The title: EFFECTS OF MARKET STRUCTURE CHANGES ON DAIRY SUPPLY CHAIN IN SERBIA

Kind of presentation: Paper

Related topic: Food chain management

Authors name: Rade Popovic

Institution: University of Novi Sad, The faculty of economics Subotica, Department for agricultural economics and agribusiness

E-mail: popovicr@eccf.su.ac.yu

Problem statement:
Dairy chain in Serbia is consisted from five levels: input sector, dairy farms, milk processors, distributors (retailers and HORECA sector), and consumers. Because there are in every level numerous participants it looks more as a net. Structural changes happened during last years influenced on economical position of every one link in dairy chain. One old proverb says chain is strong as much as its weakest ring, so successful dairy chain depends equally from success of everyone segment. Worsening economic situation of any level of participants has negative effects on other levels of dairy chain. According number and average market share of participants on each dairy chain level, can be preliminary concluded that dairy farmers has small market power. High number of farms, small scale production and shortage of awareness for cooperative action makes this ring in whole dairy chain the weakest.

Objectives:
The aim of this paper is to asses the state and performance of dairy sector in Serbia. Process of transition caused changes which reflected on farms, processors and distributors of dairy products. Privatized dairy industry, changes in farms structure and increasing competitiveness in distribution sector are some basic characteristics in dairy chain. New situation ask for need to analyze level of competitiveness in dairy chain and find key constraints for further competitiveness improvement.

Procedures:
Research methodology will be based on assessment of structure, market positions, resources and performances with intention to judge the competitiveness of the Serbian dairy chain. Based on findings, there will be generated suggestions for improvement of competitiveness. During research, official statistical data as well as data from Ministry of agriculture, forestry and water management, and numerous literatures from other authors will be used.

Results:
Milk production in Serbia is traditionally based on family farms. In total milk production, which is last 10 years stable and on 1,6 million tones level, family farms produced over 90% of cows milk. Milk production on non family farms decreasing in last years, so in

2005 this kind of farms produced only 8.7% milk in Serbia. Total number of dairy farms, according data from census 2002, was 268,314 with in average 1.95 of cows per farm. Average herd size is too small, if compare with EU-15 where average herd size is around 40 cows (Berkum, 2007, p.5).

Commercial family farms during transition, since 2001, significantly changed structure and increased capacity of production. Measures of agricultural politics were aimed mainly to dairy farmers. At same time, newly privatized dairies, where new owners invested tens millions Euros to expand capacities, actively influenced on farms to ensure suppliers of good quality milk. That also provided positive effect on average herd increase. According data of Ministry of agriculture, forestry and water management (MAFW), milk processing sector bought 740 million liters milk from 62,679 farms in 2006. With official statistical data about average yield can be concluded that those farms have in average 3.4 cows. Share of farms with 10 and more cows (commercial farms) increasing.

In total milk production, 75% were produced in Central Serbia, and 25% in Province Vojvodina, in 2007. Since middle nineties to 2006, percent of milk delivered to processors in Serbia increased significantly up to 46.6%. Beside that, in same year 670 million liters of milk were on informal (loose) market and 190 million liters were used for farm family consumption. Milk prices on Serbian market in period 2001 to 2006 were stable. Consequences of drought in 2007 influenced on milk prices to rose for 30%. A similar price effect happens on world market.

In 2006 Serbia counts 211 milk processing companies. There is a significant diversification of companies by operating capacities from a very small to big scale. Eight biggest milk processors has share in total milk intake 62.5%. The biggest player on the Serbian market is Danube Food Group B.V. which has majority ownership in five companies and participates with 47.4% in total milk processing.

Level of competition between milk processing companies, in sense of milk supply from farmers, is low, because they usually clearly separated supply regions between them. From other side, farmers with small amounts of milk are not able to offer milk to more than one processor which organizes milk collecting station in that village.

Last link in dairy supply chain is distribution of milk to consumers. The most important role in milk distribution in Serbia plays retail chains. According results of earlier conducted research for 2006 (Popovic 2007, p. 67) it is concluded that milk and liquid milk products are mainly distributed through retail sector, and just small amount through food service. Retail stores participate in distribution of fresh milk with over 99%, UHT milk 93.8% and yoghurt products 97.2%. On Serbian market operate more domestic and foreign retail chain companies. Level of competition in retail sector is increasing slightly in last years with entering domestic market by foreign retail chains. In few areas as result of competition it is already happened oversized number and area of stores.

Conclusions:

Milk production in Serbia is based on family farms with small capacities of production. Average herd size of farms that delivers milk to processors is 3.4 cows, while share of farms with 10 and more cows is jus 2%. In regional structure bigger farms are more presented in Province Vojvodina, than it is case with Central Serbia. Lack of cooperative action, between dairy farmers additionally worse their market position. Marketed milk share in Serbia increasing in last years, but it is still behind developed counties. Milk processing sector in Serbia is compounded from 211 companies, with biggest between them Danube Food Group B.V., which processed 47.4% of total delivered milk in 2006. Bigger dairy processors are developing recognizable brands, diversify products and packaging and dominate at domestic market. Mainly distribution of milk and milk products is going through retail stores. Increasing competitiveness at retail level is evident, but more substantial increase is expected with entrance some of international retain chains.

From all above mentioned it can be concluded that the weakest link in dairy supply chain are dairy farms. Improvement of their market position will help to increase competitiveness of whole dairy chain in Serbia. Because of that the main measurement of agricultural policy should be aimed to education and stimulation of dairy farmers to organize cooperatives.

References:

1. Berkum S. (2004): „Vertical coordination in ECA supply chains: Evidence from dairy sector in Romania“, LEI Wageningen UR, The Netherlands.
2. Berkum S. (2007): „Analysis of dairy chain in Slovenia“, LEI Wageningen UR, The Netherlands.
3. Dunn J. and Popovic R. (2005), "Different Approaches to Dairy Policy: What works and what doesn't? ", Savremena poljopriveda, vol. 54. No 1-2, p. 208-213,
4. Hockmann H, Voneki E. (2007): „Assessing marketing functioning: the case of Hungarian milk chain“, Corvinus University of Budapest, Hungary
5. Issar G, Cowan R.T, Wegener M. (2003): „Success strategies being implemented in fresh milk supply chains“, University of Queensland, Gattton, Australia.
6. Popovic R, (2006) "Profitability of dairy production in Province of Vojvodina", Ph.D. Thesis, University of Novi Sad, The faculty of economics Subotica.
7. Popovic R. (2007), "Tipovi pakovanja svežeg i UHT mleka i tečnih mlečnih proizvoda na tržištu Srbije", Prehrambena industrija – mleko i mlečni proizvodi, vol. 18, broj 1-2, p. 65-69

Rade Popovic is assistant professor at Department of agricultural economics and agribusiness at University of Novi Sad where he has taught farm management for 3 years. He grew up on a farm in north Serbia, and received his B.S., M.S., and Ph.D. in agricultural economics from University of Novi Sad. In last few years he becomes member of EAAE (European association of agricultural economists), DAES (Association of agricultural economists of Serbia), and IFCN (International farm management comparison network). His research papers are mainly in field of farm management and economics aspects of agricultural production.