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Research Article

ECONOMIC PERFORMANCE OF SLOVAK AGRIFOOD BREWERY AND MALTERY

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ABSTRACT

Agricultural production is closely linked to the food industry, but also other sectors that provide inputs for agricultural activities. Brewing-malt department is one of the important food sector. Slovakia is not considered a typical brewing country, because on its territory except brewing there is also traditional production and consumption of wines and hard spirits. But drinking beer has a strong tradition in our country caused by linking the cultural ties with the Czech Republic and Germany. Slovakia in the past in terms of traditional methods of production was agricultural land, but under the influence of the transformation of economic development fundamental it has noted changes and the gradual reduction of agricultural production. In this article I will analyze the economic performance of the Slovak agri-food industry in the field of brewing - the malting.

INTRODUCTION

Slovak economy has adjusted to the so-called western models, ie achieve a high level of services at the expense of traditional sectors of the economy, which led the agricultural sector to limit its profitability and attractiveness of the impact on employment in rural areas (Chrastinová, 2015). Brewing and malting in global food industry belong to sectors with a high concentration of production and capital. These tendencies in Slovakia are associated with the entry of foreign capital, which is in the capital in 2013 accounted for 81,1 percent. Slovak economy grew in 2014 faster than the economy of agriculture and food, which was reflected in the decline of agriculture, both important indicators of the national economy - gross value added, intermediate consumption and employment.

Negative growth in the price level caused deflation. Some economists consider deflation as part of the healing process in the economy during the recession with a tangible impact on economic efficiency and consumer welfare, depending on the voluntary choice of employers, capitalists, entrepreneurs and consumers, or involuntary government intervention (Salerno, 2002). Among the basic requirements of economic performance belong competitiveness of enterprises. Competitiveness is now an important and topical issue due to the still growing world market and linking economies. In economics, the term "competitiveness" has many meanings and specific definition depends on economic theory. Competitiveness is a relative term – it evaluates and compares the company with its competitors (Hron, Tichá, 2003). According to Porter (1994) the ability is to gain competitiveness in the long term to maintain a competitive advantage, especially by low-cost and by distinction of our own production from the competitive. Assess of the competitiveness of the agricultural foreign trade can be based on an index of apparent comparative advantages - RCA (Pohlová, Říhová, 2014).

The economic situation of farms is dependent on external and internal factors. The measure of business success is the result - profit, respectively loss. Intrinsic capital in the form of profit depends on the rate of transformation of generated profit to cash, which is related to the cost of revenues and cash flows. Trading income determines its options as its own internal power of self-financing and also the degree of satisfaction of the claim owners who provide venture capital in the form of external own funds - equity capital (Harumová, 2008). Slovak agriculture until recently lacked a long-term conceptual approach to its development. For this reason, there has been a drastic reduction in the overall competitiveness of Slovak agriculture in the common EU market. "We slump in agricultural output and food security rate has fallen below 50% of effective aggregate demand of the Slovak population for food," as stated by the Minister of Agriculture and Rural Development of the Slovak Republic Jahnátek.

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The food industry in Europe is one of the most important sectors in the global economy of high importance for economic and environmental development, as well as for social welfare. The food chain is relatively complex, i.e., it includes a wide range of economic activities, which include the variety of products of the rate of consumption (Guerin, Velilla, 2010; Wijnands *et al*., 2007). Although the food industry is one of the world's leading industrial sector with significant impacts on the global economy, according to some authors (Turi *et al*., 2014; Latruffe, 2010) has so far been little research done on this topic and to solve its specifics and problems. With the Slovak competitiveness of agri-food commodities on the domestic and foreign markets in Slovakia deal (Matošková, Galik, 2014). Since there are several approaches to the expression of competitiveness, the existence of a number of methods of assessment corresponds with it. Selection of the appropriate methods for assessing of competitiveness depends on the availability of input data and the main objective of the analysis.

According to (Krížová, 2008) one of the persistent phenomena at present is the fact that the farm as manufacturer of raw materials for food production loses a decisive influence on the food market. Moving force is given to the finish articles.Processing and distribution puts the farmer in a position dependent on the Conditions of assignment by dominating operators in the food chain. This is evidenced not only in the growing economic power of business and the food industry in shaping the demand for food, but also a declining share of agricultural raw materials in the structure of the consumer price of the final food product.

Economic efficiency value several Slovak and foreign authors from different aspects. Important role in the economy of farms play a support mainly from the EU. The initial purpose and objectives of the support to agriculture was to improve the income situation of agricultural producers with regard to the social interest as shown by the Foltýn, (2008). When evaluating the development of the Slovak Agriculture and Food (Blaas, 2015) he notes that Slovakia lags behind in the use of resource potential of food production. Given the current turbulent changing economic environment it is essential to forecast the future financial development of businesses (Hyránek, Geell, Nagy, 2014).

When evaluating the sector, the SWOT analysis is crucial, which in terms of side-effect assesses the strengths and weaknesses of the sector (firms) compared to the competition. According to (Kotler, P. 2007) The analysis shall include the missed opportunities and threats (i externalities), which the industry (firms) face. Although the SWOT analysis has its laws, some authors treat it differently. Food industry has been analyzed by tracking method by (Matošková, Gálik, 2013), and in the Czech Republic (Plášil, Mezera *et al*. 2010). From its results it showed that businesses in the food industry in the EU is generally heavily influenced by sufficient financial capital, respectively access to financial resources and the quality and quantity of human resources.

The cause of loss of farms, in addition to the high costs is also a lower level of input, measured in production consumption per 1 ha, less creation of added value, but also higher livestock numbers, which, due to low price products contribute to a loss (Grznár, 2014). One important aspect of activity of the company is its ability to repay obligations, the ability to survive economically. Reasonable management requirements is that the indicators are in a certain ratio, ie. uniform or a higher level of short-term receivables and financial assets as short-term liabilities is a prerequisite for the smooth functioning of the company in the short term (Chajdiak, 2004).

MATERIALS AND METHODS

The analysis is based on the basis of available statistical sectoral data on Slovak Agriculture and Food. To identify the current economic situation of farms I used a database MPRV SR of fact sheets, operated by NPPC-VÚEPP in Bratislava, which included in 2014 figures for 2441 farms in Slovakia (types of legal and natural persons). To analyze the food industry, I used the summary statistics and sectoral data from the report MPRV SR on Food. In the analysis I used the standard methods of research work, such as analysis and synthesis, comparison, classification of the business and graphs of selected indicators for five years. The economic situation in agriculture is subject annually producing reports on Agriculture and Food of the Slovak Republic - the Green Report, which includes aspects of macroeconomic and sectoral, ie view of the economic and production performance of businesses in agriculture and the food industry, including factors of production and foreign trade as well as with EU countries. The findings from these analyzes are used in the article. Analyses are focused mainly on brewery and maltery.

RESULTS AND DISCUSION

In the EU, a total of about 4500 breweries, which in 2012 produced 390 million hectoliters of beer. These breweries amounted to 111 billion euros in hospitality and retail. Brewing industry is vital for the EU economy as a region and is the second largest producer of beer in the world. Brewing had a considerable impact on employment (2 million jobs), value added (51,5 billion euros) and government revenue (53 billion euros). Beer consumption amounted to 357 million hectoliters. Table 1 shows the economic impact of beer on EU employment per millions of jobs, added value in billions of euros and government revenues in billions of euros. For comparison, we show the same indicators representing Slovakia share - shown in Table 2 economic impact of beer production in Slovakia in the teritorry of employment, in the number of jobs, added value in millions of euros and government revenues in millions of euros.

Table 1 Economic impact of beer in the European Union (2008-2012)

Indicator	2008	2010	2012
Total employment (million jobs)	2,3	2,05	1,97
Value added (billion Euro)	55,17	50,24	51,45
Government revenues (billion Euro)	54,16	50,92	52,97

Source: The Contribution made by Beer to the European Economy Full Report - December 2013, own processing.

Table 2 Economic impact of beer in Slovakia (2008-2012)

Indicator	2008	2010	2012
Total employment of jobs	20.800	16.500	17.600
Value added (million Euro)	234	191	222
Government revenues (million Euro)	216	211	228

Source: The Contribution made by Beer to the European Economy Full Report - December 2013, own processing

Slovak brewing supports by its activities also other sectors of the Slovak economy since the beer production significantly supports input suppliers, especially suppliers of agricultural products since more than 82% of the raw material is from Slovakia. Similarly Slovak brewing is generating employment in other sectors of the economy - a total of more than 19 000 jobs Slovak brewing-malting industry is a significant contributor of funds to the state budget, because every year it contributes around $ 110 million euros in taxes and levies. In 2014, Slovakia produced 2 857 404 hectoliters of beer and beer consumption per capita in 2014 was 70.4 liters. The most important export commodity of our agri-food industry is malt. While 89% of malt in Slovak malt-houses is from Slovak suppliers. Slovakia has 7 malt-houses with an annual capacity of 284 600 tons.

Table 3 Slovak production capacity of malt houses in 2014

Name of malt - house	Capacity t / year
HEINEKEN Slovensko Sladovne, a.s.	110 800
LYCOS - Trnavské sladovne	65 000
SLADOVŇA , a.s. Michalovce	45 000
Osivo a.s.	30 000
Pivovary Topvar, a.s.	21 000
Tatranská sladovňa, s.r.o.	8 600
Sladovňa Sessler, a.s	4 200
TOTAL	284 600

Source: Hurná, J. (2015), own processing

The favorable impact of the entry of foreign investors on the economic success of the company of the brewing-malting industry is reflected by profit, which in 2013 reached 32.3 million euros. Accordingly to the results achieved the profitability values developed calculated from the costs, revenues, production and sales. Successfulness of surveyed sectors can be documented by the fact that within the food industry (16 production branches) in 2013 the figures were the second highest immediately after Starch industry (Table 4).

Table 4 The profitability of production brewing-malt industry (%)

Rentability:	2004	2008	2009	2010	2011	2012	2013
of costs	1,8	3,8	1,8	0,9	5,2	10	9,9
of proceeds	1,8	3,7	1,8	0,8	5	9,1	9
of production	2,3	4,7	2,3	1,1	6,6	11,7	11,3
of sales	2,3	4,8	2,2	1,1	6,8	10,7	11,6

Source: Departmental statistics. Radela Ltd. Food (MPRV SR) 2014, own processing.

Sales of own products and services to income of reporting industry in 2013 accounted for 77.5%. Their financial volume for the period 2004-2013 increased by 6.1%. The growth of the financial volume of production was higher (10%), with the added value almost no changes in the financing volume for the last 10 years happened (+ 0.3%).

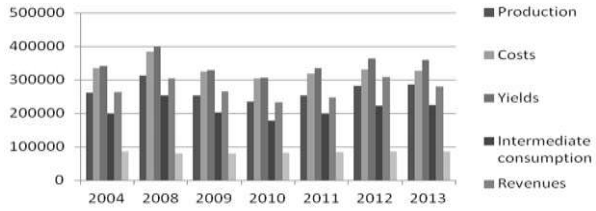

Figure 1 Selected economic indicators of brewing-malt industry (thous. eur)

Source: Departmental statistics. Radela Ltd. Food (MPRV SR) 2014, own processing

Cost of revenue is not high. In 2013 per 100 eur income were spent 91,0 eur costs. In the cost structure the brewing-malting industry accounted for 68.4% of intermediate consumption. On production costs, wage costs accounted for 8.2% ies. Compared to the average monthly wage of the food industry the employees of the brewing-malting industry had higher wages by 49% (1 154 euros), since 2004 these increased by 53.4%. In the year under review in the brewing-malting industry worked 1 944 employees, which was 26.9% less than in 2004. This labor productivity from value added increased by 37.2%, but the rate of increase in monthly wages did not. After 2004, the value of tangible and intangible assets decreased by 26.3%, its shabbiness in 2013 reached 66.6% and was 12.6 percentage points higher compared to the average value of the food industry. In 2013, it invested 20.4 million. EUR, which was about 12.9% less than in 2004, and went to technology investments and 23.5% in buildings and structures 18.3% of investments. Financing of investments was 63,4% sourced from its own resources. To a lesser extent a contribution, bank loans (21.6%) and support for investment in the food industry (15%). Indebtedness of total assets reached 67.4%, which is higher by 16.5 percentage points compared to the average of the food sector indebtedness.

Table 5 Financial self-discipline in the brewing-malting industry (days,%)

Indicator	2004	2008	2009	2010	2011	2012	2013
In accounts receivable	64	71	58	55	72	51	43
Repayment of liabilities from sales of ownproducts and goods	167	166	185	177	165	123	162
The share of liabilities to foreign sourcesof primary production (%)	2	3	2,2	2,5	2,4	3	3,2

Source: Departmental statistics. Radela Ltd. Food (MPRV SR) 2014, own processing

Financial self-discipline of brewing-malting industry in terms of the repayment of its liabilities from revenues to suppliers over the last decade years improved by 5 days. In accounts receivable reporting industry by its customers was reduced by three weeks. A comparison of the time of collection of receivables and payment of debt implies that the monitoring industry in 2013 with its obligations to suppliers (mostly farmers) have paid for four months (119 days) longer than his trade receivables have paid. The share of liabilities to foreign sources of primary production in the reporting period ranged from 2 to 3.2% with a slightly increasing trend. It follows that the brewing-malt department, while reducing the time to pay their obligations, but not the share of financial liabilities to primary production.

Table 6 Number of companies in the brewing-malting industry

Indicator	2004	2008	2009	2010	2011	2012	2013
In total, of which:	14	12	12	12	13	13	28
By employees							
Micro (0-9)	1	0	1	1	2	2	12
Small (10-49)	3	5	4	4	4	5	9
medium (50-249)	7	5	5	5	5	4	5
large (250 or more)	3	2	2	2	2	2	2
According to profitability							
profit	12	10	9	8	9	12	18
lossy	2	2	3	4	4	1	10
According to capital							
including of foreign capital	6	5	5	5	5	5	5
only domestic capital	8	7	7	7	8	8	23

Source: Departmental statistics. Radela Ltd. Food (MPRV SR) 2014, own processing

In the reference field in 2013, 28 business entities, 5 of which possessed foreign capital. During the evaluation period of one decade two medium and one large enterprise disappeared and were established 17 companies with a maximum of 49 employees, of which 11 were micro enterprises. The concentration of brewing-malting industry, which can be precisely quantified by the degree of concentration (CR) measured by the production of products, compared with 2008 decreased slightly. In 2013, the three largest processing enterprises produced 79.3% of the products, the five largest enterprises 86.9% of the products and the 10 largest enterprises 97.3% of total production in the brewing-malting industry.

Table 7 The degree of concentration (CR) in the brewing-malting industry (%)

Indicator	2004	2008	2009	2010	2011	2012	2013
CR3	71,8	81,1	85,9	85,2	82,2	82,1	79,3
CR5	86,8	89,1	92,1	92,1	90,3	90,3	86,9
CR10	97,6	98,6	99,6	99	98,4	99,1	97,3

Source: Departmental statistics. Radela Ltd. Food (MPRV SR) 2014, own processing

Enterprises of the brewing-malting industry, which in 2013 reached the largest volume of sales of own products and services: 1. Heineken Slovakia, Inc., Hurbanovo; 2. Topvar Brewery, Inc., Velky Saris; 3. Heineken Slovakia Sladovne, Inc., Hurbanovo; 4. Sladovňa Michalovce, a.s .; 5. Pivovar Steiger, Inc., forges; 6. LYCOS -Trnavské malt, Trnava. Malt is our major export commodity, and its production is related to the availability of high quality malting barley which malting industry buys mainly from local origin. The volume of production in the period malt brew, compared to the borderline years increased by 5.7%. Malting production capacities are currently used on 87.3%.

Table 8 Capacity utilization in brewing-malting industry (%)

Commodity	2004	2008	2009	2010	2011	2012	2013*
Manufacture of malt	93	59,9	73,8	69	78,6	92,6	87,3
Beer production in total:	68,9	69,1	65,6	69			71,8
Bottled beer	68,5	78,7	74,9	80,3	52,8	53,7	76,6
Beer keg	66,8	61,5	54,2	65,6	58,4	55,4	47,6
Beer in cans	94,7	68,7	67,6	64,8	41,1	47,5	56,7

Source: Departmental statistics. Radela Ltd. Food (MPRV SR) 2014, own processing. *methodology change

Total beer production in 2004 fell by almost a third. The causes of that condition are mainly the decline in beer consumption per capita (from 82.4 liters to 71.5 liters) due to increased excise tax on beer and foreign competition. Retail chains are pushing for selling price of beer, so foreign, respectively multinational enterprises in order to minimize the transport and marketing costs were moving part of theur production directly to the destination country.

Table 9 Manufacture of products of malt-brewing industry (hectoliters, tones)

Commodity	2004	2008	2009	2010	2011	2012	2013*
Manufacture of malt	224580	340528	215411	218825	211768	239703	237354
Beer production in total:	4243182	3551442	3506990	3215073	3082258	3144650	2948979
Bottled beer	2172200	1792185	1905091	1728271	1521474	1547684	2440822
Beer keg	1821589	1326352	1175821	1078608	1010944	961163	68024
Beer in cans	249393	532905	426078	408194	549840	635803	440133

Source: Departmental statistics. Radela Ltd. Food (MPRV SR) 2014, own processing. *methodology change

In the period 2004-2013 processing and consumer beer prices recorded an upward trend, the growth rate of consumer prices because of foreign competition and rivalry among retail chains was about 30 percentage points below.

Table 10 Selling prices of selected products in the brewing-malting industry (eur/l kg/l)

Commodity	2004	2008	2009	2010	2011	2012	2013
Beer made from malt	0,45	0,56	0,58	0,61	0,65	0,7	0,68
Unroasted malt	0,32	0,42	0,36	0,27	0,32	0,39	0,4
Roasted malt	0,46	0,44	0,53	0,52			

Source: Statistics SR, own processing.

Malt is used as raw material for further processing. It is positioned to business network as a processed product, especially in specialized stores and in small quantities, so the consumer prices are not available. Development factory price of roasted and unroasted malt was variable, while the price of unroasted malt less processed the last decade has risen by a quarter.

Table 11 Consumer prices of beer

Commodity	2004	2008	2009	2010	2011	2012	2013
Bottled beer 12° (0,5 l)	0,54	0,57	0,60	0,61	0,64	0,64	0,65

Source: Statistics SR, own processing

Brewing-malt industry in foreign markets traded with beer, malt and brewers grains. The total value of its exports in the period 2004-2013 increased by 55.3%. In the same period, total imports more than doubled (+ 105.6%). Said union in the long term has generated positive trade balance, but its development has a fluctuating trend. Comparing the border years, however, we can observe a positive shift, as evidenced by the increase in surplus value by 32.7%. The causes of that condition are set out below, which analyzes foreign trade with the specific commodity. Malt as food preparations, it is within the portfolio of products of beer- malting industry is our traditional pro-export commodity. This is evidenced by the fact that the total value of exports of the brewing-malting industry in 2013 accounted for 72.4% . In the foreign trade with malt we achieve a positive trade balance, which in the comparison of borderline years of the period under review increased by 35.6%. In 2013,

we exported malt from Slovakia fort 78.6 million EUR, which was 34.5% more than in 2004. As for imports, the value in the years 2004-2013 varied in the range of 0.8 to 60 2.1 million. EUR, while in 2013 the total imports accounted only 2.8% . In this context it should be noted that the basic raw material for the production of malt barley for which the foreign trade exchange is given in the chapter on the mill industry.

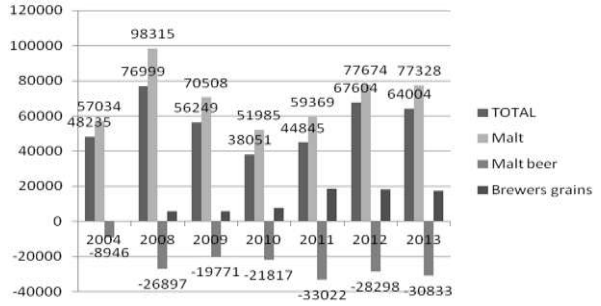

Figure 2 Foreign trade balance - brewing-malting industry and selected commodities (mil.eur)

Source: Statistical Office of the Slovak Republic, own calculations

Final product of brewing-malt industry with the highest value added is beer. The foreign trade in this commodity over the last decade did not evolve in favor of Slovakia, as evidenced by an increase in absolute value of the negative trade balance up to 244.7% (from -8.9 mill. eur to -30.8 mill. eur). After the inclusion of Slovakia into the EU on our trade in beer led to the removal of trade barriers and direct asset links to foreign breweries. Beer exports (mainly to Eastern markets), due to the elimination of transport costs and related sustain competitive benefits is largely being replaced by licensed production in target countries.

Specific figures show that the value of exports of beer in the monitored period relatively significantly varied while moving below the base of the year 2004 in the range of 4,5 to 71.2% (except 2009 and 2013). In 2004, we exported beer for 11.3 million. eur, in 2013 it was at 11.5 million. Eur (+ 1.3%). Conversely, the value of our import has increased more than doubled (+ 108.7%). By-product of beer brewing draff, which has application in the feed industry for its favorable nutritional and dietetic properties. For high nitrogen content, it is necessary to preserve the specified time (drying or ensiling). Its importance in total exports is growing at the time. While in 2004 its market share in total exports brewing industry was negligible (0.2%) in 2013 it involved to 17.1%.

In the long run a decisive influence on the development of the agro-food foreign trade had the enlargement process of the European Union. Slovak producers and exporters after 2004 quickly adapted to changing conditions and to refocus on trade within the EU common market. Matošková, D. Galik, J. (2009) shows that more than 95% of the Slovak agri-food exports went to countries of the European Union. But points to the negative effect that the products we export cheaper and often below import prices. From the markets of third countries, we have been gradually pushed out of the competition.

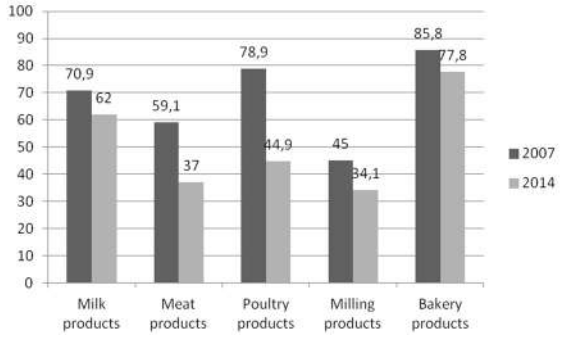

Figure 3 Share of Slovak food products on the domestic market in 2007 and 2014 (in%)

Source: report Potrav (Ministry of Agriculture and Rural Development of the Slovak Republic) calculations by National Agricultural and Food Centre – Research Institute of Agricultural and Food Economics

At present, the domestic market, despite the ongoing problems with sales of Slovak products, are beginning to take shape gradually possibilities for cooperation with producers of food retail chains which, because of active government policy reflected an effort to gradually increase the share of Slovak products in its retail network. With the decline of the economic recession and also due to food scandals in Europe, the demand for Slovak foods in our market begins to recover gradually.

CONCLUSION

Adapting agriculture to the new conditions after the EU requested to formulate priorities of Slovak agrarian and food policy in order to increase efficiency, productivity and competitiveness in Europe's single market environment and promoting these priorities within the EU. In the competitiveness of Slovak agro commodities there are significant reserves. Globalization processes have brought about the entry of multinational retail chains, which to us are imported too many competing food foreign origin, which on one hand encourages manufacturers to produce as efficiently as possible and providing them with the possibility of expanding sales, including entry into foreign markets and a high standard of selling their products, but downward pressure on prices causes a decrease in performance of the agri-food sector and the growing share of food commodities in the total agri-food imports. Alarming is the fact that exports from Slovakia increasingly agrarian commodities that back to us in the form of processed products, which deepens the negative trade balance, while the share of domestic food on the Slovak market is falling. Given the size of our country and unfolding production possibility in Slovakia it is a priority for Slovakia to achieve the competitiveness of agri-food products primarily in the domestic market, ie resist the pressure of foreign imports and increase the share of Slovak products in the domestic retail network. On foreign markets, we should mainly export excess production to try to keep your current position, or find new sales opportunities. The positive is that with the majority of agrarian commodities we are self-sufficient, respectively we meet the threshold of food security.

According to the article analyzes the profitability of the brewing-malting industry increases. This increase resulted mainly from increased sales reporting industry. Also in the

reporting period the manufacture of brewing products grew in brewing-malt industry (malt and beer). More than 50% increased the number of companies in the brewing-malting industry (from 14 to 28). The largest share of Slovak food products on the domestic market was in 2007 (see Chart 3) when brewing products reached 85.8%. In 2014, these products amounted to only 77.8% market share. In essence, the market share in 2014 decreased compared to 2007 in all categories of products (dairy, meat, poultry, grain mill bakery and brewing). Overall, however, the brewing - malt industry has a positive impact on the Slovak economy. At present, the growing demand, consumption and production of beer helps Slovak economy and employment and the entire industry brings around 17,600 job positions. The most significant contribution to the labor market however brings a synergistic effect in the beverage industry and trade, which is estimated to increase together more than 12,100 positions. Unlike most European Union countries, moreover, the number of jobs related to beer in pubs since 2010 is growing. Foreign investors in brewing - malt industry in Slovakia have brought great investment. "Two foreign companies operating in Slovakia for the last 14 years invested more than 330 million euros in the development of breweries, without tax breaks or other incentives. Due to the volume of beer production, which today reach, we manage to keep jobs in the economically weakest regions of Slovakia. Cooking and drinking beer, of course, has a positive impact on the state budget of Slovakia.

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Indicate in the form of text with reference for example: "This contribution is the result of the project VEGA VEGA (1/1067/15) "Verification, and implementation of modeling business performance in financial decision-making tools".

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