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Ocenění společnosti vybranými metodami

Valuation of the Company by Selected Methods

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1. Introduction
  2. Description of the Company Valuation Methodology
  3. Company Description
  4. Valuation of Company and Results Assessment
  5. Conclusion
- Bibliography  
List of Abbreviations  
Declaration of Utilization of Results from the Diploma Thesis  
List of Annexes  
Annexes

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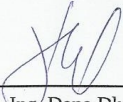
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# 1 Introduction

The main goal of this thesis is using the classic theory of enterprise value, the method of investigation and case studying to value a listed company, Dongfeng Motor Group.

There are included into five parts in this thesis. First part, introduction is mainly showing the general structure and contents of this thesis, and it help to build a better understanding and learn how important the valuation is. Auto industry is the pillar industry of the national economy. With a lot of investment money flooding into the auto industry market, mergers and acquisitions, restructuring, equity trading and venture capital activities of auto industry are keeping enthusiasm high. Then how to assess accurately the value of auto enterprise is particularly important and significant. And the enterprise value has become a key factor to success investment decision for the managers and investors.

Then the main valuation methodology part is followed. In this part, we will know how to value a company step by step. First at all, we will explain three kinds of ratio, solvency ratio analysis, liquidity ratio analysis and profitability ratio analysis in order to research the financial situation. Then we will choose the best suitable model to value the company after we analyze the financial situation.

Third chapter is to describe the situation of the company. First as all, we will introduce the basic situation of Dongfeng automobile company. And according to analyze the development of domestic industry environment and international environment, we will study the present situation and future trend of domestic and global automobile industry. Comparing Dongfeng with other domestic and international auto companies, such as assets, profits, market shares and so on, we will know the disadvantage of the company and competitive advantage, then position future development.

Chapter four is application of valuating the company. We will choose four years historic data from year 2009 to year 2012 and predict next six years in the future to calculate and analyze the financial situation. In this chapter, we will firstly use regression model to build up linear

regression function to predict the trend of two variables, revenue of the company and GDP in China. Then we are able to predict each component of the balance sheet and income statement by comparing each items with the revenue. According to discounted cash flow model, we will have a valuation of the company. Furthermore, we will research more how the value change when we change other selected and important components due to sensitivity analysis.

Last chapter is to conclude the company. We will discuss and summarize the results we have got, present the future steps and development.



## **2 Description of the Company Valuation Methodology**

Business valuation is a set of procedures used to estimate the economic value of an owner's interest in a business. Assessment method is the core issue of enterprise value assessment, and it directly affects the result of the assessment and the implementation of market transactions.

Company's value depends on future free cash flow, rather than the history cash flow, we require forecast the balance sheet and income statement from this year to the future (generally for 5 to 10 years). This is the most critical step of affecting the estimation of free cash flow discounted method, and it need analysts to predict and have a more in-depth understanding about the company's macro economy, industry structure and competition, the company's products and customers, the company's management level and other fundamental and historical financial data.

On the basis of historical data, analysis of the company and industry and predict the future of the company's business development, the managers have to predict the company's sales, operating costs, depreciation, taxes and other projects.

Valuation is measured by financial market participants to determine the price whether they are willing to pay or receive to effect sales of a business. The purpose of valuation is to analyze and measure the market value of enterprise or a business unit within the enterprise, branch offices and provide relevant information in order to help investors and management authorities improve decision making. Or we can also describe in more details below: buying and selling operations, public offering (IPO), strategic decision on the company's continued existence, marital dissolution, compensation and so on.

There are primary three classic and widely approaches to value a company: the income approach, the assets approach and the market approach. And there are five steps to complete.

1. Data collection
2. Strategic analysis
3. Financial analysis

4. Financial plan creation
5. Valuation approaches

For the first step, we collect four years data from year 2009 to year 2012, and then predict next six years in the future. About the strategic analysis is mainly discussing SWOT analysis. Financial analysis is used to research financial situation of the company. In this thesis, we use three kinds of ratio analysis, solvency ratio, liquidity ratio and profitability ratio. Then we also have to create financial plan of the company. We will plan some more important and common items of the financial statement. Last step is to value the company according to a suitable model and results of financial plan.

## **2.1 Strategic analysis**

The main goal of strategic analysis is to estimate or forecast the total potential sales of the company. SWOT analysis is a structured planning method used to evaluate the strengths, weaknesses, opportunities, and threats involved in a project or in a business enterprise. It involves specifying the objective of the company or project and identifying the internal and external factors that are favorable and unfavorable to achieve that objective. Generally, there are three procedures of the strategic analysis.

- External potential
- Internal potential
- Prediction of the sales

### **2.1.1 External potential**

External potential is mainly analyzing opportunities and threats, and it included estimation, analysis and prediction of the relevant market. The main goals of analyzing external potential are as follows:

- a. Learning the basic information about relevant market

It mainly researches the scope and territory of the business, the size of estimating the relevant market. The more historic time series, the better and more precise estimation. And we will measure the sum of sales units.

b. Finding which factors influence market evolution

The factors primarily include market growth, return on the market, sensitivity on the economic cycle, macroeconomic factors (GDP, interest rates, exchange rates, inflation and so on) and pricing specific commodities and so on.

c. Forecasting market development

We will use regression analysis to predict market size evolution.

## **2.1.2 Internal potential**

However, internal potential analyze strengths and weaknesses, it consist of analyzing competitive forces. The the contents of these two potential analysis constitute SWOT analysis.

The main goal of analyzing internal potential are as follows:

a. Understanding the basic information about market share

According to analyze historic time series data, we will conclude the size estimation of the market share. And the more time series, the more precise the market share.

b. Fully understanding the main competitors

In general, we will collect the relevant information or data, especially financial data, to analyze and compare the competitors.

c. Finding out which factors affect market share evolution

Those factors are mainly covering management of the company, quality of employees, investment and products and so on.

d. Predicting the market share development

We also use regression analysis to forecast market share evolution.

### **2.1.3 Sales prediction**

Sales prediction is mainly from analysis of the external and internal potential. And in this part, we will forecast each items of financial statement and create financial plan. In business, the main goal of creating a financial plan is to determine the future development of a corporate in three primary financial statements (balance sheet, income statement and cash flow) by forecasting relevant items. And it is the fundamental basis for using the income methods.

Financial plan can refer to an projection of income and expenses for the company, and estimate cash needed for a company and decide how to raise the money, through borrowing or issuing additional shares in a company.

In this chapter, we have planned all items of balance sheet and income statement. However, we will just explain more details about the main and important components. So at first, we will choose one common used and important item as a basis (revenue) of the company and build up a relationship between this basis and other relevant variables (GDP in China) by means of regression model. Then we will plan other items by comparing with this basis.

#### **Plan of revenue**

We use regression model to plan the revenue according to build up the relation between revenue of the company and GDP in China by using the historic data. The hypothesis for economic model is based on the direct or inverse relationship between the variables examined. It can be explained how change the dependent variable when changing the values of other independent variables. The econometric analysis starts with the specification of a mathematical model, then we will assume the linear regression function is as following. This equation is used to study the relations between the dependent variable and series of independent variables.

$$Y_i = \beta_0 + \beta_1 x_i + \varepsilon, \quad (2.1)$$

where  $Y_i$  is dependent variable (revenue),  $x_i$  are independent or explanatory variables, GDP in China in this thesis,  $\beta_0$  and  $\beta_1$  known as the parameters of the model, such as the intercept ( $\beta_0$ ) and slope coefficient ( $\beta_1$ ), and  $\epsilon_i$ .

$R^2$ , “Goodness of fit”, implies that the degree of the regression line fits the data, and the proportion or percentage of the total variation  $Y$  explained by the regression model. The greater the  $R^2$ , more precise and better for the model. Adjusted  $R^2$  seeks to correct  $R^2$  in order to improve the “Goodness of fit” of the model. The  $R^2$  have two properties:

- It is nonnegative quantity
- Its limits are  $0 \leq R^2 \leq 1$

P-value is used to test significant, generally when  $P < 0.05$ , it means statistical significant, and independent variables and dependent variable do exist close relationship. And when  $P < 0.01$  as very significant. So P-value is more close to zero, significant is more strong, and the model is better. Conversely, if  $P > 0.05$ , it indicates that dependent variables are difficult to change with the change of the independent variables. Variables do not exist close relations. In this case, we have better change our independent variables.

The standard error is defined as the estimated standard deviation of the estimator. It is to estimate the variability of the estimator, or measure its imprecision.

The Durbin-Watson is used to detect the autocorrelation of residues in a regression model. And the statistic value of Durbin-Watson is always between 0 and 4. If the value is equal to 2, which indicates that the model do not exist any autocorrelation. And values is more close to zero, it indicates that the residues are positively correlated; opposite values is more close to 4, it indicates that the residues are negatively correlated.

### **Plan of investment**

It is necessary to consider a firm’s capacity due to planned sales growth.

$$k = \frac{\Delta \text{fixed s e}}{\text{R e v e n u}} \quad (2.2)$$

### **Plan of depreciation**

A firm's plan of depreciation is dependent on the future balance sheet.

$$k = \frac{D E P}{F i x e d s e} \quad (2.3)$$

### **Plan of net working capital (NWC)**

The main goal of planning net working capital is to estimate the relationship between changes in the terms of the NWC and total revenue.

$$NWC = \text{w o r k i n g c a p i t a l r e l i a b i l i t y} \quad (2.4)$$

$$k = \frac{\text{i t e r m s o f t h e N W C}}{\text{R e v e n u e}} \quad (2.5)$$

## **2.2 Financial analysis**

Financial analysis of a company is a process of selecting, evaluating business and projects, and interpreting financial data, with other relevant information. The main goal of financial analysis is to analyze a company's financial performance and financial condition. And in addition, another important target is to involve the company's past performance into an estimation of the company's future performance. And we also can judge whether the company is enough stable, solvent, liquid and profitable for investment according to calculate financial ratios which is one of the most common ways for financial analysis from the historic data of the company. When analyzing a specific company, the analyst will usually focus on the income statement, balance sheet, and cash flow statement.

At first analyzing capabilities of the company's financial situation is to know more about the company's various financial data, formulate an assessment of the company's present and future financial condition and performance. At last, according to analyze and compare, we are able to select the most appropriate valuation method for the company. And finally we will make the

best accurate results, also provide the effective basis for the investors investment behavior. In this chapter, we will make a financial analysis, mainly from the following three aspects of reaction to the financial performance of the enterprise.

### **2.2.1 Solvency ratio analysis**

We use solvency ratios to measure a company's ability to meet its long-term obligation, usually over one year, and assess its level of financial risk. Solvency reflects enterprise's safety, we can understand whether the company is able to run continuously or not.

#### a. Debt-to-assets ratio

Debt-to-assets ratio is the ratio of total debt to total assets. This ratio is to measure the proportion of a company's total assets which is being financed with debt. If the ratio is greater than 1, it indicates that a considerable proportion of assets are being funded with debt, also indicates that the company may be putting itself at risk of not being able to repay back its debts, while a low ratio indicates that the bulk of asset funding is coming from equity.

$$\text{Debt-to-assets ratio} = \frac{\text{Total debt}}{\text{Total assets}}. \quad (2.6)$$

### **2.2.2 Liquidity ratio analysis**

Liquidity means ability of a firm to covert its assets into cash, and a indicators of short-term financial risk. Liquidity ratio measure a company's ability to satisfy its short-term obligation, usually within one year. And it is foundation for a corporate to study its management of the profitability and solvency ratio analysis.

#### b. Current ratio

Current ratio is the ratio of current assets to current liabilities. It measures a company's ability to satisfy current liabilities with current assets. Generally speaking, the higher the current ratio, the stronger ability to paying in the short-term and the greater the liquidity of assets. However, it also depends on the different industry. For example, the liquidity of commercial

retail enterprises need higher current assets than manufacturing enterprises, because the former one require investing more money in terms of inventory.

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

### 2.2.3 Profitability ratio analysis

Profitability ratios are one of the most popular metrics used in financial analysis. Profitability reflect the ability to make profits for an enterprise during a certain period, and its size is a comprehensive reflection of the production quality and management level. Continuously improving the level of profitability is an important corporate business target, and also the fundamental guarantee for the sustainable development of a corporate.

#### c. Return on assets (ROA)

Return on assets is the ratio of net income to total assets. This ratio is used to measure a company's net income which is generated money in total assets, and return on assets is a common ratio used to determine how efficient a company is using its assets and as a measure of profitability.

$$ROA = \frac{Net\ income}{Total\ assets} \quad (2.8)$$

#### d. Return on equity (ROE)

Return on equity is the ratio of net income to shareholder's equity. We use return on equity ratio to measure a corporation's profitability by calculating how much profit a company generates with the money shareholders have invested. The ROE is useful for comparing the profitability of a company to other firms in the same industry.

$$ROE = \frac{Net\ income}{Total\ equity} \quad (2.9)$$



## **2.3 Valuation approaches**

There are only three approaches to value any asset or a business, the income approach, the market approach and the asset approach. However, in this thesis, we will only mainly focus on discussing, explaining and applying suitable method for the company, the income approach as our valuation approach.

### **2.3.1 The income approach**

The main concept of the income approach is that present value equals future benefits discounted at the opportunity cost of capital. And it is a forward-looking approach. The income approach is the most widely used method of valuing an interest for a privately held corporate. We assume that the value of an ownership interest is equal to the sum of the present values of the expected future benefits. Then we can distinguish the income approach by types of the future benefit. However, we will select the one of the most common and widely used method, discounted cash flow method, to value a company.

- Discounted cash flow (DCF) method
- Economic value added (EVA) method
- Capitalized income method

#### **Discounted cash flow (DCF) method**

Discounted cash flow valuation method is to value a project, company, or an asset by using the concepts of the time value of money. It means that all future cash flows are estimated and discounted to give their present values.

The value of a company is determined by the future free cash flows discounted by cost of capital which is related to the time value. If the value of the company is higher than the current discounted price, investors can buy because it is profitable in the future, but if it is less than the current price, it implies that current price of the company is overvalued, and it is better for investors to evade or sell. The basic DCF method is as follows:

$$V = \sum_{t=1}^T \frac{FCF}{(1+R)^t}. \quad (2.10)$$

There are two key parameters in this equation, FCF and R. And estimating FCF and R depend on the types of assets we want to value, valuation of entity. In this thesis, we will value the entity. So it is main dependent on FCFF and WACC.

#### 1. Free cash flow to the firm (FCFF)

$$FCFF = EAT + I \cdot (1-t) + DEP - \Delta NWC - INV, \quad (2.11)$$

or

$$FCFF = EBIT \cdot (1-t) + DEP - \Delta NWC - INV. \quad (2.12)$$

#### 2. Cost of capital (R)

### Phase method

#### 1) One-phase method

One-phase method is expected that the behavior of the company valuation will keep the same or constant rate during the whole valuation period. Under the assumption of constant free cash flows, the company's value will be calculated as perpetuity.

$$V = \sum_{t=1}^{\infty} \frac{FCF}{(1+r)^t} = \frac{FCF}{r}, \quad (2.13)$$

or we will use constant rate of increase or decrease in free cash flow:

$$V = \frac{FCF}{r-g}, \quad (2.14)$$

$$g = \frac{FCF_{t+1} - FCF_t}{FCF_t}. \quad (2.15)$$

#### 2) Two-phase method

Because of the different possibility of free cash flows estimations, we are able to divide the life of the company into two phases. Then the equation will be also divided into two parts.

$$V = \sum_{t=1}^T \frac{FCF}{(1+r_1)^t} + \frac{FCF_{T+1}}{r_2 - g} (1+r_1)^{-T}. \quad (2.16)$$

Generally speaking, first phase method is primarily planned for 4 to 6 years. And it is assumed that the financial situation of a corporate is more predictable, and it is easier and more precisely to estimate free cash flows from the company activities compared with two-phase method. Usually after the first phase, second phase will be follow, which can last to infinity. However, during the second phase, it is assumed that we are able to only predict the trend in free cash flow. At last, company value equals to the sum of values of both these two phases.

$$V = V_1 + V_2. \quad (2.17)$$

From above statements, we know that free cash flows generated by the company can be estimated relatively precisely in the first phase.

$$V_1 = \sum_{t=1}^T \frac{FCF}{(1+r_1)^t}, \quad (2.18)$$

where T is the number of years in the first phase, and  $r_1$  is cost of capital in the first phase.

Because we have discussed and known that in the second phase we are only able to estimate the trends in free cash flows. Then here we work with continual value (CV), which is the company value at the beginning of the second phase. And the value must be continuously discounted to the valuation date.

$$V_2 = CV(1+r_1)^{-T}. \quad (2.19)$$

There are two different assumptions of the growth rate in free cash flow. If the growth rate of free cash flows in the second phase is assumed to be constant, continual value is calculated as follows:

$$CV = \frac{FCF_{T+1}}{r_2}, \quad (2.20)$$

where  $r_2$  is cost of capital in the second phase.

However, if the growth rate annually of free cash flows in the second phase is assumed to be rate  $g$ , continual value will be calculated as follows:

$$CV = \frac{FCF_{T+1}}{r_2 - g}, \quad (2.21)$$

We can also show the continual value by means of the value drivers:

$$CV = \frac{NOPAT_1 \cdot \left(1 - \frac{g}{RONIC}\right)}{r_2 - g}, \quad (2.22)$$

where NOPAT means net operational profit after tax (when the nonoperating assets are equal to 0, then  $NOPAT = EBIT(1-t)$ ) and RONIC stands for return on new invested capital.

In the end, total company value can be written as follows:

$$V = \sum_{t=1}^T \frac{FCF_t}{(1+r_1)^t} + \frac{FCF_{T+1}}{r_2 - g} (1+r_1)^{-T}, \quad (2.23)$$

or it is also written with another way,

$$V = \sum_{t=1}^T \frac{FCF_t}{(1+r_1)^t} + \frac{NOPAT_1 \cdot \left(1 - \frac{g}{RONIC}\right)}{r_2 - g} (1+r_1)^{-T}. \quad (2.24)$$

### **Economic Value Added (EVA)**

Economic value added is an estimation of a firm's economic profit that is being the value created in excess of the required return of the company's investors including shareholders and debt holders. EVA is the difference between profit earned by the firm and the cost of financing the firm's capital, is also tool of financial indicator and used to value a company's future benefit stream.

$$EVA_t = NOPAT_{t-1} \cdot WACC, \quad (2.25)$$

or written with another way,

$$EVA = (ROC - WACC) \cdot C_{t-1}, \quad (2.26)$$

where C is invested capital (amount of investing core operations, mainly including property, plant, equipment and working capital and so on), WACC is the weighted average cost of capital, ROC is return on invested capital (NOPAT/C) and g is rate which the company's NOPAT and cash flow grow each year.

After we value a company with economic value added, we have to firstly study market value added (MVA). And it is computed as present value of the future EVA. If MVA is greater than zero, it indicates that the company is able to create the value, or not when MVA is less than zero.

$$MVA = PV(EVA) = \sum_t^T \frac{EVA_t}{(1+WACC)^t}. \quad (2.27)$$

Then the basic formula to value of entity with EVA will be written like this:

$$V = C_0 + MVA, \quad (2.28)$$

$$V = C_0 + \sum_t^T \frac{EVA}{(1+WACC)^t} + \frac{EVA_{t+1}}{(WACC_{t+1} - g) \cdot (1+WACC)^t}, \quad (2.29)$$

$$V = C_0 + \sum_t^T \frac{NOPAT_t \cdot WACC \cdot C_{t-1}}{(1+WACC)^t} + \frac{NOPAT_{t+1} - WACC_{t+1} \cdot C_t}{(WACC_{t+1} - g) \cdot (1+WACC)^t}, \quad (2.30)$$

$$V = C_0 + \sum_t^T \frac{(ROC - WACC) \cdot C_{t-1}}{(1+WACC)^t} + \frac{(ROC_{t+1} - WACC_{t+1}) \cdot C_t}{(WACC_{t+1} - g) \cdot (1+WACC)^t}. \quad (2.31)$$

And another types to value an equity of a company with EVA method.

$$V = C_0 + MVA - D_0. \quad (2.32)$$

When we use DCF method and EVA method to value a same company, the results of these two methods must be identical. EVA method is able to show us whether the company can create the value or not. However, DCF method do not have this function.

## **Weighted Average Cost of Capital (WACC)**

WACC represents the opportunity cost that if investors invest their money in one particular business instead of others investment when the investor face a similar risk. And it also reflects the average cost of a company through equity and debt financing. Yields of a financing project must be higher than the WACC of the project, it means that this project is worth for investment. WACC method determines the company's cost of capital by calculating the weighted average of the company's cost of debt and cost of equity.

$$W A C C \in R_e \cdot \frac{E}{A} + R_d \cdot (1-t) \cdot \frac{D}{A}. \quad (2.33)$$

There are three key parameters to estimate for WACC:

- a. Cost of equity ( $R_e$ )
- b. Cost of debt ( $R_d$ )
- c. Market-based capital structure

### **Cost of equity ( $R_e$ )**

In finance, the cost of equity is defined as expected rate of return of a company's stock. Usually there are three widely used models to estimate expected returns. However, capital assets pricing model will be shown and applied more detail to calculate the expected return.

- Capital assets pricing model (CAPM)
- Building-up method
- Gordon model

### **Capital Assets Pricing Model (CAPM)**

Capital asset pricing model is used to determine a theoretically appropriate expected rate of return of an asset. And it describes relationship between risk and expected return of a given asset. The model takes into account the asset's sensitivity to non-diversifiable risk, usually including systematic risk and market risk, and it is often represented by the coefficient beta ( $\beta$ ) in the financial industry, which measures the sensitivity of assets on the change in the risk

factor.

$$E(R_E) = R_f + \beta_e [E(R_m) - R_f], \quad (2.34)$$

where  $R_f$  means risk free rate,  $E(R_m)$  is the expected return of market,  $\beta_E$  stands for stock's sensitivity to the market and  $[E(R_m) - R_f]$  represents market risk premium.

### **Risk free rate**

Risk-free rate represents the interest that an investor would expect from an absolutely risk-free investment over a specified period of time. In theory, the risk-free rate is the minimum return because an investor do not expect to accept additional risk unless the potential rate of return is greater than the risk-free rate.

In practice, we will use return of government bonds as the risk-free rate. Government bonds are considered the most risk free securities than others due to guarantee by the whole state economy. So each cash flow should be discounted using a government bond with a similar maturity. And for estimating continual value within DCF method and EVA method, we will use a long-term treasury bill to determine the risk-free rate instead of short-term.

### **Market risk premium**

Market risk premium is the difference between the expected return on a market portfolio and the risk-free rate. When investors require to invest a certain risky portfolio, they would expect extra incomes in addition to the risk-free securities return. And the greater the risk, the higher required for the market risk premium.

In practice, the expected return of market is approximated by an index return such as S&P 500. Then we will calculate the risk premium relative to long-term government bonds (using as long as period possible). Next we can either use average or regression model to predict the future market risk premium.

## **Building-Up Method**

Build-up method is usually used by analysts who work in a small and medium size companies. There are a number of risk factors that are related to the properties or assets. These risks are collectively represented by the building-up method. The basic formula of building-up method is as follows, and there are three factors that are related to the method.

$$E(R_E) = R_f + RP_m + RP_s + RP_u . \quad (2.35)$$

Risk free rate ( $R_f$ ) is one of these elements, and this rate is mainly related to the government bonds which belonged to long term bonds. Risk premium for small size company ( $RP_s$ ), due to the actual experience, when the size of a company decreased, the risk for the company would be increasing. Risk premium for specific size company ( $RP_u$ ) is the risk which is associated with the particular industry.

At last, the combination of size premium, risk-free rate and the equity risk premium is used by the investors and the analysts for predicting the required rate of return of small public companies.

### **2.3.2 The assets approach**

The asset approach is a business valuation method which help to provide a reasonable evaluation of the business ownership interest in a given corporate. The value of the assets based approach of a business is equal to the sum of its each individual parts.

The assets approach is based on the two kinds principle of substitution. No rational investors will pay more for a business asset than the cost of purchasing assets of similar economic utility. However, on the other hand, no rational sellers of the firm will sell the company less than the sellers are able to obtain through selling its assets individually. Usually, there are two assumptions when we will the assets approach:going concern and liquidation.



- Going concern

It means that the company will be continuing operation. And it refers to use the substantial value. Usually, we might discuss book value, replacement cost and market price.

Booking value, which means that the assets are really purchased when we look at historical prices. Then the appraisal is accounting value of equity. However, this method is not so common used and reflected real situation, because not all assets of the business are registered in the balance sheet (mostly intangible assets and fully depreciated assets) and there do exist difference between the historical buying price and real value today.

Replacement cost, which measures the cost when investors want to buy all tangible and intangible assets.

Market price, which is applied for holding companies generally. All assets are estimated by the market prices.

- Liquidation

It means that the company will not continue any longer. It is measured the use of the liquidation value, which is based on the assumption of dividing the assets and selling them individually. And it is the lowest value of the firm, because no rational seller will sell the company with a lower price. We can calculate and explain the liquidation value like this.

At first, we will get income from the assets sold (generally more than one year), but we also need to pay expenditures, which include paying the liabilities, cost of liquidation and taxes. In addition, other income or expenditures from the business activity during the liquidation. Then the difference between positive income and negative expenditures is the liquidation value of the business.

Next, we will discuss and explain the steps of the asset approach. In general, there are three steps, acquiring the balance sheet as a start point, determining unrecorded assets and liabilities and restate recorded assets and liabilities.

- Acquiring the balance sheet

This is the first step when we use the assets approach, and it is mainly used to get a balance sheet as close as possible to the valuation date. A firm balance sheet usually include assets, liability and equity, and major components cover inventories, trade receivables, bill receivables, cash, property and equipment, trade payables, bills payable, interest-bearing borrowings and provisions and so on.

- Determining unrecorded assets and liabilities

Unrecorded assets and liabilities are most refer to off-balance sheet. Those unrecorded assets and liability do happen in the business but being written off or the assets with a lower acquisition costs. In general, it belongs to intangible in nature. However, off-balance sheet liabilities major include contingent liabilities, for example potential environmental problems, pending tax disputes and unfunded pensions.

- Restate recorded assets and liabilities

Recorded assets and liabilities are refer to on-balance sheet. Recorded tangible assets include land, building and equipment and other real estate. Recorded liabilities consist of payables and interest-bearing debt.

### **2.3.3 The market approach**

The market approach is an evaluation method of comparing similarities and differences between the assets with similar assets, then adjusting the price of similar market to determine the value of an asset. And the important factor is to find a reasonably comparable guideline companies, which can happen either the public or the private marketplace. And the value of the comparable have to be known, either because the companies are trade publicly or properties are sold recently. Basic implementation:

$$V = \text{multiplier} \times \text{parameter} \quad (2.36)$$

where parameter might be sales, net income and so on. Multiplier is the pricing multiple based on the parameters, such as price/net income, price/book value. So we are able to write the equation with other way.

$$V_E = \left(\frac{P}{E}\right)_{\text{comparable}}, \quad (2.37)$$

$$V_A = \left(\frac{MV}{BV}\right)_{\text{comps}} \cdot BV. \quad (2.38)$$

However, there is no necessary to find the totally identical comparable companies and market as the subject company. We will only consider the following factors to make an overall assessment as a potential guideline companies, size measurement, sales, profits, assets, operating efficiencies and risk measured by financial ratios and similarity in lines of business. And analysts will decide which factors will get the most consideration to make a decision whether the company or the market is suitable for market approach. In the real estate industry, market approach is the most common used approach for real estate appraisers. However, there still do exist advantage and disadvantage of the market approach.

Advantage: at first, it is quite simple to understand the market approach, for example we do not need to know many equations and calculations, and those companies who have the similar product, business risk or financial characteristic should have similar pricing characteristic. Secondly, the market approach use actual data, which can reduce the error. And it means the value estimation is based on actual stock price and transaction prices. Compared with the income approach, it is more simply to apply to the market approach. The income approach need to create a mathematic model, but the market approach derives estimation of value from relatively simply financial ratios. The market approach does not depend on explicit forecasts when we compared with the income approach, which need to predict financial statement. However, the market approach does not require so many forecasts or assumption.

Disadvantage: it is so difficult to find a reasonable guideline companies. And it may be the biggest problem and barrier to apply to value of the market approach. The analyst might not

be able to find the guideline companies who is similar to the subject. Especially, there are no other similar companies for those companies who are so unusual or special. Although we will find a comparable company, number of data of guideline company we need are insufficient. Compared with other approaches, the market approach is not flexible or adaptable. Sometimes it is difficult to include unique characteristic of the corporate in the value.

## **2.4 Sensitivity analysis**

Sensitivity analysis is a study of finding out those sensitivity variables who have important influence on investment projects, to get economic benefit index from many uncertainty factors, furthermore analyze, measure its sensitivity degree to project, and then judge the whether the project can bear uncertainty risk. The main steps for a sensitivity analysis are as follows:

- a. At first, we have to determine sensitivity analysis indicators. In generally, the object of sensitivity analysis is a specific technical scheme and its economic benefits. In this thesis, we will mark value of the company as sensitivity analysis indicators.
- b. Then we will calculate the target of the technical solution. Then we compute the value of the company when we do not change any other inputs.
- c. Next step is selection of uncertainty factors. We just choose those who have an relatively bigger influence on the target. Here, we select earnings after tax, weighted average cost of capital, investment and depreciation.
- d. Calculating the degree of analysis indicators when changing uncertainties variables. In this thesis, we will calculate the each level of values when we increase 5% and 10%, decrease 5% and 10% of each variables.
- e. Finding out sensitive factors, analyzing and taking measures in order to improve the ability to fight risk of technical scheme.

The main purposes of sensitivity analysis are as follows:

- a. Finding out the factors who influence the sensitivity of the economic efficiency, then study the changing reasons of sensitivity factor, provide data for the uncertainty analysis.
- b. Researching changing of the uncertainty factor and confirming variation rang of the project economic benefit or limit value, analyze and judge the ability of undertaking risk for the project.
- c. Comparing to sensitivity size from several schemes so that during the similar economic value, company's managers can choose weakest sensitive investment scheme.

## **3 Company Description**

Description of the Company mainly introduce the history, main products, market shares and other information, then compared with other larger competitors in the world.

### **3.1 Corporate profile**

Second Automotive Works, the predecessor of Dongfeng Motor Corporation and the parent of the Company, was established in September 1969.

In 2000, Dongfeng Motor Corporation underwent a debt restructuring arrangement, with China Huarong Asset Management Corporation, China Cinda Asset Management Corporation, China Orient Asset Management Corporation, China Great Wall Asset Management Corporation and China Development Bank to jointly form the Company. Then the Company was incorporated on 18 May 2001.

In 2004, the Company was transformed into a joint stock limited company after repurchasing all equity interests held by shareholders other than Dongfeng Motor Corporation. And on 6 December 2005, the Company initially issued H shares overseas.

As at 31 December 2012, the Company has 16 major subsidiaries, jointly-controlled entities and other companies in which the Company has direct equity interests, all of which constitute the Dongfeng Motor Group.

On 16 January 2013, the Company established a wholly owned subsidiary, Dongfeng Commercial Vehicles Co., Ltd. On 26 January 2013, the Company entered into an agreement with the relevant parties to acquire the commercial vehicles and other businesses of Dongfeng Motor Co., Ltd. and established a joint venture with AB Volvo through Dongfeng Commercial Vehicles Co., Ltd. All values in this thesis are presented in Renminbi (“RMB”) and all values are rounded to the nearest million.

## 3.2 Major businesses of the Dongfeng Motor Group

Dongfeng Motor Group is primarily engaged in commercial vehicles (heavy duty trucks, medium trucks, light trucks, mini trucks and buses, and commercial vehicles engines, auto parts and vehicle manufacturing equipment of commercial vehicles) and passenger vehicles (sedans, MPVs, SUVs and passenger vehicles engines, auto parts and vehicle manufacturing equipment of passenger vehicles). In addition, the Dongfeng Motor Group is also engaged in the import and export of vehicles and equipment, finance, insurance agency and used car trading.

Table 3.1 Main products in 2012

	Number of units produced (units)	Number of units sold (units)	Market share in terms of sales volume (%)
Trucks	358,439	369,560	
Buses	44,963	45,194	
Commercial Vehicles	403,402	414,754	10.9
Basic passenger cars	1,245,515	1,248,678	
MPVs	191,788	186,199	
SUVs	301,331	304,622	
Cross type	2,127	1,192	
Passenger Vehicles	1,740,761	1,740,691	11.2
Total	2,144,163	2,155,445	11.2

From table 3.1, it gave us a clear signal about the types and amounts of products of Dongfeng, and its market shares in 2012. We can see that passenger vehicles were the main products for the company.

Table 3.2 Sales revenue of the main business

Business	Sales revenue (million RMB)	Contribution to the Group's sales revenue(%)
Commercial vehicles	26,831	21.6
Passenger vehicles	96,042	77.4
Others	1,163	1.0
Total	124,036	100

This table showed us sales revenue and contribution to the Group's sales revenue of each business. And from the table, it is clear understanding for us that passenger vehicles created the most profits, accounting for 77.4%. So we will analyze it more detail.

- Commercial vehicles

The Dongfeng Motor Group's commercial vehicle business, which was established in 1969, has secured a leading position in the PRC commercial vehicle industry for many years.

As at 31 December 2012, the members of the Dongfeng Motor Group produced 41 series of commercial vehicles, including 34 series of trucks and 7 series of buses. The commercial vehicles of the Dongfeng Motor Group are mainly manufactured by Dongfeng Motor Co., Ltd. The commercial vehicles manufactured by the Dongfeng Motor Group are sold mainly through four major sales and after-sales service networks, which form one of the most extensive commercial vehicle sales and service networks in the China.

Commercial vehicle engines produced by the Dongfeng Motor Group are mainly provided for internal use and external sales. In addition to engines, the Dongfeng Motor Group also manufactures a range of auto parts for commercial vehicles, including power transmission systems, vehicle bodies and chassis, electronic components and other parts.

- Passenger vehicles

As at 31 December 2012, the members of the Dongfeng Motor Group produced 41 series of passenger vehicles in aggregate, including 28 series of sedan, 6 series of MPV and 7 series of



SUV. The passenger vehicles manufactured by the Dongfeng Motor Group are sold through 8 independently managed sales and the after-sales service networks throughout the China. Each of these networks provides sales and after-sales services for one brand of passenger vehicles.

The passenger vehicle engines manufactured by Dongfeng Motor Co., Ltd., Dongfeng Peugeot Citroen Automobile Company Ltd. and Dongfeng Honda Automobile Co., Ltd. are mainly for internal use, while those manufactured by Dongfeng Honda Engine Co., Ltd. are mainly for external sales. In addition to engines, the Dongfeng Motor Group also produces a range of auto parts for passenger vehicles, including power transmission systems, vehicle bodies, chassis, electronic components and other parts.

- Other businesses

The Dongfeng Motor Group is also engaged in the production of vehicle manufacturing equipment through Dongfeng Motor Co., Ltd. And the vehicle manufacturing equipment produced by Dongfeng Motor Co., Ltd. includes machine tools, coating equipment, and measuring and cutting tools. Dongfeng Motor Co., Ltd. also provides equipment maintenance services.

In addition to the above businesses, the Dongfeng Motor Group is also engaged in the import and export of vehicles and equipment, finance, insurance agency and used car trading businesses.

### **3.3 China Association of Automobile Manufacturers**

China Association of Automobile Manufacturers (CAAM) is a social organization founded in Beijing in the May of 1987, with the approval of the Ministry of Civil Affairs of the People's Republic of China. As a vice chairman unit, Dongfeng motor corporate make an important contribution to the development of China automobile industry.

CAAM aims at the reflection of aspiration and demand of the industry and the performance of mutual service for the government and the industry and gives full play to offering of service,

reflection of demands, regulation of actions and establishment of platform to promote the sound and rapid development of the automotive industry in China.

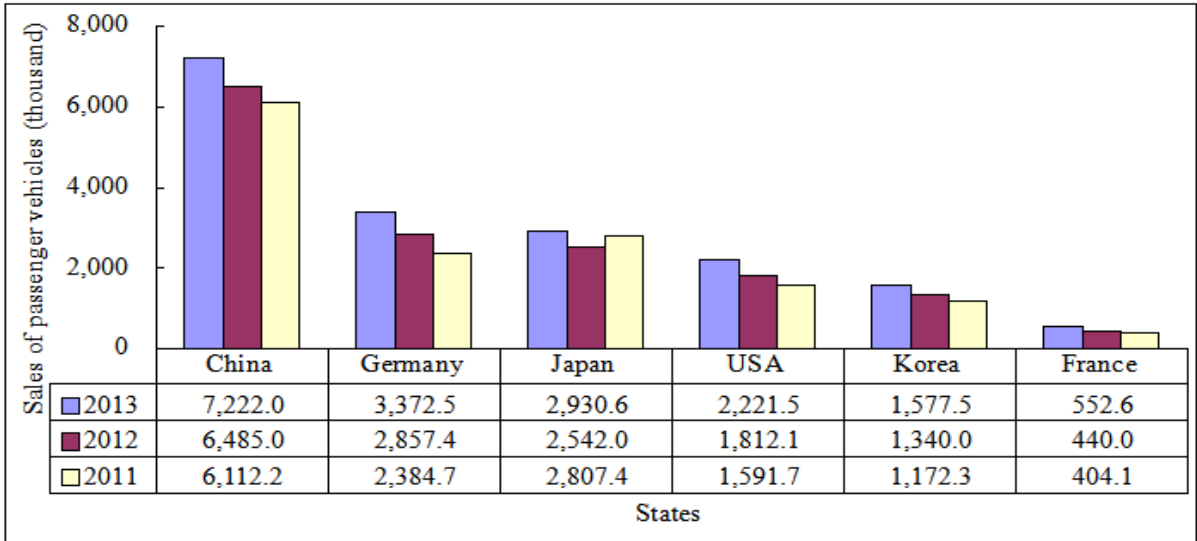
And its main functions are industry investigation and research, demand reflection and policy suggestion, information and technology service, trade coordination and dispute investigation, preparation of standards and self-discipline within the trade, industry services and professional training, and international communication and cooperation.

As one of the permanent and vice president members of the International Organization of Motor Vehicle Manufacturers (OICA), CAAM has established a close relationship with the international organization for automobile industry. Along with opening up and reforming of China's auto market, and rising China's international status, we believe that our market and industry will play a more and important role in the international market.

### 3.4 Main competitors

This chapter is mainly to do comparison the Dongfeng and other major competitors at home and abroad, in order to understand and improve our shortcomings, continuously improve our level of productivity and quality, and promote the development of the Company.

Chart 3.1 Sales of passenger vehicles



Source: China Association of Automobile Manufacturers

Chart 3.1 showed the sales of passenger vehicles of the main vehicles manufactured country in the last three years.

Table 3.3 Percentage of sales of passenger cars in selected states

	China	Germany	Japan	USA	Korea	France
2013	40.28%	18.81%	16.35%	12.39%	8.80%	3.08%
2012	41.85%	18.44%	16.40%	11.69%	8.65%	2.84%
2011	42.23%	16.48%	19.40%	11.00%	8.10%	2.79%

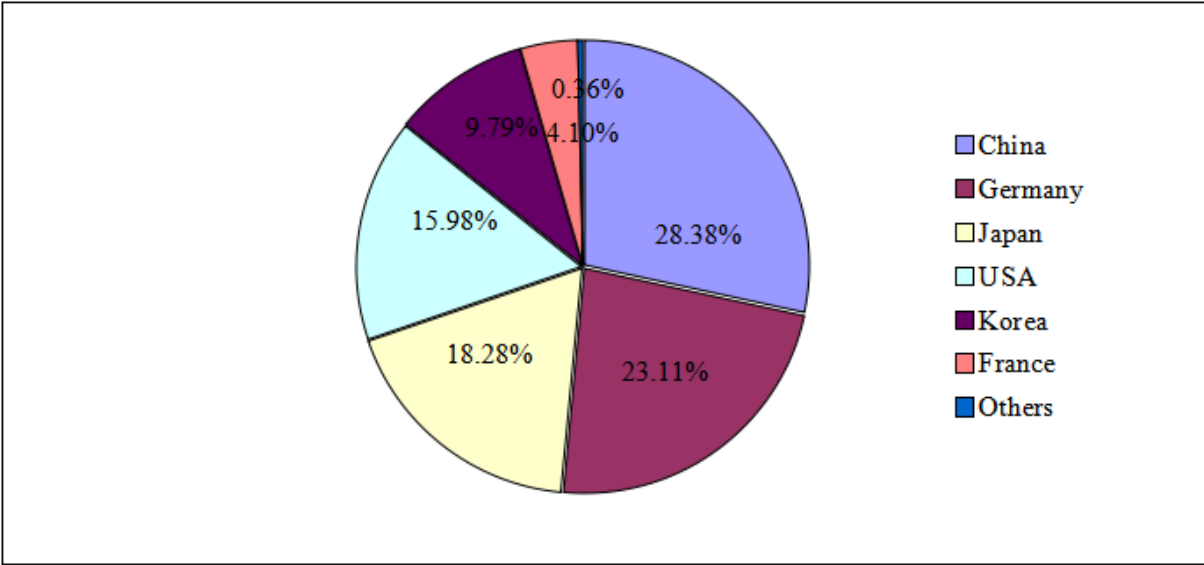
Source: China Association of Automobile Manufacturers

And table 3.3 compared the percentage of sales of passenger cars in total sales volume of the passenger cars in each state. From previous chart and table, the sales of Chinese brand passenger vehicles were sold 7,222 thousand units in 2013, up 11.36% year on year. However, compared to the last three years, from the table we can see that percentage of sales was continuously declining, which dropped from 42.23% to 40.28% in total sales volume of the passenger cars.

The general PRC auto industry was under a slow growth in 2012. Lastly, due to the row between China and Japan over Diaoyu Islands broke out in September, sales of Japanese-brand passenger vehicles and the auto market as a whole were severely affected. The PRC auto industry, in particular passenger vehicle market, has entered to a new development stage. The growth in general consumption market provided momentum and tremendous room for improvement. Along with the market expansion, different market segments will develop and result in keen competition and more uncertainties.

As for the foreign brands, percentage of sales of all states are continuously increasing excepted for Japan in the last three years. Especially for Germany, the performance was outstanding in 2012, which raised from 16.48% to 18.44%, up 1.96 percentage points. And these countries selling percentage and market shares increased to varying degrees comparing with last year, except that Japanese brand witnessed a decrease.

Chart 3.2 Market shares of passenger vehicles in 2012



Source: China Association of Automobile Manufacturers

This chart showed car sales market share in several main states in 2012. We can see that although China holds the largest market share, accounting for 28.38% in the total sales, the proportion of Chinese brands is dropped compared with last year.

Then market shares of passenger vehicles in Germany hot pursuit China, accounting for 28.11%. And Germany has always been China's most powerful rival. Comparison with other foreign brands, the German passenger car showed a more outstanding performance in 2012, total sales of 2,857.4 thousand units, a significantly higher increase than other foreign brands, accounting for 18.44% of total passenger car sales and market share upgrade in contrast to the same period of last year.

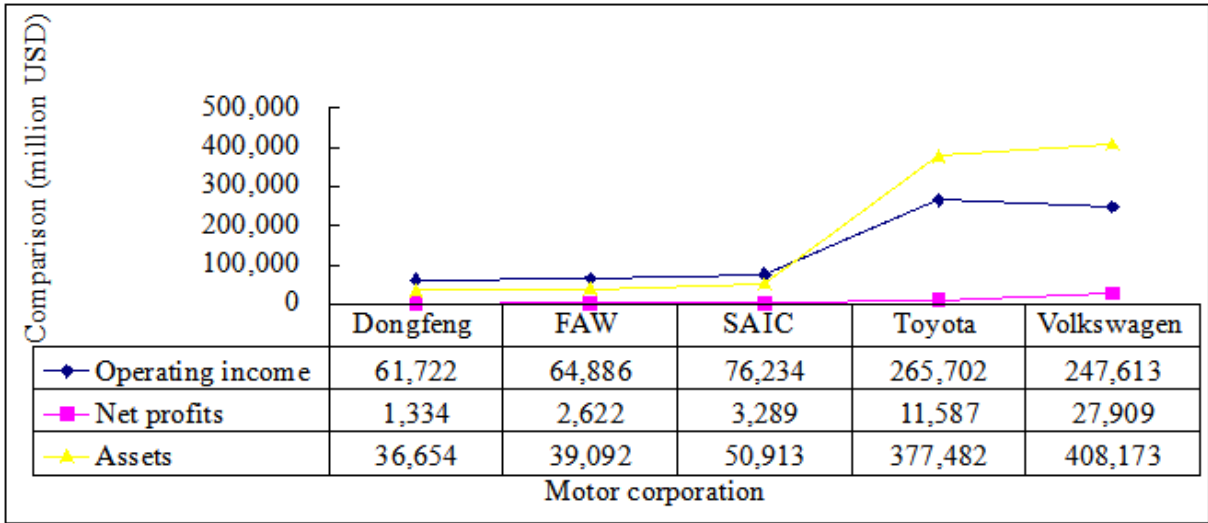
However, from the previous chart and table we can see Germany and Japan have completely different performance in 2012. Due to the cautious and conservative policy toward China, Japanese joint venture has been poor market performance in 2012. Particularly affected by the situation of the Diaoyu Islands, there was a substantial decline on September and October, although the market has recovered during rest of this year, sales volume and market share still decreased significantly compared with last year. In 2012, Japanese passenger cars were sold

2,542 thousand units, declining 9.44% compared with year 2011. And percentage of sales also decreased 3% points, which from 19.40% in 2011 to 16.40% in 2012 of total passenger car sales, market share also dropped from a year earlier.

Although our countries held a large market share and sold a large number of cars compared to other countries, we still face a severe situation. We have to face our real international situation. China's auto market has become the largest and most open automotive market. But current situation: energy shortages, environmental protection, overcapacity, urban traffic congestion and other factors seriously influenced China's auto industry. And after experiencing a decade of rapid growth, China's auto industry is transition from high growth to low steady growth, efficiency and innovation. As a big car producing countries, competitive car brand in China is not strong. At first innovation is not strong and lack of original products. We have developed a lower level of investment, imperfect technological innovation. According to the National Bureau of Statistics, the proportion of average R&D costs in China 's auto industry probably is only half the world's developed countries. Over the past three decades from a relatively backward situation to the present situation, we developed fast but not so high technical inputs.

In the future, we must focus on original and innovative. We have to increase more investment technology, improve the quality and level of business development to meet the increasing security requirements, energy saving and consumer personalized demand, produce more affordable, in line with the trend of environmentally friendly cars, and achieving innovation and sustainable development is our common task.

Chart 3.3 Comparison main motor corporation in 2012



Source: Fortune China

With chart 3.3 we compared Dongfeng motor group to several main car corporations in the world in the matter of operating income, net profits and assets three aspects. According to comparison, we can get a better understanding Dongfeng face a greater gap between domestic and international companies.

At first, about domestic market, Dongfeng faced two main competitors, FAW and SAIC. From the chart, we can see the Group are all lower level than the other two foreign companies in these three areas. Affected by Diaoyu Islands, sales of Dongfeng Nissan and Dongfeng Honda fell below the sales targets as sales in Japanese-brand passenger vehicles significantly decreased as a whole since mid-September. It declined profits for the Company.

Next we will see obviously that there is a great gap between domestic companies and foreign big corporations. Domestic largest automobile companies SAIC is far less than foreign companies, even in terms of assets reaching eightfold difference, in terms of net profits about ninefold difference compared to Volkswagen. Facing these strong competitors, China's auto industry still has a long way to achieve a real success, and transition from a big car country into a power car state.

In order to actively respond to the challenges and opportunities, in the future, the Dongfeng Motor Group will develop following three aspects.

a. Investment plan for the near future years

- Introduction of new products and development of new models timely according to the requirements of the relevant regulations and policies of the PRC and the market demand
- Prudently managing the investments in production capacity expansion or construction to minimize investment risks in face of the slowing growth of the auto market
- Strengthening the building work of its own brand name and its research and development capabilities to improve the core competitiveness and sustainability of the Dongfeng Motor Group

b. Research and Development and intellectual property

- New products development and Research and Development, for Commercial Vehicles, commercial vehicle company strive to enhance the market competitiveness of Dongfeng's commercial vehicles by improving the weight, performance, quality and modularity of its products, such as D310 and D530. The development of D760 and D901 have been carrying out smoothly, representing a step towards the high-end market of commercial vehicles. For passenger vehicles, each brand under Dongfeng launched new products in time to meet with market demands and produced more new energy vehicles.
- Product qualities and services, this is mainly including strengthening quality management of products and emphasizing quality of sales services.

c. Fulfillment of social responsibilities

- Energy conservation and environment protection, in 2012, the Dongfeng Motor Group focused on “three major indicators” for energy conservation and emission reduction (including energy consumption with RMB10,000 in added value at current price, COD and SO<sub>2</sub>) in order to push forward environmental protection. The results of major

indicators for energy conservation and emission reduction were satisfactory and the annual target was accomplished.

- Production safety, in 2012 the Dongfeng Motor Group insisted on by strictly following the principle of “integrated management with safety first and precaution as priority” and all targets of production safety were met during the year.
- Safeguard the legal rights of the employees, all segments of the Dongfeng Motor Group launched the corporate campaigns to establish a harmonious employee relationship. The Company strengthened the protection of labor union and prevention and control of occupational diseases and exerted efforts on the promotion of labor safety and health and supervision of occupational health.



# 4 Valuation of Company and Results Assessment

In this part, processes and results of the Company’s valuation will be showed and explained more detail.

## 4.1 SWOT analysis

We will discuss strengths, weaknesses, opportunities and threats of Dongfeng in order to get a more information and better understanding of Dongfeng. We can know what the environment and situation of Dongfeng will face with the international and domestic auto mobile market.

Table 4.1 SWOT analysis of Dongfeng

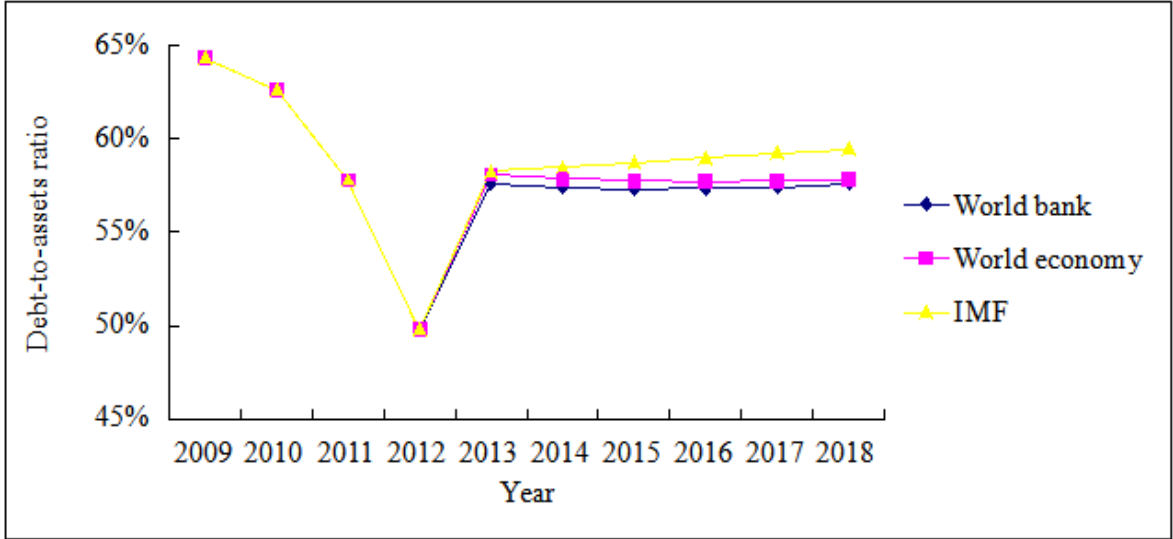
<p>Strengths</p> <ul style="list-style-type: none"> <li>● a lower labor price</li> <li>● a huge car market</li> <li>● various kind of cars produced by Chinese car industry</li> </ul>	<p>Weaknesses</p> <ul style="list-style-type: none"> <li>● lack of core competitiveness, original products self-innovation</li> <li>● more dependent on the foreign brand</li> <li>● lack of high-end market products, mostly occupied the middle or low-end market</li> </ul>
<p>Opportunities</p> <ul style="list-style-type: none"> <li>● Chinese auto industry revitalization are closely linked with a dream put forward by a new generation of Chinese leaders</li> <li>● a huge space development for Chinese car industry</li> <li>● the world's road network, and world's first prepared manufacturing technology,</li> <li>● a stable development of the social and economic environment</li> <li>● China’s accession to the WTO</li> </ul>	<p>Threats</p> <ul style="list-style-type: none"> <li>● foreign vehicles brands are still our severe challenge</li> <li>● the issues of resources, transportation, environment, energy,and other aspects</li> <li>● China auto market is almost saturation, the speed of auto industry development is slowing down in the near future</li> </ul>

Looking ahead to the future, China automotive industry will merge with the global automobile industry with a new gesture.

### 4.2 Financial analysis

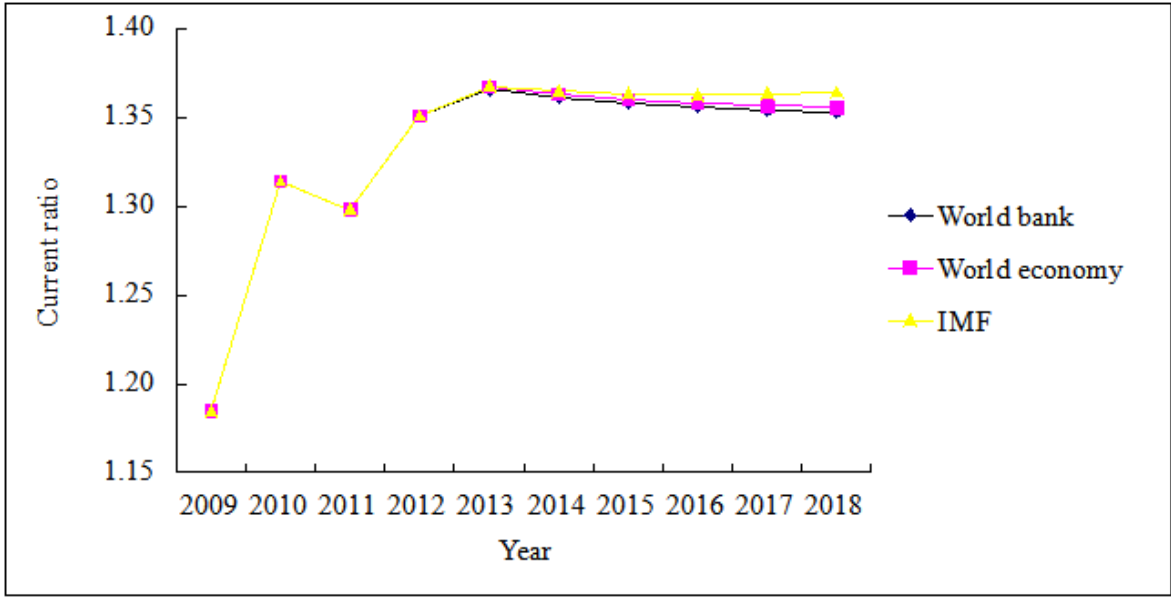
In this section, we will calculate four kinds ratios to analyze of the Company’s solvency, liquidity and profitability ability.

Chart 4.1 Debt-to-assets ratio



Debt-to-assets ratio is calculated based on formula 2.6. From this chart, it is clearly that there is a declining trend in the four historic year, however, after year 2012, it is rapidly raising from 49.8% to 58% in 2013, then the ratio will keep more stable between 57% to 60% in the future. From the past four years, we can know that the proportion of total assets of Dongfeng debt financing reduced year by year. After adjusting and controlling, the Company remain it a stable and normal level.

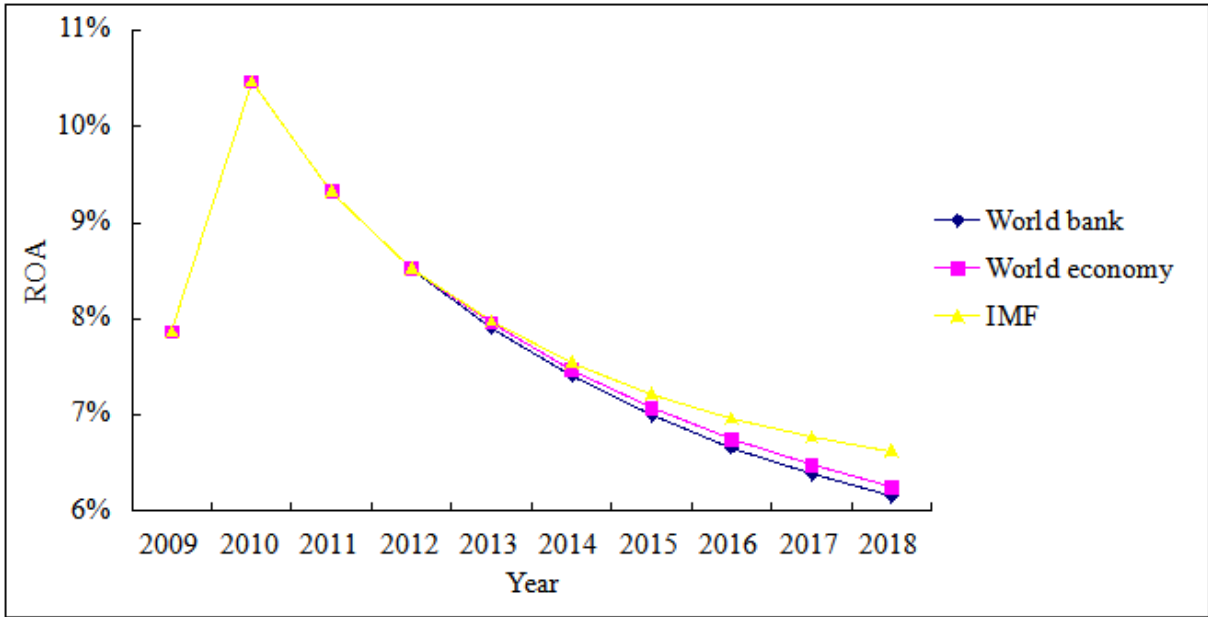
Chart 4.2 Current ratio



Current ratio is calculated based on formula 2.7. It is obvious that current ratio is going up before year 2011, and after dropping in 2011, it is rising and always continuously maintain the level of 1.36 times. In 2011, current ratio is going down, this is mainly attributed to, a decrease of RMB2,054 million due from distributors due to the improvement of the management of receivables and the speedy collection of payments, a decrease of RMB6,354 million in inventory.

From the past four years except for year 2011, the Company's ability to pay short-term went up, it indicated that the enterprise have enough ability to meet short-term obligation, and enhanced security, reduced risk. In the future, the Company will maintain short-term solvency at a controllable and stable range. And the enterprise has enough and satisfactory cash flows, so in the short term there will not run into a financially trouble. Dongfeng is not only able to maintain normal operation activities, but also it has power to cope with sudden unexpected events.

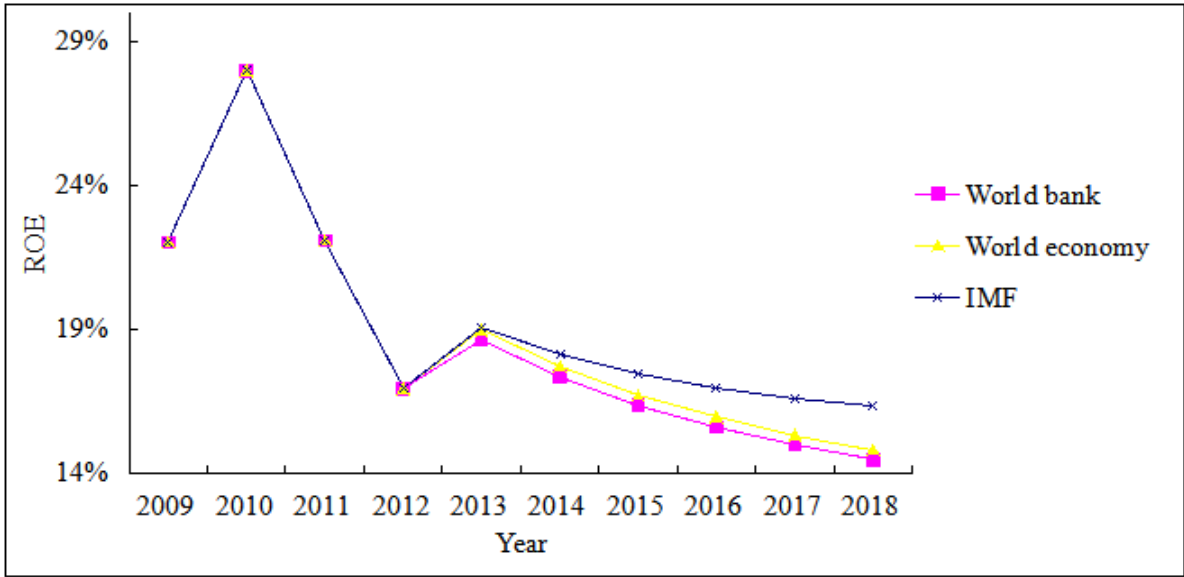
Chart 4.3 Return on assets



Return on assets is calculated based on formula 2.8. From previous chart, year 2010 is a obviously different. After 2010 till the future, ROA of the Company continue to decline. In 2010, net profit increasing more, about growth of 50% when compared with last year. These increases were mainly attributable to: the increase of the sales proportion of the vehicles remain strong profitability through strengthening sales management and effectively optimizing product mix; economic of scales and amortization of fixed costs resulting from the continuous expansion of sales; the decrease in unit production cost through various measures including improving utilization rate, optimizing procedures of technology, procurement and production.

However, in the future, although net profits will be going up by predicting, total assets relatively increase more than profits. The Company will be investment more and expand its operations. So the Company had better to adjust and control profitability.

Chart 4.4 Return on equity



Return on equity is calculated based on formula 2.9. Expected for year 2013, there is a same trend of ROE like ROA. We have discussed the reason why net profit raising so much. We primarily focus on year 2013, the Company’s profitability rise again in 2013. But after this year, the ability of making profit of owners’ equity is weaker and weaker for Dongfeng. From the results of ROA and ROE, we can see that profitability of the Company is to be improved in the future.

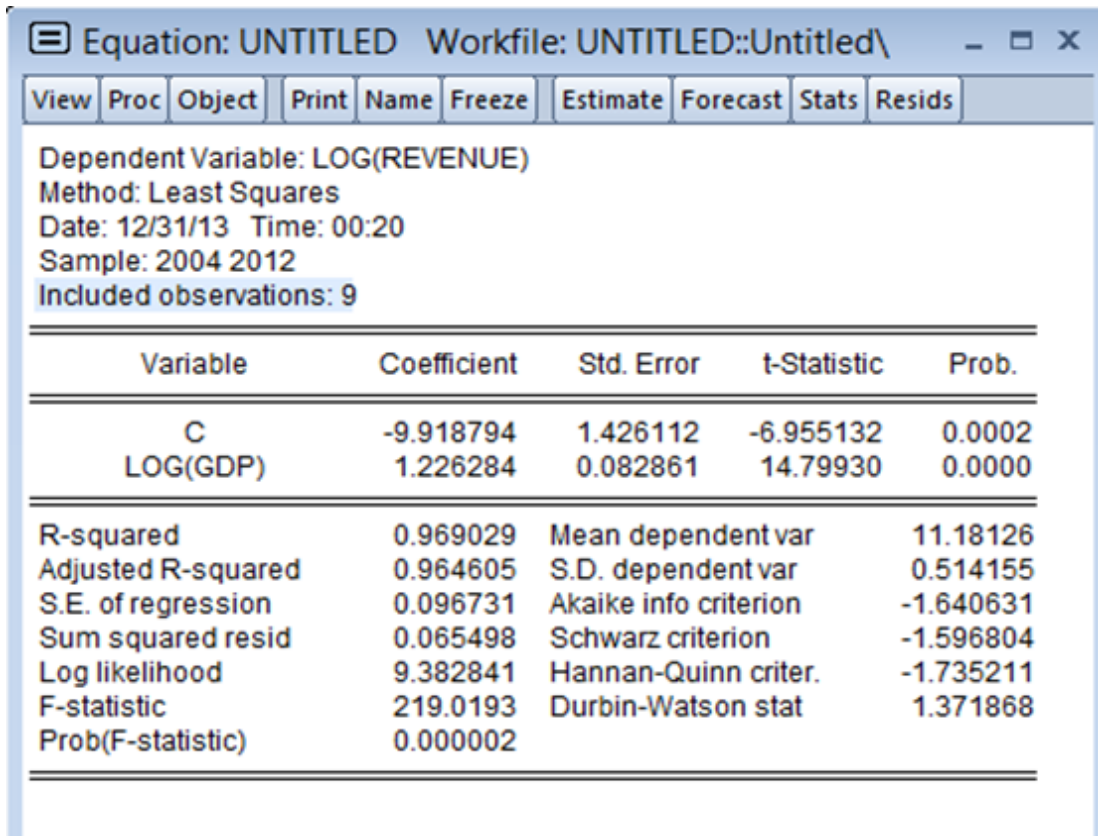
### 4.3 Valuation application

In this section, we will predict each components in the income statement and balance sheet step by step. Then according to the results, we will get the final value of the Company.

#### 4.3.1 Regression model to forecast the revenue

At first, we have to forecast the revenue of Dongfeng with regression model. So revenue choose to be dependent variables, and GDP in China is the independent variable. Then we can build and confirm the relationships between these two variable. According to predict of GDP in China by three kinds of institutions in the world, we can forecast future revenue of Dongfeng.

Figure 4.1 Regression model



First of all, we choose 9 years to explain from year 2004 to year 2012 about revenue of Dongfeng and GDP in China. Then we use E-view to build up the regression model.

From the figure, at first, we pay attention to the P-value. P-value is really lower, zero or near zero. And it means GDP in China we chose have a quite significant influence on revenue of Dongfeng. So we use GDP in China as a independent variable, and test how changing of the GDP in China have a significance on the revenue of the Company.

Then we can see  $R^2$  is about equal to 0.969, it indicates that there is a really high relationship between revenue of Dongfeng and GDP in Chia, about 96.9% of revenue of the firm can be explained by the regression model. Adjusted  $R^2$  is about 0,965, which means the model explains the 96.5% of the variability of the revenue.

We know that the Durbin-Watson is used to detect the autocorrelation of residues in the regression model. In this model, result of Durbin-Watson is equal to 1.372, close to 2, which we can say there is no autocorrelation of residues.

From this figure, we get the final linear regression function, and we are able to predict the future revenues of the Company only if we know the future trend about GDP in China.

$$\text{LOG}(\text{revenue}) = -9.919 + 1.226 * \text{LOG}(\text{GDP}) \tag{4.1}$$

It shows us:

1. If LOG(GDP) in China increase one million unit, the LOG(revenue) of Dongfeng will be rising 1.226 million.
2. If we do not change any GDP, the LOG(revenue) will be -9.919 million.

In this thesis, three different schemes are used to forecast the future GDP in China from year 2013 to year 2018, including data from the World Bank (WB), World Economy (WE) and International Monetary Fund (IMF). Only the World Bank predict the growth rate of GDP in China, other two institutions forecast the real GDP number in China.

Table 4.2 Forecasting the revenue

	2013	2014	2015	2016	2017	2018
GDP growth rate(the World Bank)	7.7%	7.7%	7.5%	7.5%	7.3%	7.3%
GDP	55,930,979	60,237,665	64,755,490	69,612,151	74,693,838	80,146,489
Revenue	156,008	170,864	186,710	204,025	222,437	242,511
GDP(World Economy)	56,884,500	61,435,300	66,258,000	71,359,900	76,747,600	82,426,900
Revenue	159,275	175,040	192,036	210,324	229,960	250,999
GDP(IMF)	57,187,929	62,912,943	69,171,773	75,936,914	83,469,246	91,630,925
Revenue	160,318	180,216	202,443	226,985	254,897	285,791

Chart 4.5 Revenues of three scenarios



This chart include three kind institutions predicting future trends of revenue of the Company. It is obviously that in the future the revenue is continuously going up year by year. Especially IMF holds the most positive attitude for the revenue in the case, because it predicts raising the most.

From this table, it is obviously that growth rate of GDP in China from year 2013 to year 2018 is declining, from 7.7% in 2013 decreasing to 7.3% in 2018, which is predicted by the World Bank. And we can see that World Bank hold a negative attitude to China's economic development speed. However, although going down affected on growth rate, the GDP in China is still going up in the future. Then revenue of Dongfeng also is growing due to the positive relationship between GDP in China and revenue of the Company.

From data World Economy, GDP in China in future six years is continuously rising. Then according to regression function, we can get the future revenues of Dongfeng, which is increasing year by year. Compare to other two institutions, IMF is also seeing the growing GDP in China in the future. And IMF forecast the GDP growing up the most than others. So revenue due to the situation is relatively increasing more.



### 4.3.2 Predicting other items

In this part, we will forecast the following aspects of the Company, earnings after tax (EAT), investment, depreciation, net working capital and finance costs, which are related to calculate free cash flows, and on this basis the final value of the Company will be shown.

Chart 4.6 Predicting EAT



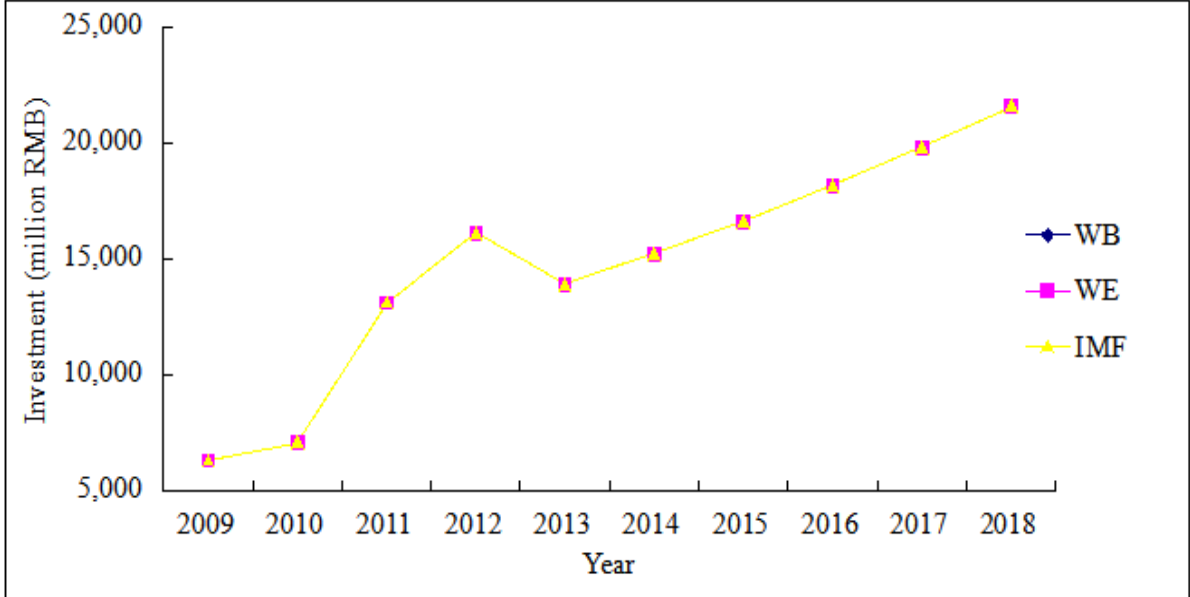
In addition to the year 2011 and 2012, the EAT is a rising trend, especially for the future forecasting increasing more, which illustrate the three institutions have a positive attitude on earning after tax of Dongfeng. In the future, the Company operate normally, the Company scale and income will both increase.

However, in 2011, it is going down. These decreases were mainly attributable to the impact of the Japan earthquake on the sales volume, sales revenue and profit of joint ventures; Chinese government levied a higher costs of construction tax for foreign investment enterprise and education surcharges since December 2010; lower prices under keen competition in the automobile industry.

During year 2012, EAT continued to fall. This was mainly affected by the following factors: the huge impact brought by the Diaoyu Islands dispute on the sales revenue and profitability

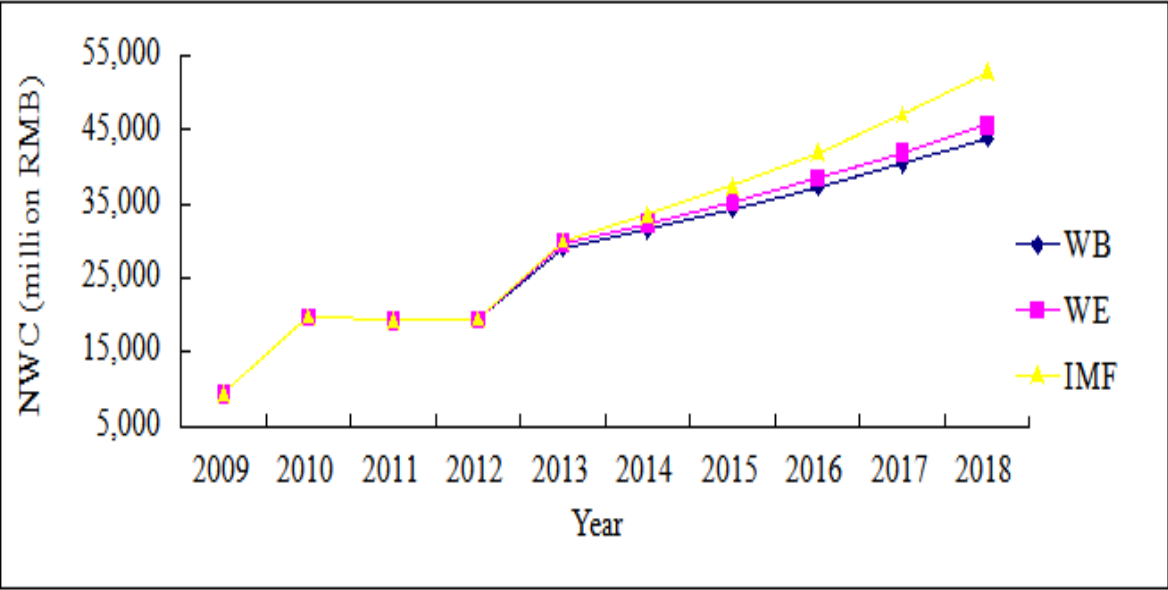
of the Company; and the average selling price decreased due to intensifying competition within the automobile industry compared with last year.

Chart 4.7 Predicting investment



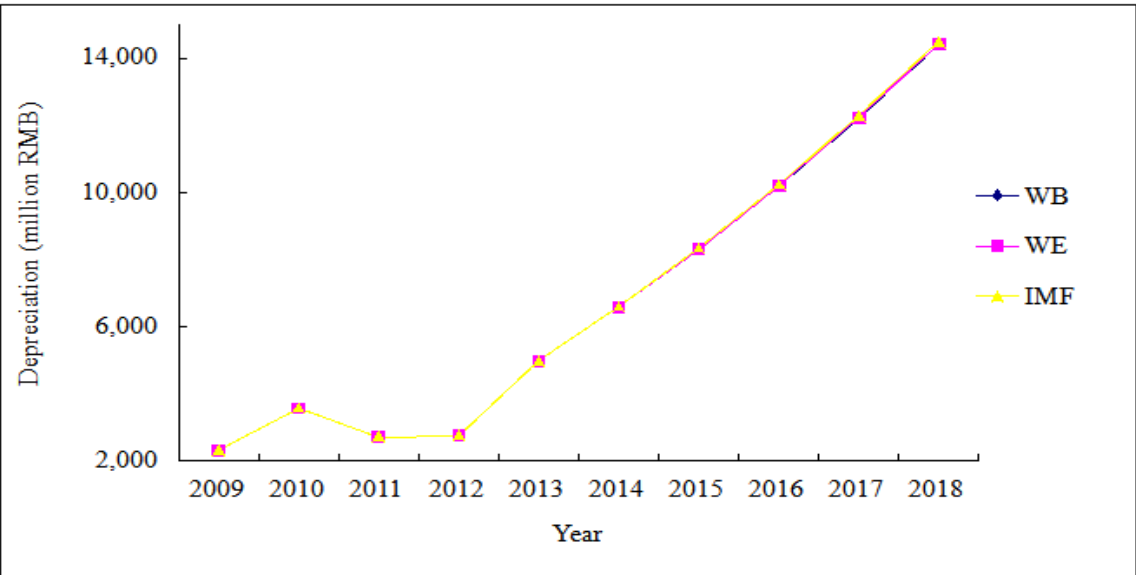
From the chart, we can see that these three organizations hold a cautious attitude towards investment for Dongfeng. In the future, Dongfeng will slightly adjust to the speed of investment. In the case of slowing growth of the auto market in China and almost saturation of the car market, even in many big cities, local government imposed restrictions of cars, limiting consumers to buy a car, all these factors lead to slowing the development of car to a certain extent, so the Dongfeng company will be more prudently managing the investments outflow and slightly declining the speed and amounts of investment in the future to reduce its risk.

Chart 4.8 Predicting NWC



In general, there is a growth trend of net working capital apart from year 2011 and 2012. It indicated that the Company have a more and more strong ability to repay the short-term debt with the rising trends in the future. However, net profit and total assets are both dropping in 2012 affected by a series of negative environment we have discussed more above statement.

Chart 4.9 Predicting depreciation

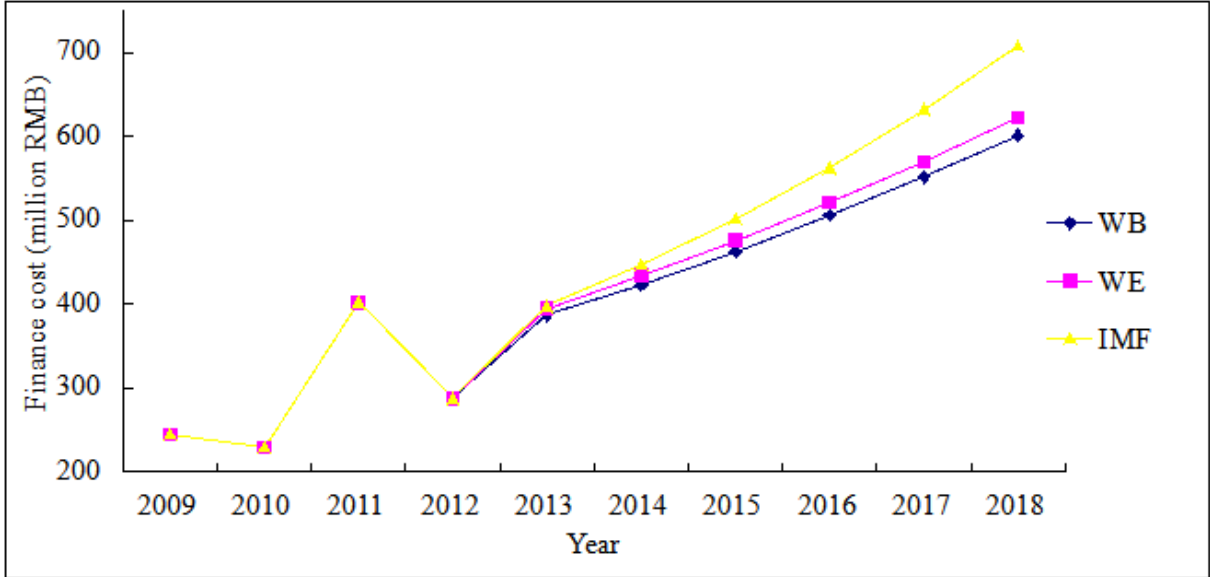


From the chart, it is clear that year 2011 is a turning point, which is dropping year, and then rising perpendicularly in the future. This is mainly due to that the Company adjust residual

value ratio for fixed assets to 0% since 1 January 2010 in order to keep a more realistic level and in line with industrial practice, and it is resulting in the written-off of RMB418 million in 2010; another reason is that some moulds was fully provided for in 2010, then a decrease of RMB350 million in depreciation in 2011.

For the other years, depreciation is going up, especially for future years, as a result of increasing investments in plant and equipment in order to expanding its business and sustainably exerting the effort in production capacity investments.

Chart 4.10 Predicting finance cost



From the chart, finance cost of the Company in 2012 is dropping more compared with last year. The decrease was mainly attributable to the decrease of interest expenses on loans and debentures of the Company. Another dropping year is 2010, which is only slightly decreasing when compared with last year, which was mainly attributable to the decrease of the interests for the decreasing of loans of the Company.

In the future, there is a sustained raising trend of finance cost. With the expanding of the business, the Company need to more funds from borrowing or issuing more shares. This is resulting in going up the finance cost.

Table 4.3 Income statement predicted by the World Bank (million RMB)

Year	2013	2014	2015	2016	2017	2018
Revenue	156,008	170,864	186,710	204,025	222,437	242,511
Cost of sales	124,838	136,726	149,405	163,261	177,994	194,057
Gross profit	31,170	34,139	37,304	40,764	44,443	48,453
Other income	3,216	3,523	3,849	4,206	4,586	5,000
Selling and distribution costs	7,845	8,592	9,389	10,260	11,185	12,195
Administrative expenses	4,793	5,249	5,736	6,268	6,834	7,451
Other expenses	5,304	5,809	6,348	6,936	7,562	8,245
Finance costs	387	424	463	506	552	602
Share of profits and losses of associates	417	457	499	546	595	649
Profit before tax	16,475	18,044	19,718	21,546	23,491	25,610
Income tax	3,590	3,932	4,296	4,695	5,118	5,580
Profit for the year	12,886	14,113	15,421	16,852	18,372	20,030

Table 4.4 Income statement predicted by the World Economy (million RMB)

Year	2013	2014	2015	2016	2017	2018
Revenue	159,275	175,040	192,036	210,324	229,960	250,999
Cost of sales	127,452	140,067	153,668	168,302	184,014	200,850
Gross profit	31,823	34,973	38,369	42,023	45,946	50,149
Other income	3,284	3,609	3,959	4,336	4,741	5,175
Selling and distribution costs	8,009	8,802	9,657	10,576	11,564	12,622
Administrative expenses	4,893	5,378	5,900	6,462	7,065	7,711
Other expenses	5,415	5,951	6,529	7,150	7,818	8,533
Finance costs	395	434	476	522	570	623
Share of profits and losses of associates	426	468	514	563	615	671
Profit before tax	16,820	18,485	20,280	22,211	24,285	26,507
Income tax	3,665	4,028	4,419	4,840	5,291	5,776
Profit for the year	13,155	14,457	15,861	17,372	18,994	20,731

Table 4.5 Income statement predicted by the IMF (million RMB)

Year	2013	2014	2015	2016	2017	2018
Revenue	160,318	180,216	202,443	226,985	254,897	285,791
Cost of sales	128,287	144,209	161,995	181,634	203,969	228,690
Gross profit	32,031	36,007	40,448	45,351	50,928	57,101
Other income	3,305	3,716	4,174	4,680	5,255	5,892
Selling and distribution costs	8,062	9,062	10,180	11,414	12,818	14,371
Administrative expenses	4,925	5,537	6,220	6,974	7,831	8,780
Other expenses	5,450	6,127	6,882	7,717	8,666	9,716
Finance costs	398	447	502	563	632	709
Share of profits and losses of associates	429	482	542	607	682	765
Profit before tax	16,930	19,032	21,379	23,971	26,919	30,181
Income tax	3,689	4,147	4,658	5,223	5,865	6,576
Profit for the year	13,242	14,885	16,721	18,748	21,053	23,605

Table 4.6 Balance sheet predicted by World Bank (million RMB)

Year	2013	2014	2015	2016	2017	2018
<b>Assets</b>						
Property, plant and equipment	39,719	54,938	71,568	89,741	109,553	131,154
Lease prepayments	2,141	2,597	3,053	3,509	3,965	4,421
Intangible assets	3,108	3,490	3,871	4,252	4,633	5,015
Goodwill	1,085	1,296	1,506	1,716	1,927	2,137
Interests in associates	1,869	2,160	2,451	2,742	3,033	3,324
Available-for-sale financial assets	413	487	562	636	711	785
Other long term assets	3,351	3,954	4,556	5,158	5,761	6,363
Deferred tax assets	2,840	3,110	3,398	3,713	4,049	4,414
Total non-current assets	54,526	72,030	90,965	111,468	133,631	157,612
Inventories	19,796	21,681	23,692	25,889	28,225	30,772
Trade receivables	3,756	4,113	4,495	4,912	5,355	5,838
Bills receivable	26,169	28,661	31,319	34,224	37,312	40,679
Prepayments, deposits and other receivables	7,638	8,365	9,141	9,989	10,890	11,873
Due from jointly-controlled entities	1,632	1,787	1,953	2,134	2,327	2,537
Available-for-sale financial assets	0	0	0	0	0	0
Financial assets at fair value through profit or loss	0	0	0	0	0	0
Pledged bank balances and time deposits	931	931	931	931	931	931
Cash and cash equivalents	48,504	53,123	58,050	63,433	69,158	75,399
Assets classified as held for sale	0	0	0	0	0	0
Total current assets	108,426	118,663	129,581	141,512	154,198	168,030
Total assets	162,952	190,693	220,546	252,979	287,829	325,642
<b>Liabilities</b>						
Interest-bearing borrowings	5,139	5,628	6,150	6,720	7,327	7,988
Other long term liabilities	8,407	15,452	23,321	32,165	41,956	52,868
Provisions	16	16	16	16	16	16
Government grants	825	1,104	1,383	1,662	1,941	2,220
Deferred tax liabilities	124	154	184	214	244	274
Total non-current liabilities	14,511	22,355	31,054	40,777	51,483	63,366
Trade payables	28,429	31,136	34,023	37,179	40,534	44,192
Bills payable	12,140	13,296	14,529	15,876	17,309	18,871
Other payables and accruals	23,148	25,353	27,704	30,273	33,005	35,984
Due to jointly-controlled entities	1,971	2,132	2,293	2,454	2,615	2,776
Interest-bearing borrowings	7,898	8,650	9,452	10,329	11,261	12,277
Income tax payable	3,590	3,932	4,296	4,695	5,118	5,580
Provisions	2,193	2,648	3,102	3,557	4,012	4,467
Liabilities directly associated with the assets classified as held for sale	0	0	0	0	0	0
Total current liabilities	79,368	87,145	95,400	104,362	113,854	124,146
Total liabilities	93,879	109,500	126,454	145,139	165,337	187,512
<b>Equity</b>						
Issued capital	8,616	8,616	8,616	8,616	8,616	8,616
Reserves	16,711	20,100	23,488	26,876	30,264	33,653
Retained profits	38,345	46,733	55,898	65,914	76,833	88,738
Proposed final dividend	1,896	2,240	2,585	2,930	3,274	3,619
Non-controlling interests	3,505	3,505	3,505	3,505	3,505	3,505
Total equity	69,073	81,193	94,092	107,840	122,492	138,130

Table 4.7 Balance sheet predicted by World Economy (million RMB)

Year	2013	2014	2015	2016	2017	2018
<b>Assets</b>						
Property, plant and equipment	39,719	54,938	71,568	89,741	109,553	131,154
Lease prepayments	2,141	2,597	3,053	3,509	3,965	4,421
Intangible assets	3,108	3,490	3,871	4,252	4,633	5,015
Goodwill	1,085	1,296	1,506	1,716	1,927	2,137
Interests in associates	1,869	2,160	2,451	2,742	3,033	3,324
Available-for-sale financial assets	413	487	562	636	711	785
Other long term assets	3,351	3,954	4,556	5,158	5,761	6,363
Deferred tax assets	2,899	3,186	3,495	3,828	4,186	4,568
Total non-current assets	54,585	72,106	91,062	111,582	133,768	157,767
Inventories	20,211	22,211	24,368	26,688	29,180	31,850
Trade receivables	3,834	4,214	4,623	5,063	5,536	6,043
Bills receivable	26,717	29,362	32,213	35,280	38,574	42,103
Prepayments, deposits and other receivables	7,798	8,570	9,402	10,297	11,258	12,289
Due from jointly-controlled entities	1,666	1,831	2,009	2,200	2,405	2,626
Available-for-sale financial assets	0	0	0	0	0	0
Financial assets at fair value through profit or loss	0	0	0	0	0	0
Pledged bank balances and time deposits	931	931	931	931	931	931
Cash and cash equivalents	49,520	54,422	59,706	65,392	71,497	78,038
Assets classified as held for sale	0	0	0	0	0	0
Total current assets	110,678	121,540	133,251	145,852	159,382	173,879
Total assets	165,263	193,646	224,313	257,435	293,150	331,646
<b>Liabilities</b>						
Interest-bearing borrowings	5,246	5,766	6,326	6,928	7,575	8,268
Other long term liabilities	8,875	15,890	23,718	32,440	42,096	52,778
Provisions	16	16	16	16	16	16
Government grants	825	1,104	1,383	1,662	1,941	2,220
Deferred tax liabilities	124	154	184	214	244	274
Total non-current liabilities	15,086	22,929	31,627	41,260	51,872	63,556
Trade payables	29,024	31,897	34,994	38,327	41,905	45,739
Bills payable	12,394	13,620	14,943	16,366	17,894	19,531
Other payables and accruals	23,633	25,972	28,494	31,208	34,122	37,243
Due to jointly-controlled entities	1,971	2,132	2,293	2,454	2,615	2,776
Interest-bearing borrowings	8,063	8,861	9,722	10,648	11,642	12,707
Income tax payable	3,665	4,028	4,419	4,840	5,291	5,776
Provisions	2,193	2,648	3,102	3,557	4,012	4,467
Liabilities directly associated with the assets classified as held for sale	0	0	0	0	0	0
Total current liabilities	80,943	89,158	97,967	107,399	117,480	128,238
Total liabilities	96,030	112,087	129,594	148,658	169,352	191,794
<b>Equity</b>						
Issued capital	8,616	8,616	8,616	8,616	8,616	8,616
Reserves	16,711	20,100	23,488	26,876	30,264	33,653
Retained profits	38,506	47,098	56,525	66,850	78,138	90,460
Proposed final dividend	1,896	2,240	2,585	2,930	3,274	3,619
Non-controlling interests	3,505	3,505	3,505	3,505	3,505	3,505
Total equity	69,233	81,559	94,718	108,776	123,798	139,852



Table 4.8 Balance sheet predicted by IMF (million RMB)

Year	2013	2014	2015	2016	2017	2018
<b>Assets</b>						
Property, plant and equipment	39,719	54,938	71,568	89,741	109,553	131,154
Lease prepayments	2,141	2,597	3,053	3,509	3,965	4,421
Intangible assets	3,108	3,490	3,871	4,252	4,633	5,015
Goodwill	1,085	1,296	1,506	1,716	1,927	2,137
Interests in associates	1,869	2,160	2,451	2,742	3,033	3,324
Available-for-sale financial assets	413	487	562	636	711	785
Other long term assets	3,351	3,954	4,556	5,158	5,761	6,363
Deferred tax assets	2,918	3,280	3,685	4,131	4,639	5,202
Total non-current assets	54,604	72,201	91,251	111,886	134,222	158,400
Inventories	20,343	22,868	25,688	28,802	32,344	36,264
Trade receivables	3,860	4,339	4,874	5,464	6,136	6,880
Bills receivable	26,892	30,230	33,958	38,075	42,757	47,939
Prepayments, deposits and other receivables	7,849	8,823	9,911	11,113	12,479	13,992
Due from jointly-controlled entities	1,677	1,885	2,118	2,374	2,666	2,989
Available-for-sale financial assets	0	0	0	0	0	0
Financial assets at fair value through profit or loss	0	0	0	0	0	0
Pledged bank balances and time deposits	931	931	931	931	931	931
Cash and cash equivalents	49,844	56,031	62,942	70,572	79,250	88,855
Assets classified as held for sale	0	0	0	0	0	0
Total current assets	111,396	125,107	140,422	157,332	176,565	197,852
Total assets	166,000	197,307	231,673	269,218	310,786	356,252
<b>Liabilities</b>						
Interest-bearing borrowings	5,281	5,936	6,668	7,477	8,396	9,414
Other long term liabilities	9,024	16,580	24,903	34,009	44,032	54,900
Provisions	16	16	16	16	16	16
Government grants	825	1,104	1,383	1,662	1,941	2,220
Deferred tax liabilities	124	154	184	214	244	274
Total non-current liabilities	15,270	23,790	33,154	43,377	54,629	66,824
Trade payables	29,214	32,840	36,890	41,363	46,449	52,079
Bills payable	12,475	14,023	15,753	17,663	19,835	22,238
Other payables and accruals	23,788	26,741	30,039	33,680	37,822	42,406
Due to jointly-controlled entities	1,971	2,132	2,293	2,454	2,615	2,776
Interest-bearing borrowings	8,116	9,123	10,249	11,491	12,904	14,468
Income tax payable	3,689	4,147	4,658	5,223	5,865	6,576
Provisions	2,193	2,648	3,102	3,557	4,012	4,467
Liabilities directly associated with the assets classified as held for sale	0	0	0	0	0	0
Total current liabilities	81,446	91,654	102,984	115,430	129,501	145,009
Total liabilities	96,716	115,443	136,138	158,808	184,131	211,834
<b>Equity</b>						
Issued capital	8,616	8,616	8,616	8,616	8,616	8,616
Reserves	16,711	20,100	23,488	26,876	30,264	33,653
Retained profits	38,557	47,404	57,341	68,484	80,997	95,026
Proposed final dividend	1,896	2,240	2,585	2,930	3,274	3,619
Non-controlling interests	3,505	3,505	3,505	3,505	3,505	3,505
Total equity	69,284	81,864	95,535	110,410	126,656	144,418

The above charts, from chart 4.3 to 4.8, are the results of income statement and balance sheet of Dongfeng in the future six year, which is due to data predicted by three authoritative institutions separately.



Table 4.9 Free cash flow of the World Bank

Year	2013	2014	2015	2016	2017	2018
Revenues	156,008	170,864	186,710	204,025	222,437	242,511
EAT	12,886	14,113	15,421	16,852	18,372	20,030
t	21.79%	21.79%	21.79%	21.79%	21.79%	21.79%
ΔNWC	9,731	2,459	2,664	2,968	3,195	3,539
INV	13,896	15,219	16,630	18,173	19,813	21,601
DEP	4,991	6,594	8,327	10,204	12,232	14,428
Finance costs	387	424	463	506	552	602
FCFF	-5,447	3,359	4,816	6,310	8,028	9,789

Table 4.10 Free cash flow of the World Economy

Year	2013	2014	2015	2016	2017	2018
Revenues	159,275	175,040	192,036	210,324	229,960	250,999
EAT	13,155	14,457	15,861	17,372	18,994	20,731
t	21.79%	21.79%	21.79%	21.79%	21.79%	21.79%
ΔNWC	10,407	2,647	2,902	3,170	3,449	3,739
INV	13,896	15,219	16,630	18,173	19,813	21,601
DEP	4,997	6,601	8,336	10,214	12,245	14,442
Finance costs	395	434	476	522	570	623
FCFF	-5,842	3,531	5,037	6,652	8,424	10,321

Table 4.11 Free cash flow of International Monetary Fund

Year	2013	2014	2015	2016	2017	2018
Revenues	160,318	180,216	202,443	226,985	254,897	285,791
EAT	13,242	14,885	16,721	18,748	21,053	23,605
t	21.79%	21.79%	21.79%	21.79%	21.79%	21.79%
ΔNWC	10,623	3,503	3,985	4,464	5,162	5,779
INV	13,896	15,219	16,630	18,173	19,813	21,601
DEP	4,998	6,609	8,353	10,242	12,287	14,500
Finance costs	398	447	502	563	632	709
FCFF	-5,968	3,122	4,851	6,794	8,860	11,280

Chart 4.11 Predicting three scenarios of FCFF



The previous three tables shows that estimations of three kinds institutions are the predictive Dongfeng's free cash flow. And chart 4.11 is the trends of free cash flows. According to these three institutions data, we get almost same trend of Dongfeng. And in 2013, FCFF is negative, it means in this year outflow for the Company is more than inflow.

Table 4.12 Estimation of parameters

Rf (1-phase)	5%	Rf (2-phase)	5.41%
Re (1-phase)	11.25%	Re (2-phase)	11.66%
$\beta$	1.06	g	0%
Risk premium	5.90%	Rd	1.87%

Table 4.13 Estimation of WACC

Year	2013	2014	2015	2016	2017	2018
WB	5.61%	5.63%	5.64%	5.64%	5.63%	5.79%
WE	5.56%	5.59%	5.60%	5.60%	5.60%	5.76%
IMF	5.55%	5.53%	5.50%	5.48%	5.45%	5.60%

Table 4.12 is all kinds parameters we need and table 4.13 is the results of estimating WACC. According to Ministry of Finance People's Republic of China, the current national debt is issued biggest total 50 billion RMB, among them, 3 years issued 30 billion RMB, the coupon rate is 5%; and five year issued 20 billion RMB at an annual rate of 5.41% from March 10,

2014 to March 19, 2014. Coefficient  $\beta$  is a tool which is used to evaluate securities systemic risk, the measure of volatility of a security or a portfolio relative to the whole market. So we can get the results of return of equity in the first and second phase. We assume that growth rate of China auto industry is equal to zero because of almost saturation of the auto market. Then we are able to calculate WACC of the Company.

Table 4.14 Estimation of value of Dongfeng

Year	2013	2014	2015	2016	2017	2018
WB	-5,158	3,011	4,087	5,069	6,105	128,563
WE	-5,534	3,168	4,279	5,352	6,418	136,410
IMF	-5,654	2,803	4,129	5,481	6,779	154,162

Table 4.14 shows final market value of the Company by three kinds institution, respectively 141,677 million of World Bank, 150,094 million of World Economy, and 167,699 million of International Monetary Fund.

Table 4.15 Comparison of value (million RMB)

	WB	WE	IMF	Book value of total assets (2012)
Value	141,677	150,094	167,699	114,810

This table shows comparison valuation of Dongfeng with three scenarios with book value of total assets on December 31 2012. It is obvious that valuation of each scenario is higher than book value of total asset in 2012, especially with IMF data, it almost higher 50%. It is a good signal for investors. In the future, the valuation of Dongfeng will be increasing. Investors should buy or hold more shares of Dongfeng.

#### 4.4 Sensitivity analysis

In this part, we choose four variables of the Company, EAT, WACC, DEP and INV. Then we calculate how the total value of Dongfeng will change when we change each variables, increasing 5% and 10%, decreasing 5% and 10%.

Chart 4.12 Sensitivity analysis of the World Bank

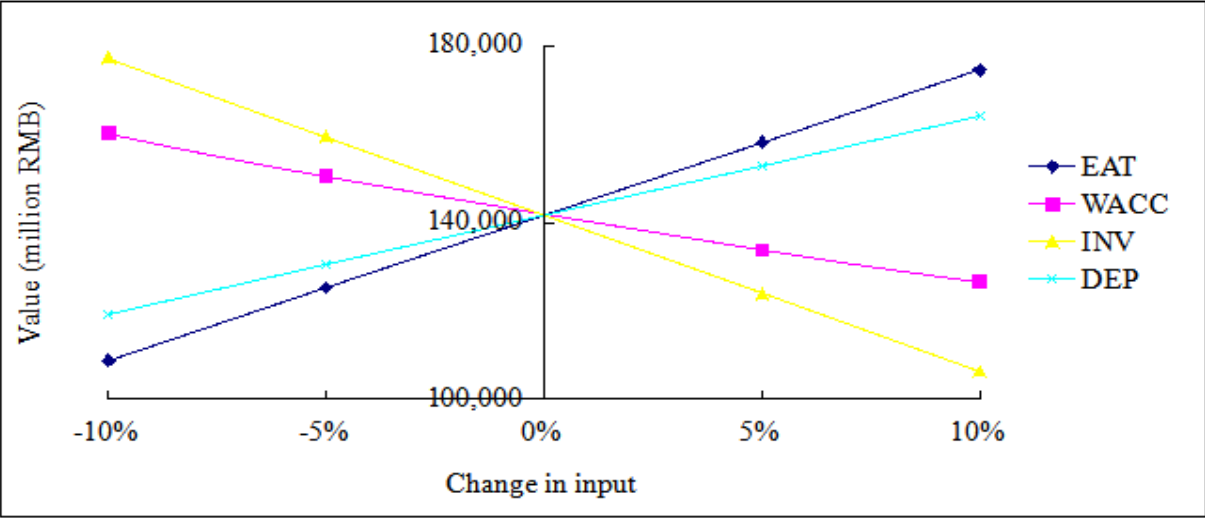


Chart 4.13 Sensitivity analysis of World Economy

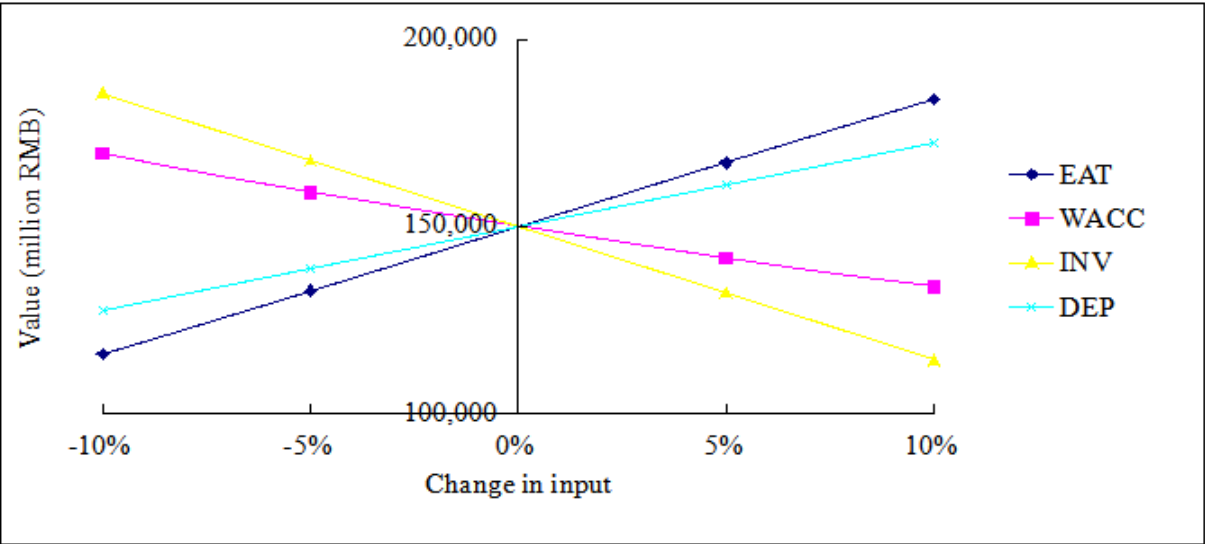
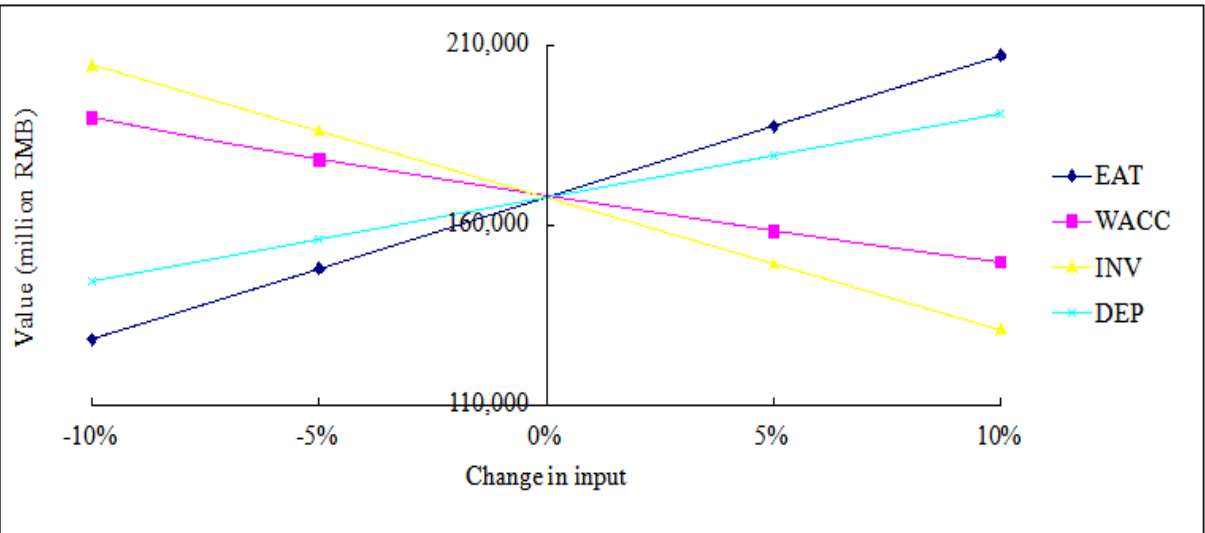


Chart 4.14 Sensitivity analysis of IMF



These slope of line shows how is value of the Company sensitivity to change in each input, here we primarily choose earning after tax, weighted average cost of capital, investment and depreciation. And the steeper the slope, the more sensitive the value is to change in the variable.

From the above charts of the World Bank and World Economy, we can see that investment is the most sensitive variable for the value, but it is only a quite slightly sensitive than EAT. It means if we change the same units of each input, investment will lead to the biggest influence of the total value of the Company when compared with other input variables. So managers must pay more attention to investment. However, for the IMF, EAT is the most sensitive variable for the value of the Company. Generally speaking, both investment and EAT are the biggest affects on the value of Dongfeng.

All charts shows that WACC is always the least sensitive variable for the value of the Company. So changing investment variable will lead the Company to covering more risk, and WACC will bring the lowest risk in the Company.

The car industry is a key manufacturing for a nation economy who need to invest into a lot of factories, properties, equipments, innovations and advanced manufacturing technology, and the proportion of these factors also occupy the vast in investment in Dongfeng, so the investment is always a big expenses for Dongfeng. Only in this way Dongfeng is able to maintain effective competition situation according to constantly develop new products meet the market. However, in the future, Dongfeng will strictly manage its investments structure by adhering to the principle of rationality. And it will insist not to investing in these projects which were not consistent with the main development directions, with low returns and beyond its capability.

On the other hand, Dongfeng will improve and add the level and return of investment. The Company will continuously be introduction of new products and development of new models according to the requirements of the relevant regulations and policies of the PRC and the

market demand. In face of the slowing growth of the auto market, the Company will be more prudently managing the investments in production capacity expansion or construction to minimize investment risks. At last, the Company must strengthen the building work of its own brand name and its research and development capabilities to improve the core competitiveness and sustainability of the Dongfeng Motor Group.

## 5 Conclusion

According to three kinds of financial analysis, we know that profitability ability of Dongfeng is weakening from year 2010 till future. Along with the business and market expansion, the Company should pay attention to enterprise's profitability ability, especially improving the level of capital and assets utilization and efficiency. And ability of liquidity and solvency are not stable, it is easier to be influenced by external factors. So in the future, Dongfeng operation needs to be improved, and have to take more effective measures. Different market segments will develop and result in keen competition and more uncertainties. Dongfeng Motor Group will proactively respond to business opportunities and challenges by speeding up transformation and strengthening in-house capacity, so as to improve the ability of fighting against external risks and emergencies. On the other hand, Dongfeng will also further enhance the cooperation of joint venture in order to facilitate and expand the development of joint venture business. The Group will pursue its overseas expansion strategies by strengthening its overseas business, learning modern technology and experience abroad.

The main goal of this thesis is to value Dongfeng. From the application chapter, we know the value respectively is 141,677 million RMB by the World Bank, 150,094 million RMB by the World Economy and 167,699 million RMB by the International Monetary Fund.

From the historical data, we can see that Dongfeng put more and more funds into investment from year 2011. However, according to sensitivity analysis, investment is the almost the most sensitivity variables for Dongfeng. So in the future, Dongfeng Motor Group should be more careful about investment and strictly managed its investments by adhering to the principle of rationality and profitability and insisted not to invest in projects which were not consistent with the main development directions, with low returns or beyond its capability. However, Dongfeng should be more willing to introduce new products and development of new models timely according to the requirements of the market demand, prudently managing the investments in production capacity expansion or construction to minimize investment risks in

face of the slowing growth of the auto market. And at last, the Company should strengthen the building work of its own brand name and its research and development. Then we believe Dongfeng will be more valuable.



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## List of Abbreviations

A	Assets
BV	Book Value
CAAM	China Association of Automobile Manufacturers
CAPM	Capital Assets Pricing Model
CV	Continual Value
D	Debt
DCF	Discounted Cash Flow
DEP	Depreciation
E	Equity
EAT	Earning After Tax
EBIT	Earnings Before Interest and Tax
E(R <sub>E</sub> )	Expected Rate of Return of Asset
E(R <sub>m</sub> )	Expected Rate of Market Return
EVA	Economic Value Added
FCF	Free Cash Flow
FCFF	Free Cash Flow to the Firm
g	growth rate
GDP	Gross Domestic Product
I	Interest
IMF	International Monetary Fund
INV	Investment
IPO	Initial Public Offerings
MV	Market Value
MVA	Market Value Added
NOPAT	Net Operational Profit After Tax
NWC	Net Working Capital

P	Price
PRC	People's Republic of China
R&D	Research and Development
ROA	Return on Assets
ROC	Return on invested capital
ROE	Return on Equity
RONIC	Return on New Invested Capital
RP <sub>m</sub>	Risk premium for medium size company
RP <sub>s</sub>	Risk premium for small size company
RP <sub>u</sub>	Risk premium for specific company
SWOT	Strength Weakness Opportunity Threats
WACC	Weighted Average Cost of Capital
WB	World Bank
WE	World Economy

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Ostrava dated.....24.04.2014

Tien Tien Kong  
Student's name and surname

## **List of Annexes**

Annex 1: Income statement

Annex 2: Balance sheet

## Annexes

### Annex1 Income statement (million RMB)

Year	2009	2010	2011	2012
Revenue	91,758	122,395	131,441	124,036
Cost of sales	-74,274	-96,033	-105,051	-100,160
Gross profit	17,484	26,362	26,390	23,876
Other income	1,520	2,322	2,853	3,129
Selling and distribution costs	-4,297	-6,417	-6,275	-6,716
Administrative expenses	-3,138	-3,580	-3,641	-3,937
Other expenses, net	-3,110	-4,171	-4,943	-3,772
Finance costs	-245	-229	-402	-288
Share of profits and losses of associates	195	296	379	406
Profit before tax	8,409	14,583	14,361	12,698
Income tax	-1,671	-3,006	-3,401	-2,919
Profit for the year	6,738	11,577	10,960	9,779

## Annex2 Balance sheet (million RMB)

Year	2009	2010	2011	2012
<b>Assets</b>				
Property, plant and equipment	18,703	18,551	21,578	25,823
Lease prepayments	754	1,248	1,685	2,468
Intangible assets	2,001	2,294	2,361	2,727
Goodwill	479	479	640	875
Interests in associates	896	1,148	1,526	1,578
Available-for-sale financial assets	164	246	306	338
Other long term assets	1,562	2,129	2,749	4,167
Deferred tax assets	1,366	2,190	2,672	2,443
Total non-current assets	25,925	28,285	33,517	40,419
Inventories	8,741	13,935	12,511	11,386
Trade receivables	1,685	2,087	2,623	2,441
Bills receivable	10,667	15,810	16,977	18,113
Prepayments, deposits and other receivables	4,649	4,660	5,706	7,899
Due from jointly-controlled entities	592	1,595	1,452	1,403
Available-for-sale financial assets	1,110	1,300	-	-
Financial assets at fair value through profit or loss	17	-	-	-
Pledged bank balances and time deposits	2,924	1,546	1,848	931
Cash and cash equivalents	29,379	41,404	42,899	32,101
Assets classified as held for sale	-	-	-	117
Total current assets	59,764	82,337	84,016	74,391
Total assets	85,689	110,622	117,533	114,810
<b>Liabilities</b>				
Interest-bearing borrowings	4,424	6,289	2,820	1,328
Other long term liabilities	16	64	57	129
Provisions	102	69	37	16
Government grants	94	157	271	546
Deferred tax liabilities	62	51	49	94
Total non-current liabilities	4698	6,630	3,234	2,113
Trade payables	18,414	23,834	23,055	19,609
Bills payable	7,391	10,367	9,978	8,694
Other payables and accruals	14,391	19,373	20,112	15,553
Due to jointly-controlled entities	503	1,586	1,551	1,810
Interest-bearing borrowings	7,217	3,271	5,993	6,391
Income tax payable	1,673	3,093	2,610	1,253
Provisions	847	1,132	1,416	1,738
Liabilities directly associated with the assets classified as held for sale	-	-	-	16
Total current liabilities	50,436	62,656	64,715	55,064
Total liabilities	55,134	69,286	67,949	57,177
<b>Equity</b>				
Issued capital	8,616	8,616	8,616	8,616
Reserves	6,433	8,668	11,315	13,323
Retained profits	11,459	18,659	24,912	30,687
Proposed final dividend	776	1,551	1,551	1,292
Non-controlling interests	3,271	3,842	3,190	3,715
Total equity	30,555	41,336	49,584	57,633