

CHANGES IN THE ROMANIAN AGRI-FOOD TRADE COMPETITIVENESS IN THE POST-ACCESSION PERIOD

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Abstract

Romanian agri-food exports to the EU have increased significantly after accession. The paper is presenting a study on the significant changes occurred in the competitiveness of the Romanian exports to the EU and to the main trade partners in the EU, using the CMS (Constant Market Share) method. The empirical results show that the increase in the Romanian agri-food exports to the EU may be attributed mostly to the competitiveness improvement (residual effect) and secondly to a better adaptation to the EU import markets (second order effect). The increase in the market size of the destination country (market size effect) is the least important factor, nevertheless positive for all studied countries and product groups.

Keywords

competitiveness, Romania, agri-food trade, constant market share

Introduction

Romania has an important agri-food sector, due to its share in the economy, productions and contribution to the general trade. Although having favorable soil and climatic conditions, since 1990, Romania showed a constant incapacity of covering the domestic food demand, and, moreover, a continuous need for agri-food imports, far larger than the exports, resulting in a continuous agri-food trade deficit. Already a few years before accession, and mostly in the post-accession period, the requirements of the Single Market imposed important changes and improvements in the Romanian domestic agri-food production and processing. Moreover, the economic crisis introduced supplementary constraints in the sector. The increasing trend in imports was reversed, the exports intensified, and the result was the reversal of the agri-food trade balance trend. Consequently, the deficit diminished continuously since 2007, and in 2013, Romania achieved a positive agri-food trade balance, for the very first time in the last 25 years.

1. Literature review

Various ways of assessing the competitiveness of the Romanian agri-food trade have been used both before and after the country's EU accession. Previous studies concentrated largely on the analysis of trade (in terms of values, balances and directions of flows) (Gavrilescu, 2011), as well as on assessments of related competitiveness indices, such as the index of revealed comparative advantage, using the Balassa method (Rusali & Gavrilescu, 2008) or the Lafay index (Rusali, 2012).

The theoretical foundation of the constant market share method was synthesized by Fagerberg and Solle (1987) and has been used to assess the competitiveness of the Romanian agri-food trade in the pre-accession period in comparison to Hungary by Fogarasi (2008). The present paper is aiming at providing an insight in the composition factors of the Romanian agri-food sector competitiveness using the trade performances on different export destination markets.

2. Overview of the Romanian post-accession agrifood trade

On the domestic agri-food supply side, the sector producing raw agricultural commodities evolved separately and at completely different rhythms from the manufacturing industries sector. When they entered the Romanian market, the large international retail companies have not found functional and fluid agri-food chains in the country, able to provide fresh agricultural products and processed food products in the necessary quantities, at required quality and at the necessary pace, which is why they resorted to agri-food imports.

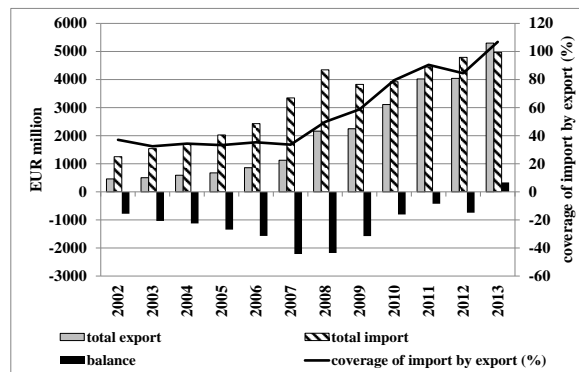
On the domestic demand side, the extra demand in both quantitative and qualitative terms resulted from the economic growth that started in 2001, increased the purchasing power of the population; as a consequence, it had to face a domestic supply deficit that could be met only through increasing agri-food imports.

The overall result has been a steady growth in imports of agri-food products (intra + extra-EU) up to EUR 4.3 billion (in 2008), followed by a decline during the economic crisis (down to EUR 3.9 billion in 2009); then growth resumed at a slower pace, reaching EUR 4.96 billion in 2013.

The Romanian exports of agri-food products increased spectacularly immediately after accession: in just two years, agri-food exports had increased 2.5 times as compared to 2006 (the last year before accession); seven years later, in 2013, exports had increased 6.2 times as compared to 2006 (figure 1).

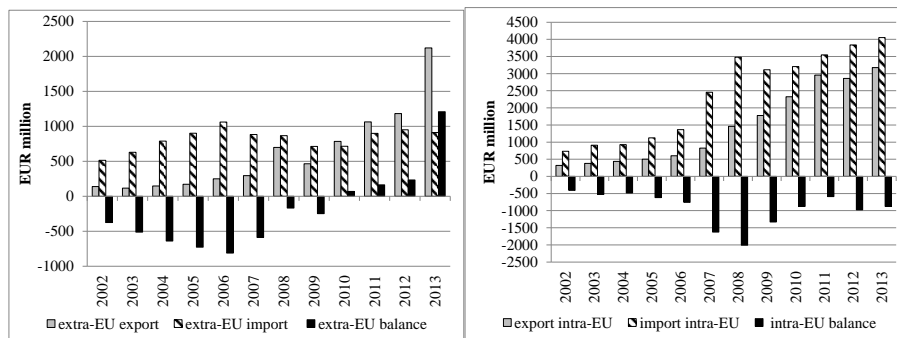
The rate of imports increase has been somewhat lower than that of exports: in the first two years, imports have increased by 1.79 times (2008/2006).

The economic crisis, accompanied by rising unemployment and reduced population's income has translated into a significant contraction of demand, reflected in a drastic reduction in the agri-food products imports (-12% in 2009 as compared to 2008). Since 2010, the upward trend resumed for both exports and imports, again at a slower pace for imports. This evolution resulted in a dramatic decrease in the agri-food trade deficit, from the peak of EUR 2.2 billion in 2007, down to only EUR 434 million in 2011. In 2013, for the first time in the last 25 years 1989, the Romanian agri food trade balance became positive (EUR 331 million), due primarily to the positive balance with non-EU countries, while the intra-Community trade balance is still negative (figure 2).



Source: own calculations based on Eurostat data

Fig. 1 Romanian international (intra-EU and extra-EU) agrifood trade



Source: own calculations based on Eurostat data

Fig.2 Romanian intra-EU and extra-EU agrifood trade – a comparison

In the post-accession period, trends in extra-EU trade have been different from the intra-EU ones. The extra-EU exports increased continuously, reaching a maximum in 2013 (EUR 2.1 billion), while the upward imports trend in the pre-accession period reversed after 2007, decreasing until 2010 to a minimum of EUR 720 million, then climbing again in 2011-2013 slightly over EUR 900 million.

The intra-EU exports (dispatches) multiplied 6 times (2013/2006), while the imports only 3 times over the same period. As a result, the intra-EU agrifood trade deficit decreased continuously, as in the case of the extra-EU balance, by the combined action of exports expansion and import contraction. The year 2010 stands out in that it is for the first time after 1989 that the extra-EU agrifood trade balance turned positive: exports exceeded imports (figure 3), a trend that continued in 2011-2013. In 2013, the absolute value of the extra-EU balance exceeded that of intra-EU trade balance, resulting in a positive overall agrifood trade balance, which is a first in the last 2 and a half decades.

After joining the European Union, the efforts of the Romanian agrifood sector were directed mainly towards increasing competitiveness, resulting in improved efficiency and product quality along the food chains, allowing for a better country's presence on the European Single Market.

3. Methodology and data

The methodology consists in the decomposition of the growth of the country's market share into different effects (such as competitiveness effect and structural effect). For such an analysis, the Constant Market Share (CMS) approach is used.

The assumption on which the CMS model is based is that at the same competitiveness level, the export share of a country remains unchanged. As a consequence, any change occurred in the export of a given country can be attributed to general changes in the destination market (with two sub-factors: the market scale and the market composition effect) and to a residual factor, which is the competitiveness factor. This is a one-step CMS model which shows three determining factors of the change in exports (Fogarasi, 2008):

- The structural effect (the market size) shows the changes in the exports to the destination country during the selected period: if the market share of the exporting country to a specific destination country, for a specific product, remains unchanged (S^0) between the two time periods, this effect expresses how much its exports can change due to the import growth on the destination country (ΔQ). The share of exporting country in the destination market is:

$$S = \frac{q}{Q} \quad (1)$$

where q is the particular country exports to the destination country, and Q the total imports of the destination country. The market size effect shows how much their whole exports can change due to the import growth of the target market.

- The second component ($Q^0\Delta S$) is the residual effect, which shows competitiveness changes induced by the change in export. A positive value means that the analyzed country has been more competitive than others on the destination market and therefore was able to increase its exports. Competition (residual) effect originates from the changing in the export competitiveness of the exporting country.
- There is also a second order effect (or market composition effect) ($\Delta Q\Delta S$) which captures the relation between structural and residual effects, and it can be interpreted as a combination of changing import demand and export supply. The market composition effect shows the combined result of the changes in competitiveness of the exporting country and in the import structure of the reference market. As a result, the following equation can be written:

$$\Delta q = S^0\Delta Q + Q^0\Delta S + \Delta Q\Delta S \quad (2)$$

The equation (2) can be extended for several products i , exported from the analyzed country to the destination country:

$$\Delta q = \sum_i S_i^0 \Delta Q_i + \sum_i Q_i^0 \Delta S_i + \sum_i \Delta Q_i \Delta S_i \quad (3)$$

The CMS model has some limitations, i.e. the sensitivity to the choice of base period (starting point) of the analysis, as well as to the level of product aggregation.

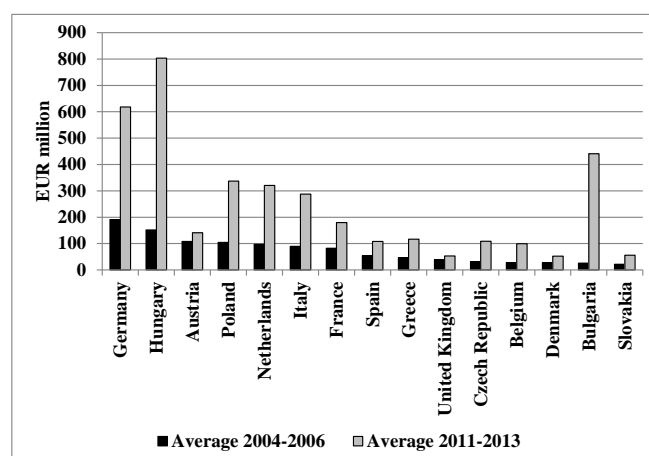
The analyzed period in the present paper has been the average of the last three years (2011-2013), using as base period for comparison the average of the last pre-accession years (2004-2006). For each destination country in the EU, the average Romanian exports values have been calculated for the same two periods. The destination countries have been ranked using the average export values of the base period (figure 3).

The source for data is Eurostat, Combined Nomenclature, at 2-digit level of aggregation (chapters 01-24). In the present paper, we shall indicate the 24 chapters as HS-01 until HS-24 (as in first 24 chapters of the Harmonized System).

4. Results and discussions

The study involved the top 8 destination markets in the EU for the Romanian agri-food exports: Italy, Germany, Greece, Spain, Hungary, Bulgaria, Netherlands and France (figure 3). These eight countries accounted together for 76.6% in the total Romanian exports to the EU (in 2004-06), and their cumulated share increased to 81.5% in 2011-13.

The competitiveness of the Romanian agri-food exports on the EU-28 market has been analyzed by the CMS model. At country level, all three types of effects were positive, in all the cases (table 1).



Source: own calculations based on Eurostat data

Fig. 3 Romanian agri-food exports to top 15 EU partners

The export change (growth) in the Romanian exports to the EU-28 in the analyzed period has been EUR million 1970, of which 14.4% (EUR million 285) is the structural (market size) effect; 56.1% (EUR million 1106) is the competitiveness effect and 29.4% (EUR million 579) is the market composition effect. So the largest part of the change (a little more than half) is due to the positive effect of competition on the EU market (table 1). On the other hand, the change in the import structure of the EU influenced more the change in the Romanian exports rather than the increase of the market size (increase in the EU imports).

Table 1 Results of the constant market share model calculations (compared periods: 2004-2006 and 2011-2013)

Country	Structural (market size) effect (EUR million)	Competitiveness (residual) effect (EUR million)	Market composition (second order) effect (EUR million)	Change in value of imports from Romania (average 2011-13 versus average 2004-06)	
				EUR Million	%
EU-28	284.61	1,106.31	579.37	1,970.29	462.55
Italy	34.91	289.39	96.75	421.05	503.20
Germany	29.48	89.54	48.88	167.90	410.92
Greece	9.52	77.65	11.72	98.89	256.69
Spain	19.53	70.55	24.97	115.05	308.50
Hungary	49.98	54.45	47.28	151.71	363.53
Bulgaria	68.86	69.53	147.30	285.69	978.97
Netherlands	15.21	114.66	82.34	212.20	1,102.14
France	10.13	76.64	34.82	121.59	645.27

Source: own calculations based on Eurostat data

More details on specific product groups are revealed by the CN-2 level commodity breakdown. The largest export growth was seen in HS-24 (tobacco and tobacco products), for which the increased competitiveness was the main driver (78.6%), while the market size effect was almost zero. For oilseeds (HS-12), the main driver of the export growth has been the change in the import structure of the EU (market composition effect). For cereals (HS-

10), the competitiveness and the market composition effect were prevalent, almost equal in share (40.8%, respectively 39.6%). Negative competitive and market composition effects were present for live animals (HS-01), and vegetables (HS-07).

In the export growth to the studied destination countries, all three effects have been positive for the total agri-food exports. The lowest competitiveness effect, which held almost the same share with the market size effect was seen in the exports to Bulgaria (24%) and Hungary (36%). Larger competitiveness effects, similar to the exports to the EU-28 (53-56%) were seen in trade with Germany and Netherlands. Exports to Greece showed the highest competitiveness effect (78.5%).

In 2011-13, Italy remained the largest export market for Romania, followed by Hungary and Bulgaria. In the case of Italy, of the EUR million 421 increase in exports, 68.7% (EUR million 289) can be explained by the positive competitiveness effect, and only 23% (EUR million 97) by the adaption to the changes in the Italian import structure. The market size effect had little positive effect (8.3%). The competitiveness effect was very important (70-80%) mostly for basic (raw) products such as fruit (HS-08), or primarily processed products such as meat (HS-02), fish and crustaceans (HS-03), but also for several secondary processed products, such as: preparations of meat and fish (HS-16), preparations of vegetables and fruit (HS-20), and beverages and spirits (HS-22). For the products with the largest export growths cereals (HS-10) and oilseeds (HS-12), the competitiveness effect was prevalent (41-56%), while the change in the Italian import structure as well as the increase of its imports (market size) were almost equal in share.

Romanian exports to Hungary increased 3.6 times in the analyzed period. Of the EUR million 152 increase in total agri-food exports, the three effects had almost the same influence, with a slight prevalence of the competitiveness effect (35.9%). Similar balanced effects were shown by milk and dairy products (HS-04). The competitiveness effect proved very strong in the case of coffee, tea and spices (HS-09), cocoa and cocoa products (HS-18), and beverages and spirits (HS-22), while the market composition effect came second in importance; the market size effect was negligible for these products (less than 4%). The increase in the Hungarian market size had the largest effect on sugar and confectionery (HS-17) and animal feed (HS-23). For products such as meat (HS-02), cereals (HS-10), and oilseeds (HS-12), the change in structure of the Hungarian market has been the main driver for the increased Romanian exports.

In the case of Bulgaria, of the total export growth (EUR million 286), the market composition effect had the strongest effect: 51.6% (EUR million 146), while the competitiveness and the market size effect were equal in share (24%). The change in the import market structure has been prevalent for most products. On the contrary, prevalence of the competitiveness effect occurred in none of the 24 product groups at HS 2 level. The increase in market size has been the most important effect for very few products: 75% for live animals (HS-01) and 91.4% for bakery and pastry products (HS-19); for these products both the competitiveness and market composition effects remained low, but positive. In the case of coffee, tea and spices (HS-09) and preparations of meat and fish (HS-16), both the competitiveness and the market composition effect are negative, meaning that the increase in exports is due only to the increase in the Bulgarian demand for these products.

Conclusions

In the decade preceding the EU accession, the disfunctionalities in the agri-food products chains led to a supply deficit which was covered by increasing imports, resulting in a large deficit of the agri-food trade balance.

The improved structures in agricultural production and processing resulted from national and foreign direct investments, together with the free access on the Single Market after EU accession, allowed for a very sharp increase in the agri-food trade, as compared to the pre-accession period.

In the studied period, Romanian agri-food exports to its main EU partners increased significantly: from 2.6 times in the case of Greece, to 11 times in the case of the Netherlands.

The competitiveness of the Romanian agri-food exports to the main EU partners and EU-28 has been investigated. The results of the Constant Market Share analysis indicate that the increase in the Romanian agri-food export to the EU may be attributed mainly to the competitiveness improvement and secondly to the market composition effect. The same conclusion applies for other 6 of the 8 EU destination countries that were studied (Italy, Germany, Greece, Spain, Netherlands and France). In one case only (Bulgaria), the market composition effect was prevalent. On the contrary, the market size effect has not been the driving factor for the export growth in relation with neither of the EU destination countries. Nevertheless, a breakdown of the exports increase by chapters shows that in relation with its main EU partners, there was a decrease in competitiveness for live animals, vegetables, fruit, sugar, cocoa, bakery products and beverages.

Further investigations are needed by changing the base period, in order to test the sensitivity of the CMS model.

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