# Intra-sectorial analysis and evaluations on Romania's food processing foreign trade

**Mirela-Adriana RUSALI**
*Institute of Agricultural Economics, Romania*

**ABSTRACT**
The research investigated the impact of EU accession on the competitiveness of Romanian agricultural products processing sector. Quantitative statistical analysis and qualitative methods have been applied based on relevant specific trade indicators. Romania is a net exporter of agricultural commodities, while over two decades an importer of processed products. The main results of the empirical research indicate a weak competitiveness of Romania's processing sector, alerted by dependence on imports, disadvantages compared to EU, especially concerning the quality of exports and trade inefficiency revealed by cheaper exports than imports.
***Keywords:*** agrifood processing sector, trade indices, competitiveness, accession.

**INTRODUCTION**
Overall, the policy impacts are highly revealed at consumer level by either gain or loss economic effects. In agricultural sector competitiveness is intensifying as the global economy achieves high levels of integration. The general trend in global food trading system to move gradually towards an open market is a desirable process in the wider context of sustainable development; however, EU recently accessed countries, focusing on Romania, faced more significant the competitive pressure in food processing sectors.

**METHODS AND MATERIALS**
Research used the methods of statistics analysis in the foreign trade and synthesis of results indicated by qualitative and quantitative analysis, including relevant indicators. In order to identify which Romanian product groups are competitive in international markets, the empirical results have been supplied by the calculation of the trade revealed comparative advantage index (Balassa).The index was measured by the group of products share in the country's exports relative to its share in world trade, taking values less or exceeding 1, indicating the level of competitiveness in foreign trade. Products differentiation by quality has been reflected by calculation of the trade unit value (export/ import value divided by quantity). The evaluations have been based on statistics the period 2007-2012 provided by the Romanian National Institute of Statistics - Statistical Yearbook, by the main chapters and group of products aggregated according to Combined Nomenclature (CN).

**RESULTS AND DISCUTIONS**
Romania ranks 29th in the world for exports of agricultural commodities and food products processed at 88th (ranking among 189 countries in 2010, according to United Nations statistics database.

Currently, in the structure of the Romania's foreign trade flows, by the degree of transformation, processed food products prevails in import, sharing 68% in 2012, while base agricultural commodities occupy over half of exports (56%).
Agricultural base products gained net surplus following 2007, showing an increasing trend over the period 2008-2012 (Fig. 1), however based on a limited range of exports, including: cereals (59%), oilseeds (20%) and live animals (13%).

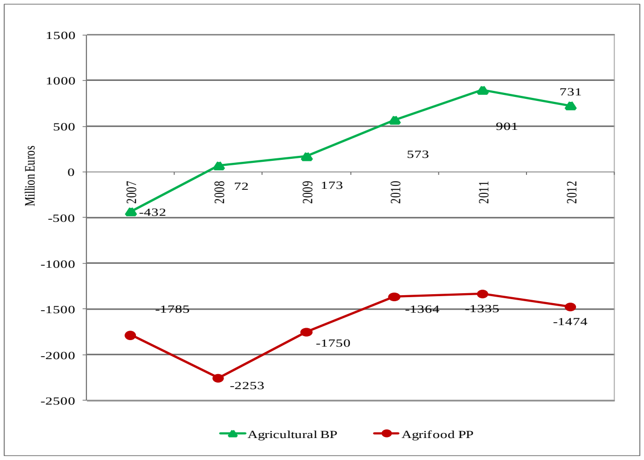


*Fig. 1 Post-accession trends of agrifood trade balance: agricultural and processed products*

Agricultural products in deficit, accounting for 16% of imports are: fruits, products of coffee chapter, vegetables, fish and live plants. These products represented 31% of Romania's agricultural exports and 42% of exports to the EU member states.
Romania's agricultural imports were dominated by processed products for over two decades, with larger fluctuations in the first period. Until 1990, processed products accounted for 69% of Romania's exports, although after a swing period until 1998, the proportion was reversed in favor of agricultural commodities.
The sector of food processing, beverages and tobacco achieved 12.4% of the value of the processing industry in Romania and 21.6% of value added, of which 53% are food (1% of EU-27) beverages and 27% (2% in the EU-27) (in 2010, by Eurostat data).
In the food processing area operate 8000 enterprises (3% of EU-27), achieving 51% of value added (total 1.48 billion Euros) in SMEs, close to the average in the EU-27, with 69% of people employed in the sector. Apparent labor productivity achieved in this sector is 22.5 thousand Euros/pers. employed, which is half of the EU-27 average. In 2010 the food processing in Romania, with a 46.8% share, has achieved the highest investment rate in the EU-27.
Most of the people employed in the sector works in the beverage processing industry (94%), but only 26% of added value is obtained in SMEs. In 2010 was made an apparent labor productivity of 31.4 thousand Euro / pers., representing 37% of the EU-27 average.
Tobacco processing sector has achieved a turnover of 546 million Euros in 2011, and conducted in a narrow number of companies, i.e. 9 companies in 2011 with 1458 employees, of which 34% are SMEs.
Due to a massive restructuring and privatization of the food industry in the period 1995- 2000, food industry has made efforts to modernize and especially to regain domestic market , then the alignment quality requirements for export veterinary EU. These efforts have been underpinned

by contribution of domestic capital investment and foreign direct investment. However, imports of processed food products increased yearly because of domestic supply shortage, reduced competitiveness of Romanian similar products and increasing domestic demand for quality products and a higher degree of processing (Steriu and Otiman 2013).

At the same time, the raise of agricultural exports in the post -accession period, 3.6 times in the period 2007-2012 , both to the EU single market and to extra- Community third markets, turned positive the food trade balance since 2010 and an increasing trend along the next years.

The main exports of processed agrifood products to world markets, in 2012, were: cigars, meat and edible offal of poultry, sunflower oil, sugar, prepared foods, bakery products, pastries, biscuits, oil cakes and other residues from the extraction of fats other prepared or preserved meat, offal or blood, soft drinks, cakes and other residues from the extraction of soybean oil, chocolate and other food preparations containing cocoa, honey.

The main imports of agrifood processed products exported to international markets, included: pork meat, animal products preparations, miscellaneous edible preparations, meat and edible offal of poultry, bakery products, confectionery, biscuits, chocolate and preparations of cocoa, cheese and curd, refined sunflower oil, sugar, cigars, milk and cream, raw tobacco.

They had a share of 35% in imports from international markets, as well as intra-EU.

Romania's agrifood products evolution in international markets reveals a commercial disadvantage compared to EU products, dependence on imports especially of processed products of animal origin, resulting low competitiveness of the processing sector as the main constraint in growing export earnings (Rusali, 2012).

Food occupies, the major share, of 67%, in Romania's exports of agrifood processed products in 2012, (Fig. 2), beverage, 7%, and tobacco, 27%, while the share of food imports of 85% (Fig. 3).

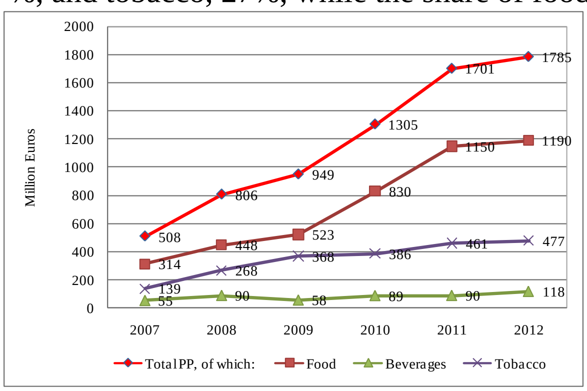


*Fig. 2 Evolution and structure of Romania's exports of agrifood processed products*

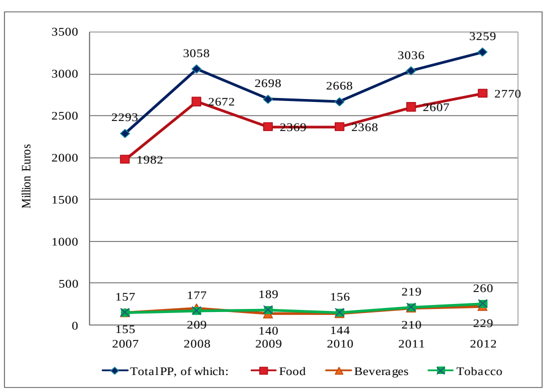

*Fig. 3 Evolution and structure of Romania's imports of agrifood processed products*

Only tobacco achieved an increasing positive trade balance in the period 2006-2012, though food systematically in deficit, and accumulating the major negative trade balance, accounting for - 1.6 billion Euros in 2012 (Fig. 4).

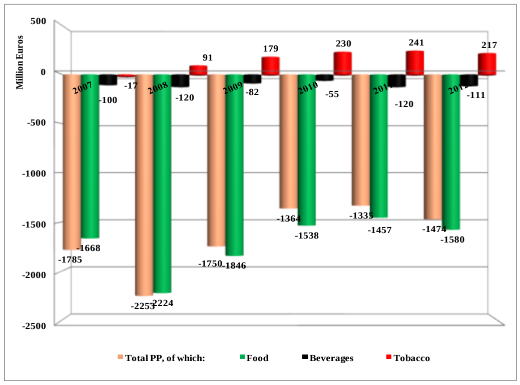


*Fig. 4 Structure and trends of processed products trade balance*

The trade deficit of processed products, amounting -2.08 billion Euros, has deepened compared to the previous year because of imports, growing by 12 percent (total 2.7 billion Euros).

Processed products cover the major share, of 73%, in Romania's agrifood trade deficit, while only 29% of competitive agricultural products are processed products.

Net income from exports of processed products amounted to 29% of agrifood trade surplus, of 619.7 billion Euros in 2012, 8 percent down from the previous year.

Competitive processed products, which have earned the highest net revenue from foreign agrifood trade were: cigars and cigarillos (18% in food trade surplus), cake and other solid residues, meat offal, fresh, chilled or frozen, sunflower oilseeds, honey, other prepared or preserved meat, offal or blood, horse meat, donkey or mule; meat of bovine animals, -residues of the manufacture of starch, meat of sheep or goats. These products have a high degree of representativeness (97 %) in the net trade balance (positive balance) of processed products.

The most deficient processed products, recording negative trade balance, are: fresh/chilled meat of swine, (8% in food trade deficit), cane or beet sugar and chemically pure sucrose (7.3%), oil cakes and other solid residues, whether or not ground (5%), raw or unprocessed tobacco, tobacco waste (4.7%), preparations of a kind used in animal feeding (4.6%).

Are as well included: food preparations not elsewhere specified or included (protein concentrates, essences), chocolate and other food preparations containing cocoa, cheese and curd, bakery, pastry and biscuit, undenatured ethyl alcohol of an alcoholic strength by volume of less than 80%, milk and cream not concentrated nor containing added sugar. These uncompetitive products, with a degree of representativeness of 61% of total processed products, accumulated a share of 44% in Romania's agrifood trade deficit, to which by adding coffee (4.7%), animals of the porcine species (3%) and citrus fruits (2.5%), they accounted in 2012 for over half of aggregate agrifood trade deficit and 40 % of imports.

Post-accession developments have led to a deterioration of the terms of trade in cocoa preparations and various food preparations, but also an improvement in performance in dairy products, live plants and floricultural products, cereals, processed cereals, beverages, meat, vegetables and fruit preparations.

Romania largely achieved cheap exports on the international markets, compared to imports, given that only 32 % of food exported products were of high quality as shown by the trade unit value indices assessed during the period 2007-2010, while in 2012 the share reduced to 18% (Table 1).
Products grouped by chapters with high levels of quality of Romanian exports are: meat and offal, fish and shellfish, milk and dairy products, live plants and floricultural products, vegetables, fruits, cooked meat and fish, sugar and confectionery, miscellaneous edible preparations, various tobacco and tobacco substitutes.

*Table 1. Trade unit values indices of Romania's agrifood processed products*

| Codes CN-2 | Denomination | 2007 | 2008 | 2009 | 2010 | 2012 |
|---|---|---|---|---|---|---|
| 20 | Vegetable, fruit preps. | 0.29 | 0.2 | 0.19 | 0.27 | 1.97 |
| 11 | Milling products | 0.21 | 0.2 | 0.25 | 0.59 | 1.78 |
| 04 | Dairy products, eggs, honey | 0.25 | 0.3 | 0.44 | 0.43 | 1.73 |
| 17 | Sugars and sugar confectionery | 0.18 | 0.3 | 0.5 | 0.96 | 1.63 |
| 13 | Lac, gums, resins, vegetable saps | 0 | 0 | 0 | 0 | 1.61 |
| 02 | Meat and edible meat offal | 0.18 | 0.2 | 0.34 | 0.53 | 1.29 |
| 22 | Beverages, spirits and vinegar | 0.32 | 0.5 | 0.31 | 0.4 | 1.27 |
| 21 | Miscellaneous edible preps. | 0.29 | 0.4 | 0.53 | 0.63 | 1.19 |
| 15 | Animal, vegetable fats and oils | 0.54 | 0.6 | 0.59 | 0.8 | 1.02 |
| 16 | Meat, food prep. nes. | 0.39 | 0.5 | 0.47 | 0.57 | 0.98 |
| 18 | Cocoa and cocoa preparations | 0.14 | 0.2 | 0.25 | 0.27 | 0.82 |
| 24 | Tobacco and manufactured prod. | 2.25 | 3.8 | 4.69 | 4.63 | 0.8 |
| 19 | Cereal, flour, starch, milk prep. | 0.43 | 0.5 | 0.44 | 0.45 | 0.75 |
| 23 | Residues, wastes of food industry | 0.39 | 0.5 | 0.5 | 0.53 | 0.55 |
| 14 | Vegetable products nes | 1.5 | 1 | 0.97 | 0 | 0.5 |
| 05 | Products of animal origin, nes | 0.64 | 0.6 | 0.69 | 1.09 | 0.43 |

At a higher disaggregation level, the exports of processed products with the largest indices of unit value amounted to 576 million Euros, sharing 15% of exports included: edible products of animal origin, flour, meal and powder of vegetables, peanut oil and other oils, confectionery (including white chocolate), mushrooms and truffles, prepared or preserved and other vegetables prepared or preserved otherwise than by vinegar, fresh meat of sheep or goats, vermouth and other wine of fresh grapes, flavored.
Estimates of export comparative advantages indicate a profile of competitive products in live animals, oilseeds, cereals and tobacco, and in a lesser extent in products of animal origin, sugar & sugar confectionery beginning with years 2010-2011 (Fig. 5). Results alert the lack of competitiveness of the agrifood processed products. The empirical results indicate referred to the period studied a downward trend in the first year of accession of a great part of Romanian products' competitiveness in international trade, except for cereals and tobacco and annual fluctuations of evolution in cereals, oilseeds.
As well an immediate accession impact have been evidenced some critical comparative advantage decline in certain products with export potential before accession, such as exports of livestock, which experienced a significant decline.
It is also observed that vegetable fats and oils as well as milk and dairy products have suffered fluctuations and losses of competitiveness in international trade by 2008.

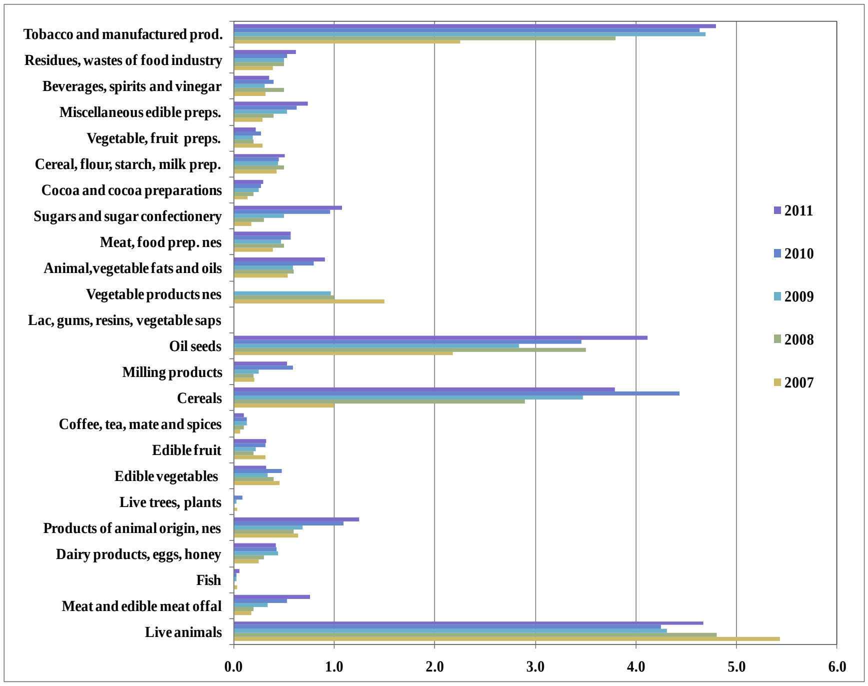


*Fig. 5 Competitive agrifood products, by the relative comparative advantage indices*

Note: Chapters 01, 03, 06-10 and 12 correspond to agricultural products, while the remaining codes to agrifood processed products.

Nevertheless, recent recovery trends indicated by increasing comparative advantage indices, since 2010, in products as: meat, cereals, fats, sugar, miscellaneous edible preparations, beverages and wastes and food residues.

It was also found that the products of chapter including tobacco and processed tobacco, recorded a significant ascending competitiveness post-accession.

## CONCLUSION

The empirical results on products, aggregated by chapters of the CN, indicate a downward looses of terms of trade of products of animal origin, preparations of cereals, residues and wastes of food industry, animal and vegetable fats and oils, preparations of meat, and, recently, tobacco and products.

On the other hand, compared to early post-accession period, major gains have had fewer produces, including milling products, vegetable saps, vegetable preparations, meat and edible meat offal, dairy products and beverages.

However, assessments of trade comparative advantages show an improvement of products containing food preparations, beverages and residues from food industry. While the indices describe a competitiveness profile of base products as livestock, oilseeds, cereals and tobacco, it strikes that of the processed sector, only product of manufactured tobacco proved comparative advantages in trade over the post-accession period.

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