An analysis of selected aspects of international business
in Slovak dairies in the EU framework

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Summary

This paper deals with an assessment of current trends in the dairy industry in Slovakia with emphasis on quality of milk products and their placement in the foreign markets. The analysis has shown that for the analysed enterprises more important stimuli exist for involvement into international business. Much greater weight is attached to regular orders from abroad, as it is supposed that they bring guaranteed sales of dairy products in foreign markets. At the same time out of 22 interviewed businesses, 15 said that business contacts of the management were helpful in establishing themselves in the international environment.

Key words: dairy, milk products, international business, European Union, Slovakia

Introduction

Ongoing internationalization and world globalization processes significantly shape the market for agri-food products. The relationship of globalization and the food sector was investigated by Lamberton (2002), highlighting the negative aspects of globalization expressed by the use of chemical additives. Europe’s food industry is an attractive sector given the scale and economic activity (Winjands et al., 2006; Šoltés and Šoltés, 2003; Bánociová and Pavliková, 2010 a,b). Success in the globalization process is possible also through effective management of production factors and also through the production of safe organic products and organic foods that are becoming even more desirable for consumers (Kozelová et al., 2010). Milk quality has a significant effect to the purchase price. Total bacterial count and somatic cells count are important hygienic parameters (Popelka et al., 2003).

The requirements of legislation did not meet 16.6 % of 15148 samples tested for total bacterial count and respectively 26.02 % of 26279 samples tested for somatic cells count in Slovakia (Zajác et al., 2009). Factors of production and localization of primary food sources in rural areas were analysed by Gecíková et al. (2010). Agricultural land use and animal performance, as well as the impacts of agricultural production on the environment were analysed by Šúbertová (2010) and Risku-Norja et al. (2008). Significant factor affecting milk production is mating system. As stated by Kasarda and Kadlečík (2007), 1 % inbreeding increase causes decrease of breed genetic quality by 8.95 kg of milk, 0.37 of fat and 0.36 kg of protein production per animal. Total economic losses by use of inbred animals were estimated on 1.32 Euro per animal.

In 2010, EU-27 raw milk production has been stimulated by stronger domestic and international
demand for dairy products. Conditions that are spurring the dairy sector in 2010 are expected to prevail into 2011.

According to forecasts of the Dairy Research Institute (2010) “On the Situation in the World Milk Market in 2015”, experts estimate that in the next five years four main factors will determine the world’s market. A crucial factor will be the demand growth from several countries of East Asia, Middle East and North America, where population income is expected to increase. Among the other 3 factors that might support demand for dairy products will be the ongoing process of urbanization, globalization and relocation of production and technology to countries with cheaper labour. The consumption of dairy products will be driven also by other factors such as expansion of multinational retail chains, increased availability of refrigeration equipment, prolonging shelf life of dairy products and acceleration in transport and distribution.

The average consumption of dairy products per capita in Slovakia in the years 2004 to 2009 ranged from 148.0 to 150.2 liters (milk without butter). Milk consumption in the analysed period decreased by 10.5 liters per person per year, while consumption of goat’s milk remained unchanged at 0.6 liters. Consumption of sheep milk and its products from 2005, slightly decreased from 1.7 liters to 1.4 liters per person per year in 2009 (Šajbidorová, 2009).

From nutritional point of view it is optimal that through milk and dairy products human organism should gain about two thirds of the recommended dose of calcium intake and this should be divided in a ratio of 1:1:1 between cheese, milk and sour milk products (Fatrcová-Šramková et al., 2010). During the last decade, the number of experiments and studies documenting the beneficial therapeutic effect of dairy products in certain diseases has increased. In terms of their usefulness, in practice, their local, general and biomedical effects, inhibitory effect against pathogens, the optimization effect on digestive processes and anticholesterol effects are extremely important (Lengelyová et al., 2010).

According to the EU Commission, for authentication of foodstuffs origin, their content and quality must be defined and they must come from specific sources. In the European and national dairy markets many producers are fighting for the consumers favour. Consumers favour milk and dairy products consumption and to a lesser extent in regional markets substituting it with sheep and goat milk, as well as their products Zeleňáková et al. (2011).

Concepts and methods

This paper deals with analysis of selected indicators of international aspects of Slovak dairies business within the EU. The primary sources of information were obtained by cognitive science methods, as well as methods of questionnaire and interview. They were used to examine the ongoing trends in the dairy industry in Slovakia.

26 dairy farms were interviewed in a questionnaire survey. 22 dairies participated in the research, which represent 84.61 % of the total dairy production in the Slovak Republic. Secondary sources of information were obtained from:

• analytical and conceptual working papers of the Ministry of agriculture and rural development of the Slovak republic;
• professional reports of the Agricultural Payment Agency, the Slovak Dairy Association;
• data published by The Research Institute of Agricultural and Food Economics (VÚEPP);

The research issues in this paper were analysed using statistical methods and verified by dependency tests (Cramer coefficient). Data were processed through programs of MS Office 2007. In the statistical program SAS, the association and correlation analysis have been performed using the $\chi^2$ test of square contingency. Statistical robustness supporting the relationship has been assessed based on (p-value) test.

Results and discussion

Increased competition is leading world dairy companies to diversify their product range, to try to place its brands where possible and produce more products with higher added value, especially regarding future strategy. Slovak dairies could not avoid this trend. Penetration of internationalization into different levels of “national” dairy industry is mainly associated with the tendency of creating strategic alliances, mergers, acquisitions and cooperatives aiming to create business networks. In recent years, the whole dairy production in Slovakia has significantly changed. There have been radical changes in the ownership structure of dairy companies in favour
of foreign multinationals, associated with increasing concentration and specialization in dairy production. Slovak dairies have all the potential to maintain and gain European consumers, because 1200 kinds of products that are manufactured in Slovakia, fulfil not only qualitatively but also hygienic, health and nutritional requirements.

A fundamental condition increasing competitiveness of Slovak dairy farms is reduction of the raw milk cost and increase of the dairy products quality. Dairies can be competitive by the implementation of HACCP system, quality management ISO 9001 and using the management experience with international business (Mura and Gašparíková, 2010; Bosáková and Hajduová, 2010; Stričík et al., 2011).

Internationalization activity forms of Slovak dairies

After Slovakia joined the European Union and with the removal of borders between EU member countries, there are in one hand major new opportunities in the common market, but on the other hand, they have to face the hard competitive pressure, in all aspects of actual milk production, as well as its processing and marketing. In order to keep the dairy at a comparable level it is therefore essential to continue to fulfil milk production quotas and to meet perfectly all qualitative and hygienic requirements. Hereby, Slovak dairy products must be cost-competitive, not only in Slovak but also foreign markets. Slovakia has come under strong economic competitive pressure not only from Western European countries but also from countries of Central and Eastern Europe (like for example Poland, Lithuania, etc.).

In 2003, in the Slovak dairy industry 58 processing plants have been operating, despite the recommendations of the European Union experts (in 1995 there were 115 plants). Out of this number, only 18 dairies have a veterinary approval number approved by the European Commission, which allows them export to EU countries. It confirms that research experts’ prognosis, that the number of dairies in Slovakia cannot be maintained in the long-term because of strong competition and the need for continuous capital investment in modern biotechnology. Currently, in 2011, there are 26 dairies in Slovakia, while the market is dominated by 3 dairy companies. The remaining 23 dairies have no significant effect on the milk and dairy products market. Experts from the Dairy Research Institute expect that their number will decline even further. Capacity utilization of Slovak dairies before the foreign investor inflow in 2001 was low and varied at various segments of milk (basic milk processing at 66 %, butter processing at 36 % and cheese processing at 95 %). With regard to position of the Slovak dairy industry in the EU agro-food market, in 2006, some problems have been identified:

- restructuring and modernizing dairy industry to ensure its competitiveness;
- improving communication skills of top-management with the outside environment; improving the efficiency of milk processing capacity; minimizing seasonal fluctuations in milk production;
- adapting production and manufacturing processes in companies exporting their dairy products to the new conditions in the EU; penetrating into new markets and increasing sales opportunities in foreign markets (by product promotion, introduction of protected trademarks, training their staff in the process of marketing, as well as in the field of export activities).

Specialization in different segments of dairy production after entry of foreign investors into Slovak dairies:

- **Cheese production**: Liptovská Dairy Inc. in Liptovský Mikuláš; Senická Dairy Inc. in Senica; Cheese Processing Bel Slovakia in Michalovce; Levické Dairies in Levice (production of Edam and Emmentaler cheese, low-fat ricotta cheese and blue cheese NIVA).
- **Production of yoghurt and acidified dairy products**: MILK-AGRO Ltd. in the Šariš region (the third largest producer of milk and fermented products in Slovakia); Humenská dairy inc. (Slovak owners; most sophisticated cheese producer, production of semi-hard cheeses Humenská brick, brick Edam, Edam block, Moravian block and Skimmed).
- **Production of specialty cheese products**: Tvrdošinska Dairy Inc. in Tvrdošín (production of bricks Edam, Orava steamed cheese, processed cheeses, smoked cheese, steamed cheese and string cheese, specialty production of sheep cheese), Sheep-Cheese and cheese production in Zvolenská Slatina (largest and oldest Sheep-Cheese producer in the world, production of cottage and cottage smoked sheep cheese).
Selected aspects of Slovak dairies involvement in international business

Regarding the development of dairy industry in Slovakia during the last decade (2000-2010), its analysis can be split into two periods. The first period is related to the process of concentration of agri-food businesses into larger companies through mergers, acquisitions and strategic alliances in the horizon years 2000-2005 and where dairy industry belonged among the most advanced and distinguished in the industry. In Slovakia, in 2001 the issue of foreign strategic investors was frequently discussed, as they started to invest in 12 Slovak dairies. They accounted for 52% of the total number of large industrial dairies purchasing 500 million litres of milk. In the second period 2006-2010, dairy farms management were forced to seek new market opportunities, targeting the effectiveness improvement of corporate resources, market share expansion and competitiveness improvement. In terms of capital origin, the Slovak dairy industry is dominated mainly by Austrian and German capital and to a lesser extent, by entities from other countries. FDI entry in particular Slovak dairies contributed to the increase not only in the quality of products, but also in the volume of raw material (milk) processed. After Slovakia accession into the European Union in 2004, significant changes occurred in the Slovak dairy industry. They include also measures concerning dairy market organization regarding price controls, milk quotas, milk import and export price supports, subsidies and non-price supports, exports and imports licenses, interventions to protect domestic production according to WTO rules and measures in accordance with special regulations.

Small and medium-sized enterprises play an important role in the international economic environment. They represent up to 98% of all dairy farms in Slovakia. They enter the international division of labour, either directly through contacts with foreign partners or indirectly through import and export companies as subcontractors. With the increasing liberalization of international trade, their activity continues to grow. After the Slovakia’s accession to the EU, among other aspects, the territorial structure of foreign trade changed as well (trade of dairy products including). It is focused primarily on European Union member states. Eurostat data indicate that exports of dairy companies to EU (25) countries in general increased by 44.3%, after the enlargement. This development has been influenced not only by the Slovak dairy export growth to EU New Member States in the period 2004-2005 (by 30.8%), but mainly by dairy export growth to developed EU (15) members (by 82.6%). After enlargement, the main export markets for Slovak dairy products are except Central European Countries (Czech Republic, Hungary: where exports increased

Figure 1. The forms of Slovak dairies doing business internationally in the period 2007-2009
in 2004-2005 by 139 % and in 2008-2009 by 18.9 %, as well as Poland), also Germany, and Austria (where dairy exports increased in 2004-2005 by 277.6 % and in 2008-2009 by 25.6 %).

An increasing number of Slovak dairy companies are actively entering the competitive environment of foreign markets and even in the period of economic recession. This is due to the fact that dairy companies’ managements are more motivated looking further to increase the effectiveness of business resources and improving chances for their survival in the markets. Business activity is no longer limited to traditional exports or imports of products, but a crucial part of the strategy for most enterprises is their access to foreign markets through direct investment. The forms of Slovak dairies’ presence internationally during the years 2007-2009 are presented in Figure 1. It should be emphasized that companies (in the survey) could respond to indicate more than one option, i.e. more forms of doing business internationally.

Figure 1 shows that out of the total sample of 22 dairies analysed, most companies are engaged in the international markets through direct export (18 subjects or 81.82 %), indirect export (7 enterprises or 31.82 %), 4 businesses have affiliated offices abroad (18.18 %), 2 dairy companies have directly invested abroad (9.9 %), while only one entity has been selling licenses to foreign countries (4.55 %), direct management contacts are made by only one dairy (4.55 %) and three companies are engaged in import business operations (13.64 %). A closer view on this analysis shows that the choice of the penetration form into foreign markets depends on the abilities and capabilities of the company itself and from the efforts of management to succeed in international business environment. Out of total 22 dairies involved in the research, 68.18 % said that their internationalization activities are regularly planned, the remaining 31.82 % behaved sporadically. At the same time, some companies apply various forms of international business.

Horská and Kranodebskí (2009) conducted the theoretical and applied research in the area of managing cultural diversity from the viewpoint of performing different managerial and marketing tasks. It included the primary research results conducted during the period from 2007 to 2008 on the set of 200 agri-food companies in Slovakia, Spain, Poland and Austria. The main attention was devoted to the international trade links development with those businesses which for various reasons have been considered as potential partners in the long run and have included also the external EU trading partners.

In this analysis the focus was also on the evaluation of international performance of Slovak dairies in terms of their sales territorial structure. Respondents in the survey answered the following question: “Please rank your current Top 5 export territories.” The results are presented in Figure 2 and show that most of the dairy business entities are present in one of the four Visegrad countries (Czech Republic, Hungary, and Poland) or in Austria and Germany. Slovak dairies tend to penetrate other emerging markets, as well. Russia ranks first (9 enterprises - 40.90 %), followed by Ukraine (8 enterprises - 36.36 %) and Romania (6 firms - 27.27 %). Other countries where Slovak dairies are present are Britain, Turkey and China (2 firms - 9.10 %) and finally to a lesser extent, Spain, Belgium and Georgia (1 company - 4.50 %).

The analysis of selected factors affecting dairy international business

The phenomenon of business globalization and internationalization affects the activity of each company, but with varying intensity. Most businesses see in the process of internationalization an opportunity toward innovation enhancing activities and a challenge to develop and improve their competitive advantages. In this context, it was examined whether there is a correlation between acceptance of internationalization as a current trend in the globalizing world and the development of sales volumes in foreign markets for the years 2007-2009. It is assumed that the current globalization trends could affect businesses when deciding their export options. The results of the association and correlation analysis (using the \( \chi^2 \) square contingency test) show that above mentioned hypothesis was not confirmed, as documented in Table 1. (p-values in the table to show that statistical significance calculated characteristics, were not significant). This means that among analysed dairies there is no statistically significant relationship between the acceptance of internationalization as the current trend in the globalizing world and their sales volume in foreign markets. In this case, the dependency is insignificant. The results have proved that
for the analysed dairy businesses, there are greater incentives to engage in international business activities than just “following” the current world trends, as this is an irrelevant argument for their management. Much greater weight is attached to other motives such as regular sales orders, which brings a guaranteed outlet for their products in the foreign markets.

According to the international management theory, acquired previous managerial experience from foreign markets on behalf of top managers brings positive aspects in the corporate governance in the form of achievements in trade negotiations and new business contracts. These factors then represent the basis for higher sales volumes in target markets. It has been analysed whether there is a relationship between international management experience before starting business in foreign markets and the development of dairy companies’ sales volume in foreign markets. The results of association and correlation analysis using the $\chi^2$ test square contingency confirmed the above mentioned hypothesis (p-value=0.002), confirmed also by Cramer coefficient p=0.447 (Table 2). It has been assumed that if managers have experience in an international business environment, they are more effective in using their contacts facilitating the penetration of foreign markets. Out of 22 dairies surveyed, 15 claim that

Table 1. Testing dependency - Acceptance of internationalization and sales volume

<table>
<thead>
<tr>
<th>Statistics</th>
<th>p-value</th>
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</thead>
<tbody>
<tr>
<td>$\chi^2$ square contingency test</td>
<td>0.3402</td>
</tr>
<tr>
<td>Cramer coefficient</td>
<td>0.0890</td>
</tr>
<tr>
<td>Estimated p-value</td>
<td>0.1221</td>
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</tbody>
</table>

Source: Own survey and processing in SAS System–Slovak Dairy Companies 2010.
management contacts were useful in establishing their businesses in the international environment. In this context, the relationship between the existence of management contacts indirectly facilitating penetration into foreign markets and sales volume development there has been analysed.

The results of the association and correlation analysis using the $\chi^2$ test square contingency testing the above mentioned hypothesis confirm that there is a correlation between the existence of contact management indirectly facilitations dairy entry to foreign markets and sales volume development in foreign markets ($p$-value=0.0085), also supported by the value of the Cramer coefficient ($p$=0.4870), presented in Table 3.

Conclusions

This paper has been dealing with the analysis of selected indicators of Slovak dairies international business activities within the EU. The main objective has been to assess current trends in the dairy industry in Slovakia with emphasis on production quality and dairy products competitiveness, as well as their placement in the target foreign markets. The analysed sample consists of data from 26 existing dairies in Slovakia. Research has been based on a survey that took place in the period 2007-2009 with 22 dairy companies representing 84.61 % of the total production of dairy products in the Slovak Republic. Our research resulted into following conclusions:

- The majority of dairy companies deal with direct export (18 subjects or 86.2 %); 7 enterprises deal with indirect export (32.30 %); 4 businesses have affiliated branches abroad (13.6 %); 2 dairy companies produce abroad (9.10 %); 1 subject sell licenses to foreign countries (4.5 %); 1 dairy company has management contacts (4.50 %); 3 dairy companies deal with import (13.50 %).
- For the analysed enterprises, there are greater incentives related to their international business activities than just “following” the current world trends, as this is an irrelevant argument for their management. Much greater weight is attached to other motives such as regular sales orders, which brings a guaranteed outlet for their products in foreign markets. Strong correlation is confirmed.
- Acquired previous managerial experience from foreign markets on behalf of top managers brings positive aspects in the corporate governance in the form of achievements in trade negotiations and new business contracts. Strong correlation is confirmed in this aspect.
- This research has shown that contacts management has been important in the penetration of Slovak dairies into target foreign markets. Out of 22 dairies surveyed, 15 claim that management contacts were useful in establishing their businesses in the international environment. Correlation is confirmed in this aspect.
Analiza odabranih aspekata medunarodnog poslovanja u slovačkim mljekarama u okviru EU-a

Sažetak
Rad se bavi procjenom aktualnih trendova u mljekarskoj industriji u Slovačkoj, s naglaskom na kvalitetu mliječnih proizvoda i njihov plasman na inozemna tržišta. Analiza je pokazala da je za promatrane tvrtke veoma važan poticaj prisutnost u medunarodnom poslovanju. Mnogo je veći naglasak dan na redovne narudžbe iz inozemstva, koje bi trebale dovesti do zajamčene prodaje mliječnih proizvoda na međunarodnom poslovanju. Analiza pokazala je za proizvođače mliječnih proizvoda i njihov plasman na mliječnoj industriji u Slovačkoj, s naglaskom na kvalitetu mliječnih proizvoda i njihov plasman na međunarodnom tržištu.

Ključne riječi: mljekarstvo, mliječni proizvodi, međunarodno poduzetništvo, Europska unija, Slovačka

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