Student: Min Wang
Supervisor of the bachelor thesis: Ing. Jiri Valecky
VŠB - Technical University of Ostrava
Faculty of Economics
Department of Finance

Bachelor Thesis Assignment

Min Wang

Study Programme: B6202 Economic Policy and Administration
Study Branch: 6202R010 Finance
Specialization: 01 Finance
Title: Finanční analýza společnosti Bayerische Motoren Werke AG
Financial Analysis of Bayerische Motoren Werke AG Company

Description:
1. Introduction
2. Description of the financial analysis methodology
3. Financial characteristic of BMW
4. Ratio analysis of BMW
5. Conclusion
Bibliography
List of Abbreviations
Declaration of Utilization of Results from the Bachelor Thesis
List of Annexes
Annexes

References:

Extent and terms of a thesis are specified in directions for its elaboration that are opened to the public on the web sites of the faculty.

Supervisor: Ing. Jiří Valecký, Ph.D.

Date of issue: 23.11.2012
Date of submission: 10.05.2013

Ing. Iveta Ratmanová, Ph.D.
Head of Department

prof. Dr. Ing. Dana Dluhošová
Dean of Faculty
The declaration

"Herewith I declare that I elaborated the entire thesis, including all annexes, independently"

Ostrava dated 9.5.2013

Min Wang
## Contents

1. Introduction .................................................................................................................. 5

2. Description of financial analysis methodology ............................................................. 7

   2.1 Common-size analysis ............................................................................................... 7

       2.1.1 Horizontal common-size analysis .................................................................... 7

       2.1.2 Vertical common-size analysis ........................................................................ 7

   2.2 Financial ratio analysis ............................................................................................. 8

       2.2.1 Profitability ratios ............................................................................................ 8

       2.2.2 Liquidity analysis ............................................................................................ 11

       2.2.3 Solvency Analysis .......................................................................................... 12

       2.2.4 Activity ratios ................................................................................................. 14

   2.3 Pyramidal decompositions ....................................................................................... 17

   2.4 Influence quantification ........................................................................................... 18

       2.4.1 Method of gradual changes ............................................................................. 19

       2.4.2 Logarithmic decomposition method ............................................................... 19

3. Financial characteristic of BMW.AG ............................................................................. 20

   3.1 Company profile .................................................................................................... 20

   3.2 The history of BMW.AG ......................................................................................... 21

   3.3 Company strategy .................................................................................................. 22

       3.3.1 Brand position ................................................................................................. 23

       3.3.2 Product Strategy ............................................................................................ 23

       3.3.3 Pricing strategy ............................................................................................... 23

       3.3.4 Marketing strategy ......................................................................................... 24

   3.4 Sizes ....................................................................................................................... 25
3.5 Common-size analysis ................................................................. 28
  3.5.1 Vertical common-size analysis .............................................. 28
  3.5.2 Horizontal common-size analysis ........................................ 34

4. Ratio analysis of BMW.AG .......................................................... 39
  4.1 Profitability ratios analysis ...................................................... 39
  4.2 Liquidity analysis ............................................................... 42
  4.3 Solvency analysis ............................................................. 45
  4.4 Activity ratios ................................................................. 48
  4.5 Pyramidal decompositions analysis ....................................... 52
  4.6 Influence quantification analysis ......................................... 53

5. Conclusion ............................................................................. 55

Bibliography ............................................................................. 57

List of Abbreviations .................................................................. 59

Declaration of Utilization of Results from the Bachelor Thesis .... 60

List of Annexs ........................................................................... 61

Annexs
1. Introduction

As we all know, the BMW Group is a strength strong company group. It relates to the field of automobiles, motorcycles, as well as the financial industry. The car is its leading industries. Curiously how does the BMW.AG from manufacturing plant initially just producing aircraft engine develop the world's largest car manufacturers? As a younger car brand, how does it compete with the car manufacturers having a long history such as Mercedes-Benz and so all? How to make brand position and let it stand out in many automotive brands? How about the financial position of the company, especially in the context of the impact of the world financial crisis in 2008 and how does it take measures to survive the crisis? These problems will be solved in the thesis.

The main purpose of this thesis is to analyze the company's financial position of BMW.AG.

This thesis is divided into five chapters to write. The first chapter is the introduction of this paper. It mainly introduces the purpose of writing paper and the general framework of paper. Chapter II is description of financial analysis methodology such as common size analysis method and financial ratio analysis method. It mainly introduces the usage and calculation formula of each method. The third chapter is financial characteristic of the BMW.AG. It mainly introduces some basic information, such as the company profile, the development history of the company, the company's strategy and market share in the regions over the world. In addition, common-size analysis methods are used to analyze balance sheet and income statement to have knowledge of the trends of company from 2007 to 2011. The fourth part is the core part of the thesis which applies to use ratio analysis method described by the chapter II to analyze the financial position of BMW.AG from 2007 to 2011. Financial ratios analysis methods used to analyze the company's profitability, liquidity, the ability to repay long-term liabilities, as well as the assets effective usage.
of the company. In addition, DuPont analysis method and Method of gradual changes are used to analysis what drives the value of ROE. Finally, through a comprehensive analysis we can assess the financial health of the company. The last chapter is the conclusion of the thesis which mainly includes the description of Company Status, the summary of financial position from 2007 to 2011 and my opinions about company development.
2. Description of financial analysis methodology

The financial analysis of company is the process of selecting, evaluating and interpreting financial data and then formulates the assessment of the company’s present and future financial position. Financial analysis is so important, so next several financial analysis methods specifically common-size analysis, financial ratio analysis and the pyramidal decompositions and influence quantification analysis are introduced.

2.1 Common-size analysis

The common-size analysis is the analysis of financial statements date and their changes over the time and makes us identify the trends and the major differences.

The common-size analysis has two types which are horizontal common-size analysis and vertical common-size analysis.

2.1.1 Horizontal common-size analysis

Horizontal common-size analysis is the analysis of the evolution of financial statements data over the time or their changes with respect to a given period as the benchmark. We use the accounts in a given period as the benchmark and restate every account in other year is compared relatively to the given period.

Horizontal common-size analysis is a time-series analysis and is useful for identifying trends and growth in accounts over time.

2.1.2 Vertical common-size analysis.

Vertical common-size analysis is the analysis of the changes in the proportions of selected benchmarks (total revenues, total assets, etc). We use the account in a
given period as the benchmark item and compare other accounts to the benchmark item in that same year.

We can use vertical common-size analysis to analyze patterns in investments and financing (using common-size balance sheet) and the patterns in profitability (using common-size income statements) and have knowledge of the financial situation through comparing the proportions over time for the company.

2.2 Financial ratio analysis

Ratio analysis is a method of analyzing data which uses the financial accounting and other information to assess the financial health of the company. Financial analysts take the information off the balance sheets and income statements of a company and calculate ratios that are used to assess the operating ability and future financial position of the company.

Financial ratio analysis can be classified several types to analyze the company’s financial situation.

2.2.1 Profitability ratios

The profitability ratio is the analysis method that actually analyzes profit condition of the company.

1. Gross profit margin

Gross profit margin is the ratio of gross profit (gross sales less cost of sales) to sales revenue. It measures the condition of profitable and how efficiently a company uses its resources, materials, and labor and it can help the company control its costs. Its return usually expressed as a percentage.
The way to calculate gross profit margin is:

\[
\text{Gross profit margin} = \frac{\text{Gross profit}}{\text{Total revenue}}. \quad (2.1)
\]

2. Operating profit margin

Operating margin (operating income margin), is the ratio of operating income divided by total revenue, usually expressed as a percentage.

It is a measurement of what proportion of a company's revenue is left over after cost of goods and operating expenses. A higher operating margin means that the company has less financial risk.

The way to calculate operating profit margin is:

\[
\text{Operating profit margin} = \frac{\text{Operating income}}{\text{Total revenues}}. \quad (2.2)
\]

3. Pretax profit margin

Pretax profit margin is the ratio of earnings before tax divided by total revenue.

Pretax profit margin let us know the situation about profitable the company before taxes. The formula of pretax profit margin is as follows:

\[
\text{Pretax profit margin} = \frac{\text{Earning before tax}}{\text{Total revenues}}. \quad (2.3)
\]

4. Net profit margin

Net profit margin is the ratio of net profit divided by total revenue, usually expressed as a percentage.

Net profit margin measures that how much revenue is left after all costs
expenses. The formula is as follows:

\[
\text{Net profit margin} = \frac{\text{Net income}}{\text{Total revenue}}. \tag{2.4}
\]

5. Operating return on assets

Operating return on assets is the ratio of operating incomes to assets. This ratio measures the operating income resulting from company’s investment in total assets. It is helpful for us to compare the different companies which have same business. The formula is as follows:

\[
\text{Operating return on assets} = \frac{\text{Operating income}}{\text{Total assets}}. \tag{2.5}
\]

6. Return on assets (ROA)

Return on assets is the ratio of net income to assets. The ROA is an indicator about how earnings relative to its total assets. ROA measures profitability on all assets. The formula is as follows:

\[
\text{Return on assets} = \frac{\text{Net income}}{\text{Total assets}}. \tag{2.6}
\]

7. Return on total capital

Return on total capital is the ratio of net income to total assets. This ratio measures how earnings relative to its total capital. According to this ratio we can have a more specific knowledge of return to the investment generated from creditors and shareholders. The formula is as follows:

\[
\text{Return on total capital} = \frac{\text{Net income}}{\text{Total assets}}. \tag{2.7}
\]
8. Return on equity (ROE)

Return on equity is the ratio of net income to average shareholder’s equity. Return on equity (ROE) measures the rate of return on investment by shareholders. It measures a firm's efficiency at generating profits from every unit of shareholders equity. The formula is as follows:

$$\text{Return on equity} = \frac{\text{Net income}}{\text{Total equity}}.$$  

(2.8)

2.2.2 Liquidity analysis

Liquidity analysis is the analysis method that measures company whether there is an ability to generate cash to meet its immediate and short-term obligation.

There are three types of ratios to measure a company’s liquidity. There are current ratio, quick ratio and cash ratio.

1. Current ratio

The current ratio is a financial ratio of current assets to current liabilities. This ratio measures whether or not a firm has enough short term assets to meet its short term liabilities. The formula is as follows:

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}.$$  

(2.9)

2. Quick ratio

The quick ratio is the more stringent liquidity analysis method that measures a company’s ability to meet current liabilities with its most liquid assets. The quick ratio of one company is less than 1 means that this company cannot currently pay back its current liabilities. If quick ratio of 1:1 means that a social enterprise can pay its bills without having to sell inventory. The formula is as follows:
3. Cash ratio

Cash ratio is a ratio of corporate cash (cash and cash equivalents). It can measure the company’s ability to meet its current liabilities.

The cash ratio is the balance that liquid assets net of receivables. The cash ratio is generally believed that more than 20% as well. If this ratio is too high which means enterprise-current liabilities have no getting the reasonable use and the cash asset has a lower profitability which resulting from the amount of such assets business opportunity cost increase. The formula is as follows:

\[
\text{Cash ratio} = \frac{\text{Cash} + \text{Short−term markable investment}}{\text{Current liabilities}}. \tag{2.11}
\]

2.2.3 Solvency analysis

Solvency ratios are used to measure a company’s ability to meet its long−term debts and it is a measure of the firm's long-term survival.

Solvency ratios have two types: component percentages and coverage ratios. Component percentages typically compare a company’s debt level with either its total assets or its equity capital. Coverage ratios reflect a company’s ability to meet the obligations that generate in debt financing, such as interest, principle repayment, and lease payment.

Component percentage solvency ratios include debt-to-assets ratio, Long-term debt-to-assets ratio, debt-to-equity ratio, financial leverage and interest coverage ratio.
1. Debt-to-asset ratio

Debt-to-assets ratio is the ratio of total debt to total assets. Debt-to-assets ratio is a measure of the proportion of total assets which is financed with debt (including short-term debt and long-term debt). The formula is as follows:

\[
\text{Debt to assets ratio} = \frac{\text{Total debt}}{\text{Total assets}}.
\]  
(2.12)

2. Long-term debt-to-assets ratio

Long-term debt-to-assets ratio is the ratio of long-term debt to total assets. According to the long-term debt-to-assets ratio, we can see the proportion of the company's assets is financed with long-term debt. The formula is as follows:

\[
\text{Long term Debt to assets ratio} = \frac{\text{Long term debt}}{\text{Total assets}}.
\]  
(2.13)

3. Debt-to-equity ratio

Debt-to-equity ratio is the ratio of total debt to total shareholders’ equity. With debt-to-equity ratio (D / E) we can know the relative proportion of equity and debt used to finance the company's assets and we can evaluate using book values of the capital sources which are provided on the balance sheet. The formula is as follows:

\[
\text{Debt to equity ratio} = \frac{\text{Long term debt}}{\text{Total shareholder’s equity}}.
\]  
(2.14)

4. Financial leverage

Financial leverage is the ratio of total assets to total shareholders’ equity which is called the equity multiplier. The formula is as follows:

\[
\text{Financial leverage} = \frac{\text{Total assets}}{\text{Total shareholder’s equity}}.
\]  
(2.15)
5. Interest coverage ratio

Interest coverage ratio is the ratio of earnings before interest and taxes (EBIT) to interest payment. The formula is as follows:

\[
\text{Interest coverage} = \frac{\text{EBIT}}{\text{Interest expense}}.
\]  \hspace{1cm} \text{(2.16)}

2.2.4 Activity ratios

Activity ratios are the financial analysis method that measures the effective utilization of a company’s assets. It can be used to evaluate the benefits produced by specific assets.

There are two types of activity measures: turnover ratios and number of days. Turnover ratio is one of the most important financial analysis indexes to examine the company’s assets operational efficiency and reflect all business assets’ transfer speed from input to output.

We generally use inventory turnover, the total asset turnover and the receivables turnover to measure the turnover.

1. Inventory turnover

Inventory turnover is the ratio of cost of goods sold to inventory. The Inventory turnover is an indication of the number of times inventory sold or used in a time period such as a year.

The low turnover means low sales and excess inventory. High inventory levels reflect an area unhealthy because they represent an investment with a rate of return of zero and it will affect the company's operating situation. The formula is as follows:

\[
\text{Inventory turnover} = \frac{\text{Cost of goods sold}}{\text{Total inventory}}.
\]  \hspace{1cm} \text{(2.17)}
2. Receivables turnover

Receivable turnover is the ratio of total sales to average accounts receivable. It shows the speed of flow of receivables. Generally, the accounts receivable turnover ratio is the higher the better. Because higher receivable turnover means the company’s receivables can quickly recover and the company has a good assets liquidity and short-term solvency ability. The formula is as follows:

\[
\text{Receivables turnover} = \frac{\text{Sales}}{\text{Account receivables}}. \tag{2.18}
\]

3. Total assets turnover

Total assets turnover is the ratio of total revenues to total assets. This ratio reflects a company's extent of efficiency to which the investment in total assets results in revenues. The higher total assets turnover means the higher efficiency of asset utilization. The formula is as follows:

\[
\text{Total assets turnover} = \frac{\text{Sales}}{\text{Total assets}}. \tag{2.19}
\]

4. Working capital turnover

Working capital turnover is the ratio of total revenues to average working capital. It is an indication that let us know how effectively a company is using its working capital to generate sales. In a general sense, the higher the working capital turnover is the better because the higher the working capital turnover means that the company is generating a lot of sales compared to the money it uses to fund the sales. The formula is as follows:

\[
\text{Working capital turnover} = \frac{\text{Total revenues}}{\text{Average working capital}}. \tag{2.20}
\]

Turnover ratio is a way of measuring how efficiently a company uses its assets.
Another activity ratio analysis is used to measure company’s operating cycle.

The operating cycle is the time length between the time a company makes an investment in goods and services and the time that investment produces cash. Operating cycle consists of three parts, including number of days of payables, number of days of inventory, and number of days of receivables.

1. Number of days of inventory

Number of days of inventory is the ratio of inventory to average day’s cost of goods sold. Number of days of inventory is a measure of the average number of days the company holds its inventory before selling it. The formula is as follows:

\[
\text{Number of days of inventory} = \frac{\text{Inventory}}{\text{Average day’s cost of goods sold}}. \tag{2.21}
\]

2. Number of days of receivables

Number of days of receivables is the ratio of accounts receivable to average day’s revenue. Number of days of receivables indicates the average number of days it takes to collect an account receivable. The formula is as follows:

\[
\text{Number of days of receivables} = \frac{\text{Account receivable}}{\text{Average day’s revenue}}. \tag{2.22}
\]

3. Number of days of payables

Number of days of payables is the ratio of Accounts payable to average day’s purchase. Number of days of payables is an efficiency ratio that measures the average number of days a company takes to pay its suppliers. The corresponding formulas are follows:

\[
Purchases = \text{COGS} + \text{Ending inventory} - \text{Beginning inventory}, \tag{2.23}
\]
(COGS are the short of cost of goods sold),

\[
\text{Number of days of payable} = \frac{\text{Account payable}}{\text{Average day's purchase}}. \tag{2.24}
\]

2.3 Pyramidal decompositions

Pyramidal decompositions are the analysis method that analyze what factors drives the value of financial ratios. Its principle is to express basic ratio as a product of component ratios. DuPont analysis is the basic example of the pyramidal decompositions. I mainly introduce the DuPont analysis.

As the basic financial analysis, DuPont analysis uses the relationship between several major financial ratios to comprehensive analyze the financial condition of the company. It is useful to evaluate a company's profitability and shareholders' equity level of return.

ROE is a comprehensive financial analysis indicators and it also is the core of the DuPont analysis system.

The basic idea of the DuPont analysis method is to put ROE ratio (the rate of return on net assets) progressively broken down into several main financial ratios multiplied. Because ROA (return of assets ratio) and financial leverage are the financial ratios affecting the ROE, we can get this formula:

\[
\text{ROE} = \text{ROA} \cdot \text{Financial leverage}. \tag{2.25}
\]

Also, we can break the return on assets into two parts: net profit margin and total assets turnover and The net profit margin is the ratio of net income to revenues, the total assets turnover is the ratio of revenues to average total assets ,we have:

\[
\text{ROA} = \text{Net profit margin} \cdot \text{Assets turnover} = \frac{\text{Net income}}{\text{Revenues}} \cdot \frac{\text{Revenues}}{\text{Total assets}}. \tag{2.26}
\]
In order to separate the effect of non-operating items and tax effect, we can break the net profit margin into three component ratios: operating profit margin, effect of non-operating items and tax effect. So we have this formula:

\[
\text{ROA} = \text{Net profit margin} \cdot \text{Assets turnover} = \frac{\text{Net income}}{\text{Revenues}} \cdot \frac{\text{Revenues}}{\text{Total assets}}
\]

\[
= \frac{\text{Operating income}}{\text{Revenue}} \cdot \frac{\text{Income before tax}}{\text{Operating income}} \cdot \frac{1 - \text{tax}}{\text{Total assets}} \cdot \frac{\text{Revenues}}{\text{Total assets}}.
\]

(2.27)

Similarly, financial leverage is the ratio of total assets to equity. So there is this formula:

\[
\text{ROA} = \text{Net profit margin} \cdot \text{Assets turnover} \cdot \text{Financial leverage},
\]

\[
= \frac{\text{Net income}}{\text{Revenues}} \cdot \frac{\text{Revenues}}{\text{Total assets}} \cdot \frac{\text{Total assets}}{\text{Equity}},
\]

\[
= \frac{\text{Operating income}}{\text{Revenue}} \cdot \frac{\text{Income before tax}}{\text{Operating income}} \cdot \frac{1 - \text{tax}}{\text{Total assets}} \cdot \frac{\text{Revenues}}{\text{Total assets}} \cdot \frac{\text{Total assets}}{\text{Equity}}.
\]

(2.28)

2.4 Influence quantification

Influence quantification is an indication that measures the change of basic ratios caused by the component ratio.

Influence quantification method includes four types which are method of gradual changes, method of decompositions with surplus, logarithmic decomposition method and functional decomposition method. Among them, method of gradual changes and logarithmic decomposition method are the common influence quantification methods.
2.4.1 Method of gradual changes

Method of gradual changes can be used to make the change in the basic ratio caused by change in the component ratio quantified. It can show us the degree that changes of component ratio has caused the change of basic ratio.

This is the formula of the Method of gradual changes in the case of decomposition with 3 component ratio:

\[
\Delta X_{a1} = \Delta a_1 \cdot a_{2,0} \cdot a_{3,0}, \quad \Delta X_{a1} = a_{1,1} \cdot \Delta a_1 \cdot a_{3,0}, \quad \Delta X_{a3} = a_{1,1} \cdot a_{2,1} \cdot \Delta a_3
\]

(2.29)

where X symbolizes basic ratio, \( \Delta X \) is absolute change in the basic ratio, a is the component ratio and \( \Delta a \) is the absolute change in the component ratio.

2.4.2 Logarithmic decomposition method

Logarithmic decomposition method is also used to help us to measure the impact on the change of component ratio have caused the change of basic ratio. But this method has a advantage that it has no limitation on the number of component ratio in measuring the impact on the change of component ratio to basic ratio.
3. Financial characteristic of BMW.AG

This chapter mainly introduces the basic information on BMW.AG Company.

3.1 Company profile

BMW.AG initially was founded in 1916 as Bayerische Flugzeug-Werke AG (BFW) and it became the Bayerische Motoren Werke Aktiengesellschaft (BMW.AG) in 1918. It was headquartered in Munich, Germany.

The BMW Group – one of Germany’s largest industrial companies – is one of the most successful car and motorcycle manufacturers in the world. BMW Group was first set up as an Aircraft engine manufacturing plant and now it already become the company group which is famous for producing the limousine, off-road vehicles, motorcycles and the world-renowned aircraft engine especially automobile is its main industry which ranked 20 before the World Motor Company.

As one of the world’s most successful manufacturers of cars and motorcycles, the BMW Group is in a career flourished period. It acquired the British Land Rover car company (Rover Group) which contains the mini brand in 1994 and purchased a Rolls-Royce car brand in 1998. Now BMW group owns three of the strongest premium brands which include the BMW, MINI and Rolls-Royce in the automotive industry. BMW Group has the business in more than 120 countries around the world and its employees are more than 100,000 people. The sales of BMW, MINI and Rolls-Royce brand cars increased by 10.6 % to 1,845,186 and revenues increased by 11.7 % to reach €76,848 million in 2012. BMW Group created a new record in the sales and revenues of auto industry and ensured BMW Group retain the position in the premium segment in 2012.

The vehicles it manufactures ask the highest standards in aesthetics, dynamics,
technology and quality which proving the company’s leading position in engineering and innovation.

BMW Vehicle logo uses the graphics with a double circle inside and outside and the top of the double circle ring that marked with the words "BMW". Entire mark looks like a blue sky, white clouds and stop running the propeller and combine with a long history of BMW origin, but also it is a symbol of the aims and objectives of the company that use the latest science and technology, the most advanced concepts to meet customer the greatest demand, reflecting the company's vigorous spirit and ever-changing new look.

The new business strategic direction is that let the company keep focused on the premium segments of the international car markets.

BMW Group has been the most sustainable company in the automotive industry for many years that Strives for ecological and social sustainability along the entire value-added chain.

3.2 The history of BMW.AG

The establishment of BMW.AG should trace back to Karl Rapp and Gustav Otto. In 1916, the Flugmaschinenfabrik Gustav Otto Company had merged into Bayerische Flugzeug-Werke AG (BFW) at government behest. Elsewhere, in 1917, the Rapp Motorenwerke Company morphed into the Bayerische Motoren Werke GmbH and it became the Bayerische Motoren Werke Aktiengesellschaft (BMW.AG) in 1918.

In the start-up period, the BMW.AG Company was committed to R & D and production of aircraft engines. The first BMW motorcycle, the R 32 came out in 1923. BMW acquired the Eisenach car factory, and began produce car in 1928. The first BMW small car was produced under license from the Austin Motor Company in 1929.
and this company has its own car design in 1932. BMW takes over Brandenburgische Motorenwerke in 1939. As we all know, almost companies have heavy losses during World War II. Of course, BMW Company is no exception. It began comprehensive revival from World War II in 1948. The Herbert Quandt Foundation was founded in 1970 which is an important platform that promoted the understanding between East and West, as well as within an expanded Europe after the Second World War. The first subsidiary company to provide finance for the company’s own transactions was set up in 1970 in Munich. BMW company began to set up the first foreign production facility in South Africa in 1972. It stated to set up sales subsidiaries around the world in 1973. In 1979, BMW Steyr Motoren Gesellschaft was founded as a joint venture between BMW AG and Steyr-Daimler-Puch AG which means the BMW.AG built the plant in Austria. It began to have the specialized R & D center building and technology Company in 1985. In 1992, BMW Company stated to set up factory in American. In 1994, it acquired the British Land Rover car company (Rover Group) which contains the mini brand and purchased a Rolls-Royce car brand in 1998. In 2000, BMW Company sold the Rover Group but remained the MINI brand and in 2004, it built the first global delivery center in Munich. BMW Group adopted the Strategy Number ONE with its four pillars: “Growth”, “Shaping the future”, “Profitability” and “Access to technology and customers” in 2007. In 2013, BMW Group and Toyota Motor Corporation sign the binding agreements to deepen collaboration.

### 3.3 Company strategy

BMW.AG is a successful large enterprise which owns 16 car manufacturing plants, 120 marketing companies and over one hundred thousand employees. In addition, its customers is up to million, the output value ranked all-European 7 and sales is in the first five. As such a successful large enterprise, the company's strategy is particularly important. Next, we will introduce BMW.AG strategy, mainly
including marketing position, brand position and its marketing strategy.

3.3.1 Brand position

Most perfect driving tool is the brand position of BMW car.

This brand position combines three elements which are design, power and technology to shape the image of distinguished, young and vibrant. This position shows that BMW brand has the ability to meet those owners who care about the image and pursue the ultimate performance.

3.3.2 Product strategy

Series and elegant style is the product strategy of BMW car. BMW car has various types. Generally, it marked based on their series and different series have different features. M3 is smaller and trendy. M5 mainly offers a safe and comfortable space. M7 is the saloon car that is suitable for senior officers. M8 is the unique and elegant coupe. All BMW car series meet these standards of elegant style, potential power, high-quality workmanship and safety.

3.3.3 Pricing strategy

The pricing strategy of BMW is high price. BMW's goal is in the pursuit of successful high-priced policies. High-priced policy reflects BMW wants to build a symbol of noble status, not just a means of transport. Step up publicity efforts on the basis of the high quality and take advantage of people generally show off psychological and luxury desire to profit. In addition, BMW.AG want to convey to consumers that it has its high quality, perfect service characteristics, exclusive and independence though this pricing strategy.
3.3.4 Marketing strategy

BMW uses different communication channels, including advertising, direct marketing, project planning, as well as the establishment of public relations to create opportunities for contacting the customers and advertising for company product.

The first channel is the multi-level advertising. It includes gradual four layers. The first layer is corporate propaganda activities - global marketing and positioning of the brand. The second layer is regional advertising network - to strengthen superior image of the BMW brand and build BMW brand’s reputation and status in the local area. The third layer is a national image-building activity to increase brand awareness and further to win the short-term interests and support the brand message demands. The fourth layer is that use appropriate strategic local marketing advertising to stimulate sales, guide and support the product positioning.

The second channel is direct marketing. This is a more personal way to communicate. This way has the advantage that shows it is able to face clear target customers and successfully convey message to the main target customers. It also can help company narrow the target customer group messages desire gap and take the main customer as the BMW "brand ambassador", existing BMW customers’ information to develop internal management information system.

The third channel is the project planning. First, it is the BMW International Gold Cup. BMW International Gold Cup is the world's largest amateur golf tournament. The purpose of this event is to promote the BMW to communicate with their target market. Because golf has long been considered a gentleman's game, like golf, especially amateurs, most of the higher income and higher social status, which is BMW Company’s target market. It provides an opportunity to communicate directly with target customers; increases brand loyalty and plays the role of public relations. Secondly, it is the BMW Appreciation Parade. The purpose of BMW Appreciation
Parade is to put BMW's basic features, power, innovation, and beauty as well as its noble, elegant brand image to show the consumer and reinforce this impression in a particular environment that is on display in the Senior Exhibition Centre BMW. This activity strengthen the relationship among the potential customers, current customers and the trend leader and increase communication and contact with especial potential customer group who is not easy to convey on other occasions.

In addition, BMW always carry out some special project planning for some special lock the target customers. For example, it gathers some major news reporters regular monthly, explores the function of the car and some media representatives, tries seven series BMW with especially the target customer, offers a number of social and cultural activities; subsidies existing fixed activities, such as sports, social and cultural.

3.4 Sales

This part analyzes the sales volumes and revenues of BMW Company from 2007 to 2011. Proceed with this analysis from the three areas. They are the sales of the BMW various brands, sales volume of vehicles and revenues in region.

Table 3.1 Various brands sales volume of BMW AG from 2007 to 2011 (in 1,000 units)

<table>
<thead>
<tr>
<th>BMW Group in figures</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>Change in %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales volume - Automobiles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BMW</td>
<td>1,276,783</td>
<td>1,302,239</td>
<td>1,068,773</td>
<td>1,224,280</td>
<td>1,306,934</td>
<td>10.8</td>
</tr>
<tr>
<td>MINI</td>
<td>222,675</td>
<td>232,425</td>
<td>216,538</td>
<td>234,175</td>
<td>265,000</td>
<td>21.7</td>
</tr>
<tr>
<td>Rolls-Royce</td>
<td>1,010</td>
<td>1,212</td>
<td>1,092</td>
<td>2,711</td>
<td>-3,330</td>
<td>-36.5</td>
</tr>
<tr>
<td>Total</td>
<td>1,500,678</td>
<td>1,435,876</td>
<td>1,286,310</td>
<td>1,461,166</td>
<td>1,666,892</td>
<td>14.2</td>
</tr>
</tbody>
</table>

Sales volume - Motorcycles |      |      |      |      |      |             |
| BMW                    | 102,467  | 101,685  | 87,396  | 96,647  | 104,289   | 6.4         |
| Hartorfine             | -         | -13,011   | -13,092  | 12,066   | -8,596    | -23.0       |
| Total                  | 102,467  | 114,664   | 100,358  | 110,113  | 112,872   | 3.1         |

From this table, we can see automobile is the BMW.AG main industry and motorcycle is just small part. BMW brand automobile is in a dominant position, MINI brand is second and Rolls-Royce brand is in the last position in the BMW.AG automobile industry.

From the total sales point of view, the general trend of development is good although sales decline affected by the financial crisis from 2008 to 2009.

*Figure 3.1 BMW Group sales volume of vehicles by region and market from 2007 to 2011 (in 1,000 units)*

<table>
<thead>
<tr>
<th>In 1,000 units</th>
<th>07</th>
<th>08</th>
<th>09</th>
<th>10</th>
<th>11</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rest of Europe</td>
<td>843.6</td>
<td>432.2</td>
<td>257.3</td>
<td>369.3</td>
<td>405.7</td>
</tr>
<tr>
<td>Asia*</td>
<td>150.6</td>
<td>165.7</td>
<td>163.1</td>
<td>396.3</td>
<td>376.5</td>
</tr>
<tr>
<td>North America</td>
<td>304.0</td>
<td>331.0</td>
<td>271.0</td>
<td>298.3</td>
<td>341.3</td>
</tr>
<tr>
<td>Germany</td>
<td>280.9</td>
<td>280.9</td>
<td>267.5</td>
<td>267.2</td>
<td>286.3</td>
</tr>
<tr>
<td>Great Britain</td>
<td>173.6</td>
<td>151.5</td>
<td>127.1</td>
<td>154.6</td>
<td>167.5</td>
</tr>
<tr>
<td>Other markets</td>
<td>75.9</td>
<td>73.8</td>
<td>70.3</td>
<td>85.3</td>
<td>93.7</td>
</tr>
<tr>
<td>Total</td>
<td>1,800.7</td>
<td>1,435.9</td>
<td>1,296.2</td>
<td>1,461.2</td>
<td>1,666.0</td>
</tr>
</tbody>
</table>

*Source: http://annual-report2011.bmwgroup.com*

From this figure, we can see vehicles sales volume of BMW Company in Europe has been more than half of the total sales from 2007 to 2011. This means BMW sales market mainly concentrated in Europe, especially Germany and Great Britain. In North America, it has been a relatively stable sale. In addition, we can find vehicles sales volume have an increase in Asia even if company vehicles sales volume had a decline during the financial crisis. This reflected that BMW Company was expanding Asian market to increase its market share in Asia. The establishment of
BMW Brilliance Automotive Ltd. BMW was the striking example that BMW Company increased market share in Asia. But comparing with European market share, there was a relatively low share in the Asian market. As an emerging market, we all know Asia is a huge market which has the strong demand. Just in the Chinese car market, the number of passenger cars and light commercial is up to 17.6 million units in 2011. So it is necessary for BMW Company to further expand the share of sales especially Chinese market. In addition, we can see that BMW had a relatively low share of sales in other market, such as South America, Africa and Australia. The total sales in these areas were less than 1% of total sales of BMW Company. So BMW Company should increase market share in these areas.

*Figure 3.2 BMW Group revenues in region from 2007 to 2011 (in euro)*

This figure shows us the situation of revenue in the regions from 2007 to 2011.

We can see that the largest proportion of total revenue is in the European market accounting for more than half total revenues from 2007 to 2011. The revenue in the Asia market started to be higher than the revenue in North America market from
2010 which means that BMW began to increase Market share in the Asia market. We see the revenue in the other region always kept a low level from 2007 to 2011 which reflected BMW Company had a low market share in other region. With the competition is more and more intense in the automotive industry, BMW should to meet the needs of consumers, seize the consumer market and expand its market share, particularly in Asia and other regions.

3.5 Common-size analysis

This part mainly analyzes the BMW.AG financial statement by way of common-size analysis method introduced by the Chapter II to have knowledge of financial position of BMW.AG.

Common-size analysis method includes two types. They are horizontal common-size analysis and vertical common-size analysis.

3.5.1 Vertical common-size analysis

Vertical common-size analysis is used to analyze the income statement and balance sheet of BMW.AG from 2007 to 2011 in this part. The purpose is to have knowledge of the patterns in investment and financing and the situation of profitability from 2007 to 2011.

We select the revenue as the benchmark and compare the other accounts in the income statement to the revenues in the same year and then we can get the Table 3.2 and Figure 3.3. We choose the total assets as the benchmark. Comparing the other accounts in the balance sheet to this benchmark in the same year, we get the Table 3.3 and Figure 3.4. We choose the total assets as the benchmark and then compare the other equity and liabilities accounts in the balance sheet to this benchmark in the same year. There is Table 3.4 and Figure 3.5.
Table 3.2 Vertical common-size analysis income statement of BMW.AG (% of revenues)

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
<td>100.0%</td>
</tr>
<tr>
<td>Cost of sales</td>
<td>78.25%</td>
<td>83.32%</td>
<td>89.49%</td>
<td>81.95%</td>
<td>78.87%</td>
</tr>
<tr>
<td>Gross profit</td>
<td>21.75%</td>
<td>16.68%</td>
<td>10.51%</td>
<td>18.05%</td>
<td>21.13%</td>
</tr>
<tr>
<td>Sales and administrative costs</td>
<td>9.38%</td>
<td>10.09%</td>
<td>9.94%</td>
<td>9.14%</td>
<td>8.98%</td>
</tr>
<tr>
<td>Research and development costs</td>
<td>5.21%</td>
<td>5.31%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Profit before financial result</td>
<td>7.52%</td>
<td>1.73%</td>
<td>0.57%</td>
<td>8.42%</td>
<td>11.65%</td>
</tr>
<tr>
<td>Result from equity accounted investments</td>
<td>0.02%</td>
<td>0.05%</td>
<td>0.07%</td>
<td>0.16%</td>
<td>0.24%</td>
</tr>
<tr>
<td>Profit before tax</td>
<td>6.91%</td>
<td>0.66%</td>
<td>0.81%</td>
<td>8.00%</td>
<td>10.73%</td>
</tr>
<tr>
<td>Income taxes</td>
<td>1.32%</td>
<td>0.04%</td>
<td>0.40%</td>
<td>2.65%</td>
<td>3.60%</td>
</tr>
<tr>
<td>Net profit</td>
<td>5.59%</td>
<td>0.62%</td>
<td>0.41%</td>
<td>5.35%</td>
<td>7.13%</td>
</tr>
</tbody>
</table>

Figure 3.3 Vertical common-size analysis income statement of BMW.AG (% of revenues)
From Table 3.2 and Figure 3.3, we can see that the percentage of net income has decreased from 2007 to 2009 and then kept a rapid growth from 2010 to 2011 as a percentage of revenues and the decrease is concurrent with a gradual increase in the cost of sales. The proportion of gross profit to revenues decreases between 2007 and 2009, and since then it had a significant increase. In addition to the cost of sales, other operating costs such as Sales and administrative costs, research and development costs and so all as a percentage of revenues kept an increase during 2007 to 2008, and after that, they began to decrease.

The most fundamental reason why occurred above situation is the world financial crisis in 2008. The economic crisis makes the world economic recession, the decline in purchasing power, in exports, making the BMW Company's sales fell sharply(see Figure 3.6) and also the increasing raw material prices, wages and salaries, transportation costs, marketing costs, result in the Cost of production decreased and make the further narrowing of profit margins. Thus the decline in revenue, inventories increased and cost as a percentage of revenues increased. From 2010, the world economic started to recover, BWM sales increased and BMW has started a long-term plan called "Number One", designed to reduce costs and restore the company's high efficiency. So the cost as a percentage of revenues decreased and the proportion of net profit and gross profit to revenues increased during 2010 to 2011.

Overall, BMW Group had a good ability of profitability. Although there was a decline in sales volume and revenues for BMW.AG during financial crisis, but it remained profitable.
Table 3.3 Vertical common-size analysis balance sheet of BMW.AG (% assets)

<table>
<thead>
<tr>
<th>assets</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intangible assets</td>
<td>6.37%</td>
<td>5.58%</td>
<td>5.28%</td>
<td>4.62%</td>
<td>4.24%</td>
</tr>
<tr>
<td>Property, plant and equipment</td>
<td>12.48%</td>
<td>12.48%</td>
<td>12.48%</td>
<td>12.48%</td>
<td>9.47%</td>
</tr>
<tr>
<td>Leased products</td>
<td>19.12%</td>
<td>19.31%</td>
<td>17.63%</td>
<td>16.34%</td>
<td>18.72%</td>
</tr>
<tr>
<td>Financial assets</td>
<td>1.32%</td>
<td>1.79%</td>
<td>1.49%</td>
<td>1.71%</td>
<td>1.38%</td>
</tr>
<tr>
<td>Non-current assets</td>
<td>63.62%</td>
<td>61.75%</td>
<td>60.82%</td>
<td>60.36%</td>
<td>60.30%</td>
</tr>
<tr>
<td>Inventories</td>
<td>8.26%</td>
<td>7.21%</td>
<td>6.43%</td>
<td>7.13%</td>
<td>7.81%</td>
</tr>
<tr>
<td>Receivables from sales financing</td>
<td>15.73%</td>
<td>15.70%</td>
<td>16.79%</td>
<td>16.75%</td>
<td>16.21%</td>
</tr>
<tr>
<td>Financial assets</td>
<td>4.07%</td>
<td>3.27%</td>
<td>3.15%</td>
<td>3.00%</td>
<td>3.04%</td>
</tr>
<tr>
<td>Cash and cash equivalents</td>
<td>2.69%</td>
<td>7.37%</td>
<td>7.62%</td>
<td>6.83%</td>
<td>6.30%</td>
</tr>
<tr>
<td>Current assets</td>
<td>36.38%</td>
<td>38.25%</td>
<td>39.18%</td>
<td>39.64%</td>
<td>39.70%</td>
</tr>
<tr>
<td>Total assets</td>
<td>100.00%</td>
<td>100.00%</td>
<td>100.00%</td>
<td>100.00%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

Figure 3.4 Vertical common-size analysis balance sheet of BMW.AG (% assets)
From Table 3.3 and Figure 3.4, we see that BMW.AG the proportion of non-current assets had a higher proportion than current assets during 2007 to 2011, but the proportion of current assets has been decreasing and the level of current assets has been increasing. There maintained a relatively high investment in Property, plant and equipment, receivables from sales financing, inventories, and receivables from sales financing than other assets such as cash and cash equivalents, intangible assets attributable to goodwill and other intangibles.

Because the BMW.AG – one of Germany’s largest industrial companies – is one of the most successful car and motorcycle manufacturers in the world whose business spread all over more than 120 countries around the world. So it is evident on its investment position.

*Table 3.4 Vertical common-size analysis balance sheet of BMW.AG (% equity and liabilities)*

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenue reserves</td>
<td>23.36%</td>
<td>20.20%</td>
<td>20.03%</td>
<td>21.54%</td>
<td>21.15%</td>
</tr>
<tr>
<td>Equity</td>
<td>24.43%</td>
<td>20.06%</td>
<td>19.53%</td>
<td>21.22%</td>
<td>21.96%</td>
</tr>
<tr>
<td>Financial liabilities</td>
<td>24.08%</td>
<td>30.17%</td>
<td>33.73%</td>
<td>32.91%</td>
<td>30.46%</td>
</tr>
<tr>
<td>Deferred tax</td>
<td>3.05%</td>
<td>2.73%</td>
<td>2.72%</td>
<td>2.69%</td>
<td>2.65%</td>
</tr>
<tr>
<td>Non-current provisions and liabilities</td>
<td>37.61%</td>
<td>41.08%</td>
<td>44.25%</td>
<td>41.92%</td>
<td>39.79%</td>
</tr>
<tr>
<td>Current tax</td>
<td>0.91%</td>
<td>0.63%</td>
<td>0.82%</td>
<td>1.10%</td>
<td>1.10%</td>
</tr>
<tr>
<td>Trade payables</td>
<td>3.99%</td>
<td>2.53%</td>
<td>3.06%</td>
<td>4.00%</td>
<td>4.33%</td>
</tr>
<tr>
<td>Current provisions and liabilities</td>
<td>37.96%</td>
<td>38.86%</td>
<td>36.21%</td>
<td>36.87%</td>
<td>38.25%</td>
</tr>
<tr>
<td>Total equity and liabilities</td>
<td>100.00%</td>
<td>100.00%</td>
<td>100.00%</td>
<td>100.00%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>
We choose the total assets as the benchmark and then compare the other equity and liabilities accounts in the balance sheet to this benchmark in the same year.

Table 3.4 and Figure 3.5 show us that the proportion of liabilities higher than the proportion of equity. This indicates the liability is the most important financing way in the BMW.AG Company's capital structure.

Secondly, we can see the proportion of equity has been decreasing from 2007 to 2009, after it had a little growth. While, the proportion of total liabilities has been increasing from 2007 to 2009, since then it had a little decreasing. But we can find a proportion of long-term liabilities to total equity and liabilities kept increased. On opposite, there was a decrease of proportion of short-term liabilities to total equity and liabilities from 2007 to 2009. From the beginning of 2010, the proportion of long-term liabilities to total equity and liabilities decreased and the proportion of short-term liabilities to total equity and liabilities increased. Revenue reserves and financial liabilities have a higher proportion as a presentation of total equity and
Due to the world financial crisis, BMW sales are down and the earnings decline. Coupled with economic depression, people's desire to invest was in weak. So BMW Company uses the liabilities with higher risk to financing funds.

The higher liabilities proportion than equity means higher risk.

3.5.2 Horizontal common-size analysis

Horizontal common-size analysis is the analysis method in which we use the accounts in a given period as the benchmark and restate every account subsequent periods as a percentage of the base period’s same account. Next, horizontal common-size analysis is used to analyze the income statement and balance sheet of BMW.AG from 2007 to 2011. We select 2007 year as the base year.

Table 3.5 Horizontal common-size analysis income statement of BMW.AG (2007 as base year)

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues</td>
<td>100.00%</td>
<td>94.96%</td>
<td>90.47%</td>
<td>107.96%</td>
<td>122.86%</td>
</tr>
<tr>
<td>Cost of sales</td>
<td>100.00%</td>
<td>101.12%</td>
<td>103.48%</td>
<td>113.07%</td>
<td>123.83%</td>
</tr>
<tr>
<td>Gross profit</td>
<td>100.00%</td>
<td>72.82%</td>
<td>43.70%</td>
<td>89.57%</td>
<td>119.36%</td>
</tr>
<tr>
<td>Sales and administrative costs</td>
<td>100.00%</td>
<td>102.19%</td>
<td>95.93%</td>
<td>105.23%</td>
<td>117.57%</td>
</tr>
<tr>
<td>Research and development costs</td>
<td>100.00%</td>
<td>96.75%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Profit before financial result</td>
<td>100.00%</td>
<td>21.87%</td>
<td>6.86%</td>
<td>120.94%</td>
<td>190.36%</td>
</tr>
<tr>
<td>Profit before tax</td>
<td>100.00%</td>
<td>9.06%</td>
<td>10.66%</td>
<td>124.86%</td>
<td>190.63%</td>
</tr>
<tr>
<td>Net profit</td>
<td>100.00%</td>
<td>10.53%</td>
<td>6.70%</td>
<td>103.19%</td>
<td>156.57%</td>
</tr>
</tbody>
</table>
From Table 3.5 and Figure 3.6, we can see revenues decreased from 2007 to 2009. The gross profit and net profit had the significant decrease from 2007 to 2009 and then these items had an increase. Cost of sales had a slowly increase from 2007 to 2009. However, beginning in 2009, these accounts are beginning to keep increasing trend

Because of the financial crisis, the company's sales are down and there is the decline in corporate earnings. The financial crisis has resulted in the prices of the raw materials so that the company increased production cost. Capital expenditures which mainly used in product investment (such as the BMW 7 Series, BMW Z4, the BMW X1 and MINI cabriolet research and development of new products and production) and infrastructure (such as property, plant, equipment and intangible assets) increased so that the total cost increased in 2008. In addition, the increase of the residual value of the reserve resulting from weak second-hand car market allows the company net profit fall. Beginning in 2010, the global economic gradual recovering, to some extent, played a role in promoting to grow in these accounts. Course, it mainly thanks to BMW Group’s correct adjustment measures during the financial crisis
Table 3.6 Horizontal common-size analysis assets of BMW.AG (2007 as base year)

<table>
<thead>
<tr>
<th>assets</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intangible assets</td>
<td>100.00%</td>
<td>99.49%</td>
<td>94.87%</td>
<td>88.73%</td>
<td>92.38%</td>
</tr>
<tr>
<td>Property, plant and equipment</td>
<td>100.00%</td>
<td>101.66%</td>
<td>102.49%</td>
<td>102.87%</td>
<td>105.19%</td>
</tr>
<tr>
<td>Leased products</td>
<td>100.00%</td>
<td>114.76%</td>
<td>105.64%</td>
<td>104.57%</td>
<td>135.85%</td>
</tr>
<tr>
<td>Non-current assets</td>
<td>100.00%</td>
<td>110.24%</td>
<td>109.52%</td>
<td>116.07%</td>
<td>131.45%</td>
</tr>
<tr>
<td>Inventories</td>
<td>100.00%</td>
<td>99.20%</td>
<td>89.20%</td>
<td>105.67%</td>
<td>131.15%</td>
</tr>
<tr>
<td>Cash and cash equivalents</td>
<td>100.00%</td>
<td>311.49%</td>
<td>324.57%</td>
<td>310.57%</td>
<td>324.95%</td>
</tr>
<tr>
<td>Current assets</td>
<td>100.00%</td>
<td>119.43%</td>
<td>123.37%</td>
<td>133.27%</td>
<td>151.35%</td>
</tr>
<tr>
<td>Total assets</td>
<td>100.00%</td>
<td>113.58%</td>
<td>114.56%</td>
<td>122.33%</td>
<td>138.69%</td>
</tr>
</tbody>
</table>

Figure 3.7 Horizontal common-size analysis assets of BMW.AG (2007 as base year)

Table 3.6 and Figure 3.7 mainly help us to analyze the usage of the assets of BMW.AG. We choose the 2007 year as the benchmark and then use each account of subsequent year to compare with the same accounts of base year.
According to Table 3.6 and Figure 3.7, we can see the total asset has been keeping the growth. Ever it remained a lower growth level from 2007 to 2008. The current assets kept an increase especially cash and cash equivalents. But trade receivables and financial assets in current assets had a decrease from 2007 to 2008. Non-current assets had a relative decrease in 2009 to 2008.

Due to the economic crisis, company revenues growth level declined from 2008, so that the total assets had a low growth level. Capital adequacy for the development of enterprises and reducing risk in the financial crisis is even more important. So company’s current assets kept an increase especially cash and cash equivalents to ensure that the company's short-term solvency, and reduce the company's debt risk. The reason why trade receivables and financial assets in current assets had a decrease from 2007 to 2008 is that the production sales are down because of economic crisis.

*Table 3.7 Horizontal common-size analysis liabilities and equity of BMW.AG (2007 as base year)*

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital reserves</td>
<td>100.00%</td>
<td>100.00%</td>
<td>100.52%</td>
<td>101.47%</td>
<td>102.30%</td>
</tr>
<tr>
<td>Revenue reserves</td>
<td>100.00%</td>
<td>98.22%</td>
<td>98.25%</td>
<td>112.79%</td>
<td>125.56%</td>
</tr>
<tr>
<td>Equity</td>
<td>100.00%</td>
<td>93.23%</td>
<td>91.59%</td>
<td>106.24%</td>
<td>124.65%</td>
</tr>
<tr>
<td>Non-current provisions and</td>
<td>100.00%</td>
<td>124.07%</td>
<td>134.81%</td>
<td>136.34%</td>
<td>146.74%</td>
</tr>
<tr>
<td>liabilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Current provisions and</td>
<td>100.00%</td>
<td>116.29%</td>
<td>109.28%</td>
<td>118.80%</td>
<td>139.75%</td>
</tr>
<tr>
<td>liabilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total equity and liabilities</td>
<td>100.00%</td>
<td>113.58%</td>
<td>114.56%</td>
<td>122.33%</td>
<td>138.69%</td>
</tr>
</tbody>
</table>
Figure 3.8 Horizontal common-size analysis liabilities and equity of BMW.AG (2007 as base year)

From Table 3.7 and Figure 3.8, we know that there is a slowly increase in total equity and liabilities between 2007 and 2009 relative to the increase from 2010 to 2011. Equity fell below 91.59% in 2009, after, it had a substantial increase. At the beginning of 2008, current liabilities had an increase, following, it declined in 2009 and it began to increase from 2010. Non-current liabilities has maintained growth from 2007, but only slower growth in 2009, and later maintained a rapid growth.

The fundamental reason for the above phenomenon is the world financial crisis in 2008. The financial crisis has led BMW's sales decline and production costs increase so that the income and production volume decline. This made company’s current liabilities decline and non-current liabilities had a slower growth. In addition, revenues declined let the equity dropped from 2007 to 2009.
4. Ratio analysis of BMW.AG

In this chapter, we mainly use the financial ratios analysis method described in the chapter II to analyze the company’s financial health of BMW.AG from 2007 to 2011. Profitability ratios, liquidity ratios, solvency ratios, activity ratios, DuPont analysis and influence quantification these analysis method mainly be used in analysis of BMW.AG’s financial performance.

4.1 Profitability ratios analysis

Profitability ratios analysis is the financial analysis method which helps us to measure the ability to generate profit from capital in the form of return during a period. Next we use the profitability ratios analysis method to analyze the profitability position of BMW.AG from 2007 to 2011. Profitability ratios analysis method mainly includes six indicators, namely, gross profit margin, operating profit margin, net profit margin, pretax profit margin, return on assets and return on equity.

<table>
<thead>
<tr>
<th>Table 4.1 Profitability ratios analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>unit(euro million)</td>
</tr>
<tr>
<td>gross profit</td>
</tr>
<tr>
<td>operating profit</td>
</tr>
<tr>
<td>earnings before taxes</td>
</tr>
<tr>
<td>net profit</td>
</tr>
<tr>
<td>revenues</td>
</tr>
<tr>
<td>gross profit margin</td>
</tr>
<tr>
<td>operating profit margin</td>
</tr>
<tr>
<td>Pretax profit margin</td>
</tr>
<tr>
<td>net profit margin</td>
</tr>
</tbody>
</table>
From Table 4.1 and Figure 4.1, we can see gross profit margin (see formula 2.1), operating profit margin (see formula 2.2), pretax profit margin (see formula 2.3) and net profit margin (see formula 2.4) were on the decline on the whole from 2007 to 2009 and since then they increased. The reason is that the global economic was in depression which had the direct impact of BMW's sales and earnings, coupled with the increase in raw material costs, production costs had an increase. Afterwards, the global economy starting to recover, together with the company taking measures to carry out the strategy adjustment allows the company revenues rise and the cost of productions decline which led to BMW sales and revenues had an increase. In general, BMW Company’s ability of profitability drop from 2007 to 2009 and then it had an increase indicates that company’s ability of profitability increased.

In addition, we found that the growth speed of operating profit margin, pretax profit margin and net profit margin, these three lines basically consistent except gross profit margin. From Table 4.11 and Figure 4.11, we can see the decline speed of gross profit margin is more than operating profit margin, pretax profit margin and net profit margin from 2007 to 2009 especially in 2009. Because the increase in production costs is a major aspect of the BMW profits decline affected by the financial crisis.
Table 4.2 Profitability ratios analysis

<table>
<thead>
<tr>
<th>unit (euro million)</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>net profit</td>
<td>3,134</td>
<td>330</td>
<td>210</td>
<td>3,234</td>
<td>4,907</td>
</tr>
<tr>
<td>total assets</td>
<td>88,997</td>
<td>101,086</td>
<td>101,953</td>
<td>108,867</td>
<td>123,429</td>
</tr>
<tr>
<td>equity</td>
<td>21,744</td>
<td>20,273</td>
<td>19,915</td>
<td>23,100</td>
<td>27,103</td>
</tr>
<tr>
<td>return on assets (ROA)</td>
<td>3.52%</td>
<td>0.33%</td>
<td>0.21%</td>
<td>2.97%</td>
<td>3.98%</td>
</tr>
<tr>
<td>return on equity (ROE)</td>
<td>14.41%</td>
<td>1.63%</td>
<td>1.05%</td>
<td>14.00%</td>
<td>18.11%</td>
</tr>
</tbody>
</table>

Figure 4.2 Profitability ratios analysis

Table 4.2 and Figure 4.2 show us the changes of ROA and ROE. It is easy to see that the change trend of ROA and ROE was basically consistent. But the relative change speed of ROE was faster than the ROA expect from 2008 to 2009.

Under normal circumstances, the high debt means high financial risk and debt requires interest payments. But due to 2008 financial crisis, there is the decline in corporate earnings leading to the reduction in sales. Facing financial difficulties the company increased capital funds in 2008 to increase the velocity of circulation of capital and made the company’s assets have the more effectively utilized. So we see total assets had an increase although total equity had a decline from 2008 to 2009.
The above phenomenon reflects that when the company is facing the plight of capital flows, appropriately increase the debt to increase capital funds will be beneficial to the company’s profitability.

4.2 Liquidity analysis

This part mainly uses liquidity ratios to analyze the ability to meet its short-term liabilities and obligations of BMW.AG. Current ratio, quick ratio and cash ratio are used.

Table 4.3 Current ratio

<table>
<thead>
<tr>
<th>(euro million)</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>current assets</td>
<td>32,378</td>
<td>38,670</td>
<td>39,944</td>
<td>43,151</td>
<td>49,004</td>
</tr>
<tr>
<td>short-term liabilities</td>
<td>33,784</td>
<td>39,287</td>
<td>36,919</td>
<td>40,134</td>
<td>47,213</td>
</tr>
<tr>
<td>current ratio</td>
<td>95.84%</td>
<td>98.43%</td>
<td>108.19%</td>
<td>107.52%</td>
<td>103.79%</td>
</tr>
</tbody>
</table>

Figure 4.3 Current ratio

From the Table 4.3 and Figure 4.3, we can find that current ratio (see formula2.9) has been maintained at more than 95% in the past five years. It was particularly noteworthy that current ratio respectively reached at 98.43% and 108.19% in 2008 and 2009 and then followed by a downward trend. BMW in 2008 and 2009 to prepare to respond to the challenging economic environment and ensure normal
operating conditions, the company increased current assets from 2008 and 2009 and decreased the short-liabilities in 2009. So we can see it kept an increase from 2007 and 2009. It had ability to meet its short-term liabilities during the economic depression period we also can see it had an better liquidity ability after 2008.

Table 4.4 Quick ratio

<table>
<thead>
<tr>
<th>(euro million)</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>cash and short-term</td>
<td>2,393</td>
<td>7,454</td>
<td>7,767</td>
<td>7,432</td>
<td>7,776</td>
</tr>
<tr>
<td>marketable investment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>receivables</td>
<td>16,668</td>
<td>18,176</td>
<td>18,973</td>
<td>20,568</td>
<td>23,300</td>
</tr>
<tr>
<td>short-term liabilities</td>
<td>33,784</td>
<td>39,287</td>
<td>36,919</td>
<td>40,134</td>
<td>47,213</td>
</tr>
<tr>
<td>quick ratio</td>
<td>6.42%</td>
<td>65.24%</td>
<td>72.43%</td>
<td>69.77%</td>
<td>65.82%</td>
</tr>
</tbody>
</table>

Figure 4.4 Quick ratio

Quick ratio (see formula 2.10) is the analysis method which measures the liquidity of a company by calculating the ratio between all assets which quickly convert into cash and current liabilities. Comparing with current ratio, it does not include the inventory.

On the whole, quick ratio has been maintained during 55% to 73%, and in 2009 reached a maximum of 72.43%. This shows that there are a significant
proportion of companies relying on sales of inventories to maintain the liquidity of the company.

We found that this ratio from 2007 to 2009 has been to maintain an upward and reaches its maximum in 2009. The company was facing liquidity problems because the company sales were down affected by 2008 financial crisis, this company in 2008 increase the amount of cash and short-term marketable. Then with increase of current liabilities, quick ratio decrease.

Table 4.5 Cash ratio

<table>
<thead>
<tr>
<th>(euro million)</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>cash and short-term marketable investment</td>
<td>2,393</td>
<td>7,454</td>
<td>7,767</td>
<td>7,432</td>
<td>7,776</td>
</tr>
<tr>
<td>short-term liabilities</td>
<td>33,784</td>
<td>39,287</td>
<td>36,919</td>
<td>40,134</td>
<td>47,213</td>
</tr>
<tr>
<td>cash ratio</td>
<td>7.08%</td>
<td>18.97%</td>
<td>21.04%</td>
<td>18.52%</td>
<td>16.47%</td>
</tr>
</tbody>
</table>

Figure 4.5 Cash ratio

Overall, these five years, the company's cash ratio (see formula 2.11) has remained at 16.47% or more in addition to 2007. It reached the maximum value, but still less than 22% in 2009. This shows that the company ability with using cash and short-term marketable to pay short-term liabilities is weaker. This ratio rose from
2008 to 2009 because the company increased the number of cash and short-term marketable. In particular, in 2009 company reduce the number of liabilities. Because of the financial crisis, and increased the amount of cash and short-term marketable to maintain the normal operation of the company in the case of economic downturn.

4.3 Solvency analysis

Solvency ability is closely related with the company's operational risk and this ability directly related to the Company's operation status. Next solvency analysis method described by chapter two are applied to analyze the ability of BMW.AG to meet its long-term liabilities to further study the financial position of BMW.AG.

Table 4.6 Debt-to-assets ratio

<table>
<thead>
<tr>
<th>(euro million)</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>total debt</td>
<td>67,253</td>
<td>80,813</td>
<td>82,038</td>
<td>85,767</td>
<td>96,326</td>
</tr>
<tr>
<td>total assets</td>
<td>88,997</td>
<td>101,086</td>
<td>101,953</td>
<td>108,867</td>
<td>123,429</td>
</tr>
<tr>
<td>debt-to-assets ratio</td>
<td>75.57%</td>
<td>79.94%</td>
<td>80.47%</td>
<td>78.78%</td>
<td>78.04%</td>
</tr>
</tbody>
</table>

Figure 4.6 Debt-to-assets ratio

The 2008 financial crisis had a direct impact on the automotive industry which made BMW company have a decline in car and motorcycle sales and revenues. The
decline in revenues allows the company to be in the tensions for company financing situation, coupled with people's weak desire to invest under the context of the recession. In order to maintain the normal operation, the company needs to increase the amount of debt.

Table 4.7 Debt-to equity ratio

<table>
<thead>
<tr>
<th>(euro million)</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>total debt</td>
<td>67,253</td>
<td>80,813</td>
<td>82,038</td>
<td>85,767</td>
<td>96,326</td>
</tr>
<tr>
<td>total equity</td>
<td>21,744</td>
<td>20,273</td>
<td>19,915</td>
<td>23,100</td>
<td>27,103</td>
</tr>
<tr>
<td>debt-to-equity ratio</td>
<td>309.29%</td>
<td>398.62%</td>
<td>411.94%</td>
<td>371.29%</td>
<td>355.41%</td>
</tr>
</tbody>
</table>

Figure 4.7 Debt-to-equity ratios

From Table 4.7 and Figure 4.7, we see debt-to equity ratio (see formula 2.14) has been maintained at more than 300% which reflected BMW company mainly rely on debt to finance from 2007 to 2009. From 2008 to 2009, the ratio continued to rise, reached a maximum of 400% in 2009. This showed that the increase in the number of debt financing from 2008 to 2009. The reason is that affected in the 2008 financial crisis, the world economic was in recession and people's desire to invest was in the doldrums from 2008 to 2009 and then debt-to equity ratio was declining as the economy recovers from 2010.
Table 4.8 Financial leverage

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>assets</td>
<td>88,997</td>
<td>101,086</td>
<td>101,953</td>
<td>108,867</td>
<td>123,429</td>
</tr>
<tr>
<td>equity</td>
<td>21,744</td>
<td>20,273</td>
<td>19,915</td>
<td>23,100</td>
<td>27,103</td>
</tr>
<tr>
<td>financial leverage</td>
<td>4.09</td>
<td>4.99</td>
<td>5.12</td>
<td>4.71</td>
<td>4.55</td>
</tr>
</tbody>
</table>

Figure 4.8 Financial leverage

Financial leverage ratio (see formula 2.15) maintained an upward trend from 2007 to 2009 and in 2009 reached the maximum which can be seen from the Table 4.8 and Figure 4.8. This shows BMW.AG was facing severe financial positions so that it was necessary to increase the capital to maintain the normal operation of the company, on the other hand, virtually increase the company's debt risk.

The reason why financial leverage ratio increase from 2007 to 2009 is that there was an increase in debts but there was a decline in equity. Because there was a decline in sales volume and caused capital flow having difficulties, but the weaker in people's desire to invest during economic recession. And with economic situation improving, financial leverage ratio of BMW.AG kept the decline trend.
4.4 Activity ratios

This part mainly applies activity ratios to analyze asset utilization situation of BMW.AG.

Inventory turnover, receivable turnover, net working capital turnover and total assets turnover respectively are used to analyze inventory, accounts receivable, net and total assets mailbox utilization.

Table 4.9 Inventory turnover

<table>
<thead>
<tr>
<th>(euro million)</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>cost of goods sold</td>
<td>43,832</td>
<td>44,323</td>
<td>45,356</td>
<td>49,562</td>
<td>54,276</td>
</tr>
<tr>
<td>average inventory</td>
<td>7,349</td>
<td>7,290</td>
<td>6,555</td>
<td>7,766</td>
<td>9,638</td>
</tr>
<tr>
<td>Inventory turnover</td>
<td>5.96</td>
<td>6.08</td>
<td>6.92</td>
<td>6.38</td>
<td>5.63</td>
</tr>
</tbody>
</table>

Figure 4.9 Inventory turnover

Inventory turnover (see formula 2.17) is a financial analysis method which helps us to measure whether there is excess fund used in inventory. In general, the more inventories held by the company means the more company assets have not been fully utilized which will increase the pressure on corporate capital flow, and increase the risk of bankruptcy. But exceeding low inventory level also can cause the work stoppages and lost sales. So inventory turnover is especially important in the analysis of the effective use of company assets.
We can find there was an increase from 2007 to 2009 and reached the maximum in 2009, then it kept decline trend.

We know that the 2008 financial crisis affected the global automotive industry, BMW was no exception to be affected as the larger car manufacturers. Although BMW’s revenue remained growth but sales are down but there was an increase in inventories so that inventory turnover had a relatively rise substantially in 2008. Afterwards, BMW started to adjust policy and cut the number of employees, reduced production, so we can see it had a decline slightly in 2009. With the economic situation gradually improved in 2010, BMW sales increased which made BMW capital funds to speed up. So even though inventory increased, inventory turnover was in downward trend.

The situation above reacts BMW AG has more inventories in 2008 which means the resources are not fully utilized and it would affect the normal operation of the company.

**Table 4.10 Receivable turnover**

<table>
<thead>
<tr>
<th>(euro million)</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>revenue</td>
<td>56,018</td>
<td>53,197</td>
<td>50,681</td>
<td>60,477</td>
<td>68,821</td>
</tr>
<tr>
<td>average receivables</td>
<td>16,668</td>
<td>18,176</td>
<td>18,973</td>
<td>20,568</td>
<td>23,300</td>
</tr>
<tr>
<td>receivable turnover</td>
<td>3.36</td>
<td>2.93</td>
<td>2.67</td>
<td>2.94</td>
<td>2.95</td>
</tr>
</tbody>
</table>

**Figure 4.10 Receivable turnover**

![Figure 4.10 Receivable turnover graph]
Receivable turnover is the ratio of total sales to average accounts receivable. It reflects the speed of flow of receivables.

From Table 4.10 and Figure 4.10, we see receivable turnover has been in a state of decline from 2007 to 2008 and it was in the minimum value in 2009 and then it kept a rise trend.

The main reason why receivable turnover has been in a state of decline from 2007 to 2009 was that revenues declined affected by the financial crisis. Another, receivables continued to increase during the economic downturn which increased the flow of pressure.

Above situation means BMW.AG the company’s receivables can’t quickly recover and the company’s solvency ability and assets liquidity became worse from 2007 to 2009 and then it had a marked improvement.

Table 4.11 Net working capital turnover

<table>
<thead>
<tr>
<th>(euro million)</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>revenue</td>
<td>56,018</td>
<td>53,197</td>
<td>50,681</td>
<td>47,962</td>
<td>45,293</td>
</tr>
<tr>
<td>current assets</td>
<td>32,378</td>
<td>38,670</td>
<td>39,944</td>
<td>44,563</td>
<td>48,346</td>
</tr>
<tr>
<td>short-term liabilities</td>
<td>33,784</td>
<td>39,287</td>
<td>36,919</td>
<td>39,798</td>
<td>41,366</td>
</tr>
<tr>
<td>net working capital</td>
<td>-1406.00</td>
<td>617.00</td>
<td>3025.00</td>
<td>4765.00</td>
<td>6980.50</td>
</tr>
<tr>
<td>net working capital turnover</td>
<td>-39.84</td>
<td>-86.22</td>
<td>16.75</td>
<td>10.07</td>
<td>6.49</td>
</tr>
</tbody>
</table>

Figure 4.11 Net working capital turnovers
We can find the difference between net working capital turnover and other activity ratios is that working capital turnover (see formula 2.20) had a significant increase from 2008 to 2009. Because the BMW Group further enhance the liquidity of assets in 2008. BMW Group has a total of 8.107 billion euros in cash and marketable securities, an increase of 86.3% than 2007. So we can see in the case of market instability and there was a decline in revenue, net working capital turnover was on the rise.

Table 4.12 Total assets turnover

<table>
<thead>
<tr>
<th>(euro million)</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>revenue</td>
<td>56,018</td>
<td>53,197</td>
<td>50,681</td>
<td>60,477</td>
<td>68,821</td>
</tr>
<tr>
<td>total assets</td>
<td>88,997</td>
<td>101,086</td>
<td>101,953</td>
<td>108,867</td>
<td>123,429</td>
</tr>
<tr>
<td>total assets turnover</td>
<td>0.63</td>
<td>0.53</td>
<td>0.50</td>
<td>0.56</td>
<td>0.56</td>
</tr>
</tbody>
</table>

Figure 4.12 Total assets turnover

We can see total assets turnover (see formula 2.19) was in decline but overall remained above 0.5 from 2007 to 2009. Despite affected by the financial crisis, but it did not appear significant decline due to BMW as soon as possible to taking measures to optimize working capital.

Overall you can see, asset utilization situation is good over these five years.
4.5 Pyramidal decompositions analysis

This part mainly uses DuPont analysis method to analyze the ROE of BMW.AG. ROE is divided into three component ratios. There are profit margin, assets turnover and financial leverage. We mainly analyze the influence degree of these three component ratios for ROE.

Table 4.13 DuPont analysis

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>net income</td>
<td>3,134</td>
<td>330</td>
<td>210</td>
<td>3,234</td>
<td>4,907</td>
</tr>
<tr>
<td>Revenue</td>
<td>56,018</td>
<td>53,197</td>
<td>50,681</td>
<td>60,477</td>
<td>68,821</td>
</tr>
<tr>
<td>total assets</td>
<td>88,997</td>
<td>101,086</td>
<td>101,953</td>
<td>108,867</td>
<td>123,429</td>
</tr>
<tr>
<td>Equity</td>
<td>21,744</td>
<td>20,273</td>
<td>19,915</td>
<td>23,100</td>
<td>27,103</td>
</tr>
<tr>
<td>net profit margin</td>
<td>5.59%</td>
<td>0.62%</td>
<td>0.41%</td>
<td>5.35%</td>
<td>7.13%</td>
</tr>
<tr>
<td>assets turnover</td>
<td>62.94%</td>
<td>52.63%</td>
<td>49.71%</td>
<td>55.55%</td>
<td>55.76%</td>
</tr>
<tr>
<td>Financial leverage</td>
<td>409.29%</td>
<td>498.62%</td>
<td>511.94%</td>
<td>471.29%</td>
<td>455.41%</td>
</tr>
</tbody>
</table>

Figure 4.13 DuPont Analysis

In the Figure 4.13, net profit margin and assets turnover are based on the left
axes, and financial leverage is based on the right axes.

Overall, we can find the main factor affecting the ROE (see formula 2.8) is financial leverage (see formula 2.15). It was very high and it reflects that assets of the company come mainly from debt which means financial risk is quite high. Secondly, it was the assets turnover (see formula 2.19) which kept between 50% and 63%. For the automotive industry, the assets of BMW AG substantially had effective use. Then it was the net profit margin (see formula 2.4). We can find net profit margin is very low between 2008 and 2009 which means the profitability is low from 2008 to 2009. The reason is that there were a decline in company production and revenues affected by 2008 financial crisis. It directly led to profitability decreased.

4.6 Influence quantification analysis

Influence quantification analysis includes two methods, method of gradual changes and logarithmic decomposition method. There two methods both are used to analyze the influence degree of the change in the basic ratio caused by change in the component ratio. But method of gradual changes can better reflect the influence degree of the change in the basic ratio caused by change in the component ratio. Because according to formula of method of gradual changes, we can see if we arbitrarily changed a1, a2, a3 of the sequence, we would get the difference order (see from formula 2.29). So we just choose method of gradual changes analysis method to analyze the influence degree of the change in the ROE caused by changes in the net profit margin, total assets turnover and financial leverage these.

*Table 4.14 Gradual changes from 2007 to 2011*

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a1=EAT/REV</td>
<td>-12.82%</td>
<td>-0.55%</td>
<td>12.57%</td>
<td>4.66%</td>
</tr>
<tr>
<td>a2=REV/ASSET</td>
<td>-0.26%</td>
<td>-0.06%</td>
<td>1.60%</td>
<td>0.07%</td>
</tr>
<tr>
<td>a3=ASSET/EQUITY</td>
<td>0.29%</td>
<td>0.03%</td>
<td>-1.21%</td>
<td>-0.63%</td>
</tr>
</tbody>
</table>
From table above, we can see the component ratio had the greatest impact on ROE is net profit margin in these five years. It was different is that net profit margin had negative impact on ROE from 2007 to 2008. Because production costs increased affected by 2008 financial crisis, net profit margin has a decline. Then with economic recovering and taking measures for company, net profit margin decline. Assets turnover had negative impact but financial leverage had positive impact from 2007 to 2009. We can find appropriately increasing capital mobility is beneficial for ROE during a recession. We can see financial leverage had negative impact on ROE from 2009 to 2011. It reflects high debt means high financial risk. Company should determine the proportion of the debt based on its own financial position.
5. Conclusion

BME.AG initially was founded in 1916. Now it has become the most successful car and motorcycle manufacturers in the world from a manufacturing plant only producing aircraft engine. BMW Group has the business in more than 120 countries around the world. Company profit has maintained an upward trend, even in the context of the 2008 recession it still maintains profitability. The BMW product positions in the high-end brand and has the innovative marketing strategy.

According to the analysis of chapter IV, we can find: firstly, BMW.AG has a better profitability, even in the recession of 2008, the company is still profitable. Secondly, the company has good liquidity on the whole. Particularly affected by the financial crisis in 2008, company increases the liquidity of the company's capital through cutting and reducing the number of employees and increasing capital expenditures. Thirdly, although the company has sufficient assets to meet the company's long-term debt, the company's operational risk is relatively larger. The reason is that debt accounted for a significant proportion in the company's total assets. Finally, the effective utilization of the company's assets is relatively high, even in the context of the economic crisis is no exception. Above profitability, liquidity, solvency and asset usage we can see that the company has a good financial position from 2007 to 2011.

BMW in the context of the 2008 financial crisis, the company still profitable, thanks to the company to take measures to cut production and lay off employees to increase capital spending and carry out the “number one plan”.

We know a company's financial position thanks to the normal development of the company and a good financial position is the underpinned the development of the company. It is required for to ensure a healthy financial position.
With many brands of automotive emerging, automotive industry is more and more competitive now. I think that BMW AG need to do now is to seize the high-end market and make high-end market brand bigger and stronger. In addition, company should increase the cost of research in conditions permit and continue to innovate. Another, company should open up new marketing channels and meet consumer demand. Of course, it is necessary to continue to implement the “number one” plan which focuses on profitability rather than sales.
Bibliography

Publications


Websites


List of Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BFW</td>
<td>Bayerische Flugzeugwerke AG</td>
</tr>
<tr>
<td>BMW.AG</td>
<td>Bayerische Motoren Werke Aktiengesellschaft</td>
</tr>
<tr>
<td>ROA</td>
<td>Return on Asset</td>
</tr>
<tr>
<td>ROE</td>
<td>Return on Equity</td>
</tr>
<tr>
<td>EBIT</td>
<td>Earnings before interest and taxes</td>
</tr>
<tr>
<td>EAT</td>
<td>Earnings after taxes</td>
</tr>
<tr>
<td>COGS</td>
<td>Cost of goods sold</td>
</tr>
<tr>
<td>R&amp;D</td>
<td>Research and development</td>
</tr>
</tbody>
</table>
Declaration of Utilization Results from a Bachelor Thesis

Herewith I declare that

- I am informed that Act No. 121/2000 Coll. – the Copyright Act, in particular, Section 35 – Utilization of the Work as a Part of Civil and Religious Ceremonies, as a Part of School Performances and the Utilization of a School Work – and Section 60 – School Work, fully applies to my diploma (bachelor) thesis;

- I take account of the VSB – Technical University of Ostrava (hereinafter as VSB-TUO) having the right to utilize the diploma (bachelor) thesis (under Section 35(3)) unprofitably and for own use;

- I agree that the diploma (bachelor) thesis shall be archived in the electronic form in VSB-TUO’s Central Library and one copy shall be kept by the supervisor of the diploma (bachelor) thesis. I agree that the bibliographic information about the diploma (bachelor) thesis shall be published in VSB-TUO’s information system;

- It was agreed that, in case of VSB-TUO’s interest, I shall enter into a license agreement with VSB-TUO, granting the authorization to utilize the work in the scope of Section 12(4) of the Copyright Act;

- It was agreed that I may utilize my work, the diploma (bachelor) thesis, or provide a license to utilize it only with the consent of VSB-TUO, which is entitled, in such a case, to claim an adequate contribution from me to cover the cost expended by VSB-TUO for producing the work (up to its real amount).

Ostrava dated 9.5.2013

Min Wang
List of Annexes

Annex 1
BMW.AG assets from 2007 to 2011

Annex 2
BMW.AG liability & equity from 2007 to 2011

Annex 3
BMW.AG income statement from 2007 to 2011

Annex 4
Cash flow of operating activities from 2007 to 2011

Annex 5
Cash flow of operating activities from 2007 to 2011

Annex 6
Cash flow of financing activities from 2007 to 2011