Wine Environment in the Czech Republic

CHLÁDKOVÁ, Helena, GURSKÁ, Sylvie, TOMŠÍK, Pavel
Mendel University in Brno
chlad@mendelu.cz, sylvie.gurska@mendelu.cz, tomsik@mendelu.cz

Wine branch is one of the dynamic developing industries in the Czech Republic. Market changes in this branch came before the EU entry in the year 2004 when many new vineyards were plant out, mostly with the state subvention. The entry to the European Union led to tighter legislative conditions and orders which many winegrowers had to adapt to. In conjunction with this situation, variety composition, which ensures the production quality and competitiveness of our wines, has changed. All these proceedings have certainly positive influence on the wine consumption because the Czech consumer prefers the traditional taste of domestic wines. The market size could be viewed from different points of view. One of them is the character of wine production development. The total amount of production in the Czech Republic was 570 thousand hectoliters in the year 2009/2010, thereof 380,000 hl of white wine and 190,000 hl of red wine. The decrease of domestic production against the year 2008/2009 was caused by the weather influence. Import to the Czech Republic has increasing trend and in the year 2009/2010 was 150 million liters (according to Ministry of Agriculture). For the estimation of future supply development in the Czech Republic the realized data in the tracking period were extended with the trend line (Figure 1) which is in form $y = 135,88x + 1822.7$. The parameters of the trend line $b_0$, $b_1$ come from the equation system:

$$
\begin{align*}
\sum y_t - nb_0 - b_1 \sum t &= 0 \\
\sum y_t t - b_0 \sum t - b_1 \sum t^2 &= 0
\end{align*}
$$

where

\[
\begin{align*}
n &= 9 \\
\sum y_t &= 22519 \\
\sum y_t \cdot t &= 120748 \\
\sum t &= 45 \\
\sum t^2 &= 285 \\
\end{align*}
\]

$$
\begin{align*}
b_0 &= \frac{\sum y_t \cdot t - b_1 \sum t}{\sum t^2} = 1822.7 \\
b_1 &= \frac{\sum y_t - nb_0}{\sum t} = 135,88
\end{align*}
$$

\[
\begin{align*}
y &= 135,88x + 1822.7
\end{align*}
\]

Except of production and import consumption is the basic aspect of market size. The grape and wine consumption development has been increasing. According to the Ministry of Agriculture data the consumption reached the level of 200 million liters in the year 2009/10. For the next development of wine consumption in the Czech Republic the data were extended with the trend line (Figure 1) in the form $y = 49,183x + 1540.1$. 

Evidently from this wine consumption development the Czech Republic will be able to reach the consumption of c. 250 million liters. It is obvious that the Czech Republic won't drive up to the European average (30 liters per capita) in near future but in spite of it, it is possible to evaluate this development as positive for the developing market.

Figure 1 Prediction of the development of production and consumption to 2015 (million liters)

Source: Czech Statistical Office, own work

The correlation coefficient will be used to determine the relationship between supply and consumption, supply and final wine stock, supply and import, consumption and final wine stock. 

\[ r = \frac{n \sum x_i y_i - \sum x_i \sum y_i}{\sqrt{n \sum x_i^2 - (\sum x_i)^2} \sqrt{n \sum y_i^2 - (\sum y_i)^2}} = \frac{\sum (x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum (x_i - \bar{x})^2 \sum (y_i - \bar{y})^2}} \]

Between total wine supply and consumption the correlation coefficient is \( r = 0.88 \), between total supply and the amount of the wine stock \( r = 0.94 \) and also between total supply and import reached the coefficient high number \( r = 0.80 \). That's why it is possible to talk about high dependence among monitored values. The relationship between wine consumption and total wine stock can be indicated as medium because \( r = 0.68 \).

According to realized information it is possible to say that the wine industry is a positively developing market which inhere in the stage of growth in the life cycle. We can see it from the development of increasing domestic wine production and from the increasing amount of wine imported in context of increasing annual consumption. There is a positive fact in the increasing wine demand and consumption - producers focuses on quality which documents significant awarding of our wines in several world expositions and competition, and on production of specialties typical for domestic conditions like e.g. Saint Martin's Wine, Ice wines, the stum. The quality of production is awarded also by consumers which according to several surveys prefer domestic wines. Managerial proceedings leading to increasing quality of wine production lead to increasing consumption. So the Czech Republic contributes to use of EU overproduction.