

KEY FACTORS INFLUENCING ORGANIC VITICULTURE IN THE CZECH REPUBLIC

Sylvie Formánková^{1*}, Pavel Tomšík¹, Helena Chládková¹

¹ Department of management, Faculty of Business and economics, Mendel University in Brno, Zemědělská 1,
613 00 Brno, Czech Republic

Abstract

The aim of the organic farmer's effort is to farm in a sustainable way that promotes diversity and sustainability of the cultural landscape. The Czech Republic has 10,8 % of its agricultural land devoted to organic farming making it one of the top 10 countries in the world in the amount of land devoted to organic farming. Organic wine belongs to the system of organic farming. Czech Republic is from this point of view above the European average. The aim of this paper is to evaluate the situation in the organic wine sector in the Czech Republic, identify the key factors influencing the current situation and predict future development. The results of the study are based on the industry analysis and identification of the selected key factors influencing the industry such as industry life cycle, size and segmentation of wine market, substitution, market demand and market supply. The analysis of the competition/rivalry in the industry is done by Grove's model. Main competitors in the Czech Republic were identified and they are mainly small and medium-sized enterprises that are engaged in production of organic wines only marginally. Due to the large number of growers there are many potential competitors. There are many obstacles confronting those would like to enter the market with organic wines. Czech organic wines have received many prestigious awards at international competitions but consumers' awareness of organic wines is low. Organic wine consumption is increasing, however, and demand will increase over time.

Key words

Branch environment; macro environment; organic production; organic viticulture

To cite this paper: *Formánková, S., Tomšík, P., Chládková, H. (2014). Key Factors Influencing Organic Viticulture in the Czech Republic, In conference proceedings of People, Buildings and Environment 2014, an international scientific conference, Kroměříž, Czech Republic, pp. 641-651, ISSN: 1805-6784.*

*Corresponding author: Tel.: +420-777-160-519
E-mail address: sylvie.formankova@mendelu.cz

1 INTRODUCTION

Czech Republic has witnessed the popularity of organic farming at the beginning of the 21st century. Organic farming started to develop after 1989 and is becoming more and more popular. Czech Republic now is one of the top ten countries in the world with land devoted to organic farming. However, the wine industry is only now beginning to convert to organic farming. Those winegrowers farming in the integrated production (the phase before organic production – conversion period) are, since 1992, integrated in Ekovín (the association for integrated grape and wine production) and their number is about 180. Their members cultivate approximately 12 thousand hectares of vineyards. Since it was possible to get credit for integrated production, many winegrowers started to take financial support even when they didn't fulfil international conditions and requirements.

The aim of this paper is to evaluate the situation in the organic wine sector in the Czech Republic, identify the key factors influencing the current situation and predict its future development.

2 LITERATURE REVIEW

Sustainable, organic and biodynamic production

To understand the situation it is necessary to know the terms connected with organic wine production. Organic wine can be characterized as wine made from grapes grown in accordance with accepted organic practices and that contain no additives, such as sulphites or tartaric acid. Wines that contain organic grapes, but have added sulphites or other additives, can only be labelled "Made with Organically Grown Grapes". The so called organic consumer cannot be generally defined. As the authors in [1] state the consumers are not homogeneous in demographics or in beliefs, and that further research could help better describe the various constituencies that are often lumped together as "organic food consumers".

There is another "level" of organically produced wines - biodynamic wine. Biodynamic farming is an agricultural system that is stricter than organic. It views the farm as a self-sustaining organism within the surrounding ecosystem. Biodynamic farming supplements organic methods with homeopathic-like preparations and sprays to enhance and regulate plant growth, compost production and soil fertility [2]. Using biodynamic production it is possible to get the Demeter certification.

According to Chantal Martineau [3], sustainable wines are more common. They are not necessarily certified organic, but made with an aim toward minimal impacts on the environment. This could mean that the grapes are grown without the use of herbicides or pesticides, or that the final product is packaged in environmentally friendly materials.

Usually sustainable wine producers have opted not to go all the way with organic certification either because of the high costs and rigorous process involved or because they don't want to be bound to the certification's restrictions. It also happens that many producers are using organic practices but choosing not to certify. Philosophical beliefs and perceived risk of losses due to disease, weeds, and insects have the largest impact on the decision to use organic practices. Producers who use organic practices and direct market are less likely to certify [4].

Industry analysis

Porter identifies five forces influencing the industry and the enterprises existing in this field. Threat of new entrance in the industry depends on "the height of entry barriers that are present and on the reaction entrants can expect from incumbents." The main sources of barriers are

advantageous access to resources, supply side economies of scale and demand side benefits. New entrants place pressure on prices, costs and the need for capital for developing competition within the industry.

Bargaining power of suppliers results in higher independence from suppliers' side in the industry. The group of suppliers is dominated by a few companies in the industry. Powerful suppliers can cause high pressures on price, negotiate more favourable terms and conditions may dictate the properties of the product, payment, transport, etc. Their offered products are more or less standardized and as a result the buyers can substitute products very fast [5]. The strength of a purchaser depends on the purchaser's ability to demand more favourable conditions when negotiating with the seller. Powerful customers can get attractive discounts in the industry, better payment conditions and quality related services [6].

The threat of substitutes limits the profit potential within the industry. Substitutes perform equal or similar functions as those of competitors. Substitutes can eliminate the demand for products of the industry. As mentioned in [7] the better the relative value of the substitute, the tighter the lid on an industry's profit potential.

Rivalry within the industry is the centre of Porter's model. The strength of rivalry reflects not just the intensity of competition but also the basis of competition. Rivalry among existing firms is the result of the efforts of each of them to improve its own position.

Chief of U.S. Corporation Intel Andrew S. Grove modifies Porter's five competitive forces model in his book *Doubleday* (1996) and defines a strategic inflection point. Grove adds to the Porter's five competitive forces the sixth power, the so called general partner, i.e. those companies that are somehow dependent on business and vice versa. According to Grove [8], the new technologies and new approaches put some businesses on a different path. In this context, Grove modifies the term substitutes with the notion of the possibility of a fundamental change in the way of doing business.

3 METHODOLOGY AND METHODS

The results are based on the industry analysis and identification of the selected key factors influencing the industry such as industry life cycle, size and segmentation of wine market, substitution, market demand and market supply.

The analysis of the competition/rivalry in the industry is done by Grove's model - the modification of the Porter's five competitive forces model.

Data used in the paper are mainly secondary, coming from different surveys, research, analysis, statistics and reports. The paper's research was completed with results received from internet resources. The period covered was from 2002-2012. Results were displayed in the form of tables and graphs – frequency histograms and polygons.

4 RESULTS

Organic wine production in the Czech Republic

The production of organic wines is undergoing major change in the Czech Republic. The production of organic wine increased by almost 70% year-on-year. The reason is mainly unsaturated market for these products, not only in the Czech Republic but especially abroad. Ability to export is considered one of the main reasons for the transition to this method of cultivation. Great opportunity to export Czech organic wine is seen in Germany and Switzerland, where the consumption of organic wine is the biggest among the European countries [9]. In 2011, the trend of increasing imports of wine into the Czech Republic that

began when the Czech Republic joined the EU continued. The increase is more or less linear. This is likely attributable to the fact that the harvest of 2009 was low, the 2010 harvest even lower and in 2011 it increased only moderately [10]. Nonetheless, as it is obvious from the Tab. 1 the volume of exports continues to grow linearly.

Tab. 1: Wine market situation in the Czech Republic [11;12;13]

Wine market situation in the Czech Republic in thousand hectoliters in the period 2002-2012					
	2002/2003	2003/2004	2004/2005	2005/2006	2006/2007
<i>Wine consumption</i>	1648	1684	1751	1730	1888
<i>Wine production</i>	495	560	570	438	434
<i>Wine export</i>	21	30	43	41	83
<i>Wine import</i>	1049	1098	1341	1378	1471
	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012
<i>Wine consumption</i>	1828	1950	2005	2005	2012
<i>Wine production</i>	820	840	564	390	650
<i>Wine export</i>	177	182	222	250	270
<i>Wine import</i>	1585	1420	1540	1774	1850

Europe is the cradle of wine making and the world's leading producer. Observers note that European winemakers are quickly losing market share in favour of the dynamic producers of the "new world". Wine consumption is increasing; imports are soaring, but exports are growing slowly. Even in countries where people drink more wine than ever before, people often prefer wines from New World than wines from Europe. Wine consumption in the Czech Republic continuously grows. Since 1989 the consumption has almost doubled reaching 20 litres per person per year. The quality of Moravian and Czech wines has improved as evidenced by the increasing number of prestigious awards those wines have received at exhibitions abroad. However, many Czech consumers look on domestic production with contempt. It is certain that domestic growers cannot compete with the price of the cheapest in wines imported from southern Europe. It is hard to follow the consumption and production development of organic grapes or organic wine in the Czech Republic since the term "bio wine" wasn't clearly defined. Since the end of the year 2012 the European Union has agreed the definition and the wine producers may use the term bio wine. Another reason it is difficult to follow the consumption and production development is that many winegrowers are in the conversion period.

Industry analysis

Industry life cycle, size and segmentation of wine market

Organic wine is a relatively new product on the market. It is on the border between introduction and growth stage. The organic winegrowers can still enter the market with the help of subsidies. The competition within the industry is not so aggressive as to force organic growers to leave the market.

The following section maps the wine market segmentation based on a survey conducted by Focus, Marketing & Social Research. The research focuses on the relationship of the Czech adult population to the wine industry and shows that three fifths of the population aged over 18 has a positive attitude towards wine (59%). The 26% of the population drink wine occasionally, and 40% do not drink wine. The most commonly consumed bottle of wine costs between 61 and 100 CZK. Wines are primarily purchased in supermarkets and to a lesser extent in smaller stores. Wine is drunk more by women than men, by people with secondary or higher education, and by households with income over 20,000 CZKs. Czech wines are favoured by Czech

consumers. Loyalty to brands is average. Consumers attach great importance to the area from which the wine comes and by whom it is produced. Prices and possible discounts also influence the size of the purchase. The overall appearance of the bottle is very important for customers. Purchases on the internet and abroad are very rare according to a survey. The average purchase of Czech households is about four bottles of wine per month [14].

Substitution

According to a survey [15], in the struggle between beer and wine in the Czech Republic beer wins, especially draft beer which was drunk by 49.6% of respondents. Second in popularity was bottled beer, which was drunk by 47.5% of people and that was followed by white wine that is drunk by 36.1% of people. Red wine was enjoyed by 32.6% of respondents. According to the survey, men prefer draft beer whereas women prefer white wine.

Market demand and market supply in Czech Republic

The interest in organic food in the Czech Republic is increasing. The demand for organic food has gone up by more than 250 % since 2005. Czech and Moravian organic wines are experiencing a huge boom and will soon overtake other European markets. While conventionally produced wines encountered significant problems with access to the already over-supplied wine market, the market for organic wine offers great possibilities. The organic wines are also increasingly attracting Czech bio consumers. The first reason is the increasing demand and consumption of organic wine, which has increased annually by 10%. The trend can be explained by the interest of Czechs in a better and healthier lifestyle. Czechs habits are changing. Czechs increasingly gives the preference to wine. While in 2002 the average Czech drank only about 16 litres per year, in 2011 consumption rose to 19, 4 litres and in 2012 even more. - Vintners Association estimates 20 litres of wine per capita [16].

As stated in previous chapters, Czech supply of wine does not meet the requirements of the demand for wine. In the wine year 2010/2011 about 390 thousand hectolitres of wine were produced, of which 258 thousand were white and 132 thousand were red. Production in 2011/2012 is estimated at 650 thousand hl of wine. The consumption in 2010/2011 was 2005 thousand hectolitres. Estimated consumption for year 2011/2012 is 2012 thousand hectolitres. These figures suggest that the supply of wine satisfies the demand by less than 20% in wine year 2010/2011. This percentage decreased in comparison with the previous year by 10 %. But according to the estimated numbers it should turn back in the next year 2011/2012 (32 %).

Czech Republic is clearly dependent on imported wine. Imported wine accounts for 58% of the total supply of wine in the Czech Republic. It also shows that since 2008/2009 significantly decreased production is accompanied by increasing imports. But the trend is changing in the year 2011/2012 and the production is estimated to be rising again [17]. Statistics do not distinguish organic wine and wine grown in the conventional manner.

Competition within the industry

In the Czech Republic there is the analysis within the organic viticulture industry charted based on Pro-bio association of organic farmers in the Czech Republic [18].Braving the competition to offer high quality wines is why the 77 wineries began with biological protection of vineyards. In 2011 the number of organic wine producers declined by 3 units in the comparison with the previous year but generally the trend is increasing.

According to Milan Hluchy, President of the Association of integrated production of grapes and wine, wine is experiencing a huge organic viticulture development. There are currently 77 organic wine growers in the Czech Republic. Most organic wine is produced in South Moravia.

These are mainly small family wineries that operate on smaller areas than winemakers who produce wines in the conventional way. This fact is mainly due to intensive vineyards care. Winemakers who grow organic wine give it only to select wine shops or sell wine directly to consumers. They prefer quality over quantity. Yet among them appear also large companies that supply to retail chains and they are selecting a different marketing strategy. Domestic organic wines have sufficient space to strengthen their positions. The competition is still relatively small and the trend and interest in organic wines is growing, especially in neighbouring states. The position of Czech organic wine is supported by consumer confidence in the Czech organic winemakers, their excellent quality and also patriotism. But the problem remains the lack of uniformity and lack of good business policy, very weak marketing and low rising of public awareness about the virtues of organic food and large variations in quality [19]. Although the viticulture is attractive as a business sector, it needs to overcome a large number of barriers and a relatively long time to start working fully.

Branch environment based on Grove's model

1. Strength of existing competitors

The concentrations of competitors in the Czech Republic in the field of organic viticulture is relatively small because there were only 77 entities registered as organic wine growers in 2011. The main competitors in the Czech Republic are especially small and medium-sized enterprises that are engaged in production of organic wines only marginally. The problem with entering the market can also be complicated because of time-consuming administration. Among the most powerful organic wine growing entities is one belonging to Ing. Petr Marcinčák winery that farms on 104 hectares of vineyards and another belonging to Miloš Michlovský who conquered the large market chains in recent months. The most export-oriented company is Wine cellars Čejkovice – Templars, which exports its wine to foreign countries such as USA. Wine cellars Čejkovice has a very strong position among existing producers because it is very accessible to consumers. Its organic wine can be found in the large supermarkets and store chains. It is clearly visible and attracts customers by its big bio label. As results from Marketing & Social Research made from Winery found, in 2008 people usually purchased wine in large chain stores rather than in smaller stores. A solution to this lack of sales is applied by Josef Abrle who supplies organic wine to selected shops with organic food in shopping galleries so it is also very accessible to public. Last but not least, as already mentioned, Miloš Michlovský, has started to supply to large store chains, such as Lidl.

2. Strength of potential competitors

“Potential competitors” refers to winemakers who produce in an integrated system that provides a way of farming, whose main aim is to ensure sustainable development, which allows preserving the natural functions of agro ecosystem and other ecosystems. The transition to growing organic wine takes at least three years and there are large numbers of growers entering the market. Of course, there are many barriers for potential competitors to enter the market with organic wines. The greatest barrier to entry into production of organic food is increased administration (certification, registration, etc.) decreasing demand for organic foods in the overall economic situation. Administration costs companies money and time. More employees are needed for organic farming than for conventional farming. Most of the work is done by hand so temporary workers and seasonal help are frequently used if family members cannot handle the work. Another barrier to entering into the organic wine market is the three to five-year transition after registration. Although the winemaker has used all the principles of growing in organic way he can only get certification after a long time.

3. Strength of buyers

Organic wine can be found in selected specialized shops (taverns, wine shops), both in stores and on the Internet, as well as in specialized organic food stores, or in private wine cellars. Organic wine can now be found in restaurants. On the internet both Czech and foreign wines can be purchased. In supermarkets and large retail chains Czech organic wines produced by large growers such as Wine Cellars Čejkovice – Templars can be found. Smaller winemakers often do not have the capacity to supply to supermarkets who are trying to buy at the lowest possible price. Winemakers themselves also believe that their brand and reputation would fall if they sold to the supermarkets. Although this is understandable, if these wines were sold in supermarkets they would be more widely known by consumers.

As for the specialty shops, each chooses a different strategy to attract customer to buy organic wine there. Usually decisions are based on price and low prices appeal to customers. For that reason, shops try to negotiate the lowest possible prices from suppliers. Since customers often go for price rather than quality, they often go for table wines packed in boxes. These consumers prefer wines found in chain stores rather than specialized shops. Those favouring taste and quality over price will buy in specialized shops. Twisted wines can also be found at affordable prices but they are rarely available. According to market research dealing with organic food that was carried out by Food Chamber of the Czech Republic, in 2010 was shown that quite a big problem is the very strong bargaining position of retail chain stores. Several manufacturers in the survey complained about the fees charged by chain stores, their unwillingness to listen and the fact that they have high margins and bad product placement.

4. Strength of suppliers

The suppliers could be divided into two main groups. Those suppliers who supply to the branch of viticulture and are formed by suppliers to the branch of winery. Among the suppliers in the field of viticulture fall companies that offer products necessary for working and farming in the vineyard or for achieving quality wine. These include mechanical equipment, supporting structures, vine seedlings. These products are essential for working in viticulture and their position is strengthened by the fact that they cannot be replaced by any substitutes. Suppliers also benefit because vineyards are not their only customers.

The second group includes suppliers of products that are a direct input into the production process such as preparations to wine, wine barrels, pumps, containers, labels, closures, etc. The bargaining power of suppliers is generally higher, but it is possible to find differences between small suppliers, products for wine and small material suppliers, who have very little bargaining power. By contrast, packaging and labelling achieved through concentration and importance to the industry provides higher influence. Suppliers of organic wine grapes also exist, although most winegrowers are individuals who produce only from their own grapes.

5. Possibility of fundamental change in the way of business

In the process and production of organic wine there is little possibility of change. Procedures are always the same. They may, however, differ in the environmental input and the use of other methods of cultivation. The change in business practices and in terms of sales is also possible especially in the field of marketing. There are also opportunities for promotion of organic wine delivery to specialized shops and proactive approach to customers.

6. Strength of general partner

General partner is explained as a company that growers depend on or vice versa. In case of the wine industry no wine producer is dependent on any particular company. As already observed the company that produces organic wine is most dependent on the companies that supply

integral components necessary for production and the associated integral part of production, but none of these companies is a monopoly.

5 DISCUSSION

As state in [20] five comparative studies examined the quality of wine and grape must from organic and conventional production. They mainly focused on the contamination of plants by pesticides. There were no significant differences between grape must and wine from organic and conventional production in respect of the concentration of desirable ingredients and parameters such as ethanol, sugar, total acid and extract. But it is not generally possible to differentiate between the cultivation methods on the basis of residue levels of common fungicides and insecticides. It is also very hard to do exact statistics from the economic point of view. Some data can be found in the world association Demeter International, which is the largest certification organization for biodynamic agriculture, and is one of three predominantly organic certifiers. For example in Austria there are about 170 farmers with the Demeter certificate and thirty of them are wine producers. In the Czech Republic there are three agricultural enterprises getting this certificate, none of them a wine producer. One reason could be that the results of biodynamic application are hardly measurable. The wine producers define them more by feeling [21]. Another reason could be that the research shows people are not paying a premium for organic wine. From an environmental standpoint organic cultivation methods are better. A European study showed wines made with conventional grapes contain potentially toxic pesticide residues [22].

To get an objective point of view on this topic it is necessary to know the situation in the world. According to Research Institute of Organic agriculture (FiBL) 162 countries in the world have data on organic agriculture. There were 37.2 million hectares of organic agricultural land in 2011. Since the year 1999 it has increased more than 3 times. There were 11 million hectares in 1999. In 10 countries more than ten percent of the farmland is organic compared with 2010 when only seven countries were in that category [20]. The regions with the largest areas of organic agricultural land are Oceania (12.2 million hectares), Europe (10.6 million hectares), and Latin America (6.8 million hectares). The countries with the highest shares of organic agricultural land 2011 (see Tab. 1) are Falkland islands (35,9 %), Lichtenstein (29,3 %) and Austria (19,7 %). The largest increase in organic farmland in 2011 was observed in China (+ 510.000 million hectares) and India (+ 304.266 million hectares).

The Czech Republic is among the top 10 countries with the highest share of organic agricultural land with its 10,8 % share. Adding to that the area of land cultivated in an ecologically friendly manner, the total area of organically farmed in the Czech Republic increases to 482,984 hectares, representing almost 12% of the total agricultural area of the CR. Over 12% of agricultural entrepreneurs in the country farmed using organic method and the number of producers of organic food is increasing [23].

There are 218,000 hectares of organic grapes grown, constituting only 2.9 % of the world's grape area. In Europe 4.4 % of the harvested grape area is organic. The countries with the largest organic grape areas are Spain, Italy and France. The highest shares are also in these countries plus Austria. The available data indicate a large part of the total grape area (50 percent) is being converted [21]. Since 2004, when data on land use and crops were collected for the first time, the grape area has more than doubled. However some of the increase must be attributed to the continually improving availability of crop data (see Fig. 1).

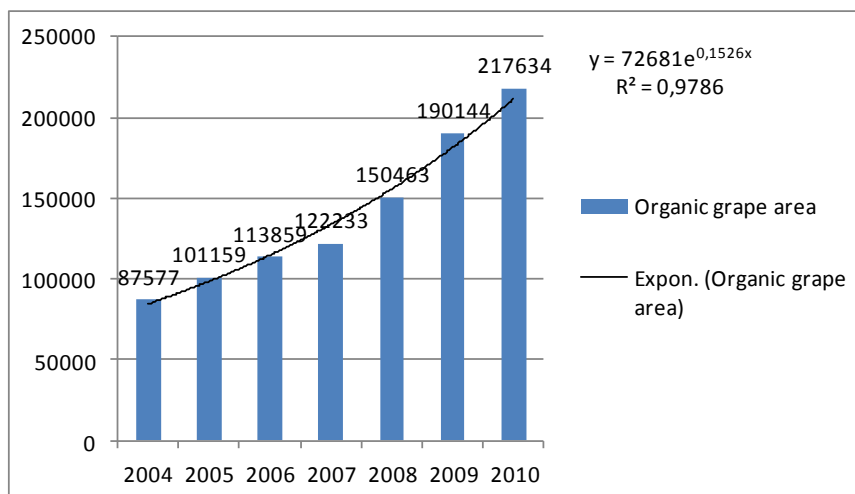


Fig. 1: Organic grape area development (2004-2012) in the world [21]

The Czech Republic had 978,34 hectares of the organic agricultural grape area in the year 2011 but only 442,31 hectares are fully converted and 536 hectares are in the process of converting (see Table 2) [20]. In 2012 shows the number of hectares again increased to 1000. The total turnover of the organic food of Czech subjects including export reached approximately 2.1 billion CZK. Czech consumers spent approximately 1.6 billion CZK for organic food (which is comparable to the data in 2009). The average annual consumption per capita stays under the 200 CZK (151 CZK in 2010) and the share of organic food on the total consumption stays under 1 % (0.63 % in 2010). The imported amount of final organic food in the Czech Republic was estimated to be 680 million CZK which represents 46 % share of the retail turnover in the Czech Republic.

Tab. 2: Key data about organic vineyards in the year 2011 in CR [13, 21]

Key data about organic vineyards in the year 2011 in the Czech Republic						
Organic vineyards	Number of Ecofarms	Conversion period (ha)	Fully converted (ha)	Total (ha)	Organic production (t)	Organic yeald (t/ha)
	45	536,03	442,31	978,34	1494,63	3,38

The prices in organic food sector are approximately 100 - 120 % higher (124 % in summer period, 116 in winter period testing) than the prices of conventional food. Most of the organic food in the Czech shops (both specialized stores and retail chains) is from foreign countries (56 % in 2010). The 67.2% of Czech consumers buy organic food in large retail stores, 19.4% buy organic food in specialized stores and 5 % buy those foods in pharmacies. Drugstore chains such as DM drugs are acquiring a larger share of the market and now have about 3.2% of the market. A new development is the system of the organic boxes. There are currently 100 box systems that can be purchased at 400 different locations. These sales began in 2013 with bottles of wine. In the year 2010 the export of organic food rapidly increased. The Czech companies exported organic food to foreign countries in 2010 having a value of 505 million CZK [22].

Until the last year it was very hard to observe the situation in organic wine market. The reason was the lack of a certain definition of the procedure and the practices allowed when producing organic wine. Since March 2012, however, the European Union has defined the procedure (adding a chapter "Special rules for wine production") and the wine producers may use the term bio wine or organic wine when meeting all the prescribed conditions [22].

Also the industry analysis has some limits. Tony Grandy in [23] suggested some possible way forward in the Porter's and Grove's model and says that this model should be combined with growth drivers and/or PEST factors. Other possibilities are examining other systemic interdependencies, prioritizing it with the competitive force field type of analysis, examining the sub-forces at work, examining the dynamics and the impact of the industry mind-set, and segmenting markets to examine the variations within the competitive landscape. This model may be criticized by some but many authors use Porter's model as a basis and are improving it in different ways. In this paper the PEST factors were taken into account when analysing this industry.

6 CONCLUSION

Organic wine production is a field that is still developing in the Czech Republic. This country is among the top ten countries that have the highest share of organic agricultural land. Many wine growers and wine producers are now in the conversion period. There were only 77 entities registered as organic wine growers in 2011. The problem with entering the market can be the difficult and time-consuming administration and high operating costs. The situation was much more complicated until last year when the chapter "Special rules for wine production" was added. Wine producers may use the term bio wine or organic wine when meeting all the prescribed conditions. The statistical data are uncertain since there are more levels or types of organic production (sustainable production, integrated production, organic production, and biodynamic production). It will take time until it will be possible to have clear data to analyse and predict market development. At present, the organic viticulture is in the development stage and it can be expected to undergo positive development in the future.

REFERENCES

- [1] Hughner, R., S., McDonagh, P., Prothero, A., Shultz, J., Stanton, J. (2007). Who are organic food consumers? A compilation and review of why people purchase organic food. *Journal of Consumer Behaviour*, **6**(2-3), DOI: 10.1002/cb.210
- [2] Angrisani, C. (2007). Green wines. *Supermarket News*. 3/26/2007, **55**(13), pp. 71-72. ISSN: 00395803
- [3] Martineau, CH. (2013). Is the sustainable beverage industry, well, sustainable? Beverage dynamics, March/April, 2013. Available from: <http://www.stateways.com>
- [4] Veldestraa, M., L., Alexanderaa, C., E., Marshalla, M., E. (2014). To certify or not to certify? Separating the organic production and certification decisions. *Food Policy*. DOI: 10.1016/j.foodpol.2014.05.010
- [5] Dedouchová, M. (2001). *Strategie podniku*. Vyd. 1. Praha: C. H. Beck, 2001, 256 s. ISBN 80-717-9603-4.
- [6] Porter M. E. (2008). *On competition*. A Harvard Business Review book, USA 2008, p. 81, ISBN 978-1-4221-2696-7
- [7] Christiansen, R. (2012). *The zigzag principle: the goal-setting strategy that will revolutionize your business and your life*. New York: McGraw-Hill, c2012, 198 s. ISBN 00-717-7458-0.
- [8] Grove, A., S. (1996). *Only the paranoid survive: how to exploit the crisis points that challenge every company and career*. 1st ed. New York: Currency Doubleday, 1996, 210 s. ISBN 03-854-8258-2.
- [9] Hamplová, L. (2009). Seriál o víně: Proč. Bio? Available from: <http://www.vitalia.cz/clanky/serial-o-vine-proc-bio>

- [10] Sedlo, J. (2011) *Zahraniční obchod České republiky s vínem*. Svaz vinařů ČR, Velké Bílovice, 2011. Available from: www.svcr.cz/file/314_1_1/
- [11] Hrabalová, A. (2011). *Statistická šetření ekologického zemědělství provedená v roce 2010 - zpráva o trhu s biopotravinami*. Výstup tematického úkolu MZe CR, c. 4212/2011, Brno, Ústav zemědělské ekonomiky a informací, 2011
- [12] Svaz vinařů České republiky [online]. Available from: <http://www.svcr.cz/>
- [13] Český statistický úřad [online]. Available from: <http://www.czso.cz/>
- [12] PPM factum [online]. 2012. Available from: <http://www.factum.cz/>
- [13] Ihned.cz: Průzkum: Více peněz za kvalitu? Pro pivo a víno to u Čechů neplatí [online]. 2010. Available from: <http://byznys.ihned.cz/c1-44127800-pruzkum-vice-penez-za-kvalitu-pro-pivo-a-vino-to-u-cechu-neplati>
- [14] Zemědělství: Plocha ekologicky obhospodářované půdy [online]. 2011. Available from: <http://issar.cenia.cz/issar/page.php?id=1606>
- [15] Zajícová, P. (2012). *Situační a výhledová zpráva réva vinná a víno*. Praha: Ministerstvo zemědělství, 2012, ISBN 978-80-7434-046-8
- [16] Pro-Bio: Výrobce biopotravin [online]. 2012. Available from: <http://www.probio.cz/>
- [17] Woese, K., Lange, D., Boess, Ch., Boogl, K., W. (1997). A Comparison of Organically and Conventionally Grown Foods—Results of a Review of the Relevant Literature. 1997 SCI. J Sci Food Agric 0022-5142/97.
- [18] Podkorkem: Čekání na biodynamického vinaře. [online]. 2013. Available from: <http://www.podkorkem.net/2013/05/cekani-na-biodynamickeho-vinare.html>
- [19] Rubino, J. (2010). Should you choose organic wine? [online] Delicious living, November, 2010. Available from: <http://deliciousliving.com/beverage/should-you-choose-organic-wine>
- [20] Willer, H., Lernoud, J. (2013). The World of Organic Agriculture. The Results of the Latest Survey on Organic Agriculture Worldwide. *Research Institute of Organic Agriculture*, (FiBL), Frick, Switzerland, BioFach Congress 2013, Nürnberg.
- [21] Yearbook 2011, Organic Agriculture in the Czech Republic, Ministerstvo zemědělství, Praha 2012, ISBN: 978-80-7434-080-2
- [22] Úřední věstník Evropské unie: Prováděcí nařízení komise (EU) č. 203/2012 [online] [9/3/2012] Available from: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:071:0042:0047:CS:PDF>
- [23] Grundy, T. (2006). Rethinking and reinventing Michael Porter's five forces model. *Strat. Change* 15: 213–229, 2006, *Published online in Wiley InterScience*. DOI: 10.1002/jsc.764 Available from: <http://www.interscience.wiley.com>