# Analysis of the Situation and Competitiveness of Hungarian Pasta Industry (based on Porter's model)

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*Abstract: Our present study wishes to introduce the market situation of pasta manufacturing industry based on secondary sources. Pasta industry subsector, belonging to bakery and pastry sector, is considered to be one of the basic food products in food industry.*
*The analysis takes a lookout on the world, on Europe and Hungary, besides we search for the resource of long-term competitiveness. It is a major problem that the actors of the concentrated pasta industry can get into an asymmetrical bargaining position in the strong competition according to their power. Another problem is that the private label products of domestic retail companies have an adverse impact on domestic pasta manufacturing.*
*We explore the present situation as well as domestic and international judgement of pasta industry by means of Porter's Five Forces model. We map the structure of pasta manufacturing industry sector; beside the supply and demand conditions, our study also covers the characteristics of rivalry within the industry and inter-company relations.*
*It can be clearly seen from the analysis that those sustainably competitive companies who are able to renew themselves continuously in the pasta market or try to establish another type of need and consumer culture with a range of special products.*

*Keywords: pasta industry, market situation, competitiveness, Porter's model*

## 1 Introduction

Our study wishes to draw a picture about the competitiveness and market situation of food industry based on secondary sources. The definition of pasta industry subsector belonging to bakery and pasta sector is defined by KSH (TEAOR number) and the directive No. 2-85 of the Hungarian Food Book[1]. According to this definition, the examined product, i.e. pasta production within the "Bakery and Pastry" received classification 1073. This definition includes dry pasta as well. The chapter of Dry Pasta of the Hungarian Food Book also groups dry pastas and provides the products with different compositions with identification number. According to nutrient content, it distinguishes pastas: with eggs, durum, home-made, and pasta made from other grist; according to method of preparation, it distuinguishes pastas: made by machine, by hand; according to shape: fibrous, small and debris pastas. It fixes the usable materials, the process of production, quality requirements, and the marking order on the packaging. [2] We are interested in how concentrated the pasta market is and how symmetrical the actors's bargaining position is, and how the products of domestic retail networks impacts domestic pasta manufacturers. We map the situation of competitiveness of pasta industry by means of Porter's diamond model. Originally, the model of Michael E. Porter was introduced as an instrument for creating the company's strategy[3]. The theory and the practice proved that not only at company level[4], but also it is suitable for the analysis of an industry sector.

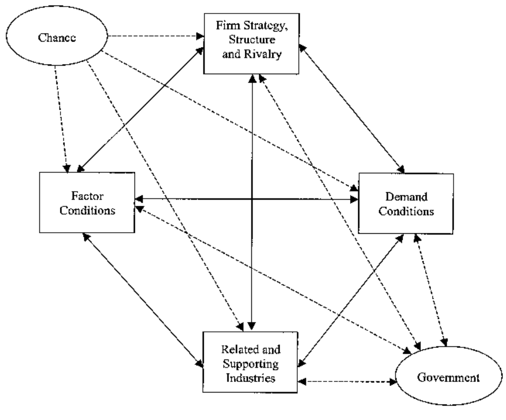



Figure 1.
Porter's diamond model of competitiveness
Source: Based on Porter, János Varga (2014) p164.

1 KSH TEAOR. www.teaorszamok.hu
2 Magyar Élelmiszerkönyv. www.omgk.hu/Mekv/2/285.html
3 Morter, M. E. (1993) Versenyképesség. Akadémia Kiadó Budapest.
4 Lehota József (2003) A gabonaszektor piacelemzése. Agroinform Kiadó. Budapest.

# 2 The structure and financial competition of pasta industry sector

The produced quantitiy on the worlds' pasta market was 13,5 million tons in 2012, of which the great majority was produced by the determinative actors. The EU was ranked first, the second is North America and the third is South America. This data changed, according to the estimation in 2016, Middle and South America took over the lead, shortly before the European Union.

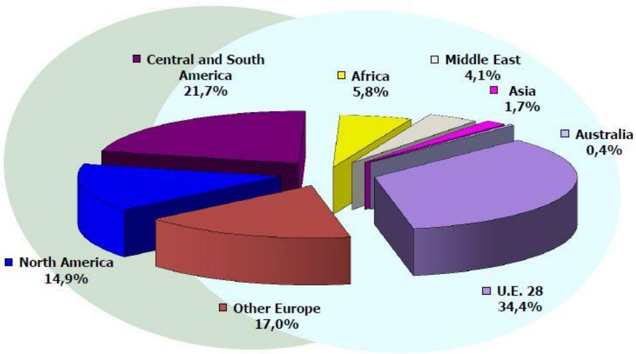



Figure 2
The world's pasta production (2006-2015)
Source: http://www.pasta-unafpa.org/ingstatistics2.htm

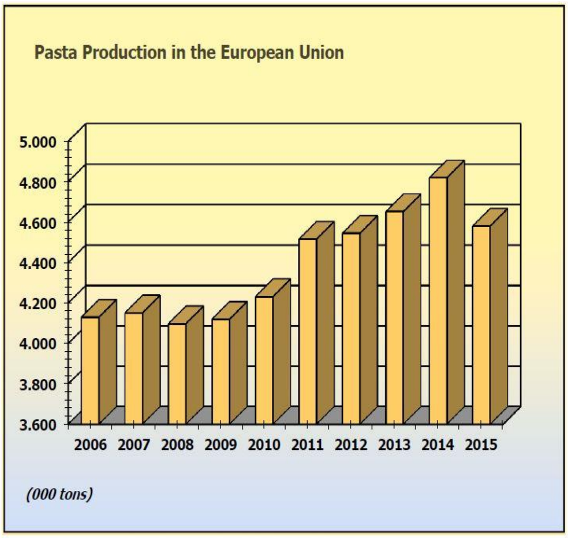
Between the countries, 25 percent of the world's pasta emission was given by Italy. This quantity makes up 6 percent of the Italian food industry. Besides, the USA with 14-15 percent, Brasil with 9-10 percent, Russia with 7-8 percent contributes to the world's pasta production. Hungary is in the 25th on list of 47 countries.[5]

Considering pasta consumption per capita, Italy is in the first place in the world with 26/kg/per capita per year in 2012, the inhabitants of Venezuela are in the second place with the quantity of 13,2 kg /persons/year. In the third and fourth place are Tunisia (11,9/kg /person/year) and Greece (10,6 kg /person/year). Hungary is in the 15th place with the consumption of 7,5 kg pastas. (International Pasta Organisation, 2013. cites Katalin Székelyhídi, 2016. p148.)

5 Katalin Székelyhídi, 2016. p147

| | | | |
|---|---|---|---|
| Italy | **23.5** | Belgium - Lux. | 5.4 |
| Tunisia | 16.0 | Estonia | 5.3 |
| Venezuela | 12.0 | Bolivia | 4.8 |
| Greece | **11.2** | Costa Rica | 4.4 |
| Switzerland | 9.2 | Netherlands | 4.4 |
| Argentina | **8.8** | Lituania | 4.4 |
| United States | 8.8 | Poland | 4.4 |
| Iran | 8.5 | Latvia | 4.1 |
| Chile | 8.5 | Dominican Rep. | 4.0 |
| Germany | **8.0** | Australia | 4.0 |
| France | **8.0** | Israel | 4.0 |
| Peru | 7.8 | Ecuador | 3.9 |
| Russia | 7.8 | Panama | 3.8 |
| Sweden | **7.7** | United Kingdom | 3.5 |
| Turkey | 7.5 | Finland | 3.2 |
| Hungary | 7.5 | Guatemala | 3.0 |
| Uruguay | 7.5 | Colombia | 2.7 |
| Croatia | 7.3 | Mexico | 2.7 |
| Austria | 7.0 | Romania | 2.7 |
| Portugal | **6.6** | Denmark | 2.0 |
| Canada | 6.5 | Libya | 2.0 |
| Slovenia | 6.4 | South Africa | 1.9 |
| Czech Republic | 6.4 | Japan | 1.7 |
| Brazil | 6.0 | Egypt | 1.2 |
| Spain | **5.0** | Ireland | 1.0 |
| Slovak Republic | 5.0 | El Salvador | 1.0 |

Table 1.
Manufacturing of the world’s pasta products (Tons)
Source: http://www.pasta-unafpa.org/ingstatistics2.htm




*Source: UN.A.F.P.A. - Data in bold are updated to December 2015*

Figure 3.
The manufacturing of the quantity of pasta in the European (2006-2015)
Source: http://www.pasta-unafpa.org/ingstatistics2.htm

Examining dry pasta manufacturers, it can be said that in the rankings Barilla Holding is the first, which is the market leader in the United States and in Europe equally. The second actor is the Spanish Ebro Foods, who is present in 25 countries with its 5,5 percent share. The third in the rankings is the De Cecco firm, who is in the market with its 2,2 percent share with its traditional and health conscious products. Barilla reached the highest turnover in pasta production in 2016 (393,7 million euro), followed by Ronzoni brand, its turnover was 73,6 million euro in 2013. (Statista, 2013. cites Katalin Székelyhídi, 2016. 150. p.)

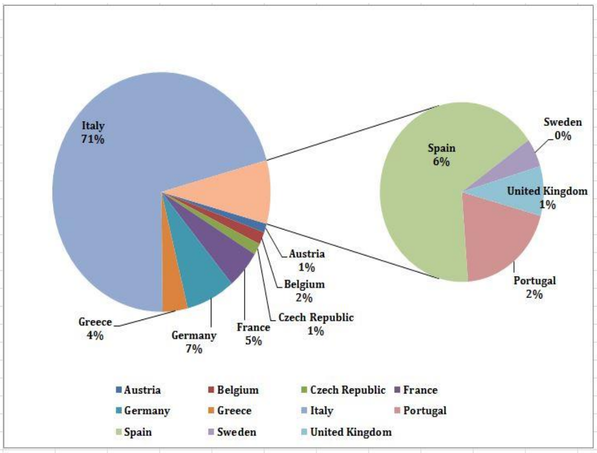



Figure 4.
The composition of pasta market in the European Union
Source: http://www.pasta-unafpa.org/ingstatistics2.htm

Another important trend in the pasta market is the rise of commercial brands. Till the 1970 years industrial brands of manufacturers have dominated the consumer market. With the concentration of retailers network, retailers' brands entered the market, which was of a lower quality at the beginning. The third and fourth generation however, due to higher quality assurance system are similar to manufacturer's brands since responsinility for food safety has increased. Commercial brands moved around 70 percent in the UK, in Spain and Germany around 40 percent in 2011. (Frozen Food Europe, 2012.) This trend can be observed in the US, since the turnover of retail brands exceeded Barilla's turnover as well. The brand sale of the first ten companies was around 40 percent in 2013 in the European Union, commercial brands are not far behind it (33%). Looking at the same in 2013 in Eastern Europe we can see that the share of the first ten companies was around 40 percent as well. This was 33 percent in 2010. The ratio of pastas the with commercial brands is around 10 percent in the whole pasta market. Hungary is different. In other countries, market is characterized by small pasta manufacturers concentraring on the local market. (Euromonitor, 2014. idézi Székelyhidi Katalin, 2016. 151. p.)

**In Hungary's pasta market** Gyermelyi is the market leader with its sales of nearly 20 billion HUF in 2014. Its share is 33 percent in the market. (Trade Magazin). All part of the product line are carried out by the company itself, from wheat seed production, throughout mills, to pasta manufacturing. Another important actor is Mary Ker Pasta Kft, in 2014 its net sales were 3,1 billion HUF. The ratio of micro-entrepreneurs in pasta manufacturing was 72,2 percent. The ratio of small businesses is 23, 8 percent. The large and medium-sized companies's ratio is 6 percent. However, large companies gave 63,5 percent of the sector's turnover.


Figure 5.
Development of revenue and outcome of pasta industry between 2003 and 2013, on the price of 2013
Source: AKI calculation, based on corporate database of NAV

# 3 The elements of Porter's model

## 3.1 The demand conditions of industry players

"The safety of food supply in developed and moderatetly developed countries has increased significantly, the selection of food has expanded, the technology of industrial food processing has spread and the impact of fashion and lifestyle of consumer behavior has changed. Compared to the two previous decades, the emotional viewpoint of consumer decisions became significant." [6] About the development of the standards and structure of consumer expenditures, it can be seen that, in 2010 the average of the total consumption of the poulation per capita on comparative price was 3,2 percent less than in the previous year. Further decline of household consumption – though 1,1 percent less than the previous year's – happened despite of the fact that the real wages – despite higher inflation

[6] József Lehota (2001) Marketingkutatás az agrárgazdaságban. Mezőgazdasági Kiadó. 29. p.

– increased due to the personal income tax changes introduced in 2010. However, private consumption was held back by the reduction in the number of employees, by the increase in loan repayment burden on the population, and by the increase of living expenses. The growth of domestic retail sales has slowed down in 2016 compared to the same period of the previous year, but still remaines dynamic (4,3%), this has been explained by the rapid expansion of purchasing power. Real earnings in the first quarter rose by 7.4% percent. This can boost the consumption compared to previous year, with a rate of around 3,5 percent next year. Consumer prices barely rose in the first quarter of 2016, (0,3%), but it is the tenth highest in the European Union, compared to the same period of the previous year.[7]

## 3.2 Factor conditions

Raw material production is determined by the situation and availability of natural resources in the country. The availability of water resources throughout the whole country allows for an increased yield and efficiency in agricultural production. Natural conditions in Hungary are favourable for geothermal energy production and utilization. Hungary has a quite diverse territory considering precipitation and temperature, because it lies on the borderline of three different climatic zones (oceanic, continental and Mediterranean). Annual precipitation in Hungary ranges between 500 and 750 mm[8]. Hungarian soils have favourable conditions for agricultural production which is suitable for wheat production. There is also a massive and skilled labour force employed in the agricultural sector with qualifications acquired from a wide range of universities, training schools and vocational training institutions. Scientific know-how is also available locally, offered by internationally recognized university experts and research institutes. The agricultural sector employs more than 200,000 full-time workers. The average wage level for agricultural workers has not changed (risen) significantly during the past decade.[9] (Tradehouse)

## 3.3 Company strategy and structers

Pasta production belongs to concentrated classes. In 2013, 151 companies were reported in the class, the turnover of the first five companies was 70 percent. In this same year, the turnover of the first ten companies was 80,9 percent in 2013. As for the structure according to size, the ratio of large and medium-sized

[7] Lassuló növekedés - gyorsuló fogyasztás. GKI Gazdaságkutató Zrt. 30.05.2016. Downloaded: 20.02.2017

[8] http://www.iib.org.tr/files/downloads/PageFiles/%7B2efae485-9a7f-417f-a7cc-5a68a8ad19d5%7D/Files/EK3_TheHungarianAgriculturalAndFoodIndustryLandscape.pdf

[9] Tradehouse: Hungarian agriculture: The potential of tradition and innovation http://www.tradehouse.hu/uploads/document-storage/files/Hungarian%20Agriculture_digital.pdf

enterprises was just 4 percent in 2013, but the revenue of these companies made up 70 percent of the sectors's revenue. In contrast with this, micro-enterprises gave 4,5 percent of the sector's revenue and employed 11,9 percent of employees. Medium-sized companies are in the most difficult situation. Products of small companies - concentrating on the local market – are especially bought by local shops. They would not even be able to serve bigger markets. While large enterprises are able to get into the shelves of large chain stores by their production capacity. Pasta can be bought in all types of shops, but according to different surveys, nearly half of Hungarian customers buy pasta in shops greater than 400 square meters, which most of them are hiper and supermarkets. Small and medium-sized companies thus can specialize in niche markets targeting a specific group of population with pasta specialities (biomarket, ricepasta, pearl pasta, crouton). As for customer needs, two trends can be separated: namely, there is a growing trend for cheap imported products, on the other hand, premium pasta gains ground – high quality and high-priced pastas. Furthermore, it is a global trend that healthy lifestyle is getting more and more popular – as well as – healthy eating, and biopasta has occurred in the market (Szabó, 2006).

## 3.4 Relating and supporting industries

Crop production – as the first stage of product line – can play an important role in the activities of pasta manufacturers. Crop production in Hungary is very diverse: cereal grains (wheat, rye, barley, oats, maize) are in the leading positions with average production yields higher than the European mid-range— even without irrigation. The amount of excellent quality wheat traditionally produced in Hungary exceeded 4.5 million tons in the past years. Crop production safety is supported by the highest technical standards and plant breeding technologies, while quality is ensured by controlled seeds and plant protection authorities. The next stage is milling. In 2013, 57 companies produced grain products, among them 25 produced wheat flour. In 2013, mills produced a total of 910 thousand tons of wheat. Egg, another main component of pasta, comes from poultry farms: Animal farming accounts for approximately 40% of all agricultural activities of Hungary.

## 3.5 Government regulations

Hungary's agri-supported position is especially favourable within the European Union, therefore, basic interest is that within the resources of Common Agricultural Policy (CAP) Hungary's share should not reduce after 2020. Hungary's share in the total CAP budget is 3,2 percent, which is proportionally higher than the weight of the Hungarian agriculture in the European Union, thus for Hungary it would be a better situation if the present subsidy rates, constructions would not change. In 2017, nearly 400 billion euros and around 100 billion HUF national subsidy arrives at the Hungarian agriculture, thereby contributing to the stabilization of farmers' income, which is similarly helped by the availability of affordable credit facilities. The government pays great attention to the support of the high-quality raw materials, moreover, the ministry identified as an important endeavor the way of the product from producer to customer. A remuneration system for quality products has been rolled out by the government. The goal is the accession to the quality system of the European Union.The domestic quality system that wishes to support the product manufacturer, was built on this. Policy makers expect from the system of trademarks and indicators that it is a guarantee for quality, it gives legal protection to manufacterers and increases consumers trust. Thereby the added value of the product is increasing which increses the opportunity of market sale. The last government will in food industry is the sustainable rural development.[10] Industry regulation also discusses crafts pasta products. By the strengthening of consumer awareness there is a growing social demand towards high quality foods such as pasta products. To keep this in mind - subject to the Hungarian consumer habits and expectations – the government renewed Bakery and Confectionery products pages of Hungarian Food Codex. The continuously updated rules guarantee that, by abiding the standard and appropriate expertise, high-quality products can be made.

### 3.6 Chance

There can be several type of risks in food industry that manufacturers have to face: Natural risk: Factors such as drought, floods and rainy harvest periods can influence raw material production. Supply chain risk: Compared to other industries, the food sector is particularly reliant on its suppliers. Food health safety risks*:* One of the biggest risks associated with the food industry is health. Products need to be stored at certain temperatures, expiration dates need to be monitored, cross-contamination needs to addressed and the list goes on. In food processing, a hazard is a biological, chemical, allergenic or physical substance that has the potential to harm. It may also be a condition (e.g. high humidity) that could cause harm. Risk management is very important in food industry – as well as in pasta industry. Errors can result in more than just productivity problems, consumer health can be put at jeopardy.

## Conclusions

In our study we examined the situation and competitiveness of pasta manufacturing industry by means of Porter's model. It could be seen from the analysis that pasta market is concentrated. Entering the pasta market is not easy as there are several barriers that can make it difficult for new competitors to set up a business, such as the existing price level, significant capital investment is required

10 Pallóné Dr. Kisérdi Imola (2010) Európai Unió és a hazai programok a hagyományos és tájjellegű élelmiszerek piacán. In.: Marketing a hagyományos és tájjellegű élelmiszerek piacán. 51. p.

to start a business, well-known brand names and the access to distribution channels. Small companies face intense rivalry in the industry especially from large competitors. Product differentation allows business to compete in areas other than price, such as taste, colour, consistency, etc. Offering innovating products may help establish a business. Manufacturers which sell pasta with added attributes are differentiating their products and can earn profit.
An important trend in the pasta market is the rise of commercial brands. In some cases the turnover of retail brands may exceed the market leader's brand turnover in pasta market. We can conclude from the analysis that those sustainably competitive companies who are able to renew themselves continuously in the pasta market or try to establish another type of needs and consumer culture with a range of special products.

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