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The Trade Effects of EU Integration on Developing countries: The Case of Agricultural Exports.

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Abstract

Agriculture and agricultural trade play a key role in developing countries' economies, however, the EU integration process in the 90s also affects the trade in agricultural products of the EU, developing countries and the rest of the world.

This paper analysis the trade effect of the EU integration process on Developing Countries' Agricultural exports. Using changes in the source of supply model, it shows that there has been a significant increase of EU_{15} consumption stemming from the EU_{15} over the period 1990-2002 (i.e the EU_{15} increased its trade with themselves not with the CEECs, DCs and ROW). The trade diversion could be due to the series of CAP reforms taken during this period. The period 2002-2003, shows a tendency a trade creation with the EU_{15} trading more with the CEECs, DCs and the ROW. The trade creation could be because of the conquest of domestic agricultural production by foreign producer. Also, most of the integration arrangements were already concretized and CEECs had to be included in the reallocation of resources and the EU_{15} had developed more confidence in the institutions of the CEEC in 2003 a year to the finalization of the EU enlargement.

Acknowledgement

Contents

INTRODUCTION:

The EU extended its membership with the inclusion of the Central and Eastern European countries (CEECs) in 2004[1] making it a union of twenty five members. This enlargement took place 15years after the fall of the Berlin wall. Reforms and transition have caused a vast set of changes in the former Soviet Union states as institutions were disrupted due to the enlargement process. Agriculture plays a key role in the development of most of the CEECs and in developing countries, where more than half of her populations live in rural areas and survives through agricultural production.

Economic development is probably the most important policy objective in the CEECs and Developing Countries (DCs), and agriculture is the backbone of most of these countries. United Nations (2007) has reported that agriculture accounts for 30-60 % of the gross domestic product (GDP) amongst DCs. It employs as much as 70%, which is higher than any other sector in most cases. It represents a major source of foreign exchange, supplies most of the basic food and provides subsistence and other sources of income to the people in DCs. Eiche and Staatz (1998) have also reported in their book that, in CEECs, the share of agriculture in total employment range from 6% in Czech Republic the most industrialized countries to 60 in Albania, the least industrialized or the most agrarian state.

Agricultural exports most of the time is seen as a fuel for growth as in the export-led growth hypothesis, where exports performances are an important determinant of economic growth, which has some theoretical backing: 1) Competition leads to scale economies, technological advancement and growth. 2) Following the short-run Keynesian argument, export leads to income growth as a result of foreign exchange multiplier. 3) Foreign exchange from agriculture exports can be used to finance imported manufactured goods, capital goods and technology which facilitate growth. 4) The export sector usually produces positive externality such as efficient production and managerial techniques which contributes to growth (Dawson 2005).

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[1] The OECD defines CEECs as Albania, Bulgaria, Croatia, the Czech Republic, Hungary, Poland, Romania, the Slovak Republic, Slovenia and the three Baltic States; Estonia, Latvia and Lithuania.

The implications for CEECs and DCs to adopt export-led policies are that there are potentials for economic growth. Empirical evidence finds a strong correlation between exports and economic growth (Emery, 1967; Kravis, 1970). So the impact of European integration on DCs exports may be very important to evaluate possible welfare effects.

The aim of this paper is to investigate to what extend the EU-enlargement process has caused trade creation or diversion on agricultural exports from CEECs and developing countries. Specifically, we assess the impact of the enlargement process on consumption shares of the old EU (EU_{15}) stemming from I) the old (EU_{15}[2]) members, II) the new members (CEECs), III) developing countries and IV) Rest of the World.

In our empirical investigation, changes in the source of supply are used to estimate the trade effects of the EU-enlargement process. This approach has previously been used by Juquemin and Sapir (1988), who analyzed whether European integration has been pursued at the expense of world integration. This approach is reasonable as it allows for the analysis of the impact of agricultural exports to the EU of different countries entering the EU, from developing countries and from the Rest of the World (ROW). Hence, the model addresses some of the main issues about change in the source of supply estimates of trade creation and trade diversion at different times/periods as discussed in Juquemin and Sapir (1988). The analysis will be based on a time series data over the periods 1990-2003. The data for the study is from OECD STAN statistics which is provided by Organization for Economic Co-operation and Development.

A lot of studies on the effects of EU-enlargement as in Martin and Turrion (2001), Egger and Pfaffermayer (2002), Alho (2003) and Wilhelmsson (2006) have not had as main focus on agricultural trade. However, this paper focuses on agricultural trade because of the important role it plays in CEECs and developing countries' economies. And the concerns the developed countries have about agricultural products' quality, hygiene, prices etc coming from CEECs, developing countries etc.

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[2] Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and the United Kingdom.

The main contribution of this paper to the literature on trade effects on integration is to identify the impact of the latest EU-enlargement process[3] on agricultural trade at different periods of this process by analyzing trade creation and trade diversion.

The reminder of the paper is organized as follows; the integration of the CEECs and trade in agricultural products is briefly discussed in section 2. Theoretical discussion on regional integration is presented in section 3. A description of the empirical model is presented in section 4. The estimated results and analysis are presented in section 5 and section 6 concludes the paper.

THE INTEGRATION OF CEECs AND TRADE IN AGRICULTURAL PRODUCTS.

The EU integration and transition processes from the 90s have caused systematic changes in the socio-economic status in the European Continent. These processes have altered the interregional division of labor, affected the patterns of regional specialization and trade, and accelerated the rate of competition. The CEECs had to go through an amazing process of changing their economies and institutions within 14years.

Agriculture has been a political sensitive issue in any international negotiation and is not different with the EU enlargement to incorporate CEECs. The first post-war international agreement in Western Europe, the creation of the Benelux custom union was postponed by a year, because of handling over agriculture aspects. Agriculture and agricultural policies had been very important aspects in the EU enlargement process too, because of the following reasons: 1) while trade restrictions in most other sectors were removed between EU_{15} and CEECs, the gradual liberalization of the very protected agricultural and food products started in the mid 1990s. 2) Agriculture makes up a large part of employment in most parts of CEECs. 3) Agriculture falls under a complex framework of rules of the Common Agricultural Policy (CAP), commercial policies, veterinary and phytosanitary, which caused economic and political sensitive issues (Swinnen 2008).

At the outset of transition, agriculture in the CEECs was widely perceived as inefficient, three main reasons were believed to account for the inefficiency: (1) inappropriate farm sizes, (2) the weakness

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[3] Enlargement process is the run-up during the 1990s in order to integrate the CEECs with the EU to become full members in 2003.

of state- and collective-owned farms as an organizational type and (3) central planning (Brooks et al., 1991). In spite of this inefficiency of the agricultural sector, it employed a large part of the population and contributed enormously to the GDP of the CEECs countries.

The enlargement caused pressure on the EU budget and the agricultural sector is amongst the highest areas of EU budgetary expenditures. However, the EU had been able to fit the cost of enlargement process into the budgetary process by allowing a 55% support to CEECs farmers of the EU level and will increase to 100% by 2010. Though CEECs agricultural productivity is still lower to that of $EU_{15,}$ there have been increases in the agricultural production since the mid 90s. Production is expected to increase with the economic conditions (technology and capital) which the CEECs are exposed to after the conclusion of the agreements in 2004.

Trade in agriculture and food products have been encouraging and growing between the CEECs and EU_{15} since the mid 90s. The agri-food imports from CEECs double over the 90s. Initially, agricultural imports from CEECs were mostly labor intensive products while EU_{15} exports were mostly processed products. However, with the important development of the CEECs food industry and the likelihood that price of land will increase, with the introduction of direct payments over the years, the composition of trade has changed over the years. These important developments have gone against early predictions that EU_{15} would be flooded with cheap eastern agri-food products when the enlargement is concluded (Swinnen 2008).

 Agricultural sector of the CEECs went through deep structural changes during the transition and a compressive statistics on agricultural export is hard to find as this sector was also witnessing a liberation process to be incorporated into the $EU_{15.}$ However, some researchers as Drabik and Bartova (2007) have reported on the agricultural trade of the CEECs during the periods 2000 and 2005 (as shown in table 1 in the Appendix), which report on the composition of individual CEECs agri-food trade grouping. All the New Member States (NMS) were considered except for Bulgaria and Poland. Though, some individual countries have shown an intensive trade relation with the ROW and NMS, Overall, the EU_{15} remain the most important agri-food trade partner with the CEECs.

The agricultural sector in the transition for the CEECs was far more imposing than that of the EU, agriculture accounts for 11% of GDP against 3% for EU_{15}; labour force employment is 22% of total labour force against 6% of the EU (Liapis and Tsigas 1998). By 2005, the EU_{15} had become a net

exporter while the EU_{25} remain a small net importer and by 2006, it became clear that the EU_{25} became net exporter of agricultural products valued at €4.8 billion.[4]

AGRICULTURAL TRADE BETWEEN EU AND LDCs.

DCs and Agricultural Exports:

The world agricultural trade in 2000-2001 was $467 billion, up from $243 billion in 1980-81. However, during the 80s, agricultural trade expanded at 4.9% a year while in the 90s, it decelerated to 3.4% a year. This situation is similar for developing countries. Their agricultural export growth accelerated in the 80s and stagnated in the 90s. The decline in the real import growth rates of industrial countries from 4.8% a year in the 80s to 2.3% in the 90s (due to a lower elasticity of demand of agricultural products in industrialized countries) and decline in commodity prices could account for the decline in agricultural trade in the 90s.(Global Agricultural Trade Report 2005).

Table 2 in the appendix presents changes in the imports and exports of agricultural trade of different groups in developing countries over the periods 1980-81 to 2000-2001. Though there are large differences amongst these grounds, their agricultural exports or their overall trade surpluses have risen over this period. Smaller low income countries did perform poorer than large low-income countries during the 1980s and their exports and imports further declined in the 90s.

DCs and Agricultural Exports to the EU:

There have been positive trends in EU imports from developing countries which started in 2003 as shown in the figure 1 in the Appendix.

Nilsson (2007) has reported that developed countries have provided developing countries with the preferential market access via trade policies in the form of bilateral free trade agreements (FTAs) and unilateral preference schemes. These agreements have facilitated export development to

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[4] European commission report 2007

developed countries and the figure 1 in the appendix confirms the increase of EU imports from developing countries.

The existing EU market access for developing countries is favorable for Agricultural exports. This is reflected in the Most-Favored Nation (MFN) import duty rate of 18.6% for agricultural products. In the EU General System of Preferences (GSP), exports from developing countries receive a discount rate. Also, goods from developed countries (DCs) gets quotas and tariff free access to EU market with the Everything But Arms (EBA) initiatives. The EU grant duty free treatment for a vast majority of APC exports since the 1975 Lome Convention. These existing EU market agreements with developing countries have resulted to about 97% of good from APC to enter the EU duty free (EU Trade Policy Report 2008)

The EU import of Agricultural products from developing countries is at around €70 billion in 2006[5]. Lately, the agricultural imports from developing countries to EU have been growing and this is seen in table 3 in the appendix.

The table shows that the EU agriculture and fisheries imports from developing countries as a whole have been growing since 2003, however, some groups and individual developing countries imports have remained constant over the period 2003 to 2006 as in the cases of ACP countries, Chile and India.

French institute of research INRA (Institut National pour la Recherche Agricole) reported in a study prepared for the EU Commission in 2003[6] that about 60% of EU agricultural imports come from developing countries against 40% in the USA, Canada and Japan. This has made the EU, the largest importer of agricultural products from developing countries.

THEORIES OF REGIONAL INTEGRATION:

Economic integration process is a set of political and economic measures put in place to eliminate discrimination between economic units that belong to different states (Balassa,1987). There are several forms of economic integration which involves different degrees of discrimination with other

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[5] Comext report 2007
[6] EU Commission report 2003

states and amongst themselves. These includes: 1) Preferential Trade Agreement, 2) Free Trade Area, 3) Custom Unions, 4) Common Market, and 5) Economic Unions. Argüello (2002) has argued that, amongst all of these, the Economic Unions are the most complete forms of integration with the harmonization of monetary, fiscal, industrial and welfare policies, as well as the establishment of a common direction of foreign relations.

Regional integration or enlargements have often had as primary economic objective to encourage trade within member countries and to promote the specialization of these countries according to their comparative advantages. International specialization will be greater, the larger the gains from trade induced by the larger volume of trade created. However, it is important that the positive effect of enlargement caused by trade creation may be counteracted by less a diversion of imports from non-member countries. Regional integration will have adverse/negative economic effects on member countries, the larger volumes of imports are diverted from more efficient non-member countries[7]

The GATT Article XXIV[8] which stipulates that a regional integration arrangement should not on average raises the level of protection against non-members countries. Base on this Article, we expect the welfare of members and non-members to be the same after the formation or enlargement of PTA. Though we could have trade creation although trade impediments towards the rest of the world are unchanged, since it is all about trade costs, trade diversion may occur because it may be become relatively cheaper to trade with members than non members. However, if the volume of non-member exports or their international terms of trade are adversely affected by regional integration arrangement, then the welfare of non-member countries might significantly be repressed.

Kemp and Wan (1976) proved that for any proposed customs union or free trade area, there exists a set of common external tariff that would exactly leave the new trading bloc's trade with non-members unchanged. This will result to the welfare of the non-members to be unaffected and any improvement of the member countries will add to those of the non-members.

The EU-enlargement process has liberalized trade only among a subset of countries, not globally as the WTO. Viner (1950) has noted that those preferential trade agreements (as the EU-enlargement)

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[7] Bourdet and Gullstrand (2007)
[8] World Trade Organization Report (1994)

are the second best and not the first[9] from a welfare standpoint. The level of trade creation and trade diversion will give the overall effects of regional integration.

Trade creation occurs when a member of a regional integration imports from another member(s), which previously did not. Also, trade creation is when production of a member country is replaced by imports from a more efficient producer from another member country. Trade diversion on the other hand occurs when imports from a more efficient producer outside the integrated area is replaced by the imports from a less efficient producers from within the integrated area due to discriminatory barriers (Drabik et al 2007).

The trade creation and trade diversion theory is not clear as to whether integration causes the overall trade creation or trade diversion, or whether it is welfare improving or welfare reducing. This ambiguity remains clear under all important assumptions on market structures or elasticity.

There is an expectation that the EU-enlargement process is expected to bring limited trade diversion because of a serious of preferential trade agreement with developing countries. However, rules of origin and other preferential arrangement could lead to more trade among an enlarged EU compared with trade from developing countries.

EMPIRICAL METHODOLOGY AND DATA:

Methodological Considerations:

In order to estimate the effects of EU-enlargement on agricultural exports while controlling for different countries groups and time periods, we used a formulation of the source of supply using, the same model as in Truman (1975). The model has been used by Jacquemin and Sapir (1988) on trade effect of regional integration but paying attention to manufacturing products. This model provides an instrument to control for country specific group effects which varies over time and geographical area.

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[9] WTO is considered first best from a welfare standpoint as they try to incorporate all countries in the world and not a sub-set as regional enlargement would do.

The model pays particular attention to the roles that domestic production, imports from new member states (CEECs) and extra-community imports plays in domestic consumption of European countries. The focus is on whether EU-enlargement process on trade in agricultural products has become more or less integrated in the world economy while paying particular attention on agricultural exports from CEECs and developing countries.

For the EU_{15} apparent consumption can be expressed as follows:

Apparent consumption (C) = domestic production net of extra EU exports (P-X)[10] plus imports from CEECs. (M^I)[11] plus extra-Community imports (M^x)[12].

The expenditures on apparent consumptions which are divided in to three shares: a domestic share, a partner share, and a non-partner share. Truman (1975) has reported that changes over time in the three shares of expenditures on apparent consumption will be tied to one of the following of patterns

Table 1: Trade creation and Trade diversion possibilities.

Case	Change in shares		
	(P-X)	M^I	M^X
1	-	+	+
2	-	-	+
3	-	+	-
4	+	+	-
5	+	-	-
6	+	-	+

Source Truman (1975).

Table 1, demonstrates six cases of trade creation and trade diversion effects of regional integration. Cases 1, 2 and 3 involve trade creation which is as a result of member countries' increased dependence on the rest of the world characterized by increase in the share of imports coming from intra-Community and/or extra-Community. On the other hand, cases 4, 5 and 6, represent trade

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[10] (P-X) agricultural production of EU_{15} less export of the becoming EU-members, developing countries and the rest of the world
[11] (M^I) EU_{15} agricultural imports from the becoming new EU-members,
[12] (M^X) EU_{15} agricultural imports from developing countries and the rest of the world

diversion which is characterized by an increased in the share of production at the expense of imports from intra-Community and/or extra-Community.

Jacquemin and Sapir (1988) have reported that empirics or empirical studies on the trade effects of economic integration often suffer from the lack of inability to control for factors such as natural resource booms, and adjustment in exchange rate, which may have an impact on the pattern of trade. However, the methodology of Truman (1975) underpinning the above set of configurations seems to be the most satisfactory in this regard. This is the case because, unlike most studies of integration, this methodology relies on both trade and production data.

To separate the effects of trade creation and trade diversion of EU-integration on groups of countries, we employ the index of imports over apparent consumption from 1990 to 2003 periods.[13] If the outcomes are increasing, then EU-integration leads to trade creation within that country group and on the other hand when the outcomes are falling, then EU-integration leads to trade diversion within the group of countries. This approach is reasonable as it identifies easily and separately the effects of regional integration on groups of countries.

Data

We use the OECD STAN-statistics to define our trade flow between EU_{15}, new EU-members (CEECs), developing countries and the rest of the world between the 1990 to 2003 periods. All the trade flows are extra EU_{15} exports and imports. The focus of this study is on agricultural exports to EU from developing countries. Therefore, the use of agricultural, forestry, fishing, food, beverage and tobacco as agricultural products is reasonable, to use for this study as the developing countries trade in one of these aspects have gone through major orientation as a result of a transition to market economy (the case would be different with less developed countries that are involved in agricultural production but most of their economies have not developed the processes and institutions to support agricultural trade). We used 13[14] developing countries in the analysis

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[13] The imports of EU-new/apparent consumption of EU_{15}, the import of developing countries/apparent consumption of EU_{15} and the import of the ROW/apparent consumption. This will be used to know whether there is trade creation or trade diversion in these groups of countries.
[14] Mexico, Turkey, Argentina, Brazil, Chile, China, Chinese Taipei, India, Indonesia, Malaysia, Philippines and South Africa.

because aggregated data on agricultural exports were hard to find for most developing countries. However, these countries represent a large share of developing countries from Asia, Latin America, and Africa that have developed their Agricultural export sectors. This group of countries does not have access to the Everything but Arms (EBA) agreement as the less developing countries does but they have access to the Generalized System of Preference (GSP) which has limited access to the EU market when it comes to agricultural produces. So trade should be greater for these countries than for less developed countries.

EMPIRICAL RESULTS:

The empirical results are presented separately, starting with the general effects of trade creation or trade diversion of EU-enlargement process to specifics effects of the degree of trade creation and diversion on groups of countries.

Results of General effects of trade creation or trade diversion:

Table 2-Share of Domestic Production (P-X), total imports M (EU-new members, and Extra-EU Imports DC and ROW) in apparent consumption, 1990-2003 (percent)

years	P-X	M
1990	97,30591	2,694085
1991	97,74041	2,25959
1992	97,76391	2,236092
1993	97,95692	2,043077
1994	97,64469	2,355313
1995	97,55776	2,442236
1996	97,63618	2,363822
1997	97,71535	2,284652
1998	97,73764	2,262361
1999	97,86175	2,138251
2000	98,05536	1,944637
2001	97,98259	2,017406
2002	97,93308	2,066917
2003	96,42117	3,578828

Source, Own calculation with data from OECD-Stan statistics

Table 2 above, gives the results of the breakdown of apparent consumption into shares for $EU_{15,}$ covering all the agriculture productions. It shows very clearly that the EU is almost self sufficient when it comes to agriculture. The domestic production has been more or less constant over the years from 1990 to 2002, and a slide fall between 2002 and 2003: a loss of 1point. The results shows that as from 1990 to 2002, agricultural expenditures of EU_{15} were devoted to goods produced domestically and till 2003 where expenditures were devoted more to goods from EU-new member countries, developing countries and the rest of the world.

The years 1990 to 2002 correspond to case 5 in table 1 above, a situation of trade diversion. The evolution of apparent consumption, as regard the part played by domestic producers in supplying their national markets, can be observed that, the share was 97% and within 12years, this percentage rose by 0.6point. This may be due to the fact that integration arrangements were still in process and competitiveness in agricultural productions and allocation of resources were within member countries. Also, the EU_{15} has not fully Liberalize the agricultural sector and transition had not concluded to bring its full benefits.

The 2002 to 2003 period correspond to case 1 in table 1 above, a situation of a trade creation. As observed in table 2, there is a fall in the domestics production from 97% to 96% and an increased in imports from 2% to 3.6%. Thus, agricultural expenditures in EU_{15} are devoted less to goods produced domestically and more to products coming from the EU-new partners, developing countries and the rest of the world. The conquest of domestic agricultural production by foreign producers may be attributed to EU integration process[15] but not entirely as they could have been changes in the allocation of resources within member countries.

Evolution in the Share of Intra-Community Imports

We explore more deeply the relative slowdown in intra-Community import with respect to extra-Community imports of agriculture in this section. The index of intra-Community trade as reported by Jacquemin and Sapir (1988) is the ratio of intra-Community imports to total (intra- and extra-

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[15] It was just a year left for the enlargement arrangement to be concretized and this could account for the increased in trade with the EU-new members.

Community) imports. The intra-Community trade index has been calculated over the period 1990 to 2003 for the EU_{15} countries.

Figure 1 **Ratio Between Imports of Intra-EU origin to total Imports**
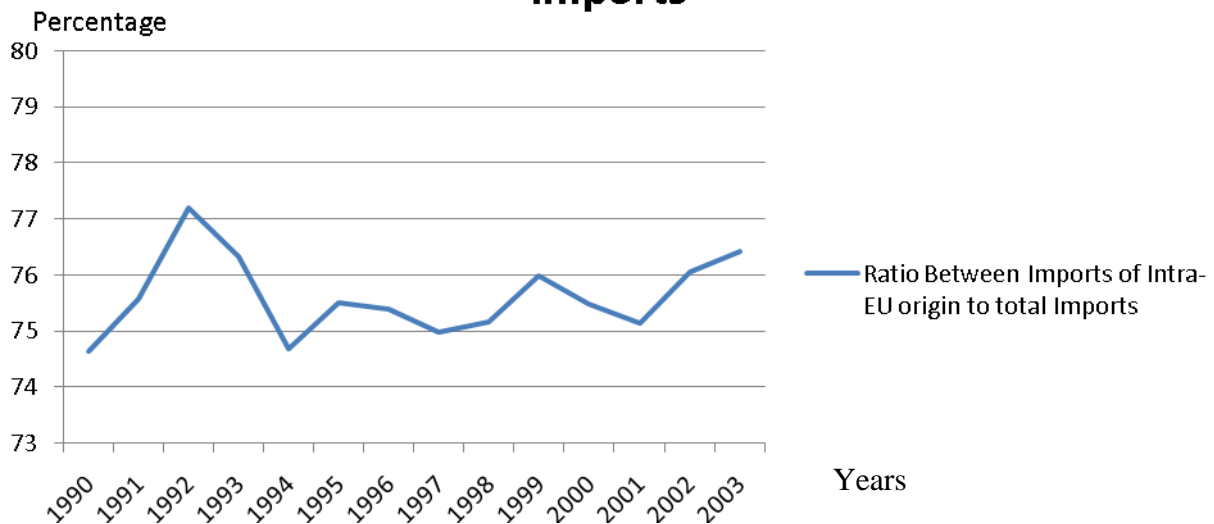
Figure 1, shows the index of intra-community trade for the agricultural sector as a whole. The most distinguished periods are the 1990-1992 which is characterized by increase in the share of intra-Community trade from 74 to 77 percent and 1992 to 1994 with a decrease from 77 to 74 percent. The period 1994 to 2003 shows a regular tendency of up (76%) and down (74%) movement.

Little fluctuation in the agricultural trade could be due to that the series of CAP reforms which had not really reduced supports to farmers in EU_{15}. These are to upgrade the competitiveness of the EU agricultural, to support rural development and to encourage sustainability in the agricultural production methods.

Empirical Results on the degree of trade creation and trade diversion on group of countries:

The estimated results of the trade creation and trade diversion on groups of countries on a time series data from 1990 to 2003 are presented in table 3. The estimations were based on imports from these countries on the apparent consumption of EU_{15}.

Table 3. Trade creation and trade diversion on EU-integration on groups of countries.

	EU-new	DCs	ROW
1990	0,228443	1,491939	1,512451
1991	0,199545	1,316572	1,24764
1992	0,202172	1,331128	1,183652
1993	0,190341	1,231227	1,060426
1994	0,206363	1,378213	1,246784
1995	0,217996	1,32433	1,365036
1996	0,203267	1,365802	1,27661
1997	0,192252	1,304995	1,221171
1998	0,195949	1,301645	1,20445
1999	0,200011	1,263055	1,118989
2000	0,18665	1,174597	0,972613
2001	0,202944	1,253747	0,960218
2002	0,217029	1,260378	1,003327
2003	0,40381	2,193264	1,675616

Source, Own calculation with data from OECD-Stan statistics

The result of the EU-new members (the becoming EU members) is more or less constant over the period 1990 to 2002: 0.2%. Here there is neither trade creation nor trade diversion. The 2002 to 2003 period shows a tendency of trade creation as predicted by the theoretical presumption of an increase in the regional integration index from 0.2% to 0.4% point.

The DCs outcomes are similar to those of the EU-new members. The period 1990 to 2002 shows a constant index of regional integration on agricultural imports of 1%, which did not show trade creation or trade diversion effects. However, the 2002 to 2003 period shows a trade creation as there is an increase in the index from 1% to 2% point. As earlier suggested the stable agricultural trade over the period 1990 to 2002 may be due to the series of CAP reforms implemented since 1992 and also due to the fact that as integration arrangements were still going on, competitiveness and allocation of resources in the agricultural sectors were still with the $EU_{15.}$

The outcomes of the ROW are equally similar to the CEECs and the developing countries. The period 1990 to 2002 shows trade diversion, with the EU trading more domestically than with the ROW, However, the 2002-2003 shows an increased in the integration index from 1% point to 2% points, which represent a trade creation.

Overall, we noticed EU_{15} agricultural trade resulted to a higher degree of trade creation with DCs followed by ROW and the CEECs, however, the trade creation effect is only due to other observations. This is due to the fact that, we have just a year of a tendency towards trade creation which is not enough to say with certainty about the trade creation effect.

The ratio of imports to apparent consumption is shown in Figure 2 for the different groups of countries.

Figure 2 Ratio of Imorts to Apparent consumption for group of countries
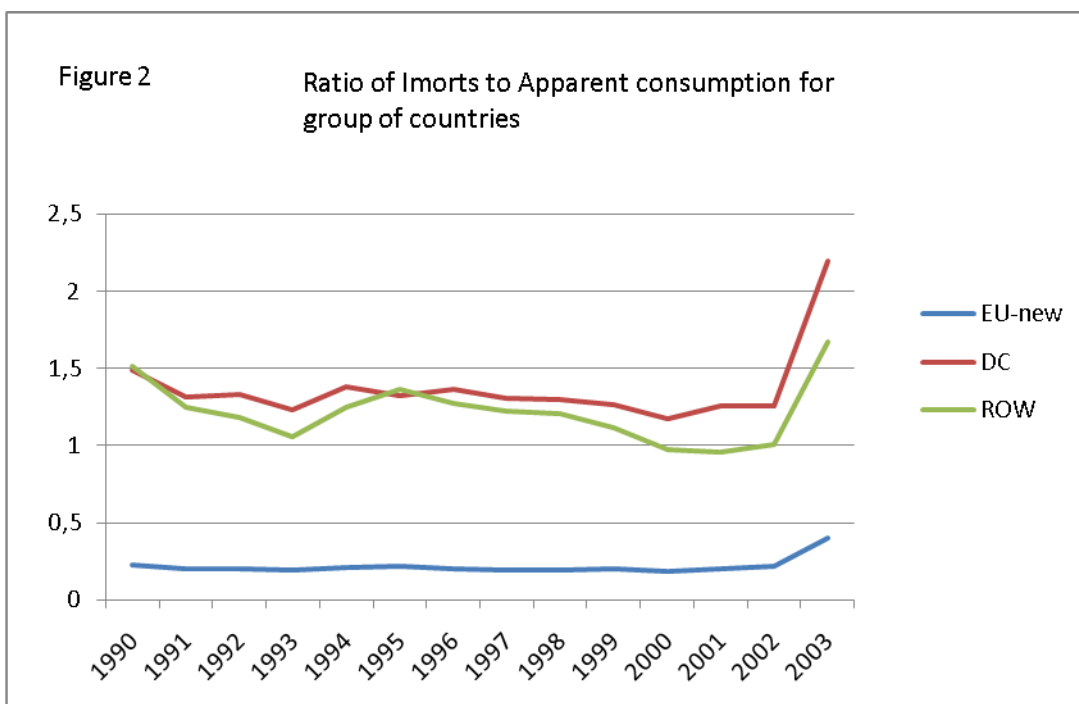
The imports of EU_{15} from EU-new have been more or less constant over the period 1990 to 2002 while it increased from 2002 to 2003. The DCs and ROW, have witnessed a slide fluctuation from the period 1990 to 2002 to an increase from 2002 to 2003. However, EU_{15} has more imports from DCs than from the other groups of countries. If trade creation were based on imports volume of countries, then we would argue that there is trade creation from 2003 between EU_{15} and her trade partners. But since trade creation also involves production and exports to these countries, it shows that production has been on the rise in the EU_{15} and this has counter act the rise in imports from these groups of countries.

The trade diversion has more impact for developing countries and the rest of the world than it does on CEECs and this is mostly during the mid 1990s to the 2002. This could be due to the enlargement of the EU_{12} to EU_{15}, and the implementation of the internal market. However, as EU-enlargement processes were almost concluded, we noticed increases in the imports from countries outside the EU_{15}. This indicates that production and allocation of agricultural resources are distributed to incorporate the new countries (those countries which join the EU in 2004).

CONCLUSION:

To facilitate the accession of CEECs to the EU, trade between the EU and the CEECs was gradually liberalized. The process is expected to have affected agricultural trade between the EU and the CEECs, and within the EU and the rest of the world. We have estimated changes in source of supply model on a large sample of EU, CEECs, developing countries, and the rest of the world over the period 1990 to 2003, to assess the effects of EU enlargement on agricultural trade. The evidence we have uncovered so far, shows the effects of the EU enlargement on agricultural trade in two distinct periods.

We found, 1) a situation of a trade diversion between the period 1990 and 2002. The trade diversion appears as a result of the EU_{15} continuous devotion of their agricultural expenditures on goods produced domestically. This may be the result of the series of CAP reforms which the EU implemented during this period and from mid 1990s to 2002, there was enlargement of the EU_{12} to EU_{15} and implementation of the internal market.

As the enlargement was in process, CEECs institutions were undergoing transformation, agricultural and food products were getting orientation to meet the EU standards, labor intensive production were benefiting from new technologies to become processed goods, competition and allocation of resources were still amongst the EU_{15}. This trade diversion may be a result of lack of trust in the socio-economic institutions of the former Soviet Union states.

The findings of this paper also shows 2) a tendency of trade creation from the period 2002 to 2003. This suggests that as the enlargement process was at the verge of completion, the EU_{15} had gain confidence in the CEECs agricultural sections. This may be because most of the former Soviet Union's institutions had been transformed, production had changed from labor intensive to processed goods, goods had met the hygiene and sanitation criteria and overall, competition and allocation of resources were allocated to incorporate CEECs.

This period of EU_{15} trade creation shows more trading with developing countries and the rest of the world than the CEECs. This may be the results of the special agreements the EU have with the developing countries and with the present of large trading partners like China with larger market.

However, we cannot argue that our results are robust based on the sudden changed from 1990-2002 trade diversion to the 2002-2003 period of trade creation. We would need more information such as data (from 2004 onward, which this research could not fine) to say with certainty about the trade creation outcome. Usually, a sudden change in results as our case in 2002-2003 from a trade diversion to a trade creation could be affected by redefinitions or one year statistical errors.

Though most trade issues were liberalized by 2003, the full liberalization process took place in 2004. This will affect agricultural trade differently as the new members' adhesion to the EU would apply common agricultural tariffs and would operate under the roles of the CAP. This adhesion might cause trade diversion as the $EU_{15,}$ and CEECs had different tariffs on agricultural goods before. Also, the CEECs had lower prices to agriculture and food products compared to the EU_{15} and the low labor cost of the CEECs could cause trade displacement as investment could be shifted to these countries as they are been supported by the EU now. A typical example could be Poland with a low labor cost and with the EU support to farmers, foreign investment might be increased and this might result to trade displacement.

Trade liberation affects country groups differently depending on whether they are at the core or in the periphery. However, our results uncovered shows that the CEECs, developing countries and

ROW trade with the EU$_{15}$ at the time of the enlargement process resulted to trade diversion between the period 1990 to 2002 and a tendency of trade creation between the period 2002 and 2003.

Areas for Future Research

To compare the periods of 1) before the beginning of the integration process, 2) the period with EU Agreements and 3) after the EU enlargement on agricultural trade. The comparison effects would tell us whether the EU enlargement has resulted to trade creation or trade diversion between the former and the new EU members, and the ROW as well. And the gravity model is also suitable to use in carrying on such a study.

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Appendix

Table 1 Composition of individual CEECs exports/imports by trade grouping in % of 2000 and 2005

Trading partners								
	EU$_{15}$		NMS		USA		ROW	
Country	Ex.	Im.	Ex.	Im.	Ex.	Im.	Ex.	Im.
2000 Bulgaria	33	38	12	10	5	3	50	49
2005	40	45	12	9	3	1	45	44
2000 Czech Republic	38	50	51	22	1	4	11	24
2005	43	63	46	27	1	1	10	9
2000 Lithuania	35	28	48	55	11	2	6	15
2005	47	45	47	40	1	3	5	12
2000 Latvia	25	47	66	40	6	3	3	10
2005	27	42	67	44	5	1	9	7
2000 Romania	46	32	20	25	1	4	33	39
	55	38	18	18	1	9	26	35
2000 the Salvia Republic	22	39	71	55	1	1	6	15
2005	31	40	64	49	0	1	5	10
2000 Slovenia	21	54	5	18	3	1	71	27
2005	43	55	8	20	1	1	48	24

Source, Drabik and Bartova (2007)

Appendix

Table 2. Agricultural Trade flow of Developing Countries by Groups 1980-81 to 2000-01:

Group and Period	Exports	Imports	Net Imports
Low-income, small			
1980–81	10.63	3.26	−7.37
1990–91	10.06	2.39	−7.67
2000–01	14.95	4.45	−10.5
Low-income, large[a]			
1980–81	4.7	4.21	−0.49
1990–91	6.75	4.13	−2.62
2000–01	12.19	7.38	−4.81
Middle-income, large exporters[b]			
1980–81	20.26	17.73	−2.53
1990–91	25.94	18.47	−7.47
2000–01	38.4	18.11	−20.29
Middle-income, Asian importers[c]			
1980–81	5.28	12.62	7.34
1990–91	9.54	22.77	13.23
2000–01	7.22	28.49	21.27
China and India			
1980–81	7.14	5.87	−1.27
1990–91	15.13	6.56	−8.57
2000–01	23.67	14.12	−9.55
Other middle-income			
1980–81	38.09	34.65	−3.44
1990–91	47.34	31.19	−16.15
2000–01	65.85	55.64	−10.21

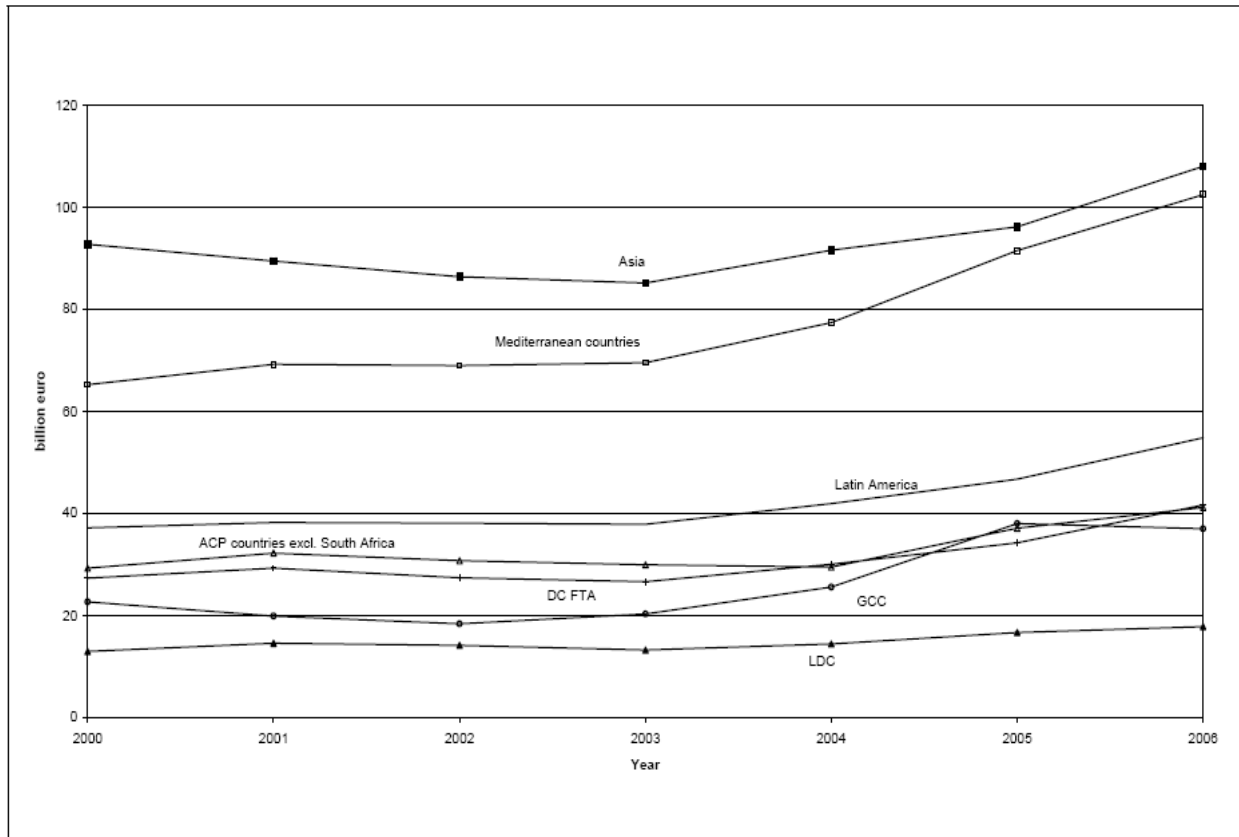a. Bangladesh, Ethiopia, Indonesia, Nigeria, and Pakistan.

b. Argentina, Brazil, and Thailand.

c. Republic of Korea, Hong Kong (China), Singapore, Taiwan (China).

Source: COMTRADE and World Bank calculations.

Appendix

Figure 1 EU import from selected groups of developing countries 2000-2006 (€ billion)

Source: Comext[16].

[16] http://www.eui.eu/LIB/Guides/Economics/Statistics/Descriptions/comext.shtml

Appendix

Table 3 EU imports from developing countries 2000-2006 (€ billion).

Agriculture and fisheries:

	2000	2001	2002	2003	2004	2005	2006
Developing Countries	58	61	54	53	55	60	67
Mediterranean countries	9	10	9	9	10	12	14
ACP countries excl. South Africa	8	9	10	9	8	8	8
DC FTA	4	4	5	4	4	4	5
South Africa	2	2	3	2	2	2	2
Mexico	1	1	1	0	0	1	1
Chile	1	1	1	1	2	2	2
LDCs	3	3	3	2	2	3	3
Latin America	17	19	18	19	20	21	22
Mercosur	12	14	14	14	15	15	16
Central America	2	3	2	2	2	2	2
Andean Community	3	3	3	3	3	4	4
Asia	13	12	7	7	7	8	9
non ACP LDCs	0	0	0	0	0	0	0
Asean	11	10	5	5	6	6	7
India	2	2	2	1	2	2	2
GCC	0	0	0	0	0	0	0

Source: Comext