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BOTTLING INDUSTRY IN POLAND
– THE PRESENT CONDITION AND PERSPECTIVES
FOR DEVELOPMENT

A b s t r a c t: The aim of this article is an attempt to identify potential perspectives for a development of the bottling sector in Poland under the conditions of changing market economy. The article's character is strictly theoretical. The basis for analysis consist of statistical market data of marketing nature and internal materials of entities operating in the sector. Different trends that shape social and global consumer behaviors on market, such as care for a healthy lifestyle, respect for the environment, sustainable development, health-focused activity - these are needs that consumers will tend to satisfy in the near future, buying various items, including beverages.

K e y w o r d s: bottling industry in Poland, determinants of development, development perspectives

JEL Code: L160; O1; M1

INTRODUCTION

The bottling industry in Central and Eastern Europe has been developed and existed for centuries. It has been changing, forced to modernizations and evolving with historical events and social changes of populations. It's constant development is strictly ingrained and related to natural resources specially water. Fast development and investments in national economy bring this industry in Poland for operating in the highly multidimensional market. In order to meet the requirements of customers, market and to achieve growth organizations in this sector are forced to create added value using not only external finance capital or imitating others but first of all by creating and implementing innovative products. The market data and customers decisions and behaviors shows

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that those are main forces that affect on beverage and food industry in Poland. Customers are looking for a products that contain and provide all necessary nutrients and ingredients good for health. Result of this tendency is enhanced competitiveness in this sector and implementing of different innovative technological changes that allow producers to cope with the customers' expectations. Those relations made the bottling sector the object of interesting observations and researches. However because of its multidimensional complexity and many inner segments they are exceptionally multi-leveled and not straightforward. That is why this article is a trial of general outline, characteristic of the bottling sector in Poland, identifying of its condition and further perspectives.

1. GENERAL OUTLINE OF BOTTLING INDUSTRY IN POLAND

The bottling industry in Central and Eastern Europe consists of three leading segments: alcoholic beverages, non-alcoholic beverages and waters. In each of these segments, there are sub-segments of characteristic beverage types. A detailed structure has been provided in figure 1. The sub-segment of alcoholic beverages had existed and developed, in fact, long before the birth of the modern civilization. In Poland the basic beverage, since the Middle Ages, was beer. It was made of cereals - mainly barley [Curry, 2017, s.31–36]. Various kinds of beer were produced - starting from light "home-made" beers with a short fermentation process, to those containing more alcohol, made of hops [Fałat, 2005, s.21]. Small quantities of vines were grown, brought by monks from western and southern Europe. Regular import of wines from abroad started in the late 14th/early 15th century. However, due to high costs, it was very limited and was only aimed at satisfying the demand of the court. The 1990s had brought a revival mainly in beer production. It was the period of privatization of breweries, nationalized during the communist times [Fałat, 2005]. As the free market economy developed, interest in the Polish brewing market grew among the biggest global players on the market.

This led, on the one hand, to fall of many small and medium-sized breweries, on the other - to consolidation and development of the biggest domestic companies on this market. The largest beer producers, with the total market share of 81%, are at present three corporations belonging to the Union of Brewing Industry Employers [www.browary-polskie.pl, 2018]:

- Kompania Piwowarska with its three breweries: Browar Dojlidy (Białystok), Lech Browary Wielkopolskie (Poznań) and Tyskie Browary Książęce (Tychy);
- Żywiec Group, which has seven breweries: Browar Żywiec, Browar Elbląg, Browar Leżajsk, Browar Warka, Browar Namysłów, Browar Braniewo and Browar Zamkowy Cieszyn as a separate enterprise;

- Carlsberg Polska – belonging to the Danish Carlsberg corporation, which has three breweries: Browar Okocim (Brzesko), Browar Kasztelan (Sierpc) and Browar Szczecin (Szczecin).

Figure 1. Bottling industry - segments

THE BOTTLING INDUSTRY			
ALCOHOLIC BEVERAGES		NON-ALCOHOLIC BEVERAGES	
BEER		JUICES	CARBONATED
FORTIFIED GRAPE WINE AND VERMOUTH		NECTARS	NON-CARBONATED
FRUIT WINE		FRUIT DRINKS	FLAVORED
MEAD		ISOTONIC DRINKS	FUNCTIONAL
CIDER AND PERRY		CARBONATED DRINKS LIKE COLA	
VODKA		OTHER CARBONATED DRINKS	
LIQUOURS, FLAVORED VODKAS, SPIRIT DRINKS		ENERGY DRINKS	
WHISKEY		RTD TEAS	
RUM		RTD COFFEES	
GIN		MILK DRINKS	
RTD DRINKS			
TEQUILA			

Source: Own compilation based on KPMG analysis [KPMG, 2014; 2020].

Medium-sized producers, most of them members of the Union of Regional Polish Breweries, include [www.browary-polskie.pl, 2018]:

- Van Pur S.A. - a Polish company with breweries in Rakszawa, Łomża, Zabrze, Koszalin and Jędrzejów;
- Browary Regionalne Jakubiak – a Polish company with breweries in Ciechanów, Lwówek Śląski, Bojanów, Tenczynek, Biskupiec;
- Perła Browary Lubelskie, which has breweries in Lublin and Zwierzyniec; Browar Namysłów with breweries in Namysłów and Braniewo;
- IBG DWA – a Polish-Belgian company, which is the owner of Browar Fortuna, the Brewery in Grodzisk Wielkopolski and in Trzemeszno;
- Sulimar, which is the owner of Cornelius Brewery;
- Browar Amber;
- Browar Jabłonowo.

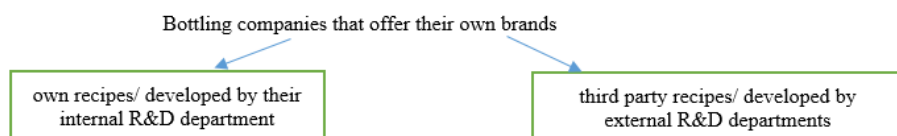
The brewing market in Poland, as a sub-segment of the bottling sector, is among the fastest-growing sectors of economy based on processing of agricultural products. This has been possible thanks to successive increase in beer consumption, changes in consumer preferences, who tend increasingly to choose weaker alcoholic beverages and raising of the technological level of production, which is now considered to be one of the highest in the world [https://www.browary-polskie.pl/opinie, 2018]. The Polish brewing industry, as a part of

the bottling industry, is very dynamic. It is in the state of permanent innovative changes [www.browary-polskie.pl, 2018]. It should be strongly underlined that small breweries emerge, which are often family businesses, craft, contractual and restaurant-based breweries. Vodka is the second significant alcoholic beverage, representing a sub-segment of the bottling industry. It is made by mixing spirit and water in adequate proportions. It may not have any additives - in which case we refer to it as the so-called pure alcohol, or it may be aromatized. It is assumed that the percentage of ethyl alcohol should amount to at least 37.5% vol. Traditionally, this alcohol is made of cereals or potatoes. In the 1990s, as the economy was demonopolized, the National Spirits Industry Enterprise was defined in 25 enterprises, located in different cities. Along with increase of consumption and export of vodka, it became the biggest category of distilled beverages in the world. It has left rum, whiskey, gin and tequila behind [Łazarowicz, 2017]. The highest consumption levels are recorded by the markets of: Russia, Ukraine, the USA, Poland, Uzbekistan, Belarus, Kazakhstan [Polish Vodka Museum, 2016]. The next sub-segments of the bottling industry - sub-segment of waters and non-alcoholic beverages started to develop in Poland and Europe in the 18th century. The first water bottling plants were established in the 19th century [Mirek, 2007]. The beginnings of water bottling were associated with the presence of underground healing springs in Poland. Underground healing waters refer to underground waters, which are not contaminated by chemical or microbiological factors, characterized by natural variability of their physical and chemical features, containing no less than 1000 mg/dm³ of dissolved solid minerals, or the respective amount of one of the following: ferrous ion, fluoride ion, iodine ion, divalent sulfur, metasilicic acid, radon or uncombined carbon dioxide [Dz.U.2019.0.868, 2011]. Rapid expansion of this sub-segment took place in the early 1990s. Private bottling plants started to emerge during this period. Most of these were equipped with modern bottling lines, as well as the so-called PET bottles, gradually replacing the glass packaging, used previously [https://mineralne.pgi.gov.pl/rozlewnictwo, Naturalne wody źródlane, naturalne wody mineralne]. As a result of the economic transformation in 1990s, only 7 bottling plants have survived: Busko-Zdrój, Ciechocinek, Krynica-Zdrój, Polanica-Zdrój, Rymanów-Zdrój, Wieniec-Zdrój (bottling of ordinary water), Wysowa-Zdrój, and out of these, only the bottling plant in Polanica-Zdrój classifies as a large one. At present, the bottling industry is represented by the Polish Chamber of Commerce of the Bottling Industry, which integrates the entire community of entrepreneurs, engaged in bottled water production, including both underground healing waters and ordinary waters. Non-alcoholic carbonated or non-carbonated beverages are made of treated water, possibly with addition of fruit juice concentrates, sugar, citric acid and trisodium citrate (acidity stabilizers), ascorbic acid, natural colorants and/or nature-identical colorants, saturated or non-saturated with carbon

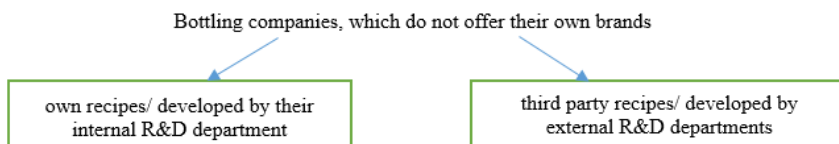
dioxide. The market of private brands has been growing systematically, encompassing at present around 34% of the entire Polish market of non-alcoholic beverages and still increasing. In the European Union, the total value of the market of non-alcoholic beverages is estimated to amount to EUR 134 billion. The pillars of this financial result are Germany, Great Britain and France. It is estimated that by year 2025, the value of sales of non-alcoholic beverages in Poland will increase by 14 percent, thus exceeding the level of PLN 24 billion [www.nielsen.com/insights/articles, 2020]. Since the 1990s, the leading global producers have been entering the Central European market. The 20th century was the period of investments of such giants as Coca-Cola and Pepsi-Cola. Along with these, other private manufacturers emerged as well. In particular, the 1990s were characterized by a rapid increase in production and development of plants, including those still functioning in the sector, such as Hoop, Hellena and Zbyszko.

Figure 2. The bottling industry - models of operation of enterprises.

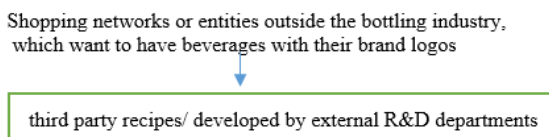
MODEL 1.



MODEL 2.



MODEL 3.



Source: Own compilation based on [Kopania, 2016].

Enterprises that operate in the bottling industry and function on the Central European market may engage in different forms of activity. If they are bottling companies, they may either manufacture beverages or only commission the bottling activity. If they are not bottling plants, they may nevertheless earn income from sales of beverages. Similar models of business activity have been applied in the sector for years [<https://mineralne.pgi.gov.pl/rozlewnictwo>], as presented in figure 2. Companies, which develop and market beverages of their own brands, are owners of specialized production plants, in which they conduct the bottling

activity. Possibly, if they have no production capacity, e.g. in the season or due to strategic reasons (e.g. commissioning of the so-called chemically difficult bottling processes), may decide to commission the bottling activity to subcontractors. These are always other companies of the bottling sector.

They are provided with beverage recipes developed by R&D departments of companies commissioning the bottling. Bottling companies, which do not establish their own brands, nevertheless have specialized production plants enabling production of beverages. In most cases, they are in possession of technical equipment, allowing them to produce any kind of beverage as contracted or ordered. The basis of their strategy is thus signing of long-term contracts for bottling services for other entities - not necessarily representing the bottling industry [Dubiel, 2002]. The basis of beverage production is the so-called "recipe" developed by the R&D department. It is a set of instructions and list of ingredients of a beverage, prepared by qualified chemists. It consists of a composition of ingredients in proper proportions, which should serve as a basis for production of a beverage. On the Central European market, departments specializing in recipe development for their organizations are typical of large companies - bottling enterprises that develop their own brands; however, several companies on the domestic market, which own bottling plants, also specialize in development of recipes based on contracts, without establishing their own brands.

2. THE BOTTLING INDUSTRY IN POLAND IN THE LIGHT OF MARKET TRENDS AND DIFFERENT FUNCTIONAL REQUIREMENTS.

The constant increase in the level of production and implementation of the necessary, continuous changes in composition of beverages, as well as use of various types of new additives and the resulting increasing burden on the natural environment, have forced the manufacturers to gradually introduce and popularize the so-called clean technologies. The requirements associated with these issues initially pertained mainly to:

- reduced consumption of chemicals used for washing and disinfection, replacing them with biodegradable substances;
- selection of packaging materials to ensure their minimum environmental impact, including selection of packaging, which can be easily recycled [Solska, 2016].

Subsequent breakthroughs for the sector included:

- introduction of ISO standards, Good Manufacturing Practices (GMP);
- Poland's accession to the European Union and the resulting requirement to introduce the HACCP.
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The EU food policy is based on three pillars:

- legislation - with regard to food and fodder safety;
- reliable scientific expertise, which serves as a basis for decision-making;
- tools that make it possible to enforce the legislation and supervise the industry [Krajowa Izba Gospodarcza, Przemysł Rozlewniczy 2011].

The legal provisions, which the EU enforces, are of complex nature. With regard to the beverage industry, being analyzed here, these are associated mainly with maintaining of hygiene of the food produced by following the same high standards throughout the European Union. Since 2004, community regulations have been in force with regard to food hygiene, known as hygiene packages, and the regulation on official control of food and fodder. The package consists of several regulations - from the perspective of the type of activity being analyzed, the most important one is the Regulation (EC) No 852/2004 of the European Parliament and of the Council of 29 April 2004 on the hygiene of foodstuffs. The hygiene package is complemented by:

- Regulation (EC) No 854/2004 of the European Parliament and of the Council of 29 April 2004 laying down specific rules for the organization of official controls on products of animal origin intended for human consumption;
- Council Directive 2002/99/EC of 16 December 2002 laying down the animal health rules governing the production, processing, distribution and introduction of products of animal origin for human consumption;
- Directive 2004/41/EC of the European Parliament and of the council of 21 April 2004 repealing certain directives concerning food hygiene and health conditions for the production and placing on the market of certain products of animal origin intended for human consumption
- Directives of the Council 89/662/EEC and 92/408/EC Regulation no. 852/2004 applicable to all member states of the European Union, in force since 1 January 2006 [Krajowa Izba Gospodarcza, Przemysł Rozlewniczy 2011].

These oblige the food industry plants to develop, implement and maintain permanent procedures based on the HACCP rules. It is a system for recognition and control of threats, which may emerge in association with production and storing of food. The aim is to develop the capacity for regular monitoring of all threats to safety, associated with the products manufactured. These provisions have been consistently implemented for years. Undoubtedly, improvements in enterprises functioning on the market will be necessary with regard to technological processes, in particular in association with minimizing of the potential negative impact of production plants of this type on the natural environment [Krajowa Izba Gospodarcza, Przemysł Rozlewniczy 2011]. It could be stated that years 2010-2012 were the initial period for this sector in Poland,

while years 2011/2012 brought a 4% increase in year-to-year production, and after a temporary stagnation in year 2012, in the following years, 2013-2015, there was a spectacular growth by 9%, while the subsequent decrease was only slightly below this level. Year 2019 resulted in further growth at the level of 13% [Aryasa, Wahyuni, Sudhartio, Wyanto, 2017]. An average Pole buys 184 liters of non-alcoholic beverages, spending the equivalent of EUR 135 per year on these. In the same period, an average German buys 291 liters for around EUR 360, a Spaniard - 255 liters for EUR 307, and an average Hungarian, buying more than a Pole, pays less for the purchases made. The markets of Finland and Ukraine are also a territory for potential expansion of Polish manufacturers. The largest group of questionnaire respondents declare regular purchases of carbonated or non-carbonated water, functional beverages and juices. Isotonic, energy or RTD (ready to drink beverages, such as coffee with milk) beverages are still not “ordinary” products for the Poles [KPMG, 2014]. The sector has remained under the influence of three key trends, defined as:

- Evergreen Consumption – reduction of packaging waste, innovative and sustainable sources of raw materials;
- Elevated Convenience – greater convenience, making it easier to consume natural products with high nutrient content, possibility of customization;
- Through the Ages – focus on the role of beverages and food in the process of supporting active and healthy aging, a holistic approach towards health, supported by food products and beverages [<http://www.portal-spozywczy.pl/Rynek> żywności i napojów w roku 2019/Mintel; Aryasa, Wahyuni, Sudhartio, Wyanto, 2017].

In the recent years, there has been an observable increase in consumer interest in products, which not only satisfy hunger and thirst and provide the necessary nutrients, but also contain ingredients that are associated with additional benefits [Kopania, 2016]. To meet these expectations, innovative functional beverages have entered the market, containing such ingredients as collagen, MCT oil, fungi and functional plant-based ingredients [Escajeda, Hernandez, Jasso, Rodriguez, Olivio, Esquivel, Cerda; 2017]. As a result, there is growing emphasis on such aspects of beverages as customization, functionality or new textures. The three key trends, listed above, leads to the following in market practice [Dubiel, 2002; Dąbrowska, Babicz-Zielińska, 2011]:

- customized functionality - consumers tend to use increasing quantities of functional beverages, containing such healthy ingredients as curcuma, activated charcoal, matcha, melatonin and aloe. In addition, they are offered in convenient bottles that match the popular market style, referred to as convenience. These are small packages that can be fit into the pocket or the bag. Most often, they contain single portions of the product to

be consumed on the way to work or to a meeting. Many have innovative caps or screw tops, making it possible to open the package single-handedly. Market analysts are awaiting even more customized functionalities of beverages, which are to support e.g. the health of the oral cavity or the cardiovascular system;

- content of vegetable ingredients - an increasing number of consumers are aiming at limiting their meat consumption and support veganism. There is a general belief that plant-based products are more healthy and sustainable in comparison with their non-vegan equivalents. Therefore, an interesting trend is presented by beverages based on almonds, soy, coconut or oats;
- texture and color - market research shows that consumers are searching for bright and bold beverage colors. Therefore, there is increased use of blue algae, beets, matcha, *Clitoria ternatea* (traditionally popular in the southeastern part of Asia). Quite popular are also all tastes inspired by world cuisine, such as cardamum, ginger, Chinese spices, Cayenne pepper, jalapeño, chili and habanero - these are just a few of the ethnic taste and aroma inspirations, used in beverages. Beverages containing balls, suspensions and fruit or vegetable slices are also popular.

Due to the stage of development of the sector, the production technologies in the industry of carbonated and non-carbonated non-alcoholic beverages have not changed significantly for years. Production systems will be subject to functional changes aimed at reduction of:

- negative impact on the environment;
- consumption of raw materials and energy;
- waste and heat emission from the production process;
- use of renewability of resources - particularly water [<https://mineralne.pgi.gov.pl/rozlewnictwo>; Kopania, 2016].

This is required due to changes in the legislation. The best example here is the so-called water law act. The last amendment, enforcing the requirements of the EU directives, listed above, was approved in 2018. It changes and increases the requirements with regard to:

- standards for discharge of sewage requiring treatment to sewage systems, surface or ground waters;
- standards for emission of pollutants to the atmosphere;
- reduction of emission of chemically aggressive and biogen containing sewage [Hongqiao, 2015; Dubiel 2002; Kopania, 2016].

The sources of these are chemical washing systems for equipment; water treatment stations; emergency leaks of washing agents. Moreover, a significant source of waste in terms of quantity is packaging waste generated by bottling plants, such as broken glass, cans, pallets, boxes and PE film, as well as card-

board boxes and labels [Solska, 2016]. Most of these can be used for recycling, if they are collected selectively.

The sector can be considered to have reached the final stage of its development [Polish Chamber of Commerce, The Bottling Industry 2011]. The biggest increase in year-to-year sales volumes have already been achieved. The number of competing organizations is stable. For years, there have been no significant takeovers leading to concentration. The industry has several leaders. Access to the sector is very difficult. It requires substantial financial expenditures for purchase or financing of factory equipment. The production technology, used by all competitors, is virtually identical. This results in hyper-competition in the sector. No entities have a sufficient market advantage to be able to withdraw from developing their strategic advantages. These, however, are of a specific nature. In a dynamic environment, they may lead to the company achieving a competitive advantage; however, since under these condition every enterprise must act very quickly to neutralize any advantage gained by its competitors, it must respond almost immediately. This requires a quick reconfiguration of resources and strengthening of proper advantages. As a result, instead of long-term advantage, companies develop many subsequent temporary advantages [Matzel, Bailom, Anschober, Richardson, 2009] and focus on introduction of innovative - mainly technological - changes. As a result, the sector is in the state of permanent innovative change[Solska, 2016].

3. THE PERSPECTIVES FOR DEVELOPMENT OF THE SECTOR IN POLAND

Market analyses, conducted as a part of the project „Food and nutrition in the 21st century - the vision of development of the Polish food sector” [The Research Project 2007-2013] have shown that in the coming decade, there will be growing demand on the global market for high-quality food and beverages with health advantages - the so-called functional food - and dedicated food, containing ingredients adapted to the needs of specific consumer groups, such as those suffering from obesity, diabetes or cardiovascular diseases. As a result of aging of the European societies, the market of food products dedicated for elderly consumers will also grow quickly in developed countries. There will be more foods and beverages designed to match individual consumer needs. Development of this market tendency has been strengthened by progress in such sciences as[Dąbrowska, Babicz-Zielińska, 2011; Solska, 2016]:

- nutrigenomics - a field of science dealing with the effects of ingredients consumed by human on regulation of gene expression, which determines the occurrence or increased susceptibility to specific diseases;

- nutrigenetics - a division of science, which examines how people should plan their diet to make it healthy in relation to information stored in our genes. It analyzes the variability of the above depending on gender, race and other variables.

Moreover, the market of partially processed food will also develop. Great importance will be also attached to packaging, which should be biodegradable, at the same time warranting food and beverage safety, as well as its high sensory quality throughout the entire chain, from manufacturer to consumer. Production will make substantial use of innovative materials, produced on the basis of state-of-the-art achievements of biotechnology and nanotechnology. It is expected that in collective and individual packaging, sensors monitoring the conditions during turnover, as well as quality and durability of food and beverages, will become popular. Moreover, collective packages will have to allow for full identifiability of products, including their regional origin. Another very important aspect in terms of market competition will be implementation of new technologies of management and business models that integrate all aspects of technological and economic effectiveness, marketing and environmental protection. As a result of the research conducted, experts have distinguished critical technologies, which will contribute to further development and enhanced competitiveness of the Polish food and beverage industry [Michalczuk, 2013, s. 32–36]:

- nanocapsulation and nanoemulgation of selected healthy food ingredients, ensuring their durability and making it possible to deliver them to the human body in a precise manner; this pertains to beverages that contain milk derivatives;
- use of nanofilters for selective distribution of molecules on the basis of their shape and size to remove harmful ingredients (toxins, fatty acids, bacterial pathogens) and to enrich it with the desired substances, (aromas, bioactive compounds);
- development and use for production of enzymes that are able to function under a wide range of technological conditions, based on microorganisms, including recombined enzymes;
- production of high quality food and beverages subjected to minimum processing;
- non-thermal preservation using modern physical processes/ methods such as microfiltration, high pressure, ultrasound, ionizing radiation, variable magnetic field; this will allow for limiting or - ultimately - eliminating pasteurization in high temperatures;
- use of non-conventional raw materials of natural origin and post-production waste to obtain protein preparations;
- production of functional beverages and foods using raw materials obtained from special cultivation or breeding under specific conditions,

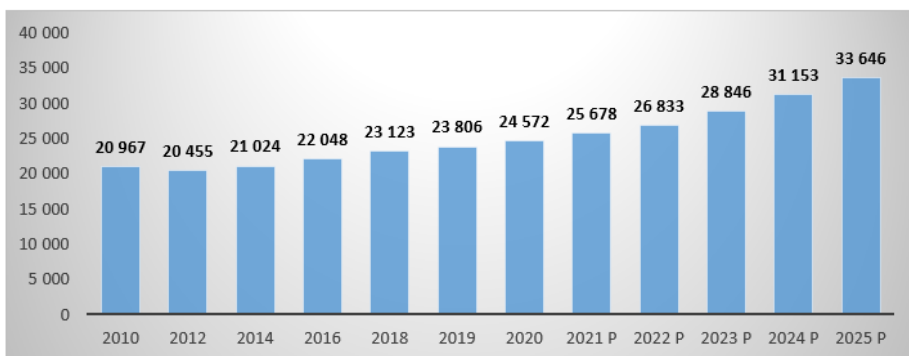
- or from selected varieties of plants and races of animals, including those biotechnologically modified, also using genetic engineering methods;
- production of dedicated foods and beverages, aimed at limiting risk and supporting therapy of diet-dependent diseases;
 - production of designed foods, adapted to individual dietary needs of single consumers or groups of consumers;
 - technologies of production of fat products, containing low quantities of saturated fatty acids and trans isometric fatty acids, at the same time characterized by high content of unsaturated fatty acids (particularly omega 3), possibly containing vegetable stanols and sterols;
 - use of new or relatively unknown species of plants as raw materials rich in bioactive substances;
 - technologies making it possible to eliminate nitrates in curing of meat and processed products;
 - technologies that save energy and water;
 - intelligent packaging systems to monitor the interior and/or external environment, such as temperature changes, content of oxygen, CO₂ and other volatile compounds, as well as biochemical and microbiological changes in products;
 - development of fast and precise analytical techniques in terms of microbiological and toxicological food safety;
 - development of traceability systems;
 - development of regional brands, confirmed by certificates (distinguished by marks that confirm the high quality of products and their origin from specific regions, as well as traditional production methods) [The Research Project 2007–2013].

A significant impact on the forecast further growth of the sector will obviously be exerted by factors that shape the economic conditions. In Poland, further development of the beverage and food sector in general will be influenced by the so-called sugar tax to be introduced on the 1st of July 2020. A fixed additional charge has been approved for beverages containing sugar, as well as additional variable charges, if the sugar content in beverages exceeds the recommended consumption limit in relation to volume [<https://www.portalspozywczy.pl/napoje/podatekcukrowy>]. According to estimates, the new tax will result in a drastic increase in prices of beverages, which may result in their replacement with sweetened beverages of lower quality. They will contain more artificial substances - sweeteners. The tax imposed may also result in decrease of competitiveness of Polish entrepreneurs exporting beverages, or lead to relocation of production. Moreover, it should be underlined that the tax, as such, will not be directed at large corporations, but it will rather be smaller Polish enterprises suffering from it. As much as 70% of beverages sold in Poland come from Polish manufacturers. It is also worth noting that

a similar fiscal solution has been introduced in around a dozen countries around the world. For instance, in Hungary, it has decreased consumption of energy drinks by about 20% [<https://www.portalspozywczy.pl/napoje>, „*Sejm uchwalil ustawę wprowadzającą podatek cukrowy i od malpek*”, 14.02.2020]. In Poland, the charge will also result in a decrease in sales volumes of sugar plants, as the bottling sector has also been among their leading clients, who signed long-term contracts with them to have a warranty of a foreseeable, specific sugar price. Increases in energy and minimum wages are also those economic factors, which will contribute to increase in prices of beverages in the next 5 years. Taking into account the above factors, the value of retail sales of beverages, including a forecast for the next 5 years, is presented in figure 3. With regard to the structure of the forecast sales, market analysts estimate that in the coming years:

- increase in the sales of bottled waters, including functional waters, will be maintained - it is estimated to reach the level of 4.5% year to year;
- sales of energy drinks will be comparable to that achieved in the recent years;
- sales of local beverages containing juice will be maintained at a comparable level, which will be accompanied by sugar content reduction and use of recycled packaging;
- new categories, which will emerge and will gradually gain significance in the shopping basket, will be: alcohol-free beer, beverages containing ingredients of vegetable origin, ice tea and coffee, kvass [AC Nielsen, 2019].

Figure 3. Value of retail sales of beverages in Poland including a forecast.



Source: Own compilation on the basis of internal data.

Thus, growth in the bottling sector in the coming years will still be achieved, while the structure of beverage types sold will be changing to the advantage of waters, beverages containing natural and healthy ingredients with a reduced content of sweetening substances and RTD drinks - such as coffee with milk

and tea [Solska, 2016]. This optimistic scenario for the sector seemed and might be demolished by the epidemic situation connected with SARS-COVID19. However, current forecast for polish economy are very optimistic [<https://businessinsider.com.pl/krach-czy-bessa-sebastian-buczek-analizuje-sytuacjenagieldzie/ptfks9w>, dostęp 14.04.2020; <https://businessinsider.com.pl/finanse/rating-polski-wg-sandp-pkb-w-gore-po-spadku/2xv2sct>, dostęp 14.04.2020]. According to the Standard's & poor Global Rating Agency polish economy is competitive and diversified, has low liabilities and the exchange rate of PLN is smooth. This should cause quick rising up and back to growth path realized before epidemia. Optimistic scenario for the beverage sector it's still possible. Especially that bottling sector itself shouldn't experience a strategic breakdown of revenues or incomes generally speaking. The most negative influence is expected because of: lack of production materials and labour force; fluctuations of exchange rates. Global problems world economies should also cause fall of demand and in profitability of export sales markets but those should be on the level of transitional problems and shouldn't threaten existence of the beverage sector. Expected potential reduction of incomes or revenues is of course not easy to forecast yet however it for sure won't cause great damage.

4. SUMMARY

The multidimensional market situation means that strategic production and marketing activity of the organization cannot be the only way to achieve growth in the bottling sector. Through enhanced competitiveness, beverage manufacturers are forced to create added value, and not just to imitate their competitors. Market data should serve as a basis for their decisions to maintain or achieve market advantage. According to forecasts, in years 2020–2025, the growth tendency and sales value has a chance to be maintained regardless COVID epidemic situation. It is expected that the market will still be subject to the same trends, which are now of a global character. They are not only dominant on the Polish or Central European market The global approach favors a „more holistic view of health and wellbeing through supporting mental and physical health» [AC Nielsen, 2019]. It is also about management of food security, including modeling of potential threats from the environment and technological processes used, as well as technological processes, raw materials and auxiliary materials used. The assortment offered to consumers in the coming years will thus be a result of strong multidimensional social and market trends, which shape the global consumer behaviors [AC Nielsen, 2019]. A healthy life style, respect for the environment, sustainable development, focus on health are needs that the consumers will tend to satisfy in the near future while buying certain items, including beverages. Probably its importance of impact is going to be even higher after COVID. The only major barrier hindering

development will be the sugar tax, mentioned above, which may, according to forecasts, lead to introduction of lower quality sweetened beverages on the market, containing more artificial substances, colorants and preservatives. A challenge - mainly for medium-sized enterprises - will be to develop a margin on the level sufficient to cover the new charge and maintain their competitive market position. The main limitation of this paper is that the bottling industry consists of many sub-segments. That is why, mainly, strategic analysis are prepared separately, individually for its components – alcoholic beverages, non-alcoholic beverages and waters. However general outline for this highly innovative industry might be also very interesting but scientific studies are very difficult to find. One important project in Poland during last few years, included in this paper, concerned broader approach of the food industry. Specific character of sub-segments and hermeticity of know-how cause that it's not very popular subject of analysis and researches. The lack of scientific publications, research papers and general deliberates for the whole industry is observable. It's easier to find articles in newspapers or internet services; market research data from organizations such as KPMG or AC Nielsen which make market research analysis constantly than mentioned scientific analysis or researches. That is why this article is undertaking the attempt of general look on situation and tendencies ruling bottling industry in Poland. Noticed comments on market situation, relations and further possible growth perspectives might contribute to uprising individual and targeted research for innovative development not only of sub-segments but for bottling industry also as a whole.

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