ANALYSIS OF ENTRY BARRIERS IN HIGHLY CONCENTRATED SECTORS OF LATVIAN ECONOMY: CASE OF GRAIN PROCESSING INDUSTRY

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Abstract
Encouraging of competitive relations and strengthening of competitive position of domestic producers on both national and EU common market of products and services become one of the main priorities of national economic policy. Latvian national interests are closely related to the maintenance of the competitive environment as an important factor for increase of competitiveness of separate commodity, enterprise or industry, which is able to provide economic growth in the circumstances of declining the business activity and strong competition on internal and external markets. However, fair market competition takes place only on the markets where there are no any essential obstacles and barriers for potential entry of new market actors. That is why the present article is prepared on the basis of case study carried out for Latvian grain processing sector with the purpose to describe and qualitatively assess the effects of various entry barriers, which really exist on the domestic market.

Key words: Entry barriers, concentration, Competition Council, Herfindahl-Hirschman index, grain processing sector.

Introduction
The current development of Latvian national economy is strictly oriented on close integration into the Common European economic environment. The main precondition for such successful integration is inevitably related to the increase of efficiency and competitiveness of the main sectors of Latvian economy.

At the same time the encouraging of competitive relations and strengthening of competitive position of domestic producers on both national and EU common market of products and services become one of the main priorities of national economic policy. Latvian national interests are closely related to the maintenance of the competitive environment as an important factor for increase of competitiveness of separate commodity, enterprise or industry, which is able to provide economic growth in the circumstances of declining the business activity and strong competition on internal and external markets.

However, fair market competition takes place only on the markets where there are no any essential obstacles and barriers for potential entry of new market actors. Therefore to analyse and monitor the market concentration in case of different industries of Latvian economy as well as to identify potential entry barriers, which nowadays exist is extremely important.

The article was written with the purpose to acquaint the readership with the main results of research carried out by RISEBA group of scientists, making the analysis of competitive environment and entry barriers exist on Latvian market of grain processing products. The article is prepared on the basis of case research carried out for Latvian grain processing sector within the research project requested by Ministry of Economics with the purpose to identify the highly concentrated sectors of national economy as well as to describe and qualitatively assess the effects of various entry barriers, which really exist (RISEBA, 2008).

In order to succeed the main purposes of the article the following tasks were carried out: 1) on the basis of calculated concentration ratios and other concentration indicators to assess the level of concentration in Latvian grain processing industry; 2) on the basis of scientific sources and legislative documents to identify the main types of entry barriers exit on the market; 3) to characterise the competitive environment in Latvian grain processing industry; 4) to provide the practical proposals to the Ministry of Economic of Latvia and Competition Council for improving of competitive environment.

The article consists of three main parts. The first is devoted to describing of main materials and methods used during the research. The economic performance of the Latvian grain processing sector with particular emphasis on the description of main market players is reflected in the second part of the article. The third part contains the discussion and main results referred to entry barriers’ analysis. The conclusions present the main outcomes of case study.

Materials and Methods
Assessment of entry barriers was done on the basis of quantitative analysis of the market shares of the industry
as well as on the results of survey organised among the various market actors (newcomers and experienced market players). Taking into account specificity of the topic, the lack of information and applied character of the research made, a lot of various sources of information and materials were used. Very often the authors were obliged to use the legislative acts and documentation, statistic information, scientific sources as well as other publications available in mass media and internet (see the References).

**General description of Latvian grain processing industry and main market actors**

The Latvian production of cereal products is one of the biggest industries in national sector of food and beverages' production. According to the data of Ministry of Economics, in 2007 grain processing made 18.2% of total value-added produced in Latvian sector of food and beverages (Ministry of Economics, 2008).

Data of Central Statistical Bureau (CSB) shows that in 2006 a total of 25 enterprises were operating in grain processing and starch production sector. The number of enterprises is relatively stable since year 2004.

In 2006, the industry is total turnover was LVL 45.4 mln. The list of 15 largest enterprises in the industry is seen in Table 1.

Leader positions in grain processing industry (NACE 15.6) are taken by two joint stock companies ‘DOBELES DZIRNAVIEKS’ and ‘RĪGAS DZIRNAVIEKS’. In 2006, their total share in total industry’s turnover was more than 75%.

At the same time, many of the enterprises indicated in Table 1 are engaged not only in grain processing, but also in bread production, e.g. ‘DOBELES DZIRNAVIEKS’, ‘DOLLE’, ‘LATGALES MAIZNĪCA’, ‘RĒZEKNES DZIRNAVIEKS’, and ‘ZEMZARI’.

‘POPCORN CINEMA’ is engaged in production of popcorn as well as in the trade and repairing of technical equipment for food producing companies.

‘ALOJA-STARKELSEN’ is one of the main producers of starch and starch products in Latvia.

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<thead>
<tr>
<th>No.</th>
<th>Enterprises</th>
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<tbody>
<tr>
<td>1.</td>
<td>‘AILANS’ Ltd</td>
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<tr>
<td>2.</td>
<td>‘ALOJA-STARKELSEN’ Ltd</td>
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<td>3.</td>
<td>‘AUCES DZIRNAS’ Ltd</td>
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<td>4.</td>
<td>‘DOBELES DZIRNAVIEKS’ J.s.c.</td>
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<td>5.</td>
<td>‘DOLLE’ Ltd</td>
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<td>6.</td>
<td>‘JELGAVAS DZIRNAVAS’ J.s.c.</td>
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<td>7.</td>
<td>‘LATGALES MAIZNĪCA’ Ltd</td>
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<td>8.</td>
<td>‘MĀRUPES DZIRNAVAS’ Ltd</td>
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<td>9.</td>
<td>‘MILZKALNE’ Ltd</td>
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<td>10.</td>
<td>‘POPCORN CINEMA’ Ltd</td>
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<td>11.</td>
<td>‘RĒZEKNES DZIRNAVIEKS’ J.s.c.</td>
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<td>12.</td>
<td>‘RĪGAS DZIRNAVIEKS’ J.s.c.</td>
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<td>13.</td>
<td>‘ROVEL’ Ltd</td>
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<td>14.</td>
<td>‘VENTSPILS DZIRNAVIEKS’ Ltd</td>
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<td>15.</td>
<td>‘ZEMZARI’ farm</td>
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Source: CSP non-published data.

On the basis of quantitative analysis of specially ordered unpublished information from CSB it is possible to conclude that Latvian grain processing industry can be classified as highly concentrated sector of national economy. In the year 2006, the share of four biggest grain processing enterprises was 88% in the total industry turnover.
**Production output and sales in 2004.-2007., thsd. LVL**

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<tr>
<td>Production output, thsd. LVL</td>
<td>25 647</td>
<td>26 248</td>
<td>27 221</td>
<td>36 497</td>
<td>42.3%</td>
</tr>
<tr>
<td>Total sales, thsd. LVL</td>
<td>26 232</td>
<td>26 890</td>
<td>27 348</td>
<td>36 811</td>
<td>40.3%</td>
</tr>
<tr>
<td>Sales on local market, thsd. LVL</td>
<td>22 999</td>
<td>22 930</td>
<td>22 781</td>
<td>27 842</td>
<td>21.1%</td>
</tr>
<tr>
<td>Export, thsd. LVL</td>
<td>3 233</td>
<td>3 960</td>
<td>4 567</td>
<td>8 969</td>
<td>177.4%</td>
</tr>
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</table>

Source: CSP data.

In addition, for the same year calculated Herfindahl-Hirschman index value (HHI = 3219) illustrates quite high level of concentration between all enterprises in the industry, as the value calculated considerably exceeds critical border of the concentration (when HHI is higher than 1800 - 2000).

As CSB data shows, production volumes of grain processing industry are growing every year and in 2007 succeeded already LVL 36.5 mln. (CSB, 2008) (see Table 2).

Approximately 75% produced in the industry are spent in the local market, but other 25% are exported, mainly to Estonia, Lithuania and Russia. It needs to mark the rapid increase in export volumes, which in 2007 increased by 2.8 times (177.4%) in comparison with the year 2004. At the same time, volumes of sales of domestically produced grain products on the local market increased only 1.21 times (21.1%) or by LVL 4843 thsd. during the same period of time. Essential increase in export volumes in 2007 was observed because of the high grain harvest in Latvia as well as significant increase in grain prices on the world market.

The main Latvian starch producer, ‘ALOJA-STARKELSEN’ Ltd, exports approximately 70% of the total amount of starch produced, mainly to Estonia and Lithuania.

Strong competition on the domestic market and rapid increase in production costs were two main problems identified by domestic producers of cereal and starch products in Latvian grain processing industry in the middle of 2008.

As industry experts have indicated, after joining the European Union, competitive behaviour of the market actors in grain processing and starch producing sector should not be analysed only within the Latvian territory as grain and starch products are being sold on Latvian market not only by local manufacturers, but also by enterprises from other EU member countries.

For example, Estonian enterprise ‘TARTU VESKI’ takes forth place in sales volumes of flour on Latvian market. In the sector of other grain products there is intense competition among local producers and ‘NESTLE’ and ‘KELLOGG’S’ products. Therefore Latvian grain processors are obliged to compete not only against each other, but also against foreign companies which import their products to Latvia from abroad.

**Results and Discussion**

Analysis of entry barriers on Latvian grain processing market

Analysis of entry barriers and identification of potential competitors becomes extremely important for assessment of real market power and competitive environment on any given market analysed (Farnham, 2005). However, there are a number of important gaps in the textbook analysis (Davies and Lam, 2001). The first is that they pay no attention at all to the possibility of market power on the part of the firm’s customers or their suppliers, which are important features of many industries. The second is that they pay no attention to the factors that determine the key dimensions of market structure (Keat and Young, 2005). Entry, for instance, is said to be entirely free or entirely blocked without any consideration of the factors make it so. Rivalry exists in oligopoly, but not in any other market structures, and the models pay no attention to the factors that determine the intensity of rivalry (Davies and Lam, 2001). In order to fill these gaps left, the best-known approach of ‘five forces’ developed by Michel Porter was used as a basis for analysis of entry barriers made (Porter, 1980). According to the Guidelines of the Competition Council of Latvia “On the definition of concrete markets and assessment of competitive environment”, among the most essential barriers of entry for new market players (new-comers) are (Competition Council of Republic of Latvia, 2006): 1) economic restrictions; 2) administrative and managerial
restrictions (including restrictions for environment and quality issues); 3) disparity of market infrastructure; 4) barriers related to vertical integration/collusions of market actors; 5) barriers related to strategic behaviour of market players; 6) potential market limitations.

All barriers mentioned above were qualitatively assessed in case of Latvian grain processing sector on the basis of survey results obtained from the sector experts, representatives of companies operating on the market.

1.1. Economic restrictions

The main obstacles to enter into grain processing market are related to large investment necessity for organization of technological processes, to large losses in a business cessation case, to achievement of the minimum level of effective operations, and to availability of necessary funding.

In order to start business activities in grain processing industry, large investments are required.

For instance, ‘DOBELES DZIRNAVNIEKS’ owns not only mills (which production power is 300 tons of grain per day), but also elevators (capacity of 100 thsd. tons), feed production plants, groceries and packing manufactures, quality control laboratory, and experimental bread bakery (Dobeles dzirnavnieks, 2008).

In the grain processing sector, the necessary amount of investments for starting of actions is dependent on the way of specialization. According to industry expert estimations, one mill costs LVL 3 millions, but to build an up-to-date grain processing plant with the ability to meet all necessary standards requires about LVL 20 million. To enter industry market on the segment of ecological flour production requires about LVL 1 million. That is why the amount of necessary starting capital can be considered as essential obstacle for new enterprises, planning to enter on the market.

According to the expert view, the credit accessibility could be another important obstacle to the potential market entrants. There are no essential difficulties to obtain the credit for large EU corporations and their daughter companies. However, it might be a problem for those who do not have their own “credit history” (new market actors). At the same time, in the case of bankruptcy, there will be problems to the banks or other financial institutions to sell specific equipment because of negligible second-hand or scrap value.

The required minimum level of efficiency is relatively high in the industry. This fact could affect seriously the decision of newcomers to enter the market. However, in case of large EU corporations there is no any essential obstacle, because they can afford to invest essential funding into up-to-date production technologies. It is necessary to mention that among the shareholders in leading grain processing enterprises as ‘DOBELES DZIRNAVNIEKS’ and ‘RĪGAS DZIRNAVNIEKS’ there are quite powerful foreign enterprises which provide additional support for modernization of production and training of technical staff.

For instance, 80% of shares of Latvian grain processing enterprise ‘DOBELES DZIRNAVNIEKS’ belong to the biggest grain processing enterprise in Estonia ‘Tartu Dzirnavnave’ (Diezina, 2008).

At the same time, ‘RĪGAS DZIRNAVNIEKS’ is part of ‘Lantmännern’ group (Sweden Peasants association of Agricultural marketing, which is one of the largest agriculture and food industry business holding company in Europe) and its largest owner is Sweden enterprise AB ‘Nord Mills’ (Rīgas dzirnavnaveks, 2008).

As industry experts point out, in comparison with new, modern factory built, it is not easy task for large industry enterprises to achieve superiority in the cost level, because modernization of already existing enterprises also requires large investments. “Old” enterprises perform the modernization gradually. So, ‘RĪGAS DZIRNAVNIEKS’ plans to invest essential funding in energy resource optimization, which will allow reducing the energy and heat consumption (LETA, 2008).

As industry experts conclude, purchase of raw materials does not create additional obstacles for new market participants as the main raw material is cultivated in Latvia or can be easily imported from abroad.

At the same time, manufacture of the ecological products can be considered a new niche for the potential market actors taking into account quite rapidly developing biological agriculture in Latvia, which could create favourable conditions for production of the ecological products.

Economic risks are also considered to be a serious obstacle for potential market actors in Latvian grain processing industry. The new risks have appeared in relation to the essential fluctuations in energy prices as well as start of macroeconomic recession at the end of 2007 accompanied by slowdown rate of economic development, unemployment increase, decrease of demand and the economic activity in Latvia and abroad. Therefore, the fluctuating prices of raw materials and necessary production resources, as well as general entrepreneurial activity decrease in the country can be considered as a serious obstacle for new-comers in the industry.

Assessing the impact of border regimes as well as import-export tariffs applicable it is possible to conclude
that this obstacle must not be considered as being influential.

To control volume of grain trade in third countries (emerged markets), there is a licence regime for export and import applicable according the Council Regulation (EK) No. 1784/2003, which describes common market organization measures, including EU grain market as well. Rural Support Service (RSS) accepts the applications for grain importers and exporters by issuing special licences (RSS, 2008).

Border tariffs that are used for Latvian products export to the third countries can not create considerable obstacles for annually growing export of Latvian grain processing and starch products. For instance, ‘RIGAS DZIRNAVIEKS’ develops its business mainly by increase of export volumes. During last years the export of oat and wheat flour to Russia has grown three times, and the enterprise plans to continue its active strategy on the Baltic markets by developing direct deliveries to neighbour countries (LETA, 2008).

1.2. Administrative/managerial restrictions

Food turnover is one of the most regulated business areas and production spheres. Being involved in any food production process, any enterprise has to be ready to fulfil the obligations of diverse set of normative acts, including EU regulations and resolutions, Latvian laws and clauses of the Cabinet of Ministers.

Companies, which would like to start business activity related to grain processing and starch production have to go through the approval procedure including assessment of the company’s ability constantly to meet necessary requirements, accepted by Food and Veterinary Service. Approved companies are able to distribute their product in all territory of EU market without any limitations.

Starting the business, any grain processor and starch producer has to receive the permission of B category for pollution performance. Such permission should be received according to the regulation of the Cabinet of Ministers No. 294 ‘About A, B and C category pollution performance declaration and A and B category permission issuing procedure’. Permission is being issued according to the law ‘About Pollution’ by Regional Environment Department according to the place where polluter is located (according to Article 28 of the law).

In the permission it is required to provide the information about equipment used and its operations, about raw and auxiliary materials, emission sources for the equipment, environmental conditions in the place of location, information about substances emitted into the air, water and soil, as well as about possible environmental effects and possible measures which should done in order to prevent or reduce the production of wastes, wastes’ treatment, and procedures for pollution monitoring.

For the export purposes, grain processors should get the licence which is being issued by Rural Support Service only after approval procedure passed in Food and veterinary service (Ministry of Agriculture, 2003).

According to the EU Council Regulation No.1868/94, potato starch producing company additionally is required to get the sales quota within the framework of entire system of EU sales quotas for potato starch manufacturers. During the yield years 2007/2008 and 2008/2009, potato starch quota for ‘Aloja – Starkelsen’ Ltd was assigned on the level of 5778 tones.

According to the requirements of national normative acts, grain processing and starch producing companies are also responsible for harmlessness and quality of food products produced.

Since January 2006, food turnover and safety is being monitored by EU law and environmental acts, which is based on nine EU Regulations and two Directives.

Regulations give the rights to each manufacturer or processor to be responsible on their own for compliances and confidence to requirements of Regulations. For instance, the processor can substantiate its compliances on the basis of the company’s HACCP (Hazard Analyses and Critical Control Points) procedure.

HACCP is a company’s self-control system, which does not allow the health-harmful products to come down to the consumer. HACCP establishes the general principles and methods of the quality management system. Following them every company makes its own relevant and easy-in-use self-controlling system according to the production specificity.

If the company would like to extend its activities and increase the range of its customers as well as to approve its business on the international level, it is quite useful to get ISO standard 9001:2000 certificate which has been already received by many enterprises in Latvia. This certificate verifies the fact that the company maintains its quality management system and meets united quality standards.

1.3. Barriers related to vertical integration/collusions of market actors

According to the opinions of industry experts, companies, which work already for a long time, have the contracts with grain suppliers, but these are not long-term contracts.

‘DOBELES DZIRNAVIEKS’ is engaged not only in grain processing, but also deals with cultivation of grain in
Latvia and Ukraine, taking significant amount of sowing areas on lease. That is why the company has certain advantages compared to the newcomers and other players on the industry market. Additionally, ‘DOBELES DZIRNAVNIEKS’ organizes different advisory support for its main suppliers in the way of informative seminars and campaigns for grain producers about availability of new agro-technologies, qualitative equipment and machinery, variety of new sorts of crops as well as procurement requirements. It allows to make close contacts with grain suppliers and to strengthen the cooperation.

The industry processing companies produce not only products for further processing, but also for the final consumption. Depending on processors’ clients, the distribution channels for products produced are also different. Essential share of the product produced is sold to the bakeries and confectionaries for further processing. Afterwards big processors bring forward strict requirements to the price and quality of the products supplied. Usually, before signing the contract, they announce the tenders for the grain processors. The ISO standard 9001:2000 and HACCP certificates are among the most important obligations during the tender. These requirements make additional barriers for the newcomers, participating in the tenders.

In case of products produced for the final consumers, the big processing companies use their own sales networks as well as sell production through the big retailer chains.

In general, the close relationships between grain suppliers and grain processors, and their agreements made on availability of certificates necessary for the tender procedures organised by big bakeries as well as contracts signed with the retail supply chains for sales of food products cause important obstacles for potential newcomers to enter the market.

1.4. Disparity of market infrastructure
Disparity of market infrastructure can be an important barrier for the newcomers, because companies working in the industry have already developed their own logistics system required (mostly based on their own transport) or signed the long-term contract with transport companies. They have built and equipped the warehouses (as in case of ‘ALOJA-STARKELSEN’ Ltd). Big grain processor owns elevators for grain storage, drying, cleaning and reloading of grains into the trucks or railway transport.

Newcomers need time and essential funding to develop their own infrastructural objects required. Market players long-time operating on the market already have advantage in this respect.

1.5. Barriers related to strategic behaviour of market players
Each company of the industry makes and carries out its own strategic behaviour on the market.

One of the leading companies in Baltic States, ‘DOBELES DZIRNAVNIEKS’, which also is one of the biggest companies in Latvia, merged with the leading wheat and rye flour manufacturer in Estonia J.s.c. ‘Tartu Veski’ in 2008. This merging provided the opportunity to increase the competitive position of the company and to improve the company’s competitiveness on domestic and EU markets. Merging of these two companies allowed them also to modernize the production lines, to improve the technological processes, and to discover new possibilities of developing the personal staff (Dobeles dzirnavnieks, 2008).

The occupation of the leading position on the markets for the companies mentioned made additional obstacles to the market newcomers to strap their business.

1.6. Potential market limitations
Insomuch as the national market has relatively limited capacity for sales, Latvian companies try to promote their product on the external markets – in the EU and third countries. Demand of flour has shrunken in the domestic market, because of increase in grain prices and increase in purchasing power of Latvian population (because of wide use of substitutes for bread and flour). Additionally, the major part of domestic market of flour is occupied by the two biggest grain processing companies ‘DOBELES DZIRNAVNIEKS’ and ‘RĪGAS DZIRNAVNIEKS’.

Limited demand of the domestic market affects significantly the decision of potential newcomers to enter the market. Restricted demand could be considered as a very important and hardly removable barrier for new market players. In order to increase the potential volume of sales, new market actors would be obliged to sell their product abroad searching the additional export potential.

Conclusions
Assessing the competitive environment in Latvian grain processing industry (according to NACE 1.1.red. classification industry code 15.6) on the basis of research results described above, provides opportunity to conclude:
1. The industry market is relatively concentrated, as four by turnover the largest enterprises in 2006 formed 88% of Latvian market. The calculated value of Herfindahl-Hirshman index (3219) shows relatively high concentrations of enterprises in industry as well.
2. However, a deeper analysis of each separate entry barrier in the sector allows to conclude that competitive environment should not be characterized by concentration indexes (CR4 and HHI) alone. It is very important to analyse specificities related to the sector structure and operations. For instance in a local market the major part of the flour supply is provided by several leading grain processing companies. Many industry’s enterprises deal not only with grain processing but with production of bread as well. Vertical integration allows them to get additional competitive advantage on the domestic market.

3. At the same time, on the domestic market the grain and starch processing products could be easily supplied by other enterprises importing products to Latvia from the EU. That is why even on the national market Latvian producers and processors are obliged to compete not only with each other, but also with a wide range of foreign enterprises which are importing their products from abroad.

4. Production of ecological products can be considered as a reasonable alternative for the potential domestic new actor who is going to enter into the business, as biological agriculture develops quite fast and is supported by national government.

5. Since the capacity of national gain processing market is limited, Latvian manufacturers are trying to export their products to the EU and third countries. On the basis of the analysis of entry barriers, the following proposals could be addressed to LR Ministry of Economy and LR Competition Council:

   • to promote export for domestically produced product, through supporting the participation of Latvian enterprises on the different international business forms and fairs;
   • to promote cooperation among domestic enterprises by creation of mutual business activities and development of business clusters;
   • to analyse the competitive environment on the domestic market, look over geographical market borders especially during the Competitions Council proceedings devoted to acquisition of enterprises. By mutual cooperation and active merging, enterprises are able relatively quickly to achieve the leading positions on the local market. However, national restrictions do not allow them to reach the reasonable size in order to be competitive on the integrated EU market as well.

References