

# Effects of Macro-Environmental Factors: Running a Micro distillery in the Czech Republic

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## Abstract

The paper deals with the wider-environmental factors for operation and achieving prosperity of a micro distillery. These factors can be broken down into economic, political, social, technical, and technological factors. Operation of a micro distillery is then affected by all of them. The most important factors, however, can be seen in the political and economic factors. Legislative factors are crucial as they are the source of the reduced rate of the consumption tax. In terms of prices, this lower rate gives micro distilleries a great advantage over large fruit distillery plants. However, at the same time, the legislative area generates a number of challenging requirements that micro distilleries have to observe. The economic factors in the Czech Republic have not been developing favorably in recent years. This negative trend may have a positive impact on the demand for services of micro distilleries.

**Keywords:** PEST analysis, Micro distilleries, Company environment.

## 1. Introduction

When running a business, entrepreneurs have to have a thorough knowledge of their environment. The environment of the company creates opportunities and threats the company has to take into account for its activities. The environment can be divided into 4 levels: local, national, integrated, and global. The local environment is a place in which the company operates, implements its products and services, and from which it drains its resources. The national environment is defined by the actual territory of the country. For the Czech Republic, an integrated environment can be identified in the European Union. Currently, the global environment is our economic reality, and its meaning is connected with the process of globalization and internationalization (Kovář a Veber, 1996).

The environmental analysis can be methodically broken down into analyses of the macro and micro environments (Johnson et al., 2012; Sedláčková a Buchta, 2006; Hitt et al., 2012).

### The Importance of Macro Environment

A macro-environmental analysis includes examination of elements and connections in the company's widest environment. Methodologically, macro-environmental factors can be divided into political, economic, social, technical, and technological. Political factors chiefly include the level of legislation in individual countries, labour regulations, law enforceability, political stability, environmental standards, work safety standards, etc. The economic factors include basic macro-economic indicators: unemployment, interest rate, inflation, and the development of the domestic / national product. In terms of social factors, the subjects of analyses are mainly basic demographic characteristics (population age structure, etc.), trends in consumers' preferences (e.g. an interest in the healthy lifestyle), level of education, culture, access to leisure, etc. The main monitored technical and technological characteristics are the speed at which technologies get obsolete, investment in research and development, etc. (Sedláčková a Buchta, 2006; Crossan et al., 2009).

The macro-environmental analysis also monitors the impact of global trends. We can identify these major global trends in: globalization, turbulence and discontinuity, ever-increasingly growing differences between different parts of the world, the threat of international terrorism, miniaturization and genetization, environmental protection, pressure on greening and security, emphasis on innovation (Drucker, 2001; Souček, 2003; Arnas, 2009; Grant, 2010; Smil, 2008).

## 2. Analysis of the Macro Environment – Running a Micro distillery in the Czech Republic

The analysis is aimed at identifying the most important factors that influence operation of microdistilleries. According to the above concept, the monitored factors are divided into basic groups.

### 2.1 Political and Legislative Factors

The Czech Republic is a relatively stable country. However, there isn't economic stability and predictability of future development, especially in recent times with government reforms, increases in tax rates, and other legislative changes. In total, this situation increases risk for companies.

The Czech Republic's accession to the European Union was and still has been an important political factor as it

meant introduction of a lower consumption tax for micro distilleries producing fruit spirits than for large-scale producers of this product. The legislation which has a major influence on operation of micro distilleries is the following:

Act No. 455/1991 Coll., on Trades defines the basic types of trades, conditions for carrying out business, and conditions for obtaining individual types of trade licenses. The conditions for obtaining a trade license for conducting a micro distillery are as follows:

- age 18;
- criminal integrity;
- legal capacity.

Entrepreneurs do not have to meet any other conditions. The administration fee for a trade license is CZK 1,000. Unlike micro distilleries, running a distillery plant for the production of fruit spirits requires a licensed trade.

**Act No. 61/1997 Coll.** on Spirits defines the conditions for production, adjustment, storage, records, and circulation of alcohol. It determines the scope of individual authorities. The Act also states that ethanol – which is obtained during the distillery process for growers (customers of micro distilleries) – is also considered alcohol. According to the Act, growers are natural persons who grew fruit on their property or property they are authorized to use. For the purposes of this Act, growers are also employees who obtained fruit as remuneration in kind.

Materials accepted for processing in micro distilleries are fruits, juices, and waste from the processing, both fresh and fermented. It is forbidden to add sugar in spirits.

In one production period – i.e. from 1 July to 30 June of the following year – growers and persons living with them in the household are allowed to have distilled up to 30 liters of ethanol, which is subject to the reduced rate of consumption tax. Growers are forbidden to resell the produced fruit spirits.

The Act further sets out duties of operators of micro distilleries. Operators have to keep records of each event, which includes:

- a) name and surname, permanent address and birth certificate No. of the grower
- b) a written statement of the grower that it and the members of its household did not have produced more than 30 liters of ethanol during the production period.
- c) quantity and type of material accepted,
- d) quantity of distillate handed over to the grower in units of measurement.

The records must be stored for 10 years from the end of the calendar year in which the distillation took place. The Act also prescribes that the production equipment was arranged so that distillation was associated with rectification, and that measurement was carried out already on the rectified product.

During the production process, the production equipment may not be used for other purposes and must bear official seals to ensure that the entire production could be measured.

**Ministry of Agriculture Decree No. 141/1997 Coll.**, on technical requirements for production, storage, and processing of alcohol lays down technical requirements for production equipment of distillery plants and their arrangement, technical requirements for storage facilities for alcohol, etc. The decree further sets out methods for determining the quantity and concentration of alcohol, for calculation of the amount of alcohol, and for determining the quality characteristics. The decree also deals in detail with losses occurring during each stage of the production process.

**Decree No. 150/2008 Coll.** on monitoring the production and circulation of alcohol and on implementation of other related provisions of the Act on Spirits sets out specific procedures and time limits for alcohol production. It contains specific conditions for securing production equipment of distillery plants and specific procedures for destruction of heads and tails from production of micro distilleries. Also, the decree sets out requirements for measuring devices, their location and inspection. The decree addresses time periods, methods, and records of the amount of alcohol produced. Section 25 formulates requirements for record keeping in the production micro distilleries.

**Act No. 353/2003 Coll.**, on Consumption Tax sets out that the consumption tax includes taxes on mineral oils, alcohol, beer, wine and semi-finished products, and on tobacco products. The first part of this Act mostly contains definitions of import, export, tax base, tax payer, tax documents and their elements, tax subject, creation of tax, creation of the obligation to declare and pay tax, rates, tax calculations, and tax exemptions.

The tax subject is alcohol (ethanol) produced by fermentation and contained in any products, except for certain specific cases mentioned in the Act. The tax base is the amount of alcohol expressed in hectoliters of ethanol at the temperature of 20°C, rounded to 2 decimal places. For alcohol in fruit distillates from micro distilleries, the rate of CZK 14,300 per hectoliter of ethanol applies. For illustration, the rate for alcohol produced in distillery plants is CZK 28,500 per hectoliter of ethanol.

## 2.2 Economic Factors

The development of the demand for the products is influenced by the development of basic macroeconomic indicators. The Czech Republic is a small open economy, and as such it is significantly influenced by global events. The development of selected macroeconomic indicators is presented in Table 1.

Table 1 Growth Rates of Selected Macro-economic Indicators in the Czech Republic

Indicator/Year	2006	2007	2008	2009	2010	2011
GDP	7.0	5.7	3.1	-4.7	2.7	1.7
Inflation	2.5	2.8	6.3	1.0	1.5	1.9
Unemployment	7.1	5.3	4.4	6.7	7.3	-
Real wage	4.0	4.3	1.4	2.3	0.4	0.3

Note: For the calculation of the GDP growth rate, prices from the previous year were used.

Source: Czech Statistical Office.

The global crisis also affected the development of the GDP in the Czech Republic. In 2009, the GDP dropped by nearly 5%. In 2010 and 2011, there was a slight increase in the GDP. However, this increase still does not reach the values the Czech Republic reported before the crisis.

Inflation between 2006 and 2008 ranged from 2.5% to 6.3%. With the advent of the economic crisis in 2009, the inflation rate dropped to 1.0% and has since remained below 2%. With the modest recovery of economic growth between 2010 and 2011, there has been again a slight increase in the price level.

Between 2006 and 2008, the unemployment rate was dropping, however, since 2009 its value has been rising again. Similarly, the negative trend can be seen in the development of real wages. While real wages between 2006 and 2007 rose each year by more than 4%, between 2010 and 2011 they remained virtually the same.

It can be said that the inflation is at an acceptable level especially in the last 3 years. Inflation will not have the significant impact in the solved industry.

GDP, inflation, unemployment and real wage influence the purchasing power. The development of all these factors has been negative in the monitored years. This development may have on the demand for services of micro distilleries rather positive impact.

Products of micro distilleries are burdened with significantly lower rate of consumption tax than products of distillery plants. Under these conditions the demand for products of micro distilleries can rise.

## 2.3 Social Factors

In the last decade, we can see the trend of increased interest in healthy living, green products, etc. This trend, however, does not support consumption of spirits and other alcohol products.

On the other hand, there is a wave of interest in traditional foods, foods made from local raw materials. In the last two years, the trend manifested itself in the increased popularity of farmers' markets. Although distillate produced in micro distilleries is intended for consumption by the grower and his family only and may not be resold, it is possible that the increased interest in local food may positively reflect in the demand for services of micro distilleries.

## 2.4 Technical and Technological Factors

For the area of micro distillery production, rapid changes in technical and technological factors are not a typical feature. Despite that, a certain development can be seen here. Changes can be identified in the field of heating of distillation equipment. Traditionally, micro distilleries used wood for heating, and this method has still been used. The main advantage of this method is its low cost. Compared to other methods of heating, this one is far the least expensive. The disadvantage of heating using wood is, however, problems in regulating the intensity of heating. Intensity of heating plays an important role in separating the hearts from the tails and affects the quality of the distillate. Therefore, currently the most widely used heating methods are those using gas and electricity. These heating methods allow accurate and problem-free temperature control and thus control over the distillation process itself (Dyr et al., 1997). There are also other methods of heating used, such as pellets.

The second important technical factor is the choice whether to use one- or two-boiler technology. In the two-boiler technology, distillation of the ferment takes place in one boiler while rectification of low wines takes place in a separate boiler. In the one-boiler system, both distillation and rectification take place in a single boiler equipped with a rectifying extension. The advantages of the one-boiler system are savings of heat and water for cooling, smaller space requirements for the distillation equipment, shorter time for distillation and rectification processes, and less purchase costs and higher yield (Jilek, Zentrich, 1999; Malleová, Schmicklová, 2003).

## 3. Conclusion – PEST Analysis Summary

PEST analysis represents important analytical tool. This analysis is one of the basic methods of strategic analysis. It serves as a basis for evaluating of opportunities and threats from wide business environment. Individual factors are grouped into 4 basic groups. The output of PEST analysis is to identify the most important factors that affect

a concrete company.

The legislative factors are the most important for operating micro distilleries. A major factor here is the reduced rate of consumption tax on alcohol produced by micro distilleries. Other laws and regulations that govern the operation of micro distilleries are also important. It can be concluded, however, that the requirements contained in these standards do not constitute significant obstacles to establishing and running a micro distillery.

In terms of purchasing power of the population, the main macroeconomic indicators do not develop favorably. Paradoxically, this may have a positive impact on the demand for services of micro distilleries. One liter of distillate with the alcohol content (ABV) of 50% costs growers approx. CZK 150. However, the price should include the cost and time required for picking fruit and delivering it to the micro distillery. For comparison, the price of 1 liter of Czech plum brandy (ABV 45%) produced by a major distillery costs about CZK 380 – for example 1 liter of pear brandy (ABV 42%) produced by this company costs about CZK 390. In terms of alcohol content, the price of distillate produced in a micro distillery is 2 to 3 times lower than the price of the same product sold in stores. This difference in prices and the overall negative economic development during the last 3 years may result in a stable or even growing demand for services offered by micro distilleries.

The social factors have an ambiguous impact on operation of micro distilleries. However, they have only marginal effect on their operation. Neither technical nor technological factors play an important role. For operators of micro distilleries, it is a positive fact that there is plenty of producers on the market and that the supply includes a number of different types of distillation equipment. Therefore, it can be concluded that macro-environmental factors create favorable conditions for operation of micro distilleries in the Czech Republic.

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