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An Analysis of Actual and Potential Trade between the EU Countries and the Eastern European Countries *

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Abstract/Resumo:

The Eastern Enlargement represents an opportunity for trade growth for all the European Union (EU) countries. In fact, trade between the EU and the Central and Eastern European countries (CEEC) has increased considerably in the nineties. However, both benefits and losses from trade expansion do not equally affect all countries and regions inside the EU.

This paper focus on the analysis of the potential bilateral trade flows between the EU and the CEEC and in special between the CEEC and the Southern European countries. The analysis is based on the gravity model approach using panel data from 1993 to 1999. It is possible to conclude that there is still scope for further expansion of the trade flows between some CEEC and some of the EU countries, in particular of some Southern countries.

Palavras-chave/Keyword:

Classificação JEL/JEL Classification:

1. Introduction

The process of enlargement has originated a vast literature trying to quantify its effects, particularly upon trade relations. Many analyses report changes in terms of volume, composition and nature of trade between EU countries and the CEEC during the process of transition. The enlargement to the East represents an opportunity for trade expansion for both the EU and the CEEC, and in effect trade relations between the EU and the CEEC grew considerably during the last decade. However, both possible gains and losses from trade expansion are not evenly distributed in the EU. Some authors have anticipated that less developed regions/countries and problematic industrial sectors will benefit less with the enlargement and that will probably experience some losses on the levels of output and employment.

In fact, on the part of the EU most fears concerning the impact of enlargement are related to the Southern countries, namely Portugal, Spain and Greece. Studies like Baldwin et al(1997) or Breuss(2001) conclude that Portugal will be one of the countries that will be more negatively affected from enlargement. Only a few studies concentrate on the effects on these individual countries (for example: Corado(1994) and Emerson and Gros(1998) for Portugal, Dimelis and Gatsios(1995) for Greece, Martin and Dual(1994) and Martin (1995) for Spain). All of them express concerns about the impact of enlargement, specially in the case of Portugal and Spain.

In what concerns the impacts on trade, one key aspect is whether the trade potential between the EU and the CEEC has already been exhausted. Studies on the effects of enlargement on trade have presented contradictory results about the overall trade effects of gradual integration of CEEC into international markets. While some conclude that the EU-CEEC trade is well below its potential level, other studies found that the actual EU-CEEC trade is reaching its limits. The reasons for the divergence on the results refer mainly to differences on the data and on to the econometric procedures employed in the empirical analyses.

In this paper, we will focus on the analysis of the effects for the EU Southern countries on the volume of trade with the CEEC. We will investigate the determinants of bilateral trade flows and compute the potential trade between the EU countries and the CEEC, giving particular attention to the relations between the Eastern and the Southern countries. The analysis is based on the gravity model approach using panel data from 1993 to 1999. In order to examine the robustness of the estimates, different specifications are employed. It is possible to conclude that there is still considerable room for further expansion of the trade flows between some EU countries and some of the CEEC countries. This is particularly the case of bilateral trade relations between some of the Southern countries and some of the CEEC.

The paper is organised as follows. Section 2 reports the characteristics and trends of trade relations between CEEC and EU, giving particular attention to the case of Portugal, Spain and Greece. Section

3, gives a brief overview of earlier empirical studies on potential trade, examines the model specification and the results on potential trade flows. Section 4 concludes.

2. EU-CEEC Trade: Characteristics and trends

The collapse of centrally planned economic regimes in the CEEC, and the subsequent process of economic liberalisation, brought along important transformations in terms of external trade. The European Agreements were an additional determinant for these countries' reforms. In consequence, after one decade of transition process it is possible to identify some major tendencies in the CEEC-EU trade[1].

First, the CEEC' openness to world markets was rapid and generalised, with the degree of openness[2] evolving from 56% in 1993 to around 70% in 1999 in global terms. In countries like Estonia, Slovakia and Hungary, the degree of trade openness exceeded 100% in 1999, which clearly underlines the importance of external trade in candidate economies. In comparison, Southern EU members display values which are significantly lower, although they have been increasing in the case of Portugal and Spain.

Second, there was a progressive reorientation of CEEC' economy, and in particular of CEEC' trade, towards the EU, which coincided with the decline in the CEEC relationships with the members of the CMEA. In 1999, the weight of the CEEC' external trade with the EU was around 66,5%, already a similar situation to that of the majority of the EU members. From the EU perspective, the weight of the candidate countries in the EU trade reached only 4,1% and 3,1% for exports and imports, respectively.

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[1] A detailed analysis on the EU-CEEC trade relations may be seen in Caetano et al. (2002).
[2] Defined as the weight of external trade on GDP.

Table 1: Trade Flows EU/ CEEC and CEEC/ EU (% of Total)

	1993		2000			1993		2000	
	Exp.	Imp.	Exp.	Imp.		Exp.	Imp.	Exp.	Imp.
Germany	52,14	56,18	42,69	47,49	Estonia	0,73	0,77	3,30	2,89
Austria	0,00	0,00	7,74	8,77	Latvia	1,43	1,13	1,95	1,81
Bel.-Lux.	3,90	3,00	4,09	3,87	Lithuania	1,53	1,66	2,23	2,29
Denmark	2,26	2,63	1,50	1,80	Poland	32,76	34,07	23,54	29,69
Spain	1,92	1,56	2,70	2,07	Czech R.	18,52	19,62	21,98	21,18
Finland	0,00	0,00	3,28	1,83	Slovakia	4,89	4,02	7,07	5,88
France	9,19	8,45	8,57	6,79	Hungary	16,51	16,35	22,48	18,70
Greece	1,59	1,66	1,08	1,28	Slovenia	11,46	9,58	6,48	7,25
Netherlands	6,29	6,46	5,07	4,81	Romania	7,99	8,12	7,78	7,45
Ireland	0,36	0,34	1,09	0,64	Bulgaria	4,17	4,67	3,19	2,86
Italy	15,87	12,90	12,79	10,81					
Portugal	0,10	0,24	0,27	0,55					
U.K.	6,38	6,58	5,61	6,01					
Sweden	0,00	0,00	3,49	3,27					
Total	**100**	**100**	**100**	**100**	**Total**	**100**	**100**	**100**	**100**

Source: Own calculations based on Eurostat database

However, the volume of trade has not expanded equally in all the countries. In the case of the CEEC, countries that share a common border with the EU (Hungary, Slovenia, Czech Republic, Slovakia and Poland) are responsible for 82% of the candidate countries' trade with the EU. In what concerns EU member states, trade is also concentrated in frontier countries: Germany, Austria and Italy are responsible for more than 60% of trade with the CEEC, whereas countries such as Portugal, Spain and Greece as a whole generate only about 4% of such flows (table 1). Therefore, the intensity of trade is higher for countries in the EU-CEEC border (table 2). As for the Southern EU countries, although the level of trade is low between the CEEC and the Iberian countries, it has been significantly intensified in recent years, which did not happen for Greece to the same extent. Nevertheless, Iberian countries are still less sensitive in relation to the trade relations with the CEEC than Greece, considering the weight of trade with the CEEC in each country.

Table 2: Relative Intensity of Export Index

	CEEC			UE	
	1993	1999		1993	1999
France	0,73	0,94	Slovenia	1,64	1,72
Benelux	0,60	0,91	Estonia	1,33	1,68
Germany	2,40	2,91	Latvia	1,48	1,67
Italy	1,63	1,81	Lithuania	0,92	1,42
Netherlands	0,77	0,94	Bulgaria	0,86	1,33
United Kingdom	0,65	0,71	Czech Republic	1,33	1,76
Ireland	0,21	0,41	Slovakia	0,84	1,57
Denmark	1,14	1,36	Hungary	1,54	1,89
Finland	2,23	3,98	Poland	1,77	1,81
Sweden	1,10	1,72	Romania	1,07	1,68
Austria	5,12	4,07			
Spain	0,51	0,75			
Greece	3,24	3,31			
Portugal	0,12	0,37			
European Union	**1,41**	**1,66**	**CEEC**	**1,39**	**1,75**

Source: Own calculations based on CHELEM database - CEPII.

In bilateral terms, the intensity of trade is higher for neighbouring countries, which are therefore closer in economic, cultural and historical terms: Greece with Bulgaria and Romania; Finland and Sweden with the Baltic countries; Austria and Germany with Hungary, the Czech Republic, Slovenia and Slovakia (table 3).

One other issue that is worth mention is the fact that the CEEC display high and increasing structural trade deficits (around 6,5% of GDP in 1999). In the Baltic countries and in Poland the deficit was above 10% of GDP in 1999, a result of the deterioration occurred during the last decade. Trade relations with the EU were the main responsible for this state of affairs, generating on average around 57% of the CEEC deficit. Yet, EU members contribution for this deficit is not equal for all the countries. Italy, France and Finland has been responsible for around 74% of EU surplus, whereas Germany, Austria[3], Denmark, Greece and Portugal present a deficit in their trade with the CEEC. In fact, Portugal exhibits the highest deficit in relative terms.

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[3] The deficits for Germany and Austria could be considered as surprising. However, this situation is a consequence of the increasing subcontracting activities between firms in these countries and in CEEC´s, specially under the regime of "Outward Processing Trade".

Table 3: Hierarchy of Relative Intensity of Export Index

Order		1993		Order		1999	
1	Finland	Estonia	49,80	1	Greece	Bulgaria	41,70
2	Estonia	Finland	32,09	2	Finland	Estonia	40,03
3	Greece	Bulgaria	27,30	3	Estonia	Finland	27,00
4	Austria	Hungary	10,02	4	Estonia	Sweden	15,25
5	Estonia	Sweden	9,67	5	Bulgaria	Greece	14,66
6	Bulgaria	Greece	8,83	6	Latvia	Sweden	12,00
7	Austria	Slovenia	8,73	7	Greece	Romania	11,27
8	Sweden	Estonia	7,57	8	Austria	Slovenia	9,91
9	Hungary	Austria	7,11	9	Finland	Latvia	9,66
10	Latvia	Denmark	6,59	10	Austria	Hungary	8,07
643	Portugal	Slovakia	0,05	643	Slovakia	Portugal	0,12
644	Portugal	Poland	0,04	644	Slovakia	Ireland	0,12
645	Lithuania	Ireland	0,04	645	Portugal	Slovakia	0,11
646	Portugal	Latvia	0,02	646	Latvia	Portugal	0,11
647	Estonia	Ireland	0,02	647	Latvia	Greece	0,11
648	Latvia	Greece	0,02	648	Slovenia	Ireland	0,09
649	Slovakia	U.K.	0,01	649	Lithuania	Portugal	0,08
650	Slovakia	Ireland	0,01	650	Portugal	Slovenia	0,08
651	Portugal	Lithuania	0,01	651	Lithuania	Greece	0,08
652	Ireland	Slovakia	0,00	652	Estonia	Greece	0,08

Source: Own calculations based on CHELEM database - CEPII.

CEEC' economic liberalisation changed the relative costs of production factors, causing adjustments in productive structures and trade patterns. However, external trade still reflects the structural effects of centrally planned economies, since structural adjustments are relatively slow (Faini and Portes, 1995). Profound changes on the sectoral pattern of comparative advantages have occurred, reflecting a gradual shift of CEEC' exporting structures to sectors more intensive in technology, where wages are relatively high, and which are less anchored in natural resources and labour intensive products. There is, however, strong heterogeneity at the country level, implying that proximity to the EU and income convergence stimulate product differentiation and the trade in goods intensive in R&D and capital. The increasing divergence of trade patterns among CEEC' suggests different factor endowments, as well as distinct dynamics of integration into the international process of production.

In the EU countries, there are also a wide range of intra-community trade patterns. Iberian countries and Greece present a pattern similar to the candidate countries, in spite of having advantage in scale and capital-intensive sectors, a situation that only happens in the Czech Republic, Hungary and Slovakia. However, examining in detail the evolution of the CEEC' specialisation patterns, it is discernible an increasing approximation to the situation found in the Northern and Central EU countries, rather than in the Southern countries, as recognised by Kaitila (2001).

One other issue is the continuous expansion on trade of intermediate goods that has taken place[4]. In fact, primary and final goods lost relative importance, and this tendency is observed in most countries and for most exports and imports. However, countries differ in this respect, as such reinforcement is stronger in the bordering countries of the EU than in the Baltic or Balkan countries. In comparison with the Southern European countries, these countries display a higher degree of international integration in terms of trade and productive networks. This suggests that geographical proximity, convergence of technological patterns and availability of qualified labour stimulate this type of trade. This occurrence coincided with the emergence of a profile of vertical specialisation[5], based on the segmentation of productive activities driven by multinational firms. Both developments confirm the progressive and quick entrance of the CEEC into the world division of labour and reflect the market re-valuation of factor endowments.

Finally, there was an increase in the weight of IIT in the total trade between CEEC and the EU which coincided with the changes in the inter-sectoral specialisation pattern. In spite of this structural change, the nature of CEEC-EU trade still reflects the factor endowments complementarity between the two groups. The analysis of the CEEC-EU trade relations reveals that trade of vertically differentiated products has been assuming a significant share in the exchanges between the EU and the more central candidate countries. However, the CEEC and the EU continue to export goods of different ranges, implying that those countries present comparative advantages in trade of low quality products. This distinct positioning in the price/quality range suggests a general qualitative division of labour between the two groups of countries.

3. Analysis of Potential Trade Flows

3.1. Evidence from Previous Empirical Literature

Different theoretical and empirical approaches have analysed the levels of "potential trade" and the determinants of bilateral trade flows. Gravity models have been the most widely adopted in modelling the integration process between the CEEC and the EU, namely in assessing the impact of the enlargement on trade potential. The results of these studies have been contradictory, as some, like Hamilton and Winter (1992), Baldwin (1994), Buch and Piazolo (2000) and Jakab et al (2001), conclude that there is still scope for growth on the EU-CEEC trade and others refer that trade potential is either close to the potential level or even above potential (for example Gros and Gonciarz (1996), Festoc (1997) and Nilsson (2000)).

The distinct results are mainly due to two reasons. On the one hand, it must be noted that the integration process of the CEEC into international markets was very rapid and, as a result, there was a fast expansion of trade flows between the EU and the CEEC. On the other hand, there are some

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[4] In 2000, intermediate products were responsible for 58% of the CEEC-EU trade. An increase of 12 p.p. was registered since 1993.

[5] Characterised by an inversion of comparative advantage pattern along the production process inside the different sectors

issues concerning data and econometric procedures employed in empirical analyses that raise doubts on the estimates of some of these studies.

First, many studies apply cross-section instead of panel data. Recent papers (Breuss and Egger (1999), Egger (2000) and Matyas (1997,1998)) conclude that the use of cross-section data turns the estimates unbiased. Second, when applying panel data methods there is the issue of deciding whether to apply a random effects or a fixed effects model. Usually the fixed effects model reveals itself as the best and, as a consequence, other aspects have to be considered. Many studies use only data on Western countries, performing out of sample predictions to forecast the results for the CEEC, whereas the fixed effects refer only to the countries in the sample. More recent studies, like Nilsson (2000), Buch and Piazolo (2000) or Jakab et al (2001), although applying different methodologies, all base their estimates on data on both the CEEC and the Western countries. The other issue to take into account is the option between the use of country specific fixed effects and country-pair specific effects. The latter specification is more general and it has been referred recently as the most appropriated [6], but it has not been usually applied on the analysis of trade relations between the CEEC and the EU countries.

Most studies do not present individual bilateral trade estimates for all the EU and CEEC. In particular, in what concerns bilateral trade relations between the Southern countries and the CEEC, not much results have been reported. Two exceptions are Baldwin (1994) and Nilsson (2000). The latter, based on average data for 1955/1996 refers that, for the EU as a whole, actual trade is very close to its potential, but for Portugal and Spain there are possibilities for trade expansion with the CEEC. The same does not happen for Greece, to the exception of its exports and imports for some individual Eastern countries. Some other studies display estimates for Spain, but not for Portugal and Greece. Martin (1995) focus exclusively on Spain and applies a panel data model from 1989 to 1992, concluding that it is likely that an expansion of bilateral trade flows with the CEEC will occur. Similar conclusions were obtained by Fontagné et al (1999) and Buch and Piazolo (2000). The first investigates the potential EU trade flows with four Eastern countries using data from 1990 to 1995, and concludes that in the short-term for Spain there is still some room for expansion of exports to Hungary and Romania and of imports from Poland, Romania and Check Republic. The second one uses cross section data for 1998, and concludes that for Spain there is potential for trade flows expansion with all the 10 CEEC.

3.2.Model Specification

In order to study bilateral trade relations between the EU countries and the CEEC, and to predict the trade adjustments associated with the removal of trade barriers, we estimate a gravity model using a panel data approach for the period between 1993 and 1999.

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[6] See Egger and Pfaffermayer (2000), Fontagné et al (1999) and Cheng and Wall (2001)

We try to improve many of the previous analyses by considering data not only on EU countries but also on the CEEC to estimate the model. Moreover, we modify the gravity model in some ways and try to use appropriated econometric procedures to obtain more accurate results.

There are several specifications that may be adopted to estimate a gravity model. In this empirical analysis, we use panel econometric methods considering a two-way model with time and individual specific effects:

$$Y_{it} = \alpha_0 + \delta_i + \gamma_t + \beta_1 X_{1it} + \beta_2 X_{2it} + ... + \varepsilon_{it}$$

where Y_{it} represents the logarithm of bilateral exports and X_{kit} (k=1,2, ..) the logarithm of the explanatory variables included in the model, δ_i the unobservable individual effect, γ_t the unobservable time effect and ε_{it} is the remainder stochastic disturbance term.

If δ_i and γ_t are assumed to be fixed parameters to be estimated and the X_{kit} are considered independent of ε_{it}, then we have a two-way fixed effects error component model. On the other hand, if δ_i and γ_t are treated as random variables then we have a two-way random effects model. In the random effects model, X_{kit} is assumed to be independent of δ_i, ε_{it} and γ_t. The Hausman test can be used to compare the Within estimator from the fixed-effects model and the random effects GLS estimator, testing the null hypothesis of no correlation between the individual and time effects and the regressors.

In the present case, the tests performed did reject the existence of no correlation. Hence, in order to obtain consistent and non-biased estimators, we estimate a fixed effects model applying the Within estimator. We estimate several specifications, including different regressors and using two different approaches. First, we adopt the most common specification in the literature, considering a country specific effects model. We also consider a more general specification using trading pair-specific or bilateral common effects like it was proposed by Fontagné et al (1999), Egger and Pfaffermayer (2000) and Cheng and Wall (2001), which argued that it is the most appropriated specification. This type of model assumes that there are systematic differences across pairs of countries captured by country-pair constants. In this fixed-effects model, rather than controlling for time-invariant geographic, cultural and historical factors with a list of particular variables, as in the first case, there is the introduction of fixed effects to control for all time invariant factors that are specific to each of the trading pairs.

Following closely previous studies, more specifically Egger (2000) and Fontagné at al (1999), we include, in both the country specific effects model and the bilateral common effects model, as explanatory variables[7], the sum of GDP of both countries (GDT), the degree of similarity between the

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[7] More detailed information on the data and variables used may be seen in the Data Appendix .

two countries (SIM) and the economic distance between the two countries (ED). In addition, in the analysis of the effects of the enlargement upon trade, it is important to consider the consequences of foreign exchange rate stability, as well as of the adoption of a common currency. Therefore, in our model we introduced the bilateral real exchange rate index (ER) together with a measure of exchange rate volatility (ERV) as proxy to the effect of the currency union on trade. Actually, reducing exchange rate volatility to zero might not be equivalent to a common currency. To this respect, Rose (2000) argues that sharing a common currency is a much more serious and durable commitment than a fixed exchange rate.

In the country-specific effects model some other variables were considered. We included the geographic distance between the countries, the existence of a common border and two other dummies: EU (indicating whether both countries belong to the European Union or not) and Baltic (that equals one if one of the trading partners is a Baltic country), in order to take into account specificities of these countries.

3.3. Discussion of Results

The results for the several specifications used can be seen in Table 4. Although there are discrepancies in magnitude, the parameters estimates are not qualitative different for most of the variables of interest included in the model. The major differences between the specification with country specific effects and the one with bilateral country effects relate to the variable measuring the degree of similarity between the countries involved. This variable is negative and significant in the first case which does not happen in the second.

In general the results are in accordance with those usually obtained in the empirical literature on international trade. The estimates support the idea that the size of the economy has a statistically positive influence on bilateral trade relations. On the other hand, countries' economic distance, measuring the relative factor endowments, seem to have a negative impact on bilateral trade flows, which is according to new trade theories. Previous studies mostly conclude that exchange rate stability and currency unions benefit international trade[8]. Accordingly, our results suggest that exchange rate stability will have a positive effect on trade flows.

The gravity model estimates of trade flows were then used to analyse whether the potential trade between the EU and the CEEC is above or below the actual level. As the more general model, considering common bilateral effects, gives better in sample predictions, we used these estimates to predict the potential of trade between the EU and the CEEC countries in 1993 and 1999.

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[8] See Rose (2000), Glick and Rose (2001), Artus and Ricoeur-Nicolai (1999), Benassy-Quere and Lahreche-Revil (1999), Giovanni dell'Ariccia (1999).

Table 4: Estimates of the Gravity Model on EU/CEEC trade flows

(Fixed Effects Estimates)

Variable	(1) Country-specific effects			(2) Bilateral common effects		
	A	B	C	A	B	C
	Coeffic. (St. Err.)	Coeffic. (St. Err.)	Coeffic. (St. Err.)	Coeffic. (St. Err.)	Coeffic. (St. Err.)	Coeffic. (St. Err.)
Sum of GDP	1.057* (0.018)	1.067* (0.021)	1.075* (0.022)	2.960* (0.186)	1.476* (0.235)	1.497* (0.251)
Similarity	-0.146* (0.010)	-0.100* (0.010)	-0.100* (0.010)	0.038** (0.017)	0.003 (0.015)	-0.002 (0.019)
Economic Distance	0.055** (0.024)	-0.084* (0.028)	-0.077* (0.030)	-0.459* (0.088)	-0.419* (0.088)	-0.335* (0.109)
EU	1.566* (0.060)	1.267* (0.069)	1.063* (0.071)	–	–	–
Baltic	-0.885* (0.047)	–	–	–	–	–
Distance	-1.287* (0.027)	-1.011* (0.031)	-0.973* (0.031)	–	–	–
Frontier	0.540* (0.053)	0.651* (0.053)	0.593* (0.052)	–	–	–
Exchange Rate	–	-0.960* (0.128)	-0.938* (0.128)	–	-0.510* (0.048)	-0.615* (0.045)
Exch. Rate Volatility	–	–	-0.212 (0.174)	–	–	-0.269* (0.065)
Constant	0.334 (0.289)	-1.274* (0.344)	-1.415* (0.352)	-31.471* (2.364)	-12.456* (3.085)	-12.681* (3.328)
N	3864	2394	1981	3864	2394	1981
Std.Dev. Residual	0.803	0.661	0.604	0.344	0.215	0.172
R-squared	0.896	0.902	0.909	0.983	0.991	0.993

All variables are in logs. Dependent variable is the logarithm of bilateral exports. Variables definition, countries used in regression and data sources can be seen in Appendix.

(*) and (**) Denotes values significant at 1% and 5% level, respectively

The results on the potential versus actual exports percentage deviation may be seen in table 5.[9] These show the deepening of the process of trade liberalisation between the CEEC and the EU. It may be concluded that the short–term trade potential is exhausted for the majority of countries. There are, however, some differences between the imports and exports. The results suggest that exports to the CEEC have converged more quickly than imports from the CEEC, particularly in the case of Poland, Bulgaria, Latvia, Slovenia and Lithuania. So far there is a gap between actual and potential imports from these Eastern countries.

Table 5: Potential versus Current Exports and Imports [a]

(Potential/Current percentage deviation [b])

	EU Exports			EU Imports	
	1993	1999		1993	1999
Origin-country			**Destination-country**		
Austria	-6,73	5,92	Austria	-7,38	5,70
Bel-Lux	12,43	-19,42	Bel-Lux	19,00	-18,60
Denmark	-12,97	5,93	Denmark	-19,50	3,49
Finland	2,33	13,06	Finland	-1,04	19,22
France	10,50	-16,99	France	-9,61	-8,61
Germany	9,17	-13,77	Germany	-2,41	-8,69
Greece	-22,00	6,83	Greece	1,42	20,55
Ireland	31,26	-11,69	Ireland	-30,48	-25,91
Italy	6,45	-3,60	Italy	4,46	-8,19
Netherlands	-14,15	4,05	Netherlands	-21,57	-4,30
Portugal	72,79	-34,52	Portugal	10,76	-28,85
Spain	35,01	-14,24	Spain	24,24	-11,69
Sweden	19,83	-9,96	Sweden	22,84	-3,94
United kingdom	-4,26	18,05	United kingdom	-4,43	-0,98
Destination-country			**Origin-country**		
Bulgaria	-15,17	-4,57	Bulgaria	12,52	13,20
Czech Republic	11,54	-7,80	Czech Republic	-6,38	-11,90
Estonia	40,32	2,54	Estonia	89,04	-7,89
Hungary	3,52	-14,02	Hungary	19,82	-25,26
Latvia	50,86	-6,94	Latvia	0,40	22,30
Lithuania	56,91	-12,51	Lithuania	-22,42	19,18
Poland	-1,15	-4,75	Poland	-20,82	15,70
Romania	8,19	-17,74	Romania	14,86	-12,97
Slovakia	31,77	-11,24	Slovakia	26,39	-24,91
Slovenia	-8,83	7,75	Slovenia	-25,22	19,49

(a) These results were obtained using the estimates from specification (A) of the model, considering bilateral common effects.
(b) A negative (positive) value means lower (higher) potential exports than actual ones by this percentage.

Yet, in bilateral terms there is still room for further expansion of trade flows for some specific pairs of countries. This is the case for the exports of Austria, Denmark, Finland, Netherlands, United Kingdom and Greece, especially to Eastern countries like Slovenia, Slovakia, Bulgaria, Czech Republic, Hungary and Poland. In terms of imports, it may be inferred from the results that there is scope for

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[9] We report the results obtained using the estimates from specification A, as for this one data is available for all countries in our sample. However, the conclusions using the estimates from other specifications are not very different.

growth in imports from the CEEC, especially from Poland, Latvia, Slovenia, Lithuania and Bulgaria, to EU countries such as Greece, Finland, Denmark, Netherlands, United Kingdom, Germany, Sweden and Portugal (table 6).

Analysing in more detail the bilateral trade flows involving Southern countries and the CEEC, we can see that potential trade expansion is more obvious in the case of Greece. In the opposite situation is Spain, for which it seems there are only some possibilities for trade expansion with Romania in the case of exports, and with Bulgaria, Lithuania and Poland in the case of imports. As for Portugal, potential trade is higher than actual trade in the relations with Bulgaria, Lithuania, Slovakia and Slovenia in the case of imports, and with half of the CEEC countries for exports (table 6). These results for Greece are not surprising considering the evolution of trade relations with the CEEC in the last decade. Indeed, as we referred in section 2, Greece did not exhibit a significant expansion of trade with the CEEC as a whole, especially when compared with Portugal and Spain.

These results are not completely according to previous findings, which reported the existence of potential trade expansion with the CEEC for Spain and the opposite for Greece. However, one has to take into account not only the differences in methodology but also the fact that more updated data is used in this study.

In the long run, given the permanent economic transformation of the CEEC, it is difficult to predict with confidence the future trade potential. Yet, in spite of the great expansion in the EU-CEEC trade relations, it is expected that the volume of trade will continue to increase due to the expansion of real incomes and to the progress in market reforms in the candidate countries.[10] Most studies also suggest that this tendency will not be equal in all countries. The accession of the CEEC to the EU will have in itself a positive effect on bilateral trade flows. On the other hand, it is important to stress that the stability of the exchange rate and therefore the enlargement of the Euro zone to these countries will have also, according to our results, positive effects on trade flows.

In the analysis of the results, it should be acknowledged that these models do not consider the possible existence of substitution processes between countries in their exports. This is a very important aspect, as it means that the effects of the Association Agreements might not be felt for some countries, in the sense that some countries' exports might be substituted by CEEC' exports. To this respect, previous analysis on the trade creation and trade diversion effects (see Caetano et al (2002)), have concluded that countries which are located in the centre of the future Enlarged Europe will be simultaneously the main beneficiaries from trade creation and the most affected from trade diversion. These countries are in better position to take advantage of reciprocal openness, not only due to geographical proximity, which reduces transport costs, but also essentially due to higher adjustment of their productive specialization to the dynamics of demand in the neighbouring markets. However, they may also suffer greater competitiveness pressure due to mutual openness.

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[10] See Fontagné et al. (1999) and Auxilioux and Pajot (2001).

On the other hand, Portugal seems to be the country in worst situation, in both trade diversion and trade creation. In fact, during the transition period, Southern European countries may endure increased competition in the access to the community markets, due to the similarity in the exports' structures, especially in labour intensive goods. Yet, if past tendencies in the CEEC' specialization patterns are sustained, a higher similarity in the factor endowments with the Central and Northern EU countries will be achieved. Therefore, once the industrial restructuring and the consequent adjustment of physical and human capital stocks is accomplished, competitiveness pressure may shift to the Central and Northern countries. In this case, the competition with the Southern countries will be transitory and the negative effects will become gradually residual.

TABLE 6: Potential versus Current Bilateral Trade Flows - 1999[a]

(Potential/Current percentage deviation [b])

EU Exports

Destiny \ Origin	Austria	Bel-Lux	Denmark	Finland	France	Germany	Greece	Ireland	Italy	Netherlands	Portugal	Spain	Sweden	UK
Bulgaria	-17,42	-6,31	4,11	-7,67	-25,65	4,08	6,57	-29,82	-10,20	2,66	7,05	-48,94	-11,68	56,61
Czech Repub.	2,35	-7,14	15,38	16,68	-16,05	-13,01	20,94	-14,40	3,32	-0,03	-32,51	-6,21	-13,79	8,58
Estonia	-34,84	-11,41	-1,90	11,62	-28,53	-5,90	-5,72	55,05	-22,50	5,92	-14,32	-21,44	-7,82	-4,96
Hungary	17,59	-37,39	8,53	9,74	-20,78	-26,25	37,49	-22,53	-4,63	5,58	-33,76	-15,30	17,56	6,42
Latvia	-40,47	-11,98	-19,35	6,60	-39,48	-4,11	-41,05	17,58	-34,29	-3,42	-51,06	-39,20	9,53	7,31
Lithuania	-44,45	-31,57	-31,73	3,66	-17,04	-5,37	9,24	32,05	-22,32	21,05	9,77	-44,78	-10,21	-13,55
Poland	6,40	-13,08	19,54	21,76	-23,23	-10,15	39,54	-1,27	-2,60	6,92	-56,66	-9,38	-11,70	36,99
Romania	-28,81	-29,84	-4,78	5,48	-9,75	-12,62	-17,14	-25,61	-24,62	-14,39	-22,21	2,97	-38,50	-0,29
Slovakia	13,64	-19,23	18,48	12,88	-13,30	-19,10	63,43	-42,79	-1,23	2,80	65,69	-30,07	-27,07	-10,21
Slovenia	2,17	-1,02	-1,16	13,29	4,33	6,24	4,14	-15,29	20,23	9,85	58,81	-12,84	-26,83	18,87

EU Imports

Destiny \ Origin	Austria	Bel-Lux	Denmark	Finland	France	Germany	Greece	Ireland	Italy	Netherlands	Portugal	Spain	Sweden	UK
Bulgaria	25,33	-45,75	6,47	58,81	8,63	25,10	34,37	-17,99	-0,94	37,76	0,47	10,19	7,19	70,10
Czech Repub.	4,54	-12,35	2,58	-13,19	-27,71	-13,47	40,31	0,82	8,13	-12,10	-54,62	-37,76	-17,97	-11,74
Estonia	-36,84	3,00	-16,61	6,88	-11,69	20,68	5,15	-45,12	-23,13	4,43	-2,63	-44,37	-23,28	-19,97
Hungary	8,18	-38,83	-7,68	4,30	-36,43	-30,41	26,84	-69,19	-4,09	-40,60	-65,37	-16,15	-2,04	-28,84
Latvia	-39,14	52,32	-12,29	58,58	64,65	23,57	-28,96	5,35	-16,01	94,16	67,73	-37,21	6,47	11,42
Lithuania	-26,01	14,65	-9,56	37,26	-19,22	11,53	122,44	-2,25	9,45	109,62	342,46	57,19	0,15	55,17
Poland	34,37	6,08	29,94	114,37	13,18	12,47	21,19	76,38	-0,08	26,07	15,16	2,21	16,71	27,05
Romania	-20,94	-17,22	0,21	1,48	-8,03	-4,41	-18,05	13,58	-23,56	-4,14	-54,64	0,10	11,24	-10,60
Slovakia	-10,07	-28,16	-2,27	-8,26	-45,25	-23,86	47,23	6,48	-35,12	-10,36	21,34	-24,10	7,67	-45,83
Slovenia	15,89	10,53	-18,06	48,92	42,75	16,68	41,34	106,49	14,39	42,00	36,77	-12,49	39,52	19,71

(a) These results were obtained using the estimates from specification (A) of the model considering bilateral common effects.

(b) A negative (positive) value means lower (higher) potential exports than actual ones by this percentage

4. Concluding Remarks

The liberalization of trade between the EU and the CEEC has promoted the intensification of the bilateral relationships among all of the countries in the two groups. However, this phenomenon did not evolve equally for all the EU members, as the major gains have been experienced by the Central European countries.

In the last few years, a vast literature has arose on the measurement of the effects of enlargement on EU-CEEC trade relations. Although not many studies have discussed in detail the effects on the Southern European countries, some authors have anticipated that less developed regions/countries in the EU, specially Portugal and Spain, will either benefit less or loose more with the Eastward enlargement.

In this paper, we analyse some aspects of EU-CEEC trade relations, giving particular attention to the relations between the Southern European countries and the Eastern Countries. The main focus is the analysis of the levels of potential trade in bilateral terms in order to anticipate the impacts of a future enlargement.

We conclude that, although the potential trade is exhausted for most countries in the short-term, there are still some possibilities of trade expansion. These are more evident in bilateral terms specially in the case of Greek trade relations with most CEEC. In the long run, in spite of the reinforcement of the EU-CEEC trade relations, the empirical analysis suggests the existence of space for further improvement, mainly due to economic development in the candidate countries. The results also imply that the accession of the Eastern countries to the EU and the consequent enlargement of the Euro zone will have positive impacts on the volume of trade.

Geographical and economic factors have to be taken into account when anticipating the trade impacts of the enlargement. The enlargement may trigger trade intensity, reviving old economic partnerships among neighbouring countries which, depending on their technological knowledge and factor endowments, will affect the levels of welfare of the involved countries.

Although in the short and medium term some countries may experience some negative effects, in the long-term impacts are expected to be positive, given the favourable environment resulting from the economic and monetary stability in the CEEC' emerging markets, which will generate significant opportunities of bilateral trade expansion for all the EU countries.

A. Data Appendix

A.1. Definitions of Variables

Dependent variable:
Real Bilateral Exports from country i to country j.

Regressors:

Sum of GDP – Sum of real GDP from both countries
Economic Distance - measured by the absolute value of the difference between the real GDP per capita, between country i and j.
Similarity - similarity in country size in terms of GDP, measured using the Balassa and Bauwens (1987) indicator.

Source: Data on GDP, Population and Exports were taken from CHELEM Database.

Exchange Rate – bilateral real exchange rate index (base=1995).
Source: IMF (International Financial Statistics)

Exch. Rate Volatility – proxy for exchange rate uncertainty calculated as the standard deviation of the percentage change of the real exchange rate from the previous 3 years.
Source: Own calculations based on data from IMF (International Financial Statistics).

The previous variables are in constant values and in US dollars.

Distance geographic distance expressed in kilometres.

Source:http://www.indo.com/distance/

Frontier – dummy variable equal to one if the two trading partners share a common border.
EU dummy variable equal to one when the two countries are presently members of the European Union.
Baltic – dummy variable equal to one when one of the trading partners is a Baltic country

A.2. Countries Included in the Analysis

The EU countries (14 individual countries as Belgium and Luxemburg were considered as one) and 10 CEEC countries (whenever data on all variables for all the years was available), over the period of 1993-1999.

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