

# THE ECONOMIC IMPACT OF THE ABOLITION OF THE MILK QUOTA REGIME ON THE ROMANIAN DAIRY SECTOR

Case  
study

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## Keywords

Milk  
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## JEL Classification

M21, L11

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## Abstract

*Animal breeding for milk represents a basic occupation of the Romanian population, ensuring the best utilization of fodder obtained from natural pastures, steady incomes and local workforce stability. Since 2015 the restrictions imposed to producers from the European Union by the Milk Quota System ceased. The implementation of government strategies to support the national level of production and to efficiently capitalize raw milk and consumption could ensure a healthy nutrition to the population and substantial income. Romanian producers are affected by the quota's elimination, which overlapped with a decrease in sales by increasing the milk supply on the domestic market due to Russia's embargo.*

## Introduction

Milk and dairy products represent strategic food products, recommended for children, for the elderly, for the people who are on a diet or for those who suffer from different diseases. Milk's nutritional availability is given by the presence of its main components, which are necessary for human metabolism, easily digestible and in optimal amounts for the body's needs. In Romania, important cow or sheep milk quantities are marketed. There are also marketed smaller quantities of buffalo or goat milk. In trade, cow milk is simply named milk, whereas the other types of milk are named as such (sheep milk, buffalo milk etc.). Animalbreeding for milk production represents a traditional occupation of the Romanian population from the rural and mountainous areas, ensuring a superior exploitation of the natural pastures or of the fodder, rhythmical income and local workforce stability. For many households, milk is the only subsistence source that ensures income by means of trade. The indigenous breeds, although they have a low productivity, are adapted to natural conditions and can supply quality raw materials, which are better capitalised by making some high quality traditional products.

## Milk production and consumption in Romania

Romania has a natural potential, represented by pastures and hayfields, which is enough to raise an important number of animals and to ensure national food security (Stanciu, 2014 b). The existent resources are not used to an optimum capacity, the Romanian dairy market being highly dependent on imported products. Previous to the 1990's, Romania held a powerful livestock sector, which covered the domestic need and also offered the surplus for export. The lack of a uniform development strategy of the Romanian livestock sector led to a decrease in the number of animals and in the milk production intended for consumption. The revival of the Romanian domestic production was due to a decrease in the number of animals and to the division of the existent animals in small farms, to the migration of the workforce from rural areas, to the poor organisation of the sector, to the low competitiveness and to the conditions which were imposed when Romania joined the EU. For Romania, joining the EU meant a decrease in the annual milk production from 5 to approximately 3 tons, out of which 2 million tons of milk were allotted to direct sale to the population and only 1 million to delivery to the processing plants. Exceeding the maximum quantities led to 278.3

euro penalties per each ton of extra milk, and the production of smaller quantities of milk automatically led to a decrease in quota for the next years. According to Osman (2012), The Common Agricultural Policy especially affected traditional farms, which had difficulties in complying with European standards, which were mainly favourable to big producers. Also, when joining the EU, the milk processing plants did not comply with the EU criteria, only 52 plants out of the 259 existent on the market being compliant with the imposed standards regarding food safety.

Minimal values of milk production were recorded in the period 2010 – 2013 (see figure no 1), a slight revival of the sector being recorded in 2014. The implementation of some national dairy product support government strategy, with an efficient exploitation of milk as raw material that also had as a result an increase in consumption, of the Milk and Bagel Programme type, intended for schools, could partially ensure an increase in production, a healthy nutrition of the population and substantial income for producers.

The physical values of milk production in Romania are presented in figure no. 1. Over 90% of the total milk production is intended for human consumption, the rest being used for young animal breeding. The sheep and goat milk represent almost 15% of the total milk produced in the Romanian livestock sector, being mainly intended for the production of cheese. According to the Eurostat data (2015), in 2014 Romania occupied a modest 10<sup>th</sup> place in the hierarchy of cow milk producers at the level of EU 28, the local farms achieving only 2.9% of the EU production (figure no. 2). Top positions are occupied by the sectors from Germany, France and Great Britain, which obtained over 50% of the milk quantities obtained at the EU level. The respective areas are characterised by a high level of industrialisation, the raw milk being highly capitalised under the form of finished products. In the EU statistics, Romania occupies important positions only at the sheep or goat milk production, sectors in which the local numbers of animals occupy first positions in the EU hierarchy, too (Stanciu, 2014c).

Local producers did not know how to take advantage of the opportunities that existed on the market and how to capitalise some niche markets, such as the buffalo milk production, since the buffalo milk has a higher energy value and sensory characteristics which are superior to cow milk. The Bubalinae, local traditional breeds with a niche potential, have been neglected by the national agricultural policies, coming close to extinction at present (The presidential Commission for public

policies in the domain of agriculture development, 2013).

The decrease in the number of local buffaloes, adapted to the climatic conditions from Romania, is critical, reaching more than 90% in the last few years, the species being threatened to become extinct. Unfortunately, the agriculture government programmes didn't include buffaloes in the animals for which grants were given.

Besides the small number of animals, a cause of the reduced milk production in Romanian farms is represented by the poor productivity at the level of each animal. Thus, according to the FAO data (2014), in the global ranking of the countries that have the highest milk production per cow, the first place is held by Saudi Arabia, Israel and South Korea, in which approximately 10,000 l of milk/head are obtained (figure no. 3). With an annual average value of between 2,500 and 3,600 l/head, the local productivity of milk exceeds the global average but it only reaches half of the European value and only one third of the average quantity of milk produced per cow in the Netherlands (figure no. 4). The traditionally raised cow breeds in the Romanian households (The Romanian Spotted, The Romanian Black Spotted, Brown) have a maximum milk production of between 3-4,000 l/lactation, a quantity which is much lower than that given by the high-productivity breeds, used in intensive production farms (Frieze, Simmental) (Acatincăi, 2004).

The biggest part of the domestic milk production is obtained in the over 80,000 households that have an average of 1-2 heads of animal/household, the resulting amount being insufficient for the processing sector, the processing plants usually working at half of the forecasted production (Stanciu, 2014a).

According to the Euromonitor survey, quoted by Mărăscu (2012), the average consumption of processed milk per head of inhabitant for the population of Romania was assessed in 2012 at 12.6 kg./head of inhabitant, our country occupying the penultimate position in Europe (figure no. 5).

The average consumption of milk in our country is of almost 12 times smaller than in Ireland and 5 times smaller than the average recorded in the Western countries. We only succeed in outrunning Bulgaria, with an annual average of 9.2 l/inhabitant. A continuous decrease of demand on the market is forecasted, which is mainly due to a decrease in the population's habit to drink milk (Agricultura, 2014).

Milk processing in Romania became dependent on raw milk, domestic production only partially being able to cover the demand on the market and the demand of processors. Foreign purchases, mainly made from EU partners, constantly increased in the period 2008 – 2013, a doubling in value of raw milk being recorded. In the same period there was

also recorded an important increase in the other dairy product segments (table no. 1).

### **The quality of the milk produced in Romania**

The quality and quantity of the milk obtained at a farm depend on the breed of the animal, on the feeding method and care given to the respective animal, on the age, on the period of lactation, on the season, on milking and storage conditions (Rotaru and Stanciu, 2007). Milk quality is forecasted at the farm in the raw milk stage, it is brought to constant values in the processing sector, is maintained in stores and ascertained by the consumer. The national regulation and milk quality control are the responsibility of NSVFSA. For the trade sector, the control is the responsibility of CPNA and the consumer protection associations. The Romanian legislation in the dairy product domain is mostly correlated with the European one. From the 1<sup>st</sup> of January 2014, the new European regulations regarding farm milk quality were implemented. According to the NSVFSA's decision (2014), raw milk can be directly sold to the end consumer only if the sanitary – veterinary legislation's provisions in force are obeyed. Thus, the total number of germs (maximum 100,000/ml.) and somatic cells (400,000/ml.) required by the EU legislation must not be exceeded.

From a sensorial point of view the milk produced in households has superior organoleptic properties, generated by the mainly local breeds of animals and by the natural feeding methods of the animals. The chemical composition of milk in Romania generally corresponds to the chemical and physical norms imposed by processors, the taste being superior to the one obtained in intensive production farms. For domestic production, the major problems that led to the processors' orientation towards raw milk import are the lack of continuity in the small producers' deliveries, which frequently exceeds the permissible limit as far as the total number of microorganisms is concerned. The improper milking or storage conditions at producers and the non-compliance with the hygiene conditions lead to difficulties in unfolding the technological processes and to the instability of finished products. The use of a number of mechanized milking systems and of a number of specialized regional milking centres may reduce the frequency of these food safety incidents, but it imposes supplementary investment for farmers and the use of qualified workforce. The milk produced in Romania presents few food safety problems, the ones which occurred on the market being mainly connected with food fraud (dilution, acidity neutralisation or fat substitution) or with the presence of some microbiological contaminations. The presence of some microbiological nonconformities, of chemical contamination with

mycotoxins or of other food safety problems regarding dairy products, which could seriously endanger the population's health, was sporadic (Stanciu, 2014a). The heating of milk before consumption is generally efficient, and the cases of consumers becoming ill because of dairy products are rare.

From the 1<sup>st</sup> of January 2014, as a consequence of the end of the transition period granted to Romania in order to improve raw milk quality, Romanian producers must meet the quality conditions imposed by the European standards. According to the NSVFSA's decision (2014), the producers or milk cow farms can deliver the raw milk to the milk collection centres or directly to the milk processing plants. In order to market the raw milk directly towards the end consumer, there will be obeyed the provisions of the sanitary veterinary legislation in force regarding mainly the microbiological load – the total number of germs (max. 100,000/ml.) and the somatic cells (400,000/ml.), and the provisions of the NSVFSA's Ordinance no. 111/2008. The raw milk meant for direct sale to the end consumer, or it's processing into cheese, must come only from healthy animals, which do not suffer from diseases that can be transmitted to people by drinking the animal's milk. The producers who sell raw milk directly to the end consumer in markets must have health cards that must state the good health condition of the animal from which the milk comes, filled in by veterinarians from the original villages, and a report that must certify the product's compliance with the requests of the legislation.

Milk and cheese marketing by farmers in food markets and in fairs is done only on the basis of the sanitary veterinary registration documents, issued by the county's NSVFSA.

The milk and cheese obtained by farmers must be safe for the consumers' health. The official veterinarians that ensure the supervision of food markets will check the manner in which are obeyed the sanitary veterinary conditions regarding milk and cheese transport, storage and marketing.

Raw milk direct sales towards the end consumer by means of vending machines are regulated by NSVFSA's Ordinance No. 55/2010, which states the sanitary veterinary conditions in which raw milk direct sale can be done by means of vending machines. According to the NSVFSA's decision (2014), as a consequence of controls, 64 units have been certified from a sanitary-veterinary point of view for intercommunity exchanges, Section 9 (Raw milk and dairy products).

The legislature stipulates that "if upon reception there will be found some non-compliant milk, the milk processing plants have the possibility to process it into cheese, with a maturation period of at least 60 days, in accordance

with the European legislation", thus allowing milk processing in view of industrialisation.

The most important food safety incident in the milk sector in Romania may be considered milk contamination with dioxin (Danone, 2007), which was due to the non-compliance of some import additives to the norms and not to the quality of the local raw milk. The main competitor on the fresh dairy product market from Romania faced in 2007 a powerful media scandal, being accused of the possibility that some products which are made in Romania are improper for human consumption. Stanciu (2014a) presented the main aspects regarding this food safety incident, which mainly gained its popularity from the media. The incriminated dioxins are contaminants that can accidentally come into food by means of water, soil or raw materials. The dioxins' effect is considered to be carcinogen but not genotoxic. Its action on the body is a cumulative one and, in big quantities, it can affect the consumer's health.

The presence of dioxin was also recorded by other authors in the specialised literature. Thus, Bertazzi (1991) analyses the ecological implications of the dioxin contamination from Italy in 1976. Other situations of chemical contamination were also present in the USA (1957, 1978) by Malisch (2000) or in the Netherlands and Germany (1988) by Harrington (2011). Bernard et al (2002) present a series of incidents regarding food contamination in Belgium and their consequences on the consumer's health, situations which are presented in comparison with the cases from Ireland (2008) by Casey et al. (2010). Astley (2012) presents the egg contamination with dioxin in Germany (2011, 2012).

In August 2007, two batches from the Delicios range produced in Romania were suspected to be infected with dioxin, being withdrawn from the market for some tests. The pollutant came from the E412 additive (Guar gum), produced by the Indianglycols from India. The Guar gum is certified from a sanitary point of view, being used in production in order to obtain the creamy consistency of yoghurt. The dioxin potential contamination had been internationally reported, the operation being performed on the production line from India, which was not sanitized after the production of some dyes. At the end of July 2007, the Indian additive producer, was internationally summoned to withdraw from the market a series of products, after their contamination with dioxin via Guar from India was discovered. The warnings regarding the potential existence of this additive in food products were also sent to France, Belgium, Great Britain, Finland, Spain, Turkey and Hungary.

The media took the information, starting the campaign against the Danone Company, which was accused of delaying the contamination alert, of

not performing tests for all the incriminated batches and of using the Guar gum in making yoghurt, even if there were some suspicions regarding contamination.

During the crisis, the Danone fruit yoghurt was boycotted by consumers, the stocks increased, sales plummeted, the only unaffected range being Actimel, for which the company intensified the TV advertising campaign. The dioxin scandal drastically decreased the company's sales IN THE PERIOD August – October 2007. The dioxin scandal in Romania may be presented as a model regarding the ability of a rumour, concerted and targeted by certain media areas, to significantly affect the image of a powerful multinational company. The analysis performed by Stanciu(2014a) shows the lack of a proper policy in dealing with the situation and the inadequate handling of the events by the management of the incriminated organisation. Although the management of the company could have rapidly clarified the situation, it didn't and, thus, it suffered significant loss related to image, consumer trust and sales volume. In order to restore the company's image, Danone tried to overcome the crisis by means of some own product safety promotion campaign, assessed at 130 million euro in 2007, exceeding with 35 million euro the budget allotted to the previous year. In addition, Danone Romania allotted important sums of money for corporate social responsibility activities, doubling the contributions allotted for donations to hospitals, orphanages and nursing homes, foundations and humanitarian organisations.

### **The evolution of the milk processing sector in Romania**

The evolution of the number of active companies and firms which submitted financial reports and of the revenues obtained by these companies and firms in the period 2009 – 2013 are presented in figure no. 6.

Although in the analysed period there may be noticed a constant increase in the number of firms from the sector, which exceed the limit of 500 companies in 2014, the number of companies that regularly submit financial reports to the Ministry of Public Finance is relatively constant, recording slight fluctuations around the value of 300 companies. The total number of employees in the milk processing sector records a slight fluctuation around the value of 11,000 employees, with a minimum which was recorded in 2012 (as you see in figure no 7).

The results of industrial processing of raw milk are presented in figure no. 8, the main products produced being drinking milk (pasteurised or sterilised) and dairy products, cheese and butter.

In smaller quantities there is also produced powder milk, milk protein derivatives, ice cream etc.

The dairy product sector in Romania is characterised by a relatively small number of companies, which represent approximately 5% of the total number of companies from the domain from EU 28.

In 2014, there were 598 companies that had as main domain of activity milk processing and cheese manufacturing (NACE 2 rev 1051) in Romania. The total turnover recorded by the 517 companies which were active in 2014 reached a value of 1,003,018 thousand euro, the ten main competitors being presented in table no, 2.

The value of the market shares of the first 10 companies from the analysed sector is presented in figure no. 9. The degree of concentration of companies in the milk processing sector in Romania is represented by the Lorenz curve, which is graphically represented in figure no. 10. In the calculations there were taken into account 548 companies whose financial data regarding their turnover in July 2015 were available. The estimated turnover is of 997,585 thousand euro. The sector presents a high degree of concentration, the sums of the market shares of the 10 main competitors exceeding 60%, a monopolisation trend being possible in the future. The analysis of the main financial indicators performed for the first 10 companies from the sector shows the depreciation of the economic environment and a substantial decrease in the recorded income (table no. 2). Thus, except for Albalact, Hochland and Simultan, the other competitors present negative values of the net income and substantial loss in the last period, which is also proven by the cash flow reduction or the passing of this indicator on negative values.

### **Consequences on the Romanian sector of the milk quota abolition**

The Milk Quota Regime, introduced in 1984 at the European Union level in order to eliminate the milk surplus due to a production that exceeded the demand from the Common Market, had as main aim the regulation of the marketing price by taking action on the supply. The secondary objectives were to protect the member states with a less successful milk sector or the groups of producers from vulnerable areas, who were affected by higher production costs. The ceasing of the restriction, which was in force since the 1<sup>st</sup> of April 2015, allowed the production of bigger quantities of milk by the competitive producers, which could be marketed without any restriction on the EU market or exported outside the EU. The demand manifested on the global market, which materialized by an increase in the Community export value with 95% in the last five years,

represents an argument regarding the ceasing of the restriction.

The milk quota allotted to Romania for processing in 2013 was of about 1.2 million tons, out of which domestic production represented 0.88 million tons, the difference being covered from imports. The processors' (which are situated mainly in Transylvania) daily milk requirement, represents an average of 2,410 tons, out of which approximately 2,273 tons of milk are produced in Romania. The raw milk's price evolution at the farm gate is presented in table no. 3. The analysis performed shows that prices on the domestic market can be compared to those of the producers from Serbia or Hungary, fact which made a part of the Romanian processors to prefer the imported milk, which is safer from a microbiological point of view and with constant deliveries due to the intensive production systems.

As one may notice from the financial analysis performed on the sector, Romanian producers are affected by the elimination of the regulation, which overlaps with a decrease in sales due to an increase in the dairy product offer from the market as a result of Russia's embargo for the agro-food products produced in the EU.

Internally, the elimination of the milk quota at the EU level led to the need for some new legislative regulations, with the role to diminish the impact of the EC regulations on the local sector. Thus, the Law no. 297/2013, completed by subsequent regulations, stipulates the contract conditions from the milk and dairy product sector and the acknowledgement of the local producers' associations from the milk and dairy product sector as a means of accessing funds and reducing competition among Community partners. The production potential, targeted by the MARD, is represented by the holders of 50-100 milk cows, and not by the small producers. The organisation of this sector was poor and did not answer to the European standards regarding milk quality from the very moment when Romania joined the EU (Recolta.eu, 2014). In 2013, the number of authorised/registered farms, which deliver raw cow milk to be processed was of 2,044, the great majority being in compliance with the requests of Section IX from the European Statute 853/2004.

Even in these conditions, according to the controls performed by the NSVFSA, out of the total quantity of milk delivered in 2013 to processing plants, approximately 2.2% didn't comply with the imposed quality criteria. The increased competition from the EU producers, who, at present, have the possibility to access freely the Common market, raises the question if the local livestock production and the dairy industry processors, already submitted to an influx of products from the part of European partners because of Russia's embargo for the EU food

products, which has been lately reflected by an increase in imports for all the dairy product segments, have a bright future (see table no 4).

Romanian exports, which are reduced from a qualitative and quantitative point of views, are mainly made by the big processors (Danone, Friesland), which focus on the opening of new markets in Central and Eastern Europe. According to the NIS statistics (2015), Romanian dairy product exports, mainly represented by cheese and concentrated products (with a high shelf life, a high degree of processing and a high value) represent under 50% of the value of imports (presented in table no. 4 and 5).

## Conclusions

The milk sector development in Romania is not correlated with the natural resources, the tradition and workforce that our country has. The milk and dairy product processing companies are facing major problems, due to the lack or to the low quality of the local raw material, to the elimination of restrictions regarding milk production and marketing on the EU market, to the sharp drop of domestic consumption. The last year is characterised by a decrease in the average profit rate of companies, fact which will lead to the exit of some companies from the market and an increase in the number of bankruptcies. The degree of concentration of the domestic market is high, the 10 first competitors covering more than 60% of the total, monopolising trend being noticed, which will increase in the future. In the absence of major measures taken by the national authorities in order to support the producers from the livestock sector and local producers from the Romanian dairy product sector, there will be major problems, which will increase domestic market's dependence on milk and dairy product imports.

## References

- [1] Acatincăi, S., (2004), Cattle productions, Ed. Eurobit, Timișoara, pp 55
- [2] Astley, M., (2012), Over 250,000 eggs recalled in Germany in latest dioxin scare, in Food Quality News (21.06.2012).
- [3] Bernard, A., Broeckaert, F., De Poorter, G., De Cock, A., Hermans, C., Saegerman, C., in Houins, G., (2002), The Belgian PCB/Dioxin Incident: Analysis of the Food Chain Contamination and Health Risk Evaluation.
- [4] Bertazzi, P.A., (1991), Long-term effects of chemical disasters. Lessons and results from Seveso, in The Science of the Total Environment 106 (1-2): 5-20. doi:10.1016/0048-9697(91)90016-8. PMID 1835132 Casey, D.K., Lawless, J.S., & Wall, P.G., (2010), A tale of two crises: the Belgian

- and Irish dioxin contamination incidents în British Food Journal, 112, 1077-1091
- [5] Harrington, R., January, (2011), Dioxin-contaminated liquid egg distributed in UK, Contamination worse than feared in German dioxin scandal, în Food Navigator (2011-01-07), available at <http://www.foodnavigator.com/content/view/print/35170>, [accessed 31.05.2015].
- [6] Malisch, R., (2000), Increase of the PCDD/F-contamination of milk, butter and meat samples by use of contaminated citrus pulp, în Chemosphere 40 (9–11): 1041–53. doi: 10.1016/S0045-6535(99)00352-5. PMID 10739045.
- [7] Mărăscu, C., (2012), Milk and dairy products, in Market analyses - publications, The Romanian Centre for Promoting Trade and Foreign Investment, [online], available at <http://www.dce.gov.ro/Infobusiness/produse/Lactate2012.pdf>, [accessed 01.08.2015].
- [8] Osman, O, (2012), Give the country as little milk as possible!, in Capital (02.04.2012), available at <http://www.capital.ro/tarii-cat-mai-putin-lapte-164011.html>, [accessed 21.09.2014].
- [9] Rotaru, G., Stanciu, S., (2007), Goods study, Ed. Academica, Galați, pp.57-77
- [10] Stanciu, S., (2014a), Effects of food contamination with dioxin on the Romanian milk market, în Proceedings of International Conference Risk in Contemporary Economy, XVth Edition, 2014, Galați, România
- [11] Stanciu, S., (2014b), Romanian milk market analysis, in SEA - Practical Application of Science, 2(4)/2014:373-380;
- [12] Stanciu, S., (2014c), Romanian beef and veal meat market analysis, SEA -Practical Application of Science, 2(4)/2014, ISSN-L 2360-2554.
- [13] Agricultura, (2014), The embargo imposed by Russia caused a decline on the dairy product market, [online], available at <http://www.wall-street.ro/articol/Agricultura/174478/embargoul-impus-de-ruisa-a-provocat-un-declin-pe-piata-produselor-lactate.html#ixzz3erLhV6Vk>, [accessed 01.12.2014].
- [14] ANSVSA, (2014), Press release (08.01.2014), [online] available at [http://www.ansvsa.ro/?pag=47&id\\_t=96&id\\_d=38222](http://www.ansvsa.ro/?pag=47&id_t=96&id_d=38222), [accessed 01.08.2014].
- [15] The Presidential Commission for Public Policies to Develop Agriculture (2013), The national strategic framework for durable development of the agro-food sector and of the rural area in the period 2014-2020-2030, [online] available at <http://www.presidency.ro/static/Cadrul%20National%20Strategic%20Rural.pdf>, [accessed 01.11.2014].
- [16] European Commission, (2009), Decision 852/2009 regarding the transitional measures under Regulations (EC) no. 852/2004 and (EC) no. 853/2004 of the European Parliament and of the Council regarding raw milk processing, available at <http://lege5.ro/Gratuit/gm3denrugi/decizia-nr-249-2013-de-modificare-a-deciziei-2009-852-ce-privind-masurile-tranzitorii>, [accessed 01.08.2014].
- [17] European Commission, (2015), Member States Factsheets. Romania, available at [http://ec.europa.eu/agriculture/statistics/factsheets/pdf/ro\\_en.pdf](http://ec.europa.eu/agriculture/statistics/factsheets/pdf/ro_en.pdf), [accessed 01.04.2015].
- [18] European Commission (2009), Decision no. 852/2009 regarding the transitional measures under Regulations (CE) nr. 852/2004 și (CE) nr. 853/2004 of the European Parliament and of the European Council regarding raw milk processing, [online], available at <http://lege5.ro/Gratuit/gm3denrugi/decizia-nr-249-2013-de-modificare-a-deciziei-2009-852-ce-privind-masurile-tranzitorii>, [accessed 01.08.2014].
- [19] Eurostat, (2014), Agricultural production related to animals, 2013 (thousand tonnes) YB15.png, [online] available at [http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Agricultural\\_products\\_related\\_to\\_animals\\_2013\\_%28thousand\\_tonnes%29\\_YB15.png](http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Agricultural_products_related_to_animals_2013_%28thousand_tonnes%29_YB15.png), [accessed 01.09.2014].
- [20] Eurostat (2015), Database . Milk and milk product, [online], available at <http://ec.europa.eu/eurostat/data/database>, [accessed 02.09.2015].
- [21] The meat factory, (2013), The meat industry does not acknowledge the crisis, available at [www.fabricadecarne.ro/industria-carnii-nu-recunoaste-criza](http://www.fabricadecarne.ro/industria-carnii-nu-recunoaste-criza), [accessed 21.10.2014].
- [22] FAO, Faostat Database, (2014), Food supply, Statistics, available at <http://faostat.fao.org/site/610/DesktopDefault.aspx?PageID=610#ancor>, [accessed 01.12.2014]
- [23] MARD, (2013), The Rural Development National Programme 2007-2013, [online] available at <http://www.madr.ro/pndr.html>, [accessed 15.05.2015]
- [24] MARD, (2015), Cattle. Milk., [online] available at <http://www.madr.ro/cresterea-animalelor/bovine.html>, [accessed 01.08.2015].
- [25] NIS, (2015), Comerț exterior. (External trade) Tempo online, available at [http://statistici.insse.ro/shop/index.jsp?page=tempo\\_2&lang=ro&context=62](http://statistici.insse.ro/shop/index.jsp?page=tempo_2&lang=ro&context=62), [accessed 21.05.2015].

- [26] NIS, (2015), Tempo Online. Population and demographic structure, available at <http://statistici.insse.ro/shop/index.jsp?page=tempo2&lang=ro&context=10>, [accessed 15.05.2015].
- [27] NIS, (2015), The TEMPO database–time series, [online] available at <http://statistici.insse.ro/shop/?page=tempo1&lang=ro>; [accessed 11.08.2015].
- [28] NSVFSA, (2007), Romania’s National Contingency Plan for The Avian Flu and the Operational Manual for the Avian Flu, [online] available at [http://www.ansvsa.ro/documente/admin/Planul%20de%20Contingenta%20Gripa%20Aviara\\_26893ro.pdf](http://www.ansvsa.ro/documente/admin/Planul%20de%20Contingenta%20Gripa%20Aviara_26893ro.pdf), [accessed 11.12.2014].
- [29] NSVFSA, (2010), Guide regarding animal protection during slaughter, [online], available at [http://www.ansvsa.ro/documente/admin/GhidSacrificare\\_222ro.pdf](http://www.ansvsa.ro/documente/admin/GhidSacrificare_222ro.pdf), [accessed 03.06.2014].
- [30] NSVFSA, (2010), The National Sanitary Veterinary and Food Safety Authority Activity Report 2010, [online] available at [http://www.ansvsa.ro/documente/admin/NSVSA%20Report%202010\\_18667ro.pdf](http://www.ansvsa.ro/documente/admin/NSVSA%20Report%202010_18667ro.pdf), [accessed 11.12.2014].
- [31] NSVFSA, (2014), Press release (08.01.2014), [online] available at [http://www.ansvsa.ro/?pag=47&id\\_t=96&id\\_d=38222](http://www.ansvsa.ro/?pag=47&id_t=96&id_d=38222), [accessed 01.08.2014].
- [32] NSVFSA, (2015), Risk analyses –Animal health, [online] available at <http://www.ansvsa.ro/?pag=756>, [accessed 21.06.2015].
- [33] Recolta.eu, (2011), Considerations regarding the livestock sector in Romania and in some countries from the European Union (10.05.2011), [online] available at <http://www.recolta.eu/arihiva/consideratii-privind-zootehnia-in-romania-si-unele-tari-din-uniunea-europeana-11492.html>, [accessed 15.05.2015].
- [34] Recolta.eu, (2014), The voice of processing advises the small and medium dairy product producers not to make own brand for retailers. Foreigners should do it. Who signs own brand is suicidal. (21.03.2014), [online] available at <http://www.recolta.eu/industrii/lactate/portavocea-procesarii-ii-indeamna-pe-producatorii-de-lactate-mici-i-mijlocii-sa-nu-faca-marca-proprie-pentru-retaileri-s-o-faca-strainii-cine-semneaza-marca-proprie-sinucide-24728.html>, [accessed 21.08.2015].

## APPENDICES

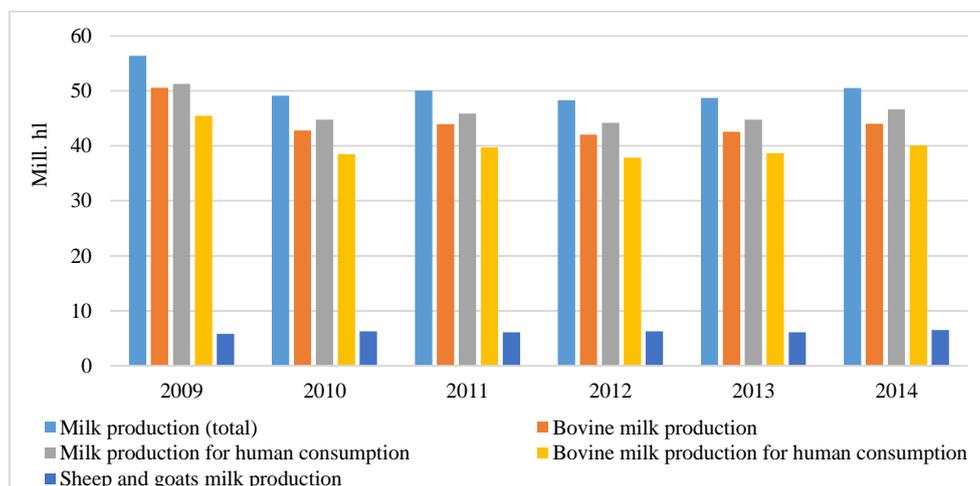


Figure no. 1. Milk production in Romania  
Source NIS, 2015

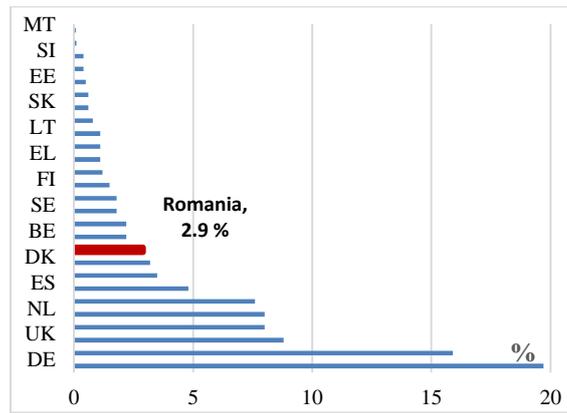


Figure no. 2. Milk production by EU 28 members  
Source: Eurostat, 2015

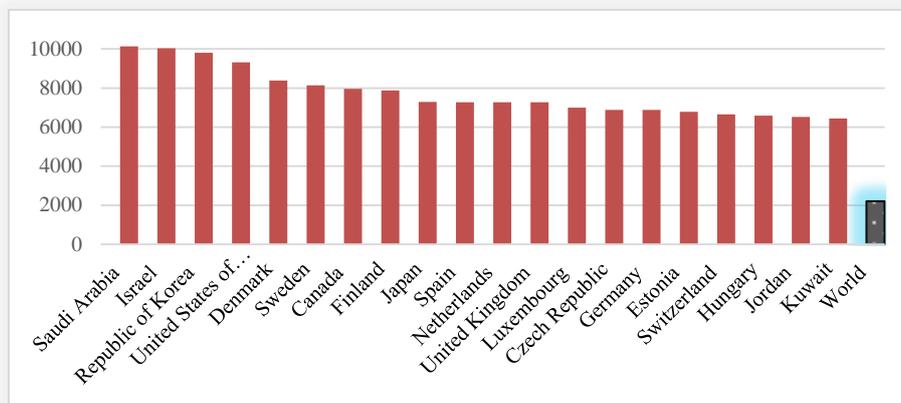


Figure no. 3. The top 20 countries in the world in 2010 (average litres per cow)  
Source: Author, by using the FAO Stat Database (2012)

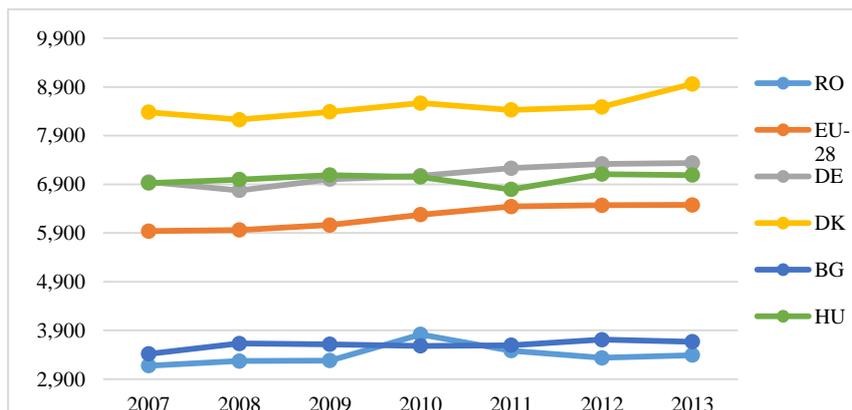


Figure no. 4. Milk production in Romania and EU 28 (average litres per cow)  
Source: Author, by using the Eurostat Database, 2014

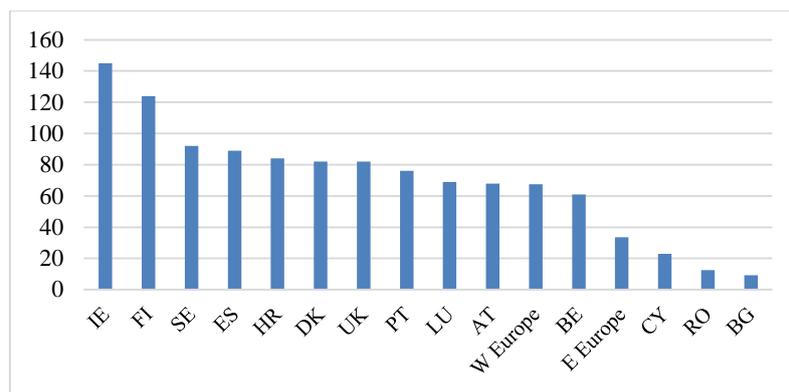


Figure no. 5. Milk consumption in EU (litre/year and capita)  
 Source: Euromonitor Study (2012) quoted by Mărăscu (2012)

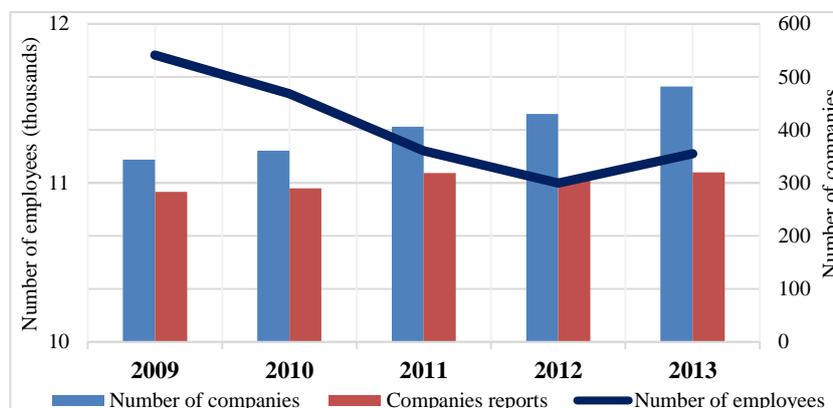


Figure no. 6. The evolution of the NACE 2 rev 1051 companies in Romania  
 Source: Author, by using the Amadeus database, 2015

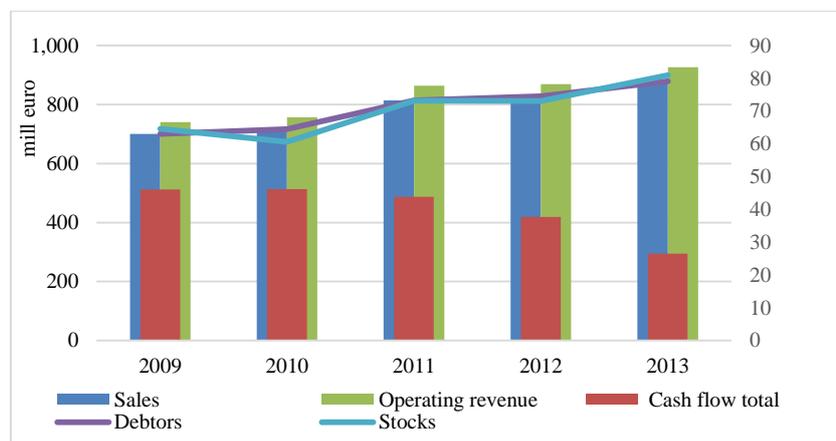


Figure no.7 Main financial data of the Romanian dairy sector  
 Source: Author, by using the Amadeus database, 2015

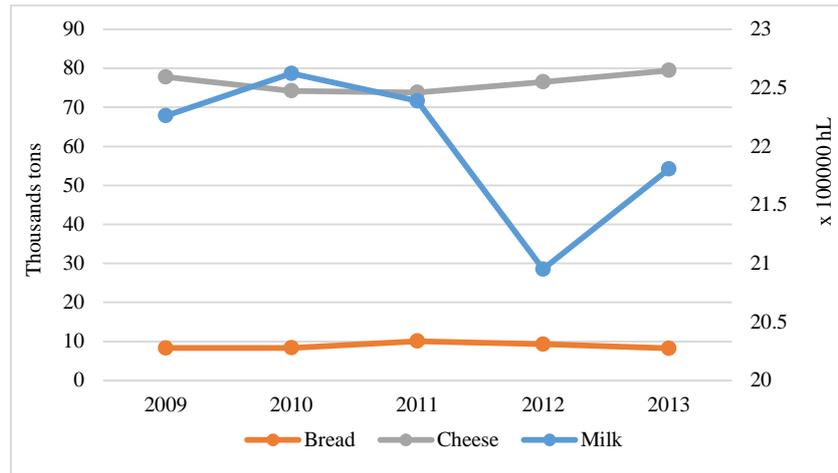


Figure no.8 Milk processing and the main products made in Romania  
Source: Author, by using the NIS data, 2015

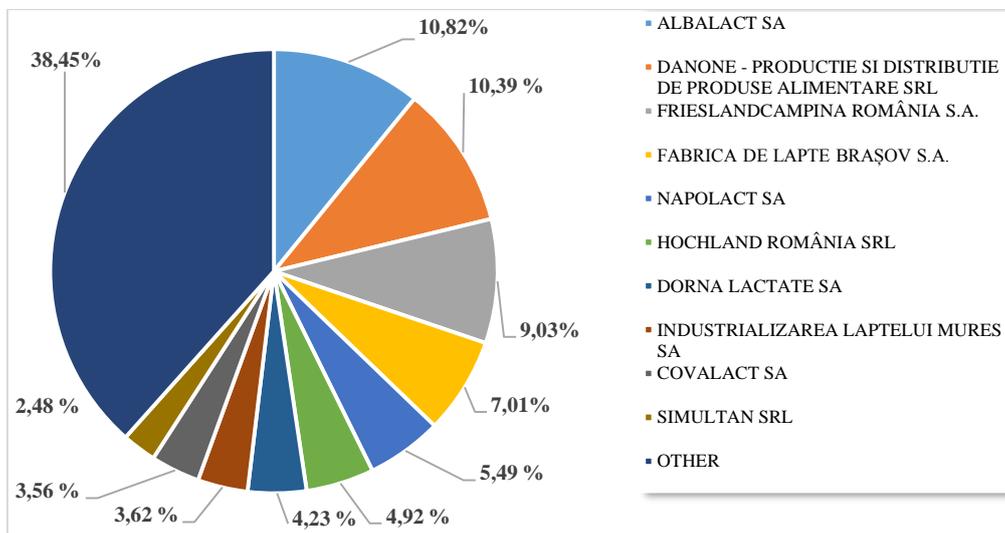


Figure no. 9 The share market of the main companies from the Romanian milk processing sector (2013)  
Source: Author's contribution by using the Amadeus Database, 2015

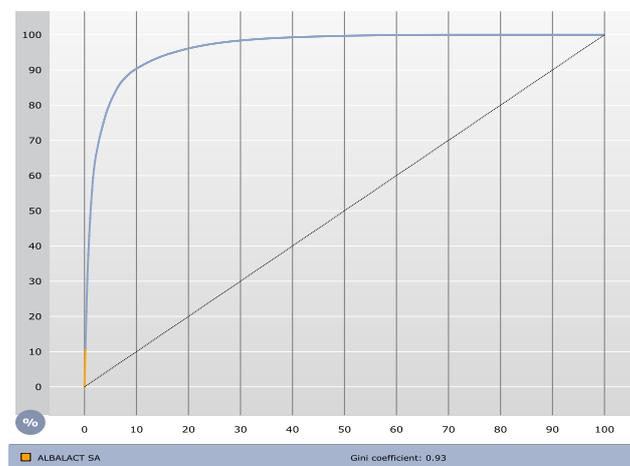


Figure no. 10. The Lorenz Curve companies' concentration degree in the milk industry from Romania (July, 2015)  
Source The author's contribution by using the Amadeus Database, 2015

Table 1  
*Milk production in the main EU producing states (thousand tons)*

	2008	2009	2010	2011	2012	2013
<b>Austria</b>	2705	2709	2781	2904	2964	2688
<b>Denmark</b>	4586	4740	4818	4787	4916	4601
<b>France</b>	23814	22842	23361	24602	24534	22357
<b>Germany</b>	27465	28248	28659	29339	29702	27761
<b>Greece</b>	690	684	688	638	664	600
<b>Ireland</b>	5106	4904	5327	5537	5380	5390
<b>Italy</b>	10608	10506	10604	10882	10876	9803
<b>The Netherlands</b>	10936	11085	11626	11642	11676	11171
<b>Total EU 15</b>	115332	115006	117600	120351	120618	11850
<b>The Czech Republic</b>	2433	2354	2317	2366	2446	2187
<b>Estonia</b>	614	592	619	624	665	646
<b>Hungary</b>	1425	1407	1322	1308	1398	1235
<b>Lithuania</b>	1382	1276	1278	1317	1360	1237
<b>Poland</b>	9112	9136	8990	9296	9843	9102
<b>Slovakia</b>	946	852	800	811	851	759
<b>Slovenia</b>	524	517	519	526	535	475
<b>Total</b>	17263	16916	16657	17089	18007	16460
<b>Bulgaria</b>	681	578	539	499	497	455
<b>Romania</b>	1053	979	901	892	884	811
<b>Total</b>	1734	1558	1440	1391	1381	1266
<b>Total UE*</b>	134976	134155	136321	139467	140608	130042
<b>Comparison with the previous year</b>	-0,67%	1,61%	2,37%	0,82%	0,72%	

Source: The EuroStat Database, 2015

Table 2  
*The main companies from the milk processing industry in Romania (thousand euro) (2014)*

No. crt.	Company	Turnover	Cumulative values	Cash Flow	Net income	Employees
1.	<b>Albalact SA</b>	108,495	108,495	6,518	2,748	617
2.	<b>Danone SA</b>	104,211	212,706	-442	-3,730	494
3.	<b>FrieslandCampina Romania SA</b>	90,556	303,262	-8,515	-9,748	440
4.	<b>The milk plant Brasov SA</b>	70,336	373,598	6,390	100	312
5.	<b>Napolact</b>	55,021	428,619	130	-1,446	259
6.	<b>Hochland Romania SRL</b>	49,342	477,961	4,500	2,862	334
7.	<b>Dorna Lactate SA</b>	42,448	520,409	-1,32	-2,396	465
8.	<b>Industrializarea Laptelui Mures SA</b>	36,291	556,700	577	-350	255
9.	<b>Covalact SA</b>	35,739	592,439	1,101	-626	344
10	<b>Simultan SRL</b>	24,893	617,332	2,284	1,652	217
11	<b>Others</b>	385,686	385,686	-	-	-
12	<b>Total</b>	1,003,018	1,003,018	-	-	-

Source: The Amadeus Database, 2015

Table 3  
*The evolution of the farm raw milk average price (euro/100 hl)*

Product	2008	2009	2011	2012	2013	2014
Fresh cow milk	19.6	20	24	24.7	26.7	28,4
Fresh sheep milk	32.7	31.3	40.2	41.6	35.6	39.7

Source: NIS, 2015

Table 4  
*Milk and dairy product imports in Romania (2008 – 2013) (thousand euro)*

	2008	2009	2010	2011	2012	2013
Milk and unconcentrated cream, without added sugar/sweeteners	31686	38881	50754	56619	54622	64927
Milk and concentrated cream or cream with added sugar/sweeteners	17608	18862	17999	21874	22042	2322
Fermented milk products	14246	18149	19695	19128	21402	24286
Whey and whey products	7611	6438	6792	6776	8234	9601
Butter and other milk fat	19528	22108	17157	16307	14307	23107
Butter and other milk fat	19528	22108	17157	16307	14307	23107
Cheese and curd	84516	77306	81350	100078	102631	122861

Source: NIS, 2015

Table 5  
*Romanian exports of milk and dairy products 2008- 2013 (thousand euro)*

	2008	2009	2010	2011	2012	2013
Milk and unconcentrated cream, without added sugar/sweeteners	1004	1390	1703	3957	6126	15245
Milk and concentrated cream or cream with added sugar/sweeteners	13443	12219	16542	22148	18399	9866
Fermented milk products	2281	2412	2784	4591	8942	13578
Whey and whey products	33	147	609	1175	1841	2274
Butter and other milk fat	152	294	1151	1662	1436	1437
Cheese and curd	5095	7232	14180	13378	27693	39291
Milk and unconcentrated cream, without added sugar/sweeteners	1004	1390	1703	3957	6126	15245

Source: NIS, 2015