7. Analysing the Degree of Specialization in Romania's Services Trade

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Abstract

This paper aims to contribute to a better understanding of trade specialization in Romania. In particular, the work examines the changes in trade patterns at sectoral level. In order to distinguish between the two types of trade specialization (inter-sectoral specialization and intra-sectoral trade (IST)) the empirical work was carried out using the Balassa index and the Grubel-Lloyd index. The former examines the degree of inter-sectoral specialization by sector; the latter considers the level of trade specialization between sectors. The empirical results support both the new trade theory, which predicts an increasing level of intra-sectoral trade with liberalization processes, and the new strand of trade theory, which, distinguishing between horizontal and vertical IST, suggests a co-existence between inter- and intra-sectoral trade.

Key words: services; growth; export performance; specialization
JEL Classification: F14, O14

I. Introduction

The trade specialization has evolved considerably over the years, which determined different patterns of economic development that left their mark not only on the countries themselves but on their regions as well. The standard pattern that focuses on the relative factor of abundance as source for the comparative advantage is adequate for explaining the inter-sectoral trading homogeneous goods. The model of monopolistic competition based on the differentiation of the products in scale economy justifies the variety exchange or the intra-sectoral trade. If the trade partners have identical factorial proportions, the inter-sectoral trade will not be caused by the competitive advantage. On the other hand, if the factorial endowment differences are big enough in order to exclude identical price levels and the products differentiation, then the degree of specialization between the intra-sectoral trade increases as well.

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In the specialized literature there are three main tendencies regarding the commercial specialization: the neoclassical theory of commerce, the new theory of international trade and the new theory of economic geography.

The neoclassical theory of commerce explains the regional specialization based on the comparative advantages generated by the productivity differences (Ricardo, 1817) or by the ones that characterize the factorial endowments (Heckscher, 1919; Ohlin, 1933) between countries and regions. The fundamental elements of this model are the perfect competition, the continuous orientation toward the scale economies and the goods homogeneity. The neoclassical theory considers that because the factors of production and consumers are regionally spread, the structure of industrial production will be geographically dispersed. Each region will specialize in the production of those goods and services where they have a competitive advantage, in this way stimulating the inter-sectoral specialization. The inter-sectoral trade refers to simultaneous exchange of goods and services belonging to different sectors.

In the 1980's, the new theory of the international trade was developed in order to explain the high levels of intra-sectoral trade and the high proportion of world-wide commercial exchanges between homologous countries (Amiti, 1998). The intra-sectoral trade expresses simultaneous flows of exports and imports with products and services that belong to the same sector (Vollrath, 1991). It prevails in regions and sectors where the intensification of orientation toward the scale production, the monopolistic competition and the differentiation of products and services plays an important role, although the factorial endowments do not differ significantly (Erkkilä, 1996). The new trade models postulate that the amplification of the orientation toward scale production and the commercial expenditures will induce the localization of activities in regions with easy access to the market, which assumes the existence of some inter-sectoral specialization between the main regions. Moreover, the scale economies will favour the intra-sectoral trade between companies, which will focus on the production of one single differentiated product/service. Although the new theory of the international trade takes into account the geographical advantage, it is considered to be an exogenous factor as it is determined by the physical characteristics rather than by the economic ones.

The process of European integration has been an important vector of the sectoral specialization of member countries. The classical theory of international trade suggests that the economic integration and elimination of the obstacles to trade will lead to a greater conflict in the productive structures of countries and to an intensification of inter-sectoral trade. Each country becomes more specialized in the production of those goods and services in which they have a comparative advantage, under the circumstances of opportunity low costs.

Contrastingly, the new theory of trade concludes that the economic integration generates a lower level of conflict between the productive structures of states and a diminution in the inter-industry specialization. The access to the markets allows exploiting the scale economies and brings the monopolistic companies to specializing in the production of a great variety of products and services, leading to the amplification of intra-sectoral trade, which, in exchange, reduces the cross-border sectoral specialization.

The new model of economic geography described by Krugman (2000) indicates that the geographic advantage is endogenous, and the regional specialization is the result of some spatial agglomerating of economic activities. Krugman's reflections point out the fact that the evolution of economic specialization is an important macroeconomic variable since the specialization indicates the degree of exposure of a certain country or region to the external sectoral evolutions. The companies are located in economic centres which mean that there is a process of cumulative causality according to which the access of new companies to the target markets is more attractive to the other companies. The process of cumulative causality relies on technological and pecuniary externalities between companies. The location of externalities supports the geographical concentration of production.

Inter-sectoral specialization can be characterized by the development of trade flows based mainly on differences in factorial endowment. This can include the states whose specialization is generated by the traditional sectors, intensive in nonqualified work in a process of slow development. Instead of creating conditions that will allow them to compete on world-wide markets, certain states can try exploiting their own comparative advantages. The integration process encourages in these countries a specialization based on classical comparative advantages that can be blocked in traditional sectors and reduce the opportunity of progress of intra-sectoral trade. From this point of view, the intra-sectoral specialization can be considered the most favourable situation.

II. The Analysis of the Romanian Services Specialization

In order to appreciate Romania's sectoral specialization according to its relations with the European Union, I have referred to Krugman's parameter which points out the cross-border heterogeneousness in the planning of sectoral specialization. While the degree of specialization in the manufacturing sector of the Union had a descendent tendency along the way, the sector of commercial services has become more specialized, even though to a lower extent as compared to the production area. For the period *t*, Krugman's specialization parameter for country *a* in relation to country *b* is defined by the following formula:

$$K_{a,b}(t) = \sum_k abs\left(v_a^k(t) - v_b^k(t)\right),$$

where $v_i^k(t) \equiv x_i^k(t) \big/ \sum_k x_i^k(t)$; i = a,b; $x_i^k(t)$ represents the share of services exports *i* in the total exports of sector *k*. The parameter gives information regarding the differences between the productive structure $v_i^k(t)$ of country *a* and the referential country *b.*

Krugman's parameter of specialization takes values between 0 an 2, 0 if the sectoral structure of the targeted country's economy is identical to the one of the referential country, which means that the analyzed country is not specialized, and 2 if the sectoral structure of the economy of the respective country is not identical with the one of the referential country, which means that the country is strongly sectorally specialized. The Krugman parameter indicates thus how specialized country *a is* in relation to country *b.*

Table 1 illustrates the fact that the most important states of the European Union are less specialized. Peripheral countries, on the other hand, are more specialized than the Community's average. In Southern Europe, Spain's specialization in traded services is less marked than it is in the case of Greece or Portugal, in this last case the tertiary activities being more diversified as compared to Spain, which show a process of conflict of the immaterial structures with the European average. The Czech Republic, Lithuania, Latvia are more diversified than the old peripheral states of the Union, among which we name Spain and Portugal. Remarkably, the other Balkan states as well have obtained high values of Krugman's parameter as compared to the EU-25 average.

Therefore, the geographic distance from the European core plays an important role in the appreciation of the degree of specialization as the majority of the peripheral states are the most specialized (Balkan states, Spain, Greece, Portugal, Ireland, and Denmark) as well. The states from Central Europe have a high degree of similarity of the export structures as compared to the European Union, especially Hungary and Germany. At the opposite pole are the most peripheral states of the EU-25 where the optimistic view loses intensity (Latvia, Ireland, and Greece). These states are strongly specialized in commercial services, judging by the high value of the Krugman parameter because of the growing importance of high technology. From this point of view, the above-mentioned states are also the most important competitors on the market of commercial services of the European Union. They are closely followed by the Czech Republic, Denmark, Luxemburg and Lithuania.

Table 1

The Krugman parameter of specialization in EU-25, 2005

Country	Krugman parameter value of commercial services specialization
1. Czech Republic	0.6931
2. Austria	0.2535
3. Denmark	0.6646
4. Finland	0.2373
5. Germany	*0.1216*
6. Ireland	0.7184
7. Latvia	*0.7610*
8. Luxemburg	0.6891
9. United Kingdom	0.3807
10. Poland	0.4106
11. Slovakia	0.1629
12. Spain	0.5117
13. Hungary	*0.1174*
14. Belgium	0.1972
15. Cyprus	0.3704
16. Estonia	0.4124
17. France	0.2998
18. Greece	*0.7422*

Country	Krugman parameter value of commercial services specialization
19. Italy	0.2061
20. Lithuania	0.6745
21. Malta	0.5810
22. Netherlands	0.2827
23. Portugal	0.5388
24. Slovenia	0.5482
25. Sweden	0.3028
Romania	***0.2261***

Source: http://unstats.un.org/unsd/servicetrade/default.aspx.

The previous table illustrates the degree of trade specialization of Romanian services in relation to the member states of the EU-25 which I have considered as referential countries in the following analysis.

Thus, the Krugman parameter of specialization has registered in 2005 a value of *0.2261,* which proves the conflict of commercial services configuration of our country with the European Union's in the commercial exchanges between the two above-mentioned entities. Therefore, Romania it is not strongly specialized in commercial services exports in its relations with EU-25.

Table 2

The Krugman specialization parameter for the relation between Romania and EU's states for the year 2005

Krugman parameter value of commercial services specialization of Romania with ...	Country
0.6844	1. Czech Republic
0.4442	2. Austria
0.4385	3. Denmark
0.1277	4. Finland
0.1763	5. Germany
0.7271	*6. Ireland*
0.5700	7. Latvia
0.6978	8. Luxemburg
0.3894	9. United Kingdom
0.4019	10. Poland
0.2473	11. Slovakia
0.7290	*12. Spain*
0.3347	13. Hungary
0.1350	14. Belgium
0.5877	15. Cyprus
0.4037	16. Estonia
0.5073	17. France
0.7608	*18. Greece*
0.4234	19. Italy

Krugman parameter value of commercial services specialization of Romania with ...	Country
0.6440	20. Lithuania
0.7196	*21. Malta*
0.2621	22. Netherlands
0.7425	*23. Portugal*
0.5631	24. Slovenia
0.2704	25. Sweden

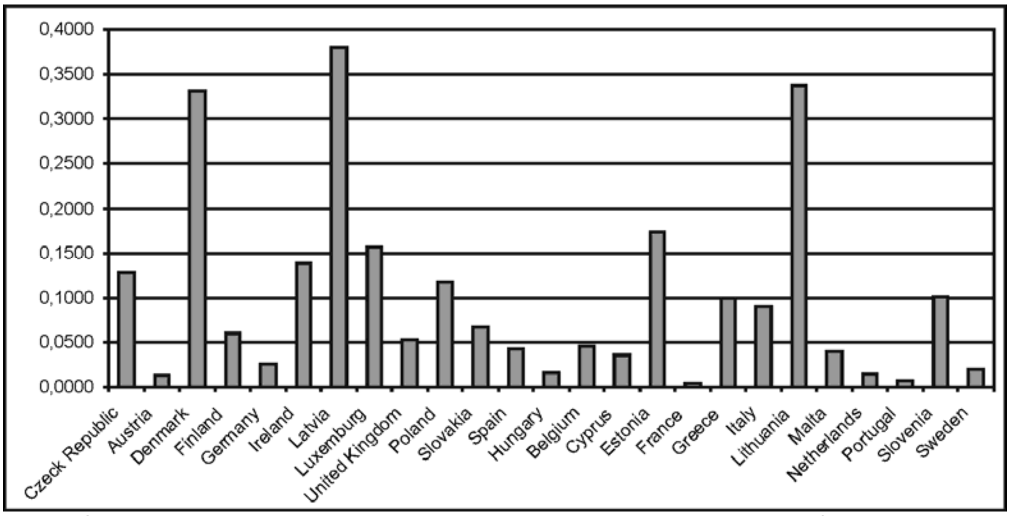
Source: Own computation based on http://unstats.un.org/unsd/servicetrade/default.aspx.

Table 2 gives information regarding the similarity between the export structures of commercial services of our country in comparison with the EU-25, the countries toward which Romania has a lower specialization index representing a potential source of the Romanian services imports. One can see that the export structure of commercial services of our country is highly similar to the one of Finland, Belgium, Germany, Slovakia, the Netherlands and Sweden. The highest degree of diversification in Romania's exports on the commercial services market, because of the increased specialization, can be found in the trade relations with Greece, Portugal, Spain and Ireland.

On the market of transportation services, one may notice a reduced degree of diversification of the export structure in Romania's relation with Poland, Austria, Slovenia, Greece, the Czech Republic, at the opposite pole being countries such as Luxembourg, Latvia, Ireland, Lithuania, Denmark, and Italy, whose services are characterized by a high degree of competition and variety (Figure 1).

Figure 1

Krugman specialization parameter for the transportation services on the relation Romania-EU-25 states, 2005

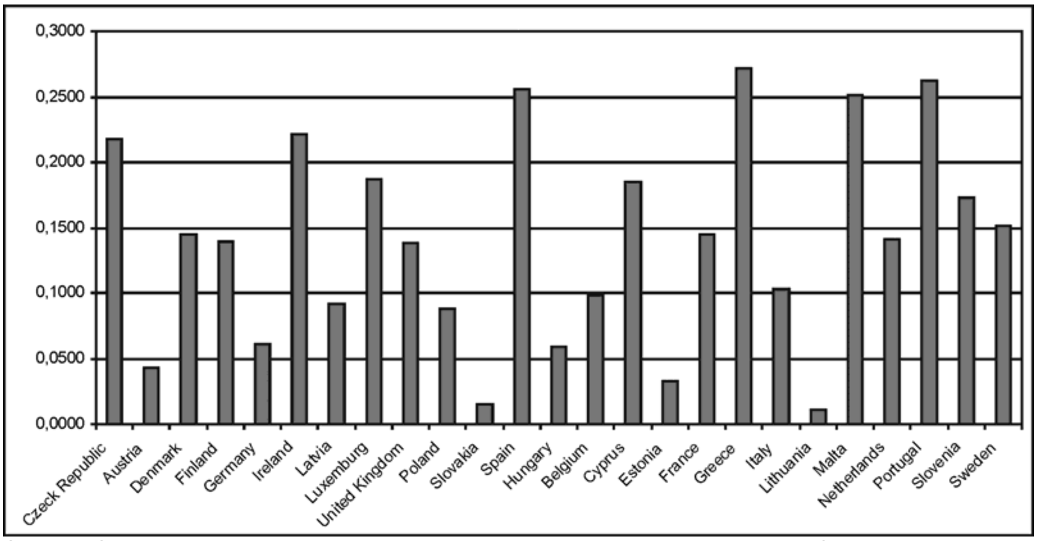


Source: Own computation based on http://unstats.un.org/unsd/servicetrade/default.aspx.

On the market of travel services, the strongest similarities regarding the exports are those in relation to Belgium, Latvia, the United Kingdom, Finland, the Netherlands, at the opposite pole being Greece, Portugal, Malta, Spain, the Czech Republic – states strongly specialized on this segment - for which reason Romania's exports toward these countries have a higher degree of diversity (Figure 2).

Figure 2

Krugman specialization parameter for the travel services on the relation Romania – EU-25 states, 2005



Source: Own computation based on ttp://unstats.un.org/unsd/servicetrade/default.aspx.

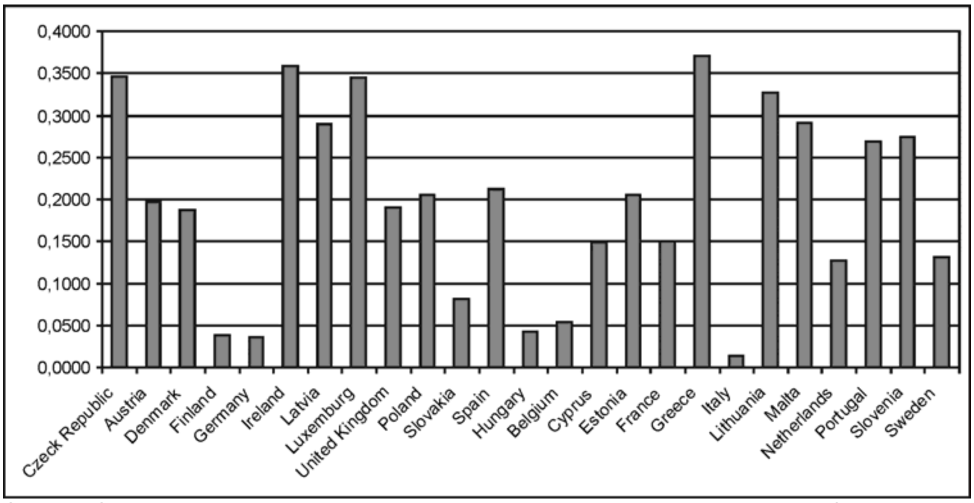
On the "other commercial services" segmentation, Figure 3 indicates a low degree of diversity in Romania's exports towards Italy, Hungary, Germany, Finland, this conflict of the export structures diminishing in commercial relations with Greece, Ireland, Luxembourg.

In the economic literature, the commercial specialization is appreciated through some parameters that analyse the structure and the determinants of international commercial exchanges of one country, as well as the basis of the building of the competitive advantages. The empirical quantification of the comparative advantage does not require any minor effort because the rigour of the economic theory imposes severe restrictions and the integrity of the services/goods and of the countries make absolutely necessary a conceptual compromise.

The Balassa parameter (1965) is the most used for estimating the comparative advantage in the commercial relations between countries. This one is based on the idea of comparing one country's exports of a product or a service with the exports of the same product or the same service realized by a group of countries, considered as a reference, still it is not directly that it compares the export for the targeted product/service, but their share in the total trade.

Figure 3

Krugman specialization parameter for other commercial services on the relation Romania – EU-25's states, 2005.



Source: Own computation based on http://unstats.un.org/unsd/servicetrade/default.aspx.

The Balassa parameter (Revealed Comparative Advantage Index - RCA) has been long time used as a measurement for competition for the sectors whose products were traded at international level – including services. The RCA parameter in correlation with the service I and country j can be defined as follows:

$$RCA_{jg,i} = \frac{X_{ij} \Big/ \sum_{i=1}^{n} X_j}{X_{ig} \Big/ \sum_{i=1}^{n} X_g} \qquad (1)$$

where: X_{ij} expresses the exports of service *i* of the country *j,* $\sum_{i=1}^{n} X_j$ means the total exports of country *j,* X_{ig} expresses the exports of service *i* of the referential group, and $\sum_{i=1}^{n} X_g$ is the total exports of the targeted state assembly.

This parameter shows that basically a country will export services in which holds a comparative advantage, and will import services for which holds a comparative disadvantage. RCA is a purely descriptive measurement. Through the evaluation of the changes that interfere in the evolution of the RCA parameter over time, one can identify the sectors that deal with a deepening degree of specialization, although this can be caused by the diminishing imports, showing that it is not necessarily a certain proof of the competition improvement.

Equation (1) quantifies one country's exports for a certain product/service related to its total exports and to the performances according to the exports of the group of countries with whom the country is having trade relations. If RCA>1, then a comparative advantage occurs for the service in which the country is relatively more specialized for the export activity. This parameter allows identifying the comparative advantage of one country for a certain service, without indicating the source of this advantage. The main inconvenient when using this parameter refers to its partial accuracy as a consequence of overlooking the imports, especially when a meaningful share is related to it (Greennaway and Milner, 1993). Moreover, this parameter has an asymmetry of the values due to their variation from 1 to infinite for the services where a country holds a comparative advantage for the exports, but only from 0 to 1 for the services with a comparative disadvantage. Even so, this parameter has a wide applicability in the specialty analyses, moreover its use and functionality being extended.

The entire world as a referential group has certain lacks as the comparisons between states can lead to unsatisfactory results as a consequence of the fact that countries carry on foreign trade in the best conditions with states situated in geographical proximity, for which reason taking into consideration the world-wide exports it is not always relevant. Therefore, I have restricted the group of countries to the European Union. If RCA>1, Romania will have a competitive advantage for the service *I* as a result of its importance in our country's exports as compared to EU. According to Hinloopen and Van Marrewijk, the exports related performances can be grouped together in four classes: *class a*: $0<RCA\leq 1$; *class b*: $1<RCA\leq 2$; *class c*: $2<RCA\leq 4$ and *class d*: $4<RCA$. Class *a* includes the services deprived of comparative advantages, while the rest of the classes show the existence of some weak comparative advantages (*class b*), medium (*class c*) and strong (*class d*).

The comparative advantage parameter shows how our country has turned to good use the cost-related advantages. Based on this parameter one can draw conclusions about the likely capacity of our country in putting to good use its advantages in comparison with its other sectors and with those of EU's, as well as the share of the main services in generating commercial deficit.

Table 3

The comparative advantage parameter revealed in Romania's commercial services exports and EU-25's on the world markets

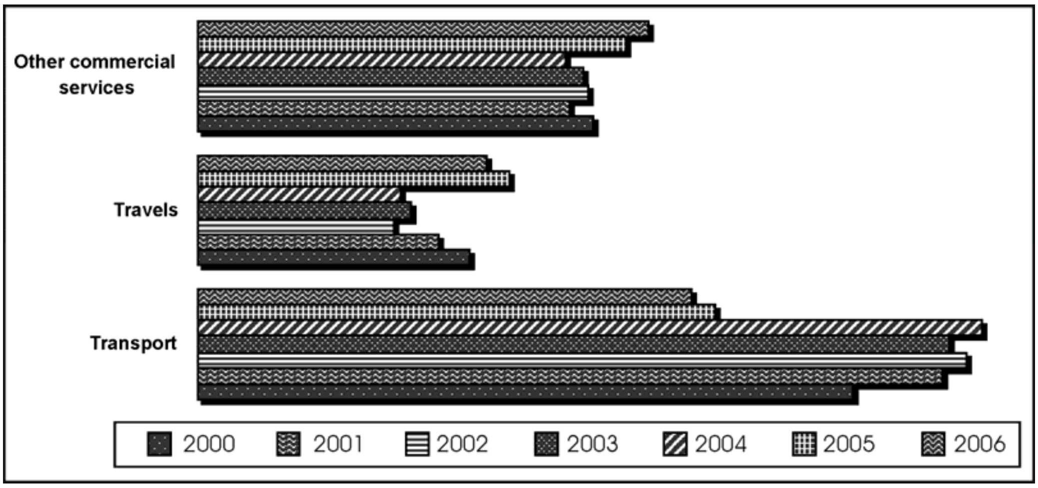
	Romania - World			UE-25 - World		
	Transport	Travels	Other commercial services	Transport	Travels	Other commercial services
2000	1.5747	0.6509	0.9502	0.9717	0.9475	1.0526
2001	1.7874	0.5767	0.8920	0.9600	0.9129	1.0799
2002	1.8458	0.4729	0.9375	0.9492	0.9126	1.0789
2003	1.8073	0.5118	0.9243	0.9369	0.9267	1.0727
2004	1.8829	0.4867	0.8837	0.9501	0.9047	1.0803
2005	1.2436	0.7465	1.0279	0.9624	0.8984	1.0761
2006	1.1868	0.6929	1.0808	0.9593	0.9029	1.0712

Source: Own computation, based on Trade Profiles, WTO, 2007.

Analysing the statistical data from Table 3, one may see that the services that have received higher than unit values for the RCA index for the period 2000-2006 showing Romania's highest comparative trade advantage for the trade with services world-wide (values>1) are *transportation,* which can be included in class *b,* but which show at the same time a weak comparative advantage in the export of these services. For the Romania-World relation, although the transports have higher than unit values, based on strongly backed progresses in the first three years of the analysed period, they have been marked by a strongly decreasing tendency starting with 2005, when a gap has occurred in the evolution of the Balassa index due to the diminishing transport services exports of our country, under the circumstances of an ascending tendency of this activity both world-wide and in the EU-25. Therefore, it means that for the years 2005-2006, for the transportation services, the degree of specialization has been decreasing under the circumstances where the Community's market and the world wide-one for these services has been developing.

Figure 4

The evolution of the Balassa index of the exports of commercial services for the Romania-World relation



Source: Own computation based on Trade Profiles, WTO.

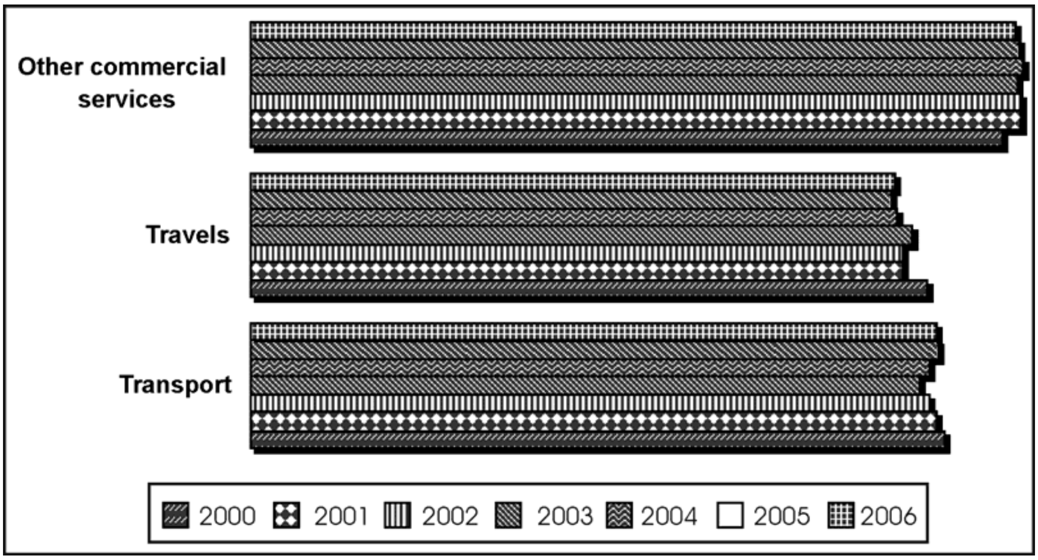
Travel services had an oscillating range over the period 2002-2006, the degree of specialization falling in the first four years of the analysis, joining the non-favourable worldwide conjuncture faced by these activities. In 2005, a strong comeback of the Balassa index trend can be seen under the circumstances of the diminution of our country's imports for the travel segment, this being remarkable globally as well, so that in 2006 the enthusiasm of the past year was growing dim, based on the imports reasoning. Thus, Romania's degree of specialization on the travel exports market remains quite low, although they have faced the highest growth in the last two years of the investigation period.

For the category “other commercial services”, Romania is taking field over the market, impelled as well by the favourable international conjuncture, Figure 4 showing the highest growth of the Balassa index for the years 2005-2006 in the area of these activities. The increasing importance of these services in EU-25, as well as at world-wide level, has determined an increase in Romania’s specialization degree in the international commercial exchanges with this kind of services.

The evolution of Romania’s likely comparative advantage toward the rest of the world on the segment of commercial services shows the fact that the best positioning of our country in the international trade with services it is held for the *transport* category, which has registered the highest values of the RCA index, an important potential of growth on the “*other services*” market being observed, especially for the Romania-world relation.

Figure 5

The evolution of the Balassa index for commercial services exports on the EU-25 – World relationship.



Source: Own computation based on Trade Profiles, WTO, 2007.

EU-25 holds in the commercial exchanges with services at worldwide level the highest degree of specialization for the segment “other commercial services”, whose evolution shows an oscillating trend, which becomes strongly decreasing in the last two years of the analysis. High values of the Balassa index can be identified in the case of the characterized transportation services as well over the period 2000-2006, through an oscillating evolution, descendent in the last year of the analysis. The travels showed a growing potential in the year 2006, which joins to the evolution of the preceding years, marked by a descending trend.

Table 4

The evolution of the Balassa index for the commercial services exports in the Romania-EU-25 relationship

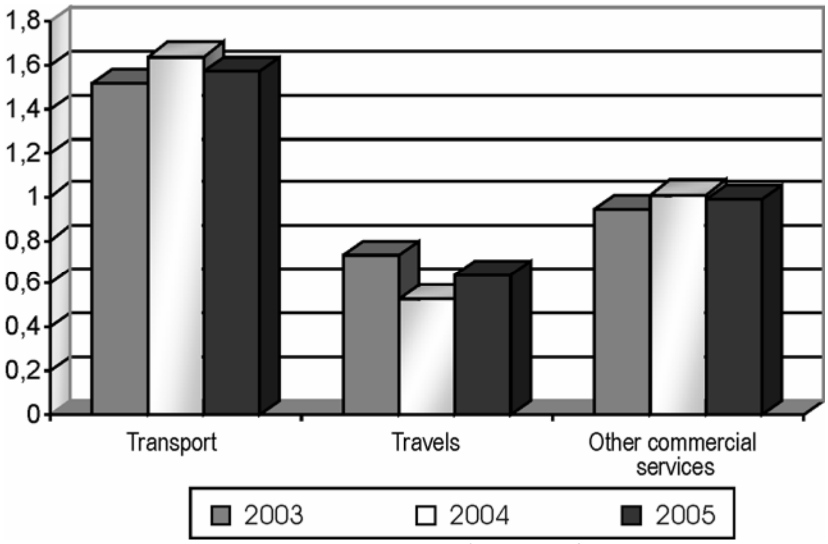
	Romania – UE-25		
	Transport	Travels	Other commercial services
2003	1.52	0.73	0.94
2004	1.64	0.53	1.01
2005	1.57	0.64	0.99

Source: Own computation based on *Trade Profiles, WTO* and http://unstats.un.org/unsd/servicetrade/ default.aspx.

Romania's trade relation with the European Union shows generally comparative advantages or disadvantages similar to those registered on the global level relation. Thus, *the highest degree of specialization can be found in the transportation services exports to EU-25, an important potential on the segment "other commercial services", and comparative disadvantages for the group "travel".* We cannot overlook the fact that in the last year of the analysis, 2005, our comparative advantage in the relation with EU-25 has decreased, in the case of "other services" category the falling value becoming even less than one.

Figure 6

The evolution of the Balassa index for the commercial services export in the Romania-EU-25 relationship.



Source: own computation based on *Trade Profiles, WTO* and http://unstats.un.org/unsd/ servicetrade/ default.aspx.

Only travels have registered an ascending evolution in the year 2005 comparatively with the year 2004, based on the growing importance of these activities both worldwide and within the Community. As for the other two categories of services, the diminution of the comparative advantage registered in 2004 was not so meaningful, which shows that Romania does not succeed in setting a constant trend for the export services oriented toward the EU-25, due to the oscillating worldwide conjuncture.

The intra-sectoral commercial exchanges are quantified, traditionally, through the reference to the *Grubel-Lloyd index* (1975), defined as follows:

$$GL = 1 - \frac{\sum_{i=1}^{N} \left| x_{ij} - m_{ij} \right|}{\sum_{i=1}^{N} \left(x_{ij} + m_{ij} \right)}$$

where x_{ij} and m_{ij} indicates the exports and imports of services *j* of countries *i.* This index takes values between 0 and 1. The 0 value points out the assembly of intra-sectoral commercial exchanges with service *j* of country *i,* the unit value expressing the intra-sectoral trade. Therefore, the closer the index value will be to 1, the bigger the share of the intra-sectoral trade in the assembly of the commercial flows of the concerned country will be. The low values of the Grubel-Lloyd index for one country/region point out a centripetal process of sectoral agglomeration and a high level of specialization, while the high values of this index express a centrifugal process of sectoral dispersion.

The index of intra-sectoral exchanges is based on the ground that predominance of intra-sectoral exchanges in the branch of an economic activity expresses the competitive capacity of that branch on the international market, while the preponderance of inter-sectoral exchanges shapes up the narrower specialization of the economy (imported services specific for one branch are paid with services that originate in another branch).

The growth of the trade volume can be the cause of the changes in the models of the comparative advantage (inter-sectoral trade) or of the growth of services differentiation accompanied by scale economies (intra-industry trade).

Under the circumstances of economic globalization, the specialization of the states for different kinds of services designed for exportation is based on their comparative advantage. Even so, it is just as much possible that because of the foreseen "conflict" at their income level, trade models become complementary in the case of economies that compete on the market of similar exports. The trade, driven by the differentiation of services accompanied by the growth of the scale profits, plays an important role in explaining the trade between states, especially when the differences that interfere in the factorial endowments are not appreciated. Therefore, any modality of quantifying the intra-sectoral trade (or the inter-sectoral one) has to reflect, from a certain point of view, the way in which these two alternatives of trade are combined in order to generate effective commercial exchanges.

The Grubel-Lloyd parameter is a standard index for evaluating the share of the intra-sectoral trade in all the commercial exchanges of one country. The index evaluates the degree of specialization due to the differentiation of services with scale economies, which indicates the simultaneous existence of imports and exports with services belonging to the same branches. Its null value indicates the absence of intra-sectoral trade, an unit value showing the absence of inter-sectoral trade. Thus, if the bilateral GL index has a relatively high value, it can be concluded that a relatively large proportion of the bilateral commercial exchanges is associated with flows of bidirectional services.

Table 5

The Grubel-Lloyd index in the trade relations of Romania and EU-25 at a global level, for the period 2000-2006

Grubel-Lloyd index in Romania-World relationship	2000	2001	2002	2003	2004	2005	2006
Commercial services	*0.9379*	*0.9743*	*0.9953*	*0.9853*	*0.9678*	*0.9648*	*0.9941*
Transport services	0.9961	0.9432	0.9283	0.9693	0.9808	0.8569	0.8749
Travels	0.9159	0.8928	0.9166	0.9677	0.9649	0.9357	1.0000
Other commercial services	0.8973	0.9381	0.9781	0.9830	0.9211	0.9993	0.9096

Grubel-Lloyd index in UE25-World relationship	2000	2001	2002	2003	2004	2005	2006
Commercial services	*0.9855*	*0.9825*	*0.9753*	*0.9729*	*0.9587*	*0.9563*	*0.9508*
Transport services	0.9997	0.9851	0.9895	0.9924	0.9721	0.9607	0.9739
Travels	0.9919	0.9993	0.9996	0.9877	0.9959	0.9898	0.9976
Other commercial services	0.9739	0.9710	0.9547	0.9428	0.9282	0.9263	0.9177

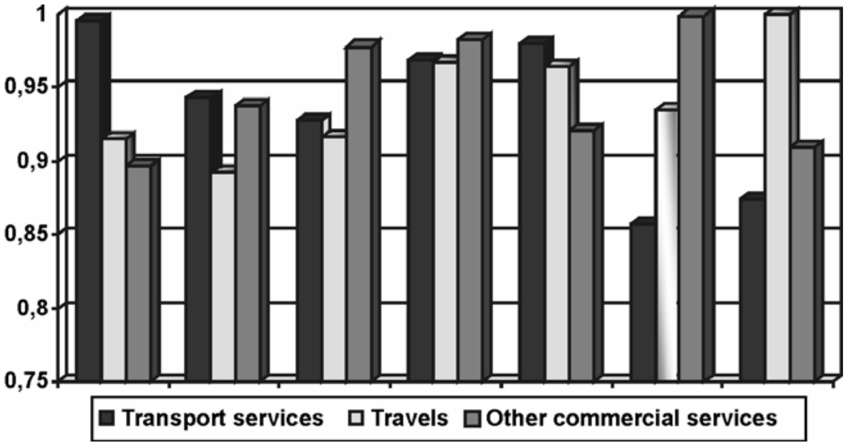
Source: Own computation, based on *Trade Profiles 2007*.

One may see that for the commercial services on the whole, the values go over 0.5 in the case of both entities analysed in their relation with the world, which means that what was pursued was a covering of the imports of the sector with the exports of the same sector. In the Romania-World relation, the Grubel-Lloyd index shows an oscillating evolution of the exports and of the imports of commercial services of our country, the exports surpassing the imports for the years 2002, 2003 and 2006, due to the transportation services characterized by an ascending trend over the period 2000-2004. Unfavourable evolutions can be observed in the case of travels, their imports prevailing over the exports for the period 2000-2004. For the year 2006, the Grubel-Lloyd index calculated for travels shows that both exports and imports have registered ascending evolutions, their weight on the whole being equal. Therefore, in the above-mentioned year, the value of the index was equal to unit, which means that our country exported and imported travel services of the same value, in this case being able to talk only about the existence of intra-sectoral trade. This means that in the last year

Romania had a high degree of specialization on the travels segment, although without overlooking the transportation services characterized by a considerable growth of the import-export flows. For the "other commercial services" category one may see for the year 2006 a diminution in the share of the intra-sectoral trade in the assembly of the commercial services exchanges comparatively with the preceding year when the Grubel-Lloyd index had the highest value for this group under analysis, as a consequence of the diminution of their performances on the international market.

Figure 7

The evolution of the Grubel-Lloyd index for the Romania-World relation, in the period 2000-2006, commercial services.



Source: Own computation, based on *Trade Profiles 2007*.

The best performing services are those that registered a comparative advantage simultaneously with the ascending intra-branch trade index. Therefore, we compared the evolution of the above mentioned parameters for the two years that delimitate the time analysis series 2000 and 2006, respectively. Thus, for the Romania-World relation, the "other commercial services" category registered ascending evolutions in the case of both mentioned parameters, which proves that these services are the best performing in the trade relations of our country on a global level. In the case of travel services, a diminution in the comparative disadvantages and growing values of the intra-branch commercial index can be seen, which means that these services have an important potential that could be exploited by amplifying their performance, which determines the growth of the exports in order to cover the imports. The decreasing value of the Grubel-Lloyd index for the transportation services indicates the fact that in the case of these activities, even though comparative advantages are registered, the intra-sectoral trade records decreasing values. Even so, we have to consider the fact that the degree of dependence of our country's exports on the imports carried out by the same group of services can have as a consequence the loss of the comparative advantage's relentlessness registered for the respective group in the context of the diminution of the intra-sectoral trade index.

The Grubel-Lloyd index for the Romania-EU-25 relation indicates the fact that the imports, in the case of the three categories of services observed, were covered by the exports of the same categories, supported by the Grubel-Lloyd index, which was very close to 1. Remarkable is the fact that where there was no comparative advantage, the imports have still been covered by the exports, which is positive (it is about the "travels" segment that registers the highest value of the Grubel-Lloyd index). The connection of the Grubel-Lloyd index with the comparative advantage index gives an optimistic perspective regarding the travel services through the recovery of the comparative disadvantages based on the covering of the imports through the exports (see Table 6).

Table 6

The Grubel-Lloyd index for the Romania-EU-25 relation

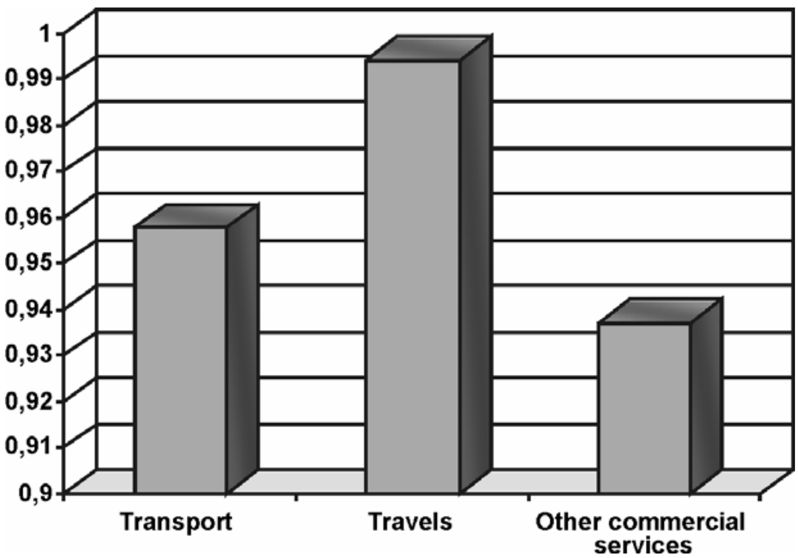
Grubel-Lloyd index	Romania – UE-25		
	Transport	Travels	Other commercial services
2005	0.9578	0.994	0.9372

Source: Own computation based on http://unstats.un.org/unsd/servicetrade/default.aspx.

In the case of transportation services, although the comparative advantage was decreasing in the year 2005, the Grubel-Lloyd index means that the imports were covered by the exports, similarly in the case of "other commercial services" category as well, that, in the above mentioned year, faced comparative disadvantages for the Romania-EU-25 relation.

Figure 8

The Grubel-Lloyd index for the Romania-EU-25 relation



Source: Own computation based on http://unstats.un.org /unsd/ servicetrade/ default.aspx.

In the year 2005, travels have registered a higher value when comparing intra-sectoral trade index with the other two groups of services, being closely followed by the transportation services and the "other commercial services" group, which reflects the bigger share of the intra-sectoral commerce in the assembly of the commercial services flows of our country in its relations with the EU-25.

III. Conclusions

In this summary of the conclusions, I want to emphasize that the complex and changing situation of services makes it extremely difficult to go further into the sectoral breakdown, what in its turn makes it quite impossible to introduce other more complex techniques in the exploitation of the data. Nevertheless, I have reached interesting findings which can open the way for richer approaches of the topic in the coming future.

The most important limit of the study has to do with data restrictions and quality. In fact, in spite of the serious control I have had on original data, I was able to find still striking figures for some variables, in particular years and/or sectors. Moreover, there are substantial lacks in all aspects concerning the research: living aside trade information in recent years – which is the best in relative terms – for other variables, particularly for FDI, the availability of statistics is very poor for many countries and sectors. This has affected considerably the possibility of a more detailed analysis.

I want also to mention the necessity of carrying out further investigations to go deeper into the knowledge of the factors affecting the international expansion and competitiveness of Romanian services. With regard to the results themselves, I have used a variety of ways to underline the commercial specialisation of service sectors, choosing a more horizontal approach by giving a separate treatment to the sectors analysed. The most important idea to remark is that this study indicates the Romanian service sectors that could be improved in order to increase the international competitiveness of these services. I tried to frame the situation of the Romanian service sectors in the European context for a comprehensive understanding of the present evolutions and the main conclusions are described in the following sentences.

During the years 2005-2006, for the transportation services, the degree of specialization was decreasing under the circumstances where the EU's market and the world one for these services were developing.

Romania's degree of specialization on the travel exports market remains quite low, although they have faced the highest growth in the years 2005-2006.

The increasing importance of the "other commercial services" in EU-25, as well as at world level has determined an increase in Romania's specialization degree in the international commercial exchanges with this kind of services.

The Romanian market share for commercial services exports, globally, followed an ascending path during the period 2000-2006, except the year 2004 which showed an involution that was rectified in the following years, in 2006 this balance doubled comparatively to the year 2000, which suggests that the competitive performance of Romanian commercial service exports improved progressively during the above-mentioned period. The effects of competitiveness materialized in the intensification of the exports, which may be attributed to a better capacity of the national economy to "sell" commercial services at lower prices (price and cost competitiveness). However, the export performances can be improved also in terms of market effects, which mean that the increase in the exports is due to the fact that an economy specializes for some characteristic services or markets which are more dynamic than the international average.

According to the main categories of commercial services, Romania had for the year 2006, regarding its relation to the global market, a higher market share for transport services exports (0.29%), which denotes that our country continues to be specialized in traditional services, intensive in labor force, even if they were characterized during the period 2000-2006 by a slower evolution, marked in 2005, by a „gap" produced in the context of a diminished global demand for these services. The „other commercial services" category has the highest increasing potential that can be capitalized for the purpose of augmenting the competitiveness of services exports of Romania, especially because they have a market share close to that of transports (0.26%), which almost tripled towards the year 2000 on the background of intensified commercial exchanges with intensive IT services. The travel services recorded in the past two years a sustained growth rhythm, but, nevertheless, they still have a reduced market share comparative to the other two services groups mentioned before (0.17%).

Regarding the exports of commercial services carried on by Romania on the UE-25 market, we can find out that in 2005 the biggest market share belonged to the transport services (0.86%), followed by „other commercial services" (0.54%) and travels (0.35%).

The trade performance of a country can be affected by the sectoral structure of its exports. For example, an amplification of the market share may be foreseen if the main exports include services for which the global demand has a growth rhythm that exceeds the worldwide average.

The analysis of the sectoral structure of the commercial services exports accomplished by Romania on the global market, undertaken in the precedent chapter, denotes the fact that our country is specialized in transport services, recording an important growth potential on the market of other commercial services and slow evolutions on the travel segment, which situation is similar also for the commercial relationships of our country with UE-25. The increasing balance for the group "other commercial services" is related not only to the fructification of the advantages of technical progress - IT, but also to the fact that this sub-group is dominated by multinational trusts which are exporting almost the entire output that our country is producing. Additionally, the market share of these services increased considerably during the period 2000-2006, which indicates that the exports in this segment were increasing at an alert rate, if comparative to the average of the entire commercial services. According to the fact that Romania possesses an increasing specialization for the export of IT-intensive services, wherefore the global demand considerably increased during the analyzed period, it means that, *ceteris paribus*, the amplification of the market share of export of our country was natural.

The exports of other commercial services increased also due to the externalization process to which the companies from the advanced economies resort to and which aim mostly at the electronic delivery services. Inside the European Union, the electronic delivery service flows are rather interactive, than directed on the criteria of profitability, with a noticeable tendency for externalization in the less developed countries. Hereby, in 2005 opposite to 2003, the export of business services amplified considerably in what Slovakia (60.2%), Poland (58.8%), Hungary (47.4%), Slovenia (45.5%), and Romania (24.2%) concerns.

The financial services registered an increase of 2.2 times in what the export of Greece is concerned, duplication in the case of Slovakia and an increase by 22.5% in the case of Romania. The IT services placed Romania in a front-rank amongst the new countries with UE membership, with an increase of 2.5 times, followed by the Czech Republic with an increase of 2.2 times and by Hungary with an increase of 43.1%.

The growth of specialization in intensive export of IT represents a consequence of the expansion of other sub-groups, for example the travel services, which have a more significant domestic presence. In absolute terms, the travels were characterized by a sustained export growth rate, especially beginning with 2004, however, with the tendency to become better anchored in the domestic economy than the intensive sub-groups of the IT, from the point of view of the expenditures undertaken and hereby, with a smaller probability for relocation in other countries.

The fact that the Romanian economy intensified substantially its specialization in intensive services for IT and has a reduced degree of specialization in certain groups (travel services) which registered slow export growths means that if these intensive sub-groups of IT are continuing to exceed the average, the Romanian economy may capitalize, on long-term, the positive effects of the commercialization outside the borders. As a result of the sustained growth of other commercial services exports, Romania enhanced its market share in the international trade with these services.

The export performances may be affected, equally, by the changes in the export demand on regional level, a growth of the market share on global level is to be expected if exports of the target country are allocated to the markets with a faster growth than the global average.

During the period 2000-2006, Romania increased its market share, especially in the exports directed towards UE-25. This reflects, mainly, the capacity of the domestic economy to attract the multinational companies to the intensive departments of IT, the most part of the commerce between the two entities mentioned above is a intra-group one.

The dominant trade partners of Romania on the Community market were, in 2005, Germany (6.61%), Italy (4.23%), Belgium (3.17%), Austria (2.99%) and the United Kingdom (2.68%), on the transport segment; the greatest percentage of Romanian travel export was directed towards Italy (4.85%), Germany (4.20%), Hungary (3.92%), and on the segment „other commercial services”, the highest market shares for export were registered in the relationship with Germany (12.54%), Italy (7.20%), France (5.78%), the United Kingdom (5.58%), the Netherlands (2. 92%) and Austria (2.82%).

On the whole, we may say that Romania’s performances in commercial services exports increased during the analyzed period, 2000-2006, on the basis of the augmentation of its balance in the whole of international imports, as well as on Community level, which reflects, among others, the increase in the depth of specialization in intensive service rendering in IT, wherefore the international demand witnessed a strong increase and generated a favourable development of the general competitiveness. In 2005, the strongest increase in commercial services exports was registered and, consequently, in the costs of labour unit, a decisive augmentation of commercial prices and consequently, the appreciation of the real exchange rate, all these acting in the direction of diminishing the competitive external position of the Romanian economy. The weakening of the competitive position of Romania amplifies the vulnerability of the domestic economy, and, for this reason, the future challenges for the economic policy will be the consolidation of the competitive position of the most dynamic groups, including the attraction of new investment flows for the groups which add a superior value, the encouragement of the domestic presence in these sectors and the improvement of efficiency and competitiveness in the other areas of the economy that were facing a weak increase in the export in the last years.

References

Algieri, B. (2004), "Trade specialisation patterns: the case of Russia", Center for Development Research, (ZEF) University of Bonn, Germany, pp. 2-10.

Andersson, M., Ejermo O. (2006), "Technology and Trade - An analysis of technology specialization and export flows", Electronic Working Paper Series, Paper No. 65.

Bobircă A., Cristureanu C., Negrescu D. (2007), "Services sector competitiveness in Romania, in view of its liberalization within the EU", European Institute of Romania.

Bobircă A., Miclăuş P.G. (2007), "A Multilevel Comparative Assessment Approach to International Services Trade Competitiveness: The Cases of Romania and Bulgaria", *Proceedings of World Academy of Science, Engineering and Technology*, Volume 24, October 2007;

Crabbe K., Beine H. M., Vandenbussche V. (2007), "Trade, institutions and export specialization", Catholic University of Leuven.

Di Maio M., Valente M. (2006), "Uncertainty, Optimal Specialization and Growth", Laboratory of Economics and Management Sant'Anna School of Advanced Studies.

Dupuch S., Jennequin H., Mouhoud El M. (2004), "EU enlargement: What does it change for the European economic geography?", *University of Paris XIII-Villetaneuse*, *CEPN.*

Ergun S. J., Yilmaz B. (2003), "The foreign trade pattern and foreign trade specialization of candidates of the European Union", Ezoneplus Working Paper No. 19, September 2003.

European Central Bank, (2004), "Sectoral specialisation in EU. A macroeconomic perspective", *Occasional Paper Series*, 19: 7-15.

Ezcurra R., Gil C., Pascua P., "Regional specialization in the European Union", Department of Economics, Universidad Publica de Navarra, D.T.2004/04.

Honggue L. (2004), "Regime Selection as an Alternative to the Grubel-Lloyd Index", Department of International Trade, Konkuk University, Korea, pp.8.

Libanio A. G. (2003), "Trade, specialization and growth: A preliminary assessment of the Brazilian experience in the nineties", *CEDEPLAR/FACE/UFMG.*

Römisch R. (2006), "Regional industry specialisation and concentration in the EU-27", The Vienna Institute for International Economic Studies.

Rusali M. (2006), "Performance indicators of external competitiveness of Romanian agro-alimentary products", *Agrarian Economy and Rural Development Review*, 3rd Year, No. 9-10, Bucharest, pp.102.