

Changes of the varietal structure of vineyards in the Czech Republic

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Abstract: The paper describes changes in the structure of varieties grown in the Czech Republic. The authors examine the development taking place in this domain within the last 14 years (i.e. from 1997 to 2010). The paper analyses the reasons of these changes and tries to describe the future development expected after 2010. The article also examines the cost and profitability of growing grapes and wine prices. The current production potential of the Czech Republic is 19 633.45 hectares of vineyards. As compared with 1960, the total acreage of vineyards increased nearly three times and the number of the most frequent varieties has also increased. As far as the percentages of Müller Thurgau, Green Veltliner, Italian Riesling and Sankt Laurent varieties is concerned, it is anticipated that their acreages will further decrease, whereas those of Rhein Riesling, Sauvignon, Lemberger and Zweigeltrebe are expected to grow. The results from the survey of consumer behaviour in the wine market in the CR point to the connection between the structure of the vineyards and consumer demand. Lemberger, Cabernet Sauvignon, Müller Thurgau, Grüner Veltliner, Pinot Blanc, Saint Laurent, Blue Portugal, Chardonnay, Riesling and Bohemia Sekt have been the most popular varieties of the market research.

Key words: grapevine varieties, popularity of varieties, structure, trends, vineyard area, wine prices

“Grapevine is the mother of wine, land is its father and the weather is its fate” (French proverb).

After 1989, Czech viticulture passed through a period of marked changes that concerned crucial and strategic decisions about the choice of the prospective assortment of the grapevine varieties and the structure of vineyards. The most important changes took place within the period of 2000–2004. This restructuring was induced by the economic and political changes of 1989, which enabled the introduction of the *Act on viticulture and winemaking, 1995*. In 2004, the Czech Republic entered into the European Union and for that reason, it was necessary to amend and pass the new Act No. 3321/2004 Coll., *on viticulture and wine making*. The Czech national legislation on viticulture was further specified and during this process, several related acts were passed by the Parliament (e.g. Act No. 179/2005 Coll., Act No. 444/2005 Coll., Act No. 215/2006 Coll., Act No. 311/2008 Coll., Act No. 227/2009 Coll., and Act No. 281/2009 Coll., which all amended the preceding legal standards). In this context, it is necessary to emphasize that all these legislative changes concerning viticulture and oenology resulted in deep positive

changes as far as the Czech wine producers were concerned. As mentioned by Škorpíková (2004), it is necessary to monitor and evaluate continuously the impacts of the Common Market Organization (CMO) for wine in the wine market in the individual countries. This problem concerns not only the Czech Republic, but also Spain (Bortoló 2009) and it is quite natural that these changes were influenced also by the fluctuations taking place in the preferences of the individual varieties and by the changes in consumers demand for red and white wines.

The attractiveness of the industry under study raised an interest to study it not only from the traditional point of view of the technological issues, but also from that of management and economics (Tomšík et al. 2006). Černíková (2004) compared the Czech and Austrian wine markets and investigated endogenous factors influencing the overall situation in this industry. Some other authors compared situations existing in the Czech Republic and Slovakia (Duda 2004), Spain (Hrabalová 2004), and Germany (Černíková and Žufan 2004). Bentzen and Smith (2009) corroborated the justification of such studies in their paper about wine growing in a small country (Denmark). Chládková

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(2005b) analyzed the structure of vineyards in the Czech Republic and paid attention to future prospects of the Czech wine market. Some problems of the world production of wine were investigated by Italian scientists Bacarella and Corona (2008). It was (and still is) necessary to study and evaluate the effects of moving forces of this industry, above all of the bargaining power of sellers and buyers operating inside and outside the wine industry. According to Žufan (2004), it is also necessary to compare wine with such substitutes as beer and to perform analyses of the situation in viticulture and hop-growing and brewing industry. As far as the foreign authors are concerned, problems associated with wine substitutes were analysed by Anderson (2009).

The main aim of this paper was to evaluate changes in the strategic decision-making concerning the varietal structure of Czech vineyards, especially within the last two decades (till 2010). At the same time, we also tried to predict the developmental trends in percentages of the most frequent varieties grown in Czech and Moravian vineyards. To reach this objective, it was necessary to evaluate the crucial transformation that occurred in the wine industry within the period of the last 25 years (i.e. the political and, subsequently, also legislative changes) and to assess if they were caused by the changes of other factors functioning in the exogenous environment of the wine industry.

MATERIAL AND METHODS

The evaluation of the development and changes in the varietal structure of vineyards was performed on the data stored in the register of vineyards kept at the Central Institute for Supervising and Testing in Agriculture (CISTA). This register was established in accordance with the provisions of the Act No. 115/1995 Coll., on viticulture and wine making, which entered into the legal force on September 1, 1995 and, subsequently, the pursuant provisions of the Act No. 321/2004 Coll., on viticulture and wine making as amended. In this case, the reliable data could be used since the year 1997. All these data were also confronted with the information of the Czech Statistical Office about the acreages of vineyards production in the Czech Republic. The investigation was focused on the period 1997–2010. Domestic producers are influenced by costs, revenues, the purchase price of grapes and the selling price of wine. The source for this data is the Czech Statistical Office and the Institute of Agricultural Economics and Information. When evaluating the causes of changes taking place in the varietal structure of vineyards

within the last two decades, we have used the data about the percentages of white and red grapes and about their average prices as collected by the Czech and Moravian Union of Viticulturists and Wine Makers and, later on, by the Winegrowers Union of the Czech Republic and their members. Estimations of the future development of the varietal structure of vineyards in the Czech Republic (Sedlo et al. 2011; Sedlo and Tomšík 2012) were performed on the base of the data about the actual changes in percentages of the individual varieties and about the average age of the existing plantations (2010); these data were stored in the Register of Vineyards kept at the CISTA. Because the development of the varietal structure of vineyards ran approximately linearly, then the appropriate trend function is the straight line.

Also there has been used the trend cycle function $y_i = b_1 \times t_i + b_0$, where y = share of the acreage of the specific variety and x = time. The parameters of the trend line b_0, b_1 come from the system of equations:

$$\begin{aligned} \sum y_i - nb_0 - b_1 \sum t &= 0 \\ \sum y_i t - b_0 \sum t - b_1 \sum t^2 &= 0 \end{aligned}$$

With the solution of these equations, we obtain specific values of the parameters b_0 and b_1 . Then we can express the specific equation of trend line.

These findings were complemented by the selected results of the market research on the topic “Consumer behaviour in the market of wine CR”. These results include the processed primary data acquired from 1000 respondents from the whole Czech Republic. Half of the data (i.e. 500 respondents) were based on phone questioning, and half of them on direct personal questioning. The respondents were selected according to the quota principle, where the quota-attributes were gender, age, education and geography, i.e. the residence of the respondents (Chládková 2005b).

RESULTS AND DISCUSSION

In 1995, the Act on viticulture and wine growing created conditions for qualitative changes of the produced wine and due to this fact, it was also necessary to change the shares of the individual varieties and the structure of the varietal assortment. Earlier, the main (and preferred) objective of wine growers was the yield of grapes, not their quality. Since 1995, the sugar content in grapes has become the main parameter of the quality of grapes and, moreover, due to a gradual intensification and openness of the international market, the consumers could compare

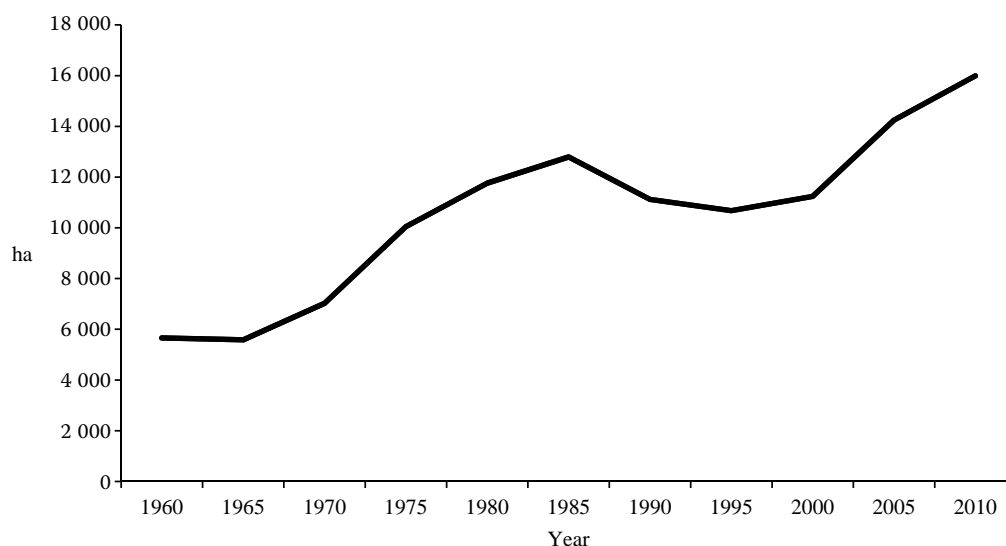


Figure 1. Development of the acreage of producing vineyards in the Czech Republic (in hectares)

Source: own calculations

different varietal wines originating from many countries of the world. This process resulted in a gradual restructuring of the varietal assortment in Czech and Moravian vineyards. After 1995, planting of new vineyards began to be financially supported and subsidised and, when the negotiations about the admission of the Czech Republic into the EU indicated that it would not be possible to extend the acreage of vineyards above that of 1989, the Czech government approved a program of planting and establishment of new vineyards. This plan had been implemented till April 30, 2004. On May 1, 2004, the Czech Republic became the member of the EU. As compared with 1989, the total acreage of vineyards was significantly increased (Figure 1) to this date and this enabled a relatively quick change in the varietal assortment (which otherwise could have lasted several decades).

In 2004 (i.e. in the year of enlargement of the EU), the applicants for subsidies received altogether 25 423 thousand CZK and in 2009/2010, these subsidies grew up to as much as 78 662 thousand CZK. In 2010, the total production potential of vineyards in the Czech Republic represented 19 633.45 hectares and of this, 17 337.81 hectares were in production (the difference in both aforementioned acreages consisted of the grubbed-up vineyards, rights to replant them and of the governmental reserve). Within the period of the last fifty years, the total acreage of vineyards increased nearly three times. As compared with the preceding period of unchanging area of vineyards, this increase enabled to carry out quick changes in the varietal structure. Besides the enlargement of the total vineyard area, this process concerned also increasing numbers of the producers of grapes and

wine and the creation of new jobs not only in the wine industry, but also in other, related industries. In 100 largest wine-growing municipalities, the total number of growers was 15 363 persons.

On the other hand, the cost of growing grapes is high as demonstrated in the Table 1. Except for the years 2003 and 2004, the market selling price of the grape production did not exceed the cost of their actual production. Therefore, the negative profitability was achieved with the exception of the years mentioned above.

The total costs of wine growing gradually increased. The average annual growth rate of grapes was 4.5% in the period 1997–2014 (including the predicted periods). The unit cost of grapes fell by 3.2%, as the revenues grew faster than the total cost. For this commodity, there is characteristic a high proportion of manual work, so the cost structure is dominated by the payroll and personnel costs (those of grapes are around 40%). The second most important item is the fixed costs with the share of 18 to 26%. The exercise price of grapes fluctuated without significant jumps in the range of 10–15 thousand CZK/t in the national average in the period since 2007 with the highest price in 2003. For the forecast period, there is expected a stagnation of the exercise prices of grapes approximately at the level of 12.5 thousand CZK/t. The importance of unit subsidies for agricultural producers is small, from the grapevine to 5% of unit cost; therefore it almost does not affect the profitability. The development of profitability was not favourable in the past. Except the years 2003 and 2004, the profitability of grape growing was permanently negative. The unfavourable situation of the last period influenced the trends predicted for

Table 1. Development of the selected items of costs and profitability of grapevine

Item	1997	1998	1999	2000	2001	2002	2003	2004	2005
Yield t/ha	2.45	3.80	5.68	5.54	7.39	5.60	5.44	4.84	4.18
*Payroll costs CZK/ha	25 068	30 220	32 603	29 172	36 432	38 057	28 938	23 616	26 064
Fixed costs CZK/ha	14 949	15 820	19 388	21 449	26 160	28 032	18 763	18 623	21 791
Total costs CZK/ha	60 926	67 219	73 737	73 241	95 320	94 897	78 122	68 525	76 598
Unit costs CZK/ha	24 868	17 689	12 982	13 220	12 902	16 955	14 367	14 145	18 315
Exercise prices CZK/t	14 597	12 461	10 179	11 497	12 137	13 964	15 282	14 739	11 283
Profitability %	-41.3	-29.6	-21.6	-13.0	-5.9	-17.6	6.4	4.2	-38.4
Item	2006	2007	2008	2009	2010	2011	2012	2013	2014
Yield t/ha	4.18	5.97	5.97	5.97	4.95	5.17	5.64	6.03	6.03
*Payroll costs CZK/ha	26 064	32 885	32 885	32 885	32 885	32 885	32 855	32 855	32 855
Fixed costs CZK/ha	21 791	22 791	22 791	22 791	22 791	22 791	22 791	22 791	22 791
Total costs CZK/ha	76 598	87 657	88 693	89 647	88 048	89 563	91 684	93 608	94 562
Unit costs CZK/t	18 315	14 676	14 850	15 010	17 793	17 312	16 253	15 651	15 682
Exercise prices CZK/t	11 283	12 615	12 615	12 616	12 600	12 584	12 567	12 551	12 535
Profitability %	-38.4	-14.0	-15.0	-15.9	-29.2	-27.3	-22.7	-19.1	-20.1

* Payroll and personnel costs

Source: Foltýn et al. (2012)

the next period. Grapes enter the next period with a negative profitability. Their expected economic prosperity is problematic. Therefore, it is important

for our producers to focus not only on the production of grapes, but primarily on the production of quality wine. Regarding varietal vineyards, our producers

Table 2. Prices of industrial wine producers in the Czech Republic (in 1 Euro per litre)

Type of wine	Average wine prices of industrial producers					
	2004	2005	2007	2009	2010	2011
Quality white wine – bottled	1.69	1.77	2.13	2.10	1.68	2.16
Müller Thurgau	1.42	1.42	1.63	1.62	1.50	1.59
Gruner Veltliner	1.44	1.62	1.52	1.65	1.50	1.60
Quality red wine – bottled	1.85	1.96	1.93	1.97	1.72	2.70
Lemberger	1.60	1.70	1.78	1.78	1.61	1.74
St. Laurent	1.76	1.78	1.91	1.79	1.80	2.10
Quality white wine – barrel	1.06	0.91	0.63	0.92	0.58	0.81
Müller Thurgau	1.04	0.85	0.59	0.82	0.57	0.92
Gruner Veltliner	0.98	0.77	0.55	0.84	0.58	0.83
Quality red wine – barrel	1.20	0.97	0.76	0.74	0.62	0.74
Lemberger	1.15	0.96	0.60	0.70	0.62	0.79
St. Laurent	1.16	1.00	0.78	0.60	0.58	0.75
Sparkling	3.39	2.92	3.45	3.27	3.29	3.33
Wine with special attributes	–	6.90	3.0	3.25	3.41	2.95

Price was established by January of the current year (1 Euro = 25.50 CZK)

Source: Ministry of Agriculture, own work

should focus on the popular varieties. They should also identify the changes in the consumer preferences.

Table 2 describes the average wine prices of industrial producers in the years 2004–2011. Prices of the quality white and red wine bottled were generally the highest in 2011 (but for Green Veltliner in 2009, for Lemberger in 2007 and 2009). Prices of the quality white and red wine in barrel fluctuate, but the highest prices were in 2004.

Over the past 14 years, the percentages of the most important white varieties markedly decreased. While in 1997, Green Veltliner and Müller Thurgau were cultivated on approximately 18% of the total area, in 2010 the shares of the mentioned two varieties decreased below 10%. On the other hand, however, the shares of other varieties gradually increased, namely that of Rhein Riesling, Pinot Blanc, Sauvignon, Chardonnay, and Pinot Gris, as documented in the following figure (Figure 3). For the future development, the observed data of the share in the area were interspaced by the trend lines. Their suitability is documented by the high levels of the reliability index R^2 . The trend lines are not shown in Figure 2, as it would reduce its clarity.

Green Veltliner – it is now, together with Müller Thurgau, the most frequent grapevine variety in the Czech Republic. However, its share was about 20% of the total acreage in the 1997 and only about 10% in 2010. It is expected that in the near future, its acreage will further decrease.

$$y = -0.8152t + 19.492$$

$$R^2 = 0.9233$$

Müller Thurgau – twenty years ago this variety was grown on nearly 20% of the vineyard area and represented the most popular grapevine variety. In 2002, its share in the total assortment decreased too little over 13% and at present, it is less than 10%; in spite of this, however, it is still the most popular variety together with the Green Veltliner. It is expected that its percentage will further decrease in future.

$$y = -0.7138t + 18.554$$

$$R^2 = 0.9274$$

Italian Riesling – its importance gradually increased and, in the first half of 1990s, its share in the total acreage of Czech and Moravian vineyards was nearly 14%. Thereafter, in 2002, its share dropped to 9% and at present it makes only 7%. It is expected that, in Moravia, its acreage will be further reduced.

$$y = -0.6462t + 14.732$$

$$R^2 = 0.904$$

Rhein Riesling – in the first half of 1990s and after 2002, its share was 6%. It can be expected that its acreage will slightly increase in future.

$$y = 0.2453t + 4.5747$$

$$R^2 = 0.8286$$

Pinot Gris – it has been known from the Middle Ages in the Burgundy region, where it was probably called Fromenteau. The proportion of vineyards with this variety was in the Czech Republic in 1999 about 1.6%, by 2010 it was 4.3%. 65 years ago it was

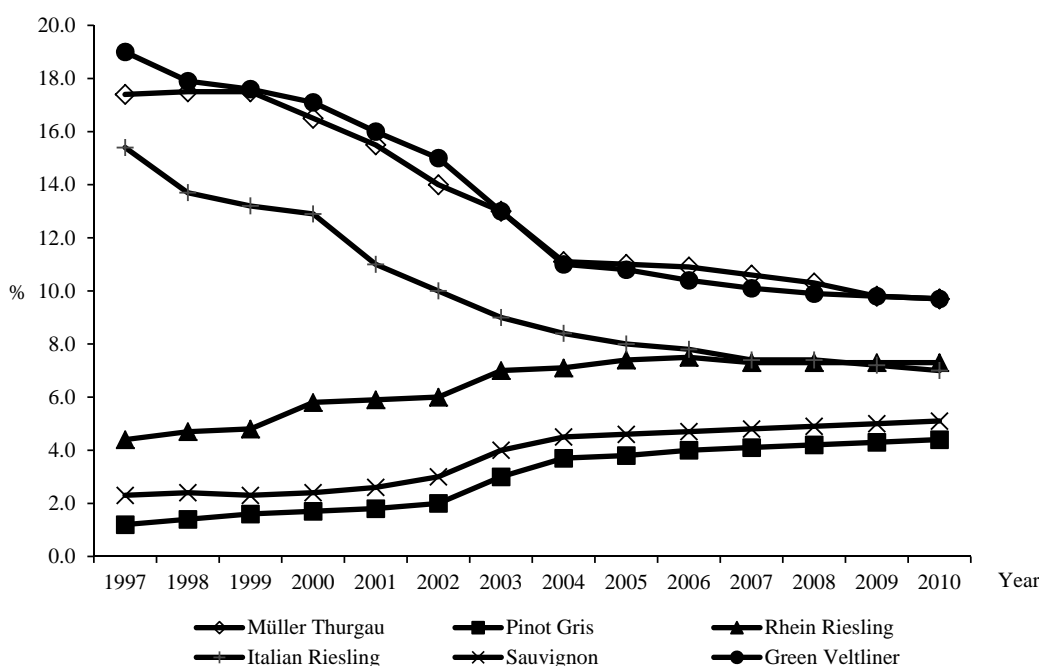


Figure 2. Changes in the percentages of the most popular white grapevine varieties

Source: own work

only 0.5%. It can be expected that its acreage will increase in future.

$$y = 0.2875t + 0.7868$$

$$R^2 = 0.9273$$

Sauvignon – this variety traces its origins to western France in the Loire Valley and the Bordeaux Regions. Previously, in the Czech Republic, there was produced Sauvignon with a distinctive bouquet after nettles, now it has a rather more desirable bouquet of peaches and blackcurrant. Its share was 2.3% only, but in 1997, it was 5.1%, and we expect to increase its share in the near future.

$$y = 0.2659t + 1.7626$$

$$R^2 = 0.9042$$

The share of Saint Laurent varieties decreased slightly as documented by Figure 3. The importance of Cabernet Sauvignon and Cabernet Moravia has gradually increased and at present their acreages are similar to that of André. In this context, it is necessary to mention that the share of this variety in plantings was relatively very stable in the course of the last two decades. For the future development, the observed data of the share in the area were interspaced by the trend lines. Their suitability is documented by the high levels of the reliability index R^2 . Trendlines are not shown in Figure 3, as it would reduce its clarity.

Sankt Laurent – in the territory of the Czech Republic, this variety appeared after 1900 and in 1935, its share was only 1%. In the first half of 1990s, however, it was already planted on 10% of the total area. Although its acreage gradually decreased to 9.5% and 8% in 2002 and 2010, respectively, it is still the most frequent red grape variety. It is expected that its share in the assortment of the grapevine varieties

will decline in the near future. The CR is the largest grower of this variety in the world.

$$y = -0.1378x + 10.084$$

$$R^2 = 0.7862$$

Lemberger – in the territory of the Czech Republic, it was the most popular red grape variety in the 19th century. Till 2000, it was planted on less than 5% of the total area of vineyards in the Czech Republic and after 2002, its share increased to 7%. It is expected that its popularity will further increase and that it will be No. 1 among the red grape varieties (to the detriment of Sankt Laurent).

$$y = 0.2567t + 4.2747$$

$$R^2 = 0.8255$$

Blue Portugieser – despite the suggestion of the grape's name having a Portuguese origin, there is little evidence that the ampelographers have uncovered to suggest that this is the case. The grape is a relatively easy to grow due to the high resistance to the various vine and grape disease such as coulure. Its share was 1.2% in 1997 and in 2010, it was 3.7%. We expect it to increase its share in the near future.

$$y = 0.2303t + 1.2011$$

$$R^2 = 0.8319$$

Zweigeltrebe – it is a red wine grape variety developed in 1922, at the Federal Institute for Viticulture and Pomology at Klosterneuburg, Austria, by Fritz Zweigelt. It was a crossbreed of St. Laurent and Blaufränkisch. It is now the most widely-grown red grape variety in Austria, as well as having some presence in Canadian vineyards. In the Czech Republic, it is known as Zweigeltrebe and is the third most widely planted red grape variety, comprising approximately 4.7% of the total vineyards. It also grows in most of

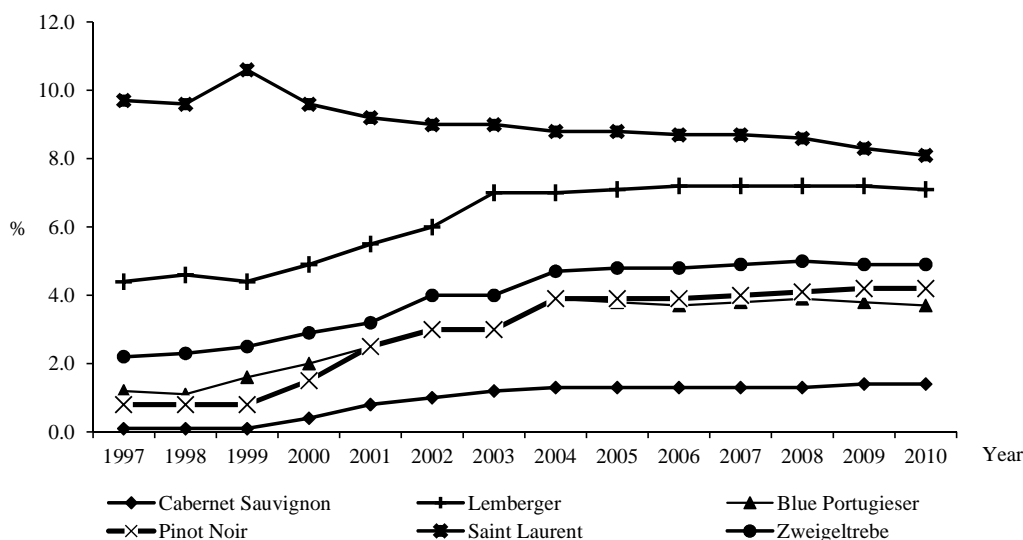


Figure 3. Changes in the percentages of the most popular red grapevine varieties

Source: own work

the wine regions in Slovakia. Its share was 2.2% in the total acreage in 1997 and 4.9% in 2010. We expect it to increase its share in the near future.

$$y = 0.2446t + 2.1011$$

$$R^2 = 0.8856$$

Pinot noir – it is a black wine grape variety of the species *Vitis vinifera*. The name is derived from the French words for “pine” and “black”, alluding to the grape variety’s tightly clustered dark purple pine-cone shaped bunches of fruit. Pinot noir grapes are grown around the world, mostly in the cooler regions, but the grape is chiefly associated with the Burgundy region of France. It is widely considered to produce some of the finest wines in the world, but it is a difficult variety to cultivate and transform into wine. Its share in the Czech Republic was 0.8% in the total acreage in 1997 and 4.2% in 2010. We expect it to increase its share in the near future.

$$y = 0.3064t + 0.6022$$

$$R^2 = 0.8752$$

Cabernet Sauvignon – with the estimated 220 000 hectares of the area under vines, it is currently the world’s seventh most commonly grown variety. Its share in the Czech Republic is relatively small. In 1997, it was only 0.1%, but in 2010, the share of this variety was 1.4%. We expect it to increase its share in the near future.

$$y = 0.1138t + 0.0747$$

$$R^2 = 0.8263$$

The structure of vineyards and cultivated varieties should also respond to the consumer preferences. The results from the survey of consumer behaviour in the wine market in the CR show the connection between the structure of the vineyards and consumer demands. Domestic wine is preferred by 86.4% of

the respondents. However, Czech people like French wines (2.8% of respondents) and Spanish wines (1.8% of respondents). 6.6% of the respondents said they are not interested in the origin of the wine. The part focusing on the preference of the type and the quality-level of wine was concluded with the question “Which particular wine do you buy most often?” Answers to this question resulted in the following rank of the most often purchased wines by the given sample of respondents: Lemberger, Cabernet Sauvignon, Müller Thurgau, Green Veltliner, Pinot Blanc, Sankt Laurent, Blue Portugieser, Chardonnay, Italian Riesling and Bohemia Sekt (Table 3).

The demand for each variety is driven by the consumers’ preferences and the fashion trends. The implemented analysis is based on the assumption that farmers react and respond to the consumer demand and adapt the structure of the cultivated varieties as that is the only way to stand a chance to be successful in the present market. When the producers are able to produce high quality wines and popular varieties, too, they can ask a higher price and better cover the high cost of the grape production.

CONCLUSION

In the Czech Republic, the current (2010) production potential represents 19 633.45 ha of vineyards; of this, 17 337.81 hectares are planted in the total production. In 1989/1990, 60% of vineyards were planted with only 4 varieties (i.e. Müller Thurgau, Green Veltliner, Italian Riesling and Sankt Laurent). At present, only a slightly smaller acreage is occupied by a doubled number of varieties (i.e. Müller Thurgau, Green Veltliner, Italian

Table 3. The popularity of the varieties of wine among Czech consumers

Order	Telephone survey	Supermarkets and hypermarkets	Wine shops	Total
1.	Lemberger	Lemberger	Cabernet Sauvignon	Lemberger
2.	Green Veltliner	Pinot Blanc	Lemberger	Cabernet Sauvignon
3.	Müller Thurgau	Blue Portugieser	Chardonnay	Müller Thurgau
4.	Cabernet Sauvignon	Müller Thurgau	Blue Portugieser	Green Veltliner
5.	Sankt Laurent	Cabernet Sauvignon	Müller Thurgau	Pinot Blanc
6.	Pinot Blanc	Sankt Laurent	Green Veltliner	Blue Portugieser
7.	Blue Portugieser	Bohemia Sekt	Italian Riesling	Sankt Laurent
8.	Chardonnay	Green Veltliner	Sankt Laurent	Chardonnay
9.	Italian Riesling	Italian Riesling	Pinot Blanc	Italian Riesling
10.	Bohemia Sekt	Chardonnay	Bohemia Sekt	Bohemia Sekt

Source: Chládková (2005a)

Riesling, Rhein Riesling, Sauvignon, Sankt Laurent, Blaufrankish, and Zweigeltrebe). Besides, several new varieties have been introduced into the country and their popularity has gradually increased. It is expected that the percentages of Müller Thurgau, Green Veltliner, Italian Riesling and Sankt Laurent will further decline, while those of Rhein Riesling, Sauvignon, Blaufrankish and Zweigeltrebe will grow up. Of less frequent varieties, an increase in the shares of Pálava, Sylvaner, Gewürztraminer, Cabernet Sauvignon and Cabernet Moravia is very probable. The acreages of Pinot Blanc, Moravian Muscat, Irsai Oliver and Andre will not be changed and the shares of Frührot Veltiner and Neuburger will go down. The current total acreage of vineyards (2010) is three times larger than in 1960. This situation enabled a further development of business activities, of not only the wine makers, but also of the subjects operating in other (i.e. related) businesses, which either supply their products into the wine industry, or buy its final products. This means that the attractiveness of the wine industry increases and that this increase concerns also the related industries.

Another important factor which promotes the attractiveness is the domestic consumption. The development intents of winegrowing and wine-production consider the current average consumption per inhabitant to be low in comparison with abroad, and it expects a growth of the demand and consumption of wine, especially of Czech wine. The decisive actor of this process, though, will be the customer. Because of these facts, our producers have to concentrate on retaining the current customers and to employ the strategies of development and offering new products. A successful implementation of these strategies demands a more consistent orientation on the customer. Therefore it is – more than before – necessary to identify the customers, their attitudes towards wine consumption, their habits, needs, preferences, and expectations.

On the other hand, the cultivation of grapes with the emphasis on quality improvement may decrease the revenues. The forecast revenue for the period after 2007, therefore, shows much more moderate trends. For the cultivation of the vine is typical of a high proportion of manual work. For the forecast period, there is expected, for grapes, a stagnation of the exercise prices roughly at the level of 12.5 thousand CZK/t. The unfavourable situation of the last years affected the trends predicted for the next period. Therefore, the future expects a negative profitability of vine. Therefore, it is important for our producers to focus not only on the production of grapes, but primarily on the production of quality wine, especially on the wine with special attributes

and specialties, such as straw and ice wines. Regarding the varietal vineyards, our producers should focus on the popular varieties.

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