12. External Competitiveness of the Romanian Regions and Counties

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Abstract

The paper[1] approaches some of the issues regarding the external competitiveness of the Romania regions and counties, by the means of the competitive advantage concept and by providing answers to the questions: (i) Which are the regions and counties that contribute most to the country's exports? (ii), Which are the economic sectors/groups of products in which these regions/counties are (eventually) specialized? and (iii) Which are the competitive advantages of those regions/counties (if they exists)? The results point out to a significant presence of the analyzed regions and counties in three groups of manufacturing industries: low skilled, labor-intensive; natural resource-intensive and medium-to-high skilled, more sophisticated ones, and also to increased export concentration/specialization in/of certain regions and counties.

Keywords: regional competitiveness, comparative advantage, export specialization, territorial imbalances

JEL Classification: F14, O18, R12

Introduction

Competitiveness, in general, (and national competitiveness[2] in particular) is a very complex topic, with countless definitions and quantification methods. Generally, it may be defined as the capability of a country, measured by comparison to other countries, to build up and secure an economic, political and social environment able to support and accelerate value-added creation for all time horizons. As the specialized literature dedicated to competitiveness revealed, one of the major issues refers to the capability of selling national products on international markets (capability to export – see Reiljan

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[1] *The paper is part of Chapter 3 of the Ph.D. dissertation* "Competitiveness of the Romanian Economy in the Context of Integration"*, coordinator Acad. Aurel Iancu, National Institute of Economic Research. Due to the very large amount of data, only a summary of the findings was presented.*

[2] *Despite its "appeal", contested by some distinguished economists – see Krugman (1996).*

et al., 2000). In a broad sense, what may be called the **external competitiveness** of an economy refers to its capability to ensure a long-term economic growth with a structure able to adapt easily to the changes in demand on international markets. In a limited sense that emphasizes the importance of exports, competitiveness is defined as the capability of a country to gain and maintain market shares on the international markets or as depending on the GDP growth able only under the circumstances of increasing exports, while other economists have mostly identified competitiveness with successful foreign trade[3]. OECD also emphasized the relationship between exports and standard of living when we consider competitiveness as the capability of a country to produce goods and services that pass the test of international competition, at the same time maintaining and increasing the real standard of living of its citizens (OECD, 1992). For the purpose of this study, we followed this limited approach to competitiveness, nevertheless aware that competitiveness has more faces, facets and details than those revealed solely by the foreign trade analysis.

The analysis of the foreign trade of the CEE countries and, particularly, of Romania, especially concerning the trade with the European Union, revealed a long-time "specialization" of the latter mainly as a supplier of labor and energy-intensive, low value-added products and services, although the technology-intensive products gained higher shares in the last years (see, for instance, Freudenberg and Lemoine, 1999; Havlik *et al*., 2001; Kaitila, 2001; Edwards, 2004, Dulleck *et al*., 2004, Yilmaz, 2003; Chilian, 2003; Iordan *et al*., 2002, Zaman and Vasile, 2001, Scutaru and Florescu, 2004; Unguru, 1999, Grigorovici, 2009). In what regards the capital-intensive products, most of the goods for which Romania gained market shares and comparative advantages[4] in the trade relationships with the EU had some significant shares in the overall exports. Nevertheless, in the case of certain capital-intensive groups of products, with high shares in the overall Romanian exports, no or very weak comparative advantages were recorded (e.g., electric machinery and equipment, transport means, etc.).

However, if that is the case of the overall foreign trade, in our opinion is also important not only to point towards the sectors with comparative advantages and/or large export shares, but also to reveal the extent to which the external competitiveness is "spread" within the national territory. That means, among others, the attempt to answer questions such as (Chilian, 2006): *i) Which are the regions/counties with the largest contributions to exports? ii) Which are the sectors in which those regions/countries are eventually specialized (if they are)? and iii) Which are the competitive advantages of those regions/counties (if they exists)?* In the following, we shall attempt to provide for certain aspects able to answer adequately the above-mentioned questions, along the lines of external competitiveness, with emphasis upon exports.

[3] *See Reiljan* et al. *(2000).*

[4] Though employed as one of the main economic theories in explaining competitiveness, the comparative advantage is just a facet and is considered as distinct from competitiveness. While competitiveness is related to the relative strength or weakness of a country in producing a given product, the comparative advantage deals with the relative strength or weakness of products for a given country and is structural (if compared to competitiveness, which is often subject to macroeconomic fluctuations - see Lafay (1992).

Export positioning and specialization analysis of the Romanian regions and counties

According to the available statistical data, the ranking of the regions and counties of Romania in what regards their **participation to the country's foreign trade** after 2000 (with a higher emphasis on exports) revealed the following aspects (see Tables 1 and 2).

Table 1

Share of Regions in the Romanian Foreign Trade

REGIONS	2001		2002		2003		2004		2005		2006		2007	
	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.	Exp.	Imp.
TOTAL	100	100	100	100	100	100	100	100	100	100	100	100	100	100
NORD-EST	8.25	6.00	9.26	6.90	8.54	5.97	8.14	6.18	8.28	5.80	6.64	4.43	5.89	4.04
SUD-EST	10.46	8.23	13.43	9.30	14.31	9.55	14.25	10.95	14.23	10.37	13.59	9.55	13.46	9.23
SUD MUNTENIA	7.14	6.61	7.85	7.07	8.48	7.48	9.08	7.69	12.24	10.42	14.08	10.73	14.83	10.57
SUD-VEST OLTENIA	6.08	2.92	5.87	3.03	5.31	2.80	5.94	2.75	6.17	2.62	6.89	2.70	8.18	2.89
VEST	*15.20*	*11.31*	*17.04*	*12.95*	*17.89*	*12.88*	*16.99*	*11.95*	*15.68*	*10.51*	*15.36*	9.88	*15.78*	9.66
NORD-VEST	12.93	11.17	11.82	10.44	11.85	10.22	11.27	9.64	11.24	9.59	11.70	10.09	10.80	9.63
CENTRU	10.78	9.25	10.74	8.98	11.52	12.70	11.15	11.52	10.88	11.54	11.96	12.48	13.10	11.23
BUCURESTI-ILFOV	28.27	39.58	23.28	36.38	22.09	38.27	23.18	39.30	21.27	39.13	19.76	40.13	17.96	42.75

Source: Author's computations on the basis of data provided by the National Institute of Statistics, Bucharest, Romania.

Table 2

Trade Balance by Regions

- Thou. euro -

REGIONS	2001	2002	2003	2004	2005	2006	2007
TOTAL	-4661266	-4205950	-5587621	-7346246	-10320221	-14871098	-21806652
NORD-EST	7208	55609	67727	-83332	-48709	-87425	-335280
SUD-EST	-100220	214434	209268	-179525	-213008	-374508	-768173
SUD MUNTENIA	-240090	-182872	-262739	-302374	-671408	-730394	-1048479
SUD-VEST OLTENIA	265851	289361	236339	403134	519017	679982	929486
VEST	-31945	54774	63265	77256	63848	-52912	-301327
NORD-VEST	-297195	-236642	-315772	-397543	-622148	-1085094	-1752453
CENTRU	-236503	-119098	-893560	-916927	-1337234	-1990220	-1897824
BUCURESTI-ILFOV	-3284893	-3451697	-4664351	-5938231	-8010579	-11230527	-16632602

Source: Data provided by the National Institute of Statistics, Bucharest, Romania.

- Nearly one fifth of the Romanian exports and around 40% of the imports are made via companies located[5] in the *Bucureşti-Ilfov* region. At the same time, this region is

[5] *The data are compiled from the customs declarations of companies, which induces distortions since a company may have its headquarter in a region, and its processing units located in another one (the case of the oil companies, for instance), but the result is accounted for by the region/county where the company's headquarter is located or the company is an intermediate trader, buying products from other regions/counties to export them, usually after minor processing. In such a case, the export/import position is rather a measure of the **visibility** of a*

the largest contributor to the overall foreign trade balance deficit. Nevertheless, this is explainable considering the fact that this is the region where a large part of the country's economic activity is located, as well as the one where the main foreign and domestic companies have located their headquarters. One may though notice that over the analyzed period the share of exports coming from this region in the overall exports of Romania has decreased significantly, concomitantly with the advance of the exports provided by the companies located in the other regions of Romania, especially *Sud Muntenia* and *Centru*.

- The regions *Vest, Nord-Vest* and *Centru* recorded constantly high shares in the overall exports and imports, but a single one was "net exporter" in some years of the analyzed interval, namely the Vest region. This is also explainable, given the higher economic development of these regions.

- Among the regions located outside the Carpathians, only the *Sud-Est* region registered a constantly higher share in the overall exports over the mentioned period, but more recently one may notice the advance of the *Sud Muntenia* region as a main exporter (both the above-mentioned regions recorded significant increases in their shares in overall exports after 2000). Except for *Sud Muntenia* region, all the other regions were at certain moments "net exporters", a peculiar situation being that of *Sud-Vest Oltenia* region, where such a position was recorded all over the analyzed interval, but also registering some of the lowest shares in overall exports. One may also notice the decline in the exporter position of the *Nord-Est* region, both as regards its share in the overall exports and by switching from "net exporter" to "net importer" position.

- Except for the *Sud-Vest Oltenia* region, which improved its "net exporter" position, all the other regions experienced significant deteriorations of their trade balances, the import dependency increasing in the *Bucureşti-Ilfov, Centru, Nord-Vest, Sud Muntenia* and *Vest* regions.

Because the export capability of a country/region is also relevant for the external competitiveness, it would be interesting to analyze the **exporter position** (defined as the share in overall exports) of the regions and counties of Romania. For the eight regions and their counties, respectively, the situation is as follows:

- Over the interval 2005-2007, a decline in the ***Nord-Est*** region's share and in all its counties' shares in overall exports was recorded; in the case of the latter the shares in overall exports being very low, even below 1% in the case of the *Botoşani, Suceava* and *Vaslui* Counties.
- The share of the ***Sud-Est*** region in overall exports diminished over the analyzed interval, but one may notice quite a strong exporter position in the case of *Constanţa* County (nearly 5% of the overall exports in 2007) and *Galaţi* County (over 5% of the national exports in the same year). At the same time, a deterioration of the exporter positions of the less developed counties was

region/county on the international markets and differs from the production capacity/potential. However, this is the only statistical series available insofar regarding the regions'/counties' export and import data.

noticeable, namely the counties with less than 1% of overall exports (especially *Vrancea* and *Tulcea*).

- As regards the ***Sud Muntenia*** region, its exporter position improved over the analyzed interval, but things were different for its counties: two counties revealed as very strong exporters, namely *Argeş* (with an increasing share in overall exports, reaching near 8% in 2007) and *Prahova* (with a share around 4% of overall exports, but declining in 2007), while the rest of the counties recorded shares below 1% of overall exports (*Giurgiu* County even below 0.1% in 2005 and 2006), although most of them slightly increased.
- The ***Sud-Vest Oltenia*** region improved significantly its exporter position over the interval 2005-2007, but high gaps among its counties were also recorded. Thus, *Olt* County registered the highest advance (reaching slightly over 4% of overall exports in 2007), followed by *Vâlcea* and *Dolj* counties (both with over 1% of the national exports in 2007, and both with increasing shares), while the other two counties recorded shares lower than 1% of the overall exports (especially *Gorj* County, with a relatively stagnant share slightly higher than 0.1% of the national exports).
- The ***Vest*** region maintained nearly constant its exporter position, but the gaps among its counties were high: two counties recorded shares higher than 5% of the national exports, namely *Arad* and *Timiş*, the latter with a strong ascending trend of its exports, reaching over 8% of overall exports in 2007, one county has recorded a significant deterioration of its exporter position (*Hunedoara*, which diminished its share in the national exports to less than 2% in 2007), and the last one had only a marginal exporter position (*Caraş-Severin*).
- The ***Nord-Vest*** region recorded a decline in its share of the national exports in 2007, especially due to the deterioration of the exporter positions of its highest developed counties (*Bihor*, which declined to less than 3% of the overall exports in 2007, and *Cluj*, with a share slightly less than 2% in the same year). However, one may notice that a single county (*Sălaj*) has recorded shares below 1% of the national exports, while others improved or maintained their exporter positions (*Satu Mare*, *Bistriţa-Năsăud* and *Maramureş*).
- The ***Centru*** region recorded an improvement in its exporter position over the interval 2005-2007, the “engines” of such an evolution being the increases in the exports of its most developed counties (*Braşov* and *Sibiu*, which reached shares of nearly 4% of the national exports, but also *Mureş*, which reached shares around 2%). The other counties, however, have recorded slow declines in their shares in the overall exports, and two of them (*Covasna* and *Harghita*) have had shares below 1% of the national exports.
- Despite the fact that it recorded a significant decrease in its share in the national exports, the ***Bucureşti-Ilfov*** region still held the top exporter position (nearly 18% of the national exports in 2007), the companies located in *Bucharest* exporting nearly 16.5% of overall exports in 2007, although their export share has declined significantly over the interval 2005-2007. One may also notice the increase in the share of *Ilfov* County in the overall exports, to over 1.5% in 2007, the closeness to Bucharest allowing for localization of many exporting companies also in this area.

In order to identify a possible specialization of regions in sectors with high export shares (in agreement or not with their economic potential), we have started from the analysis of the **shares of the main group of products in the overall exports**[6] over the interval 2001-2007, the main findings being as follows:

- As regards the ***clothing and footwear groups of products***, with high export volumes and comparative advantages[7], nevertheless based on low labor costs (and OPT), namely 61 - Knitwear, 62 – Apparels and clothes and 64 - Footwear, the regions whose companies exported more were *Bucureşti-Ilfov* (for all the three above-mentioned groups, but with a sharp decline in the shares in the overall exports for the groups 61 and 62 over the interval 2005-2007), *Nord-Est*, *Sud-Est* and *Centru* (for group 62 with a significant increase in the share of *Centru* region over the interval 2005-2007) and *Vest* and *Nord-Vest* (for groups 61 and 64). Nevertheless, one should note that in the case of these groups the territorial spread of the exporting companies did not reveal high discrepancies, such companies being usually SMEs that used the relatively cheap available female (mostly) labor. The exports of the groups with a somehow higher technological level, namely 61 and 64, were nevertheless "concentrated" in the higher developed areas (Bucharest and the west of the country).
- In the case of the ***equipment, machinery and apparatus groups of products***, namely 84 – Machinery and equipment, 85 - Electrical machinery and apparatus, 87 – Road transport means and 89 - Ships and similar transport means, with relatively high or medium, and also increasing export shares over the analyzed interval, but with major comparative disadvantages (although diminishing), the economic development, industrial background and the resources of a region were influencing more significantly its exports of such products. Thus, the companies that exported most products belonging to group 85 were those located in the *Vest* region, while in the case of group 84 such companies were located mainly in the *Bucureşti-Ilfov* and *Sud Muntenia* regions (with significant export shares also in the case of group 85). As regards the group 87, the main exporting regions were *Centru*, *Vest* (increasing) and *Sud Muntenia* (also increasing), while the *Sud-Vest Oltenia* region recorded a sharp decline in exports over only four years. The group 89 was clearly dominated in exports by the *Sud-Est* region, followed by the *Sud-Vest Oltenia* region (areas where the main shipbuilding sites were located). As regards the groups of products with higher technological sophistication, one may also notice the advance of group 90 – Optical, photographical and cinematography instruments and apparatuses, as well as the specialization of the *Vest* region in exports of such products.
- As regards the ***metallurgy groups of products***, with relatively high export shares, but being high energy-intensive, the production factor endowment (especially physical capital) is extremely significant for the exports of the regions. Thus, the main exports were made by the *Sud-Est* region for group 72 – Pig iron, iron and steel, *Sud-Vest Oltenia* region for group 76 – Aluminum and articles thereof and *Nord-Vest* and *Nord-Est* for group 73 – Pig iron products (for which

[6] *According to the Combined Nomenclature Classification.*
[7] *Computed at national level.*

Bucureşti-Ilfov region recorded the sharpest decline in exports). One may also notice the advance of the *Vest* and *Centru* regions in exports of metallurgy products other than those belonging to the above-mentioned groups of products.

- The ***chemicals and connected groups of products*** recorded relatively modest export volumes, both overall and by regions, and also high comparative disadvantages – except for fertilizers. Also in this case, the factor endowment of a region proved as driving factor, but paradoxical situations were also recorded, due to the localization of the headquarters of the exporting companies in regions other than those where the processing units were located. Thus, in the case of group 27 – Fuels and mineral oils – with a (constant) high share in overall exports, the highest exports were made by the *Bucureşti-Ilfov* region – where the headquarters of certain main oil companies and/or of trading companies are located – followed by the *Sud-Est*, *Nord-Est* and *Sud Muntenia* regions, where the main petroleum processing units are located. A somehow similar situation one may notice in the case of group 31 – Fertilizers, the *Bucureşti-Ilfov* region accounting for a significant share in overall exports of the group, the main exporting regions being, nevertheless, those with the best factor endowment, namely *Centru* and *Sud Muntenia* (except for 2007). The presence of processing units within the region and their competitiveness is highly significant in the case of group 40 – Rubber and rubber products, whose exports were dominated by companies located in the *Vest* and *Bucureşti-Ilfov* regions, group 39 – Plastics and articles thereof, with the main exporting companies located in the *Sud-Vest Oltenia*, *Bucureşti-Ilfov* and *Centru* regions and group 28 – Inorganic chemicals – with main exports made by the *Sud-Est, Bucureşti-Ilfov* and *Sud-Vest Oltenia* region.
- The ***wooden products groups*** recorded quite significant export volumes and comparative advantages, but also in this case the territorial spread of exports did not always reflect the resource and factor endowment of the regions. Thus, in the case of group 44 – Wood and wooden products, excluding furniture – among the main exporting regions, beside the *Nord-Est* and *Centru* regions (with abundant natural resources) one may find the *Bucureşti-Ilfov* and *Vest* regions, where the natural resources are modest or are missing almost entirely. A more balanced situation one may find in what regards the group 94 – Furniture, the main exporting regions being also those where most of the manufacturing units are located, namely the *Nord-Vest*, *Bucureşti-Ilfov*, *Centru*, *Vest* and *Nord-Est* regions.

Finally, we provide a very synthetic picture of the **external competitiveness position**[8] of the Romanian regions in 2007, combining indicators such as region's

[8] *Analyzed for the main groups of the Combined Nomenclature, namely: I – Live animals and animal products, II – Vegetable products, III – Animal and vegetal fats and oils, IV – Food, beverages, tobacco, V – Mineral products, VI – Chemical products and connected, VII – Plastic and rubber and articles thereof, VIII – Raw and processed hides and skins, furs, and articles thereof, IX – Wooden products, cork and wicker products, X – Pulp, paper and cardboard and articles thereof, XI – Textiles and textile products, XII – Footwear, hats, ubmrellas and others, XIII – Stone, cement, pottery and glass products, XV – Basic metals and articles thereof, XVI – Machinery and equipment, XVII – Transport means, XVIII – Optical,*

share in total exports of product groups, product group share in total exports of the region and the specialization index[9] (as a measure of comparative advantage), computed according to the formula (Neven, 1995):

$$RCA = (x_i/X - m_i/M) * 100$$

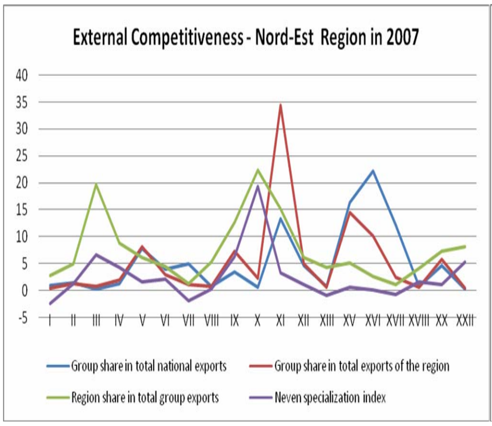
where: m_i = import of product *i*

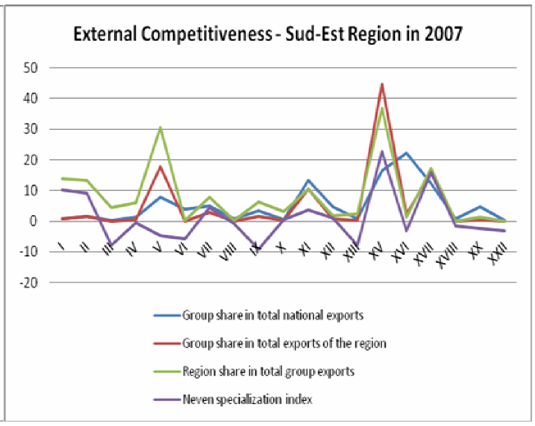
x_i = export of product *i*

M = total import

X = total export

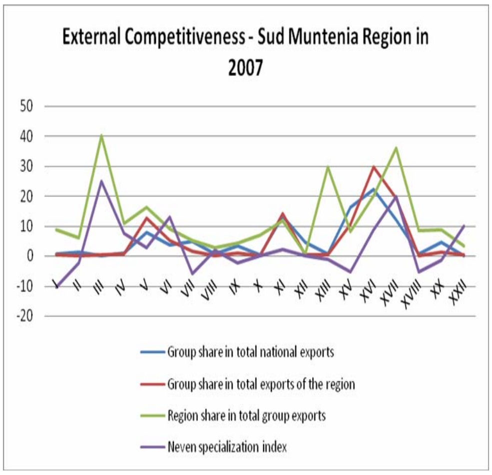
The index theoretically falls between 100% and -100%, but it rarely exceeds +/-10%. The lower and upper limits of the index can be attained only in the (theoretical) case when there is complete trade specialization and there are only two goods. The higher the value of the index is, the stronger the trade specialization is. It can be also interpreted as a "normalized" trade balance (*i.e.* given that the sum of the RCA indicators across sectors is equal to zero, the comparative advantages are therefore measured under the theoretical condition of a balanced trade). The value of this indicator is also related to the intensity of intra-industry trade (the stronger the two-way trade is, the lower specialization is and the closer to zero the index – see Ahrend, 2004). Unfortunately, the high group aggregation of regions'/counties' export and import data did not allow for the computation of the Grubel-Lloyd index, which measures the intra-industry trade intensity. The results are shown in the graphs below.

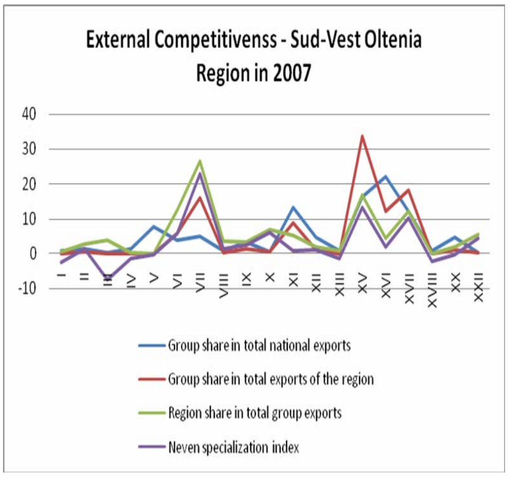


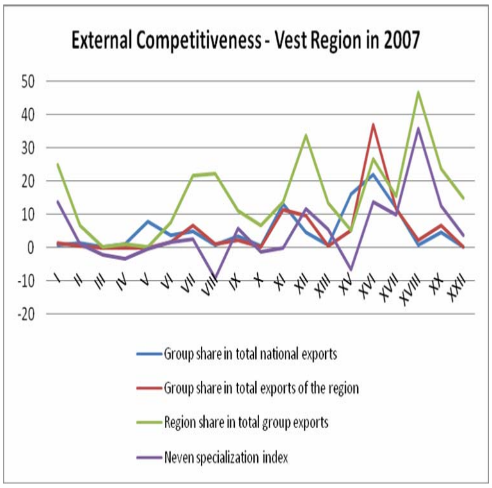


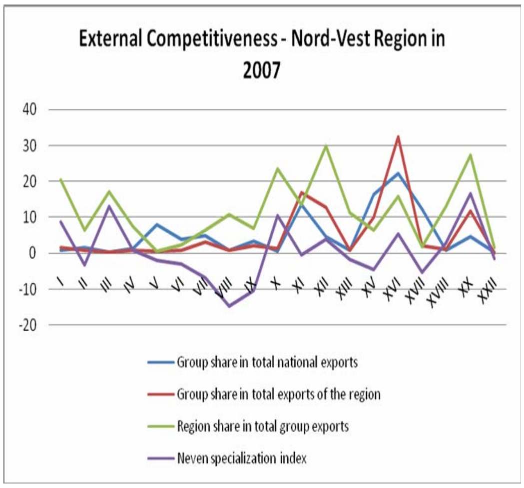
photographical, control and measurement instruments and apparatus, XX – Other products, not specified elsewhere.

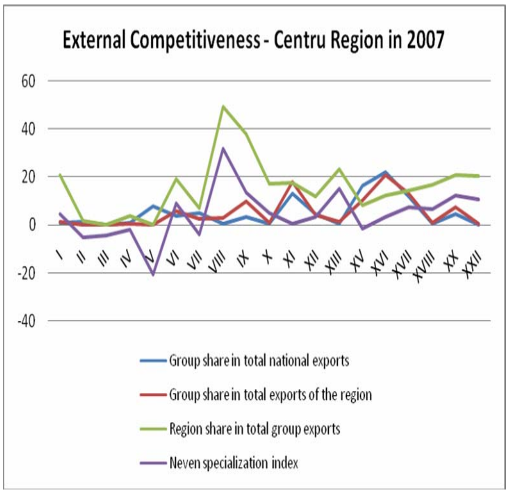
[9] *Similar to the Michaely index, it represents a measure of the relative net export of a certain industry; an advantage being also the elimination of re-export as a bias source when computing the comparative advantage.*

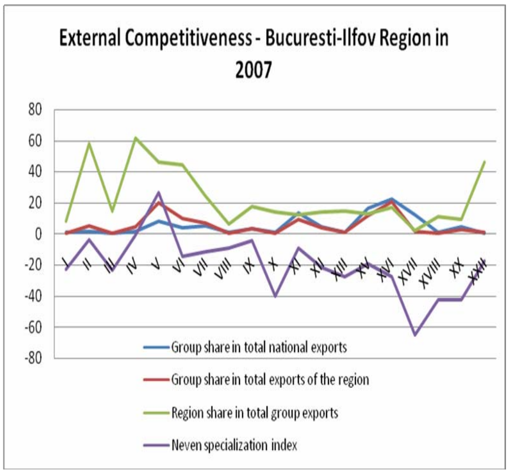

External Competitiveness - Sud Muntenia Region in 2007
Group share in total national exports
Group share in total exports of the region
Region share in total group exports
Neven specialization index


External Competitivenss - Sud-Vest Oltenia Region in 2007
Group share in total national exports
Group share in total exports of the region
Region share in total group exports
Neven specialization index


External Competitiveness - Vest Region in 2007
Group share in total national exports
Group share in total exports of the region
Region share in total group exports
Neven specialization index


External Competitiveness - Nord-Vest Region in 2007
Group share in total national exports
Group share in total exports of the region
Region share in total group exports
Neven specialization index





Conclusions

Synthesizing the above-mentioned ones, a picture in brief of the **export specialization** of the regions and counties of Romania and, implicitly, of their **external competitiveness** would look as follows:

- ***Bucureşti-Ilfov Region*** – rank 1.[10] It is a highly atypical region, mostly due to the above-mentioned exporter's location bias. Despite the fact that it is recording high comparative disadvantages, it is also recording high export shares in many product sections and groups, high specialization index, and concomitant high export shares occur paradoxically in some of the above-mentioned sectors facing problems, namely mineral fuels and wood products. By groups of products and counties, the highest export specialization is recorded in the case of product groups[11]62 (*Bucharest Municipality*), 64 (*Bucharest Municipality*), 85 (*Bucharest Municipality*), 27 (*Bucharest Municipality* and *Ilfov* County), 72 (*Bucharest Municipality* and *Ilfov* County), 84 (*Bucharest Municipality*), 61 (*Bucharest Municipality*), 94 (*Bucharest Municipality*), 44 (*Bucharest Municipality*), 73 (*Bucharest Municipality*), 76 (*Bucharest Municipality*), 31 (*Bucharest Municipality*), 39 (*Bucharest Municipality* and *Ilfov* County), 40 (*Bucharest Municipality*), 28 (*Bucharest Municipality*), 88 (*Bucharest Municipality*), 29 (*Bucharest Municipality*).
- ***Vest Region*** – rank 2. The specialization index is better correlated with the export shares, and high specialization indices and export shares may be found in the case of higher value-added and technology intensive products (transport means, optical, photographical, control and measurement instruments and apparatus), but also in that of lower value-added and resource-based products

[10] *According to the share in overall exports.*
[11] *Ranks 1-3 as shares in the group's exports over the analyzed interval.*

(footwear, hides and skins, live animals and animal products). By groups of products and counties, the highest export specialization is recorded in the case of product groups 85 (*Timiş, Arad* and *Hunedoara* Counties), 64 (*Timiş, Arad* and *Hunedoara* Counties), 84 (*Timiş* County), 61 (*Timiş, Arad* and *Hunedoara* Counties), 94 (*Timiş, Arad* and *Hunedoara* Counties), 87 (*Timiş, Arad* and *Hunedoara* Counties), 40 (*Timiş* County), 90 (*Timiş* and *Arad* Counties), 33 (*Timiş* County), 34 (*Timiş* County), 62 (*Timiş* and *Arad* Counties), 84 (*Timiş* County), 69 (*Timiş* County), 44 (*Arad, Hunedoara, Caraş-Severin* and *Timiş* Counties), 81 (*Arad* and *Timiş* Counties), 82 (*Timiş* and *Arad* Counties), 83 (*Arad* County), 86 (*Arad* County), 95 (*Timiş* County).

- ***Sud-Est Region*** – rank 3. Despite the export volumes, the export specialization is quite narrow as compared to other regions, marked high specialization indices and high export shares being recorded in the case of metallurgical products and transport means. Live animals, mineral fuels and textiles also account for high export shares, but with less impressive specialization indices. By groups of products and counties, the highest export specialization is recorded in the case of product groups 62 (*Vrancea* and *Brăila* Counties), 72 (*Galaţi* and *Constanţa* Counties), 27 (*Constanţa* County), 39 (*Constanţa* County), 89 (*Brăila, Constanţa, Galaţi* and *Tulcea* Counties), 68 (*Buzău* and *Constanţa* Counties), 73 (*Buzău* and *Galaţi* Counties), 81 (*Tulcea* County), 83 (*Buzău* and *Galaţi* Counties).
- ***Nord-Vest Region*** – rank 4. High specialization indices and export shares may be found in the case of higher value-added and technological intensity products (machinery and equipment), but also in that of medium and lower value-added or resource-based products (other products, footwear, pulp and paper, and animal and vegetal oils). By groups of products and counties, the highest export specialization is recorded in the case of product groups 64 (*Bihor* and *Cluj* Counties), 61 (*Bihor, Cluj* and *Satu Mare* Counties), 94 (*Maramureş, Cluj, Satu Mare* and *Bihor* Counties), 73 (*Sălaj, Satu Mare* and *Cluj* Counties), 84 (*Bihor, Cluj* and *Bistriţa-Năsăud* Counties), 85 (*Bihor, Bistriţa-Năsăud, Cluj, Maramureş* and *Satu Mare* Counties), 26 (*Maramureş* County), 30 (*Cluj* County), 32 (*Bihor* County), 47 (*Cluj* County), 48 (*Cluj* County), 49 (*Bihor* and *Cluj* Counties), 68 (*Cluj* County), 69 (*Cluj* and *Maramureş* Counties), 90 (*Bihor, Cluj* and *Sălaj* Counties), 95 (*Bihor* County).
- ***Centru Region*** – rank 5. It records a marked specialization in medium value-added and resource-based products (wood and wood products, building materials, pottery, glass, chemical products and other products), but also high specialization indices and higher export shares in higher value-added and technology intensive products (machinery and equipment, transport means, optical, photographical, control and measurement instruments and apparatus). By groups of products and counties, the highest export specialization is recorded in the case of product groups 87 (*Braşov, Mureş* and *Sibiu* Counties), 44 (*Alba, Braşov, Harghita, Mureş* and *Sibiu* Counties), 31 (*Mureş* County), 84 (*Alba, Braşov* and *Sibiu* Counties), 83 (*Braşov, Mureş* and *Sibiu* Counties) 94 (*Alba, Braşov, Harghita, Mureş* and *Sibiu* Counties), 39 (*Alba, Braşov* and *Sibiu*

Counties) 29 (*Mureş* County), 49 (*Harghita* County), 69 (*Alba* and *Mureş* Counties), 92 (*Mureş* and *Harghita* Counties).

- ***Sud Muntenia Region*** – rank 6. It is another region with "spiked" specialization, marked high specialization indices and high export shares being recorded both in the case of high value-added and technology-intensive products (transport means) and in that of lower value-added and resource-based products (animal and vegetal fats). High export shares, but lower specialization indices may be found in the case of mineral products, textiles and textile products and building materials, pottery and glass. By groups of products and counties, the highest export specialization is recorded in the case of product groups 85 (*Argeş* and *Prahova* Counties), 84 (*Argeş, Prahova* and *Dâmboviţa* Counties), 72 (*Dâmboviţa* County), 27 (*Prahova* County), 87 (*Argeş* County), 89 (*Giurgiu* County), 31 (*Teleorman* County), 40 (*Argeş* County), 28 (*Dâmboviţa* County), 32 (*Argeş* and *Dâmboviţa* Counties), 34 (*Prahova* County), 62 (*Prahova* County), 70 (*Călăraşi* and *Prahova* Counties), 81 (*Giurgiu* County).
- ***Nord-Est Region*** – rank 7. It is the region which is mostly specialized in lower and medium value-added and resource-based products (textiles and textile products, wood and wood products, hides and skins, animal and vegetal oils and food, beverages and tobacco), with low or marginal exports of higher value-added and technology intensive products. By groups of products and counties, the highest export specialization is recorded in the case of product groups 62 (*Bacău, Botoşani, Iaşi* and *Vaslui* Counties), 27 (*Bacău* County), 44 (*Bacău, Neamţ* and *Suceava* Counties), 73 (*Iaşi* and *Neamţ* Counties), 28 (*Bacău* County), 29 (*Bacău* County), 30 (*Iaşi* County), 48 (*Bacău* and *Neamţ* Counties).
- ***Sud-Vest Oltenia Region*** – rank 8. The smallest of the regions in terms of exports, it also has a "spiked" specialization, in medium and higher value-added and technology-intensive products (metallurgical products, transport means, rubber and plastic and chemical products). By groups of products and counties, the highest export specialization is recorded in the case of product groups 76 (*Olt* County), 87 (*Dolj* County), 89 (*Mehedinţi* County), 39 (*Vâlcea* County), 28 (*Vâlcea* and *Olt* County), 40 (*Olt* County), 86 (*Olt, Mehedinţi* and *Dolj* Counties), 61 (*Dolj* and *Olt* Counties), 86 (*Mehedinţi* and *Olt* Counties).

References

Ahrend, R., (2004), Russian Industrial Restructuring: Trends in Productivity, Competitiveness and Comparative Advantage, OECD Economics Department Working Paper No. 408, October.

Ardelean, V., (2002), "Studiu privind analiza indicelui RCA în comerţul exterior al României şi clasamentul prioritar al ramurilor economiei naţionale în perioada 1995-2000 şi în perspectiva anului 2005", Oeconomica, Nr. 3.

Chilian, (2003), M. N., "Aspecte ale competitivităţii unor ramuri industriale în relaţiile comerciale ale României cu Uniunea Europeană", in Liberalizarea schimburilor economice externe. Avantaje şi riscuri pentru România, Editura Economică, Bucureşti.

Chilian, M. N., (2004), "Competitivitatea exporturilor româneşti reflectată în indicatorii statistici", paper presented at Al Doilea Simpozion Ştiinţific Internaţional de Statistică „Statistica – Problema fiecăruia. Calitate-cunoaştere-management-armonizare europeană", Academia de Studii Economice – Facultatea de Cibernetică, Statistică şi Informatică Economică, Bucureşti, 19-20 noiembrie 2004, published on CD-ROM, Editura ASE Bucureşti, ISBN 973-594-593-2.

Chilian, M. N., (2006), "Issues regarding the External Competitiveness of the Romanian Regions", in "The International Economic Conference – Pre-conference for the International Economic History Congress, Helsinki, Finland, 21-25 August 2006: Identity, Globalization and Universality in the Eastern and Central European Economic Area – Evolutions and Involutions in the Modern and Contemporary Period: Experiences, Meanings, Lessons", Volume I, "Lucian Blaga" University of Sibiu, The Faculty of Economic Sciences, 4-5 May 2006, "Lucian Blaga" University Publishing House, ISBN (10) 973-739-259-0/ISBN (13) 978-973-739-259-6.

Dulleck, U., Foster, N., Steher R. and Worz, J., (2004), Dimensions of Quality Upgrading in CEECs, WIIW Working Papers No. 29.

Edwards, T. H., (2004), An Economic Assessment of the Accession of the Central and Eastern European Countries to the EU Single Market, Center for the Study of Globalization and Regionalization, University of Warwick, UK, Working Paper No. 128/January.

Freudenberg, M., Lemoine, F., (1999), Central and Eastern European Countries in the International Division of Labour in Europe, CEPII, Document de travail no. 99-05.

Grigorovici, C. (2009), "Analyzing the Degree of Specialization in Romania's Services Trade", Romanian Journal of Economic Forecasting, 10(1): 95-115.

Havlik, P., Landesmann, M., Romisch, R., Stehrer, R., Gillsater, B., (2001), Final Report: Competitiveness of Industry in CEE Candidate Countries – Composite Paper, WIIW, July, Vienna, Austria.

Iordan, M., Chilian, M. N., Stănică, C., (2002), "Competitivitatea unor sectoare ale economiei româneşti în comerţul exterior cu ţări în tranziţie şi cu ţări membre ale Uniunii Europene", in Convergenţe economice în Uniunea Europeană, Editura Economică, Bucureşti.

Kaitila, V., (2001), Accession countries' comparative advantage in the internal market: A trade and factor analysis, Bank of Finland Institute for Economies in Transition BOFIT, Discussion Papers No. 3.

Krugman, P., (1996), “Making Sense of the Competitiveness Debate. International Competitiveness”, Oxford Review of Economic Policy, 12(3).

Lafay L., (1992), "The measurement of Revealed Comparative Advantages," in M.G Dagenais and P. A. Muet (eds), International Trade Modelling, London, Chapman &Hall, pp. 209-234.

Neven, D., (1995), “Trade Liberalization with Eastern Nations: How Sensitive?”, in R. Faini and R. Portes (eds), European Union Trade with Eastern Europe: Adjustment and Opportunities (London: CEPR).

Reiljan, J., Hinrikus, M., Ivanov, A., (2000), Key Issues in Defining and Analyzing the Competitiveness of a Country, University of Tartu, Finland, Faculty of Economics and Business Administration, Working paper Series No. 1/2000.

Scutaru, C., Florescu, I., (2004), “Structural Changes in Romanian Economy”, Romanian Journal of Economic Forecasting, 5(2).

Unguru, M., (1999), Integrarea comercială a României în structurile europene, Teză de doctorat, manuscris, 1999, INCE, Bucureşti.

Vass, A., (2004), “Evaluarea performanțelor naționale şi sectoriale ale comerțului exterior al României”, Oeconomica, Nr. 3, SOREC, IRLI, Bucureşti.

Zaman, Gh., Vasile, V., (2001), “Evoluții recente în comerțul exterior românesc. Dinamica avantajelor/dezavantajelor comparative”, Oeconomica, 4(I).

Yilmaz, B., (2003), Turkey’s Competitiveness in the European Union: A Comparison with Five Candidate Countries – Bulgaria, the Czech Republic, Hungary, Poland, Romania – and the EU15, Ezoneplus Working Paper No. 12, February, Jean Monnet Centre of Excellence, Freie Universitat Berlin, Germany.