# RECENT TRENDS IN THE ROMANIAN INTERNATIONAL TRADE IN MILK AND DAIRY PRODUCTS

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***Abstract:*** *Romania gradually improved its achievements in the animal husbandry sector and increased yearly its milk and dairy products trade. The structure of exports changed after accession: the share of cheese on both intra and extra-EU markets diminished in favor of fluid milk and fermented dairy products. Milk imports increased as well, driven generally by the demand from major processors and retailers. Despite a constant increase in the domestic output of processed dairy products, imports continued to expand, resulting in a negative trade balance for almost all products. The present paper is analyzing the changes and trends in the volume, value and directions of the Romanian milk and dairy products trade flows, in the context of recent evolutions occurred in the international markets.*

***Key words****: milk, dairy products, trade, international markets, Romania*

## INTRODUCTION

raditionally, in Romania, milk production has been among the main agricultural activities. After 1990, the milk and dairy products chain have been disrupted, and it took more than a decade for the milk sector to reorganize and start an upward trend in production and trade. In the rural areas, the largest part of milk and cheese consumption is on-farm, but in the urban areas, the demand for milk and dairy products increased continuously, and the retail sector covered the gap in the domestic supply by imports.

The result was that despite a good total raw milk domestic production, milk and dairy products imports increased continuously, and the trade balance for these product groups are still on deficit.

## MATERIALS AND METHODS

The value and volume of trade flows were studied, in relation with the domestic production, for milk and dairy products. Subgroups at 4-digit level breakdown were used, in order to analyze the exports and imports by relevant milk and dairy product groups.

## RESEARCH RESULTS

### Domestic milk and dairy production

After 1990, the milk and dairy products chain have been disrupted. First, the breakdown of the old production units (both state-owned and cooperatives) resulted in an atomization of the raw milk production. All proceesing enterprises have been restructured in terms of ownership and operations; as a result, some of them reduced their operations and entered in a revamping process, other went bankrupt and disappeared. At the same time, many new domestic small and medium-sized processing units emerged in the late '90-s, and after 2000, important international companies appeared on the Romanian milk and dairy market. The concentration in the industrial processing sector increased significantly and quite rapidly (with a concentration ratio CR-5 over 50% since mid-2000) [1]. At the same time, the raw milk production sector remained mostly small-sized, due to lack of capital, disappearance of the local milk collection points combined with poor links with the industrial processing sector and - rather important – due to the milk producers' aversion to association.

The result was that despite a good total raw milk production, about only a quarter of the quantity entered the market channels to industrial processing [3]. The atomization of the raw milk supply and its poor quality made the large processors to turn to imports to cover the need for raw milk. Consequently, imports of raw milk increased continuously. On the other hand, the modern retail (super- and hypermarkets) which entered the Romanian urban markets since early 2000 were not able to cover the consumers' demand for processed dairy products from the Romanian domestic supply and again turned to imports.

The investment programs in the pre-accession period (such as SAPARD) and from the National Rural Development Programs (after EU accession) allowed important developments, both in the raw milk production and in the processing sector, which resulted in significant improvements in technology and in the products quality, increased and diversified the domestic supply and allowed an increase in dairy products exports.

Nevertheless, milk production has been always an important part of the agricultural activity in Romania. In the total agricultural output, it represented 16% in 2000, and decreased subsequently along with the diminishment of the share of animal production to 6% in 2015. The average share in the pre-accession period (2000-2006) was 11.9% and decreased in the post-accession period to 8.3% (average 2007-2015), in contrast to other Member States such as Finland, Ireland or Estonia where the share of milk in their agricultural output is over 20%.

Milk production in Romania takes the second largest share in the animal output (29.7%, average 2007-2015), after meat production, and it comes mainly from dairy cows and heifers, but also from buffalo cows, ewes and she-goats.

The total milk production in Romania presents a generally upward trend, with a peak in 2006, the last year before accession (Figure 1). In the post-accession period, the milk production decreased, in correlation with the diminishing herds, and has stabilized since 2011 around 49.3 million hectoliters.

Romania's milk production quota has been established (in the accession negotiations) at 3.057 million tons (in 2007/2008) and increased subsequently along the post-accession period up to 3.27 million tons in 2014/2015 (the quota year starts April 01 and ends March 31). Although the initial quota represented about half of the 2005 production (used as reference year), it was seen by many specialists as far below the country's potential. Moreover, the ratio of the two components of the national quota (44% deliveries and 56% direct sales) was unique among the Member States. Bulgaria had a ratio of 91% deliveries to only 9% direct sales, while in all the other Member States their quota was composed of more than 95% deliveries and less than 5% direct sales.

During the period of milk production quota application (2007-2015, discontinued starting April 1, 2015), Romania was able to fulfill only 77.5% of its national quota, and the share diminished subsequently: 74.9% in 2008/2009, down to 54.4% in 2014/2015. According to the figures published recently by the European Commission (Milk Market Observatory), a number of about 70,175 Romanian producers were approved for delivery to dairies (12% of the total EU-28 producers registered for direct deliveries), but Romania is the source of only 0.6% of the EU-28 milk deliveries to dairies. Average milk delivery per producer in the quota year 2014/2015 was 255 tons (EU average), 80 tons in Poland, while in Romania only 13.6 tons.

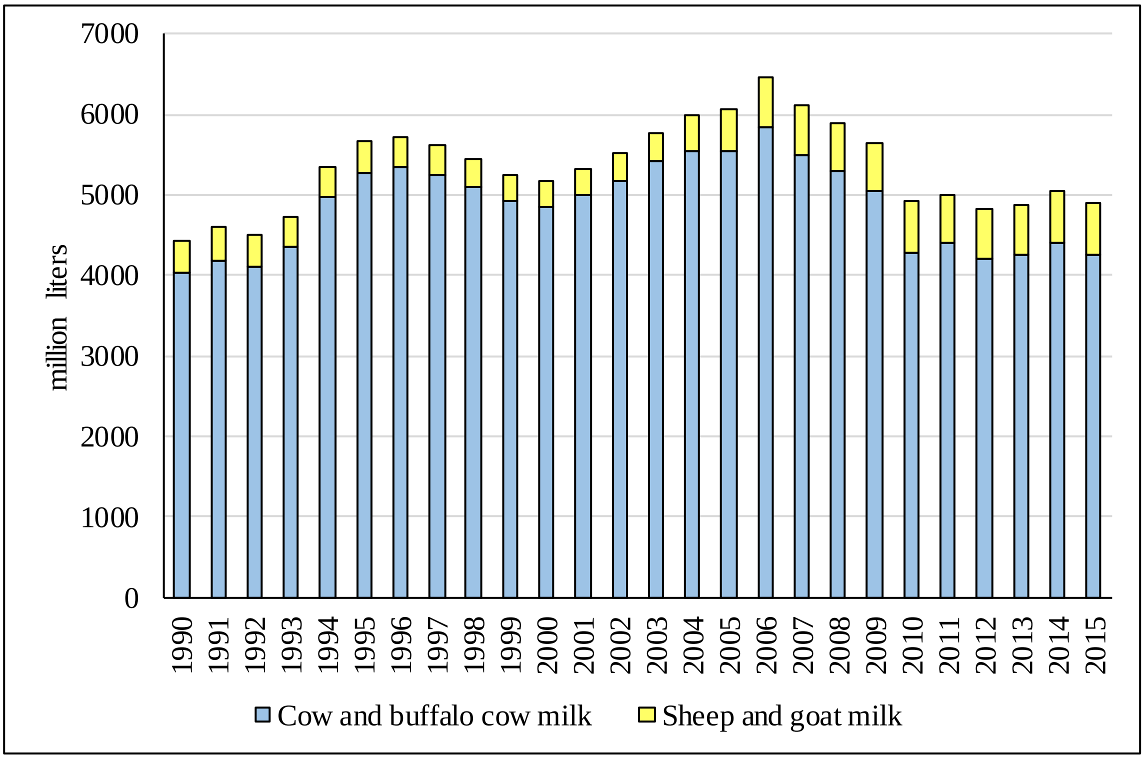


**Figure 1. Romanian milk production**

*Source: author's calculations using data from the National Institute of Statistics [5]*

Also, Romania accounts for 83% of the EU number of processors registered for direct sales (about 195,000 producers), which are contributing by 40% to the total EU direct sales (with 4 tons/producer/year). These very low figures prove show that the Romanian dairy sector is dominated by small-size farms (table 2). The national average number of dairy cows per holding is 2.04 heads (according to the 2013 Structural Survey in Agriculture).

**Table 1**

**Structure of milk producing farms in Romania (2013)**

| Number of heads per farm | Farms with milk producing inventory | | Heads on the farm | | Average number of heads per holding |
|---|---|---|---|---|---|
| | number | share in total (%) | number | share in total (%) | |
| **DAIRY COWS** | | | | | |
| 1-2 heads | 467,124 | 83.1 | 583,003 | 50.8 | 1.25 |
| 3-9 heads | 85,524 | 15.2 | 339,038 | 29.6 | 3.96 |
| 10-19 heads | 6,249 | 1.1 | 80,707 | 7.0 | 12.92 |
| 20-29 heads | 1,504 | 0.3 | 34,216 | 3.0 | 22.75 |
| 30-49 heads | 790 | 0.1 | 28,707 | 2.5 | 36.34 |
| 50-99 heads | 410 | 0.1 | 26,707 | 2.3 | 65.14 |
| 100-499 heads | 223 | 0.0 | 42,042 | 3.7 | 188.53 |
| ≥ 500 heads | 16 | 0.0 | 12,896 | 1.1 | 806.00 |
| Total | 561,840 | 100.0 | 1,147,316 | 100.0 | 2.04 |

*Source: calculations using data from the 2013 Structural Survey in Agriculture, Romanian National Institute of Statistics [5]*

For dairy cow farms, 83% of the farms have only 1 or 2 cows; they are practically subsistence farms, but they are accounting for half of the total national dairy cow inventories. Only 0.4% of the dairy farms are medium size (20-50 heads), and they are accounting for 5.5% of the dairy cow inventory. There are about 650 large size farms (over 50 heads) (0.1% of the total number of farms), and they are holding about 7% of the total dairy cow inventory. The last two categories are the main suppliers for the milk deliveries within the national quota; many of them started or developed using funds from the National Rural Development Program. They are properly equipped to meet the EU sanitary and veterinary standards, and the inventories are high yielding animals.

The milk sector performance is severely affected by the excessive fragmentation [2] and its poor performance is likely to deepen due to the quota removal.

**Milk and dairy products trade**

The value of milk and dairy products international trade increased continuously in the last 15 years (figure 2). In the pre-accession period (2003-2006), the export volume varied between 9 and 16 million EUR, while the imports have been significantly higher (28-45 million EUR), resulting in an increasing trade balance deficit.

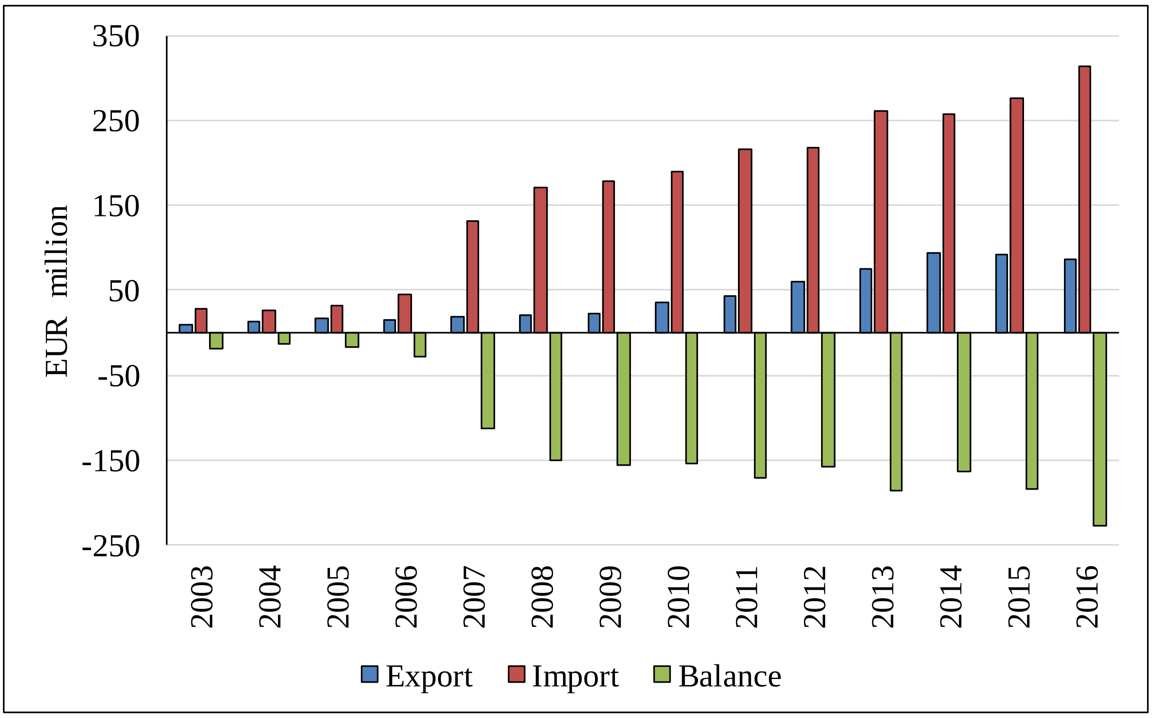


**Figure 2. Romanian trade in milk and dairy products**

*Source: author's calculations using Eurostat data [4]*

Romania's EU accession allowed for a far better presence of the dairy products on the Single Market (table 2): ten years after accession, exports were 6 times higher as compared to the pre-accession period. At the same time, EU dairy products entered massively on the Romanian market: the imports value increased 8 times, and the trade balance deficit reached EUR 227 million. It is also true that most Romanian exports are of low and medium quality dairy products, while a good part of the imports are high quality (and expensive) products (Italian and French special cheese varieties, included in the European quality schemes.

In absolute values, in 2006 (last year before accession), exports were amounting EUR 8.8 million, while in 2016 they reached EUR 87 million (with a peak of EUR 94 million in 2014). Imports amounted EUR 28 million in 2003, went up to EUR 45 million in 2006, and increased sharply after accession, to reach the highest value in 2016 (EUR 314 million).

**Table 2**

**Romanian trade in milk and dairy products: dynamics in the pre- and post-accession periods**

| Item | Average 2003-2006 (EUR million) | Average 2007-2010 (EUR million) | Average 2011-2016 (EUR million) | Index (2011-2016) / (2003-2006) |
|---|---|---|---|---|
| Export | 10.71 | 20.61 | 66.21 | 6.182 |
| Import | 32.02 | 167.27 | 256.86 | 8.021 |
| Balance | -21.32 | -146.66 | -190.64 | 8.941 |

*Source: author's calculations using Eurostat data [4]*

The share of the milk and dairy products exports in the total Romanian agri-food trade varied between 1.8% and 2.4% in the pre-accession period and between 1.0 and 1.7% in the post-accession years. For milk and dairy imports, the share varied between 1.5% and 1.8% before accession and increased to 3.9%-5.3% after accession, due mostly to the important raw milk and processed products imports.

The main trade partner for the Romanian milk and dairy products is the EU: in the pre-accession period 76-80% of the exports went to the EU. An important part was cheese, for which the country had a rather important preferential quota. Since 2007, the obstacles for the Romanian milk and dairy products remained the sanitary and veterinary barriers, which were rapidly overpassed due to the fact that all the new investments in processing units (with national and CAP funding) had to meet the conditions for EU-export authorization. Unfortunately, the most severe barrier remained the price competitiveness of the domestic dairy products. It is really difficult for new entrants on the market to compete with the very poweful transnational dairy companies. Nevertheless, the new Romanian companies are currently making efforts to meet the domestic demand in terms of quality, variety and mostly specific local products and thus regain the domestic market, before attempting to export to the Single market.

Still, in the post-accession period, the Romanian milk and dairy exports went mostly to the EU (82-91%).

Greece, Bulgaria and Italy are the main destinations for the Romanian milk and dairy exports (figure 3). The buffalo herds in Romania are the second largest in EU-28 (4.4% in 2015), after Italy, which is holding 90% of the total buffalo herds in EU-28. Italy imports buffalo cow milk from Romania for producing mozarella. Recently, the Romanian dairy industry started using it also, by producing several types of cheese from buffalo cow milk as such or mixed with cow or sheep milk; these new products are becoming increasingly popular with the Romanian consumers.

Germany, Hungary and Poland are the main sources for the imports; from Germany and Poland mostly dairy products (cheese and yoghurts), while Hungary is the largest foreign supplier of raw milk for the Romanian dairy industry.

In 2016, 14% of the total exports, worth EUR 12 million EUR, went to extra-EU destinations. The top destinations in 2016 were: Republic of Moldova – 55% of the eextra-EU export value (worth EUR 6.7 million), USA – 20% (worth EUR 2.5 million) and Lebanon – 11% (worth EUR 1.3 million).

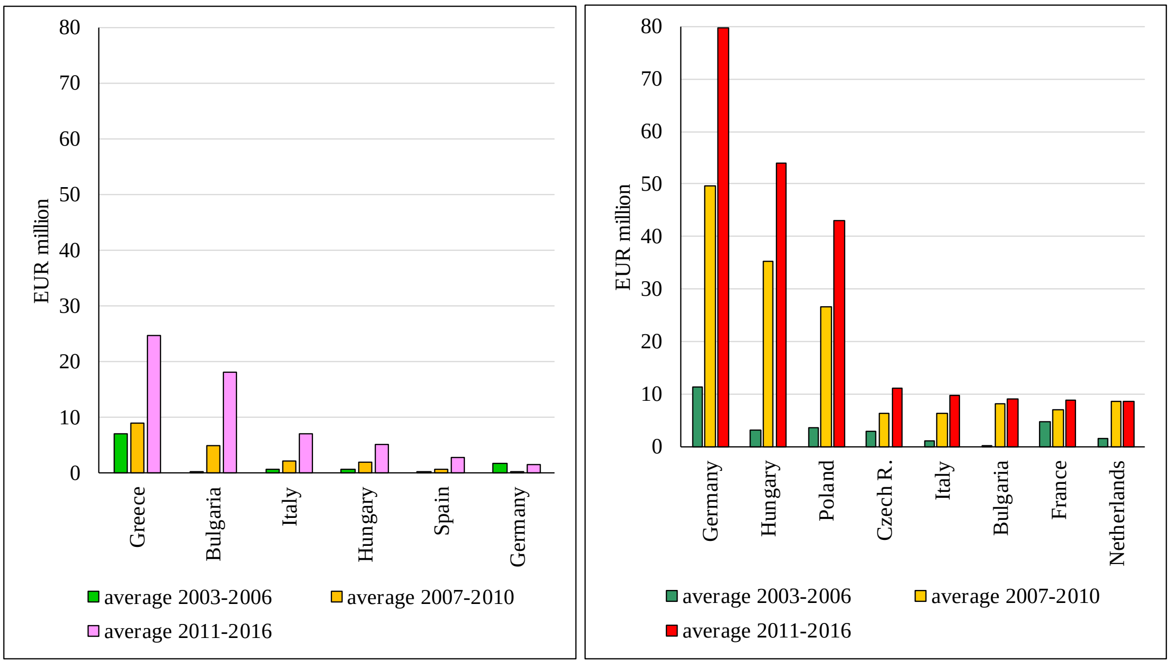


**Figure 3. Romanian trade in milk and dairy products: main destination EU countries for exports and origin EU countries for imports**

*Source: author's calculations using Eurostat data [4]*

A detailed analysis can be performed by the milk and dairy product groups (4-digit level in the Combined Nomenclature): HS-0401 milk and cream not concentrated; HS-0402 milk and cream, concentrated; HS-0403 fresh fermented dairy products (such as yoghurts); HS-0404 whey; HS-0405 butter; HS-0406 cheese and curd. The volume (in 1000 tons) of exports and imports are shown in table 3.

**Table 3**

**Romanian trade in milk and dairy products by product groups**

| HS code | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Exports (1000 tons)** | | | | | | | | | | | | | | |
| 0401 | 0.0 | 0.1 | 0.9 | 0.8 | 1.0 | 1.0 | 1.0 | 1.9 | 6.1 | 8.3 | 23.7 | 37.5 | 33.8 | 44.0 |
| 0402 | 0.1 | 1.5 | 3.2 | 0.9 | 9.6 | 11.9 | 13.2 | 16.0 | 18.3 | 15.1 | 8.1 | 19.7 | 16.3 | 7.8 |
| 0403 | 0.0 | 0.0 | 0.2 | 1.3 | 1.5 | 1.8 | 2.1 | 2.4 | 3.6 | 6.9 | 10.0 | 10.3 | 13.5 | 17.8 |
| 0404 | 0.0 | 0.0 | 0.0 | 1.6 | 0.5 | 0.0 | 1.1 | 3.8 | 4.3 | 6.2 | 5.1 | 6.2 | 4.7 | 4.2 |
| 0405 | 0.0 | 0.2 | 0.1 | 0.3 | 0.1 | 0.0 | 0.1 | 0.4 | 0.3 | 0.4 | 0.3 | 0.3 | 0.7 | 0.7 |
| 0406 | 3.0 | 3.9 | 4.3 | 4.6 | 0.8 | 1.1 | 2.2 | 3.7 | 3.0 | 8.3 | 10.9 | 8.9 | 10.6 | 10.9 |
| **Imports (1000 tons)** | | | | | | | | | | | | | | |
| 0401 | 2.8 | 2.6 | 3.0 | 5.2 | 48.2 | 69.0 | 100.6 | 123.0 | 127.4 | 122.8 | 139.4 | 119.1 | 151.1 | 171.5 |
| 0402 | 5.9 | 3.5 | 4.2 | 4.2 | 19.1 | 11.7 | 13.5 | 9.0 | 10.1 | 15.3 | 15.2 | 8.5 | 11.2 | 12.8 |
| 0403 | 3.0 | 1.6 | 2.1 | 3.8 | 11.7 | 13.1 | 17.6 | 20.3 | 18.4 | 21.8 | 22.5 | 22.9 | 25.3 | 26.7 |
| 0404 | 3.4 | 4.4 | 4.4 | 5.9 | 7.1 | 10.3 | 10.4 | 8.6 | 7.7 | 9.9 | 12.1 | 12.3 | 11.7 | 12.8 |
| 0405 | 3.4 | 3.0 | 3.7 | 5.4 | 4.8 | 6.6 | 8.6 | 5.2 | 4.6 | 5.0 | 6.5 | 6.8 | 9.0 | 10.3 |
| 0406 | 2.1 | 2.6 | 3.5 | 5.1 | 18.6 | 27.2 | 29.5 | 29.0 | 32.6 | 36.3 | 39.2 | 40.0 | 49.1 | 57.6 |

*Source: author's calculations using Eurostat data*

In both exports and imports, the largest quantities are of raw milk. Exports are mostly of buffalo milk to Italy, and imports are performed mainly by the large processing units which are buying high quality milk from Hungary as raw material for producing dairy products for export.

For most products, the trade balance is negative, both in quantity and value terms (table 4).

**Table 4**

**Romanian trade in milk and dairy products: coverage of imports by exports (%)**

| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 0401 | 0.0 | 0.0 | 0.3 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.2 | 0.4 | 0.3 | 0.3 |
| 0402 | 2.4 | 28.6 | 52.6 | 15.2 | 68.9 | 76.3 | 65.5 | 94.0 | 102.5 | 81.2 | 40.6 | 125.4 | 102.7 | 52.7 |
| 0403 | 1.2 | 0.7 | 8.1 | 34.3 | 15.7 | 16.2 | 13.3 | 14.4 | 24.4 | 41.8 | 53.9 | 54.2 | 62.1 | 72.1 |
| 0404 | 0.1 | 0.0 | 0.6 | 6.0 | 1.5 | 0.4 | 2.1 | 8.1 | 14.2 | 21.5 | 22.0 | 26.1 | 10.2 | 6.6 |
| 0405 | 0.2 | 6.7 | 4.5 | 4.1 | 0.9 | 0.6 | 1.1 | 6.3 | 8.5 | 8.1 | 4.6 | 3.0 | 3.6 | 4.1 |
| 0406 | 116.6 | 123.7 | 99.7 | 80.7 | 4.5 | 5.4 | 8.9 | 16.2 | 11.9 | 24.9 | 29.1 | 26.2 | 27.1 | 22.0 |

*Source: author's calculations using Eurostat data [4]*

The coverage of imports by export (calculated in value terms) increased significantly after accession for all dairy products, except for cheese, for which imports increased in the recent period, since the Romanian consumers are increasingly demanding high quality products.

## CONCLUSIONS

The milk production has been always an important part of the agricultural activity in Romania. It takes the second largest share in the animal output (almost 30%), after meat production.

The total milk production in Romania presents a generally upward trend, with a peak in 2006, the last year before accession; in the post-accession period, the production decreased, in correlation with the diminishing herds.

During the period of milk production quota application (2007-2015) Romania was able to fulfill only 78% of its national quota. The milk sector performance is severely affected by the excessive fragmentation and its poor performance is likely to deepen due to the quota removal.

The value of milk and dairy products international trade increased continuously in the last 15 years. Romania's EU accession allowed for a far better presence of the dairy products on the Single Market: ten years after accession, exports were 6 times higher and imports 8 times higher as compared to the pre-accession period, resulting in a continuous trade balance deficit.

The main trade partner for the Romanian milk and dairy products is the EU, both before and after accession. After accession, despite the free access on the Single Market, the most severe barrier remained the price competitiveness of the domestic dairy products.

Greece, Bulgaria and Italy are the main EU destinations for the Romanian milk and dairy exports, while Germany, Hungary and Poland are the main sources for the imports. For extra-EU exports, the top destinations are Republic of Moldova, USA and Lebanon.

For all products, the trade balance is negative, both in quantity and value terms. The largest imports in quantity terms are of raw milk, performed mainly by the large processing units which are buying high quality milk from Hungary as raw material for producing dairy products for export.

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