INTERNATIONAL SERVICES TRADE PATTERNS AND SPECIALIZATION POTENTIAL: A COMPARATIVE ASSESSMENT

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The main purpose of this paper is to comparatively examine the international competitiveness of services trade, by determining its pattern and structure of specialization for Romania and Bulgaria, on the EU-25 services market. In other words, the research attempts to identify Romania's and Bulgaria's ability to overcome difficulties and challenges that might arise from the hard competition within the enlarged EU, in the field of foreign trade in services. To this end, the paper attempts to suggest a multilevel framework for assessing the international competitiveness of Romania's and Bulgaria's services trade.

Key words: international services trade, international competitiveness, specialization

Introduction

Throughout the 90s, Southern and Eastern European countries have liberalized and reformed their economies to a varying degree. This together with the differences in their services sectors development, industrial base, administrative reforms and political framework, has led to different developments in services trade structure and comparative advantages. Several studies have assessed the evolution of the trade patterns in the transition economies, mainly based on manufacturing sector statistics. The attention was given especially to the former ten accession countries, i.e. transition countries seeking EU accession. The present work aims to extend these studies to the Romanian and Bulgarian economies, as a dearth of empirical research has been carried out up to now.

The purpose of this paper is therefore two-fold. First, it attempts to show how the Romanian and Bulgarian specialization in services trade has evolved over time. Second, it seeks to comparatively examine the international competitiveness of the EU-25, Romanian and Bulgarian services trade and to subsequently determine the competitive position of Romania and Bulgaria on the EU-25 services market. The remainder of the paper is organized as follows. Section 2 reviews the different ways of measuring services trade competitiveness and exposes the considered indices for the empirical analysis. Section 3 presents the empirical evidence on the patterns of trade specialization in Romania and Bulgaria; it illustrates the EU-25 countries', Romania's, and Bulgaria's recent performance in services trade, based on a four-dimensional framework for measuring international services trade competitiveness. Section 4 concludes.

Methodology and data

For the comparative assessment of the EU-25 countries', Romania's, and Bulgaria's international competitiveness of trade in services, the underlying methodological approach undertaken in this paper is based on a multilevel model encompassing a combination of four indices: (1) *Revealed Comparative Advantages (RCA),* for which we use a version of Balassa's formula (Balassa, 1965); (2) *Comparative Export Performance (CEP)* (Donges, 1982); (3) *Trade Overlap (TO)* (Finger & De Rosa, 1979) for the calculation of the overall importance of intra-industry, in comparison with inter-industry trade; (4) *Export Similarity (ES)* (Laaser & Schrader, 2002), in analogy to the TO index.

(1) As a first step, we attempt to measure the international competitiveness of EU-25, Romania, and Bulgaria in services trade by using RCA indices. The original RCA index was developed for measuring the degree of a country's specialization in individual industries through data on international trade in goods. The focus in this study, however, is on trade in services. A fundamental element of the RCA is the law of comparative advantage, which assumes trade in goods. Some existing studies, however, have indicated that the law of comparative advantage is applicable to international trade in services, as well as in goods. Both Hindley and Smith (1984), and Deardorff (1985) examined the relevance of the law of comparative advantage for trade in services, and they confirmed the applicability of the theory in each examination. Sazanami and Urata (1990), pioneers in the study of trade in services, used an econometric method to show the significance of comparative advantage to trade in services. Their work also supported the transferability of the theory. There are a number of ways to examine whether or not a country has a comparative advantage in the export of a certain service. One common method is to determine how specialized a country is in the export of a service activity through constructing "Balassa indices" (Balassa, 1965). The formula we use here to measure a country's revealed comparative advantage (RCA) in services trade is given by:

$$.RCA_{i,A} = \frac{X_{i,A}}{\sum_i X_{i,A}} \Bigg/ \frac{\sum_A X_{i,A}}{\sum_i \sum_A X_{i,A}}. \qquad (0.1)$$

where $RCA_{i,A}$ represents the revealed comparative advantage for the services sector i of country A and $X_{i,A}$ corresponds to the exports of the services sector i by country A. This formula represents the ratio of domestic specialization (numerator) against that of world specialization (denominator). When one sector has RCA > 1, it has a comparative advantage; when it has RCA < 1, on the other hand, it has a comparative disadvantage. The higher (lower) the RCA index, the more (less) successful the trade performance of the country in question is in a particular service activity. The RCA reflects both the competitiveness in the domestic sector and the world supply capacity.

(2) As a second step, we estimate the structure of international competitiveness in services trade for EU-25, Romania, and Bulgaria, corresponding to the years 2003, 2004, and 2005. The comparative export performance (CEP) index (Donges, 1982) is also based only on export shares and therefore allows for a comparison of findings between the first two indices. The formula we use to measure the CEP index is given by:

$$.CEP_i = \frac{X_{i,A}}{\sum_A X_{i,A}} \Bigg/ \frac{\sum_i X_{i,A}}{\sum_A \sum_i X_{i,A}}. \qquad (0.2)$$

where CEP_i represents the comparative export performance for the services sector i and $X_{i,A}$ symbolizes the exports of services sector i by country A. CEP index values above (or below) unity mean that the particular services sector has a larger (lower) share in the total exports of the analyzed country than the corresponding EU-25 or world share. Thus, the country in question can possess a relative advantage (or disadvantage) in the export of those services.

(3) Thus, as a further step, we consider the overall importance for Romania, Bulgaria, as well as for the EU-25, of intra-industry in comparison to inter-industry specialization in international services trade, by calculating trade overlap (TO) coefficients, at sectoral level. The intra-industry trade suggests how and to what extent the economy in question is already integrated into the world market, as well as the degree of liberalization that the economy has already realized throughout the economic development process. TO coefficient measures the level of specialization in the international trade of a particular services sector relative to the international trade between

different services sectors of the economy. The formula we use to measure the trade overlap (TO) coefficient is given by:

$$.TO_i = 2 \times \sum_i \min(X_{i,A}, M_{i,A}) \Big/ \sum_i (X_{i,A} + M_{i,A}). \qquad (0.3)$$

where TO_i represents the trade overlap for the services sector i and $X_{i,\,A}$ and $M_{i,\,A}$ correspond to the exports and, respectively, the imports of services sector i by country A; "min" defines the magnitude of total trade that overlaps. The coefficient can vary between zero and one. The closer it comes to unity, the more intra-industry specialization exists. A lower coefficient implies that trade takes the form of inter-industry specialization.

(4) Finally, we calculate whether or not the exports of Romania, Bulgaria, or EU-25 overlap in the period 2003–2005. Coefficients of export similarity (ES) are computed using the formula of Finger and Kreinin (1979), which measures the proportion of a country's exports matched by its competitor's exports in the same service category. The first step in the analysis is to calculate, for individual countries, the share of each services sector exports in total services exports. These shares are then compared between countries to obtain a measure of services export similarity. The Finger-Kreinin statistic is defined as follows:

$$.ES_{A,B} = \sum_i \min(X_{i,A} / X_A, X_{i,B} / X_B). \qquad (0.4)$$

where $ES_{A,B}$ represents the export similarity of countries A and B; $X_{i,\,A}/X_A$ refers to the services sector i share in total services exports of country A; $X_{i,\,B}/X_B$ refers to the services sector i share in total services exports of country B.

The ES coefficient can vary between zero and one. The closer it comes to unity, there is a greater degree of similarity between two countries (countries have identical export patterns - intra-industry trade) On the other hand, a finding of zero indicates no export similarity between the countries in question, as well as no overlap - inter-industry trade. Finger-Kreinin is a relative index in that it compares the sector share in total exports of one country with respect to another.

In calculating these indices, the sample data is drawn from UNCTAD, EUROSTAT, and IMF - Balance of Payments Statistics on trade in services by sector, a data-set which covers exports and imports of three principal services categories: t*ransportation*, *tourism and travel,* and *other commercial services*, according to the concepts and definitions of the IMF Balance of Payments Manual. The data-set comprises the EU-25 countries, Romania, Bulgaria, and the world (178 countries) and covers a yearly time period counting 2003, 2004, and 2005.

Results and discussion

Revealed Comparative Advantage

The main conclusions to be drawn from the RCA indices of Romania's, Bulgaria's, and EU-25' services trade by sector, calculated in relation to the world and to the EU-25 states, respectively (only for the former two countries), for the years 2003-2005 are (see table 1): (a) for *transportation services*, Romania and Bulgaria have a revealed comparative advantage, both in their trade with the world and in relation to EU-25; the revealed comparative index is higher for the trade with the rest of the world, which demonstrates a lower degree of specialization in Romania's and Bulgaria's transportation services trade with EU-25; it is noteworthy that EU-25's specialization in such services is slightly increasing, with EU-25 switching to a comparative advantage in 2005; a similar pattern can be observed for Bulgaria's trade with EU-25, whereas for Romania the situation is different (higher comparative advantage, but declining); (b) for *travel services*, Romania's and Bulgaria's specialization index is higher in their trade with the EU-25 countries than in that with the world at large, with Bulgaria being in a stronger competitive position than Romania; EU-25 appears to have a comparative disadvantage for the export of such services, with a tendency to raise its degree of specialization, against an increase of the world market size for such services; while Romania is slightly reducing its comparative advantage in relation to EU-25, Bulgaria is improving its position; (c) for *other services*, whilst the international context looks unfavorable, there appears to be an increase of the degree of specialization in the export of such services for Romania, both in its trade with the world and with EU-25; the EU-25 states have a comparative advantage in trading with these services, that is somewhat worsening in time. Bulgaria's situation, in this case, is considerably weaker than Romania's.

Comparative Export Performance

The main conclusions to be drawn from the CEP indices of Romania's, Bulgaria's, and EU-25' services trade by sector, calculated in relation to the world and to the EU-25 states, respectively (only for the former two countries), for the years 2003-2005 are as follows (see table 1): (a) Romania and Bulgaria appear to have been maintaining their initial position of comparative advantage in the export of *transportation services,* both in relation to the world and to the EU-25 countries; both Romania's and Bulgaria's comparative advantages are stronger with respect to their overall international trade; EU-25 countries are improving their relative advantage in the export of transportation services; in the case of Romania, the results show that the country is highly competitive in terms of export performance in these services; (b) concerning *travel services*, Romania is decreasing its competitiveness, with CEP values below the unity and seems to be loosing its advantages in trade with the EU-25 countries, whereas Bulgaria is strongly improving its relative advantage, especially in relation to EU-25; (c) the results for *other services* indicate that EU-25 states are best positioned for these services, although registering a slight decrease; Romania and Bulgaria have a relative disadvantage in the export of such services, much stronger for Bulgaria. The trade patterns for the two countries analyzed and for EU-25, which have been revealed by the RCA indices, are generally and to a large extent confirmed by the CEPs.

Trade Overlap

The main results obtained from the estimations of the TO coefficients by services sector for the years 2003, 2004, and 2005 are as follows (see table 1): (a) Romania approaches intra-industry specialization in all three services sub-sectors analyzed; in all service activities, almost the entire value of its exports to the world is offset by similar imports; the situation is comparable in respect to exports and imports towards EU-25 countries, with a slight difference for *transportation services*, that tends to be offset in time; interestingly, Bulgaria's economy indicates the characteristics of intra-industry trade mainly for *transportation* and *other services*, in its trade with the world; (b) we notice, in Bulgaria's case, an important increase for *travel services* in their intra-industry specialization in trade with EU-25 countries; (c) as expected, the TO coefficients for EU-25 come close to unity. This emphasizes that the EU-25 has already realized full intra-industry specialization in its services trade with the world; (d) Romania's intra-industry specialization in *other services,* in its trade with EU-25 is somewhat declining, suggesting a potential for an appearance of the characteristics of inter-industry trade for this heterogeneous group of services.

	Romania-world			Bulgaria-world			EU-25-world			Romania-EU-25			Bulgaria-EU-25		
	RCA	CEP	TO	RCA	CEP	TO	RCA	CEP	TO	RCA	CEP	TO	RCA	CEP	TO
Transp.															
2003	1.87	1.87	0.97	1.24	1.24	0.98	0.94	0.94	0.99	1.59	1.59	0.82	0.99	0.99	0.85
2004	1.93	1.93	0.98	1.13	1.13	0.97	0.95	0.95	0.97	1.53	1.53	0.88	1.15	1.15	0.61
2005	1.45	1.43	0.99	1.33	1.33	0.96	1.08	1.08	0.96	1.42	1.42	0.96	1.10	1.10	0.80
Travel															
2003	0.52	0.52	0.97	1.93	1.93	0.78	0.93	0.93	0.99	1.00	1.00	1.00	2.29	2.29	0.75
2004	0.49	0.49	0.97	1.94	1.94	0.76	0.90	0.90	1.00	0.93	0.93	0.97	2.14	2.14	0.61
2005	0.80	0.80	0.92	2.11	2.11	0.70	0.95	0.95	0.99	0.80	0.80	0.99	2.35	2.35	0.93
Other															
2003	0.	0.	0	0.	0.	0	1.	1.	0	0.	0.	0	0.	0.	0

	90	90	.99	38	38	.92	06	06	.95	78	78	.98	37	37	.60
2004	0.87	0.87	0.94	0.40	0.40	0.99	1.08	1.08	0.94	0.82	0.82	0.94	0.40	0.40	0.53
2005	0.94	0.94	0.99	0.34	0.34	0.89	0.99	0.99	0.94	0.92	0.92	0.94	0.33	0.33	0.87

Source: own computation

Table 1.Framework for measuring Romania's international services trade competitiveness

Export Similarity

The estimated ES coefficients (see table 2) show that the degrees of export similarity between Romania and EU-25, as well as between Bulgaria and EU-25 are very high. Also, the export similarity of the Romanian and Bulgarian services exports, with respect to both their trade with the EU-25 countries, is quite low, much weaker than in relation to the world, but strongly increasing in 2005. This means that, as a consequence of Romania's and Bulgaria's accession to the EU, the Romanian services export industries compete, first of all, with exports originating from the EU-25 countries and then from Bulgaria, but at a lesser degree. The main question here is whether Romanian services exports bear complementary or substitutive features. Romania has the largest similarity in its services exports structure with the EU-25 countries, with a noticeable increase in 2005.

	Romania-Bulgaria (world)	Romania-Bulgaria (EU-25)	Romania-EU-25 (world)	Bulgaria-EU-25 (world)	EU-25-World
2003	60.10	19.79	80.29	65.41	96.81
2004	59.28	21.07	78.16	66.71	96.17
2005	66.05	61.76	93.01	64.94	98.31

Source: own computation

Table 2. Export similarity coefficients

Concluding remarks

The results and interpretations of the RCA, CEP, TO, and ES indices allow us to draw some essential conclusions with respect to Romania's and Bulgaria's international services trade competitiveness in the EU:

1. Romania has a specialization potential for *transportation services*, with a quite steady revealed comparative advantage, against the background of an unfavorable evolution of this activity, both at world level as well at the level of EU-25; more importantly, Romania is gaining ground on the market for *other services*. Bulgaria has a strong and increasing comparative advantage and, consequently, a specialization potential in *travel services*.

2. To a certain extent, Romania has been trying to catch up and attempted to close the services development gap with the EU-25 countries, by the progresses made to reshape its services export structure towards *other services*, especially business services, suggesting that it is beginning to develop the modern services link. For Bulgaria, the results show that it still has a relatively long way to catch up with the European Union, except for *travel services*.

3. Romania's services trade in the three sectors analyzed is on the best way to create more the intra-industry type of specialization. Whereas the Bulgarian economy showed the typical industrialization pattern of developing countries in 2003 and partly in 2004, from 2005 it started to show features of intra-industry trade with the EU market, which points to the fact that the accession process had a positive impact on the services trade pattern of Bulgaria.

4. The accession process had a major influence in reshaping the international services trade structure of Romania, leading to a high export similarity with the EU-25 countries, especially in 2005.

5. In spite of the efforts undertaken by international institutions in order to progress in the knowledge of the services sector, it is necessary to have more extended series and precise statistics than the ones normally provided. The lack of information is especially severe with respect to international services trade. For that reason, in this paper it has been avoided to enter into details with respect to more specific services activities.

6. In macroeconomic terms, the forward linkages and backward linkages derived from the export of services are different, depending on their structure and quality. In other words, the implications for the economy are very different depending on the structure of services exports. The method applied in this paper for the study of the international services trade competitiveness avoids one approach to competitiveness that, at least from a statistical standpoint, seems to be either not specific enough or not operative enough, i.e. the quality and structure of services. These factors are extremely important when analyzing competitiveness, but the statistical approach is quite complex. For this reason, a statistical calculation of competitiveness in terms of quality has not been performed here and can constitute the subject of further research.

7. Becoming a full-member of the European Union will have positive effects on the process of overcoming the existing weaknesses in the services trade diversification and competitiveness of Romania and Bulgaria. Repeating the above analysis in a couple of years could bring results that would support this assumption and particularly prove the positive effects of becoming a European Union member in terms of services trade competitiveness.

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