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Intra-EU trade flows from the new members' perspective

Abstract: The aim of the paper is to describe the strength and the character of present trade linkages within the European Union, particularly as far as the ten new members are concerned. The empirical results of the study allow to conclude that bilateral trade flows within the EU are determined by normal gravitational forces with a statistically significant "new member" bias. Export and import flows of the new members are still underdeveloped in comparison to the EU-15 countries, though their industry structure and intra-industry character resemble that of the EU-15.

Keywords: european integration, international trade, gravity analyses, intra-industry trade.

JEL codes: F10, F14, F15, C21, C23.

1. Introduction

The second anniversary of the last and the biggest EU enlargement provides an opportunity to attempt a recapitulation of the first years of the ten new members' presence within the European Union. This paper focuses on the international trade as the most important economic integration determinant. Some recent studies conclude that one cannot expect any unexploited trade potential between the old EU countries (EU-15) and the ten new members, as the Europe Agreements from the 1990s had already led to the reduction of barriers to trade long before the formal act of the accession on May 1st, 2004. Other authors claim, however, that there are still many informal barriers to trade, resulting mainly from different institutional settings in the old and new EU members (Fuchs, Wohlrabe 2005). Their reduction, as a consequence of the full adoption of Acquis Communautaire will force the new members to introduce further changes that in the medium and long term may create additional trade potential. The aim of this paper is to investigate the strength and the character of present trade linkages within the EU rather than assess the outcome of the acces-

sion itself. We try to state to what extent intra-EU trade flows with the contribution of the new members resemble trade flows among the EU-15 countries as far as their value, directions and industry structure are concerned. The paper is constructed as follows – in the second section, the value and relative importance of intra-EU trade is discussed. In the third section the gravity equation is applied to identify the determinants of bilateral trade linkages between pairs of the EU members. The fourth section is devoted to the description of intra-EU trade industry structure.

2. Intra-EU trade value

As a natural consequence of an advanced integration process trade linkages within the EU are far stronger than trade linkages among the EU members and third countries. There are, however, differences across the member-countries in the relative importance of intra-EU trade, measured by the share of trade with the other EU members in the total trade. On average 68% of exports and 66% of imports of the EU members are realised on the EU territory. The respective percentage for the EU-15 is almost exactly the same, while for the ten new members the share of trade with other EU partners in their total trade comes up to 80% (see Table 1). The above average dependence on customers and suppliers from the other EU countries can be observed for the Czech Republic and Slovakia. Other two countries with high absolute values of trade as well as high intra-EU trade to total trade ratios are Poland and Hungary. Among the EU-15 members there is Luxembourg with even a higher ratio (90%). This is however, a relatively small trader in comparison with other EU-15 countries (see Table 2).

As far as the new EU members are concerned, intensive engagement in intra-EU trade is a consequence of the fall of central planning system facilitated by the integration scheme of Europe Agreements. They forced the accession countries to rearrange their trade directions increasingly towards the EU. The reduction of barriers to trade combined with the development needs of the applicant countries made their trade with the EU expand fast. Over the last decade average exports to the old EU members grew by 12% and average imports from the EU-15 increased by about 10%. At the same time overall exports and imports rose by less than 5%.

Despite high intra-EU trade to total trade ratio, the new EU members play a minor role in the EU-25 trade. The contribution of the ten new members to the European Union's exports (external plus internal) accounts for slightly above 7%. As expected, the new members' share in intra-EU trade flows is over one percent point higher, but still over 91% of intra-EU trade takes place within the EU-15. Both ratios are more favourable than the ten new members' share in the GDP of the EU (4,6%), but they are still half of the new members' share in the population of the EU (16,2%).

Table 1. Total and intra-EU trade by Member State (Mio euro, 2004)

Country/Group	Total exports	Intra-EU exports		Total imports	Intra-EU imports	
		value	% share in total exports		value	% share in total imports
EU 25	2 949 953	2 018 201	68	2 926 948	1 927 484	66
EU 15	2 737 434	1 848 757	68	2 684 265	1 747 394	65
Austria	94 394	67 493	72	94 674	76 949	81
Belgium	246 409	189 490	77	230 479	168 279	73
Denmark	61 759	43 966	71	54 820	39 163	71
Finland	49 308	28 556	58	40 859	27 371	67
France	360 732	235 416	65	374 189	257 675	69
Germany	733 387	468 630	64	576 353	374 205	65
Greece	12 217	6 749	55	42 268	24 466	58
Ireland	83 834	52 460	63	48 759	31 754	65
Italy	280 692	166 336	59	282 205	169 136	60
Luxembourg	13 046	11 756	90	15 930	12 053	76
Netherlands	287 955	228 900	79	256 717	136 390	53
Portugal	28 754	22 978	80	44 147	34 020	77
Spain	143 586	105 423	73	200 424	133 489	67
Sweden	98 896	57 951	59	79 849	57 616	72
UK	278 851	162 653	58	342 592	204 828	60
New Member States	212 519	169 444	80	242 683	180 090	74
Cyprus	762	498	65	4 423	3 009	68
Czech Republic	55 195	47 425	86	55 881	44 549	80
Estonia	4 780	3 840	80	7 016	5 050	72
Hungary	44 101	34 917	79	47 698	31 954	67
Latvia	3 177	2 444	77	5 632	4 233	75
Lithuania	7 451	4 951	66	9 875	6 222	63
Malta	2 003	1 008	50	2 950	2 142	73
Poland	60 177	47 256	79	71 689	53 353	74
Slovenia	12 727	8 263	65	13 826	10 858	79
Slovakia	22 146	18 842	85	23 693	18 720	79

Source: Authors' calculations. Eurostat database.

Table 2. Exports, GDP and population by Member State (% share, 2004)

Country/Group	Total exports	Intra-EU exports	GDP	Population
EU 25	100.00	100.00	100.00	100.00
EU 15	92.80	91.60	95.38	83.77
Austria	3.20	3.34	2.28	1.78
Belgium	8.35	9.39	2.75	2.28
Denmark	2.09	2.18	1.89	1.18
Finland	1.67	1.41	1.45	1.14
France	12.23	11.66	15.99	13.11
Germany	24.86	23.22	21.41	18.07
Greece	0.41	0.33	1.60	2.42
Ireland	2.84	2.60	1.42	0.88
Italy	9.52	8.24	13.11	12.67
Luxembourg	0.44	0.58	0.25	0.10
Netherlands	9.76	11.34	4.52	3.56
Portugal	0.97	1.14	1.31	2.29
Spain	4.87	5.22	8.12	9.27
Sweden	2.12	2.87	2.71	1.96
UK	9.45	8.06	16.58	13.06
New Member States	7.20	8.40	4.62	16.23
Cyprus	0.03	0.02	0.12	0.16
Czech Republic	1.87	2.35	0.84	2.24
Estonia	0.16	0.19	0.09	0.30
Hungary	1.49	1.73	0.78	2.21
Latvia	0.11	0.12	0.11	0.51
Lithuania	0.25	0.25	0.17	0.75
Malta	0.07	0.05	0.04	0.09
Poland	2.04	2.34	1.89	8.36
Slovenia	0.43	0.41	0.25	0.44
Slovakia	0.75	0.93	0.32	1.18

Source: Authors' calculations. Eurostat database.

A more detailed investigation of trade flows within a country grouping, after controlling for size and economic development of trading partners, can be made using the methodology of gravity analyses. We now resort to the gravity model in order to examine to what extent the ten new members are integrated with the EU through trade channels and check if there remains any further trade potential.

3. Determinants of bilateral trade flows within the EU

3.1. Theoretical foundation for gravity models

The gravity equation was first proposed by Tinbergen (1962) and Poyhönen (1963), who applied a functional form that is reminiscent of the law of gravity in physics to examine international trade linkages between countries. In the last two decades along with the system transformation in Eastern Europe, as well as the intensification of economic integration process, it has become a popular instrument in empirical international trade (Wang and Winters, 1992). This equation is also successfully applied to explain foreign direct investment, people's migration and tourism. This equation is used as a baseline model for estimating the impact of different policy measures, regional trading groups, political blocs, currency unions and border regions activities. The standard gravity equation that relates flows between countries positively to their economic sizes (usually measured by national incomes) and negatively to the distance between them, is usually specified as:

$$F_{ij} = \beta_0 (Y_i)^{\beta_1} (Y_j)^{\beta_2} (D_{ij})^{\beta_3} (A_{ij})^{\beta_4} u_{ij}, \qquad (1)$$

where F_{ij} is the value of flow from country i to country j, the Y's are respective gross domestic products, D_{ij} is the distance from the economic centre of i to that of j, A is any other factor(s) either aiding or impeding bilateral flows between i and j, and u_{ij} is a log-normally distributed error term with $E(\ln u_{ij})=0$ (Bergstrand, 1985, p. 474).

Although it was well known that the gravity equation could explain much of the variation in bilateral trade, as the authors of first econometric studies based on the gravity equation gave only intuitive justification for their choice, it was claimed that the gravity equation was without theoretical foundation. Since Anderson (1979), it has been recognised that the gravity equation can be derived from different trade models, including Ricardian, Heckscher-Ohlin and increasing returns to scale. A gravity equation may arise from a model in which countries are fully specialised in differentiated goods due to Armington structure of demand (Anderson, 1979, Bergstrand, 1985, Deardorf, 1998), technological differences (Eaton and Kortum, 1997), economies of scale, income similarity (Bergstrand, 1989, 1990) or factor endowment differences (Deardorf, 1995). Feenstra et al (1998) prove that the force of gravity arises even with homogeneous goods produced by all countries. It might seem that any kind of specialisation generates conditions within which gravitational forces work. Deardorf (1995) argues however, that the magnitude of theoretical models from which a simple gravity model can be derived makes its use to test any of them suspicious. According to Chojnicki (1966) and Evenett and Keller (2002), major insights into the causes of international trade might be gained if it could be

determined which theory actually accounted for the success of the gravity equation in a given sample of data, so it is rather a model identification problem.

Despite the academic disagreement as to theoretical foundations, gravity models provide very robust results in their empirical application. As they can be derived from any trade model, they do not answer directly the question about the causes of trade between countries; moreover, they throw no light at the industry structure of trade. On the other hand, they may be successfully applied to trade flows analyses within groups of countries at different levels of development, factor endowments and demand conditions.

3.2. Gravity equation and data

The basic gravity equation estimated in the paper relates bilateral exports to the main pulling and impeding factors (gravitational forces) influencing bilateral trade flows. Transformed into its logarithmic form it is expressed as follows:

$$\ln(EX_{ij}) = \beta_0 + \beta_1 \ln(GDPpc_i) + \beta_2 \ln(GDPpc_j) + \beta_3 \ln(GDPpc_j) + \beta_4 \ln(POP_i) + \\ + \beta_5 \ln(POP_j) + \quad + \beta_6 \ln(DISTANCE_{ij}) + u_{ij}, \qquad (2)$$

where

EX_{ij} – exports from country *i* to country *j*;
$GDPpc_i$ – gross domestic product per capita of the exporting country;
$GDPpc_j$ – gross domestic product per capita of the importing country;
POP_i – population of the exporting country;
POP_j – population of the importing country;
$DISTANCE_{ij}$ – the road distance (in kilometres) between the capitals of the exporting country (*i*) and the importing country (*j*);
u_{ij} – error term, representing other influences on bilateral trade flows; assumed to be orthogonal.

The main pulling factors are the size of economy (measured by the population) and the level of economic development (measured by the GDP per capita) of both trading partners. The main impeding factor is the distance between countries, interpreted as a proxy for trading, communication and transaction costs as well as other conditions, such as cultural (including lingual) distance.[1] All variables except the distance variable should feature a positive sign.

[1] Geographic (or transport) distance is the most popular proxy for distance between countries. However, sometimes other proxies may be used (as dummy variable taking the value of 1 denoting that countries are intuitively close to each other, e – not too far, 2 – far from each other). A review of basic variables used in 15 different gravity models is presented in Maciejewski (1990, pp. 137-138).

Apart from traditional gravitational forces influencing bilateral trade flows, there are also other factors that may affect trade intensity. They are introduced to the gravity equation by means of dummy variables. The gravity equation with dummies is specified as:

$$\ln(EX_{ij}) = \beta_0 + \beta_1 \ln(GDPpc_i) + \beta_2 \ln(GDPpc_j) + \beta_3 \ln(GDPpc_j) + \beta_4 \ln(POP_i) + \\ + \beta_5 \ln(POP_j) + \quad + \beta_5 \ln(DISTANCE_{ij}) + \beta_6 EAST\text{-}WEST + \\ + \beta_7 NEW\text{-}MEMBER + \beta_8 BORDER + \beta_9 EMU + u_{ij}. \qquad (3)$$

In order to test the evidence of additional factors influencing bilateral trade flows between pairs of the EU countries the following dummies have been introduced:

EAST-WEST – denoting trade flow between a pair of countries within which one is a new member, while the other belongs to the EU-15. The variable is unity if the above condition is met, and zero otherwise;

NEW-MEMBER – a binary variable, which is unity if both trading partners are the new members, and zero otherwise;

BORDER – a binary variable that takes the value of one when countries share a common border, and zero otherwise;

EMU – a binary variable which is unity if both trading partners belong to the EMU, and zero otherwise.

The basic (2) and the augmented gravity equation (3) are estimated using cross-section data for the year 2004. All pairs of countries for which the control variables are available are included in the sample[2]. Data on trade flows, GDP per capita (expressed in purchasing power standards) and population come from Eurostat data base. A matrix of distances between capitals of the EU countries comes from the road map of Europe (*Drogi Europy*, Rider's Digest, Warsaw 2001)[3].

3.3. Empirical results

The estimation results of the basic gravity equation are calculated with OLS method and tabulated in Table 3. All coefficient estimates are significantly different from zero (at 0.001 significance level) and their signs conform to the earlier theoretical considerations. The level of economic development measured by GDP per capita

[2] 9 pairs of countries have been excluded from the sample as their bilateral trade flows expressed in billion euro equal 0.

[3] In gravity models distance is usually measured using the "great circle" formula. This formula approximates the shape of the earth as a sphere and calculates the minimum distance along the surface. Unfortunately it often underestimates true distances. For air travel it does not take into account that most flights avoid the North Pole and for maritime travel, it does not take into account indirect routes mandated by land and ice barriers. That is why in this study direct road distances are used. Great circle formula is used only in the cases of capital cities between which there are no road connections.

has the most positive impact on bilateral trade flows – 1% increase in the exporting country's GDP per capita causes on average 1.5% growth of exports. In the case of the importing country the respective coefficient of elasticity is about 1.2%. Trading partners size has also a significant positive influence on trade flows (1.014 and 0.857 for exporting and importing countries respectively). As expected, the rising distance between countries significantly reduces trade flows (-1.246). The estimation results allow to conclude that bilateral trade flows within the European Union are determined by normal gravitational forces – they are positively related to economic sizes of both trading partners and negatively to the distance between them.

Table 3. The basic gravity equation (2) estimation results

Variable	Coeff.	Coeff.estimate	Standard error	t-statistic
Constant	β_0	–28.308	1.393	–20.315
$GDPpc_i$	β_1	1.521	0.091	16.637
$GDPpc_j$	β_2	1.158	0.094	12.377
POP_i	β_3	1.014	0.024	41.508
POP_j	β_4	0.857	0.025	34.900
$DISTANCE_{ij}$	β_5	–1.246	0.052	–23.770

N = 591; R^2 = 0.884; adjusted R^2 = 0.882. F = 738.98. All parameters significant at 0.001 level

Source: Authors' estimations.

In order to test whether augmenting of gravity equation may cause statistically significant increase in R^2 , the F-test was performed in which the basic equation (2) was treated as a restricted equation and the estimated equation (3) as an unrestricted one. According to the test results, the inclusion of auxiliary variables will statistically significantly improve the explanatory power of the model. The estimation results are shown in Table 4.

The coefficient signs indicate that a common border between trading partners should increase the trade flow from *i* to *j*. The statistically significant *EAST-WEST* and *NEW-MEMBER* dummies coefficient estimates are negative. This indicates that the bilateral trade flows between countries, within which one is a new member, is on average, everything else equal, 50% lower than other trade flows, after taking into account size and economic development. Trade flows between two new members are on average, everything else equal, 0.4 as large as other trade flows. These results confirm the earlier findings by Minska (2000) which revealed that Polish import flows from the EU-15 members were on average about 0.7 as large as trade flows between pairs of the EU-15 members. A respective ratio for Polish exports was even smaller, accounting for about 0.4. Similar results, though better on the export side (0.6), were obtained for the Czech Republic.

Based on the equation (3), calculations of the current, as well as forecast trade between the EU-15 and the ten members prove that the trade potential has already been exploited. It is also interesting to note that according to this estimation membership in the EMU has no statistically significant influence on trade.

Table 4. The augmented gravity equation (3) estimation results

Variable	Coeff.	Coeff. estimate	Standard error	t-statistic	p-value
Constant	β_0	20.527	3.145	-6.527	0.001
$GDPpc_i$	β_1	1.168	0.148	7.902	0.001
$GDPpc_j$	β_2	0.792	0.149	5.297	0.001
POP_i	β_3	0.960	0.028	34.246	0.001
POP_j	β_4	0.830	0.028	28.421	0.001
$DISTANCE_{ij}$	β_5	-1.171	0.063	-18.719	0.001
EAST-WEST	β_6	-0.471	0.152	-3.097	0.003
NEW-MEMBER	β_7	-0.588	0.258	-2.284	0.023
BORDER	β_8	0.487	0.139	3.506	0.001
EMU	β_9	0.087	0.121	0.718	0.477

N = 591; R^2 = 0.888; adjusted R^2 = 0.886. F = 510.96

Source: Authors' estimations.

Bearing in mind that preparations for the membership (especially these connected with trade relations) had started a long time before the accession date the reasons for relatively weaker trade linkages between the old and the new EU members (as well as among the new members themselves) cannot be explained only by the short presence of the ten new members within the European Union. Though the new entrants are still weakly integrated into the EU trading system, the question about the possibility of further trade expansion of the new entrants remains open as many economic indicators are omitted by the gravity regression. It does not throw any light on trade structure, so a closer look at the industry composition of intra-EU trade in the next section is vital to make the picture complete.

4. Intra-EU trade structure

Tables 5 and 6 present information on intra-EU trade structure. Most of the intra-EU trade is of intra-industry kind. The extent of such trade (defined as a two way exchange of goods within standard industrial classifications) is commonly measured by Grubel-Lloyd indexes, based on commodity group transactions. The index takes

the minimum value of zero when there is no trade overlap, and maximum value of 100% when all trade is intra-industry. The multilateral indices reported in Table 5 have been calculated as weighted average for all product classes at three digit SITC revision 3 level of disaggregation, with weights given by the share of trade of a particular product class in total manufacturing trade. An average Grubel-Lloyd index for the EU as a whole equals 76% and it is does not differ much when calculated separately for the EU-15 (77%) and ten new members (72%). In thirteen of the EU-15 countries over 50% of trade is of intra-industry kind. The two exceptions are Ireland (49%) and Greece (39%). The Irish case is unique, as Ireland is one of the countries that benefited most from the presence within the EU. Since its accession Ireland has attracted substantial foreign capital. It is located mainly in the export oriented sectors, producing goods classified as groups 5 and 7 SITC (Rev. 3). Export of those goods accounts for over 70% of all Irish exports, while the respective import share is only 36%. Additionally, significant trade surplus reduces the trade overlap. In the case of Greece, a low trade overlap reflecting poor adaptation on the supply side, is one of the causes of relatively lower benefits from its presence within the EU.

Table 5. Intra-industry goods exchange in intra-EU trade flows (2004)

Country/Group	Grubel-Lloyd Index	Country/Group	Grubel-Lloyd Index
EU 25	**76**	**New Member States**	**72**
		Cyprus	26
EU 15	**77**	Czech Republic	82
Austria	84	Estonia	56
Belgium	84	Hungary	70
Denmark	70	Latvia	39
Finland	56	Lithuania	43
France	85	Malta	56
Germany	81	Poland	72
Greece	36	Slovenia	74
Ireland	49	Slovakia	76
Italy	69		
Luxembourg	59		
Netherlands	71		
Portugal	66		
Spain	79		
Sweden	78		
UK	75		

Source: Authors' calculations. Eurostat database.

Table 6. Goods exported intra-EU as a percentage of total exports of each Member State (2004)

SITC Rev. 3 Country/Group	0	1	2	3	4	5	6	7	8	9
EU 25	**7,2**	**1,3**	**2,7**	**4,3**	**0,3**	**14,3**	**16,0**	**39,5**	**10,9**	**3,4**
EU 15	**7,4**	**1,3**	**2,6**	**4,3**	**0,4**	**15,1**	**15,6**	**38,8**	**10,7**	**3,7**
Austria	4,8	1,5	3,4	4,0	0,1	8,0	22,3	43,2	12,4	0,4
Belgium	8,6	0,9	2,5	6,2	0,4	25,8	17,3	28,3	10,0	0,2
Denmark	17,4	1,4	3,2	9,3	0,4	10,8	11,5	25,8	16,4	3,8
Finland	1,6	0,2	7,1	5,3	0,0	4,4	37,2	30,3	5,9	7,9
France	9,1	2,2	2,5	2,7	0,2	15,4	14,1	43,5	9,4	0,9
Germany	4,3	0,7	1,5	2,3	0,2	12,6	14,1	45,9	9,2	9,1
Greece	18,7	2,9	4,7	0,8	1,6	15,4	21,4	12,9	18,4	3,3
Ireland	9,1	1,4	1,5	0,6	0,0	44,2	2,5	27,2	8,8	4,7
Italy	5,9	1,5	1,1	2,0	0,4	10,4	22,0	37,5	18,2	0,9
Luxembourg	3,8	1,5	1,7	0,5	0,0	5,6	33,7	43,4	9,0	0,9
Netherlands	12,3	1,9	5,6	6,9	0,7	15,5	11,2	32,1	9,7	4,3
Portugal	4,7	2,2	4,1	1,7	0,2	6,8	23,2	33,7	23,3	0,1
Spain	13,3	1,5	1,7	3,0	1,3	10,0	16,0	43,7	8,9	0,7
Sweden	3,2	0,2	6,3	4,5	0,2	9,8	23,7	38,1	7,7	6,2
UK	4,4	1,8	1,7	10,5	0,1	17,4	13,3	39,4	10,8	0,6
New Member States	**4,7**	**0,4**	**3,3**	**4,6**	**0,1**	**5,4**	**19,8**	**47,5**	**13,5**	**0,4**
Cyprus	21,7	2,2	3,6	7,0	0,4	8,6	5,6	38,2	12,7	0,2
Czech Republic	2,6	0,5	2,9	3,4	0,1	5,2	21,4	51,8	11,4	0,7
Estonia	5,7	0,8	10,4	3,2	0,3	4,4	18,6	36,4	20,0	0,2
Hungary	4,9	0,2	2,1	1,5	0,1	5,4	9,7	65,6	10,2	0,3
Latvia	5,9	1,4	27,6	4,4	0,2	4,8	27,9	7,7	17,2	3,0
Lithuania	10,4	1,0	6,3	22,8	0,2	9,0	11,7	16,6	22,0	0,0
Malta	1,4	0,1	0,6	0,1	0,0	2,6	8,7	52,9	32,4	1,2
Poland	7,1	0,3	2,8	6,1	0,1	5,1	23,2	39,1	16,1	0,0
Slovenia	1,1	0,2	2,2	1,3	0,0	8,5	26,6	41,4	18,5	0,0
Slovakia	2,9	0,3	2,8	6,9	0,2	5,1	25,3	44,5	11,4	0,5

Source: Authors' calculations. Eurostat database.

Among the ten new members, Grubel-Lloyd indices differ more significantly from one another. The reason might be that in the pre-accession period different countries reoriented their trade structure and directions to different extent. The cases of Latvia, Lithuania and Estonia are characteristic, as these countries were intensively engaged in intra-USSR trade and reorientation of their production and trade structure will take more time. In the case of Cyprus, with substantial share of exports classified as group 0 SITC, over ⅔ of trade is of inter-industry kind. The index calculated for the Czech Republic is worth noticing, because it is 10 percent points higher than the average value for all new members.

There are differences among countries in industry composition of their intra-EU export flows. It is of course intelligible, but what is noteworthy differences are more significant for the new members. Knowing the contribution of the new members trade to total intra-EU flows, one is not surprised that the EU-15 members are responsible for the intra-EU trade structure. Surprisingly, as far as the new members are concerned, the share of goods classified as groups 6, 7 and 8 in their exports is higher than the respective share for the EU-15. This might be interpreted as a dynamic structural change of the new members' economies within which foreign investors play a crucial role. Production of goods classified into the above SITC groups is usually based on imported components. This implies that the value of exports is substantially larger than the value added in export industries and increases the trade overlap.

5. Concluding remarks

Trade within the European Union accounts for over ¾ of the new members total trade, making them more dependent on other EU partners than the old members. The structure and the character of analysed trade flows indicate that the new members' economies must have undergone substantial changes in the pre-accession time – the product pattern and substantial trade overlap resemble that of the EU-15 countries. The gravity analyses revealed, however, that after taking into account size and economic development, the new members' exports to other EU countries are on average 60% lower than the respective exports of the EU-15 members. As the "new group" is very heterogeneous, as far as other economic indicators (except for GDP and population) and different institutional settings are concerned, any generalisation might be misleading and further more detailed research is needed in order to identify the causes of "missing trade".

Although trade potential between the EU-15 and the new entrants seems to have been already exploited, the increasing economic growth of the new members may create additional trade in the future. Moreover, one cannot forget about the

consequences of globalisation that makes international relations more complex. Increasing trade in services, international transfer of capital and technology, as well as the expansion of international production will surely influence the "normal" pattern of trade in goods

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