

Czech University of Life Sciences Prague

Faculty of Economics and Management

Department of Economics



Diploma Thesis

Economic Analysis of Chosen Brewery

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CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

Department of Economics
Faculty of Economics and Management

DIPLOMA THESIS ASSIGNMENT

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Economics and Management

Thesis title

Economic Analysis of Chosen Brewery

Objectives of thesis

The goal of the thesis is to conduct an economic analysis of the Strakonice Burghers' Brewery. This thesis aims to the critical analysis and evaluation of the current position of this business entity and to propose suggestions for its improvements.

Methodology

- Analysis of the internal documents
- Methods of financial analysis
- SWOT analysis
- Discussion with the experts

Schedule for processing

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Selection of the topic for the Diploma thesis, defining the aim, structure, methodology and the keywords of the thesis

Summer semester (1st year)

Study of the literature, processing of the theoretical part of the thesis, consultancy with the tutor, obtaining first credit

Autumn semester (2nd year)

Finishing of the theoretical part of the thesis, processing of the analytical part of the thesis, practice in the business unit, obtaining second credit

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Brewing Industry, Competitiveness, Economic Analysis, Economic Efficiency, Financial Analysis, Indebtness, Strakonice Brewery

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Prague September 16. 2013

Declaration

I declare that I have worked on my diploma thesis titled "Economic Analysis of Chosen Brewery" by myself and I have used only the sources mentioned at the end of the thesis.

In Prague on 31st March 2014

Pavla Sállová

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Economic Analysis of Chosen Brewery

Ekonomická analýza vybraného pivovaru

Summary

The main aim of the diploma thesis is to conduct an economic analysis of the Strakonice Burghers' Brewery. The focus is on critical evaluation of the current situation of this business entity.

This thesis is compound of two main parts which are divided into chapters and subchapters. The first part is theoretical and contains the information about the brewing industry in the Czech Republic, its history and current position. One subchapter is dedicated to the foreign trade of the Czech Republic with beer and hops as the raw material for beer production.

Second part is practical which is focused on the Strakonice Burghers' Brewery itself. The practical part overviews the history and analyses the current situation and business activities of the brewery. Financial situation is evaluated by horizontal and vertical analysis of the financial statements, calculation of absolute ratios, differential ratios, financial ratios and by constructing the bankruptcy model. Calculated results are compared with three competitors of the brewery in the region.

At the end of the thesis the results are summarized and recommendations for the future are made.

Souhrn

Hlavním pilířem této diplomové práce je provést ekonomickou analýzu Měšťanského pivovaru Strakonice. Práce se zaměřuje na kritické zhodnocení současné situace tohoto ekonomického subjektu.

Práce je dělena na dvě hlavní části, které jsou dále členěny do kapitol a podkapitol. První část práce je teoretická a obsahuje informace o pivovarském průmyslu v České republice, jeho historii a současném postavení. Jedna podkapitola je věnována zahraničnímu obchodu s pivem a chmelem, jakožto surovinou pro výrobu piva.

Druhá část práce je částí praktickou a zabývá se Měšťanským pivovarem Strakonice jako takovým. Praktická část zachycuje stručný přehled historie pivovaru a analyzuje současnou situaci a podnikové aktivity pivovaru. Finanční situace je zhodnocena pomocí horizontální a vertikální analýzy účetních výkazů, výpočtů absolutních ukazatelů, poměrových ukazatelů, finančních ukazatelů a konstrukcí bankrotního modelu. Vypočtené ukazatele jsou porovnány se třemi konkurenty Měšťanského pivovaru Strakonice v regionu.

Na konci práce jsou shrnuty a vyhodnoceny výsledky analýzy a jsou předloženy návrhy pro možnosti zlepšení v budoucnu.

Keywords: Altman's Z score, brewing industry, economic analysis, horizontal analysis, indebtedness, liquidity, profitability, Strakonice Burghers' brewery, vertical analysis

Klíčová slova: Altmanova analýza, pivovarnictví, ekonomická analýza, horizontální analýza, zadluženost, likvidita, ziskovost, Měšťanský pivovar Strakonice, vertikální analýza

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1 Introduction

The most known product of the Czech Republic in the World is without doubt Czech beer. Czech beer and the brewing industry play an enormous role in the Czech economy and also in the social life. The importance of the brewing industry to the Czech Republic can be exemplified by the endeavour to celebrate 27th of September as a day of the Czech beer starting in year 2013.

Brewing industry decreases the unemployment due to large amount of jobs offered. Many people associate the positions in brewing industry only in breweries but it is more than that. Czech beer is brewed from domestic ingredients thus the brewing industry creates a steady number of employment possibilities in agriculture where the tendency of employment is in general decreasing.

Nowadays the brewing industry is one of the main pillars of the agribusiness. It is caused by the high quality of the raw materials used for the beer production such as malting barley and hops. Those raw materials are requisite commodity in the foreign market. The Czech Republic is known as one of the leading exporter of the hops of the best quality. Hops and the Czech beer are significant and desirable articles of the Czech exports.

The uniqueness of the Czech beer and Czech hops advocates the fact that the European Union granted two designations to the products connected to the Czech brewing industry. The label protected designation of origin to the Saaz hops and protected geographical indication to the Czech beer. These designations promote the quality of the Czech brewing industry as a whole and contribute to maintain the reputation worldwide.

One of the breweries with extensive historical background which contributes to the respectable reputation of the Czech beer is the Strakonice Burghers' Brewery. It may not be one of the largest producers however it has its place among the well-known high quality Czech beer producers both in the Czech Republic and in neighbouring Germany. The choice of the brewery for this diploma thesis was not a matter of coincidence. The author of this diploma thesis has personal relation to the town of Strakonice and its brewery due to family origin.

2 Objectives of the thesis and methodology

2.1 Objectives of the thesis

This diploma thesis compounds of two parts. The first part of the thesis is theoretical and the second part is practical. The main aim of the theoretical part is to describe the current position of the brewing industry in the Czech Republic and overview of its history.

The second part of the thesis is dedicated to the business subject Strakonice Burghers' Brewery. This brewery is subjected to an economic analysis and critically evaluated. The main focus of the practical part is on the financial analysis of the Strakonice Burghers' Brewery. The time period for the analysis is the years from 2006 to 2012. The main aim of the practical part is to prove or reject the following hypotheses:

- *In the years 2006 to 2012 the business entity in question created value and did not suffer from economic weaknesses in the wider economy.*
- *The subjected business entity coped with the consequences of the economic crisis in the year 2008 better than selected competitors in the region.*

The last part of the thesis is focused on the summary of the results of the analysis and suggestions for improvements of this business entity.

2.2 Methodology

The first part of the diploma thesis contains the theoretical basis of the literature study. Theoretical part observes the overview of the raw materials for beer production and its prices, development of the beer production, amount of breweries in the Czech beer market, beer consumption, price of beer and foreign trade with both beer and the raw materials for its production.

The second part is formed by the economic analysis of the Strakonice Burghers' Brewery. Development of this business entity and current situation is described and analysed. In the practical part are also analysed the results of the financial analysis. Selected results of the financial analysis are compared with the results of three selected competitors from the region. As a competitors in region are selected following breweries: Platan Protivín, Regent Třeboň and Budějovický Budvar. At the end of the thesis are made several recommendations based on the results of the analysis

For the diploma thesis elaboration the main sources of information are the Situation and Outlook Reports by the Ministry of Agriculture of the Czech Republic, Brewing Calendars by the Research Institute of Brewing and Malting, Annual reports of the Strakonice Burghers' Brewery and other relevant literature which is listed in the bibliography at the end of this thesis.

To accomplish the objectives set for this diploma thesis following methods of the financial analysis are used.

2.2.1 Absolute ratios

The main use of the absolute ratios is to analyse the development trends – horizontal analysis and to analyse the components – vertical analysis.

“Horizontal analysis, also called trend analysis, expresses a line item as either a percentage or relative change of some prior-period amount.” [8] The most frequent method of the horizontal analysis compares the annual data, but it is possible to analyse the quarter-to-date data or month-to-date data. The comparison of the quarterly or monthly data can be distorted by the seasonability of the industry. The horizontal analysis reflects either absolute increment or relative increment in form of a percentage with the prior-period amount. While performing the horizontal analysis it is necessary to observe also the external influences such as changes in the tax system, entrance of the new competitors into the industry, international relations and plans for the future development of the company.

Vertical analysis reflects the share of the individual items of the statement as a percentage of the selected basis. In the closing statements the individual components are expressed as a percentage share of one of the components. [8]

While analysing the profit and loss statement as the base is most habitually used the item revenues (revenues = 100%), meaning that all items of the profit and loss statements are expressed as a share on the revenues in the certain fiscal year.

For the horizontal analysis of the balance sheet the items are expressed as a percentage of the assets, total capital or others.

2.2.2 Differential ratios

Apart from the horizontal and vertical analysis of the financial statements it is necessary to calculate some differential ratios that create also an essential part of the financial analysis.

According to Kovanicová and Kovanic [10] among the most widely used funds in financial analysis belongs following.

- Net working capital

$$NWC = \text{Current assets} - \text{Current liabilities} \quad (2.1)$$

- Net financial cash fund

$$NFCF = \text{Quick financial funds} - \text{Immediately payable liabilities} \quad (2.2)$$

- Net monetary funds

$$NMF = \text{Current assets} - \text{Inventory} - \text{Current liabilities} \quad (2.3)$$

The primary use of the differential ratios is to analyse and control of the financial situation of the company with a strong focus on the liquidity of the company that is also known as an analysis of funds of the financial resources. Fund is the difference between the sum of the certain items of the current assets and sum of the certain items of the current liabilities. [10]

2.2.3 Financial ratios

Financial ratios are most habitually calculated by dividing one item (or group of items) by another item or group of items shown in the financial statements of the business entity among which exist relations. The construction and selection of the financial ratios is subordinated to what we want to measure and interpret. The focus on the ratios must be relevant to the subject of the analysis or to the decision making process of the enterprise.

From the items taken out from the income statement and balance sheet can be calculated high amount of financial ratios, while some of them are calculated from the differential ratios. Šůvová [21] divides the financial ratios into following groups: profitability ratios, liquidity ratios, activity ratios, debt ratios and ratios of the capital market.

2.2.3.1 Profitability ratios

Profitability ratios are constructed as the ratio of the final effect achieved by the business activity as the output, to comparative basis as the input. The basis can be either asset, liability or other basis. [14]

To identify and measure the profitability are used following ratios.

- Return on assets

Return on assets is a ratio that is considered as a key measure of the profitability of the total resources invested into the business. This ratio reflects how profitable the company relative to its assets is. Return on assets is also referred to as return on investment –ROI. Return on assets is calculated by following formula and the result is in percentages. [14]

$$ROA = \frac{\text{Net income}}{\text{Total assets}} \quad (2.4)$$

- Return on equity

The return on equity ratio reflects the effectiveness of the allocation of the capital invested either directly or indirectly through the accumulation of retained profit. Therefore this ratio interprets how are valorised their own resources. The profit is assessed as earnings on invested capital by the financial managers. ROE is calculated as follows and the resulted figure is in percentages. [14]

$$ROE = \frac{\text{Net income}}{\text{Equity}} \quad (2.5)$$

- Return on sales

The relationship between the sales and profit is interpreted by the ratio return on sales. This ratio brings insight into how much profit is being generated per unit of sales. The success of the business is determined by many factors among which the real value of the goods and services may not always be decisive. [14] An important role plays also the marketing strategies, price policy, advertising and seasonability or trendiness.

$$ROS = \frac{\text{Net income}}{\text{Sales}} \quad (2.6)$$

2.2.3.2 Liquidity ratios

The liquidity ratios measure the ability of the business subject to pay its short-term liabilities when they become due. Higher ratios indicate larger margin of safety that company is able to cover its short term debt obligations.

The decreasing trend of the liquidity ratios often signalizes cash flow problems that lead to financial distress or bankruptcy. [6] The basic liquidity ratios are the current ratio and quick ratio that is often referred to as the acid test and the cash ratio.

- Current ratio

To calculate current ratio is used formula where current assets are in nominator and current liabilities in denominator. As mentioned before, in theory higher liquidity ratio is more positive than the lower one. In practice this assumption can be misleading. The value of current ratio differs by industry, but in general the healthy business have ratio in between 1.5 and 3. [6]

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}} \quad (2.7)$$

- Quick ratio

Quick ratio also referred to as an acid test further refines the current ratio. This ratio measures the amount of the most liquid assets available to cover the current liabilities. Company with the ratio lower than 1, is unable to currently cover the full amount of the current liabilities. [6]

$$\text{Quick ratio} = \frac{\text{Current assets} - \text{Inventory}}{\text{Current liabilities}} \quad (2.8)$$

- Cash ratio

Cash ratio is among current ratio and quick ratio the most stringent and conservative one. Therefore the cash ratio is not used as often as the two previously mentioned ratios. Cash ratio ignores the inventory and receivables as there is no guarantee that those items can be converted into cash in timely manner in order to meet the current liabilities. [6]

$$\text{Cash ratio} = \frac{\text{Cash} + \text{Cash equivalents}}{\text{Current liabilities}} \quad (2.9)$$

2.2.3.3 Activity ratios

The primary use of the activity ratios is in the asset management. The activity ratios measure the ability of the enterprise to use the invested funds. This category of ratios measure its overall rate of turnover or turnover rate of its components and values bound of capital in certain forms of assets. [6]

- Total asset turnover ratio

Total asset turnover ratio indicates how efficient the company while deploying its assets is. This ratio indicates how many Czech crowns of sales the company generates per one CZK invested into the assets of the company. [6]

$$\text{Total assets turnover ratio} = \frac{\text{Total sales}}{\text{Total assets}} \quad (2.10)$$

- Inventory turnover

Inventory turnover is used to determine the rapidity of the enterprise while converting the inventory into sales. Inventory turnover is calculated by following formula and the result is in days. [5]

$$\text{Inventory turnover} = \frac{\text{Inventory}}{\text{Total sales}} * 365 \quad (2.11)$$

- Average collection period

Average collection period is used to express the time period in days in which the company must wait for the collection of the payments for their already made revenues. The collection period is the time period from issuing an invoice until the money is credited to the account of the company. [5]

$$\text{Average collection period} = \frac{\text{Total receivables}}{\text{Total sales}} * 365 \quad (2.12)$$

- Creditors payment period

The creditors payment period expresses the period in which the current liabilities of the company remain outstanding and the company can benefit from the free business loan. High values of the creditors payment period have positive influence on working capital and the cash flow. [5]

$$\text{Creditors payment period} = \frac{\text{Current liabilities}}{\text{Total sales}} * 365 \quad (2.13)$$

2.2.3.4 Debt ratios

Indebtedness itself does not necessarily mean a negative characteristic of the economic performance of the company. In healthy and financially stable enterprise the growth of the indebtedness can contribute to the increase of the profitability and the market value of the enterprise. There is no direct relationship between the indebtedness and the insolvency of the company. Every company strive the optimal ratio of equity and debt ratio due to the fact, that this ratio determines the value of the purchased capital. [23]

In practise it is necessary to perform a deeper and more comprehensive analysis to determine whether the company is undercapitalized or overcapitalized.

Undercapitalization means the company does not have enough own resources in relation to its business activities, while overcapitalization means that the company uses foreign resources insufficiently and therefore reports an excessive amount of equity. [8]

Debt ratios measure the extent of the debt which the company uses to finance its activities. The indebtedness can be evaluated by two methods. The first method is focused on how much debt appears on the balance sheet in comparison to the other sources of financing.

- Debt ratio

The debt ratio asses the proportion of the total assets financed by the creditors of the company. The higher figure the higher is the reliability of the enterprise on the borrowed money to finance its activities. [23]

$$\text{Debt ratio} = \frac{\text{Total liabilities}}{\text{Total assets}} \quad (2.14)$$

The second type of debt measuring method is based on the figures taken out from the income statement to assess the ability of the company to generate cash flow for financing its financial obligations. This type of ratios is referred to as the coverage ratios.

- Interest coverage ratio

Interest coverage ratios is the most used coverage ratio. It expresses the ability of the company to meet its interest payments. It determines how many times the enterprise could pay off the interest expenses from the available earnings. [23]

$$\text{Interest coverage ratio} = \frac{EBIT}{\text{Interest expense}} \quad (2.15)$$

2.2.4 Comprehensive evaluation of the company

One of the valid techniques used to make an overall evaluation of the financial health of the enterprise is the Altman model published in 1968 by Edward I. Altman. Altman's Z score can comprehensively assess the health of the enterprise through a single figure. Altman Z factor includes all the essential components of financial health while each of them is assigned a weight that reflects its significance in the set. The formula for the estimation of Z score for privately held firms is following. [23]

$$Z = 0.717 x_1 + 0.847 x_2 + 3.107 x_3 + 0.420 x_4 + 0.998 x_5 \quad (2.16)$$

Where:

$x_1 = \text{Current assest} - \text{Current liabilities} / \text{Total assets}$

$x_2 = \text{Retained earnings} / \text{Total assets}$

$x_3 = \text{Earnings before interest and taxes} / \text{Total assets}$

$x_4 = \text{Book value of equity} / \text{Total liabilities}$

$x_5 = \text{Sales} / \text{Total assets}$

The result value is evaluated according to following intervals.

$Z > 2.9 \rightarrow \text{Safe zone}$

$1.23 < Z < 2.9 \rightarrow \text{Grey zone}$

$Z < 1.23 \rightarrow \text{Distress zone}$

Altman model in practice proved to be credible tool to predict bankruptcy two years ahead with statistical confidence, but with less statistical confidence in the distant future. [23]

3 Literature overview

3.1 History of brewing

Most of the people cannot imagine the World without beer. But where did the beer come from? And who got the original idea to brew the beer in first place? Due to lack of the sufficient relevant historical resources there is no way to determine the date and the person responsible for the invention of the beer.

Over the centuries the prevailing view was that the first beer was brewed in Egypt. Archaeological discoveries and contributions of the Czech orientalist and linguist Bedřich Hrozný who encrypted the Hittite language proved this theory wrong. According to Chládek [3] the history of brewing is dating back to 4000 – 3000 BC in Mesopotamia where the beer was produced and consumed by the Sumerian civilization.

3.1.1 History of brewing in the World

Beer or the beer like beverage was consumed around the world thus it is impossible to state the area as well as the exact year where the beer was actually born. One thing that all scientists agree on is that the invention of the beer was a matter of coincidence rather than a scientific discovery. There are several scenarios how was beer created.

The English writer and beer journalist Jackson [9] argues in his books that people knew beer earlier than bread. This scenario is justified by the theory that beer could come into being that the rain water got into the container with the wild crops, the repast of the people during that era. This bowl was left aside and when it was found later there was fermented product with intoxicating effects.

It is very likely that this type of coincidence happened in several places around the world approximately in the same time period. The results of the first attempts to create the so called beer had not so much in common with the beer as we know it nowadays but it was an important step in the development process.

In former times the beer was brewed from non-traditional raw materials, lentils, millet, spelt, corn, bread or other materials were used for production. [13]

Between the years 3000 – 2800 BC people of Babylonia prepared beer by breaking bread into water thus allowing fermentation process. The well-known Code of Hammurabi does not forget about the laws concerning beer. The Code of Hammurabi sets for instance the

punishments for the mixing the beer with water, paying the beer in the taverns or the violating the homeland security by discussing politics in those taverns. From these mentioned rules a conclusion that the beer was already in those times important part of the economic, political and social life can be made. [3, 13]

In Egypt, which was incorrectly till the year 1913 considered as the cradle of beer, beer was considered as a gift from Ra, the god of the sun. Lately the Egyptian nation worshiped the god Osiris, Menket and Tenemnit for the existence and creation of the beer. Beer was a standard part of the ancient Egyptian dietary. In the years 332 – 30 BC when Egypt was under the rule of the Ptolemaic dynasty the state become a monopolistic producer of beer and the tax on beer was established. Due to those milestones this era is referred to as the “golden age of the Egyptian brewing”. [1]

Palestinian nation without a doubt knew beer from their slavery in Egypt or Babylonia. Unlike those two nations who used bread to produce beer Palestinian people used dried barley. [3] The same technique was used also in the Ancient Greece. Afterwards several types of herbs were used to flavour the beer. In both of those nations beer was considered as the inferior beverage. The aristocratic beverage was wine. [1]

The Ancient Rome took over the major part of the Greek culture including the beer. They called beer “vinium cerevisia” in accordance with the goddess of agriculture, fertility, grain crops and motherly relationships Ceres. Women found out that the beer foam contains vitamins which have beneficial effects on the skin and nails. Thus the beer found a use in the cosmetics. [1] During the era of the Roman Republic also prevailed wine and the beer was consumed by the foreigners, slaves and barbarians. Despite that fact the Roman emperor Gaius Julius Caesar stated that beer is “respected and powerful beverage”. [13]

In the Pre-Columbian era in the Americas beer was known as well. There was a lack of the crops thus the local beer was a product of the fermentation of the chewed corn. Archaeologist discovered a brewery with the inn in Peru. This proved the existence of the breweries on American continent around the year 1000 AD. [3]

During the Migration period in 400 – 700 AD the Indo-European tribes settled down in European continent. Those tribes knew several methods of beer preparation. The raw materials used were barley, wheat, oat, millet and lentils. Beer was flavoured with herbs such as cinnamon, mint, sage or sage-brush. The Celts were known for adding the harmful substances such as strychnine or opium. As the most fanatical beer drinking nation were

considered the Germanic peoples. The importance of the beer and brewing in European continent can be illustrated on the Finnish national heroic epic named Kalevala. This epic consists of 22 795 verses. Out of those verses 200 are dedicated to the creation of the World and 400 are dedicated to the creation of the beer. [1]

In Asia people prepared an alcoholic beverage from rice, barley, bamboo shoots and wheat. Beer was flavoured with several herbs one of which was hops. Thus Asia is known as the homeland of the hops. [1]

The poor evaluation of the beer in the area of the former Roman Empire changed in the 9th century AD. The milestone of brewing in the Middle Ages was the council in Aix la Chappelle in the year 816, where the fathers of the Church recommended to the monasteries to pursue the agriculture and brewing industry. The first religious order which embraced the brewing industry was the Order of Saint Benedict. This order spread the brewing industry as well as the agriculture of the crops around the Middle Aged Europe. Many of those breweries were the basis for the modern industrialized breweries. The oldest and still functioning brewery in the World is located in Germany in the city Freising near München. The official name of the brewery is Bayerische Staatsbrauerei Weihenstephan. This brewery was founded in 1040 as a monastic brewery of the Order of Saint Benedict and is working ever since. [3]

Beer was known in different forms around the whole World. People brew the beer for their own needs at home and it was brewed mainly by women. Women brew the beer till the end of the Middle Ages. [1] Right after the development of the brewing techniques in the modern era and founding the industrial breweries men took over the position and appearance of the women in the modern beer industry has become very rare.

3.1.2 History of brewing in the Czech Lands

The archaeological discoveries states that the fermented beverages similar to beer in the Czech Lands were already produced and consumed by the Boii tribes, Marcomanni tribes or Quadi tribes. However the very first written record about beer brewing in the Czech Lands dates back to the year 1088. [11] This year the first Bohemian king Vratislaus II of Bohemia signed the charter that granted to the Vyšehrad Chapter the tithe of hops to brew beer.

The further development of the beer brewing occurred between 12th and 13th century by craftsmen. This development is connected to the existence of the Royal cities in the Czech

Lands. Those cities possessed privileges and rights among which was also the Brewing right that allowed the inhabitants of the city to brew beer. Another important privilege of the cities was the Mile right that stated the area in which no one apart from the inhabitants of the cities could not practice trade or sell any products. Those two rights contributed to the associations of those who had right to brew the beer and establishing of the first breweries. Among the oldest ones belong, according to Basařová [1], following breweries: Teplá (established 1200), Hodonín (established 1228), Olomouc (established 1250), Německý Brod (established 1333) and Třeboň (established 1379). Later the brewing rights were granted also to the liege cities by the noblesse that lead to further spreading of the brewing industry. Major role played also the malting guild which oversaw the quality of the beer and controlled that the beer is brewed only by apprenticed brewers. [1]

Brewing industry similarly to the other industries is highly influenced by the social and political situation of the country. The Czech brewing industry suffered from the unstable political environment and the appearance of the wars in the area. As the major conflicts significantly influencing the brewing and malting industry can be considered Hussite Wars, The Thirty Years' War and The World Wars. All of those conflicts caused the decrease in the beer production, decrease of the number of functioning breweries and also lowering of the quality of the both beer and the raw materials for its production.

Another important milestone was the conclusive annulment of the Mile right in the year 1788 [1]. This fact caused that any city or village could establish their own brewery. In the year 1839 the burghers' brewery in Pilsen was founded. One year later the delegates of the brewery were sent to Bavaria to learn the method of the bottom fermentation. Until then due to lack of the technical base the only method used in the Czech Lands was the process of the top fermentation. The main difference between the top fermentation process and the bottom fermentation process is the temperature the yeast need for fermentation. For the top fermentation is desired a temperature between 15°C -25°C and for the bottom temperature 8°C -12°C. [7] This indicates that the bottom up fermentation process required usage of ice for cooling that was throughout time replaced by modern technology.

Thanks to introducing the method of the bottom fermentation in Pilsen this method was spread around Bohemia and Moravia completely within the next 40 years and the method of the top fermentation was left aside. [2] The transition from the top fermentation method to the bottom fermentation in years 1841 to 1884 is showed in the following table.

Table 1 - Transition from the top fermentation method to bottom up fermentation

Year	Number of breweries	Bottom fermentation Number of breweries	% of total number of breweries
1841	1052	17	1.6 %
1864	1026	311	30 %
1869	988	706	71 %
1870	968	831	87 %
1884	927	925	99 %

Source: [1], own processing

The World Wars drastically strangled the brewing industry. Due to shortages of the quality raw materials, modification of the brewing equipment for the war purposes and with the leaving of the skilled brewers to the war the amount of the beer produced declined as well as the number of the breweries.

Chládek [3] states, that during the First World War the number of functioning breweries declined from 648 to 526 breweries and the total beer production dropped by almost 10 million hl of beer. The Second World War had similar impact on the Czech brewing industry. In addition the larger breweries were bombarded. During the Second World War the Czech brewing industry lost virtually all foreign markets. [3] The impacts of the Second World War on the Czech brewing and malting industry were disastrous.

In the time period after the Second World War the breweries and malt-houses were gradually nationalized. In the new national structure was created 23 national establishments, out of which were 22 brewing establishments and 1 malting establishment. There was one central organization that directed the brewing and malting industry in former Czechoslovak Republic. After the year 1948 there were constant changes in the central organization. One of the major changes was according to Kratochvíle [11] in the year 1975 when Czech and Moravian breweries and malt-houses were divided into 12 national enterprises that were directed by General Directorate. This division remained the same until the year 1989. [11]

Czech brewing and malting in the era of socialism was under constant pressure from the government authorities and suffered from insufficient funding and outdated equipment of the breweries. Despite those difficulties Czech brewing industry managed to keep its well reputation around the World.

The situation changed after the revolution in the year 1989 when the breweries and malt-houses were privatized. The majority of the breweries were modernized and the capacities of the production were increased. Some of the breweries that ended the production were reopened and many microbreweries were established. This time period is referred to as economic euphoria and characterized by rapid restoration and growth of the industry. This period was also accompanied with a liberal credit policy. The euphoria did not last long. Within four years the surplus of the production capabilities of the breweries appeared and resulted in the price war and struggle over the position in the Czech beer market which led to subsequent financial difficulties of the breweries that eventually had to end their businesses. [1] The development of the amount of functioning breweries in the Czech Republic between the years 1990 and 2012 is described in more detail in chapter Breweries in the Czech Republic.

One of the major milestones in the modern history of the Czech brewing industry is the entrance of the foreign investors into the Czech market that lead into financial inflows to the Czech breweries that lead to realization of large investment and development activities. The first contract with the foreign investors was signed in 1994 by the company Bass Brewers and joint-stock company Pražské Pivovary that is nowadays known as Pivovary Staropramen.

3.2 Raw materials for beer production

The main raw materials necessary for the beer production are water, barley, hops and yeast. Since the breweries are using similar methods to brew a beer the ingredients are the key aspects for the irreplaceable taste. The key ingredients in the matter of taste are water and hops.

3.2.1 Water

In the food industry the most of the water used is used in brewing industry. For 100 kg of malt the necessary amount of water is approximately 15 hl. This is just the beginning. After that in the brewery is used another 12 to 15 hl of water for 1 hl of the beer produced. [1] Countless amount of water is used in breweries for washing and cooling purposes. This is the main reason why most of the breweries are built by the river or another natural water resource. Nowadays it is not a rule due to existence of the public water supply that they are connected to.

Water is differentiated by its hardness. The modern technical equipment enables to eliminate the gasses, salts and metal ion and create perfectly adapted water suitable for beer brewing. Water composition used by the brewery is a significant factor determining the quality and specific characteristics of its product line. [2]

3.2.2 Barley

Barley belongs to the main widespread crop in Europe. It is the fourth main cultivated crop in the World. Majority of the barley cultivated in the Czech Republic is used for malting thus it is possible to come across with the designation malting barley. [2] In the Czech Republic the main species of malting barley are: Rubín, Jubilant and Fórum. Those species belong to one of the best in the World. Thus the malting barley is also a significant article of the foreign trade. [1]

The price of malting barley extensively affects the price of the beer production. The price of barley is affected by the prices of other crops in the World markets and also by the quantity and quality of the harvest. The quality of the barley is determined by the norm ČSN 46-1100 valid from 1.1. 2006. The main determinants of the quality of barley are moisture content, overflow, germination, protein content, average value of the grain admixtures non-usable for malting and the average value of the grain admixtures partially usable for malting. Each of these factors have an impact on the quality of the malt and therefore on the quality of the end product – beer. [20]

3.2.3 Hops

For the purposes of the brewing industry the dried catkins of female plants *Humulus lupulus var. europeus*, commonly referred to as hop cones are used. Acids contained in hops give beer the characteristic bitter taste and irreplaceable aroma, influence the frothiness, have the preservative effect and helps several chemical process during the production. Those acids are divided into two groups: alpha-acids, with humulone the major compound, and the beta-acids, with lupulone the major compound. [3]

There are two main varieties of hops. The first variety is called the noble hops and this variety is low in bitterness and high in aroma. This variety is the most widespread around the Czech Republic and Europe as a whole. Noble hops contain low amounts of alpha-acids such as *cohumulone* or *adhumulone* and high amounts of the oil hop *humulene*. Bitter

varieties are known for the high amounts beta-acids such as *lupolone*, high amount of resin and its distinct aroma. Those varieties are cultivated mainly in the USA or in England. [37] The Czech Republic has favourable conditions for the hops cultivation therefore it is a well-known hops producer around the World. In the year 2011 the area of the hop gardens in the Czech Republic covered 9.4% of the total World area. Czech Republic is the third largest hops producer right behind Germany and USA. [18]

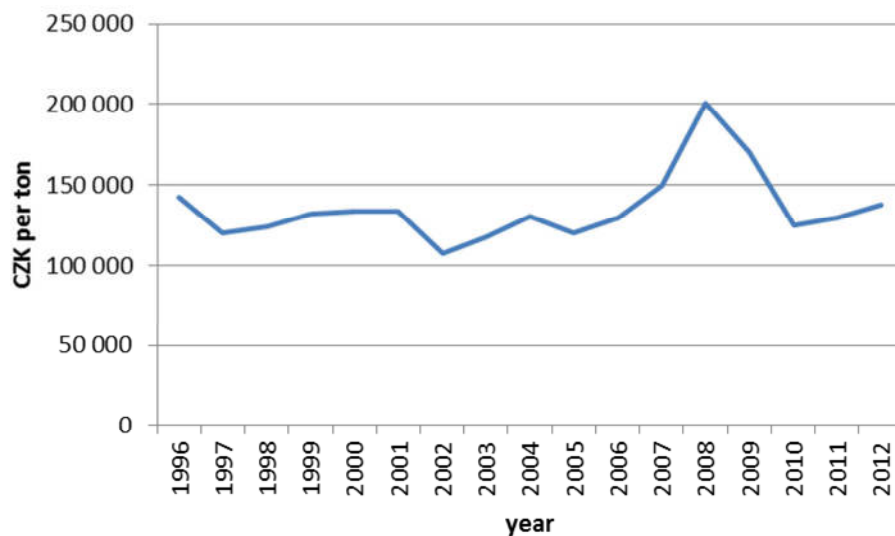
Table 2 - The area of hops cultivation in years 2006-2012

Country/Year	Area in ha						
	2006	2007	2008	2009	2010	2011	2012
Czech Republic	5 414	5 389	5 335	5 307	5 210	4 632	4 366
Europe	31 672	32 038	33 402	32 665	31 065	30 530	28 369
TOTAL World	49 675	52 550	58 469	58 192	50 798	49 069	46 649

Source: [18, 39], own processing

From the table 2 we can see that the area of hop gardens is slightly decreasing. This could be caused by the fact that the rentability of the hop cultivation is also decreasing thus becoming economically inefficient. Another explanation for the decrease in the years 2011 and 2012 is the high amount of hops produced between the years 2008 and 2009. Those hops could remain unsold in stocks of the traders or in form of provisions in breweries.

Chart 1- Development of the hop prices in years 1996 – 2012



Source: [18], own processing

In the chart 1 we can see the development of the hop prices regardless its variety. The prices per year in years 2008 – 2012 are the average prices of the last quarter of the year. The price of the hops is decreasing since the year 2010. This change in price is impacted by the record production of hops in years 2008 and 2009 not only in the Czech Republic but in the whole World (see Table 2). Moreover the exchange rate and constant appreciation of the Czech currency against the major global currencies reduces the value of the exported hops thus significantly affecting the overall competitiveness of the industry in the terms of the cost efficiency.

3.2.3.1 Protected designation of origin: Saaz hops

In the year 2004 the motion for listing the Saaz hops on the list of the protected designation of origin was approved by the European Union. Saaz is the German name for the region of Žatec in the Czech Republic where hops cultivation has an extensive historical background and the best natural conditions for the cultivation in the Middle Europe. This designation was the first one ever given to an agricultural product in the Czech Republic. Labelling as Saaz hops identifies only subtle aromatic Saaz hops and all its registered clones that have been grown in the area. Hop products that can be referred as Saaz hops are allowed to be labelled with following etiquette. [18]



Image 1 - Saaz hops label [18]



Image 2 - Label protected designation of origin [18]

3.2.4 Yeast

Without using the yeast the fermented beverage could not be made. Though the yeast do not distinctly influence the taste of the beer it is an indispensable ingredient for the beer production. In the nowadays beer production two types of yeast are distinguished and used according to the type of the fermentation process. Yeast *saccharomyces cerevisiae*, var *cerevisiae* are used for the top fermentation process, the second type of fermentation is the

bottom fermentation and for this process are used the yeast named *Saccharomyces carlsbergensis*. [3]

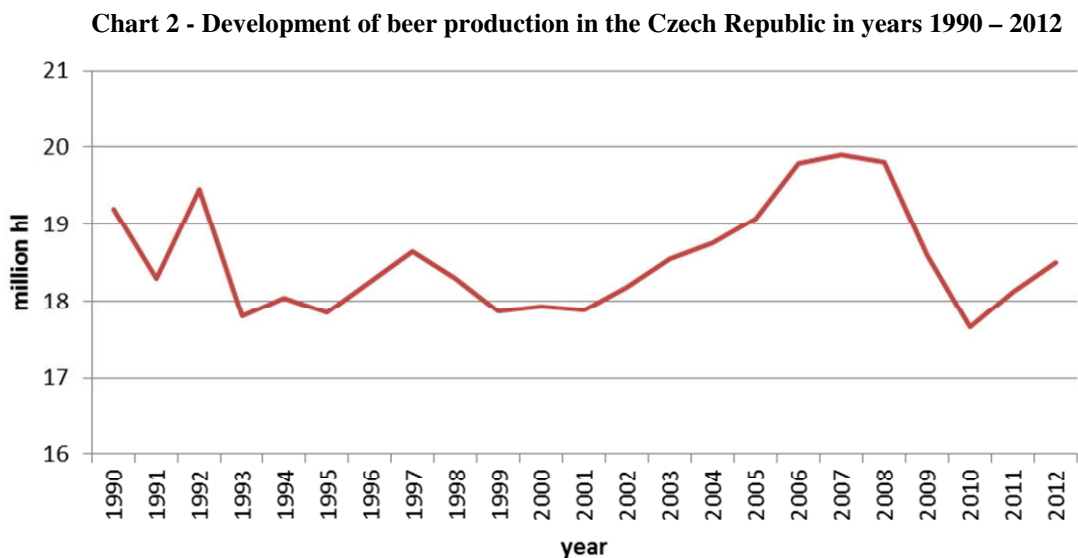
3.3 Brewing industry in the Czech Republic

As in other industries the beer market consists of two sides: demand and supply. On the side of the supply there are the breweries with different types of beer and the side of the demand is represented by the consumption of the beer and its price.

3.3.1 Beer production

In the year 2012 the beer production in the Czech Republic was 18.5 mil hl. The contribution to the World beer production was 0.95%. According to the research of the company Hopsteiner [38] the Czech Republic holds 22nd position in terms of total beer production in the World. The contribution to the total beer production in Europe is 3.4%.

The chart 2 shows the development of the beer production in the Czech Republic from the year 1990 until the year 2012. The “golden era” of the Czech brewing industry in terms of the volume of production was between the years 2006 and 2008. The beer production reached its historical maximum in the year 2007 with 19.8 mil hl of beer produced. In the year 2009 during the economic crisis the amount of beer produced dropped by 10.4%. After two years of recession in brewing industry the beer production started growing again in the year 2011 and since then has increasing trend.



Source: [16, 33], own processing

3.3.2 Types of the Czech beer

The primary division of the Czech beer is according to the type of fermentation process used in production. Secondly the types of beer are divided in accordance with the Czech law.

1) Firstly, the Czech beer can be divided by the type of fermentation process. The beer can be produced using the bottom fermentation method or the top fermentation method. The top fermentation method is used in the Czech Republic very rarely, mainly in the microbreweries or at the regional level. The share on the total beer production does not exceed 1%. Into the category belong following types of beer: Porter, Ale, Stout and Trappist. Czech beers produced using the bottom up fermentation process in the Czech Republic and also in the World are the most widely spread. For this type of beer is typical its full flavour and distinct bitterness. Into this group belong Pils, Bock, Märzen or Bavarian types of beer. [7]

2) Second type of the classification of the Czech beer is set by the law 45/2000 code in § 11, § 12. According to this law the Czech beer is divided into four groups and eleven subgroups. The division into four main groups is based on the type of malt used for production. The light beers are produced from the light malt. Dark beers and semi-dark beers are produced mainly from the dark malt, coloured malt or caramel malt. The last group is blended beer that is produced by interfusion of the light and dark beers. The division into subgroups is based on the amount of alcohol content, sugar content or the additives into the beer. The subgroups are following: light beers, draught beers, barm beers, lager beers, special beers, porters, beers with lowered alcohol content, beers with lowered sugar content, wheat beers, non-alcoholic beers and flavoured beers. [29]

3.3.2.1 Protected geographical indication Czech beer

Quality of the uniqueness of the Czech beer can be demonstrated on the fact that the Czech beer is since the year 2008 listed as the protected geographical indication (PGI) by the regulation of the EU Commission nr 1014/2008.

The initiator of the idea to have the Czech beer listed on the PGI list was the director of the Research Institute of Brewing and malting Karel Kosař when he found out the proposed definition of the beer in the EU regulations. In the EU regulation the traditional way of brewing the Czech beer was listed as “other possible method of brewing”. There was a

potential risk that the products of the producers of the beverages similar to beer from the Czech Republic could be misplaced as the typical Czech beer and its name and reputation could be seriously harmed. Czech beer is considered as the part of the cultural heritage and it is worth preserving. A huge success was getting PGI for the whole country as it is usually granted to only specific region. [16]

The existence of PGI Czech beer is beneficial for consumer, producers and suppliers. Consumer can be sure that the beverage he or she purchases is prepared from traditional ingredients and by the traditional technological process. For the producers the main benefit is the protection against the unfair competitors that could present their product as the Czech beer even though it was prepared with lower costs by not following the traditional methods of production. Suppliers of the traditional raw materials can be certain about the demand for their production.



Image 3 - PGI label [37]

Till the 31.12.2013 the number of breweries listed in PGI Czech beer was 13 with their 71 types of beer. Those breweries are allowed to use the designation label which is shown in the image 3. These producers are under constant inspection of the Czech agriculture and food inspection authority which controls whether all rules are followed accordingly. As an example of the rules the producers must follow can be listed that 80% of malt used is from spring barley of the recommended

variety for the production of the Czech beer or that at least 30% of hops comes from Saaz hops or its species recommended for the Czech beer. The main question remains why is listed only about 56% of the Czech beer production under PGI even though absolute majority of the beer producers agreed with the necessity of this designation. [16] The most likely answer for that low volume of usage of the designation is the fear from the Czech agriculture and food inspection authority and the penalty for violating the regulations of the Czech beer designation. Appearance of violation of these rules leads to fine and forced withdrawal of the product from the market which would lead to significant financial losses. Alongside with the PGI Czech beer stand other 8 registered PGIs designated to the Czech beer products. Among this designations belong: Černá Hora, Březnický ležák, Brněnské/Starobrněnské pivo, Znojenské pivo, Chodské pivo, Budějovické pivo,

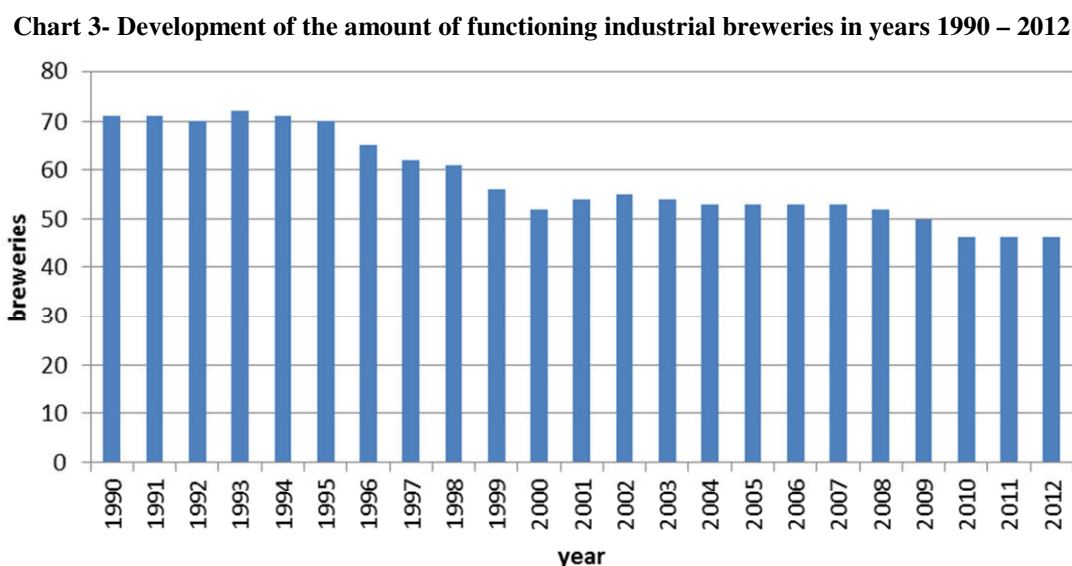
Budějovický měšťanský var and Českobudějovické pivo. Until the year 2012 the total amount of PGIs in the class 2.1. Beer was 20 in the whole European Union. [36]

3.3.3 Breweries in the Czech Republic

Breweries that are currently operating in the Czech market can be divided into two main groups according to the volume of their production. The first and mostly widespread are the independent breweries. Those breweries produce more than 200 000 hl of beer per year and sell its products in the business network. Most of the independent breweries also participate in the foreign market.

3.3.3.1 Independent breweries

The Czech brewing industry is typical with its huge variety of beer producers. Even though the number of breweries declined since the year 1990 it is safe to say that the currently operating number of breweries is stable. The decrease of the amount of the functioning breweries started in the year 1994 when there was an enormous surplus of the production capabilities of the Czech Breweries that stem from the boom of the brewing industry after the year 1989. [16] In the year 2012 the number of operating industrial breweries in the Czech beer market was 46 excluding the microbreweries. The chart below shows the development of the functioning industrial breweries between the years 1990 and 2012.



Source: [16, 18], own processing

Based on the chart 3 the number of industrial breweries in the Czech Republic is loosely constant since the year 2004. There was slight decline in the amount of breweries in the domestic market after the economic crisis in the year 2008. This change in the number of breweries is connected with the lower consumption of the beer during that time period and with saturation of the market.

3.3.3.2 Microbreweries

The second group is the microbreweries. Beer brewed in a microbrewery is consumed within the brewery or a pub which is usually a constituent part of the brewery. In other words the consumption of the beer of the microbrewery requires the trip to the brewery itself. [15] Microbreweries contribute to the development of the gastro tourism and enrich the variety of the beer production in the Czech Republic due to their production of untraditional types of beer.

“As a microbrewery is considered the brewery which does fulfil the following criteria:

- *The volume of production does not exceed 10 000 hl per year,*
- *majority of the production is served and consumed within the brewery or the pub connected to the brewery,*
- *its beer is not delivered to stores,*
- *its beer is bottled only in the limited amount and for their own sales,*
- *in many cases brew special and untraditional types of beer which differentiates them from the industrial breweries.” [16]*

Microbreweries generate a new dynamic sector of the brewing industry. The phenomenon of microbreweries is constantly growing and there is a growth expected in the future. In the first half of the year 2012 there were 145 registered microbreweries. All of those breweries combined produce approximately 0.8% - 1% of the total beer production of the Czech Republic. The forecast for the year 2017 is 250 microbreweries. The highest concentration of the microbreweries is in the Central Bohemian Region where the total number of microbreweries is 20. [16]

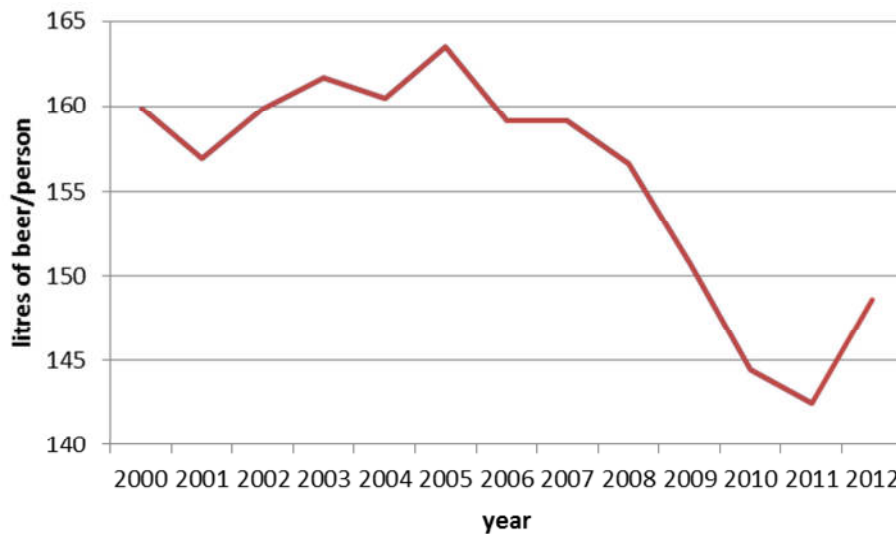
3.3.4 Beer consumption

Into the statistics of the beer consumption are included all types of beer, regardless the type of the packaging. The development of the average beer consumption in the Czech Republic per person is shown in the chart 4. This average is calculated with a number of the current

population of the Czech Republic regardless the age, meaning into this statistics are calculated persons not allowed to drink alcoholic beverages. [18]

According to Czech Brewing and Malting Association the tourists visiting Czech Republic drinks in average two beers a day. Based on that fact 4% of the Czech beer consumption is consumed by foreigners. [32]

Chart 4- Average beer consumption in the Czech Republic in years 2000-2012



Source: [18], own processing

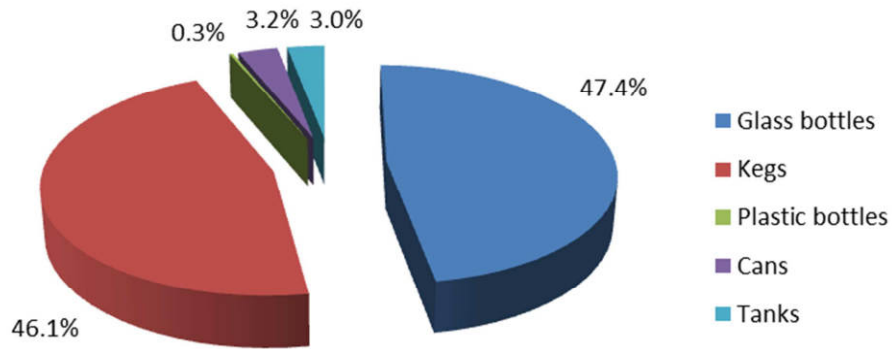
The highest average beer consumption per person was in the year 2005 when the value was 163.5 l/person. The highest drop of the beer consumption was in the year 2010 when the average value was 144.4 l/person after the slump since the economic crisis. Even though the beer consumption decreased a lot over relatively short time period, the Czech Republic still holds a first place in the average beer consumption per person in the World. [18]

The major share of the beer consumption is held by the light beers. 55% of the total beer consumption in the Czech Republic is formed by the light beers. There is an increasing demand for the lager beers and beer specials. In the year 2012 the share of lager beer on total beer consumption was 38% and the share of beer specials reached 7%. [19]

Among the types of packaging the beer belong glass bottles, plastic bottles, cans, kegs and tanks. The popularity of the individual packaging type is changing over time with the changing demand. Chart 5 shows the total beer production divided by the type of

packaging in the year 2006 and the chart 6 contains the same structure of the data as the chart 5 in the year 2012.

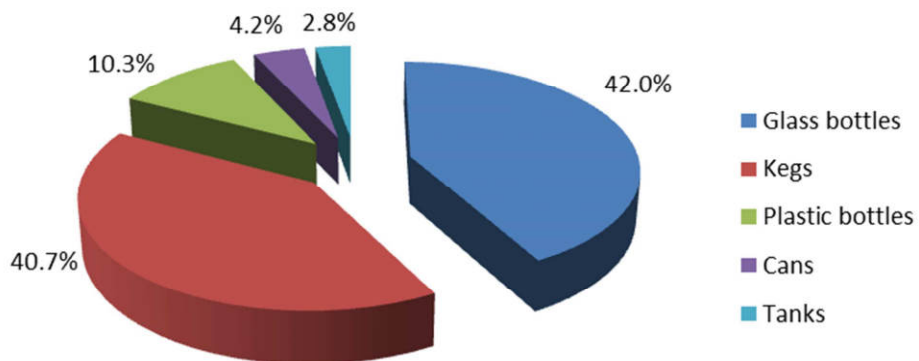
Chart 5 - Beer consumption with regard to packaging in the year 2006



Source: [17], own processing

In the year 2006 the two main spread packaging types were glass bottles and kegs. The share of the glass bottles on total consumption was 47.7% and the share of kegs was 46.1%. Those two packaging types dominated the beer market. Beer in cans reached 3.2% of the total consumption and the beer in tanks reached 3%. The share of the plastic bottles was with its 0.3% share on the beer consumption insignificant packaging method in the year 2006.

Chart 6 - Beer consumption with regard to packaging in the year 2012



Source: [33], own processing

The most popular and the most traditional ways of beer distribution were in the year 2012 similarly to the year 2006 the glass bottles and kegs. Since the year 2006 the share of glass

bottles decreased by approximately 5% to its current share 42%. The packaging type kegs also registered a decline. The share of the kegs on total consumption in the year 2012 was 40.7%. Consumption of the beer in cans also registered a decline however not that eminent. In the year 2012 2.8% of the total beer consumption came from tanks. The consumption of beer in plastic bottles registered a rapid increase. In the year 2006 the share of plastic bottles was 0.3% while in the year 2012 the share was 10.3%. Another packaging type that has a growing popularity is cans. The share of the cans on the beer consumption in the year 2012 was 4.2%.

The reasons for the growing popularity of the plastic bottles and cans are the unbreakability and the low weight of the package. Most consumers choose this type of packaging while traveling or practicing sports. These types of packaging are also popular due to inexistence of the deposits for cans and plastic bottles. Consumers do not need to worry about refunding the containers as it is usual for the glass bottles. The question remains how this trend might change if the Czech government were to establish refundable deposits for plastic bottles and cans.

In general there is a shift of the demand for beer from consumption in the restaurants and pubs to the purchase of the beer in stores and consumption at home. The main reason for this change in demand is the increasing beer price.

3.3.5 Price of beer

The price of beer is influenced by many factors, namely increasing costs of the beer production, wage costs, costs for marketing and promotion, transportation costs or energy. To analyse the development of the price of beer is used an average of the individual brands of bottled light beer of lowered gravity available in stores without reflecting the restaurants and pubs. The source of the data is the Czech Statistical Office [30].

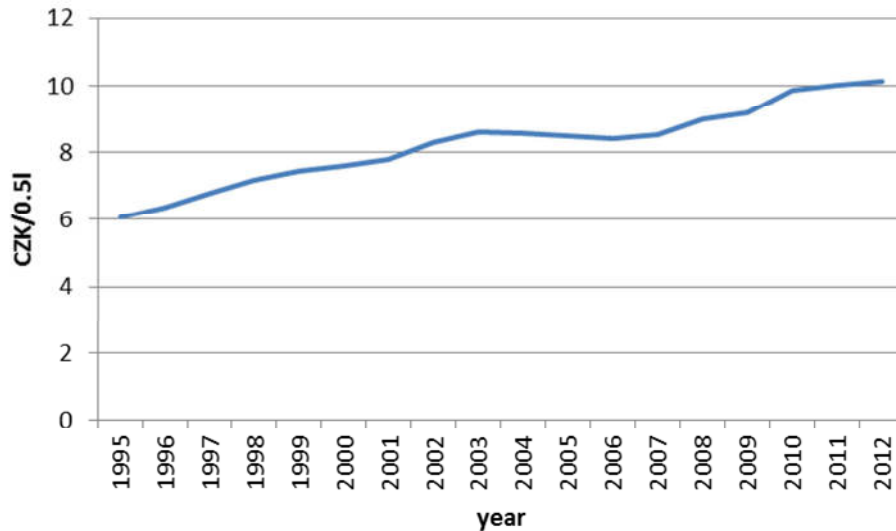
In the period between the years 1960 and 1965 the price of beer was constant at the level 1.4 CZK/0.5 l. The first increase in price of the beer was between years 1965 and 1966 when the price increased by 0.3 CZK. After that increase the price level remained on 1.7 CZK/0.5 l until the year 1984. Between the years 1984 and 1985 the relative change in price was 47.06%. The price of the beer in the year 1985 was 2.5 CZK/0.5 l

The largest increase in the price of beer appeared between the years 1990 and 1993 when the total increase in price was 3.19 CZK/0.5 l. Since then the price of beer is constantly

increasing with the increasing costs of production. In the year 2011, for the first time in history, the price of beer exceeded 10 CZK/0.5l.

The chart number 7 shows the development of the price of bottled light beer of lowered gravity from the year 1995 to 2012.

Chart 7 - Development of the price of bottled beer between years 1995 – 2012



Source: [30], own processing

3.3.5.1 Tax on beer

One of the determinants of the price of beer is taxes. Firstly the beer is liable to the value added tax. The VAT rate for the year 2013 is 21%. Secondly the beer is liable to the excise duty. The excise duty for beer is shown in the table below (valid since 1.1. 2010).

Table 3 - Tax excise on beer

The tax excise in CZK per hectolitre per degree Plato					
Standard rate	Lower excise for small independent breweries				
	Size groups by annual production in hectolitres				
	≤ 10 000	10 001	50 001	100 001	150 001
		-	-	-	-
		50 000	100 000	150 000	200 000
32.00 CZK	16.00 CZK	19.20 CZK	22.40 CZK	25.60 CZK	28.80 CZK

Source: [28]

The excise duty per hectolitre per degree Plato was in the year 2013 32 CZK. The tax allowance is granted to the small independent breweries which do not exceed the production 200 hectolitres per year and also fulfil the criteria stated in the law 353/2003 code in § 82. In the year 2013 the excise duty on beer was ninth highest among the EU countries. [16]

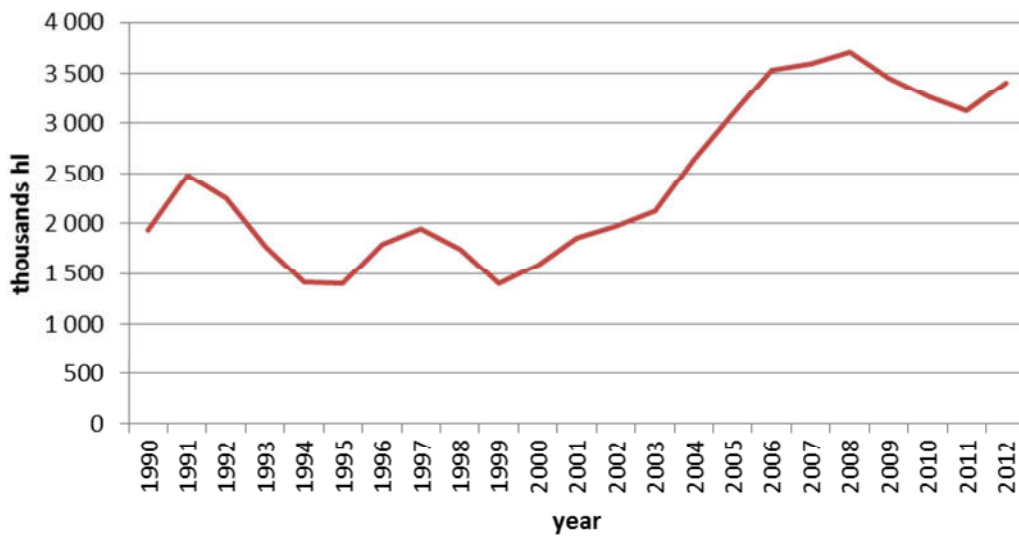
3.3.6 International relations

Foreign trade is an important part of the economy of every country. Each country that is open to the foreign trade profiles itself as economically stable and successful. Since the year 2004 when the Czech Republic entered the European Union the foreign trade has become smoother and logically more customary. As it has been already established earlier the production of beer and raw materials for its preparation plays enormous role in the Czech economy. Thus it is logical that those products also enter the international trade.

3.3.6.1 Foreign trade with beer

The most successful year of the Czech beer exports was the year 2008 when Czech Republic exported 3 705.9 thousands hl of beer including the export within the European Union. [16] The year 2009 was the first year when export slightly declined. Experts ascribe this decline to the economic recession combined with the increase of the tax on beer. The tax on beer also caused the decline in the beer consumption in Europe as well as in the Czech Republic. Despite the slight decline in the last few years the beer exports have increasing trend in the long time period. The development of the Czech beer exports in the long time period is shown in the chart below.

Chart 8 - Development of the Czech beer exports in years 1990 – 2012



Source: [16], own processing

Among the reasons of the steady position of the Czech beer in the international markets belong the growing popularity of the Czech beer, continual seeking of the new markets due to highly competitive environment in the Czech beer market and the elimination of the bureaucratic barriers after the year 2004 when the Czech Republic entered the European Union. The annual growth of the exports in the year 2004 was 28.9% which is historically the largest increase in exports. According to the Czech Brewing and Malting association the major share of the beer exports goes to the member states of the European Union. [33] According to the Czech Statistical Office the main export partner is Germany. In the year 2012 the Czech Republic exported to Germany 25.13% of the total beer exported. Other significant amount of beer is exported every year to Slovakia, Sweden, United Kingdom and Russia. Even though the annual growth of exports in year 2012 was 9% the export to Germany dropped by more than 3%. [18] The largest increase in the volume of exports in 2012 was to Poland. Exports to Poland increased from the 3% of the total exports in the year 2011 to 7.58% of the total exports of the Czech beer in the year 2012. Table number 5 below shows the volume of exports distributed among the main export partners between the years 2006 and 2012.

Table 4 – Export of the Czech beer in years 2006 – 2012

Country/Year	Export of the Czech beer in thousands hl						
	2006	2007	2008	2009	2010	2011	2012
Germany	1 443.1	1 306	1 408.5	1 352	1 129.7	1 025.7	855.8
Slovakia	502.9	607.7	573	746.6	691.4	688.7	644.0
United Kingdom	262.9	319.1	280.2	223.8	217.2	225.6	205.7
Russia	166	239	298.1	187.2	218.9	218.5	227.1
Sweden	174.6	199.9	213.6	233.7	223.8	213.8	207.7
USA	187.9	194.8	154.1	122.5	116.4	114.2	107.6
Austria	88.3	89.7	90.4	101.4	103.9	73.6	83.8
Hungary	89	78	74.2	77.1	71.8	81.4	87.2
Other countries	621.0	557.6	613.8	468.4	522.3	598.8	985.9
TOTAL exports	3 535.7	3 591.8	3 705.9	3 512.7	3 295.4	3 240.3	3 405.5

Source: [18, 33], own processing

The assumption could be that the country with a developed beer industry such as Czech Republic does not need to import the beer at all. Rising prices of raw materials for the high quality Czech beer, rising prices of the energy and labour costs caused the urge to import the cheaper beer from other countries. The main importer since the year 2008 is Poland. [18] Polish food industry has a bad reputation lately and the Czech government is even considering banning the imports from Poland so the future development of the beer imports might differ from the current model. Since the year 2010 the beer imports from Poland have decreasing trend.

Table number 6 contains the amount of the beer imported to the Czech Republic sorted by the volume of the importing countries.

Table 5 – Import of the beer in years 2006-2012

Country/Year	Import of the beer in thousands hl						
	2006	2007	2008	2009	2010	2011	2012
Poland	60.1	74.8	171.1	238.2	320.8	285.9	197.3
Hungary	17.3	11	10.1	38.6	148.7	190.6	38.4
Germany	30.2	43.7	50.1	50.8	89.7	58.1	54.9
Austria	49.1	47.3	48.3	32.4	34.9	42.8	41.8
Belgium	11.5	11.1	12	14	14.7	15.2	15.3
Slovakia	5.3	29.5	1.4	185.2	183.7	12.8	117.0
Netherlands	2.9	13.7	15.2	10.5	7.1	10	19.2
Romania	0.1	0.6	5.8	8.8	7.7	6.4	3.2
Italy	0.5	1.2	4.1	4.5	5.1	6.4	6.2
Others	25.2	12.1	12	10.8	10.8	20.8	19.3
TOTAL imports	202.2	245	330.1	593.8	823.2	649	512.4

Source: [18, 27], own processing

3.3.6.2 Foreign trade with hops

Due to high quality and the advanced level of the hop cultivation in the Czech Republic the Czech hops were exported into almost 80 countries around the World since the year 1998. Among the major consumers of the Czech hops belong Japan that consumed 65.5% of the total exports of hops in the year 2010 followed by Germany, China and Russia. [18] As another significant export partners are considered Slovakia, India, Finland and United States of America. In the year 2012 the volume of exports to Japan lowered to 40.7%. Despite that fact Japan is still the main trade partner. [19] With regard to the brewing companies the largest consumers of the Czech hops apart from the Czech breweries are Japanese breweries Asahi, Kirin, Sapporo and Suntoryare and the leading global brewing companies ABInBev, SABMiller and Heineken.

The main importers of hops in various forms are Germany and Poland. Significant share of the imported hops is processed and exported to other countries. [18]

The balance of trade with hops in the year 2012 resulted in surplus 590 mil CZK. In comparison to the year 2011 the balance of trade was reduced by 47 mil CZK. This decrease was most likely caused by the rich harvest in the years 2010 and 2011 and the global fall in the amount of the beer produced around the World. [18]

4 Strakonice Burghers' Brewery

4.1 History of the Strakonice Burghers' Brewery

The history of brewing beer is as old as the town Strakonice that was founded in the 13th century at the confluence of the gold-bearing river Otava and Volyňka. The official brewing right was granted to the burghers 8th of December 1367 by Bavor the fourth. It was not the only brewery at those times. There was a castle brewery which served to satisfy the needs of the noblesse. [12]

In the year 1402 took over the town the Order of Saint John by purchasing the whole castle and the manor. At the end of the 16th century and beginning of the 17th century the rights of the burghers were significantly inhibited. This led to a creation of the only brewery in the brewing house 47 in the year 1649. This year is referred to as the official establishment of the Strakonice Burghers' Brewery. [12]

Throughout time and especially after the Thirty Years' War there was a constant disorder between the two breweries. In the year 1664 the Roman emperor Leopold I. adjudicated that the burghers can brew both wheat and barley beer if they pay tax of 8 Kreuzers out of every 62 litres produced. The export to adjacent municipalities was prohibited and remained as the privilege of the brewery of the noblesse. [12]

With increasing production of the beer the burghers realized the urge of the larger and more modern production area with sufficient water resources. This urges caused the establishment of the new brewer house by the river in the year 1873. The former brewery was used only as a malt-house. To hold up with the competitors the brewery had to emphasise the technical development, quality of the production and creation of the market outlets. Profit was generated mainly by beer production and sale however a significant amount of profit was generated by complementary activities such as sale of the malting waste, housing economy, sale of ice, rents from owned inns, interests on loans, income from shares and during the war spare production of soda. [4]

Since the 19th century, when the brewery of the noblesse produced over 4 663 hl of the beer the brewery of the noblesse begin to stagnate. Due to the decay of the feudal privileges this brewery terminated the production in the year 1909. Since then the Burghers' Brewery is the only brewery in the town Strakonice. [4]

In the years 1918 to 1945 the brewery performed as a viable business that ranked among the best middle sized breweries in the region. It even surmounted the hard times caused by the wars. For instance during the First World War the brewery had to hand over the resources and equipment which was suitable for war purposes mainly the metal parts of the equipment. [4]

After the coup in February 1948 the totalitarian circumstances eliminated the influence of the burghers on the brewery and the brewery felt under the national administration. The brewery was incorporated under the national corporation “Jihočeské pivovary České Budějovice”. Buildings that had no influence on the beer production were nationalized. Due to that the brewery lost 13 buildings with grounds. The brewery was for the short time period of 5 years incorporated under the national corporation “Pošumavské pivovary Protivín” Since 1958 the brewery functions as a separate company in enterprise networks “Jihočeské pivovary České Budějovice”. [12]

In the year 1964 the beer production exceeded for the first time on history the limit of 100 000 hl of beer per year when the production was 103 245 hl. This amount of beer produced was almost doubled in the year 1986 when the production was 203 136 hl per year. [34]

Since the year 2005 is the owner and the lesser of the brewery the Town of Strakonice and the lessee is the Měšťanský pivovar Strakonice joint-stock company. This fact puts the brewery into the actual position of the last burghers’ brewery in the Czech Republic. This is not the only uniqueness the brewery has. There are only a few breweries in the Czech Republic where the position of the brewmaster is performed by a woman. Strakonice Burghers’ Brewery is one of the few. Since the year 2007 the brewmaster is Dagmar Vlková. [15]

4.2 Current situation of the Strakonice Burghers' Brewery

The Strakonice Burghers' Brewery belongs to the small regional breweries with regard to the amount of beer produced. In the year 2011 the brewery changed its name to DUDÁK - Měšťanský pivovar Strakonice after its most successful and best known product in order to enter into subconscious more deeply. This change proved to be a successful step forward, because the amount of the outlets has increased since.

The core strategy of the brewery is to focus on the individual end customer while offering the supply of the high quality product along with the first class service. This individual approach towards customers brings up a notable advantage in comparison to the industrial breweries which due to high amount of beer produced and a large number of consumers lack the individual touch.

The purchasing strategy of the company is one of the major aspects that contribute to the quality of the products. In order to maintain the stable quality of the product line, the Strakonice Burghers' Brewery follows clearly stated purchasing strategy. Malts and hops are purchased in advance in sufficient amounts from proved and reliable suppliers of those commodities in predetermined quality and favourable price.

In the modern history, the brewery faced several challenges one of which was the period when the brewery had to adapt in order to ensure the competitiveness of the brewery while entering the European Union. Another distress of the brewery was connected with the decline of the beer sales, caused by the emerging economic crisis in the year 2008. The decline in sales of beer affected not only the Strakonice Burghers' Brewery itself, but other breweries in the Czech beer market as well. Last but not the least challenge of the brewery is the extensive currently ongoing reconstruction of the brewery.

The Strakonice city had decided by the resolution on 10th December to increase the share of the capital of the Strakonice Burghers' Brewery on today's 125 million CZK by depositing real estates. The transfer of ownership was registered in the land registry as of the date 22nd December 2008.

As a result of the increase of the capital of the brewery the management decided to run an extensive reconstruction of the brewery between the years 2009 - 2019. Throughout this period the company will invest into the overall modernization approximately 70 million CZK. Due to the fact that the renovations takes place without limiting the business the reconstruction have to be divided into three stages.

The first stage took place in years 2009 - 2010 and encompassed the investment into the technological equipment which was extremely outdated. The main aim of this stage was to improve the flavour stability of the beer and extension of its shelf life. The bottling line was completely renewed and the brewery managed to repair the whole roof that was severely damaged in the year 2007. The approximate costs of the first stage were 33 million CZK.

The time period for the second stage of the reconstruction is from 2011 till 2014. The largest investment items in this period are the replacement of the keg line and reconstruction of two vessels in the brew house. The replacement of the keg line is necessary due to the end of the contract with the company that supplies necessary spare parts to this facility. The estimated costs of the second stage are 17 million CZK.

The third stage follows the second stage and is planned to end in the year 2019. Investments made during this stage will be focused on levelling of the capacities of the individual departments. The main target of this stage is the general overhaul of the existing unused fermenting room. Due to increasing demand for the beer products with low alcohol content and fruit flavoured beer, the brewery included into the last stage of the renovation acquisition of the equipment which enables the production of the so-called beer mixes that are considered as low alcohol beer based beverages. The estimated budget for the last stage of the reconstruction is 18.5 million CZK.

Until the year 2012 all investment activities were financed by own resources. The only exception was the acquisition of the two trucks for the beer distribution in the year 2011 which were financed by leasing. The management plans to finance the rest of the reconstruction by own sources as well. This action is an evidence of the responsible financial management.

4.2.1 Basic financial results of the Strakonice Burghers' Brewery

As a financial result of the company is considered the difference between the costs and revenues and therefore represents either profit or loss of the business entity for the certain time period. Following table shows the financial results of the brewery in years 2006 to 2012. All figures are in thousands CZK.

Table 6 - Financial results in years 2006 – 2012

In thousands CZK	2006	2007	2008	2009	2010	2011	2012
Operating income / loss	5 171	444	2 114	6 002	-518	618	-3 296
Income / loss from financial operations	21	126	322	479	108	-10	17
Income / loss from ordinary activities	4 121	599	2 352	5 197	-916	288	-3 333
Extraordinary income / loss	0	0	0	0	0	0	0
Net income /loss for fiscal period	4 121	599	2 352	5 197	-916	288	-3 333
Net income /loss before taxes	5 192	570	2 436	6 481	-410	608	-3 279

Source: annual reports of the Strakonice Burghers' Brewery, own processing

The financial results of the Strakonice Burghers' Brewery in general have extremely volatile trend. This volatility can be ascribed to the investment activities of the brewery to the renovations. The accounting item operating profit or loss shows how big the earnings of the brewery from its ordinary activities were. The operating income reached its maximum in the year 2009 when the operating income was 6 002 000 CZK that is in comparison to the last observed year, when the operating income was lowest, higher by approximately 155%. In the year 2012 the brewery reached loss from operating activities in value 3 296 000 CZK.

The income from the financial operations reflects the difference between the financial costs and financial revenues. The highest income from financial operations was in the year 2009. The only year when the brewery resulted in the loss from the financial operations was in the year 2011.

The two accounting items mentioned before highly influence the income from the ordinary activities. This item is also influenced by the income tax on the ordinary activities.

Since the extraordinary income was zero in all observed years, the income from ordinary activities equals the net income after taxes.

At the end of the observed period the company resulted with the net loss worth 3 279 000 CZK that is historically the highest loss of the business entity. At the beginning of the observed period the net income before taxes reached the profit 5 192 000 CZK. The

highest net income before taxes throughout the observed period was in the year 2009 when the company closed the fiscal year with the profit of 6 481 000 CZK.

4.2.2 Organizational structure

The organizational structure of the brewery went through significant amendment in the year 2007, when the major shareholder town of Strakonice agreed the new structure and members of the board of directors at the board meeting on 16.11.2007. Due to the size of the company the organizational structure is not greatly diverse. On the top of the organizational structure of the brewery is the annual general meeting. To the general meeting is responsible the supervisory board and the board of directors. The subordinate to the board of directors is the Chief Executive Officer. The individual departments are responsible directly to the CEO.

This organizational structure was same until the year 2012. The only adjustment to the organizational structure until the present year was establishing the division of the quality management as an individual department that responds to the CEO in the beginning of the year 2012. The organizational structure valid by 31.12.2012 is showed in the figure 1 below.

Figure 1 - Organizational structure of the brewery (valid by 31. 12. 2012)



Source: [46], own processing

4.2.3 Human resources management

In the observed period the number of employees of the brewery did not exceed 99, therefore according to Synek [22] this enterprise belongs to the category of the small enterprises. The average number of employees, wage costs and average gross wage in years 2006 – 2012 are shown in the table below.

Table 7 - Average number of employees and their wage in years 2006 – 2012

	2006	2007	2008	2009	2010	2011	2012
Average number of employees	74	75	66	62	58	58	60
Wage costs (thousands CZK)	16 944	17 554	16 303	17 259	17 075	16 649	17 450
Average gross wage (thousands CZK)	18 071	19 138	19 466	21 265	23 085	22 579	22 705

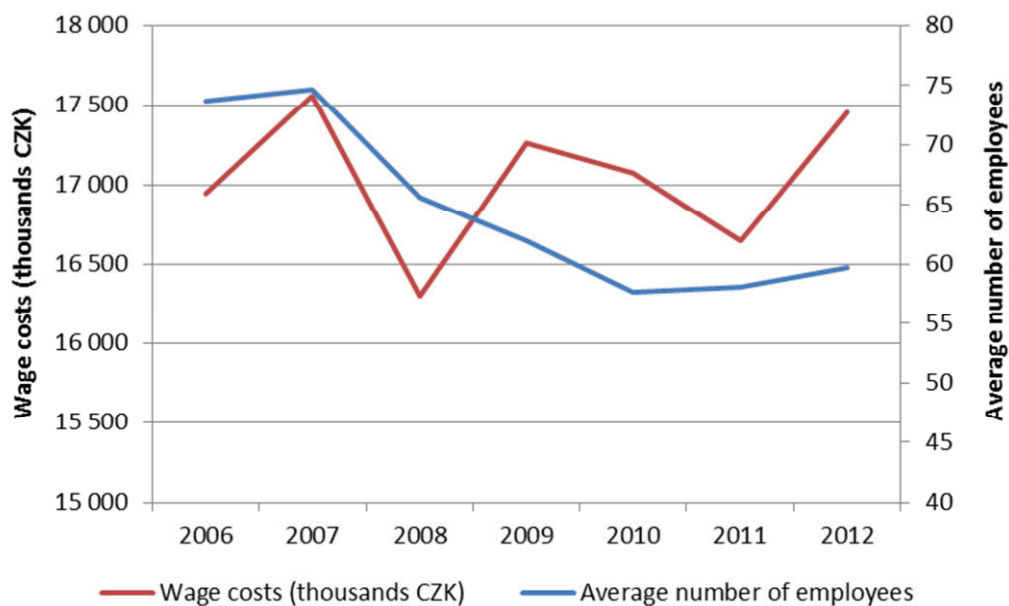
Source: annual reports of the Strakonice Burghers' Brewery, own processing

The average number of employees for year 2012 was 60 persons. In the observed period between years 2006 and 2012 the number of employees did not distinctly change. A slight decline in the number of employees throughout the whole period can be observed as well as the declining beer production. The biggest drop in the amount of employees was between the years 2007 and 2008 when the average number of employees dropped by 9 employees. This steep decline was caused by the emerging economic crisis which led to the pressure for lowering of the costs. In the year 2009 was approved new organizational code of the company that led to the decline in number of employees as well.

The average gross wage has increasing trend. In the year 2010 the gross wage reached its maximum 23 085 CZK. In the year 2011 the gross wage decreased, however in the year 2012 the average gross wage increased again.

The chart 9 illustrates the development of the number of employees and the wage costs.

Chart 9 - Average number of employees and average wage costs in years 2006 – 2012



Source: annual reports of the Strakonice Burghers’ Brewery, own processing

The wage costs have fluctuating trend. Even though the number of employees is declining the wage costs do not have the same trend. The wage costs in the year 2012 were 17 450 thousands CZK that was approximately same as in the year 2007, however the average number of employees differed by 15 employees. This fact leads to an assumption that there is currently not a high endeavour to decrease the wage costs of the company.

As already mentioned, the Strakonice Burghers’ Brewery brewmaster position is performed by a woman. The employee structure according to the gender is showed in the table below.

Table 8 - Employee structure according to gender

	2006	2007	2008	2009	2010	2011	2012
Men	51	50	49	43	42	40	43
Women	20	19	14	17	15	16	15
Total employees	71	69	63	60	57	56	58

Source: annual reports of the Strakonice Burghers’ Brewery, own processing

The figures are stock variables at the end of the fiscal year. The share of female employees in the brewery in the observed period decreased from 28% to 26%.

Strakonice Burghers' Brewery belongs to the socially responsible employers. In the brewery are integrated workers with limited working ability. The highest amount of workers with limited working ability was in the year 2009 when the amount of such employees in the brewery was 10 and the share on the total employees was 16%. The lowest number was in the year 2012 when the share of workers with limited working ability was only 5.2%.

The amount of the production produced by one worker in a certain time period is reflected by the labour productivity. In this case it is calculated from the value added per worker in a year.

Table 9 - Labour productivity in years 2006 – 2012

	2006	2007	2008	2009	2010	2011	2012
Value added (thousands CZK)	36 235	35 120	35 425	42 128	40 145	37 370	34 383
Average number of employees	74	75	66	62	58	58	60
Labour productivity (thousands CZK) per employee	492	471	540	680	697	643	576

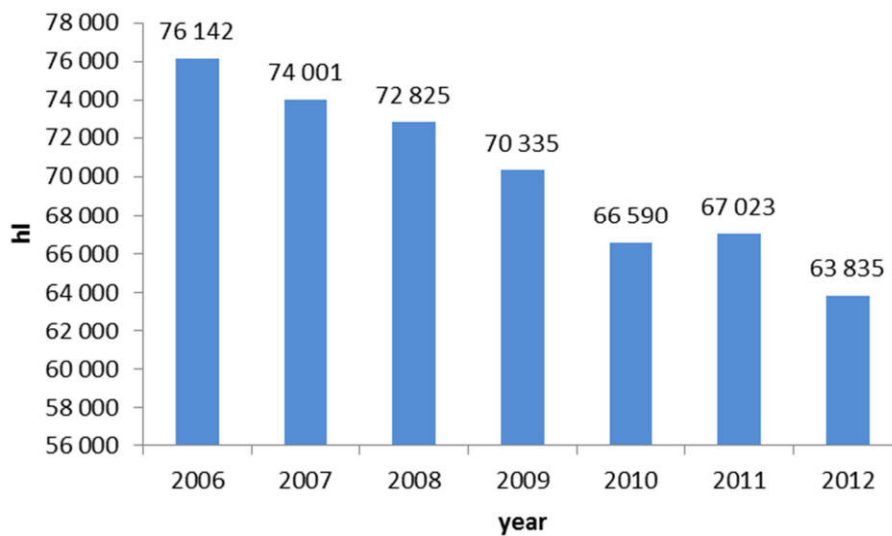
Source: annual reports of the Strakonice Burghers' Brewery, own processing

Generally the labour productivity increased in the observed period by 84.42 thousands CZK per employee. The highest labour productivity was in the year 2010 where the labour productivity was 697 thousand CZK per employee when the value added was the second highest in the observed period and the average number of employees was lowest.

4.2.4 Beer production

Since the beer production is the main activity of the brewery, the amount of the beer produced is one of the key performance indicators of the company. Following chart shows the development of the total beer production of the Strakonice Burghers' Brewery between the years 2006 and 2012.

Chart 10 - Beer production in years 2006 – 2012



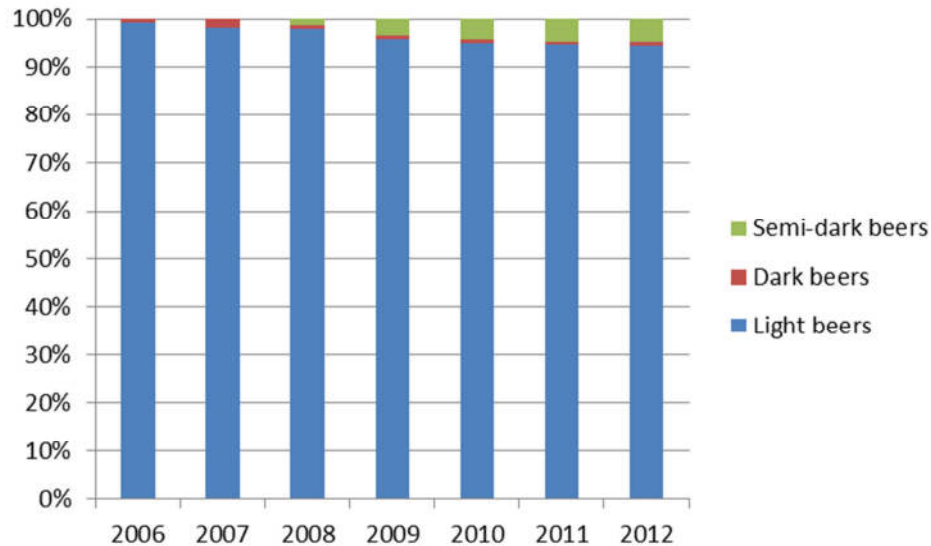
Source: annual reports of the Strakonice Burghers' Brewery, own processing

The trend of the beer production is throughout the observed period decreasing. The highest amount of beer was produced in the year 2006. In the year 2006 the brewery produced 76 142 hl of beer and it put the brewery on the 27th position among the 42 observed breweries by the Czech Institute of Brewing and Malting. The year 2006 was the most successful year from the observed period because the brewery fulfilled all goals set for this year. In the year 2011 the brewery managed to turn the negative trend around when the beer production increased by 0.65%. Since then the beer production is decreasing. The decrease of the beer production of the Strakonice Burghers' Brewery is influenced by the overall decrease of the beer production in the Czech Republic and also with the ongoing reconstructions.

Chart 11 shows the beer production in years 2006 – 2012 according to the type of beer. Types of beer are divided according to the malt used for its production. This statistics

include the figures of the products that belong to the product line available all year round. The limited editions are excluded.

Chart 11 - Beer production in years 2006 - 2012 according to type of beer



Source: internal documents, own processing

The major share on the beer production has the light beers. Throughout the observed period the share of the light beers on the total beer production did not go under 95%. The semi-dark beers have increasing trend. The production of the semi-dark beers started in the year 2008 when the share was 1% and in the year 2012 the share on the total production was 5%. The share of dark beers is stable around 1%.

Among the main aims of the brewery regarding the beer production belongs the increase of the share of the beers produced in kegs. The sale of beer in kegs creates higher revenue than sale of the bottled beers. Even though the beer production decreased between years 2011 and 2012 by 4.76% the brewery managed to increase the share of the beer in kegs to the final 59.74%. The forecasted ratio for beer in kegs and bottled beer for the year 2012 was 60:40. This goal was not entirely fulfilled, due to the influence of the partial prohibition in the last quarter of the year 2012 that caused the decrease of the amount of beer consumed in the restaurants.

4.3 Business activities of the Strakonice Burghers' Brewery

The main activity of the Strakonice Burghers' Brewery is brewing beer and its distribution. The mission of the company is to maximize the prosperity while maintaining the widest variety possible and highest quality of the beers and services connected to it for the important business partners in Brno, Prácheň and Šumava region.

4.3.1 Analysis of the product portfolio

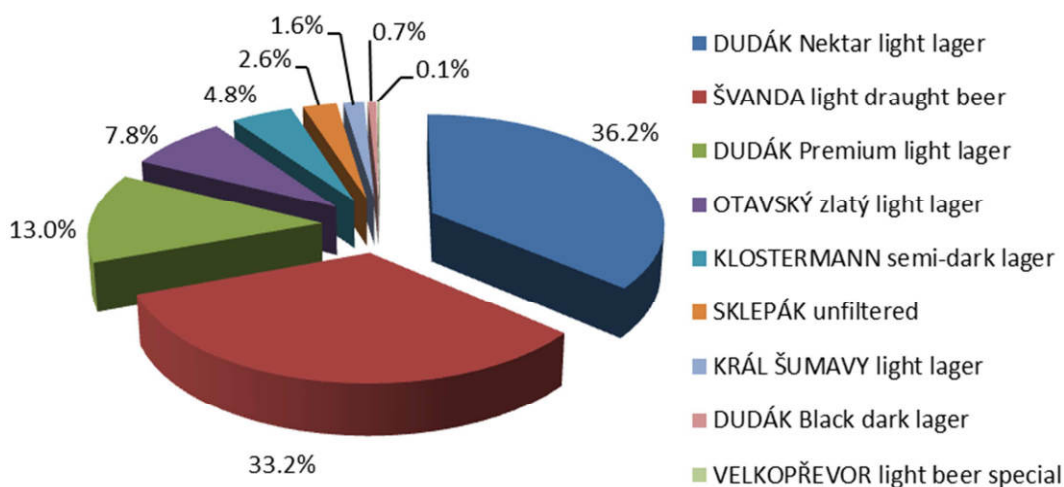
Among the traditional product portfolio available whole year round brewed in the brewery currently belong 10 products. The production of beer is traditionally made exclusively from high quality raw materials coming from the Czech Republic namely the region Moravia and Žatec. The majority of the products are unpasteurized therefore the durability of the products is not very long. On the other hand the unpasteurized products have increasing popularity due to better taste of the beer. Into the product portfolio belong following products.

- **Non-alcoholic beer** (DUDÁK Driver)
- **Light lagers** (DUDÁK Nektar, DUDÁK Premium, KRÁL ŠUMAVY, OTAVSKÝ zlatý)
- **Semi-dark lager** (KLOSTERMANN)
- **Dark lager** (DUDÁK Black)
- **Unpasteurized light beer special** (VELKOPŘEVOR)
- **Unfiltered unpasteurized beer** (SKLEPÁK)
- **Light draught beer** (ŠVANDA)

The alcohol content differs in each product. The beer with lowest alcohol content (except the non-alcoholic beer DUDÁK Driver) is the ŠVANDA light draught beer and DUDÁK Nektar light lager with alcohol content 4.0%. The product with the highest alcohol content is the VELKOPŘEVOR light beer special with its 6.0% content of alcohol.

Following chart shows the percentage share of the individual products on the total sales of the brewery in the year 2012. The chart 12 does not include the limited editions of the brewery, non-alcoholic beer Dudák Driver and all kinds of product distributed in tanks.

Chart 12 - Share of the individual products on the total sales in the year 2012



Source: internal documents, own processing

From the chart we can see that the front positions in sales are held by the light lagers. This is caused by the fact that the major share on the beer production has beer type light lagers (see chart 11). The products on the first three positions Dudák Nektar, Švanda and Dudák Premium also belong to one of the oldest and most traditional products of the brewery. The share on sales of these three products is over 80%. The fourth position is held by the light lager Otavský zlatý. This product is being brewed in the brewery since the year 2010 and it gained popularity already within the first year and ranked among the most popular traditional products of the brewery. Originally the beer was brewed for the joint waterman's project "Otavská plavba" of the towns Strakonice, Horažďovice, Písek and Sušice. The semi-dark lager Klostermann was brewed in the brewery for the first time in the year 2008. In the year 2008 the share on sales of this semi-dark lager was 1.25% and it has increasing trend since. Other products may not have a high share on sales however these products enrich the variety of the products and satisfy the individual needs of the exacting customers thus fulfilling the mission of the brewery.

Apart from the traditional product line the beer specials and limited editions are made. Those limited editions enrich the variety of the products and increase the popularity of this medium sized brewery while promote it not only within the local area, but around the whole Czech Republic. The beer specials are brewed for specific events or during certain season. Examples of the limited editions are following beer specials.

- **DUDÁK Christmas specials**

The Christmas light special was brewed from barley and rye malt and Saaz hops. The alcohol content was 7.1%. Another Christmas special was dark chocolate beer made from barley malt, smoked malt, roasted barley malt, Saaz hops and chocolate powder. The alcohol content was 5.3%. Both Christmas specials were available in plastic bottles during Christmas 2011. Every year during Christmas time the brewery prepares beer specials that are unique every year.

- **DUDÁK Easter special**

The production of the Easter beer special started three months before bottling. The main fermentation process took 10 days and the maturation period was two months. Thanks to this genuine production process the unique unpasteurized lager with strong fullness and golden colour was made.

- **ZLAŤÁK grapefruit beer**

Due to growing popularity of the beer mixes in the Czech Republic the Strakonice Burghers' Brewery decided to prepare a grapefruit beer mix for the summer 2013. For the production was used light beer and 50% of reconstituted grapefruit juice. As a sweetener was used the plant *Stevia rebaudiana* and no antioxidants, preservatives or colorants were used. Thanks to the lowered alcohol content this beer mix was convenient for the hot summer days, sports and hiking. The alcohol content of this beer mix was 2.4% and it was available in 1.5 l plastic bottles or in 20 l kegs.

- **Blue Urogallus**

Blue Urogallus is the latest special beer from the Strakonice Burghers' Brewery. It is a special edition brewed for the National Park Šumava that can be consumed only in one particular restaurant in the area of the National Park since December 2013. It is a blueberry flavoured beer made exclusively from the natural ingredients, malt, blueberries and three types of Saaz hops. The beer was named by the foresters from the National Park themselves.

4.3.2 Distribution of the product portfolio

The products of the Strakonice Burghers' Brewery are distributed in glass bottles, plastic bottles, kegs and tanks. The brewery is not using cans as the packaging method. Majority of the products is distributed in the glass bottles. The glass bottles are of the size 0.5 l and

0.33 l. The limited editions are most habitually distributed in 1.5 l plastic bottles. The major share of the beer production with regard to packaging held kegs. The Strakonice Burghers' Brewery uses kegs of size 20 l, 30 l and 50 l. In order to catch up with the competitors the brewery introduced the party keg of the size 5 l that can be washed out and refilled with beer again.

Among the main distribution channels belong the domestic department store Jednota and multinational retailers Interspar, Billa, Tesco, Flop and Penny Market in the region Prácheňsko and Brno. Due to pressure from the side of the retailer Kaufland on lowering the price Strakonice Burghers' Brewery decided to end the cooperation in the year 2011. Apart from those regions the customers can consume the products of Strakonice Burghers' Brewery in several restaurants in Prague and Central Bohemia or in České Budějovice. Moreover the products of the brewery are available during many events in various locations of the Czech Republic. Due to increasing demand for the products and in order to improve the services to the customers the brewery established own sales and dispatch repository in Holasice near Brno in July 2012. Products of the brewery can be purchased in the kiosk adjoining the brewery in Strakonice. The e-shop of the brewery is currently under construction, however the supply of the beer can be ordered via online form at the Strakonice Burghers' Brewery website.

4.3.3 Marketing activities



Image 4 - Logo of the brewery [47]

The marketing activities of the Strakonice Burghers' Brewery arise from the tradition of the brand in the region as a traditional beer brand with more than 350 years tradition of brewing the high quality Czech beer. To strengthen the position on the domestic market the brewery uses a significant amount of the sponsoring activities especially in the

cultural and social areas. The brewery is a traditional sponsor of the basketball team and handball team Strakonice that are playing the highest league in the Czech Republic and also the hockey team playing the regional league. Annually the brewery is holding a brewery ball. Another cultural event hosted by the brewery is the annual fair.

An important marketing activity is the appearance at various festivals and cultural events around the whole Czech Republic. In the year 2013 the brewery made an appearance at the

Festival of the Czech small and microbreweries in Prague and earlier in the year 2013 the Strakonice Burghers' Brewery was one of the major beer suppliers at the Prague Burger Fest in the year 2013. The Strakonice Burghers' Brewery represented the Czech brewing industry at the Italian GOOD Festival in Udine. Participation in those events helps to promote the brewery both in the Czech Republic and abroad and increase the awareness about the brand.

The quality and popularity of the products of the brewery confirms a considerable amount of the awards that the Strakonice Burghers' Brewery gained over the time. The most successful year was the year 2012 when products of the Strakonice Burghers' Brewery gained the first place four times. Among the most eminent awards belong the Golden Beer Seal awarded at the Beer Fest in Tábor, awards announced at the Hop Harvest Festival in Žatec or awards in the competition for the brand of good domestic food product "Česká chuťovka".

4.3.4 Exports

Historically first export of the beer from Strakonice Burghers' Brewery appeared in the year 2006 to Austria. Since July 2006 the products of the brewery are available in restaurant in Wien and since December 2006 in the wholesale with beverages near Raabs an der Thaya. In the year 2007 appeared the first export of tanked beer to Poland. Since the year 2009 the beer is exported to Germany, Amberg. The year 2011 was a breakthrough year because the beer products were exported for the first time outside the European Union to USA and Russia. In the year 2012 the beer products of Strakonice Burghers' Brewery were distributed for the first time to Greece and Hungary.

The export activities play insignificant role in the business activities of the company, because the volume of beer exported does not exceed one percent. Since the Strakonice Burghers' Brewery is rather smaller medium sized industrial brewery the demand for its product abroad is not high. On the other hand the brewery could benefit its location close to Germany and Austria and enhance the volume of exports. Moreover the reputation of the Czech beer abroad is excellent and the products of the Strakonice Burghers' brewery appear in the top positions in various competitions thus there is a potential to increase the exports.

4.4 Capital and asset structure of the Strakonice Burghers' Brewery

4.4.1 Horizontal analysis of the company

Horizontal analysis examines the development of the items from the financial statements in time. Those changes can be expressed in absolute change or relative change. For better clarity the analysis is performed on abbreviated version of the financial statements.

4.4.1.1 Horizontal analysis of assets

The two following tables comprise the horizontal analysis of assets. Table 10 expresses the changes in assets in absolute change and the table 11 shows the development of the assets relatively in form of percentage.

Table 10 - Horizontal analysis of assets - absolute change

In thousands CZK	07/06	08/07	09/08	10/09	11/10	12/11
TOTAL ASSETS	-377	62 931	6 554	-2 994	2 748	-4 238
Stock subscriptions receivable	0	0	0	0	0	0
Long-term assets	-5 360	53 811	-7 697	6 921	-5 154	-3 339
Intangible assets	-56	-35	49	127	79	55
Tangible assets	-5 304	53 846	-7 746	6 794	-5 233	-3 394
Financial investments	0	0	0	0	0	0
Current assets	4 444	11 393	9 054	-8 722	7 875	667
Inventory	2 621	-1 693	1 591	-1 477	-350	841
Long-term receivables	1 429	-19	1 956	1 090	2 457	-1 807
Current receivables	709	359	2 040	-1 341	4 539	268
Current financial assets	-315	12 746	3 467	-6 994	1 229	1 365
Accruals	539	-2 273	5 197	-1 193	27	-1 566

Source: annual reports of the Strakonice Burghers' Brewery, own calculation

The horizontal analysis indicates that the assets were growing in the observed period except the years 2007, 2010 and 2012. The highest decrease in assets was in the year 2012 when the total assets decreased by 4 238 thousands CZK. The reason for this decrease is the decrease in long-term receivables, accruals and most importantly in tangible assets. The decrease in the years 2007 and 2010 was not that eminent.

The assets grew rapidly between years 2008 and 2007. The value of the total assets increased by 63 931 thousands CZK. There was a rapid growth in the tangible assets that was caused by the transfer of the real estate of the town of Strakonice under the ownership

of the brewery in December 2008. In the other observed years the growth of the assets was not that steep.

The current assets registered increase in all observed periods except the year 2010 when the current assets decreased by 8 722 thousands CZK. The year 2010 was a year when the brewery invested the highest amount of resources in the modern history of the brewery. The investments went into the reconstruction in the amount 19.9 million CZK therefore the drawdown in profit and also in current assets were expected.

Table 11 - Horizontal analysis of assets - relative change

In %	07/06	08/07	09/08	10/09	11/10	12/11
TOTAL ASSETS	-0.4	75.0	4.5	-2.0	1.8	-2.8
Stock subscriptions receivable	0	0	0	0	0	0
Long-term assets	-12.2	139.1	-8.3	8.2	-5.6	-3.9
Intangible assets	-55.4	-77.8	490.0	215.3	42.5	20.8
Tangible assets	-12.1	139.4	-8.4	8.0	-5.7	-3.9
Financial investments	0	0	0	0	0	0
Current assets	15.2	33.8	20.1	-16.1	17.3	1.3
Inventory	22.7	-12.0	12.8	-10.5	-2.8	6.9
Long-term receivables	34.2	-0.3	35.0	14.4	28.5	-16.3
Current receivables	9.6	4.4	24.1	-12.7	49.5	2.0
Current financial assets	-5.1	216.9	18.6	-31.7	8.1	8.4
Accruals	4.9	-19.8	56.5	-8.3	0.2	-11.8

Source: annual reports of the Strakonice Burghers' Brewery, own calculation

The assets in the year 2012 decreased by 2.8% that was the highest drop in the observed period. The decrease in assets in the years 2007 and 2010 were rather small, the decrease in the year 2007 did not exceed one percent.

Similarly as indicated in the absolute change, the relative change shows the increase in assets between years 2008 and 2007 caused by the increase of the real estate when the total assets increased by 75%. The growth of assets in the year 2009 was 4.5% and in the year 2011 1.8%. In the year 2009 the intangible assets increased by 490%. This steep increase was caused by the purchase of the new software to the company.

Current assets decreased in the year 2010 by 16.1%. In other periods the current assets were increasing.

4.4.1.2 Horizontal analysis of liabilities

The horizontal analysis of the liabilities is conducted in the same way as the analysis of the assets. The table 12 shows the changes in liabilities in time in form of absolute change while the table 13 reflects the changes over time in percentages.

Table 12 - Horizontal analysis of liabilities - absolute change

In thousands CZK	07/06	08/07	09/08	10/09	11/10	12/11
TOTAL LIABILITIES	-377	62 931	6 554	-2 994	2 748	-4 238
Own (total) equity	228	57 387	4 894	-1 142	104	-3 537
Legal capital	62 120	0	0	0	0	0
Capital funds	0	0	0	0	0	0
Reserves funds	319	92	179	362	-184	-53
Retained earnings	3 431	284	-4 992	4 609	-916	137
Net income or Net loss	-3 522	1 753	2 845	-6 113	1 204	-3 621
Foreign sources of capital	-241	5 615	1 756	-1 877	2 461	-613
Reserves	47	-102	-71	0	1 194	16
Long-term liabilities	360	6 793	-1 069	-721	172	81
Current liabilities	-648	-1 076	2 896	-1 156	1 095	-800
Bank loans and other help	0	0	0	0	0	0
Accrued liabilities	-364	-71	-96	25	183	-88

Source: annual reports of the Strakonice Burghers' Brewery, own calculation

The liabilities were growing in years 2008, 2009 and 2011. In the other years the liabilities registered a decline. Likewise the development of the assets, the development of the liabilities have volatile trend due to investment activities of the brewery to the ongoing reconstructions.

In the year 2007 the company increased its legal capital by 62 120 thousands CZK to its current 125 000 thousands CZK. Similarly as to the horizontal analysis of the assets a significant change in the liabilities was reflected in the year 2008 when the own equity increased by 57 387 thousands CZK. This increase is caused by already mentioned transfer of the real estate under the ownership of the brewery that is connected to the increase of the legal capital in the previous year.

The highest decline in liabilities was in the year 2012 when the total liabilities decreased by 4 238 thousands CZK. This decline is correlated with high decline of the net income/loss and the decline in the total equity.

Table 13 - Horizontal analysis of liabilities - relative change

In %	07/06	08/07	09/08	10/09	11/10	12/11
TOTAL LIABILITIES	-0.4	75.0	4.5	-2.0	1.8	-2.8
Own (total) equity	0.3	81.6	3.8	-0.9	0.1	-2.7
Legal capital	98.8	0	0	0	0	0
Capital funds	0	0	0	0	0	0
Reserves funds	40.0	8.2	14.8	26.1	-10.5	-3.4
Retained earnings	148.1	4.9	-82.8	443.6	-16.2	2.9
Net income or Net loss	-85.5	292.7	121.0	-117.6	-131.4	-1 257.3
Foreign sources of capital	-1.8	42.2	9.3	-9.1	13.1	-2.9
Reserves	37.3	-59.0	-100.0	0	0	1.3
Long-term liabilities	13.8	228.1	-10.9	-8.3	2.2	1.0
Current liabilities	-6.0	-10.6	31.9	-9.7	10.1	-6.7
Bank loans and other help	0	0	0	0	0	0
Accrued liabilities	-59.8	-29.0	-55.2	32.1	177.7	-30.8

Source: annual reports of the Strakonice Burghers' Brewery, own calculation

The increase of the legal capital in year 2007 grew by 98.8%, meaning that since the year 2006 the legal capital almost doubled. Since then the legal capital did not change at all. In the same year the retained earnings grew by 148.1%. Despite the growth of those two accounting items the total liabilities declined by 0.4%. This was caused by the decrease of the accrued liabilities by 59.8% and decline in the net income/loss by 85.5%.

In the year 2008 the total liabilities grew by 75%. The major share on this increase had the 228.1% increase of the long term liabilities and 81.6% increase in the own equity. The item net income grown by 292.7%, however since in the previous year this item declined by 85.5% the increase is not that eminent.

In the last observed period almost all liabilities registered a decline. The highest decline not only in the year 2012 was the decrease in net income by 1 257.3%.

4.4.1.3 Horizontal analysis of the income statement

The horizontal analysis of the income statement is conducted in the same way as the horizontal analysis of the assets and liabilities. The table 14 shows the changes in liabilities in time in form of absolute change. Due to extreme volatility of the income statement items caused by fluctuating trend of the financial result caused by the investments into the reconstruction the basis for calculation of the relative change if the accounting items differ a lot. Therefore the main focus of the horizontal analysis of the income statement is on the

absolute change. For completeness of this analysis the table containing the results of the horizontal analysis expressed relatively in percentages is stated in appendices.

Table 14 - Horizontal analysis of the income statement - absolute change

In thousands CZK	07/06	08/07	09/08	10/09	11/10	12/11
Merchandise revenue	1 368	2 371	2 453	-697	486	83
Cost of merchandise sold	1 379	1 729	1 257	-368	2 159	-89
Profit margin	289	642	1 196	-329	-1 673	172
Internal activities	3 241	8 666	-682	-1 657	3 863	-3 239
Service and manufactured goods revenue	1 564	6 931	-3 468	645	1 159	-1 383
Operating and production expenses	4 345	8 976	-6 162	-3	4 965	-80
Raw materials and utilities expense	3 036	7 398	-1 682	-3 823	4 889	-2 492
Outside services used	1 309	1 578	-4 480	3 820	76	2 412
Value added	-1 115	332	6 676	-1 983	-2 775	-2 987
Payroll	661	-1 623	1 010	-81	-671	1 302
Sales of long-term assets & raw materials	-5 005	415	-25	1 587	-1 196	-258
Miscellaneous operating revenue	-49	517	1 148	-1 742	-395	916
Miscellaneous operating expenses	-1 143	937	-264	583	-93	60
Interest income	105	174	-161	-54	-63	-8
Interest expense	0	0	0	0	0	0
Operating income	-4 727	1 670	3 888	-6 520	1 136	-3 914
Income from financial operations	105	196	157	-371	-118	27
Income from ordinary activities	-3 522	1 753	2 845	-6 113	1 204	-3 621
Net income for fiscal period	-3 522	1 753	2 845	-6 113	1 204	-3 621
Net income before taxes	-4 622	1 866	4 045	-6 891	1 018	-3 887

Source: annual reports of the Strakonice Burghers' Brewery, own calculation

As already mentioned in previous chapters, the trend of the financial results and the items involving the financial results of the brewery is extremely volatile and unstable. The Strakonice Burghers' Brewery registered drops in the income in years 2007, 2010 and 2012.

The year 2007 was closed with the net income lower by 3 522 than in the year 2006. This seem as a big dropdown, however the year 2006 was the most successful year of the modern history of the Strakonice Burghers' Brewery, therefore the decline was expected. In the year 2007 the sales of long term assets decreased by 5 005 thousands CZK. This steep decrease is caused by the leaseback of the real estate. In the year 2006 the brewery sold buildings that were in the ownership of the brewery to the city Strakonice and signed a lease for the future.

The major drawdown in terms of the income of the company was registered in the year 2010 when the net income before taxes decreased by 6 891 thousands CZK. The majority of the items of the income statement in the year 2010 registered a decline as well. This dropdown was caused by the extensive investment into the reconstruction of the brewery. The item outside services used increased by 3 820 thousands CZK that can be ascribed to the procurement for the reconstruction works.

In the year 2012 the brewery closed the fiscal year with net income lower by 3 621 thousands CZK than in the previous year. The decrease of the raw materials expense by 2 492 thousands CZK is connected with the decrease of the beer production. The outside services used in the year 2012 registered significant increase that is a result of the procurement for the reconstructions. The increase was worth 2 412 thousands CZK.

An item worth noticing is the merchandise revenue that has except the year 2010 increasing trend. Increasing trend of this item is a positive sign that despite the financially demanding investment activities the brewery is able to generate revenue by selling the products. To the increase of the item merchandise revenue also contributes the sale of the branded promotional items that are available in the kiosk next to the entrance to the brewery that was reconstructed and expanded in the year 2007.

4.4.2 Vertical analysis of the company

Vertical analysis illustrates the percentage share of the individual items of the financial statement as a percentage of the basis.

4.4.2.1 Vertical analysis of assets

As the basis for the comparison of the share of the assets is the accounting item total assets. The table 15 illustrates the significance of the long-term assets, current assets and accruals. The vertical analysis of the Strakonice Burghers' Brewery handily shows the change of the proportion of the current assets. Between the years 2007 and 2008 the brewery decreased the share of inventory on the current assets. The inventory in the year 2007 was rather high due to planned production limitation in the year 2008. The decrease in the share of inventory was also caused by the fact that it is not desirable to hold over 40% of the current assets in form of the inventory due to possible difficulties while converting the inventory into cash.

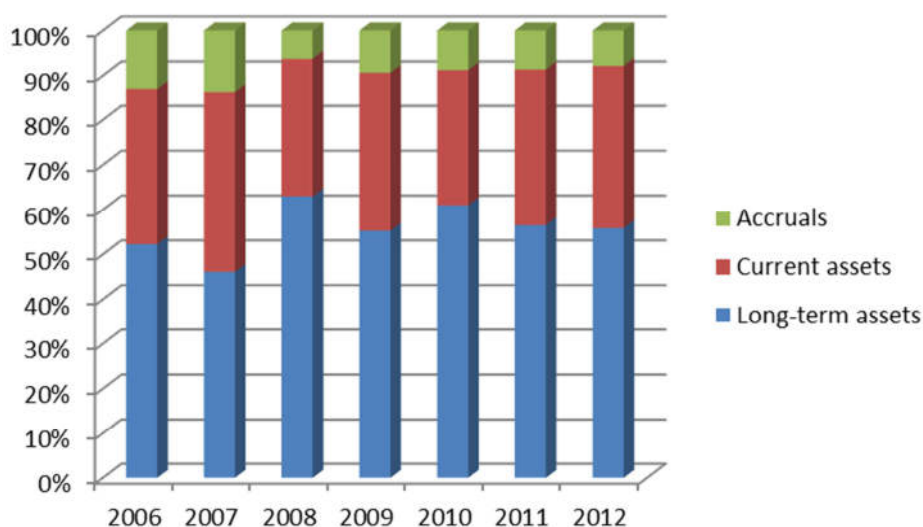
Table 15 - Vertical analysis of assets

In %	2006	2007	2008	2009	2010	2011	2012
TOTAL ASSETS	100	100	100	100	100	100	100
Stock subscriptions receivable	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Long-term assets	52.26	46.10	62.99	55.28	60.98	56.52	55.89
Intangible assets	0.12	0.05	0.01	0.04	0.12	0.17	0.21
Tangible assets	52.14	46.05	62.98	55.24	60.86	56.35	55.68
Financial investments	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Current assets	34.78	40.23	30.75	35.34	30.24	34.84	36.28
Inventory	13.68	16.86	8.48	9.16	8.36	7.98	8.77
Long-term receivables	4.96	6.69	3.81	4.92	5.74	7.24	6.24
Current receivables	8.79	9.68	5.77	6.86	6.10	8.96	9.39
Current financial assets	7.35	7.00	12.68	14.40	10.04	10.66	11.88
Accruals	12.97	13.67	6.26	9.38	8.78	8.64	7.83

Source: annual reports of the Strakonice Burghers' Brewery, own calculation

From the previous table the significance of the long-term assets, current assets and accruals on the total share of assets can be observed. In the all observed periods the highest share on the total assets have the long-term assets. The highest share of the long-term assets was in the year 2008 when the share was 62.99%. On the contrary the lowest share was in the year 2007 when the share was 46.1%. The development of the share of the long-term assets, current assets and accruals is shown in the chart below.

Chart 13 - Structure of the assets in years 2006 - 2012



Source: Source: annual reports of the Strakonice Burghers' Brewery, own processing

4.4.2.2 Vertical analysis of liabilities

Similarly to the vertical analysis of the assets, the base for the analysis of the liabilities was selected the accounting item total liabilities.

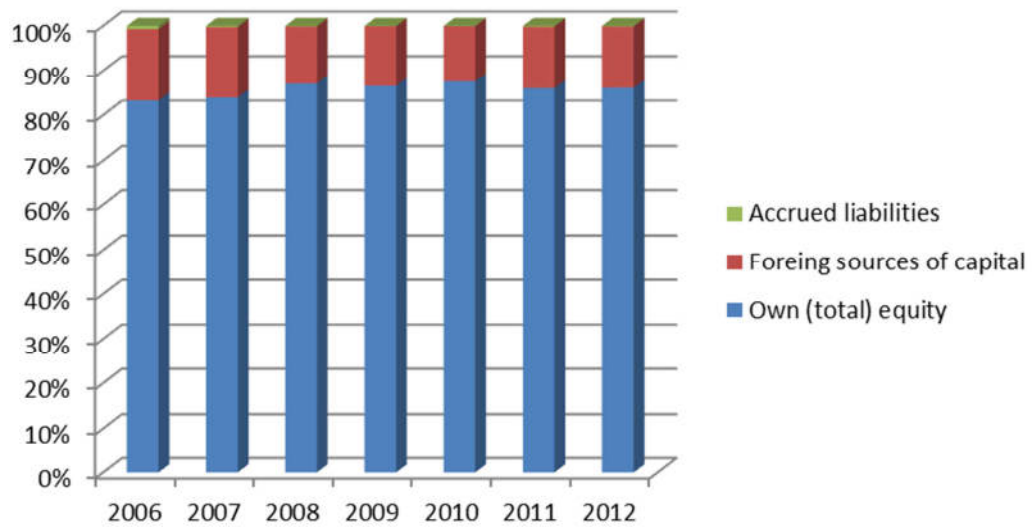
Table 16 - Vertical analysis of liabilities

In %	2006	2007	2008	2009	2010	2011	2012
TOTAL LIABILITIES	100	100	100	100	100	100	100
Own (total) equity	83.21	83.85	87.00	86.47	87.43	85.93	86.00
Legal capital	74.62	149.00	85.14	81.50	83.12	81.63	83.95
Capital funds	0.01	0.01	0.00	0.00	0.00	0.00	0.00
Reserves funds	0.95	1.33	0.82	0.90	1.16	1.02	1.02
Retained earnings	2.75	6.85	4.11	0.68	3.76	3.09	3.27
Net income or Net loss	4.89	0.71	1.60	3.39	0.61	0.19	2.24
Foreign sources of capital	16.07	15.86	12.88	13.48	12.50	13.88	13.86
Reserves	0.15	0.21	0.05	0.00	0.00	0.78	0.81
Long-term liabilities	3.11	3.55	6.65	5.67	5.31	5.32	5.53
Current liabilities	12.81	12.10	6.18	7.80	7.19	7.78	7.46
Bank loans and other help	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Accrued liabilities	0.72	0.29	0.12	0.05	0.07	0.19	0.13

Source: annual reports of the Strakonice Burghers' Brewery, own calculation

The major share throughout the observed period on the total liabilities has the own equity. The highest share on the own equity is formed by the legal capital. The liabilities of the brewery are created mainly by the own equity. The share of the total equity did not go under 83.21%. This means that the brewery uses mainly own resources to fund its activities. The highest share of the foreign capital was in the year 2006 and since then the share of foreign capital is decreasing. Accrued liabilities have insignificant share on the total liabilities. The share of the accrued liabilities did not exceed 1% in any year of the observed period. The structure of the total liabilities in years 2006 to 2012 is illustrated in the chart 14.

Chart 14 – Structure of the liabilities in years 2006 – 2012



Source: annual reports of the Strakonice Burghers' Brewery, own processing

From the chart 14 it is obvious that the Strakonice Burghers' Brewery is using low amount of the foreign capital. The highest percentage of the foreign capital was in the first year of the observed period when the foreign sources of capital reached 16.07% of the total liabilities. Since then the share of the foreign capital is decreasing. The usage of the own capital reflects the responsibility of the financial management however in this case the financial management may be considered as too cautious not using higher share of the foreign capital.

4.5 Analysis of the differential ratios

4.5.1 Net working capital

The net working capital is one of the commonly used differential ratios. The size of the net working capital is a significant indicator of the balance of payments of the business entity. Following table shows the values of the net working capital in the observed period.

Table 17 - Net working capital in years 2006 - 2012

In thousands CZK	2006	2007	2008	2009	2010	2011	2012
Current assets	29 307	33 751	45 144	54 198	45 476	53 351	54 018
Current liabilities	10 799	10 151	9 075	11 971	10 815	11 910	11 110
NWC	18 508	23 600	36 069	42 227	34 661	41 441	42 908

Source: annual reports of the Strakonice Burghers' Brewery, own calculation

In general the net working capital has increasing trend. The highest net working capital was in the year 2012 and the lowest in the year 2006. It can be stated that the higher net working capital the greater ability the company has to cover its current financial obligations. From the values in the table 17 it is clear, that the brewery is able to cover its financial liabilities without any difficulties. The prime ability to cover the current financial obligations was in the year 2012 when the net working capital reached the value 42 908 thousands CZK.

4.5.2 Net financial cash fund

The net financial cash fund reflects the difference between the quick financial funds and immediately payable liabilities. As quick financial funds is considered cash and money in banks. This indicator refers to the immediate liquidity to pay off the immediately payable liabilities. The indicator net financial cash fund is more accurate than net working capital.

Table 18 - Net financial cash fund in the years 2006 - 2012

In thousands CZK	2006	2007	2008	2009	2010	2011	2012
Quick financial funds	6 191	5 876	18 622	22 089	15 095	16 324	17 689
Immediately payable liabilities	3 509	4 177	2 611	3 430	3 595	4 673	5 716
NFCF	2 682	1 699	16 011	18 659	11 500	11 651	11 973

Source: annual reports of the Strakonice Burghers' Brewery, own calculation

From the table 18 it is clear that the Strakonice Burghers' Brewery possess sufficient net financial cash fund for covering its bills with the immediate maturity in the form of the cash and money on current accounts.

The lowest net financial cash fund was in the year 2007 when the immediately payable liabilities increased by 20% while the quick financial funds decreased by 5%. Despite that the brewery still had sufficient funds to cover the immediately payable liabilities. On the contrary the highest net financial cash fund was in the year 2009 when the quick financial cash funds were the highest from the observed period 22 089 thousands CZK and the immediately payable liabilities were 3 430 thousands CZK that was the second lowest figure from the observed period.

4.5.3 Net monetary funds

Following table consist of the data necessary for calculation of the net monetary funds. Inventory is the second largest component of the current assets right behind the short-term receivables therefore a significant part is reflected in the volume of the net monetary funds.

Table 19 - Net monetary funds in the years 2006 - 2012

In thousands CZK	2006	2007	2008	2009	2010	2011	2012
Current assets	29 307	33 751	45 144	54 198	45 476	53 351	54 018
Inventory	11 526	14 147	12 454	14 045	12 568	12 218	13 059
Current liabilities	10 799	10 151	9 075	11 971	10 815	11 910	11 110
NMF	6 982	9 453	23 615	28 182	22 093	29 223	29 849

Source: annual reports of the Strakonice Burghers' Brewery, own calculation

There is an annual fluctuation in both current assets and inventory. In the observed period there is a year to year increase in the current assets. With an exception in the year 2010 when the current assets decreased the increase in the current assets can be described as a linear increase. The trend of inventory is more volatile. The highest net monetary fund was in the last observed period when the current assets reached 54 018 thousands CZK that is the maximum of the observed period. The lowest net monetary fund was in the first year of the observed period. In the year 2006 the current assets were the lowest as well as he inventory.

4.6 Analysis of the financial ratios

4.6.1 Profitability ratios

Profitability ratios are considered as one of the most important ratios while analysing the economic situation of the company. The evaluation is mainly focused on the effectiveness. Among the most widely used profitability ratios belong return on assets, return on equity and return on sales. All of the profitability ratios used have similar interpretation as they show how many CZK of profit is accounted per one CZK of the accounting item in denominator.

4.6.1.1 Return on assets

The indicator return on assets measure the effect per unit of the property that is involved in the business activity. Based on the value of this indicator it is possible to assess whether the company effectively manages its tangible property and inventories as well as the other resources involved.

Table 20 - Return on assets in years 2006 - 2012

In thousands CZK	2006	2007	2008	2009	2010	2011	2012
Net income	4 121	599	2 352	5 197	-916	288	-3 333
Total assets	84 271	83 894	146 825	153 379	150 385	153 133	148 895
ROA (in %)	4.89	0.71	1.60	3.39	-0.61	0.19	-2.24

Source: annual reports of the Strakonice Burghers' Brewery, own calculation

The results of the return on assets are not satisfactory for the brewery. In two years of the observed period was the return on assets negative. The highest value was in the first year of the observed period when the indicator was of the value 4.89%. This means that every hundred CZK invested brought profit 4.89 CZK. Since the year 2006 the value of return on assets is decreasing. Due to negative net income in the year 2010 and 2012 the value of this indicator was also negative. In the last observed period the value of the return on assets was – 2.24%. This means that every hundred CZK invested into the business resulted in a loss of the value 2.24 CZK.

4.6.1.2 Return on equity

Return on equity is an important factor while deciding whether to make an investment into the company or not. This indicator expresses how much CZK of the net income pertains per one CZK invested into the company by the shareholders.

Table 21 - Return on equity in years 2006 - 2012

In thousands CZK	2006	2007	2008	2009	2010	2011	2012
Net income	4 121	599	2 352	5 197	-916	288	-3 333
Equity	70 119	70 347	127 734	132 628	131 486	131 590	128 053
ROE (in %)	5.88	0.85	1.84	3.92	-0.70	0.22	-2.60

Source: annual reports of the Strakonice Burghers' Brewery, own calculation

Similarly to the indicator ROA the return on equity does not achieve satisfactory results. The highest value of the return on equity was in the year 2006 when the indicator reached 5.88%. In other words every hundred CZK of the shareholders equity paid into the business brought back profit 5.88 CZK. The major influence on the return on equity has the net income. Equity increased in the year 2008 however since then it remains on the approximate same level. The lowest return on equity was in the last observed year when the result was due to negative net income that was caused by increasing costs of production negative at value - 2.6%. This indicator would most likely discourage the investors from investment into the brewery.

4.6.1.3 Return on sales

The indicator return on sales expresses how much profit is the enterprise able to generate for one CZK of sales. This indicator reflects the financial efficiency of the business enterprise.

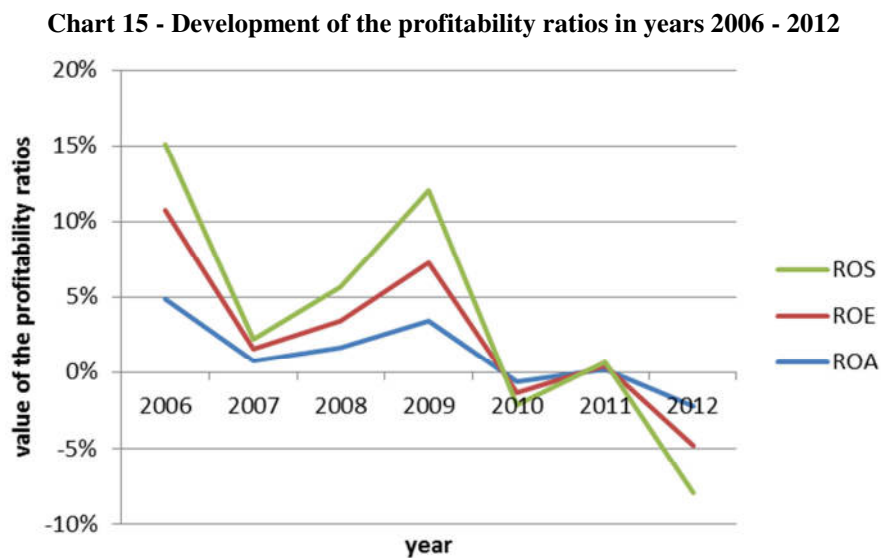
Table 22 - Return on sales in years 2006 - 2012

In thousands CZK	2006	2007	2008	2009	2010	2011	2012
Net income	4 121	599	2 352	5 197	-916	288	-3 333
Sales	94 653	94 312	106 585	109 655	106 620	109 363	106 827
ROS (in %)	4.35	0.64	2.21	4.74	-0.86	0.26	-3.12

Source: annual reports of the Strakonice Burghers' Brewery, own calculation

Similarly to the ROA and ROE the main factor influencing the return on sales is the net income. In the years 2010 and 2012 the return on sales ratio was due to negative net income negative. The most profit generated by one CZK of sales was in the year 2009 when the return on sales reached the value 4.74%. The year 2006 can be also considered as successful. In the year 2006 every hundred CZK of sales led to 4.35 CZK of profit. In the year 2012 the return on sales reached the value – 3.12%, meaning that every hundred CZK of sales resulted in a loss of a value 3.12 CZK.

Following chart shows the development of the profitability ratios throughout the observed period.



Source: annual reports of the Strakonice Burghers' Brewery, own processing

From the chart it is possible to state that throughout the observed period the trend of the profitability indicators is decreasing with the exception of the years 2008 and 2009 when the decreasing trend registered a deflection. Minor deflection from the decreasing trend was registered also in the year 2011. The prediction of the future development is a complex issue, however the brewery should attempt to reverse the decreasing trend and reduce the fluctuations.

4.6.2 Liquidity ratios

The cornerstone of the financial analysis is composed by the analysis of the liquidity ratios. The liquidity ratios define the ability of the brewery to pay its obligations.

4.6.2.1 Current ratio

The current ratio calculates the rate at which the brewery is able to satisfy the creditors in case that all current assets will be immediately turned into cash. This indicator is not sufficiently accurate due to the fact that does not consider that all current assets cannot be turned into cash immediately. The current assets of the brewery can be bind in uncollectible receivables or unused inventory.

Table 23 - Current ratio in years 2006 - 2012

In thousands CZK	2006	2007	2008	2009	2010	2011	2012
Current assets	29 307	33 751	45 144	54 198	45 476	53 351	54 018
Current liabilities	10 799	10 151	9 075	11 971	10 815	11 910	11 110
Current ratio	2.71	3.32	4.97	4.53	4.20	4.48	4.86

Source: annual reports of the Strakonice Burghers' Brewery, own calculation

The calculation of the current ratio in years 2006 – 2012 shows that the brewery was able to fulfil the obligations to the creditors without any obstacles to its full extent in all observed years.

4.6.2.2 Quick ratio

For calculation of the quick ratio are used same variables as for the current ratio. The exception is that the current assets are lowered by the value of inventory.

Table 24 - Quick ratio in years 2006 - 2012

In thousands CZK	2006	2007	2008	2009	2010	2011	2012
Current assets	29 307	33 751	45 144	54 198	45 476	53 351	54 018
Inventory	11 526	14 147	12 454	14 045	12 568	12 218	13 059
Current liabilities	10 799	10 151	9 075	11 971	10 815	11 910	11 110
Quick ratio	1.65	1.93	3.60	3.35	3.04	3.45	3.69

Source: annual reports of the Strakonice Burghers' Brewery, own calculation

Previously stated statement that the majority of the current assets can be tight in inventory and cannot be converted immediately into cash was confirmed. From the results of the quick ratio it is obvious that by virtue of the subtracting inventory the quick ratio is significantly lower than the current ratio.

4.6.2.3 Cash ratio

The cash ratio is considered to be the most accurate liquidity ratio. The aim of the cash ratio is to measure the ability of the reimbursement of the short term obligations in strictly specified time period. The desirable cash ratio is above 0.5.

Table 25 - Cash ratio in years 2006 - 2012

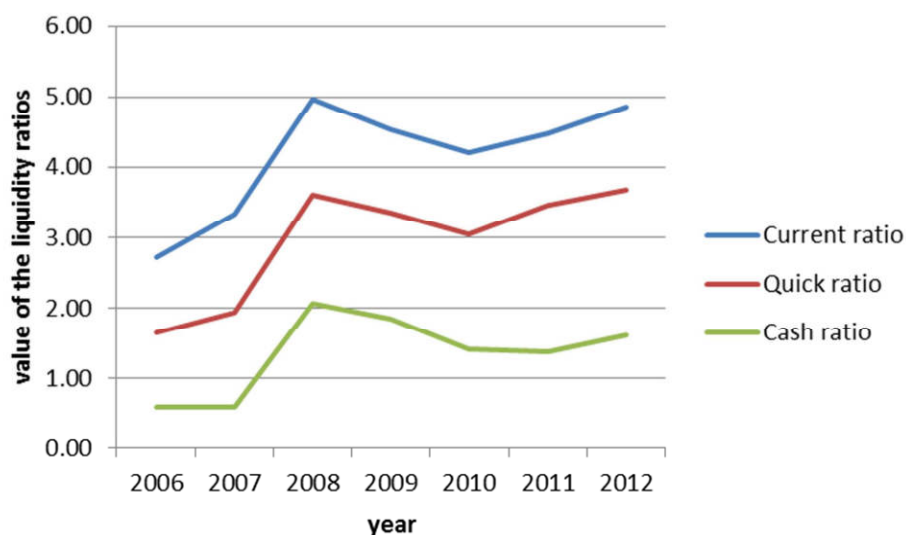
In thousands CZK	2006	2007	2008	2009	2010	2011	2012
Cash	168	184	118	51	96	102	176
Cash in banks	6 191	5 876	18 622	22 089	15 095	16 324	17 689
Current liabilities	10 799	10 151	9 075	11 971	10 815	11 910	11 110
Cash ratio	0.59	0.60	2.07	1.85	1.40	1.38	1.61

Source: annual reports of the Strakonice Burghers' Brewery, own calculation

The results of the cash ratio indicate that the brewery was able to cover its all short term obligations without any difficulties in all years of the observed period. The low value of the cash ratio in the years 2006 and 2007 is caused by the low volume of the financial means of the brewery.

Following chart illustrates the development of the liquidity ratios throughout the observed period.

Chart 16 - Development of the liquidity ratios in years 2006 - 2012



Source: annual reports of the Strakonice Burghers' Brewery, own processing

The liquidity ratios have an increasing trend in the long term period. After the economic crisis that emerged in the year 2008 the liquidity ratios registered a decline however within two years the liquidity ratios started growing again. The increasing trend of the liquidity ratios represent growing margin of safety that the Strakonice Burghers' Brewery possesses to cover its short term debts.

4.6.3 Activity ratios

Activity ratios express the ability of the brewery to use assets embedded into the business. It can be said that the analysis of the activity ratios examines the relationship between assets and revenues, particularly sales.

4.6.3.1 Total assets turnover ratio

The total assets turnover ratio expresses the amount of sales generated per one CZK of the assets. This ratio is an indicator of the efficiency of the deployment of the assets of the brewery.

Table 26 - Total assets turnover in years 2006 - 2012

In thousands CZK	2006	2007	2008	2009	2010	2011	2012
Total sales	94 653	94 312	106 585	109 655	106 620	109 363	106 827
Total assets	84 271	83 894	146 825	153 379	150 385	153 133	148 895
Total assets turnover	1.12	1.12	0.73	0.71	0.71	0.71	0.72

Source: annual reports of the Strakonice Burghers' Brewery, own calculation

Since the year 2008 the total assets turnover ratio have decreasing trend. This development is negative for the brewery. The development of this indicator can be ascribed to the economic crisis. In the year 2006 and 2007 every CZK of assets brought approximately 1.12 CZK of sales. In the year 2012 the total assets turnover registered a slight increase which is a positive progress.

4.6.3.2 Inventory turnover

Inventory turnover reflects the average time period in days for which is the inventory bounded in the company until it is either sold or consumed. The optimum value of the inventory turnover is under 50 days.

Table 27 - Inventory turnover in years 2006 - 2012

In thousands CZK	2006	2007	2008	2009	2010	2011	2012
Inventory	11 526	14 147	12 454	14 045	12 568	12 218	13 059
Sales	94 653	94 312	106 585	109 655	106 620	109 363	106 827
Inventory turnover	44 days	55 days	43 days	47 days	43 days	41 days	45 days

Source: annual reports of the Strakonice Burghers' Brewery, own calculation

From the table 27 it is evident that the inventory turnover was in the range 41 days to 55 days. In the year 2007 the inventory turnover exceeded the optimum border when the period of turnover was 55 days. This increase from the original value 44 in the year 2006 was caused by increasing the amount of product in stocks due to planned alleviation of production in the first quarter of the year 2008 caused by the reconstruction.

In terms of efficiency it is desirable decreasing trend or stable low values of the inventory turnover. The increasing trend of the inventory turnover may lead to the increase of the inventory carrying costs.

4.6.3.3 Average collection period

The average collection period expresses the time period in days between the invoice date for the sale of goods and the date when the financial means for the transaction are credited to the account of the brewery. The optimal value should appear between 30 and 90 days.

Table 28 – Average collection period in years 2006 - 2012

In thousands CZK	2006	2007	2008	2009	2010	2011	2012
Total receivables	11 590	13 728	14 068	18 064	17 813	24 809	23 270
Total sales	94 653	94 312	106 585	109 655	106 620	109 363	106 827
Receivables turnover	45 days	53 days	48 days	60 days	61 days	83 days	80 days

Source: annual reports of the Strakonice Burghers' Brewery, own calculation

The average collection period has based on the results in table 28 increasing trend. The lowest average collection period was in the first observed year when the period was 45 days. The longest average collection period had the receivables in the year 2011 when the time period was 83 days. The results give evidence to the fact that the payment discipline of the customers of the brewery is not satisfactory and the time period between the invoicing and receipt of the payment is extending. The values of the Strakonice Burghers' Brewery are under the 90 days border however the brewery should pay attention to the

unfavourable trend of the average collection period because it may result in the lack of financial funds needed to cover the obligations of the brewery.

4.6.3.4 Creditors payment period

The creditors payment period indicates the time period in which the current liabilities remain unsettled. This period is also referred to as a free business loan.

Table 29 – Creditors payment period in years 2006 - 2012

In thousands CZK	2006	2007	2008	2009	2010	2011	2012
Current liabilities	10 799	10 151	9 075	11 971	10 815	11 910	11 110
Total sales	94 653	94 312	106 585	109 655	106 620	109 363	106 827
Liabilities turnover	42 days	39 days	31 days	40 days	37 days	40 days	38 days

Source: annual reports of the Strakonice Burghers' Brewery, own calculation

The trend of the creditors payment period is inconstant. The period was longest in the year 2006 when the current liabilities remained unpaid for about 42 days. On the contrary the period was shortest in the year 2008 when the current liabilities remained unpaid for 31 days.

It is desirable that the creditors payment period is longer than the average collection period in order to have sufficient amount of the financial means to pay its own obligations. While comparing the data in the table 28 with the data in the table 29 we can see that this premise was not fulfilled in neither of the observed period. Despite the long average collection period the Strakonice Burghers' Brewery is still able to cover its current liabilities in relatively short time period. This fact displays the brewery as a reliable trade partner.

4.6.4 Debt ratios

The main aim of the debt ratios calculation is to provide an insight about the balance of the own sources of funding and foreign sources of funding. Higher value of the debt ratios the higher is the level of the indebtedness. Due to the fact that the Strakonice Burghers' Brewery uses mainly own sources of funding there is no need to conduct a thorough analysis of the debt ratios.

4.6.4.1 Debt ratio

The debt ratio defines the proportion between the total debt and total assets. When the debt ratio is greater than 1 the company does not have more debt than assets.

Table 30 - Debt ratio in years 2006 - 2012

In thousands CZK	2006	2007	2008	2009	2010	2011	2012
Total debt	13 417	13 129	18 846	20 673	18 796	20 063	19 344
Total assets	84 271	83 894	146 825	153 379	150 385	153 133	148 895
Debt ratio	0.16	0.16	0.13	0.13	0.12	0.13	0.13

Source: annual reports of the Strakonice Burghers' Brewery, own calculation

In all observed periods the debt ratio was lower than 1 therefore in all periods the brewery had more assets than debts. The debt ratio did not exceed the value 0.16 that was in the years 2006 and 2007. Based on the results of the debt ratio can be stated that the brewery is not indebted.

4.6.4.2 Interest coverage ratio

This indicator expresses the frequency of the possible decline in earnings of the enterprise to the extent to be able to cover the costs of the foreign sources of funding. Interest coverage ratio states how many times the realized profit exceeds the interest expense.

Table 31 - Interest coverage ratio in years 2006 - 2012

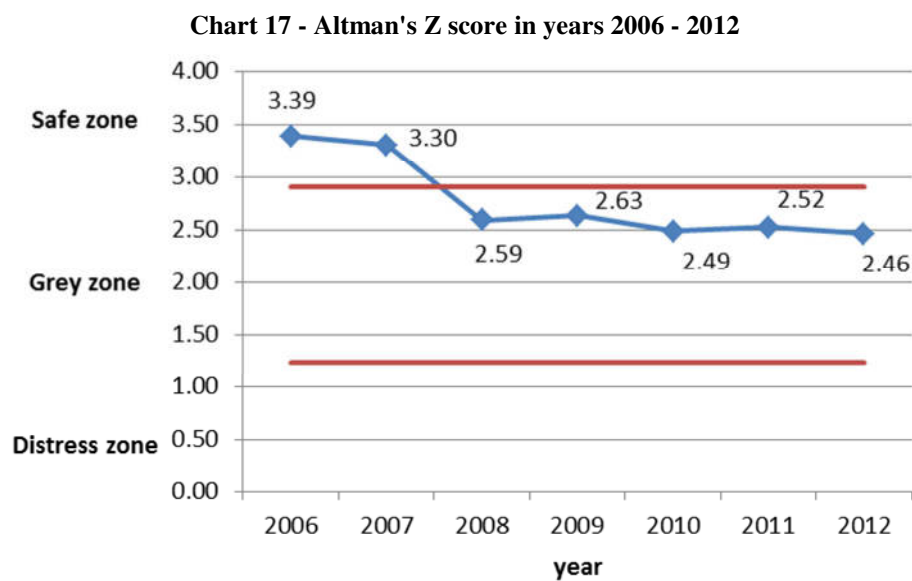
In thousands CZK	2006	2007	2008	2009	2010	2011	2012
EBIT	5 192	570	2 436	6 481	-410	608	-3 279
Interest expense	0	0	0	0	0	0	0
Interest coverage ratio	0	0	0	0	0	0	0

Source: annual reports of the Strakonice Burghers' Brewery, own calculation

The interest coverage ratio is in all observed years equal to zero due to the fact that the interest expenses reported by the brewery are equal to zero in all observed periods.

4.7 Comprehensive evaluation of the Strakonice Burghers' Brewery

For comprehensive evaluation of the Strakonice Burghers' Brewery is used an Altman's Z score model, that can assess the health of the company by single figure – Z score. The complete calculation including the input values for the calculation of the Altman's Z- score are shown in appendices. Strakonice Burghers' Brewery is not listed on the stock exchange therefore for calculation of the Z score is used a formula adjusted for private firms. The development of the Z score in the observed period is showed in the chart below.



Source: annual reports of the Strakonice Burghers' Brewery, own calculation

The values of the Z score fell into the safe zone in the first two years of the observed period. In this year the company was in the strong position and was not endangered by bankruptcy. By virtue of the economic crisis that started in the year 2008 and due to pursuance of the reconstruction since the year 2009 the values of Z score dropped into the grey zone. The grey zone represents a zone of the potential risk. Due to the fact that the values of the Z score are constantly in the grey zone, the financial management should pay attention to the forecast of the future development and introduce precautions that will lift the company results. The brewery is not in the immediate imperilment of the bankruptcy. Taking into account the large volumes of resources invested into the reconstruction of the brewery any major intervention at the moment is not necessary

4.8 Position of the Strakonice Burghers' Brewery on the Czech beer market

Essential part of the financial analysis is formed by the comparison of the individual results either with the major competitors or with the sector as a whole. The business activities of the Strakonice Burghers' Brewery belong to the group Beverage production (11) based on the classification of the economic activities CZ-NACE. Due to lack of availability of the economic data of the subgroup 11.05 (Beer production) the author of the thesis decided to compare the results of the brewery with three competitors in the region.

For the comparison with the competitors in the regions are selected following breweries: Platan Protivín, Regent Třeboň and Budějovický Budvar. Due to the fact that Strakonice Burghers' Brewery and the selected competitors are not the same size and therefore not comparable in terms of the beer production and volume of sales those breweries are compared in terms of the financial management. Profitability ratios, liquidity ratios, activity ratios and debt ratio in years 2008 – 2012 are compared.

From the financial stability view the most prosperous results are expected from the brewery Budějovický Budvar due to the fact that this brewery belongs to the top five breweries in the Czech Republic regarding the beer production. Products of this brewery are well known in the whole Czech Republic and also Worldwide. The breweries Regent Třeboň and Platan Protivín are closer with the volume of production to the Strakonice Burghers' Brewery. However the brewery Platan Protivín is a member of the brewery group Lobkowicz group. From the selected competitors is the most analogous to the Strakonice Burghers' Brewery the brewery Regent Třeboň. The beer production of Regent Třeboň in the year 2012 was 67 958 hl of beer and the production of the Strakonice brewery was 63 835 hl of beer.

Selected financial ratios of the four before mentioned breweries in years 2008 – 2012 are showed in the table 32 on the next page.

Table 32 - Comparison of the Strakonice Burghers' Brewery with competitors in years 2008 - 2012

Ratio	Brewery	2008	2009	2010	2011	2012
ROA (in %)	Strakonice Burghers' Brewery	1.60	3.39	-0.61	0.19	-2.24
	Budějovický Budvar	2.11	2.86	3.43	3.56	3.22
	Regent Třeboň	1.66	0.35	0.94	0.25	0.36
	Platan Protivín	17.96	13.49	9.54	6.34	8.44
ROE (in %)	Strakonice Burghers' Brewery	1.84	3.92	-0.70	0.22	-2.60
	Budějovický Budvar	2.39	3.30	3.91	4.13	3.70
	Regent Třeboň	7.17	1.32	3.52	1.23	2.94
	Platan Protivín	45.44	29.48	18.88	11.90	15.83
ROS (in %)	Strakonice Burghers' Brewery	2.29	5.91	-0.38	0.56	-3.07
	Budějovický Budvar	6.11	9.46	10.67	11.36	10.07
	Regent Třeboň	1.55	0.90	1.31	1.37	3.21
	Platan Protivín	8.74	5.97	12.10	8.81	11.41
Current ratio	Strakonice Burghers' Brewery	4.97	4.53	4.20	4.48	4.86
	Budějovický Budvar	7.36	7.56	9.66	6.98	7.87
	Regent Třeboň	0.89	1.11	0.93	0.90	0.79
	Platan Protivín	1.42	1.69	1.60	2.01	1.82
Quick ratio	Strakonice Burghers' Brewery	3.60	3.35	3.04	3.45	3.69
	Budějovický Budvar	6.39	6.70	8.79	6.33	7.21
	Regent Třeboň	0.75	0.90	0.77	0.84	0.76
	Platan Protivín	0.88	1.29	1.33	1.57	1.52
Cash ratio	Strakonice Burghers' Brewery	2.07	1.85	1.40	1.38	1.61
	Budějovický Budvar	0.34	0.07	0.46	2.47	1.17
	Regent Třeboň	0.01	0.01	0.02	0.03	0.04
	Platan Protivín	0.12	0.03	0.01	0.09	0.02
Inventory turnover (in days)	Strakonice Burghers' Brewery	43	47	43	41	45
	Budějovický Budvar	54	51	46	48	42
	Regent Třeboň	23	27	28	30	34
	Platan Protivín	34	33	40	56	43
Average collection period (in days)	Strakonice Burghers' Brewery	48	60	61	83	80
	Budějovický Budvar	95	94	90	86	85
	Regent Třeboň	123	121	129	130	133
	Platan Protivín	48	104	191	189	213
Creditors payment period (in days)	Strakonice Burghers' Brewery	31	40	37	40	38
	Budějovický Budvar	56	59	53	74	65
	Regent Třeboň	166	136	172	175	176
	Platan Protivín	64	83	145	128	142
Debt ratio	Strakonice Burghers' Brewery	0.13	0.13	0.12	0.13	0.13
	Budějovický Budvar	0.10	0.10	0.09	0.11	0.10
	Regent Třeboň	0.61	0.45	0.52	0.67	0.94
	Platan Protivín	0.49	0.43	0.42	0.36	0.38

Source: annual reports of the individual breweries, own calculation

The most satisfactory results of the profitability indicators are reported by the brewery Platan Protivín. The return on assets and return on equity are the highest in the all observed periods. In the years 2008, 2010, 2012 the highest return on sales was reported also by the brewery Platan Protivín. In the years 2009 and 2011 the most profitable brewery was Budějovický Budvar. Due to negative financial results of the Strakonice Burghers' Brewery the profitability ratios were in all observed periods except the year 2009 the lowest in comparison to the other observed breweries.

More satisfactory results in comparison to the competitors the Strakonice Burghers' Brewery shows in the analysis of the liquidity. The highest current ratio and quick ratio is reported by Budějovický Budvar. Strakonice Burghers' Brewery held second position in all observed periods. The best cash ratio is reported by Strakonice Burghers' Brewery except the year 2011 when those values were overdrawn by Budějovický Budvar. The brewery Budějovický Budvar reached these high results due to the high amount of the financial means however the satisfactory results of the liquidity ratios of the Strakonice Burghers' Brewery were caused by the low amount of payable liabilities. The desirable cash ratio is above 0.5 therefore the breweries Platan Protivín and Regent Třeboň might get into difficulties to fulfil the obligations to the creditors.

The inventory ratio and average collection period should have the lowest values as possible. The lowest inventory ratio has the brewery Regent Třeboň. The inventory ratio of the other breweries is more or less the same and the values are satisfactory. The lowest average collection period is reported by the Strakonice Burghers' Brewery. This means that the brewery does not have outstanding receivables for long time period. The longest average collection period is reported by the company Regent Třeboň. The creditors payment period shows the Strakonice Burghers' Brewery is the most responsible out of the observed breweries with regard to period of fulfilling the obligations to the creditors. The highest values are reported by the brewery Regent Třeboň. This can be ascribed to the already mentioned increasing values of the cash ratio of this brewery.

The most eulogistic results the Strakonice Burghers' Brewery together with Budějovický Budvar reaches in the debt ratio. The values are very low and stable. The Strakonice Burghers' Brewery holds the second position however the results of the Budějovický Budvar are almost at the same level. None of the breweries have debt ratio higher than one therefore can be stated that neither of the observed breweries is indebted. The values of the

brewery Regent Třeboň are increasing and approaching 1 thus the brewery should pay attention to the amount of the debt and the financial means to cover this increasing debt. From the comparison of the Strakonice Burghers' Brewery with other competitors in the region can be stated that the brewery reports above average values despite the unfavourable development of the financial results. However the initially set hypothesis that the brewery coped with the consequences of the economic crisis that emerged in the year 2008 cannot be confirmed based on the results of the comparison with competitors. Therefore the hypothesis is rejected mainly due to negative financial results of the Strakonice Burghers' Brewery in the years 2010 and 2012.

4.9 Summary of the results

Strakonice Burghers' Brewery is currently in the second phase of the overall reconstruction. The total amount of reconstruction phases is three and the end of the last phase of reconstruction is planned until the year 2019. As the ongoing reconstructions are extremely costly, the financial results and business activities are highly influenced by it. The average number of employees in the year 2012 was 60. The wage costs are increasing while the value added per employee is decreasing. In the year 2012 the total beer production was 63 835 thousands hl.

In the year 2012 the product portfolio available all year round contained 10 products. From the analysis of the product portfolio it may seem that it has a huge variety. While looking at the beer production according to the type of beer (chart 11) and the share of the individual products on total sales (chart 12) it can be stated that the brewery is very conservative in terms of the variety of the products. The share of the light lagers on the sales in the year 2012 was over 80%.

To analyse the capital and asset structure was used horizontal analysis of the assets, liabilities and income statement. Vertical analysis was performed on assets and liabilities. The horizontal analysis revealed a rapid growth in the tangible assets caused by the transfer of the real estate under the ownership of the brewery between years 2007 and 2008. In the year 2012 the assets decreased rapidly due to the decrease in long-term receivables and tangible assets. The development of the liabilities in the observed period was similar to the development of the assets. The analysis of the income statement illustrated the volatile trend of financial results and the items involving the financial results of the company. The major drawback in terms of profit was in the year 2010 and 2012.

The major share on total assets has according to the performed vertical analysis item long-term assets. The vertical analysis of liabilities shows that the share of the foreign capital does not exceed 16.5%. In the observed period the brewery was using only own resources to finance its activities that may lead to ineffectiveness in the asset management.

Within the analysis of the differential ratios were calculated net working capital, net financial cash fund and net monetary fund. Conducted analysis shows that the Strakonice Burghers' Brewery has a great ability to cover its current financial obligations. The highest results in net working capital and net monetary fund were reported in the year 2012 while

the lowest in the year 2006. The net financial cash fund has different development. The lowest values of this fund were in the year 2007 and the highest in the year 2009.

To analyse the profitability of the Strakonice Burghers' Brewery were calculated indicators return on assets, return on equity and return on sales. All of the profitability ratios were due to financial loss negative in years 2010 and 2012. In general the profitability ratios have decreasing trend. This decreasing trend is caused by the low net income. Low figures of net income are connected with the high costs of the renovations and reconstructions.

The calculated liquidity ratios, namely current ratio, quick ratio and cash ratio shows that the Strakonice Burghers' Brewery is able to fulfil the obligations to the creditors in all observed years to its full extent. The liquidity ratios have increasing trend that represents the high margin of safety for the creditors.

For the analysis of the activity were calculated following ratios: total assets turnover ratio, inventory turnover, average collection period and creditors payment period. Analysis of the total assets turnover ratio shows negative trend of these indicators. After economic crisis in the year 2008 the total assets turnover ratio decreased. In the year 2012 this indicator registered a slight increase that is a positive factor for the future of the brewery. The inventory turnover exceeded 50 days that is considered as a border limit only in the year 2007 and this high value was reached on purpose. Despite the high values of the average collection period the Strakonice Burghers' Brewery is able to cover its short term liabilities therefore is considered as a reliable trade partner. The results of the average collection period indicate that the payment discipline of the customers of the brewery is not satisfactory and the time period between the invoicing and receipt of the payment is extending.

Due to the fact that the brewery finances its activities from own financial resources only there was no need to perform detailed debt analysis. The debt ratio indicates that the Strakonice Burghers' Brewery does not suffer from indebtedness. The interest coverage ratio was zero in all observed periods due to inexistence of the interest expenses.

The Altman's Z score model indicates that the Strakonice Burghers' Brewery is not in an immediate danger of the bankruptcy. The resulting figures are since the year 2008 in the grey zone that indicates potential risk. Due to high amounts invested into the reconstructions any major intervention is not necessary at the moment nevertheless the

management should study thoroughly these figures whether they are not falling into the zone of distress.

The comparison of the Strakonice Burghers' Brewery with three competitors in the region shows that the figures reported by the Strakonice Burghers' Brewery are above average despite the negative financial results caused by the investment into the reconstructions. The financial ratios, namely the liquidity ratios and debt ratios are on similar level as the results of one of the biggest beer producer in the Czech Republic Budějovický Budvar.

The main aim of the diploma thesis was to confirm or reject the hypotheses stated at the beginning of the thesis.

- *In the years 2006 to 2012 the business entity in question created value and did not suffer from economic weaknesses in the wider economy.*

The first hypothesis was confirmed by the financial analysis. In the observed period the brewery did not suffer from economic weaknesses. At a first sight on the financial results it might have seemed that the brewery is having financial difficulties yet the analysis of the financial ratios proved that as an incorrect assumption. The financial results are highly influenced by increased costs of the reconstruction conducted without any bank loans or other financial help.

- *The subjected business entity coped with the consequences of the economic crisis in the year 2008 better than selected competitors in the region.*

The second hypothesis was rejected by the comparison of the brewery with selected competitors in the region. The development of the selected financial ratios of the Strakonice Burghers' Brewery after the year 2008 was not in any way superior to the development of the same ratios of the competitors.

4.9.1 Recommendations

Even though the results of the analysis did not show severe drawbacks there are several suggestions that should the management of the brewery take into consideration in order to enhance the performance of the brewery. The suggestions for improvement are listed below.

- Adjustment of the liabilities structure

The vertical analysis of the liabilities indicated that in years 2006 – 2012 the share of foreign capital did not exceed 16.5%. The management of the Strakonice Burghers' Brewery is proud that the costs on the ongoing reconstructions are covered by own financial source without using bank loans, mortgages or other help. In that case this attitude may be too cautious and lead to financial ineffectiveness. It will be essential to consider an increase in use of the foreign capital. Foreign capital is to some measure cheaper and more effective than the use of own sources of funding.

- Diversification of the product portfolio

All types of beer produced in Strakonice Burghers' Brewery are produced by the bottom fermentation process. Majority of the breweries that have annually similar beer production have at least one product produced by the top fermentation process in their portfolio. Also the Strakonice Burghers' Brewery is missing a fruit flavoured beer in the product portfolio available whole year round. Fruit flavoured beers have increasing popularity among the consumers. The installation of the pasteurising line necessary for the production of fruit flavoured beers is already planned into the last phase of the reconstruction. If possible this process should be accelerated due to the fact that the competitors are continuously introducing new beer mixes into the market and therefore the possibility of success among the other products is decreasing.

Addition of the top fermented beer, wheat beer and fruit beer mix to the product portfolio would without a doubt enrich its variety. However there is a thread that the new products would not be accepted by the market and the production of it would result in a financial loss. Therefore a thorough analysis of the market is necessary before taking any action.

- Seek further export possibilities

Export activities do not have a significant share on sales of the brewery. The location of the Strakonice Burghers' Brewery is convenient to build up partnerships with foreign restaurants close to the Czech borders. The majority of the similar size breweries as

Strakonice Burghers' Brewery are discouraged from export by the logistics. The strategic location of the brewery should be taken as a comparative advantage that could bring the brewery benefit.

- Enhancement of the marketing campaign

Strakonice Burghers' Brewery participates in many events around the whole Czech Republic however the products are available whole year round only in limited amount of regions of the Czech Republic. This limitation is most likely caused by limited marketing campaign. Products of the brewery should be available in Prague in the wider representation. The brewery could seek for a restaurant or establish one in the spirit of the Strakonice Burghers' Brewery selling only the products of this brewery and the facility of the restaurant should be branded with the logos of the brewery. Well prepared marketing campaign aimed at the suitable target group will attract the consumers and popularize the products of the brewery.

Another way how to enrich the marketing of the brewery is a sale of limited editions of glasses together with beer in stores. This package might be for certain occasion connected with the history such as the anniversary of the birth of Karel Klostermann or with some limited edition of certain product.

5 Conclusion

The main aim of this diploma thesis was to conduct an economic analysis in order to evaluate the performance of the Strakonice Burghers' Brewery in the years 2006 – 2012 and suggest improvements for better functioning of the brewery to its management.

To analyse and assess the situation of the brewery in the defined period were used methods of the economic analysis with the focus on the financial analysis. To determine the position of the Strakonice Burghers' Brewery on the beer market was used comparison of selected indicators from the financial analysis with three competitors in the region.

The economic results are satisfactory with regard to the financially demanding reconstructions planned for the period of 10 years. Among the most meritorious results of the analysis belongs the low indebtedness and ability to fulfil the obligations to the creditors in a short time period.

Among the downsides belong the volatile trend of the financial result and management of the capital. The volatile trend of financial results leads to inability of proper forecasting and budgeting. The Strakonice Burghers' Brewery uses only own capital to fund its activities thus being not as effective as possible.

Even though that the overall evaluation of the Strakonice Burghers' Brewery is satisfactory, several suggestions that could enhance the business performance and lead to the growth of this business entity in the future were stated. Among the suggestions belong following: diversification of the product portfolio, adjustment of the liabilities structure, enhancement of the marketing activities and seek for further export possibilities. It is expected that the implementation of the suggested improvements would enhance the overall performance of the brewery. On the other hand the implementation might be costly while not bringing expected results. The decision whether to follow some of the suggestions is on the management of the Strakonice Burghers' Brewery.

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8 Appendices

Appendix 1 – Balance sheet of the Strakonice Burghers' Brewery in years 2006 – 2012

Appendix 2 – Income statement of the Strakonice Burghers' Brewery in years 2006 – 2012

Appendix 3 – Horizontal analysis of the income statement – relative change

Appendix 4 – Calculation of the Altman's Z- score

Appendix 1 – Balance sheet of the Strakonice Burghers' Brewery in years 2006 – 2012 (figures in thousands CZK)

	2006	2007	2008	2009	2010	2011	2012
Total Assets	84 271	83 894	146 825	153 379	150 385	153 133	148 895
A. Stock subscriptions receivable	0	0	0	0	0	0	0
B. Long-term assets	44 036	38 676	92 487	84 790	91 711	86 557	83 218
B.I. Intangible assets	101	45	10	59	186	265	320
1. Organization costs	0	0	0	0	0	0	0
2. Capitalized results of research and similar activities (capitalized R&D)	0	0	0	0	0	0	0
3. Software	80	45	10	0	0	0	110
4. Intellectual property (Patents, copyrights, "know-how", etc.)	0	0	0	59	186	265	210
5. Goodwill	0	0	0	0	0	0	0
6. Other intangible assets	21	0	0	0	0	0	0
7. Acquisition of intangible assets in process	0	0	0	0	0	0	0
8. Deposits given toward intangible asset acquisition	0	0	0	0	0	0	0
B.II. Tangible assets	43 935	38 631	92 477	84 731	91 525	86 292	82 898
1. Land (property)	0	0	9 802	9 802	9 802	9 802	9 802
2. Buildings, halls and structures (plant)	234	920	53 195	51 928	52 010	50 343	49 766
3. Capital equipment and property units (equipment)	43 605	37 405	29 476	22 997	29 528	23 928	22 760
4. Permanent growth (orchards and vineyards)	0	0	0	0	0	0	0
5. Herd and draught animals (long-term livestock)	0	0	0	0	0	0	0
6. Other tangible assets	0	0	0	0	0	0	0
7. Acquisition of tangible assets in process	96	207	4	4	42	2 149	570
8. Deposits given toward tangible asset acquisition	0	99	0	0	143	70	0
9. Adjustment(s) to gained property	0	0	0	0	0	0	0
B.III. Financial investments	0	0	0	0	0	0	0
1. Investments with controlling interest	0	0	0	0	0	0	0
2. Investments with significant influence	0	0	0	0	0	0	0
3. Other equity investments	0	0	0	0	0	0	0
4. Loans to group companies	0	0	0	0	0	0	0
5. Other investments	0	0	0	0	0	0	0
6. Acquisition of non-current financial assets	0	0	0	0	0	0	0
7. Prepayments for non-current financial assets	0	0	0	0	0	0	0
C. Current assets	29 307	33 751	45 144	54 198	45 476	53 351	54 018
C.I. Inventory	11 526	14 147	12 454	14 045	12 568	12 218	13 059
1. Raw materials	9 391	11 464	9 500	9 438	8 145	7 639	10 130
2. Work in process and manufactured parts	1 575	1 976	2 272	3 861	3 459	3 888	1 979
3. Products (finished goods inventory)	560	490	620	612	658	610	848
4. Short-term livestock	0	0	0	0	0	0	0
5. Merchandise	0	39	62	134	306	81	102
6. Deposits given toward merchandise acquisition	0	178	0	0	0	0	0
C.II. Long-term receivables	4 180	5 609	5 590	7 546	8 636	11 093	9 286
1. Long-term trade receivables	0	0	0	0	0	0	0
2. Receivable from parties with controlling interest	0	0	0	0	0	0	0
3. Receivable from parties with significant influence	0	0	0	0	0	0	0
4. Receivables from partners and joint venture partners	0	0	0	0	0	0	0
5. Estimated pre-paid items	4 071	5 110	5 245	7 475	8 636	10 981	9 014
6. Other long-term receivables	0	0	0	0	0	0	0
7. Receivable - taxes	109	499	345	71	0	112	272
C.III. Current receivables	7 410	8 119	8 478	10 518	9 177	13 716	13 984
1. Trade receivables (accounts and notes receivable)	4 703	6 129	6 205	6 389	5 014	6 799	5 089
2. Receivable from parties with controlling interest	0	0	0	0	0	0	0
3. Receivable from parties with significant influence	0	0	0	0	0	0	0
4. Receivables from partners and joint venture partners	0	0	0	0	0	0	0
5. Receivable from social security and health insurance providers	0	0	0	0	0	0	0
6. Receivable - taxes	1 056	251	0	0	0	380	1 444
7. Other deposits given	1 634	1 665	2 058	3 300	3 067	4 679	5 750
8. Estimated pre-paid items	0	64	202	275	147	416	285
9. Other current receivables	17	10	13	554	949	1 442	1 416
C.IV. Current financial assets	6 191	5 876	18 622	22 089	15 095	16 324	17 689
1. Cash	168	184	118	51	96	102	176
2. Bank accounts (cash in bank)	6 023	5 692	18 504	22 038	14 999	16 222	17 513
3. Short-term financial assets (short-term investments)	0	0	0	0	0	0	0
4. Acquisition of current financial assets	0	0	0	0	0	0	0
D. Accruals	10 928	11 467	9 194	14 391	13 198	13 225	11 659
1. Pre-paid expenses	10 928	11 467	9 194	14 391	13 007	13 210	11 659
2. Complex deferred expenses	0	0	0	0	0	0	0
3. Accrued (un-billed) revenue	0	0	0	0	191	0	0

	2006	2007	2008	2009	2010	2011	2012
Total liabilities and equity	84 271	83 894	146 825	153 379	150 385	153 133	148 895
A. Own (total) equity	70 119	70 347	127 734	132 628	131 486	131 590	128 053
A.I. Legal capital	62 880	125 000	125 000	125 000	125 000	125 000	125 000
1. Legal capital	62 880	0	0	0	0	0	0
2. Treasury stock	0	0	0	0	0	0	0
3. Changes in legal capital	0	0	0	0	0	0	0
A.II. Capital funds	5	5	5	5	5	5	5
1. Additional paid in capital (in excess of par)	0	0	0	0	0	0	0
2. Other paid in capital (donated capital)	5	0	0	0	0	0	0
3. Gains or losses from the revaluation of assets and liabilities	0	0	0	0	0	0	0
4. Gains or losses from the revaluation upon transformations	0	0	0	0	0	0	0
A.III. Reserves, and other reserves from profits	797	1 116	1 208	1 387	1 749	1 565	1 512
1. Statutory reserve fund (mandatory reserve)	686	0	0	1 040	1 300	1 300	1 314
2. Other reserves	111	0	0	347	449	265	198
A.IV. Retained earnings	2 316	5 747	6 031	1 039	5 648	4 732	4 869
1. Retained earnings	2 316	0	0	7 901	5 648	4 732	4 869
2. Retained earnings deficit	0	0	0	-6 862	0	0	0
A.V. Net income or Net loss	4 121	599	2 352	5 197	-916	288	-3 333
B. Foreign sources of capital	13 543	13 302	18 917	20 673	18 796	21 257	20 644
B.I. Reserves(allowances, provisions)	126	173	71	0	0	1 194	1 210
1. Legal reserves (tax-deductible allowances)	0	0	0	0	0	605	1 210
2. Reserve for pensions and similar liabilities	0	0	0	0	0	0	0
3. Income tax reserve	0	0	0	0	0	0	0
4. Other reserves (non-tax-deductible allowances)	126	0	0	0	0	589	0
B.II. Long-term liabilities	2 618	2 978	9 771	8 702	7 981	8 153	8 234
1. Long term trade payables (accounts payable)	0	0	0	0	0	0	0
2. Obligations to entities with a controlling interest	0	0	0	0	0	0	0
3. Obligations to entities with significant influence	0	0	0	0	0	0	0
4. Payable to partners and joint venture partners	0	0	0	0	0	0	0
5. Long-term deposits received	0	0	0	0	0	0	30
6. Bonds	0	0	0	0	0	0	0
7. Long-term notes	0	0	0	0	0	0	0
8. Estimated accrued items	0	0	0	0	0	0	0
9. Other long-term liabilities	0	0	0	0	0	0	0
10. Deferred taxes payable	2 618	0	0	8 702	7 981	8 153	8 294
B.III. Current liabilities	10 799	10 151	9 075	11 971	10 815	11 910	11 110
1. Trade payables (accounts payable)	3 509	0	0	3 430	3 595	0	0
2. Payables to entities with a controlling interest	0	0	0	0	0	0	0
3. Payables to entities with significant influence	0	0	0	0	0	0	0
4. Payable to partners and joint venture partners	0	0	0	0	0	0	0
5. Payables to employees	1 116	0	0	1 117	1 099	1 034	1 116
6. Social security payable	612	0	0	608	738	774	668
7. Taxes payable and subsidies	2 042	0	0	4 718	4 440	2 584	3 130
8. Short-term deposits received	3 138	0	0	1 790	611	2 249	475
9. Bonds	0	0	0	0	0	0	0
10. Estimated accrued items	382	0	0	308	332	581	0
11. Other payables	0	0	0	0	0	15	5
B.IV. Bank loans and other help	0	0	0	0	0	0	0
1. Long-term bank loans	0	0	0	0	0	0	0
2. Current bank loans	0	0	0	0	0	0	0
3. Other short term help	0	0	0	0	0	0	0
C. Accrued liabilities	609	245	174	78	103	286	198
1. Accrued expenses	609	0	0	78	103	286	198
2. Unearned revenue	0	0	0	0	0	0	0

Appendix 2 – Income statement of the Strakonice Burghers' Brewery in years 2006 – 2012 (figures in thousands CZK)

	2006	2007	2008	2009	2010	2011	2012
I. Merchandise revenue	4 848	6 216	8 587	11 040	10 343	10 829	10 912
A. Cost of merchandise sold	2 297	3 676	5 405	6 662	6 294	8 453	8 364
+ Gross profit (on merchandise sold)	2 251	2 540	3 182	4 378	4 049	2 376	2 548
II. Internal activities (product and service revenue, and revenueisation)	83 796	87 037	95 703	95 021	93 364	97 227	93 988
1. Service and manufactured goods revenue	81 579	83 143	90 074	86 606	87 251	88 410	87 027
2. Change in manufactured goods inventory (inventory revenueisation)	-81	505	651	2 299	503	1 148	-928
3. Capitalization of expenses (self-manufactured asset revenueisation)	2 298	3 389	4 978	6 116	5 610	7 669	7 889
B. Operating and production expenses	50 112	54 457	63 433	57 271	57 268	62 233	62 153
1. Raw materials and utilities expense	33 325	36 361	43 759	42 077	38 254	43 143	40 651
2. Outside services used	16 787	18 096	19 674	15 194	19 014	19 090	21 502
+ Value added	36 235	35 120	35 452	42 128	40 145	37 370	34 383
C. Payroll	24 029	24 690	23 067	24 077	23 996	23 325	24 627
1. Wages and salaries	16 944	17 554	16 303	17 259	17 075	16 649	17 450
2. Management board compensation	598	321	355	401	418	418	502
3. Social security expenses	5 798	6 063	5 740	5 701	5 834	5 703	6 001
4. Fringe benefits	689	752	669	716	669	555	674
D. Taxes and fees	145	117	168	298	429	604	82
E. Amortization of intangible and depreciation of tangible assets	7 984	9 279	9 652	11 625	13 074	9 864	10 140
III. Receipts from sale of long-lived assets and raw materials	5 030	25	440	415	2 002	806	548
1. Receipts from sale of long-lived assets	6	21	59	25	200	169	548
2. Receipts from sale of raw materials	5 024	4	381	390	1 802	637	0
F. Book value of disposed of long-lived assets and raw materials	5 132	49	424	584	2 165	428	556
1. Book value of disposed of long-lived assets	11	48	87	9	26	44	0
2. Book value of disposed of raw materials	5 121	1	337	575	2 139	384	556
G. Change in reserves and provisions (operating activities, deferred expenses)	-2 862	-6	-525	377	1 096	1 400	1 471
IV. Miscellaneous operating revenue	841	792	1 309	2 457	715	320	1 236
H. Miscellaneous operating expenses	2 507	1 364	2 301	2 037	2 620	2 527	2 587
V. Transfer of operating revenue	0	0	0	0	0	0	0
I. Transfer of operating expenses	0	0	0	0	0	0	0
* Operating income	5 171	444	2 114	6 002	-518	618	-3 296
VI. Receipts from sale of securities and direct investments	0	0	0	0	0	0	0
J. Book value of securities and direct investments sold	0	0	0	0	0	0	0
VII. Income from investments	0	0	0	0	0	0	0
1. Income from securities of and direct investments in group companies	0	0	0	0	0	0	0
2. Income from other securities and direct investments	0	0	0	0	0	0	0
3. Income from other financial investments	0	0	0	0	0	0	0
VIII. Income from short-term financial investments	0	0	0	0	0	0	0
K. Financial investments expenses	0	0	0	0	0	0	0
IX. Gains from securities and derivatives value adjustment	0	0	0	0	0	0	0
L. Expenses on securities and derivatives value adjustment	0	0	0	0	0	0	0
M. Change in reserves and provisions relating to financial activities	0	0	0	0	0	0	0
X. Interest income	117	222	396	235	181	118	110
N. Interest expense	0	0	0	0	0	0	0
XI. Other financial income	21	20	150	488	15	63	33
O. Other financial expenses	117	116	224	244	88	191	126
XII. Transfer of financial gains	0	0	0	0	0	0	0
P. Transfer of financial expenses	0	0	0	0	0	0	0
* Income (loss) from financial operations	21	126	322	479	108	-10	17
Q. Income tax (on ordinary activities)	1 071	-29	84	1 284	506	320	54
1. - payable	-856	0	0	2 078	1 157	259	74
2. - deferred	1 927	-29	84	-794	-651	61	-20
** Income from ordinary activities	4 121	599	2 352	5 197	-916	288	-3 333
XIII. Unusual and/or extraordinary income	0	0	0	0	0	0	0
R. Unusual and/or extraordinary expenses	0	0	0	0	0	0	0
S. Income tax on unusual / extraordinary income	0	0	0	0	0	0	0
1. - payable	0	0	0	0	0	0	0
2. - deferred	0	0	0	0	0	0	0
* Unusual income (loss)	0	0	0	0	0	0	0
T. Tax deductible income distribution to (joint venture) partners	0	0	0	0	0	0	0
*** Net income / loss for fiscal period	4 121	599	2 352	5 197	-916	288	-3 333
**** Net income before taxes	5 192	570	2 436	6 481	-410	608	-3 279

Appendix 4 – Horizontal analysis of the income statement – relative change in years 2006 - 2012

In %	07/06	08/07	09/08	10/09	11/10	12/11
Merchandise revenue	28.2	38.1	28.6	-6.3	4.7	0.8
Cost of merchandise sold	60.0	47.0	23.3	-5.5	34.3	-1.1
Profit margin	12.8	25.3	37.6	-7.5	-41.3	7.2
Internal activities	3.9	10.0	-0.7	-1.7	4.1	-3.3
Service and manufactured goods revenue	1.9	8.3	-3.9	0.7	1.3	-1.6
Operating and production expenses	8.7	16.5	-9.7	0.0	8.7	-0.1
Raw materials and utilities expense	9.1	20.3	-3.8	-9.1	12.8	-5.8
Outside services used	7.8	8.7	-22.8	25.1	0.4	12.6
Value added	-3.1	0.9	18.8	-4.7	-6.9	-8.0
Payroll	2.8	-6.6	4.4	-0.3	-2.8	5.6
Sales of long-term assets & raw materials	-99.5	1 660.0	-5.7	382.4	-59.7	-32.0
Miscellaneous operating revenue	-5.8	65.3	87.7	-70.9	-55.2	286.3
Miscellaneous operating expenses	-45.6	68.7	-11.5	28.6	-3.5	2.4
Interest income	89.7	78.4	-40.7	-23.0	-34.8	-6.8
Interest expense	0.0	0.0	0.0	0.0	0.0	0.0
Operating income	-91.4	376.1	183.9	-108.6	219.3	-633.3
Income from financial operations	500.0	155.6	48.8	-77.5	-109.3	270.0
Income from ordinary activities	-85.5	292.7	121.0	-117.6	131.4	-1 257.3
Net income for fiscal period	-85.5	292.7	121.0	-117.6	131.4	-1 257.3
Net income before taxes	-89.0	327.4	166.1	-106.3	248.3	-639.3

Source: annual reports of the Strakonice Burghers' Brewery, own calculation

Appendix 4 – Calculation of the Altman's Z- score

- Input values

In thousands CZK	2006	2007	2008	2009	2010	2011	2012
Current assets	29 307	33 751	45 144	54 198	45 476	53 351	54 018
Current liabilities	10 799	10 151	9 075	11 971	10 815	11 910	11 110
Total assets	84 271	83 894	146 825	153 379	150 385	153 133	148 895
Total liabilities	84 271	83 894	146 825	153 379	150 385	153 133	148 895
Retained earnings	2 316	5 747	6 031	1 039	5 648	4 732	4 869
EBIT	5 192	570	2 436	6 481	-410	608	-3 279
Book value of equity	70 119	70 347	127 734	132 628	131 486	131 590	128 053
Sales	94 653	94 312	106 585	109 655	106 620	109 363	106 827

Source: annual reports of the Strakonice Burghers' Brewery

- Parameters

	2006	2007	2008	2009	2010	2011	2012
X1	0.2196	0.2813	0.2457	0.2753	0.2305	0.2706	0.2882
X2	0.0275	0.0685	0.0411	0.0068	0.0376	0.0309	0.0327
X3	0.0616	0.0068	0.0166	0.0423	-0.0027	0.0040	-0.0220
X4	0.8321	0.8385	0.8700	0.8647	0.8743	0.8593	0.8600
X5	1.1232	1.1242	0.7259	0.7149	0.7090	0.7142	0.7175
Z score	1.843	1.755	1.352	1.411	1.263	1.306	1.243

Source: annual reports of the Strakonice Burghers' Brewery, own calculation