of iron or steel	7,641	1,656	5,985
26: Ores, slag, ash	606	20	586	74: Copper	12,769	1,469	11,300
27: Mineral fuels	10,191	1,514	8,677	75: Nickel	3,900	0	3,900
28: Inorganic chemicals	41,547	1,513	40,033	76: Aluminium	11,863	1,430	10,433
29: Organic chemicals	37,653	8,791	28,861	78: Lead	1,453	79	1,374
30: Pharmaceuticals	6,406	848	5,557	79: Zinc	5,506	0	5,506
31: Fertilisers	62	717	-655	80: Tin	0	81	-81
32: Dyeing extracts	27,028	54	26,974	81: Other base metals	2,048	1,476	572
33: Essential oils	11,634	679	10,954	82: Tools	4,571	145	4,426
34: Soaps	11,505	0	11,505	83: Miscellaneous articles	2,556	560	1,996
35: Albuminoid	9,728	397	9,330	84: Boilers	79,496	3,867	75,628
36: Explosives	1,348	0	1,348	85: Electrical equipment	31,187	5,602	15,585
37: Photographic goods	3,681	1,308	2,372	86: Railway equipment	1,142	65	1,076
38: Misc. chemical products	29,201	1,438	27,763	87: Vehicles	17,445	695	16,750
39: Plastics	33,596	530	33,066	88: Aircraft	48	0	48

40: Rubber	20,298	1,913	18,384	89: Ships	2,264	0	2,264
41: Raw hides	9,024	2,016	7,007	90: Optical apparatus	3,594	876	2,718
42: Articles of leather	5,053	170	4,883	91: Clocks	7,742	0	7,742
43: Fur skins	0	2,262	-2,262	92: Musical instruments	2,127	0	2,127
44: Wood	30,744	2,222	28,521	93: Arms	388	60	328
45: Cork	2,076	416	1,659	94: Furniture	3,011	1,129	1,881
46: Manufactures of plaiting materials	3,688	19	3,669	95: Toys	54	926	-872
47: Pulp of wood	4,053	0	4,053	96: Misc. manufactured articles	1,698	995	702
48: Paper	16,539	502	16,037	97: Art	90	0	90

Table A3: Estimates of Negative Net Welfare Effects for Brazil at the Four-Digit HS Level

(US$, 000) Products with trade diversion>US$500,000

HS 4-Digit	Commodity	Net Welfare Effect	HS 4-Digit	Commodity	Net Welfare Effect
204	Meat of sheep or goats	-501	5810	Embroidery	-518
1104	Cereal grains	-523	5910	Transmission or conveyor belts	-897
1301	Lac, natural gums/resins	-669	6101	Men's overcoats	-623
2501	Salt	-582	6102	Women's overcoats	-711
2503	Sulphur	-974	6104	Women's dresses	-508
2703	Peat	-665	6105	Men's shirts	-560
2704	Carbon, coal	-795	6109	T-shirts	-579
2910	Expoxides	-1027	6112	Track suits-knitted	-688
2924	Carboxamid compounds	-1489	6204	Women's suits	-502
2926	Nitrite compounds	-909	6210	Garments of felt	-849
2931	Organo-inorganic compounds	-1185	6211	Tracksuits	-811
2938	Glycosides	-1070	6303	Curtains	-703
2942	Organic compounds	-775	6909	Laboratory articles	-561
3005	Medical wadding	-659	6910	Bathroom fittings	1188
3101	Fertilisers	-671	7113	Jewellery	-1868
3307	Toilet preparations	-577	7116	Articles of pearls	-1480
3705	Photo plate	-979	7319	Knitting needles	-1107
4004	Rubber waste	-1314	7401	Copper mattes	-638

4106	Goat skin leather	-464		7608	Aluminium tubes	-512
4302	Tanned fur skins	-808		7613	Aluminium containers	-917
4303	Fur skin clothing	-1453		8105	Cobalt mattes	-684
4403	Wood in the rough	-547		8307	Flexible tubing	-560
4414	Wooden frames	-834		8478	Machinery for tobacco	-1105
4416	Wooden casks	-826		8521	Video machines	-1348
4902	Newspapers	-555		8522	Video parts	-1985
4905	Printed maps	-510		8534	Electronic circuits	-651
5110	Yarn of animal hair	-1175		8713	Invalid carriages	-575
5206	Cotton yarn	-1075		9024	Mechanical testing machines	-673
5303	Jute	-568		9402	Medical furniture	-875
5307	Yarn of jute	-626		9502	Dolls	-684