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Zhodnocení finanční pozice společnosti Nestlé
Evaluation of Financial Position of Nestlé Company

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"I hereby declare that I have elaborated the entire thesis including annexes myself."

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1 Introduction

Financial analysis is used to analyze a business entity. Furthermore, this kind of analysis aims at assessing the financial profitability, liquidity, solvency and activity of the business equity.

All of these steps can help managers and investors objectively understand the financial health of the company. In the other words, managers can adjust their business strategy and make wise decisions. As for the investors, they can know whether the company is stable, healthy, profitable or it worth an investment, then they can make the best choice according to the financial performance of the corporate. To be specific, financial analysis is based on the three financial statements, which are balance sheet, income statement and cash flow statement. We can find the company's financial data from them, which helps us know the financial situation of the corporate in the past, at present and know what it can behave in the future.

The objective of this thesis is to analyze the financial performance and situation of Nestlé Company on the basis of financial data from 2013 to 2017.

This thesis contains three basic parts. The first part is a description of the financial analysis methodology. And the second part is basic characteristics of Nestlé. The third part is specific evaluation of financial position of Nestlé.

In the first part, to describe the financial analysis methodology, we divide it into three aspects. Firstly, we describe the three financial statements we have mentioned before. These financial statements are an essential basement of financial analysis, we can find every single financial data of Nestlé from them. Besides, we described the meaning of common-size analysis, which includes vertical common-size and horizontal common-size analysis. At last, we describe the four groups of financial ratios, which are profitability ratios, liquidity ratios, solvency ratios and activity ratios, and we also use DuPont analysis after that.

The second part is mainly about the basic characteristics of Nestlé. In this part, to find the characteristics of Nestlé, we chose two aspects. In the first aspect, we can see the overview of Nestlé. It includes organizational structure, major events, industry position, markets around the world, strategy and ambition, all of these can help us understand what kind of company Nestlé is and its position in the same industry compared to other companies. Nestlé is a Swiss food company established in 1866, and its initial public offering date was in December 1989. In the other aspect, we use vertical common-size analysis and horizontal common-size analysis to analyze the data from Nestlé's financial statements, which also help us deeply understand Nestlé from the view of financial statements.

The third chapter calculates the different groups of ratios to deeply know the financial health of Nestlé. These groups of ratios are profitability ratios, liquidity ratios, solvency ratios and activity ratios. All of the data is from the annual report of Nestlé, and all of these results we have calculated are essential in the financial analysis, because they can reflect some existing and potential problems of Nestlé during the specific period. According to that, the investors can make their own decisions about whether Nestlé is worth to invest, and the managers can know whether they have to adjust their strategies.

2 Description of the Financial Analysis Methodology

Financial analysis methods can provide the way to analyze the financial situation of the chosen company. In the other words, the financial analysis may rely on the financial data that can provide a clear and reliable information to primary stakeholders (i.e. investors, employees, customer or suppliers) and additional stakeholders (i.e. communities, governments, and trade association).

The objective of the work is to analyze the company's financial performance in the past time, analyze the company's financial situations in the current time and predict the financial development in the future.

According to that we have mentioned, the financial data of the company's annual report is so important that we need it to analyze its financial situation. Then in the chapter 2, firstly, we will introduce financial statements, all of them are balance sheet, cash flow statement and income statement, which are used and concluded in all of these financial analysis methods. Besides, we will introduce the common-size analysis, which includes the vertical common-size analysis and horizontal common-size analysis. After that, we will introduce the financial ratio analysis in the third part, the methodology of various financial ratios will help us understand the financial situation of the company. And we will also use these financial ratios to analyze the company specifically in the next chapter 4.

Main sources of this chapter are based on Martin (1990).

2.1 Financial Statements

Financial statements can reflect the financial activities of the company and financial performance of the company. All of the financial information is clearly presented in it. Financial statements include balance sheet, cash flow statement and income statement. These statements include some details of the financial activities. It can also help the creditors and investors know the state of company's business and help them make the best decisions.

2.1.1 Balance Sheet

A balance sheet is a financial statement that shows stakeholders the financial situations of assets, liabilities and shareholders' equity at a specific time point. And balance sheet illustrates the financial health of a company.

The basic equation of the consolidated balance sheet is defined below

$$\textit{Total assets} = \textit{Total liabilities} + \textit{Total equity}. \quad (2.1)$$

The total assets must be the total amount of the total liabilities and total equity, which means that the total assets should be balanced with total liabilities and total equity. In this part

of the article, we introduced the format of balance sheet. The general structure of balance sheet is possible to see in table 2.1.

Table 2.1: The general structure of balance sheet

BALANCE SHEET	
NAME OF ORGANIZATION	
EFFECTIVE DATE OF BALANCE SHEET	
ASSETS	LIABILITIES
CURRENT ASSETS:	CURRENT LIABILITIES:
CASH	ACCOUNTS PAYABLE
MARKETABLE SECURITIES	SHORT TERM NOTES PAYABLE
ACCOUNT RECEIVABLE	ACCRUED LIABILITIES
SUPPLIES	TOTAL CURRENT LIABILITIES:
INVENTORY	LONG TERM LIABILITIES:
PREPAID EXPENSES	LONG-TERM NOTES AND MORTGAGES
TOTAL CURRENT ASSETS:	BONDS PAYABLE
NON-CURRENT ASSETS:	PENSION PLAN OBLIGATIONS
PROPERTY	TOTAL LONG TERM LIABILITIES:
PLANT	TOTAL LIABILITIES:
EQUIPMENT	OWNER'S EQUITY
PATENTS	OWNER'S EQUITY
LEGAL AND FILING FEES	COMMON STOCK
COPYRIGHTS	TREASURY STOCK
TRADEMARKS	RETAINED EARNINGS
OTHER RIGHTS	TOTAL OWNER'S EQUITY:
TOTAL NON-CURRENT ASSETS:	
TOTAL ASSETS:	TOTAL LIABILITIES AND OWNER'S EQUITY:

Source: Wikihow

Available on <https://www.wikihow.com/Make-a-Balance-Sheet-for-Accounting>

Generally, every company's consolidated balance sheet has two parts, and the part of the total company's asset is recorded in the first part, followed by the part of the total liabilities and equity. Furthermore, the first column of the sheet is the terms of the accounting items, and the second column has note's number which readers can find the specific explanations about the items. And the third column shows the amount of money about the specific items in the last year, and the fourth column is the capital related to the specific items in the year before the last year which is easy to compare.

To be specific, the items are recorded in order of liquidity. For example, as the cash and cash equivalents are the most liquid item, company can record the cash and equivalents in the first row of the balance sheet. And the deferred tax assets are relatively less liquid, therefore, it is positioned at the last row of the part of the total asset.

In the part of the total assets, the company's assets are divided as the total current assets and the total non-current assets.

The basic equation of the total assets is defined below

$$\textit{Total assets} = \textit{Total current assets} + \textit{Total noncurrent assets}. \quad (2.2)$$

The total current assets indicate all the assets of company that the company can sell, use or expend by business operation easily, which can be converted to cash when the company need conveniently. And the total non-current assets are all the assets that the company invested for long-run period, such as property, plant and equipment.

In the part of the total liabilities and equity, the total liabilities also are separated as current and non-current liabilities, and the total equity includes all items related to shareholders. The equation of the total liabilities and equity is defined below

$$\begin{aligned} & \textit{Total liabilities and equity} \\ & = \textit{Total current liabilities} + \textit{Total noncurrent liabilities} + \textit{Total equity}. \quad (2.3) \end{aligned}$$

Specifically, each company's current liabilities indicate their obligations and debt that are due currently, and current liabilities may be paid by current assets. Furthermore, the total non-current liabilities are the long-term liabilities that is not due currently.

The content of the balance sheet:

- **Revenue**

Revenue stand for receivable and amounts received from third parties for goods or services of which customers received;

- **Expenses**

Cost of goods sold is based on the cost of production or of purchase, and all other expenses (e. g. expenses of advertising or promotions) are recognized when the company receives the rewards or risks of goods' ownership or when the services performed;

- **Cash and cash equivalents**

Cash and cash equivalents indicate that the cash of the company is stored in the banks and hold in their own company, as well as those money invest in short-term that has less than three months maturities;

- **Short-term investments**

Short-term investments have maturities that is more than three months and that is expected to be realized less than twenty months after the reporting date;

- **Inventories**

Raw materials and purchased finished goods are measured at purchase cost. And produced finished goods are measured by production cost. Production cost contains direct production costs and a percentage of indirect cost and factory depreciation. In addition, the FIFO (first in, first out) method is used for accounting raw material inventories and purchased finished goods;

- **Property, plant and equipment**

On the balance sheet, the cost of property, plant and equipment are presented at their historical cost. The company use the straight-line method to estimate the depreciation of property, plant and equipment. And the residual values are thirty percent on headquarter, and all other types of assets have no residual values.

2.1.2 Income Statement

The income statement indicates how much profit the company generates at a specific period of time, which gets the comparison between revenues and expenses. And the basic equation of income statement is defined below

$$\text{Revenues} - \text{costs and expenses} = \frac{\text{net income}}{\text{loss}} \quad (2.4)$$

There are two kinds of activities, which we should calculate in the income statement:

- **Operating activity**

Operating activities are the revenue producing activities directly related to the sell its goods and provide its service in the market.

Operating income/loss: The comparison between operating revenues and operating costs and expenses.

Operating revenues: The revenues you can get from selling goods, services and products.

Operating costs and expenses: The costs related to raw material consumption, electricity consumption, depreciations, salaries and wages and so on;

- **Financing activities**

Financial activities are the functions of a business associated with how to finance their money for the company.

Financing income/loss: The comparison between financial revenues and financial costs and expenses.

Financial revenues: Revenues from securities (i. e. dividends received, coupon received) and interests received.

Financial costs and expenses: coupon paid and interest paid.

2.1.3 Cash Flow Statement

Cash flow statement explains the flow of cash, the differences between the beginning cash flow and ending cash flow of a business. Cash flow statement is able to clearly show the cash inflows and outflows during a period of time, which makes it easy to know what is the cash resources and how money spent. Furthermore, cash inflows and outflows are divided into three categories: operating activities, investing activities and financing activities. The sum of these three activities is equal to total cash flow.

The basic formula is defined below

$$\begin{aligned} \text{Net cash flow} = \\ \text{cash flow from operating activities} + \text{cash flow from investing activities} + \\ \text{cash flow from financing activities.} \end{aligned} \quad (2.5)$$

There are three categories of cash flows:

- **Cash flow from operating activities**

All of the cash inflows and outflows involves in the daily activities of a company. Cash inflows include cash sales to customers, cash collection from sales on trade credit and receipts of interest payments, while the outflows include salaries and wages payments, payments to suppliers of goods and services, tax payments.

- **Cash flow from investing activities**

Cash flow from investing activities is related to purchase and sell the long-term assets (i.e. financial investments, tangible assets, intangible assets). The cash flows associated with receipts from purchasing debt instrument from other entities, receipts from selling equity instruments and inflows of sale of equipment and plant, while the cash outflows related to purchase plants and equipment, purchase equity and debt instruments of other entities.

- **Cash flow from financing activities**

Cash flow from financing activities associated with debt and equity. The cash inflows include the issuance of equity securities, bonds, and also include short-term and long-term borrowings, while the outflows include payments of dividends and bank loans.

2.2 Common-size analysis

Common-size analysis is measured as a percentage which transfers the financial statements to common-size and easy to compare to the financial statements during a specific period of time or with the financial statements of other corporates. It is measured for identifying how it changed and what differences there are. And the results help to know each items' impact

and how much they can influence the final figure. Common-size analysis can be divided to two types, i.e., horizontal common-size analysis and vertical common-size analysis.

2.2.1 Vertical Common-size Analysis

Vertical common-size analysis is an analysis which needs to calculate related to a chosen base item within the same period. That means if in the cash flow analysis, the base item must be the net cash flow from investing activities. If in the balance sheet, the total assets will be used as the base item. And the base item should be the net operating income in the income statement.

In vertical common-size analysis, the formula is defined below

$$\text{Percentage of base} = \frac{\text{Amount of individual item}}{\text{Amount of base}} \cdot 100. \quad (2.6)$$

2.2.2 Horizontal common-size analysis

Horizontal common-size analysis is an analysis which can evaluate the different line items with the base item of a given year and compared them. With the previous and future item during this period of time, horizontal common-size analysis is a simple method to know their changes and how to analyze the financial statements over the time.

In vertical common-size analysis, the formulas are defined below

$$\text{Dollar change} = \text{Amount of the item in comparison year} - \text{Amount of the item in base year}; \quad (2.7)$$

$$\text{Percentage change} = \frac{\text{Dollar change}}{\text{Amount of the item in base year}} \cdot 100. \quad (2.8)$$

2.3 Financial ratio analysis

Financial ratio analysis is to compare different kinds of financial figure according to the form of financial ratios. It can assess the financial benefit and health of the company at the current time and compare it to the performance in the past time, which can easily make the manager get to identify the financial problems and even find some potential problems they didn't notice before. Then financial ratio analysis can solve these problems and make the corporate keep the financial health and get better. Financial ratio analysis includes different groups of ratios: profitability ratios, liquidity ratios, solvency ratios, asset management ratios and market ratios.

2.3.1 Profitability ratios

Profitability ratio is used to measure the ability to gain the profit related to the capital of investment, which is able to identify the profitable situation of this company. That means if the profitability ratio is higher, the corporate can get more competitive in the market. Moreover,

profitability ratio can promote the managers of the company to generate more benefit. There are four types of profitability ratios: operating profit margin (OPM), net profit margin (NPM), return on assets (ROA) and return on equity (ROE).

Operating profit margin

Operating profit margin (OPM) is measured to know how much the operating profit can be gained per unit of revenue, how well the operating costs controlled and how well the revenue gained. That means the operating profit ratio gets higher, the profitability of the company is getting higher. The lower the operating profit margin, the company gets weaker in generating profits.

The formula of operating profit margin is defined below

$$\text{Operating profit margin} = \frac{\text{Operating profit}}{\text{Revenues}} \quad (2.9)$$

Net profit margin

Net profit margin (NPM) is used to measured how much the net profit (earning after tax) is generated related to the total revenue. It is a profitability ratio which presents the net profit also regarded as the revenue minus the operating cost, interest, taxes and the dividend to the shareholders. This ratio is very important to the company who want to expand their business. And the higher the percentage, the higher the sales of corporate convert into the real profit.

The formula of net profit margin is defined below

$$\text{Net profit margin} = \frac{\text{EAT}}{\text{Revenue}} \quad (2.10)$$

Return on assets

Return on assets (ROA) is a profitability ratio which means that the operating profit is divided by the total assets. The process of operating is management, the revenues include revenues from sale of products, goods, and services, the costs include the salaries, costs of raw materials and electricity consumption, administrative costs and other operating costs. Generally, the higher the return on assets, the better the company's management.

The formula of return on assets is defined below

$$\text{Return on assets} = \frac{\text{EBIT}}{\text{Assets}} \quad (2.11)$$

Return on equity

Return on equity (ROE) is used to measure the earning after tax divided by the equity of the company's shareholders. Return on equity also represents the company's efficiency. It can easily help the corporate measure the ability to generate some profit, which represents that the higher the return on equity, the stronger ability to gain more profit in relation to the equity of

the shareholders. Besides, if the return on equity stay an increasing trend over the time, the company must be very good at reinvest the earnings and value the shareholders. By contrast, if the ROE decreased, which means the firm did poor on generating profits.

The formula of return on equity is defined below

$$\text{Return on equity} = \frac{EAT}{\text{Equity}}. \quad (2.12)$$

2.3.2 Liquidity ratios

Liquidity ratios are commonly used to measure whether the firm has the ability to pay off its short-term liabilities and obligations. Generally, liquidity ratios can assess conveniently, which helps the lenders decide whether they want to expand the debt, so do companies. Liquidity ratios are measurements to compare the different kinds of liquidity assets (Assets can easily convert into cash or cash equivalents) and current obligations and liabilities. In general, the higher the liquidity ratios, the stronger the ability to pay off the current obligations, which also represents the better management of the corporate and better condition in the market. There are three kinds of liquidity ratios, respectively current ratio, quick ratio, cash ratio.

Current ratio

Current ratio measures the ability to meet the corporation's current liabilities in each current asset, which means the company should convert the current assets into cash to pay off its obligation. Apparently, the ratio is getting bigger, the liquidity of the firm is better. Current ratio is essential to calculate the firm's liquidity.

The formula of current ratio is defined below

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}. \quad (2.13)$$

Quick ratio

Quick ratio is also a good measurement of liquidity. current assets should not include the inventories, which also named quick assets, to pay off its current liabilities. And the current assets can be converted into the cash in the period of short-term. Quick assets are regarded as cash plus accounts receivable as well. Obviously, if the firm had the enough quick assets to cover its short-term debt obligations, it wouldn't need to sell the long-term assets to the others.

The formulas of quick ratio are defined below

$$\text{Quick ratio} = \frac{\text{Current assets} - \text{Inventories}}{\text{Current liabilities}} \quad (2.14)$$

or

$$\text{Quick ratio} = \frac{\text{Cash} + \text{Marketable securities} + \text{Account receivable}}{\text{Current liabilities}}. \quad (2.15)$$

Cash ratio

Cash ratio is more easily to be converted compared to other liquidity ratios, such as current ratio and quick ratio. Because the marketable securities can be sold to get the cash immediately. And the most liquid assets are cash and cash equivalents in a corporate. Apparently, the cash ratio is a good way to calculate whether the company have the capacity to meet its short-term obligations.

The formula of cash ratio is defined below

$$\text{Cash ratio} = \frac{\text{Cash} + \text{Marketable securities}}{\text{Current liabilities}} \quad (2.16)$$

2.3.3 Solvency ratios

Solvency ratios also called leverage ratios, which means that whether the company has enough ability to fulfill its long-term obligations and liabilities. Solvency ratios are essential for the lenders to decide whether they should lend the money to the company, whether the company can pay their money back. Obviously, solvency ratios are used to assess the debt compared to the assets, and how the firm is financed. And there are general types of ratios: debt ratio, debt-to-equity ratio and interest coverage.

Debt ratio

Debt ratio mainly calculate the percentage, which is that whole debt divides total assets. And the results represent the degree of the basic leverage. If the percentage is high, the total debt might be high compared to the total assets, then the solvency burden would be heavy for this firm. So, the lender will have more risk to get their money back.

The formula of debt ratio is defined below

$$\text{Debt ratio} = \frac{\text{Total debt}}{\text{Total assets}} \quad (2.17)$$

Debt-to-equity ratio

Debt-to-equity ratio is also a typical leverage ratio. It is used to calculate the total debt compared to the total equity, also is the percentage of the how the company use debt for equity. If the result is lower than 1, which means the firm uses less debt for assets to finance compared to equity. If the result is higher than 1, they can get the opposite reason.

The formula of debt-to-equity is defined below

$$\text{Debt to equity ratio} = \frac{\text{Total debt}}{\text{Equity}} \quad (2.18)$$

2.3.4 Activity ratios

Activities ratios also called Assets management ratios. Activities ratios measure how well the company convert its accounts into cash. The liquidity of the assets was closely related to

the activity ratios, because we can clearly see the efficiency of the assets from that. Besides, the activity ratios appear how well the firm generates the revenues and how the corporate develops as well. Activity ratios are good measurements to know the company, and there are four types of activities ratios: average collection period (ACP), accounts receivable turnover (ART), inventory turnover (IT), total assets turnover (TAT).

Average collection period

Average collection period (ACP) measures how the company converts accounts receivable into cash. And the result represents how long this period continue to collect its accounts receivable. That can easily make the manager of the company know the liquidity of the accounts receivable.

The formula of average collection period is defined below

$$ACP = \frac{\textit{Accounts receivable}}{\textit{Credit sales}}. \quad (2.19)$$

Accounts receivable turnover

Accounts receivable turnover (ART) measures how many times the company collects its average accounts receivable per year during a period of time. It can show how efficiently the firm can collect on the credit, so the whole time of accounts receivable is shorter, the development of the company is better.

The formula of accounts receivable turnover is defined below

$$ART = \frac{\textit{Credit sales}}{\textit{Accounts receivable}}. \quad (2.20)$$

Inventory turnover

Inventory turnover (IT) measures how many times the inventories are for selling or using during a period of time. So, the measurement is costs of goods sold divided by average inventories. The inventory turnover makes it easier to know what the problem is for the managers and make an improvement.

The formula of inventory turnover is defined below

$$IT = \frac{\textit{COGS}}{\textit{Average inventory}}. \quad (2.21)$$

Total assets turnover

Total assets turnover (TAT) can measure the how the firm make use of their assets to generate the revenue efficiently. It can give the investors the clear information about how well the company develop, and how the company use the total assets to generates revenue, which makes them make the best decision.

The formula of total assets turnover is defined below

$$\text{Assets turnover} = \frac{\text{Revenues}}{\text{Total assets}}. \quad (2.22)$$

2.3.5 DuPont analysis

DuPont analysis is a clear financial analysis which is based on the return on equity ratio. According to that, investors can know whether the company worth to invest. From the view of the manager, they are also able to know how to improve the return for the investors. DuPont analysis makes the return on equity ratio contain multiple detailed parts. And each part is ROE ratio's component ratio, which makes it clear that what drives these ratios. Main sources of this chapter are based on Zmeškal (2004).

DuPont analysis is the basic example of the pyramidal decomposition. First of all, there are three component indicators in this pyramidal decomposition, which called net profit margin, assets turnover and financial leverage separately.

$$ROE = \frac{EAT}{Equity} = \frac{RAT}{Revenues} \cdot \frac{Revenues}{Total\ assets} \cdot \frac{Total\ assets}{Equity} \quad (2.23)$$

In this formula, three parts of it present $net\ profit\ margin = \frac{EAT}{Revenues}$, $assets\ turnover = \frac{Revenues}{Total\ assets}$, $financial\ leverage = \frac{Total\ assets}{Equity}$ separately.

Enable to analyze how the change of indicators influence the change of basic ratio, there are four methods for quantification of influence:

- The gradual method;
- The decomposition method with a residue;
- The logarithmic decomposition method;
- The functional method.

For the first and second method, if one of the indicators changes the value for the other indicators are fixed. However, the changes of all indicators increment relative to explain particular influence for the third and fourth method.

In this part, x represents basic ratio, Δx represents the absolute change in basic ratio, a represents component ratio, $I_x = \frac{x_1}{x_0}$ represents the index of change in basic ratio and $I_a = \frac{a_{i,1}}{a_{i,0}}$ represents the index of change in component ratio separately.

The quantification of influences of four methods is based on the ratio of each indicator's increment related to the total increment. Thus,

$$\Delta x_{a_i} = \frac{\Delta a_i}{\sum_i \Delta a_i} \cdot \Delta y_x. \quad (2.24)$$

$a_{i,0}$ and $a_{i,1}$ are the values of the i -th indicator for the initial period (index 0) and the subsequent period (index 1):

$$\Delta a_i = a_{i,1} - a_{i,0}. \quad (2.25)$$

Method of gradual changes

The decomposition for a product of three particular indicators is as follows:

$$\begin{aligned} \Delta y_x &= \frac{x_1 - x_0}{\Delta x} \cdot \Delta y_x = (a_{1,1} \cdot a_{2,1} \cdot a_{3,1} - a_{1,0} \cdot a_{2,0} \cdot a_{3,0}) \cdot \frac{\Delta y_x}{\Delta x} \\ &= (a_{1,1} - a_{1,0}) \cdot a_{2,0} \cdot a_{3,0} \cdot \frac{\Delta y_x}{\Delta x} + a_{1,1} \cdot (a_{2,1} - a_{2,0}) \cdot a_{3,0} \cdot \frac{\Delta y_x}{\Delta x} + a_{1,1} \\ &\quad \cdot a_{2,1} \cdot (a_{3,1} - a_{3,0}) \cdot \frac{\Delta y_x}{\Delta x} \\ &= \Delta a_1 \cdot a_{2,0} \cdot a_{3,0} \cdot \frac{\Delta y_x}{\Delta x} + a_{1,1} \cdot \Delta a_2 \cdot a_{3,0} \cdot \frac{\Delta y_x}{\Delta x} + a_{1,1} \cdot a_{2,1} \cdot \Delta a_3 \cdot \frac{\Delta y_x}{\Delta x} \\ &= \Delta x_{a_1} + \Delta x_{a_2} + \Delta x_{a_3}. \end{aligned} \quad (2.26)$$

Influences are quantified without a residue due to (2.26) as follows:

$$\begin{aligned} \Delta x_{a_1} &= \Delta a_1 \cdot a_{2,0} \cdot a_{3,0} \cdot \dots \cdot a_{n,0} \cdot \frac{\Delta y_x}{\Delta x}, \\ \Delta x_{a_2} &= a_{1,1} \cdot \Delta a_2 \cdot a_{3,0} \cdot \dots \cdot a_{n,0} \cdot \frac{\Delta y_x}{\Delta x}, \\ &\quad \vdots \\ \Delta x_{a_n} &= a_{1,1} \cdot a_{2,1} \cdot a_{3,0} \cdot \dots \cdot \Delta a_n \cdot \frac{\Delta y_x}{\Delta x}. \\ \Delta x_{a_i} &= \Delta a_i \cdot \prod_{j < i} a_{j,1} \cdot \prod_{j > i} a_{j,0} \cdot \frac{\Delta y_x}{\Delta x}. \end{aligned} \quad (2.27)$$

Method of decomposition with a residue

For method of decomposition with a residue, influences are quantified with a residue. The residue R results from combinations of simultaneous changes of more indicators.

$$\begin{aligned} \Delta y_x &= \sum_i \Delta x_{a_i} + R \\ \Delta x_{a_1} &= \Delta a_1 \cdot a_{2,0} \cdot a_{3,0} \cdot \dots \cdot a_{n,0} \cdot \frac{\Delta y_x}{\Delta x}, \\ \Delta x_{a_2} &= a_{1,0} \cdot \Delta a_2 \cdot a_{3,0} \cdot \dots \cdot a_{n,0} \cdot \frac{\Delta y_x}{\Delta x}, \\ &\quad \vdots \\ \Delta x_{a_n} &= a_{1,0} \cdot a_{2,0} \cdot a_{3,0} \cdot \dots \cdot \Delta a_{n-1,0} \cdot \Delta a_n \cdot \frac{\Delta y_x}{\Delta x}. \end{aligned} \quad (2.28)$$

Method of logarithmic decomposition

Logarithmic method is characterized by the decomposition of influence without a residue.

$$\Delta y_x = \sum_i \Delta x_{a_i}. \quad (2.29)$$

In order to derive the quantification of influences we express the indexes of indicators at the beginning:

$$I_x = \frac{x_1}{x_2} = \frac{a_{1,1}}{a_{1,0}} \cdot \frac{a_{2,1}}{a_{2,0}} \cdot \dots \cdot \frac{a_{n,1}}{a_{n,0}} = I_{a_1} \cdot I_{a_2} \cdot \dots \cdot I_{a_n} = \prod_i I_{a_i}. \quad (2.30)$$

The impact of the change of the $i - th$ component ratio in the basic ratio is calculated below

$$\Delta x_{a_i} = \frac{\ln I_{a_i}}{\ln I_x} \cdot \Delta x. \quad (2.31)$$

Method of functional decomposition

Functional decomposition method works with the relative changes in basic and component ratios.

$$\Delta x^{relatively} = R_x = \frac{x_1 - x_0}{x_0}, \quad (2.32)$$

$$\Delta a_i^{relatively} = R_{a_i} = \frac{a_1 - a_0}{a_0}. \quad (2.33)$$

The influence of the $i - th$ component ratio on the basic ratio is defined below,

$$\begin{aligned} \Delta x_{a_1} &= \frac{1}{R_x} \cdot R_{a_1} \cdot \left(1 + \frac{1}{2} \cdot R_{a_2} + \frac{1}{2} \cdot R_{a_3} + \frac{1}{3} R_{a_2} \cdot R_{a_3} \right) \cdot \Delta x \\ \Delta x_{a_2} &= \frac{1}{R_x} \cdot R_{a_2} \cdot \left(1 + \frac{1}{2} \cdot R_{a_1} + \frac{1}{2} \cdot R_{a_3} + \frac{1}{3} R_{a_1} \cdot R_{a_3} \right) \cdot \Delta x \\ \Delta x_{a_3} &= \frac{1}{R_x} \cdot R_{a_3} \cdot \left(1 + \frac{1}{2} \cdot R_{a_1} + \frac{1}{2} \cdot R_{a_2} + \frac{1}{3} R_{a_1} \cdot R_{a_2} \right) \cdot \Delta x. \end{aligned} \quad (2.34)$$

3 Basic Characteristics of Nestlé

Nestlé as a food company has such a big influence all over the world, and it has a long history as well. As one of the most famous companies, the Nestlé company has so many characteristics we have to know. The characterization of Nestlé can make it clear to know what kind of company Nestlé is, what kind of financial situation it was in and find out what kind of financial situation it will be in. According to that, significantly understanding the financial characteristics of Nestlé are essential.

Therefore, in this chapter, we will think about the characteristics of Nestlé specifically in the following part.

All of the data in this chapter are based on annual report of Nestlé from 2013 to 2017.

3.1 Overview of the Nestlé

Nestlé is the one of the largest global food companies in the whole world. It's a Swiss company established in 1866, and its founder is Henri Nestlé. Nestlé have developed their business in almost 86 countries, which deeply influenced the whole food market. Besides, Nestlé has various kinds of food and brands, such as Cereals Partner Worldwide, Nestlé Health Science, Nestlé Nespresso, Nestlé Purina Petcare, Nestlé Skin Health and Nestlé Waters. All of these efforts are made for their idea and slogan called "Good food, Good life", which protected people's daily life to get more quality and safety. That's also the reason why Nestlé developed so well so far.

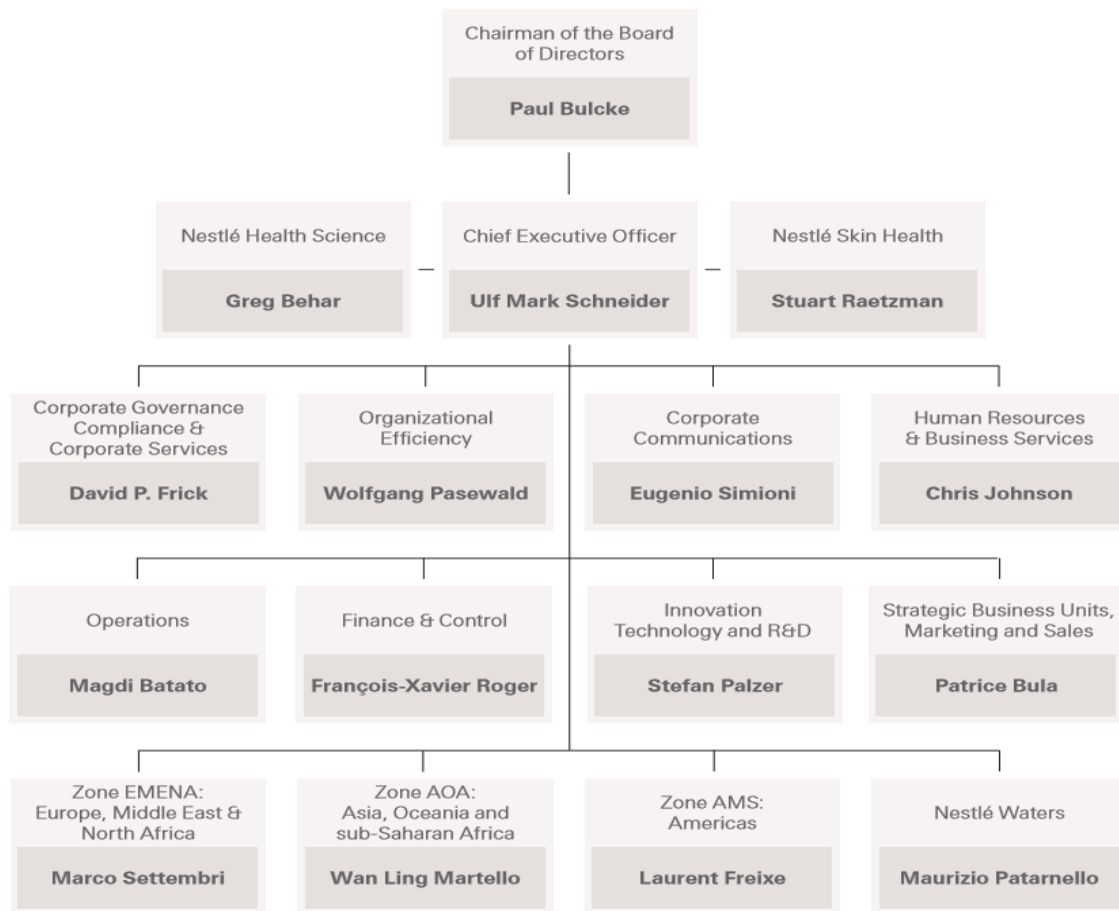
3.1.1 Organizational Structure of Nestlé

The leadership team of Nestlé is headed by chairman of the Board of directors, Paul Bulcke. And Greg Behar is chief executive officer of Nestlé Health Science, Mark Schneider is chief executive officer and Stuart Raetzman is chief executive officer of Nestlé Skin Health.

The organizational structure can be divided into 3 categories: The first one can also be divided into four parts, which includes corporate governance, Compliance & Corporate Service, Organizational Efficiency, Corporate Communications and Human resources & Business services. The second category are Operations, Finance & Control, Innovation technology and Strategic business Units, Marketing and sales. The third category includes different marketing areas, such as Zone EMENA (i.e. Europe, Middle East & North America), Zone AOA (i.e. Asia, Oceania and sub-Saharan Africa), Zone AMS (i.e. Americas).

The organizational structure of Nestlé is possible to see in chart 3.1.

Chart 3.1 The organizational structure of Nestlé.



Source: Annual report of Nestlé

Available on https://www.Nestlé.com/asset-library/Documents/Library/Documents/Annual_Reports/2016-Annual-Review-EN.pdf

3.1.2 Major events of Nestlé

The story of Nestlé began in 1866, and the Anglo-Swiss Condensed Milk company founded it. Then in 1867, Henri Nestlé got a huge development in the infant food, and in 1905, the firm the Henri Nestlé built merged the Anglo-Swiss Condensed Milk company, which was the whole form of the famous company called Nestlé.

From 1905 to 1918, in the beginning, the Nestlé company has more than 20 factories, and begin to sell the products to the overseas with establishment of overseas subsidiaries, these areas were Australia, Asia, Latin America and Spans Africa. However, in 1914, with the outbreak of the war, Nestlé could get more benefit from it to sell the milk and chocolate, the demand was increased, but the Nestlé didn't have enough raw materials and the gap of trading from one country to another country was getting bigger. Nestlé devoting to buy more factories

in the America and Australia to get through it. After that, the Nestlé had almost 40 factories at the end of the war.

From 1919 to 1938, the need for the milk declined with the end of the war, and the Wall Street Crash in 1929, which rocked the Nestlé over and over again. Fortunately, all of the difficulties made Nestlé got stronger, they developed a more professional Nestlé group, and also invented Nescafe coffee, which is still popular in the present society.

From 1939 to 1947, the outbreak of world war two influenced the whole markets, almost every company was affected. However, the Nestlé still concentrated on inventing new products, and the maggi soups was added to the company and expanded the categories. The Nestlé adopted the name Nestlé Alimentana as well.

From 1948 to 1959, after the war, with the development of technology, more and more consumers preferred to use some efficient machines such as freezer and choose more convenient food such as the maggi soups provided by Nestlé. During this period of time, Nestlé began to be more welcomed among the consumers.

From 1960 to 1980, acquisitions made the Nestlé grow quickly, the frozen food of Nestlé also sold well, especially coffee, canned milk and so on. But this wasn't enough for Nestlé, they prepared to enter the makeup market.

From 1981 to 2005, Nestlé had new ambitions aimed to “Nutritions, Health and Wellness” to attract more consumers who paid attention on health. Then the Nestlé expand their companies to Eastern Europe, Asia and United States. And it aimed to be the business leader of animal food, coffee and ice cream.

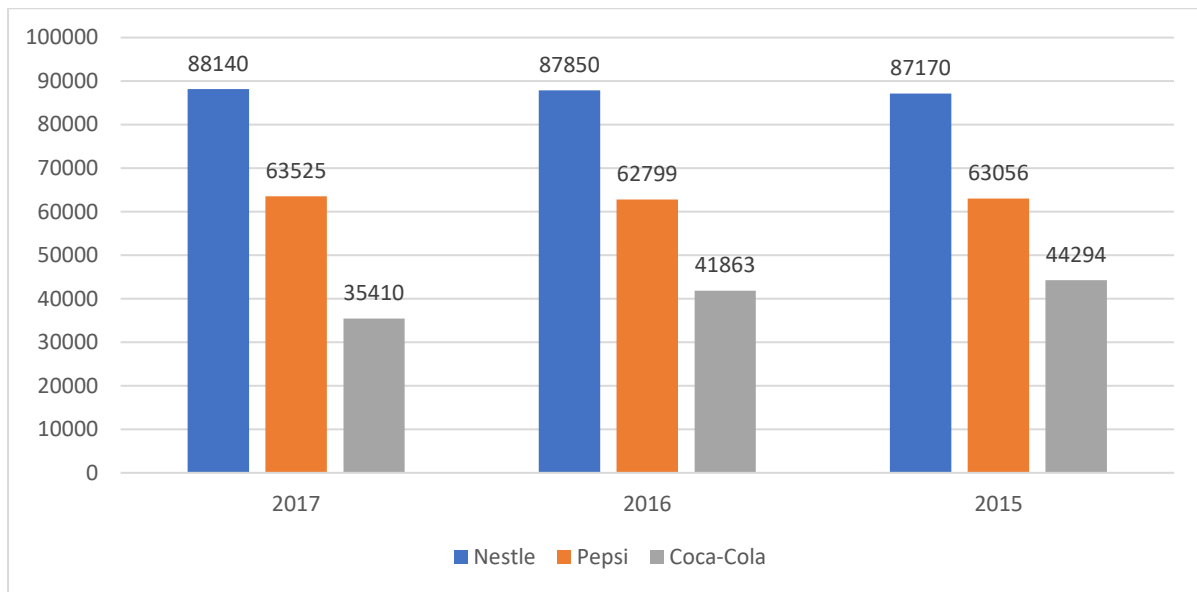
From 2006 to today. Nestlé cleared its business model to create Shared Value firstly, and made Nestlé cocoa and Nestlé coffee aims with the development of sustainable cocoa and coffee supply chain in the future. Not only Nestlé paid more attention on its traditional market products, such as infant milk and frozen food, but also strengthened the awareness of the medical and nutrition at the same time.

3.1.3 Nestlé industry position

The Nestlé, Coca-Cola and Pepsi are the three largest food and beverage companies in the world. Even though the Pepsi and Coca-Cola are behind it closely, Nestlé still has the irreplaceable position in the food industry.

In the chart 3.2, we can see sales of Nestlé, Pepsi and Coca-Cola from 2015 to 2017.

Chart 3.2 Sales of Nestlé, Pepsi and Coca-Cola from 2015 to 2017 (in million dollar)



Source: Annual report of Nestlé, Pepsi and Coca-Cola

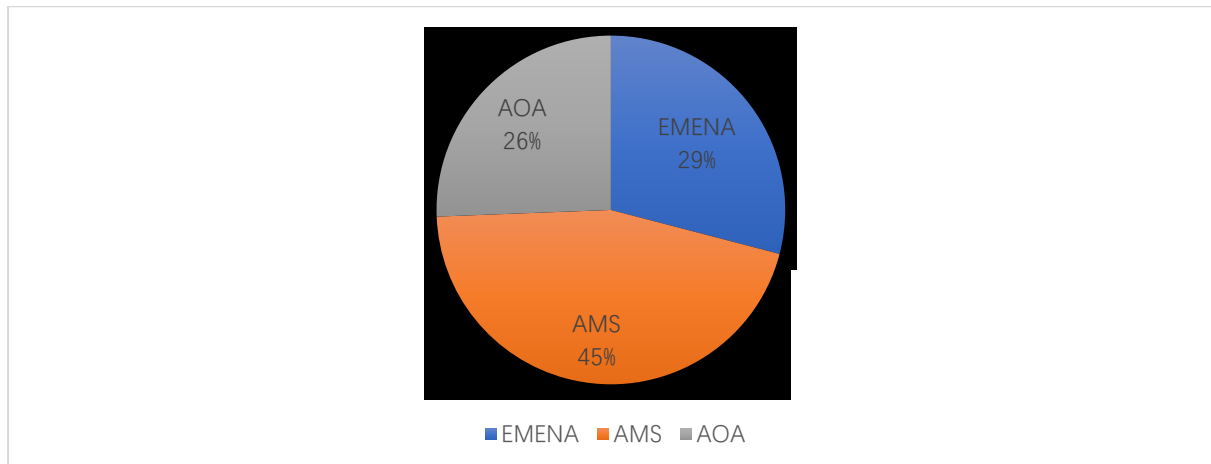
We can see from the Chart 3.2 that Nestlé had the highest revenue from 2015 to 2017, compared with Coca-Cola and Pepsi. However, the sales of the Nestlé decreased slightly from 87,170 million dollar to 88,140 million dollars from year 2015 to year 2017. Similarly, the Pepsi had a decrease trend in their sales, and the sales of Pepsi was 20,000 million dollars less than that of the Nestlé each year in the period of three years. What's more, the Coca-Cola had the lowest revenue in these three food and beverage companies, and the Coca-Cola only had 44,294 million dollars sales in 2017.

3.1.4 Nestlé markets around the world

The Nestlé has business in 189 countries, and they employed 323,000 staffs around the world. To be specific, in the 2017, the Nestlé sold around 89.8 billion Swiss Franc in total in the world market. The Nestlé has the most business in AMS region, which stands for 45 percent of their total business by 2017. And the Nestlé has relatively less business in Asia-Oceania-Africa area, which has 23,0 billion Swiss Franc sales in 2017. What's more, the Nestlé has 29% of the total sales in Europe, Middle East and North Africa.

In chart 3.3, we can see the proportion of sales in different areas.

Chart 3.3 The proportion of sales in different areas (%)



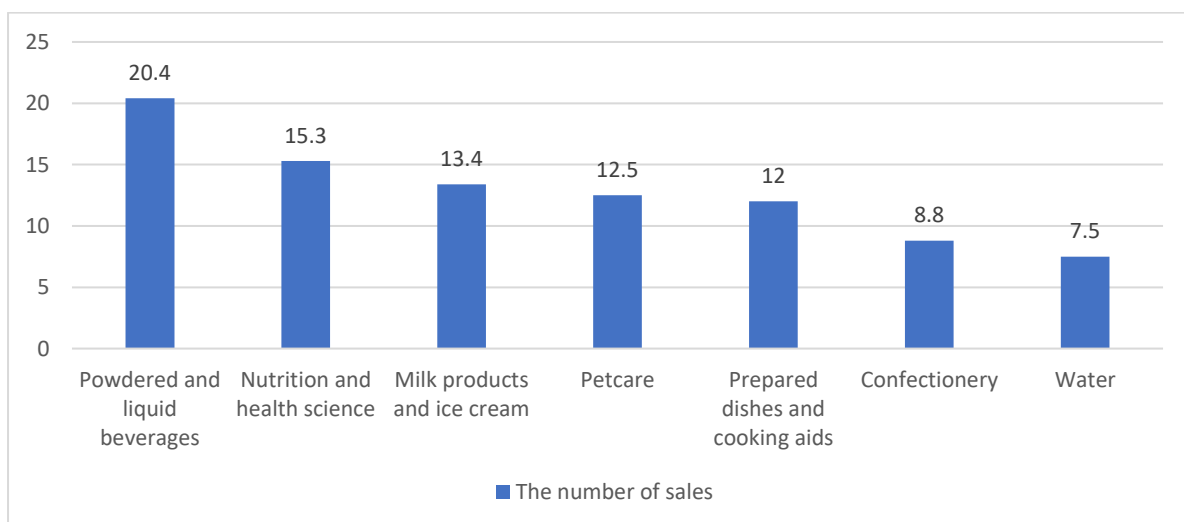
Source: Annual report of Nestlé

3.1.5 Nestlé business segments

By 2017, the Nestlé owns more than 2000 brands, and they devote themselves to provide the best products to people and pets. The main global brands are Nescafe and Nespresso. As the Nestlé company would like to win the local markets around the world and satisfy the specific demand of local customers, they also have local brands, such as Ninho and Yinlu. The Nestlé classifies their brand into 7 categories: Powdered and Liquid Beverages, Nutrition and Health Science, Milk products and Ice cream, Pet care, Prepared dishes and cooking aids, Confectionery and water.

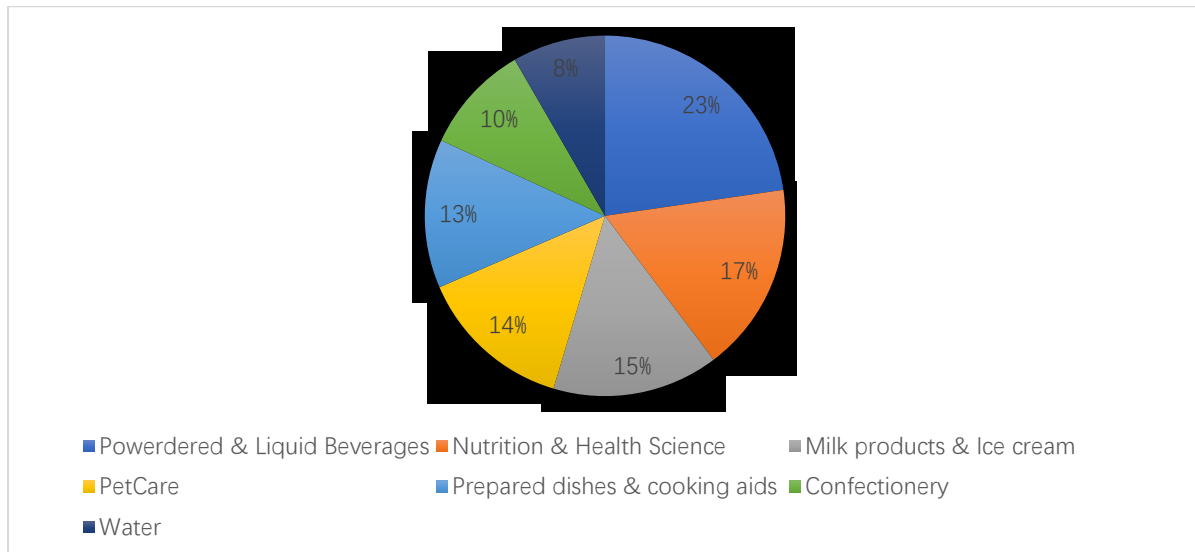
In table 3.1, we can see the number of sales about 7 categories. And in chart 3.4, we can see the proportion of each category.

Table 3.1: The number of sales about 7 categories (In billions of CHF)



Source: Annual report of Nestlé

Chart 3.4 The proportion of each category (%)



Source: Annual report of Nestlé

The categories of Nestlé's brand are defined by seven parts:

- **Powdered and Liquid Beverages**

The Nestlé built up the brand category of Powered and Liquid Beverages, which aims to serve the customer demand for high quality coffee. Especially, the Nescafe is the most popular coffee brand, and it is sold more than 180 countries. As the result of innovation of the Nestlé, they launched four new coffee products, which is Nescafe Gold, Nescafe Dolce Catuai do Brasil, Nespresso and Blue Bottle. All these products provide people premium taste and satisfy their specific needs;

- **Nutrition and Health Science**

The mothers and infants are the target customers of Nutrition and Health Science products, and the Nestlé aims to improve the customers' life quality by innovation and science. In these categories of brands, some products are only available in specific area in that the Nestlés would like to satisfy the local demand of consumers. For example, the Meritene Mobilis is only provided in European countries, and the NHSc is available in China that is for their customers who has swallowing problems;

- **Milk products and Ice cream**

The Nestlé created brands that serves milk and ice cream markets. To be specific, Bear Brand Yogu is a milk product that is available in Asia. For satisfying the specific demand of nutrition, the Nido built up their new nutritional products, such as Nido FortiGrow and Nido Nature's Benefits;

- **Pet care**

In order to occupy the pet food markets, the Nestlé created brands like Friskies and Pro Plan that offer high quality and natural food of pets;

- **Prepared dishes and cooking aids**

As the Nestlé aims to provide products for people's whole life, they produce and innovate products for people's kitchen. The famous brand is Maggi that offer people natural cooking sources;

- **Confectionery**

For snacks markets, the Nestlé has KitKat and Les Recettes de l'Atelier. The KitKat is a global chocolate brand, and the Nestlé is still increase their market share in crucial markets, such like Russia, Brazil and China. Furthermore, the Les Recettes de l'Atelier is a premium chocolate brand that mainly serve for the customers who has high quality requirements of chocolate;

- **Water**

The Nestlé Pure Life is the most famous water brand in the world, and the Nestlé Pure Life choose the high-quality water resources to produce their water products. Besides, for environmental sustainability, the Nestlé invested in the protection of environment in the world.

3.1.6 Strategy of Nestlé

The success of a company may depend on their excellent strategy that can help companies grow constantly and deliver value to their customer. As the objective of the work is to improve quality of life and create a healthier future, the Nestlé has their strategies to increase their financial performance sustainably and provide the best products to customers.

- **Building on the Nutrition, Health and Wellness strategy**

The core of the Nestlé business is the Nutrition, Health and Wellness strategy. To be specific, the most important factor of the Nestlé's products is their taste and nutrition, which means all food and snacks of the Nestlé have to be designed based on this strategy. Furthermore, the Nestlé provides all products that a customer may need in their all-time of the day, and they design different products that may serve different ages of people, therefore, the Nestlé can increase their market share as big as possible;

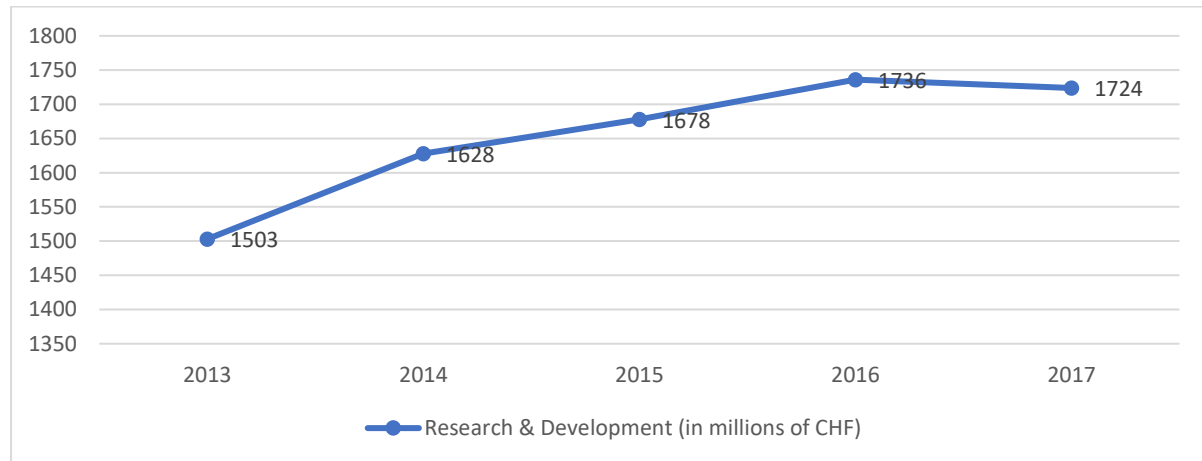
- **Understanding and serving the customers**

Satisfying the customers is the key of the success of the Nestlé, therefore, the Nestlé aims to build the largest research and development network in their industry. The Nestlé innovates and renovate their products to satisfy the changing customers' needs. In total, the cost of the

Nestlé's Research and Development department was increasing continuously from 2013 to 2017, although the cost decreased slightly from 2016 to 2017. The proportion of research & development from 2013 to 2017 is presented below. All of these figures are from annual report of Nestlé.

It is possible to see the proportion of research & development from 2013 to 2017 in chart 3.5.

Chart 3.5 The proportion of research & development from 2013 to 2017 (In millions of CHF)



Source: Annual report of Nestlé

- **Accelerating growth**

For long-run creation of value, the Nestlé insist to invest in the categories and geographies that may have the relatively large space of the growth in protentional. Therefore, the Nestlé not only run their top categories of the product based on the growth strategy (e.g. coffee and petcare), but also find growth opportunities in healthcare industries in developing and developed countries;

- **Increasing efficiency**

Increasing efficiency is the crucial strategy of the Nestlé, the Nestlé try to decrease the various cost to gain value. Specifically, the Nestlé company would identify projects in procurement, administration and producing area precisely, therefore, the structural cost can be decreased. And the Nestlé increase efficiency by increasing their utilization of capacity. What's more, the Nestlé would promote their shared services for efficiency purpose;

- **Allocating capital prudently**

The Nestlé make acquisition and merger decisions based on the complimentary principle. As the acquisition and merger may not only bring competitive advantages from acquired firms to the Nestlé, but also bring management problems, the Nestlé only acquires firms in fast-growing industries that must be complementary to the existing business of the Nestlé;

- **Creating Shared Value**

The basic business principle of the Nestlé is Creating Shared Value that would create value for their shareholders and the other stakeholders.

3.1.7 Ambition of Nestlé

The ambitions of Nestlé for 2030 are three parts. First of all, for the individual, Nestlé is devoting to help 50 million children get healthier lives as much as they can. Besides, for the communities, Nestlé focus on helping to improve 30 million livelihoods which are closely related to their business activities in the communities. Thirdly, Nestlé expect to achieve zero impact to the environment in their daily operations. All of these ambitions aimed to stand by UN Sustainable Development Goals and lead their work. In the long run, the Nestlé's ambitions and efforts are beneficial for the environment and human society.

3.2 Common-size analysis of Nestlé

In this part, we will use the common-size analysis to analyze the Nestlé company and calculate the changes of these kinds of financial figures from 2013 to 2017. All of these figures can reflect the fluctuation and connection, which can make it easier to know how each item's impact. We concentrate on two parts of Nestlé's analysis, which called vertical common-size analysis and horizontal common-size analysis separately. The data in following table is based on annual report of Nestlé from 2013 to 2017.

3.2.1 Vertical common-size analysis of Nestlé

Vertical common-size analysis is used to identify the proportion of each item among the base amount of financial statements. Firstly, we start to analyze balance sheet.

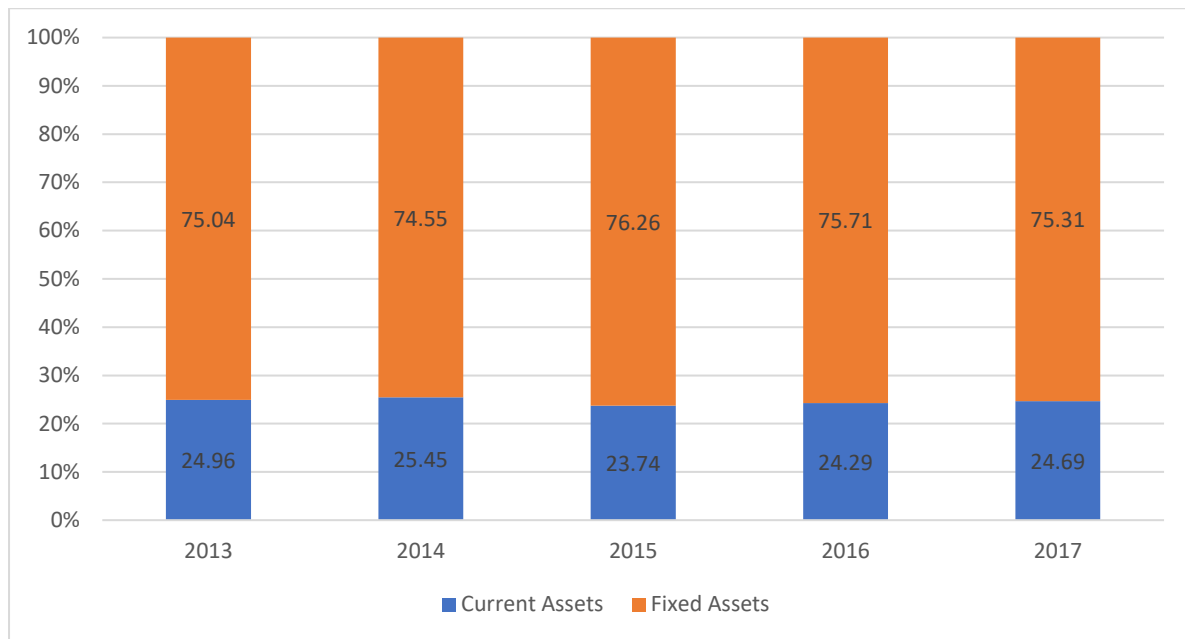
In table 3.2, we can see the proportion of each item in total assets from 2013 to 2017, and in chart 3.6, we can see the vertical common-size analysis of assets from 2013 to 2017.

Table 3.2 The proportion of each item in total assets from 2013 to 2017 (%)

	2013	2014	2015	2016	2017
Total current assets	24.96	25.45	23.74	24.29	24.69
Cash and cash equivalents	5.33	5.58	3.94	6.06	6.09
Short-term investments	0.53	1.07	0.74	0.99	0.50
Inventories	6.96	6.87	6.58	6.37	6.95
Trade and other receivables	10.13	10.09	9.88	9.41	9.53
Prepayments and accrued income	0.63	0.42	0.47	0.43	0.47
Derivative assets	0.19	0.30	0.27	0.42	0.18
Current income tax assets	0.96	0.68	0.70	0.60	0.70
Assets held for sale	0.23	0.43	1.15	0.02	0.27
Total fixed assets	75.04	74.55	76.26	75.71	75.31
Property, plant and equipment	22.33	21.30	21.43	20.89	21.30
Goodwill	25.77	25.90	26.43	25.02	22.82
Intangible assets	10.52	14.84	15.51	15.46	15.81
Investments in associates and joint ventures	10.22	6.48	7.00	8.12	8.92
Financial assets	3.78	4.12	4.37	4.34	4.60
Employee benefits assets	0.45	0.29	0.09	0.24	0.30
Current income tax assets	0.10	0.10	0.10	0.09	0.05
Deferred tax assets	1.86	1.54	1.33	1.55	1.51
Total assets	100	100	100	100	100

Source: Own calculation

Chart 3.6 Vertical common-size analysis of assets from 2013 to 2017



Source: Own calculation

We can see that the current assets of Nestlé remain stable at about 75 percentage from the table and they are consistently lower than fixed assets. Obviously, the fixed assets experienced the opposite trend compared to the current assets, which also means the fixed assets did not change too much.

Even though the total fixed assets still remain stable, the proportion of property, plant and equipment in fixed assets in 2013 is significantly higher than the other years. From the annual report we can find Nestlé had new acquisition related to the change in that year. Nestlé acquired Pamlab, USA, healthcare products (Nutrition and Healthcare) in 2013. Then the fixed assets were noticeable higher than the other years.

We also can see that the proportion of fixed assets are almost triple the proportion of current assets, which means that the company can get more profits because of the big proportion of fixed assets. But the high proportion of fixed assets can cause some initial problems. For example, if there is something wrong with the equipment of Nestlé, they should pay more to repair and maintenance. Nestlé should pay more attention on it.

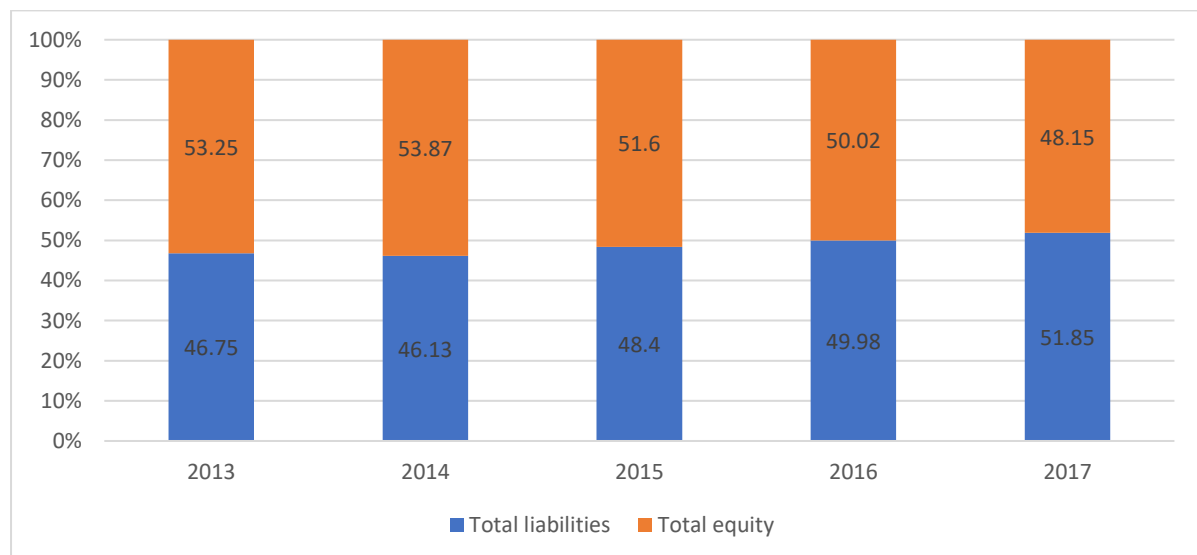
In table 3.3, we can see the proportion of each item in total equity and total liabilities from 2013 to 2017 while in chart 3.7, we can see vertical common-size analysis of equity and liabilities from 2013 to 2017.

Table 3.3 The proportion of each item in total equity and total liabilities from 2013 to 2017 (%)

	2013	2014	2015	2016	2017
Current liabilities	27.33	24.65	26.87	28.44	27.65
Long-term liabilities	19.42	21.48	21.52	21.53	24.20
Total liabilities	46.75	46.13	48.40	49.98	51.85
Total shareholders' equity	53.25	53.87	51.60	50.02	48.15
Total liabilities and Equity	100	100	100	100	100

Source: Own calculation

Chart 3.7 Vertical common-size analysis of equity and liabilities from 2013 to 2017



Source: Own calculation

The Table 3.3 and the Chart 3.7 show the data about the proportion of each item in total equity and total liabilities from 2013 to 2017. We can see that the proportion of current liabilities is always higher than the long-term liabilities among these years from the table, which raised the debt burden for Nestlé in the daily activities.

About the figure, it is obviously we can find that the proportion of total liabilities is higher than the proportion of total equity. It is also regarded as the financial structure is weak and the creditors get a low level of capital security. However, the proportion of total liabilities decreased slowly, and the proportion of total equity shows the opposite trend, which means the financial structure is getting stronger in the future.

After analyzing the balance sheet, then we begin to analyze the income statement.

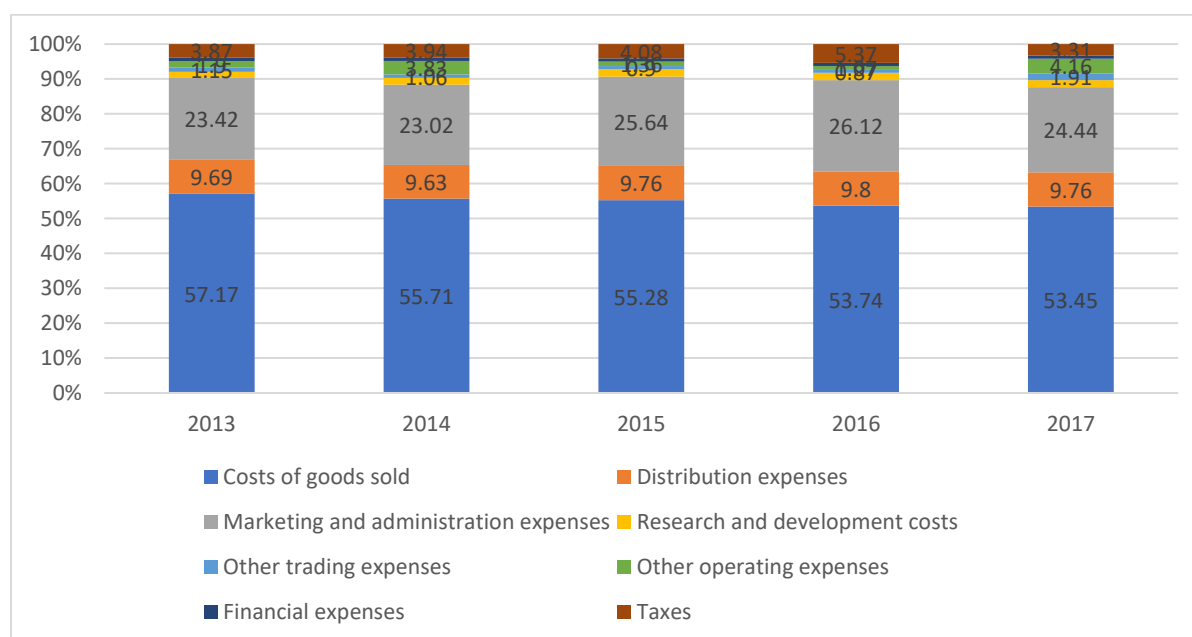
It is possible to see the proportion of each item in expenses from 2013 to 2017 in table 3.4 and see vertical common-size analysis of expenses from 2013 to 2017 in chart 3.8.

Table 3.4 The proportion of each item in expenses from 2013 to 2017 (%)

	2013	2014	2015	2016	2017
Total expenses	100	100	100	100	100
Costs of goods sold	57.17	55.71	55.28	53.74	53.45
Distribution expenses	9.69	9.63	9.76	9.80	9.76
Marketing and administration expenses	23.42	23.02	25.64	26.12	24.44
Research and development costs	1.79	1.91	2.07	2.11	2.05
Other trading expenses	1.15	1.06	0.90	0.87	1.91
Other operating expenses	1.90	3.83	1.36	1.07	4.16
Financial expenses	1.01	0.90	0.90	0.92	0.92
Taxes	3.87	3.94	4.08	5.37	3.31

Source: Own calculation

Chart 3.8 Vertical common-size analysis of expenses from 2013 to 2017 (%)



Source: Own calculation

We can see from the Table 3.4 and the Chart 3.8 that the costs of goods sold account for the biggest proportion among these eight kinds of expenses. But the proportion of it decreases consistently from 2013 to 2017. The marketing and administration expenses of Nestlé has the second biggest proportion, and it fluctuates slightly. Besides, we can find the financial expenses of Nestlé is smaller than the other expenses but it is also stable. Therefore, it is not hard to see Nestlé has a stable development during these years from the figure and table.

3.2.2 Horizontal Common-size analysis of Nestlé

In this part, we will use horizontal common-size analysis to analyze Nestlé. Firstly, we will choose the year of 2013 as a benchmark. And then we will compare the other years with it. After that, we will get the results of absolute changes and percentage changes. All of the figure and results are based on annual report of Nestlé from 2013 to 2017.

References for equation are based on Formula (2.7), (2.8) in chapter 2.

In table 3.5, we can see the absolute change of each item in balance sheet. And in table 3.6, we can see the percentage change of each item in balance sheet.

Table 3.5: The absolute change of each item in balance sheet of Nestlé (In millions of CHF)

	2014/2013	2015/2013	2016/2013	2017/2013
Long-term assets	9113	4182	9483	7814
Short-term assets	3895	-632	1976	2124
Total assets	13008	3550	11459	9938
Long-term liabilities	5285	3299	5017	8163
Short-term liabilities	-22	404	4600	3137
Total liabilities	5263	3703	9617	11300
Shareholders' equity	7745	-153	1842	-1362

Source: Own calculation

Table 3.6 The percentage change of each item in balance sheet of Nestlé (%)

	2014/2013	2015/2013	2016/2013	2017/2013
Long-term assets	10.08	4.63	10.49	8.65
Short-term assets	12.95	-2.10	6.57	7.06
Total assets	10.80	2.95	9.51	8.25
Long-term liabilities	22.60	14.11	21.45	34.91
Short-term liabilities	-0.07	1.23	13.97	9.53
Total liabilities	9.35	6.58	17.08	20.07
Shareholders' equity	12.08	-0.24	2.87	-2.12

Source: Own calculation

From the table 3.5, we can see that each item in balance sheet fluctuates from 2013 to 2017, none of them decrease or increase all the time. Besides, we can also find that the absolute change of long-term assets, short-term assets and long-term liabilities in 2015 are the smallest among these years compared to the basic year 2013. According to annual report of Nestlé in 2013, inventories and other assets including disposals of Wyeth Nutrition, sales of participants in Latin America, Australia and South Africa, and other minor disposals including Joseph's Gourmet Pasta, filled frozen pasta. Furthermore, Nestlé has also main acquisition in 2013, healthcare products of Pamlab in USA. To a certain degree, the reduction of the long-term liabilities can reduce the risk of company in 2015 compared to 2013.

From the Table 3.6, we can find the percentage change of long-term assets, short-term assets, long-term liabilities, total liabilities and shareholders' equity in 2015 compared to 2013 is less than the other years, it even shows a downward trend in short-term assets and shareholders' equity. However, all of these items experience a positive increase in 2016 compared to 2013.

After conducting the horizontal common-size analysis of balance sheet, then we will conduct the horizontal common-size analysis of income statement.

In table 3.7, we can see the absolute change of each item in income statement of Nestlé. And in table 3.8, we can see the percentage change of each item in income statement of Nestlé.

Table 3.7: The absolute change of each item in income statement of Nestlé. (In millions of CHF)

	2014/2013	2015/2013	2016/2013	2017/2013
Revenues	-546	-3373	-2689	-2367
EBIT	-2163	-660	95	-2956
Interest	18	-29	-78	-75
EBT	-2169	-653	89	-2944
Tax	-111	-49	-1157	477
EAT	4459	-978	-1562	-2907
Dividend received	4441	-949	-1484	-2832

Source: Own calculation

Table 3.8: The percentage change of each item in income statement of Nestlé (%)

	2014/2013	2015/2013	2016/2013	2017/2013
Revenues	-0.59	-3.66	-2.92	-2.57
EBIT	-16.55	-5.05	0.73	-22.62
Interest	4.19	-6.74	-18.14	-17.44
EBT	-17.44	-5.25	0.72	-23.67
Tax	3.41	1.50	35.53	-14.65
EAT	42.69	-9.36	-14.95	-27.83
Dividend received	44.34	-9.48	-14.82	-28.28

Source: Own calculation

We can see from the table 3.7 that the absolute changes of revenues are all negative in these years compared to the basic year. However, they experience a sharp rise from 2015 to 2017. Besides, even though the absolute change of earning after tax from 2013 to 2014 is negative, it increases in the next years compared to 2013. Compared to the basic year, the absolute change of tax in 2017 increases too much while the absolute changes of other years' are all negative.

We can also find the table 3.8 presents the same trend, the percentage trend of interest decreases consistently. The total liabilities which we have calculated decreased from 2013 to 2017. According to that, this is one of the reasons why the interests decreases relatively.

We can find that from the annual report of Nestlé, Nestlé's group is subject to taxes in different countries in the world. And the tax increases from 2013 to 2017 relative to table 3.7 and table 3.8.

4 Evaluation of Financial Position of Nestlé

We will begin to analyze the Nestlé company in using different kinds of ratios in this chapter, such as profitability ratios, liquidity ratios, solvency ratios and activity ratios and Dupont analysis in the chapter 2. All of these figures are based on the annual report of Nestlé from 2013 to 2017.

4.1 Profitability ratios of Nestlé

Profitability ratios can make it clear to know the profitable ability of Nestlé during these 5 years. And operating profit margin, net profit margin, return on assets and return on equity are included in this part. Now, we start it from the analysis of operating profit margin.

References for equation are based on formula (2.9) – (2.12) in chapter 2.

4.1.1 Operating profit margin

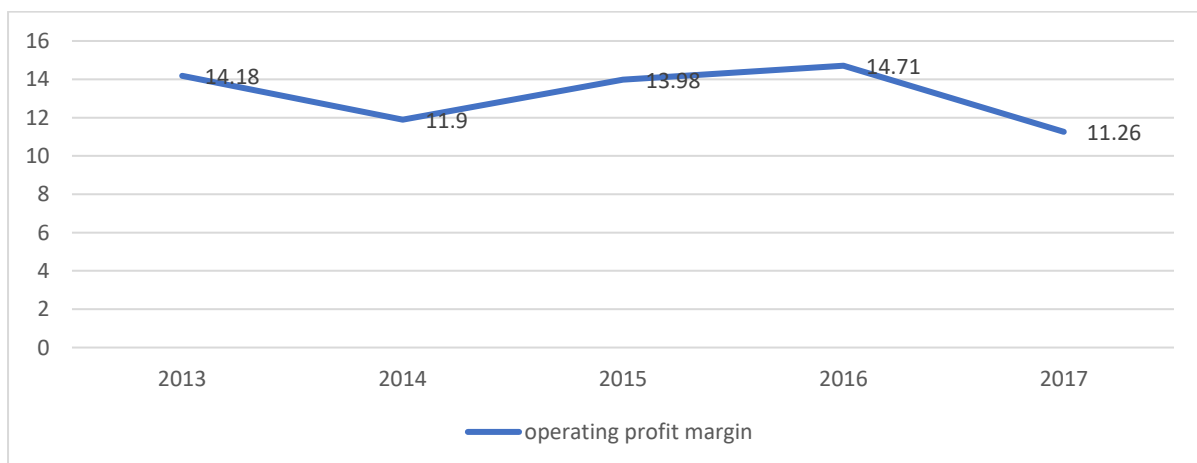
In table 4.1, we can see the operating profit margin of Nestlé from 2013 to 2017. And in chart 4.1, we can see the trend of operating profit margin from 2013 to 2017.

Table 4.1 Operating profit margin of Nestlé from 2013 to 2017 (%) (In millions of CHF)

	2013	2014	2015	2016	2017
Operating profit	13068	10905	12408	13163	10112
Revenues	92158	91612	88785	89469	89791
Operating profit margin	14.18	11.90	13.98	14.71	11.26

Source: Own calculation

Chart 4.1 Trend of operating profit margin from 2013 to 2017 (%)



Source: Own calculation

We can see from the Chart 4.1 that the operating profit margin fluctuated during these years. From 2013 to 2014, the operating profit margin declined from 14.18% to 11.9%.

However, it increased steadily from 2014 to 2016, and it peaked at 14.71 percentage in 2016, then it dropped back to 11.26 percentage.

The change of operating profit margin of Nestlé can reflect its ability of profitability. Operating income is important for a company, if the company can earn enough money mostly from their operations, the company would be stable and more profitable.

According to that, we can know the higher margin is more stable for Nestlé to pay its costs. Nestlé did have a great improvement in 2016 and the operations in this year are strong and profitable. However, the operating profit margin of Nestlé declined and it got the opposite result in 2017.

4.1.2 Net profit margin

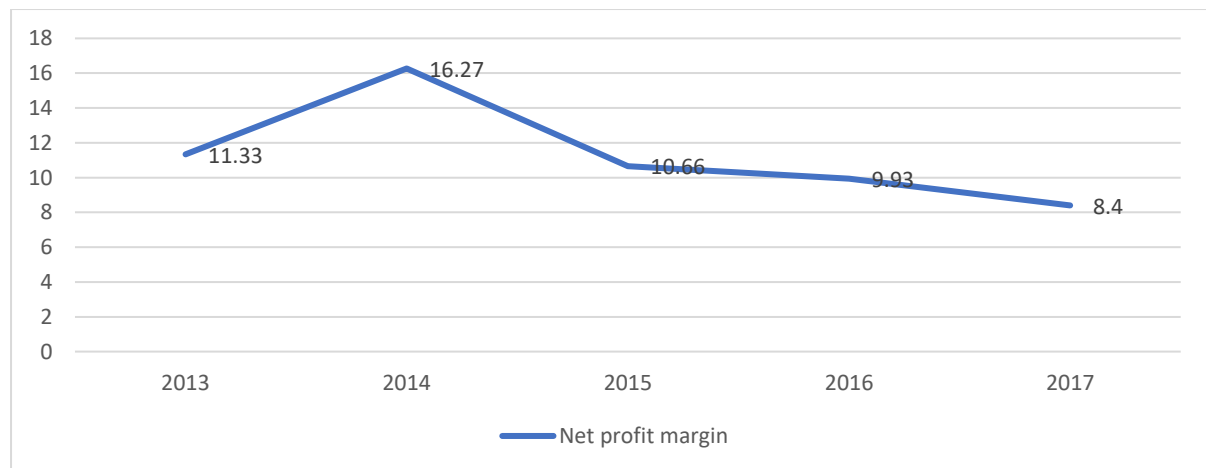
In table 4.2, we can see the net profit margin of Nestlé from 2013 to 2017. And in chart 4.2, we can see the trend of net profit margin during these years.

Table 4.2 Net profit margin of Nestlé from 2013 to 2017 (%) (In millions of CHF)

	2013	2014	2015	2016	2017
Net income	10445	14904	9467	8883	7538
Revenues	92158	91612	88785	89469	89791
Net profit margin	11.33	16.27	10.66	9.93	8.40

Source: Own calculation

Chart 4.2: Trend of net profit margin from 2013 to 2017 (%)



Source: Own calculation

We can obviously see from the chart 4.2 that the net profit margin increased sharply from 2013 to 2014 and reached its peak at 16.27 percentage. However, the figure fell back to 10.66 percentage, which was even lower than it in 2013. During the next three years, the net profit margin declined steadily to 8.4 percentage.

As we have mentioned in chapter 2, the net profit margin represented the how much net profit the company can get each unit of revenues. For example, the net profit margin in 2014 peaked at 16.27 percentage, which means that each 1 CHF of revenue the Nestlé has, 0.1627 CHF net profit the Nestlé can earn. To be clear, we can also see that the figure of revenues in 2014 did not change to much in the table 4.2, but the net income changed a lot compared to the other years, it increased almost 5000 CHF. Apparently, the ability of earning profits in 2014 is the best among these five years, Nestlé effectively controlled its costs and made a great pricing strategy, and Nestlé managed well during this year. The next 3 years, even though the net profit margin began to decrease consistently, it still keeps stable and does not change too much.

4.1.3 Return on assets

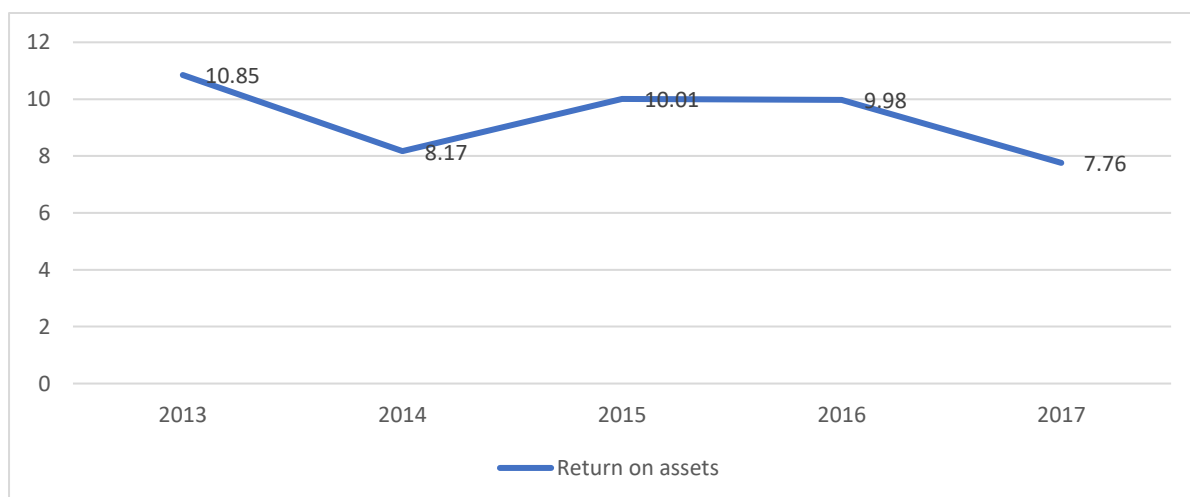
In table 4.3, we can see the return on assets of Nestlé from 2013 to 2017. And in chart 4.3, we can see the trend of return on assets from 2013 to 2017.

Table 4.3 Return on assets of Nestlé from 2013 to 2017 (%) (In millions of CHF)

	2013	2014	2015	2016	2017
Operating profit	13068	10905	12408	13163	10112
Assets	120442	133450	123992	131901	130380
Return on assets	10.85	8.17	10.01	9.98	7.76

Source: Own calculation

Chart 4.3 Trend of return on assets from 2013 to 2017 (%)



Source: Own calculation

We can see from the chart 4.3 that the ROA of Nestlé is larger than the other 4 years. As we know in chapter 2, higher the return on assets, stronger the Nestlé can generate its earnings

from the ordinary assets on the balance sheet. In other words, Nestlé generated its earnings well based on balance sheet in 2013 and Nestlé managed well to get more profits from its assets.

However, return on assets in 2014 decreased rapidly, because the assets in the balance sheet of Nestlé is biggest among these years, while the operating profits are small. Then it rose noticeably in 2015. After that, return on assets of Nestlé remained stable. Until 2017, return on assets of Nestlé reached its lowest point at 7.76 percentage among these years. It is not hard to find that the assets of 2017 in Table 4.3 is large enough. Besides, the operating profits is smallest among these years, even smaller than it in 2014. That is the reason why the return on assets of Nestlé in 2017 is smallest.

According to chapter 2, we can find that Nestlé did not generate its earnings well from assets in the balance sheet and did not manage well. While in 2013, Nestlé had an incredible improvement in ROA, got more profits from its assets and managed.

4.1.4 Return on equity

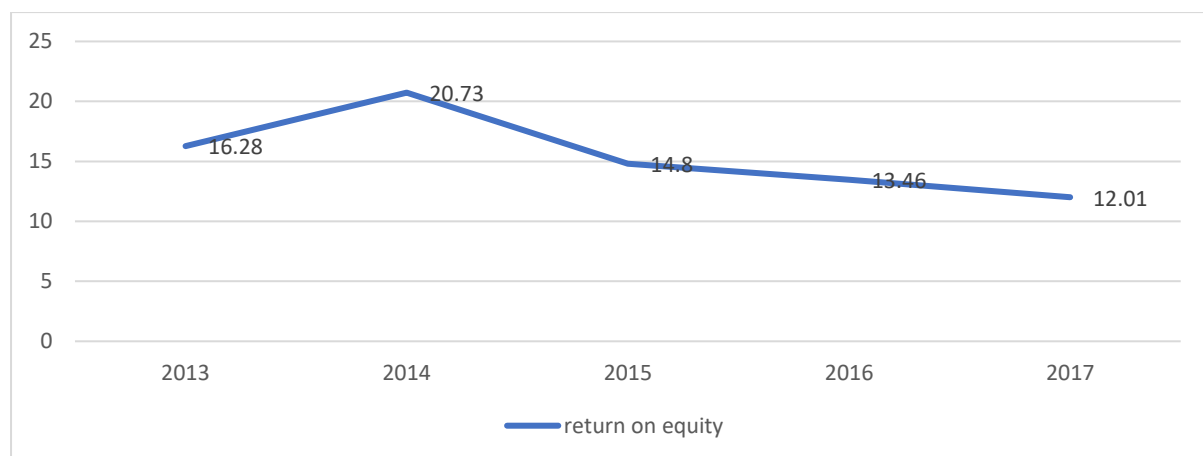
It is possible to see the return on equity of Nestlé from 2013 to 2017 in table 4.4 and the trend of return on equity from 2013 to 2017 in chart 4.4.

Table 4.4 Return on equity of Nestlé from 2013 to 2017 (%) (In millions of CHF)

	2013	2014	2015	2016	2017
Net income	10445	14904	9467	8883	7538
Total shareholders' equity	64139	71884	63986	65981	62777
Return on equity	16.28	20.73	14.80	13.46	12.01

Source: Own calculation

Chart 4.4 Trend of return on equity from 2013 to 2017 (%)



Source: Own calculation

We can see from the chart 4.4 that the proportion of return on equity of Nestlé in 2014 is the largest among these years. It stands at 20.73%. And back to the table 4.4, we can find that the net income in 2014 is much bigger than the other 4 figures. Even though the total shareholders' equity in 2014 is also bigger than the other years, the gap between the figure in 2014 and it in other years is not big enough, so the return on equity in 2014 is biggest. After that, the figure began to decline gradually, it reached its lowest point at 12.01% until 2017.

We can clearly know about the return on equity in chapter 2. The return on equity measured the ability to generate the net income from the total shareholders' equity. In other words, the proportion of return on equity of Nestlé in 2014 was 20.73 percentage, which means 0.2073 CHF can be generated from each 1 CHF shareholders' equity in 2014. That also means the Nestlé management was good enough to finance from shareholders' equity in 2014, and it made the business of Nestlé better than the other years and more profitable.

4.1.5 Profitability ratios

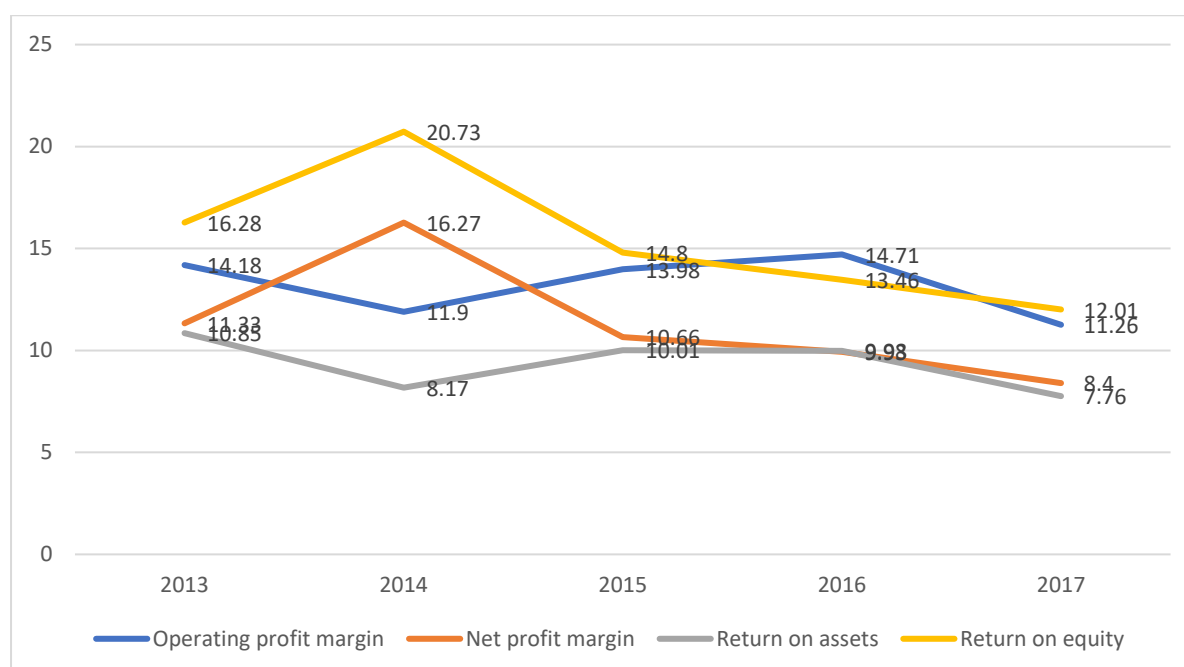
It is possible to see the profitability ratios of Nestlé from 2013 to 2017 in table 4.5 and the trend of profitability ratios from 2013 to 2017 in chart 4.5.

Table 4.5 Profitability ratios of Nestlé from 2013 to 2017 (%) (In millions of CHF)

	2013	2014	2015	2016	2017
Operating profit margin	14.18	11.90	13.98	14.71	11.26
Net profit margin	11.33	16.27	10.66	9.93	8.40
Return on assets	10.85	8.17	10.01	9.98	7.76
Return on equity	16.28	20.73	14.80	13.46	12.01

Source: Own calculation

Chart 4.5 Trend of profitability ratios from 2013 to 2017 (%)



Source: Own calculation

We can divide the four lines into two groups. The trends of net profit margin and return on equity are same so they are the same group, the trends of operating profit margin and return on assets are same and in another group. However, the change of these two groups are opposite.

4.2 Liquidity ratios of Nestlé

In this part, we will use current ratio, quick ratio and cash ratio to analyze the Nestlé's ability of meeting its short-term debt obligations and converting assets into cash. Now we start from current ratio.

References for equation are based on formula (2.13)–(2.16) in chapter 2.

4.2.1 Current ratio

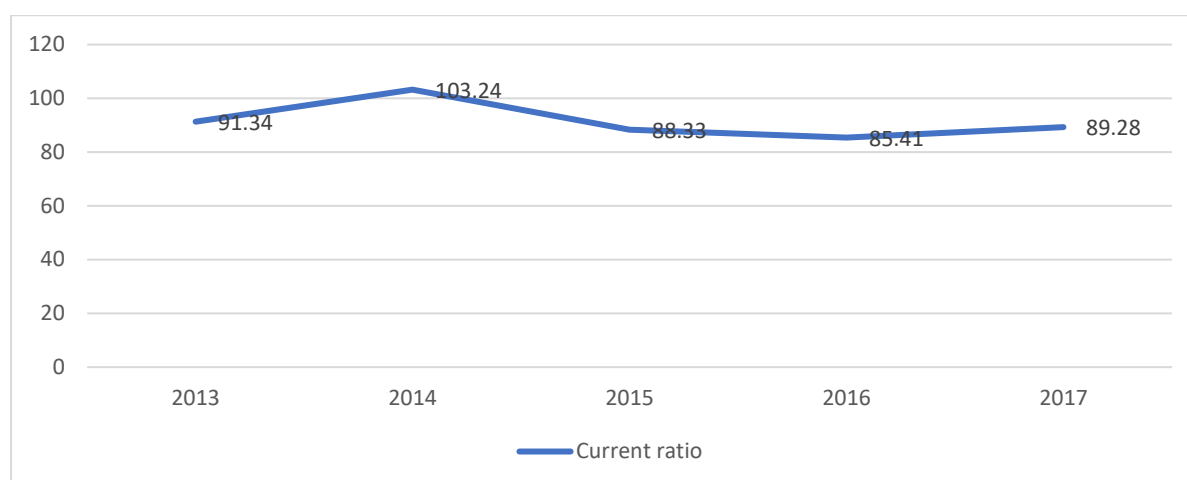
In table 4.6, we can see the current ratio of Nestlé from 2013 to 2017. And in chart 4.6, we can see the trend of current ratio from 2013 to 2017.

Table 4.6 Current ratio of Nestlé from 2013 to 2017 (%) (In millions of CHF)

	2013	2014	2015	2016	2017
Total current assets	30066	33961	29434	32042	32190
Total current liabilities	32917	32895	33321	37517	36054
Current ratio	91.34	103.24	88.33	85.41	89.28

Source: Own calculation

Chart 4.6 Trend of current ratio from 2013 to 2017 (%)



Source: Own calculation

The table 4.6 and the chart 4.6 illustrate the Nestlé's details of current ratio and the trend of current ratio from 2013 to 2017 respectively. We can see from the chart 4.5 that the current ratio changed not too much from 2013 to 2017 and remained stable at about 80%-90%. However, the current ratio in 2014 rose noticeably by almost 10% compared to the current ratio in 2013 and was already over 1. Back to the table 4.5, the total current assets was significantly higher than the others. But the total current liabilities were considerably lower than the others, it is not difficult to understand why the current ratio was such a high proportion in 2014.

We can know that the 103.24% current ratio means the current assets is higher than the current liabilities in 2014. In other words, Nestlé in this year was in a good financial situation, which means Nestlé did not well meet its short-term obligations compared to the other years. For the investors' point of view, Nestlé was in a good financial health and they prefer to choose it.

4.2.2 Quick ratio

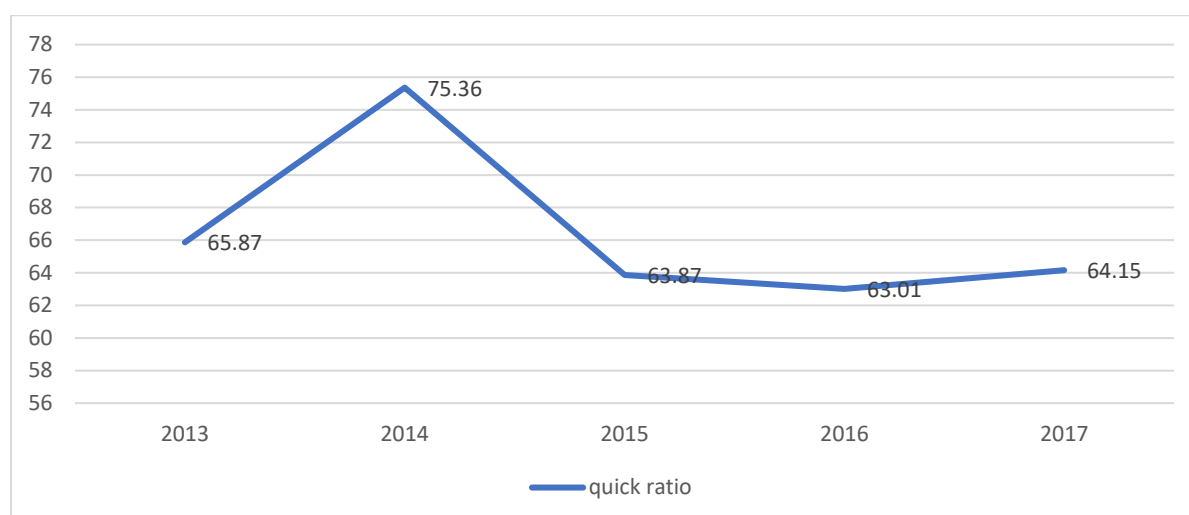
In table 4.7, we can see the quick ratio of Nestlé from 2013 to 2017. And in chart 4.7, we can see the trend of quick ratio from 2013 to 2017.

Table 4.7 Quick ratio of Nestlé from 2013 to 2017 (%) (In millions of CHF)

	2013	2014	2015	2016	2017
Current assets-inventories	21684	24789	21281	23641	23129
Current liabilities	32917	32895	33321	37517	36054
Quick ratio	65.87	75.36	63.87	63.01	64.15

Source: Own calculation

Chart 4.7 Trend of quick ratio from 2013 to 2017 (%)



Source: Own calculation

In chart 4.7, we can see the quick ratio experiences a sharp rise from 2013 to 2014 and reaches its peak at 75.36 percentage. Then it falls back to 63.87%, even lower than it is in 2013. After that, the quick ratio changes slightly and remains stable.

We can also see from the table 4.7 that the “current assets-inventories” is much higher than the others, but the current liabilities in 2014 is lowest. As we know in chapter 2, the current assets in quick ratio excludes inventories, which means it’s harder to be converted into cash compared to current ratio. According to that, the higher quick ratio of Nestlé also means its better liquid current situation in 2014.

4.2.3 Cash ratio

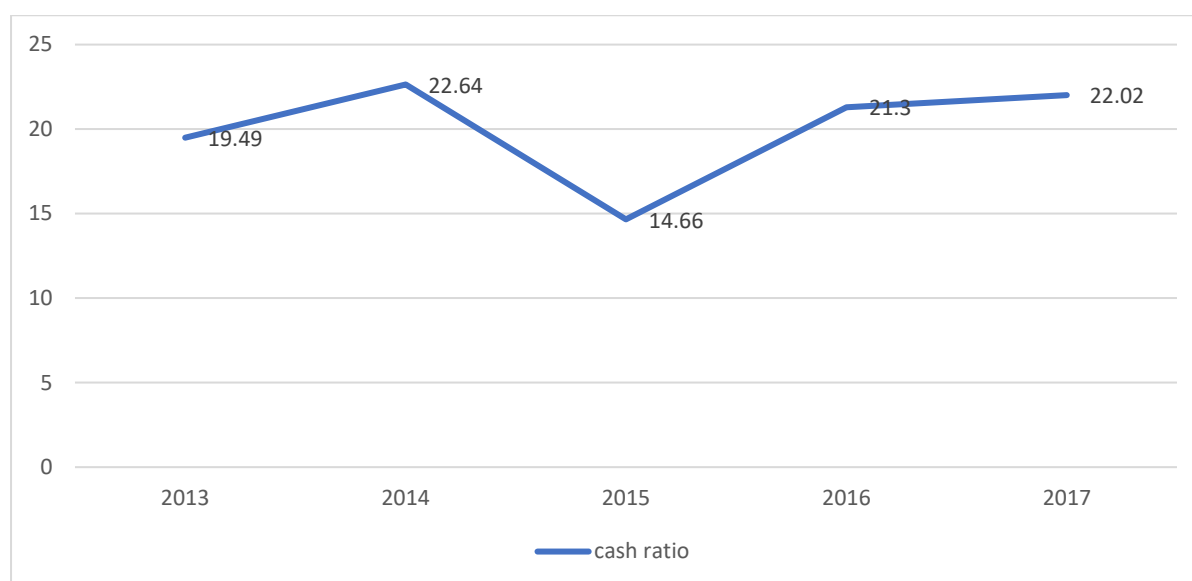
In table 4.8, we can see the cash ratio of Nestlé from 2013 to 2017. And in chart 4.8, we can see the trend of cash ratio from 2013 to 2017.

Table 4.8 Cash ratio of Nestlé from 2013 to 2017 (%) (In millions of CHF)

	2013	2014	2015	2016	2017
Cash+marketable securities	6415	7448	4884	7990	7938
Current liabilities	32917	32895	33321	37517	36054
Cash ratio	19.49	22.64	14.66	21.30	22.02

Source: Own calculation

Chart 4.8 Trend of cash ratio from 2013 to 2017 (%)



Source: Own calculation

Every detail of the cash ratio and the trend of cash ratio of Nestlé from 2013 to 2017 is clear in table 4.8 and chart 4.8. The cash ratio of Nestlé fluctuates between 2013 and 2017. To be specific, the cash ratio in 2015 is much lower than the other years and reaches its lowest point at 14.66 percentage.

According to the table 4.8, the current liabilities among these years did not change too much. However, the “cash+marketable securities” is highest. The 14.56 percentage cash ratio of Nestlé in 2015 means Nestlé has cash and cash equivalents to meet 14.56% of its current liabilities. In the other words, compared to the other years, Nestlé got a lower cash balance in 2015 than the others.

4.2.4 Liquidity ratios

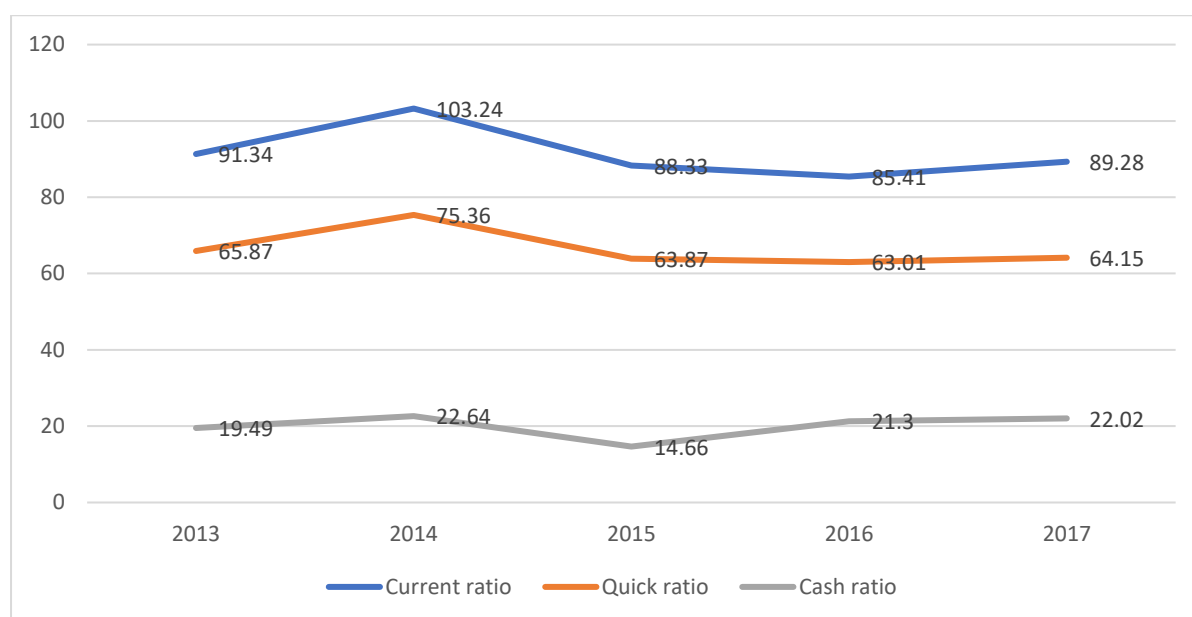
In table 4.9, we can see three liquidity ratios of Nestlé from 2013 to 2017. And in chart 4.9, we can see the trend of three liquidity ratios from 2013 to 2017.

Table 4.9 Liquidity ratios of Nestlé from 2013 to 2017 (%) (In millions of CHF)

	2013	2014	2015	2016	2017
Current ratio	91.34	103.24	88.33	85.41	89.28
Quick ratio	65.87	75.36	63.87	63.01	64.15
Cash ratio	19.49	22.64	14.66	21.30	22.02

Source: Own calculation

Chart 4.9 Trend of liquidity ratios from 2013 to 2017 (%)



Source: Own calculation

We can see from the chart 4.9 that the trends of current ratio, quick ratio and cash ratio are the same during five years. These three ratios are stable from 2013 to 2017 and reached its peak in 2014.

4.3 Solvency ratio of Nestlé

We will analyze the ability of Nestlé to meet its long-term financial obligations. Obviously, we will analyze it from 3 parts of solvency ratios, such as debt ratio, debt-to-equity and interest coverage.

References for equation are based on formula (2.17) and (2.18) stated in chapter 2.

4.3.1 Debt ratio

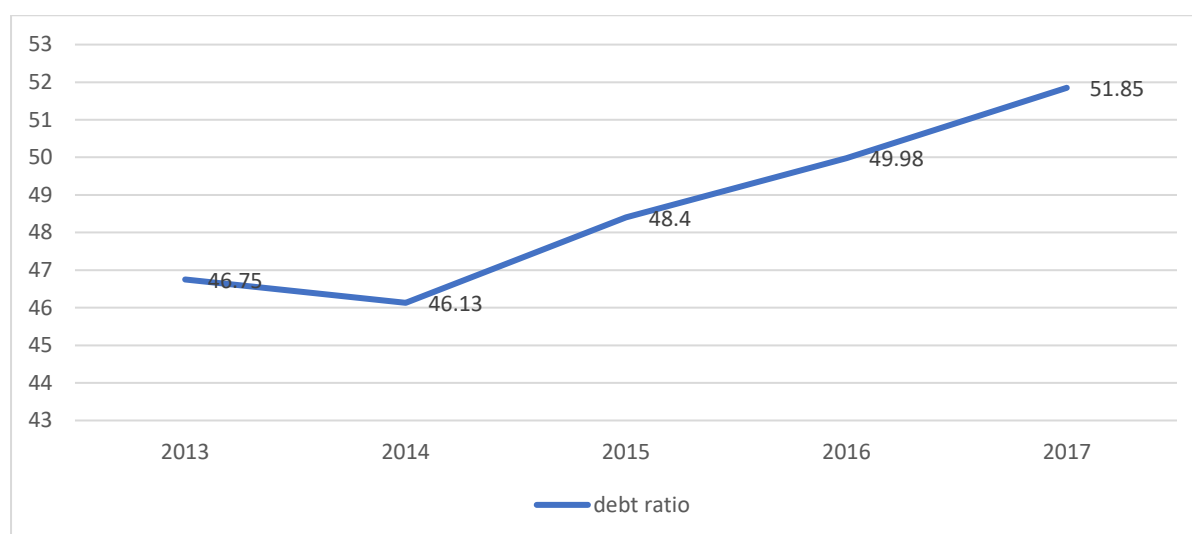
In table 4.10, we can see the debt ratio of Nestlé from 2013 to 2017. And in chart 4.10, we can see the trend of debt ratio from 2013 to 2017.

Table 4.10 Debt ratio of Nestlé from 2013 to 2017 (%) (In millions of CHF)

	2013	2014	2015	2016	2017
Total liabilities	56303	61566	60006	65920	67603
Total assets	120442	133450	123992	131901	130380
Debt ratio	46.75	46.13	48.40	49.98	51.85

Source: Own calculation

Chart 4.10 Trend of debt ratio from 2013 to 2017 (%)



Source: Own calculation

The table 4.10 illustrates the figures about debt ratio and the chart 4.10 shows the trend of the debt ratio of Nestlé from 2013 to 2017. From the chart 4.10, we can find the debt ratio decreased slightly from 2013 to 2014, and in 2014 it reached its lowest point at 46.13%, which means the business of Nestlé is the most stable than the others in this year, because Nestlé had lowest overall debt compared with the other years. And it may also mean the Nestlé is able to pay back its loan as soon as possible.

However, the debt ratio increased gradually from 2014 to 2017, and it peak at 51.85 percentage in 2017, the high debt ratio can reveal the business of Nestlé about how to pay back its loan is not as good as the other years.

4.3.2 Debt-to-equity ratio

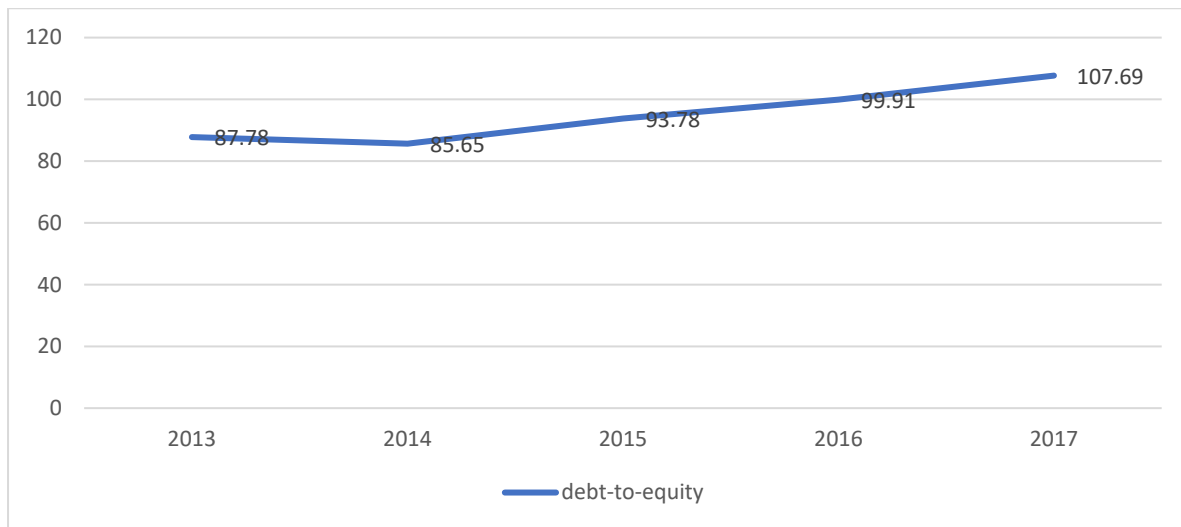
In table 4.11, we can see the debt-to-equity ratio of Nestlé from 2013 to 2017 while in chart 4.11, we can see the trend of debt-to-equity ratio from 2013 to 2017.

Table 4.11 Debt-to-equity ratio of Nestlé from 2013 to 2017 (%) (In millions of CHF)

	2013	2014	2015	2016	2017
Total liabilities	56303	61566	60006	65920	67603
Equity	64139	71884	63986	65981	62777
Debt-to-equity ratio	87.78	85.65	93.78	99.91	107.69

Source: Own calculation

Chart 4.11 Trend of debt-to-equity ratio from 2013 to 2017 (%)



Source: Own calculation

We can obviously see from the chart 4.11 the debt-to-equity ratio decreased slightly from 2013 to 2014.

However, we can see an opposite trend of it after 2014, and it increased over next 3 years. And it peaked at 107.69% in 2017, the figure was even more than 1. As we mentioned in chapter 2, a high debt-to equity ratio can be good, the 107.69% debt-to-equity ratio means every 1 CHF of equity, Nestlé has 1.0769 CHF in leverage, which means Nestlé can easily pay off its debt obligations in this year. According to that, we can also know the leverage situation is not good enough compared with the other years.

4.3.3 Solvency ratios

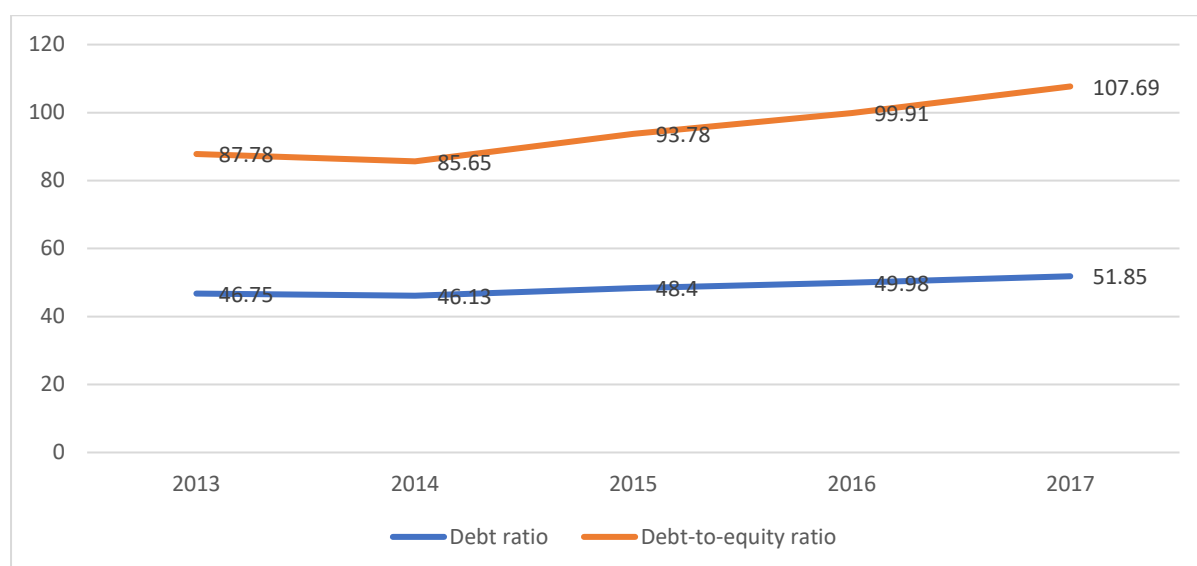
It is possible to see two solvency ratios of Nestlé from 2013 to 2017 in table 4.12 and see the trend of two solvency ratios from 2013 to 2017 in chart 4.12.

Table 4.12 Solvency ratios of Nestlé from 2013 to 2017 (%) (In millions of CHF)

	2013	2014	2015	2016	2017
Debt ratio	46.75	46.13	48.40	49.98	51.85
Debt-to-equity ratio	87.78	85.65	93.78	99.91	107.69

Source: Own calculation

Chart 4.12 Trend of solvency ratios from 2013 to 2017 (%)



Source: Own calculation

We can see from the Chart 4.12 that the debt ratio and debt-to-equity ratio show an upward trend from 2013 to 2017. However, there are still some differences, the trend of debt ratio is sharper than the trend of debt-equity ratio from 2014 to 2017.

4.4 Activity ratios of Nestlé

We will use the formulas of average collection period (ACP), account receivable turnover (ART) and total assets turnover (TAT) to calculate and analyze the Nestlé's ability of using its assets, these ratios are used to measure how the Nestlé invest its assets connected to the revenues to generate assets in this part. Now we start from average collection period (ACP).

References for equation are based on formula (2.19), (2.20), (2.21) and (2.22) in chapter 2.

4.4.1 Average collection period

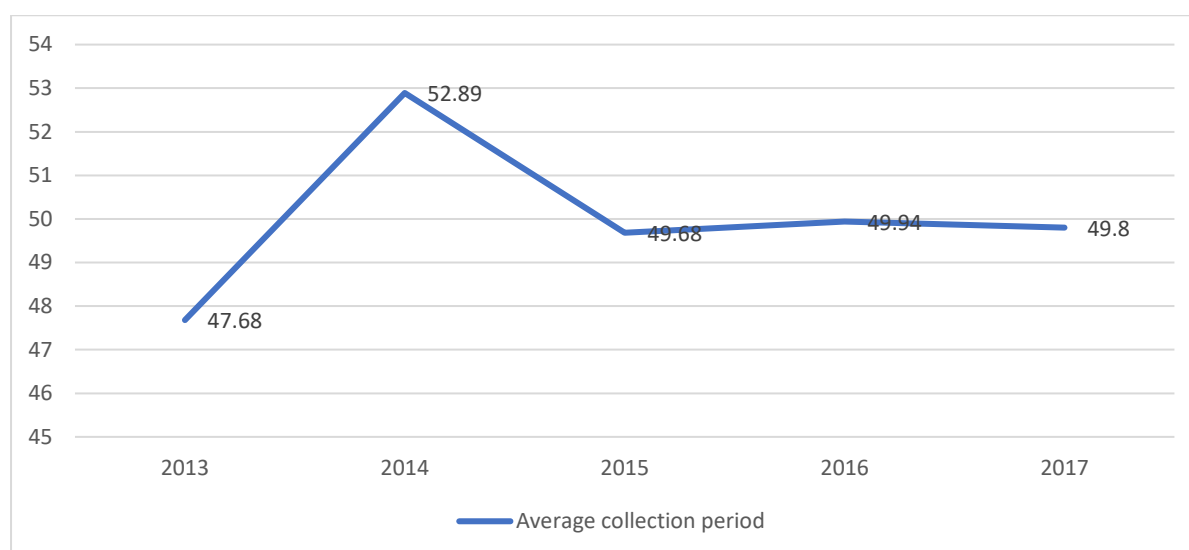
It is possible to see the average collection period of Nestlé from 2013 to 2017 in table 4.13 and see the trend of average collection period from 2013 to 2017 in chart 4.13.

Table 4.13 Average collection period of Nestlé from 2013 to 2017 (Days) (In millions of CHF)

	2013	2014	2015	2016	2017
Accounts receivable	12206	13459	12252	12411	12422
Revenues	92158	91612	88785	89469	89791
Average collection period	47.68	52.89	49.68	49.94	49.80

Source: Own calculation

Chart 4.13 Trend of average collection period from 2013 to 2017 (Days)



Source: Own calculation

From the chart 4.13, the trend of average collection period fluctuated during these five years. We can clearly see the average collection period in 2013 is the lowest, it is about 47.68 days. However, it increased noticeably in the next year and it peaks at 52.89 days.

As we have mentioned in the previous chapter, the average collection period represents how many days it takes to convert the accounts receivable into cash, which means higher the average collection period, lower assets efficiency. Then the high average collection period in 2014 appeal that the assets of other years are more efficient than it in 2014, and it has a direct impact on liquidity of Nestlé in this year.

4.4.2 Account receivable turnover

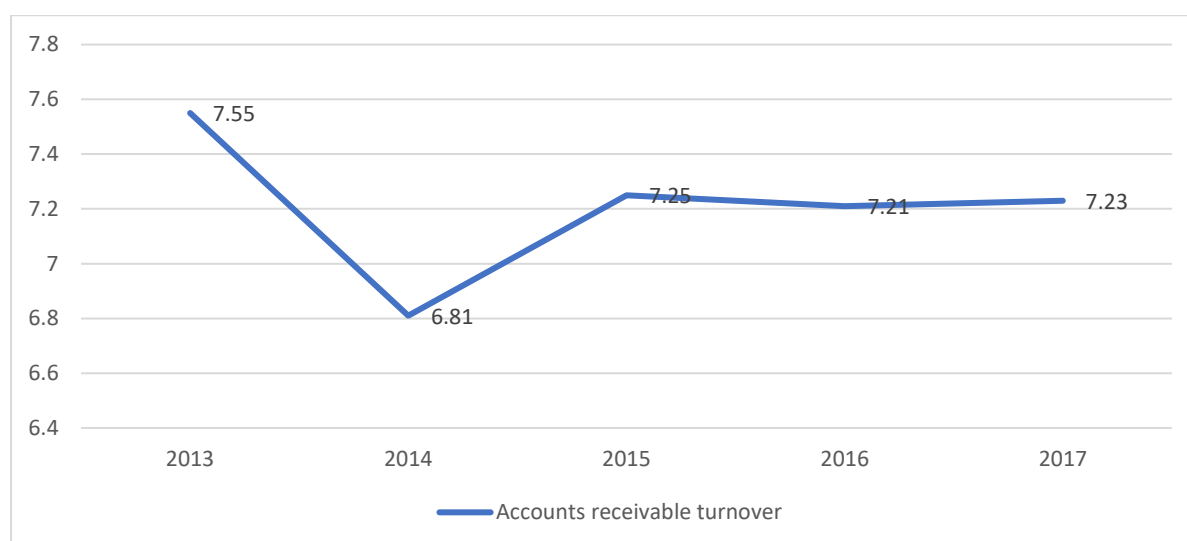
In table 4.14, we can see the accounts receivable turnover of Nestlé from 2013 to 2017. And in chart 4.14, we can see the trend of accounts receivable turnover from 2013 to 2017.

Table 4.14 Accounts receivable turnover of Nestlé from 2013 to 2017 (In millions of CHF)

	2013	2014	2015	2016	2017
Revenues	92158	91612	88785	89469	89791
Accounts receivable	12206	13459	12252	12411	12422
Accounts receivable turnover	7.55	6.81	7.25	7.21	7.23

Source: Own calculation

Chart 4.14 Trend of accounts receivable turnover from 2013 to 2017



Source: Own calculation

The accounting receivable turnover represents how many times the Nestlé collect its accounts receivable during one year, which also means the accounts receivable turnover is bigger, then the Nestlé is more beneficial for Nestlé's operating activities and more efficient to use its assets. According to that, we can see from the chart 4.14 that the accounts receivable turnover in 2013 is much higher than other years. And Nestlé collects its accounts receivable about 7.55 times in whole year of 2013, which also means it is much better to use its assets and have high liquidity of assets. Besides, Nestlé have better ability and enough assets to pay off its debt obligation in 2013 compared with other years.

4.4.3 Inventory turnover

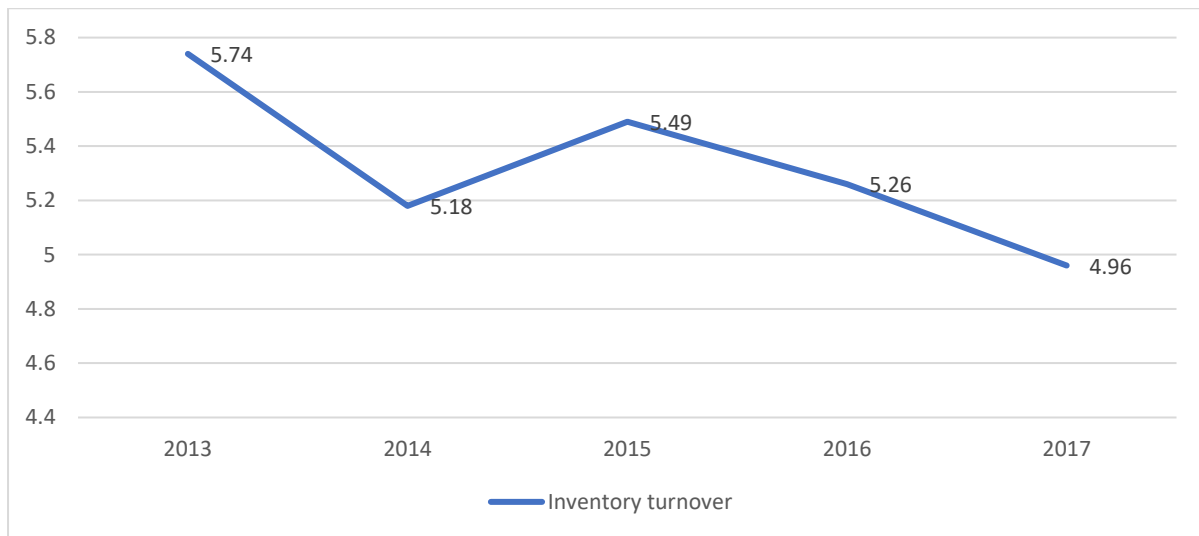
In table 4.15, we can see the inventory turnover of Nestlé from 2013 to 2017. And in hart 4.15, we can see the trend of inventory turnover from 2013 to 2017.

Table 4.15 Inventory turnover of Nestlé from 2013 to 2017 (In millions of CHF)

	2013	2014	2015	2016	2017
Costs of goods sold	48111	47553	44730	44199	44923
Average inventory	8382	9172	8153	8401	9061
Inventory turnover	5.74	5.18	5.49	5.26	4.96

Source: Own calculation

Chart 4.15 Trend of inventory turnover from 2013 to 2017



Source: Own calculation

We can see from the chart 4.15 that the inventory turnover is highest in 2013. Inventory turnover can represent how Nestlé can manage their costs of goods sold and how Nestlé sell its stock of goods during a period of time. Then the high inventory turnover in 2013 means the Nestlé sold its goods quickly. However, it decreased in 2014, then the situation of replacing its stock of goods was getting worse compared to it in 2013.

In 2015, the inventory rose and Nestlé is getting better in selling its goods. But after that, it decreased dramatically from 2015 to 2017, even it reached its lowest point at 4.96 in 2017. Back to the figures in table 4.15, we can find Nestlé had so many inventories in 2017, but the cost of goods sold was low, which was the reason why the inventory turnover was the lowest in this year. Besides, that also means Nestlé did not manage well to balance the relationship between the inventories and the sales in 2017.

4.4.4 Total Assets Turnover

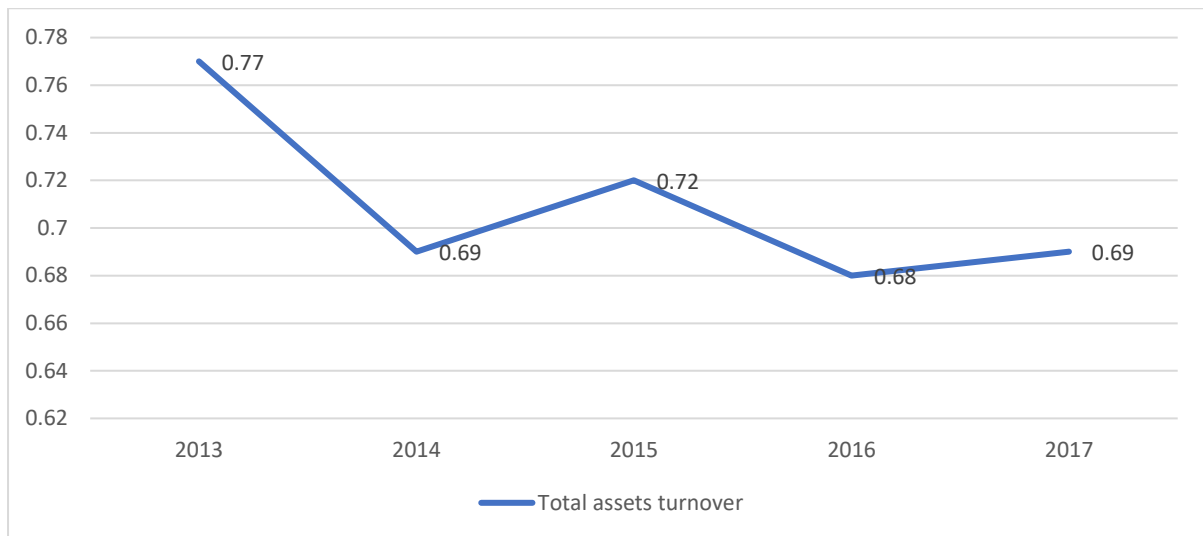
In table 4.16, we can see the total assets turnover of Nestlé from 2013 to 2017. And in chart 4.16, we can see the trend of total assets turnover from 2013 to 2017.

Table 4.16 Total assets turnover of Nestlé from 2013 to 2017 (In millions of CHF)

	2013	2014	2015	2016	2017
Revenues	92158	91612	88785	89469	89791
Total assets	120442	133450	123992	131901	130380
Total assets turnover	0.77	0.69	0.72	0.68	0.69

Source: Own calculation

Chart 4.16 Trend of total assets turnover from 2013 to 2017



Source: Own calculation

The total assets turnover in chart 4.16 fluctuates noticeably from 2013 to 2017. The total assets turnover in 2014 and 2017 are the same. Both of them are 0.68, which means each CHF in total assets, Nestlé generates 0.68 CHF in sales.

According to that we have mentioned in chapter 2, we know that high total assets turnover means Nestlé efficiently use its assets. Therefore, Nestlé did great in 2013, but it seemed to be opposite situation in 2016.

4.4.5 Activity ratios

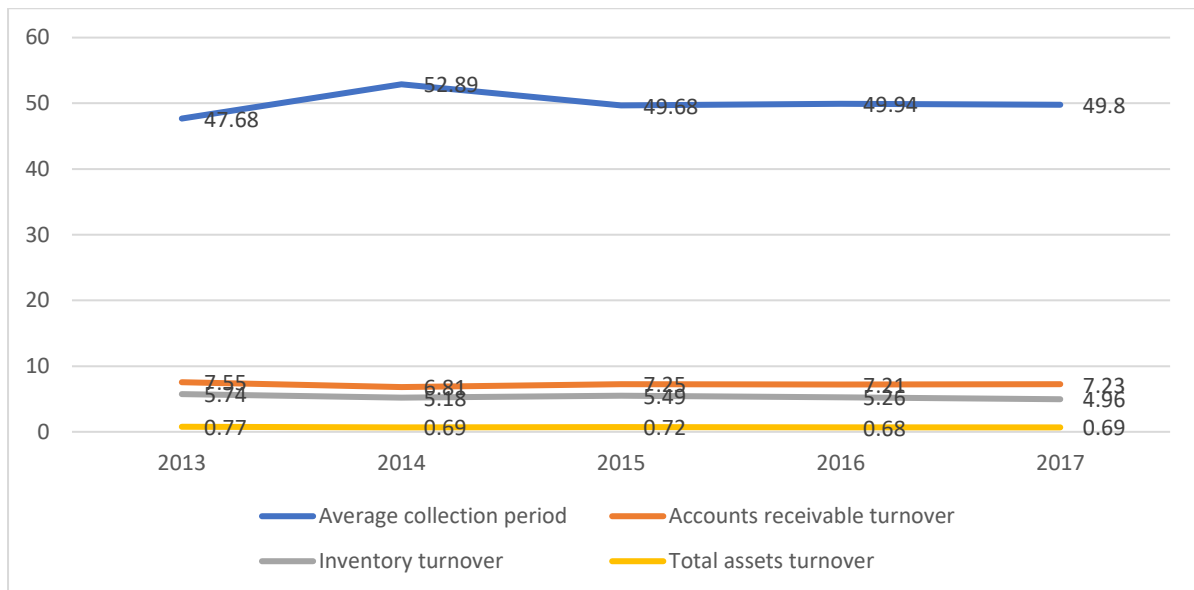
In table 4.17, we can see activity ratios of Nestlé from 2013 to 2017. And in chart 4.17, we can see the trend of two activities ratios from 2013 to 2017.

Table 4.17 Activity ratios of Nestlé from 2013 to 2017 (%) (In millions of CHF)

	2013	2014	2015	2016	2017
Average collection period	47.68	52.89	49.68	49.94	49.80
Accounts receivable turnover	7.55	6.81	7.25	7.21	7.23
Inventory turnover	5.74	5.18	5.49	5.26	4.96
Total assets turnover	0.77	0.69	0.72	0.68	0.69

Source: Own calculation

Chart 4.17 Trend of activity ratios from 2013 to 2017 (%)



Source: Own calculation

We can see from the chart 4.17 that the trends of accounts receivable turnover, inventory turnover and total assets turnover are almost the same. The trend of average collection has differences from them, the average collection reaches its peak in 2014 while the other ratios remains stable during these years.

4.5 DuPont Analysis of Nestlé

In this chapter, we will analyze the financial situation of Nestlé by using DuPont analysis and find out which factors drive the value of financial ratios. Because DuPont analysis is a fundamental pyramidal decomposition, then we need to separate its each financial indicator of Nestlé and find out how they can influence every financial aspect of Nestlé. Besides, pyramidal decomposition includes four methods, which are method of gradual changes, logarithmic, functional and integral decomposition method. We will use the logarithmic decomposition method in this part. Because the advantage of logarithmic decomposition method is that we just need one formula for the impact quantification regardless of how many component ratios we have, which obviously has easier steps to calculate compared to the other methods.

References for equation are based on formula (2.29)–(2.31) we have used in chapter 2.

In table 4.18, we can see the change of return on equity, which includes absolute change, relative change and index of the change.

Table 4.18 Changes of return on equity

	2013	2014	2015	2016	2017
ROE	16.28%	20.73%	14.80%	13.46%	12.01%
Absolute change		4.45%	-5.93%	-1.34%	-1.45%
Relative change		27.33%	-28.61%	-9.05%	-10.77%
Index of the change		1.27	0.71	0.91	0.89

Source: Own calculation

Then we will use ROE ratio and separate it into three component ratios, they are net profit margin, total assets turnover and financial leverage separately. According to what we have mentioned in chapter 2, we know that $\frac{EAT}{Revenues} = \text{Net profit margin}$, $\frac{Revenues}{Total\ assets} = \text{Assets turnover}$, $\frac{Total\ assets}{Equity} = \text{Financial leverage}$. The three component ratios can also be separated into four financial data. Then now we start it to calculate these component ratios from 2013 to 2017.

In table 4.19, we can see the index change of each item.

Table 4.19 Index change of each item (In millions of CHF)

		2013/2014	2014/2015	2015/2016	2016/2017
Revenues	92158	91612	88785	89469	89791
Assets	120442	133450	123992	131901	130380
Equity	64139	71884	63986	65981	62777
EAT	10445	14904	9467	8883	7538
Net profit margin	0.11	0.16	0.11	0.10	0.08
Index of the change		1.44	0.66	0.93	0.85
Total assets turnover	0.77	0.69	0.72	0.68	0.69
Index of the change		0.9	1.04	0.95	1.02
Financial leverage	1.88	1.86	1.94	2.00	2.08
Index of the change		0.99	1.04	1.03	1.04

Source: Own calculation

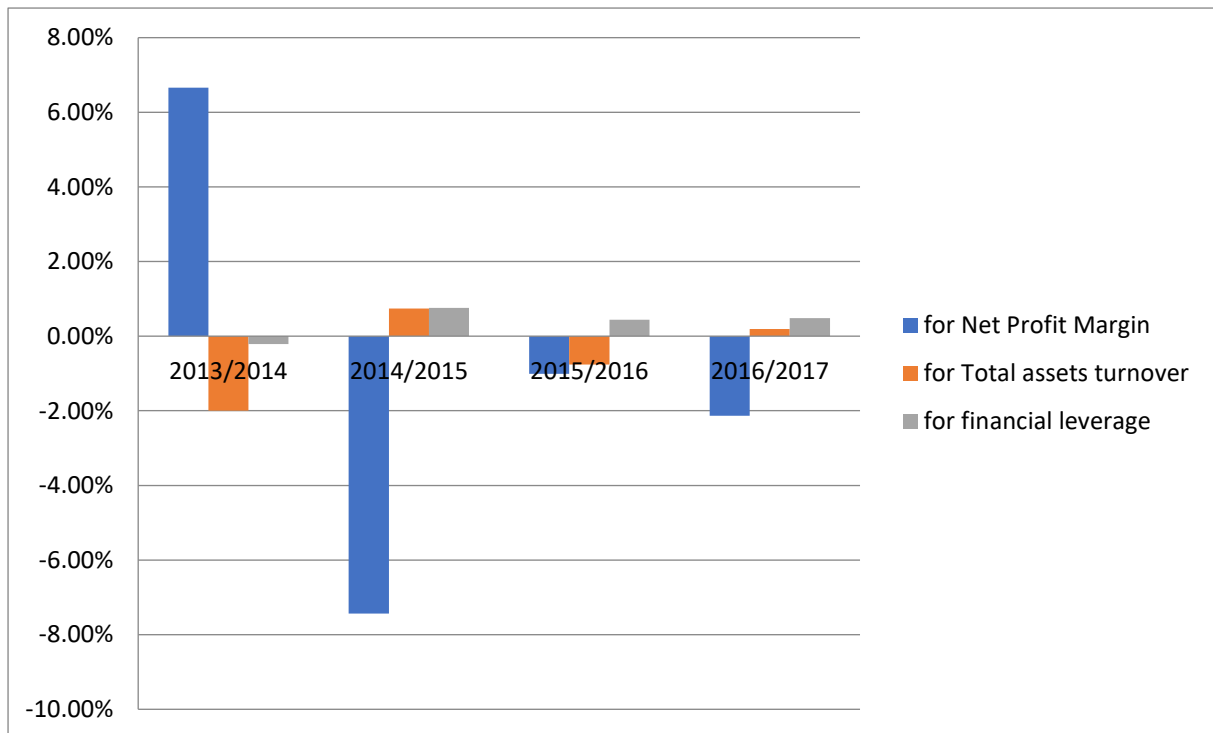
In table 4.20, we can see each item in decomposition of return on equity from 2013 to 2017. The figure we have calculated presents how the three ratios impact on the return on equity and how they have changed from 2013 to 2017.

Table 4.20: Change of each item in decomposition of ROE (%)

	2013/2014	2014/2015	2015/2016	2016/2017
For net profit margin	6.66	-7.44	-1.01	-2.13
For assets turnover	-2.00	0.74	-0.76	0.19
For financial leverage	-0.21	0.75	0.44	0.49
Sum	4.45	-5.94	-1.33	-1.46

Source: Own calculation

Chart 4.18 Change of each item in decomposition of ROE



Source: Own calculation

According to all the figures we have calculated and all the graphs we have made, we can see from the chart 4.18 that net profit margin has the most important influence on the return on equity. However, it fluctuates significantly, the change of it is positive from 2013 to 2014. It can be negative in the next period. To be specific, the change of net profit margin has smaller influence on the return on equity.

To compare with net profit margin, the change of financial leverage is the smallest from 2013 to 2014 and from 2015 to 2016. And in these years, the changes of financial leverage are

negative and positive separately. However, in the other years, the change of it are positive and accounts for the second position. As for the change of total assets turnover, it also fluctuates from year to years.

We can find that the net profit margin impact on the return on equity mostly, then it is the most influential ratio in the decomposition of ROE.

5 Conclusion

The objective of this thesis was to analyze the financial performance and situation of Nestlé Company on the basis of financial data from 2013 to 2017.

We made analysis from different kinds of perspectives, which includes whether Nestlé is profitable, liquid, solvent and activate. According to that, then we used it to know the financial efficiency of Nestlé. As for the investors, they can clearly understand the financial information about Nestlé from the financial analysis. Besides, as for the managers, the financial analysis reports are essential for them to find out the potential problems from them and make improvements. Secondly, comparison is an important part in the financial analysis, we compared the figures we have calculated from year to year and compared the data with the other companies in the same industry. Through these comparisons we hope to gain insight into the way these data perform. Then the investors and managers can do their own choices and develop well related to these comparisons.

The financial information from the annual report, the financial figures we have calculated and the assessment we have made help us know about the past times of Nestlé and forecast the future of Nestlé.

The content of the thesis is structured and gradually expanded. In the first chapter we described the structure of the whole thesis, which includes the meaning of financial analysis and the goal of whole thesis. In the second chapter we introduced the methodology about details of three financial statements, common-size analysis and different kinds of financial ratio analysis. Then in the third chapter, we introduced Nestlé about its business segments, strategy, ambition and so on. The fourth chapter is mainly about calculating these four groups of ratios and using DuPont analysis to assess the financial health of Nestlé, all of these calculations are conducted by the methodology we have mentioned in the second chapter. At last, the fifth chapter is a conclusion of whole thesis.

The acquisitions and disposals affect the financial data of Nestlé in 2013. From the annual report of 2013, we found out the main acquisition is Pamlab in USA, Healthcare products, and the disposals are Wyeth Nutrition (Sale of participations in Latin America, Australia and South America), Jenny Craig and other minor disposals including Joseph's Gourmet Pasta. The Pamlab's healthcare industry can be related to the healthcare segment of Nestlé, which expands the production scale. And in the next year, it gets a good development and the net profit margin is the largest among these five years.

In 2014, we found out that the liquidity ratios are highest from 2013 to 2017. And the net profit margin and return on equity are also higher than other years. From the annual report of

2014, we can see there is no disposal but some major acquisitions including remaining 50% Galderma and Aesthetic products business commercialization rights from Valeant Pharmaceuticals International, which optimizes the product structure and makes Nestlé get more liquidity and profitability.

However, we found out that Nestlé financial situation experiences an apparent decrease in 2015. Because of the noticeably development last year, we can obviously see Nestlé experiences a decrease compared to last year. The total assets are significantly lower than last year, then the debt ratio rises considerably.

From 2016 to 2017, we found out that Nestlé develops steadily, the profitability, liquidity, solvency and activity ratios do not change too much during the period of time. The loss on disposals of Nestlé is basically consisted in the disposals associated with the joint venture Froneri and other non-significant disposals these years, while the profit on disposals is basically composed of a remeasurement of a disposal group.

Through the financial analysis of Nestlé, we found out that Nestlé develops stably during these five years. As we have mentioned in chapter three, for long-run creation of value, Nestlé make acquisition and merger decisions based on the complimentary principle. The basic business principle of the Nestlé is Creating Shared Value that would create value for their shareholders. All of these efforts the group of Nestlé have made help the consumers have better life. According to that, we can find these figures we have calculated and the stable development are closely related to Nestlé strategy. However, large score of acquisition and merger can also bring some problems, if Nestlé can solve these problems and balance its shortcomings, it would continue to develop well in the future.

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List of Abbreviations

A - Asset

ACP - Average collection period

ART - Account receivable turnover

EAT - Earning after taxes

EBIT - Earning before interest and taxes

EBT - Earning before taxes

GPM - Gross profit margin

IT - Inventory turnover

NPM - Net profit margin

OPM - Operating profit margin

REV - Revenue

ROA - Return on assets

ROE - Return on equity

TAT - Total assets turnover

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Declaration of Utilisation of Results from the Bachelor Thesis

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Ostrava dated 10.05.2019

Ruzi Xu

Student's name and surname

List of Annexes

Annex 1: Consolidated balance sheet of Nestlé (In millions of CHF)

Annex 2: Consolidated income statement of Nestlé (In millions of CHF)

Annex 3: Consolidated cash flow statement of Nestlé (In millions of CHF)

Annex 1: Consolidated balance sheet of Nestlé (In millions of CHF)

In millions of CHF	2013	2014	2015	2016	2017
Total current assets	30066	33961	29434	32042	32190
Cash and cash equivalents	6415	7448	4884	7990	7938
Short-term investments	638	1433	921	1306	655
Inventories	8382	9172	8153	8401	9061
Trade and other receivables	12206	13459	12252	12411	12422
Prepayments and accrued income	762	565	583	573	607
Derivative assets	230	400	337	550	231
Current income tax assets	1151	908	874	786	919
Assets held for sale	282	576	1430	25	357
Total non-current assets	90376	99489	94558	99859	98190
Property, plant and equipment	26895	28421	26576	27554	27775
Goodwill	31039	34557	32772	33007	29748
Intangible assets	12673	19800	19236	20397	20615
Investments in associates and joint ventures	12315	8649	8675	10709	11628
Financial assets	4550	5493	5419	5719	6003
Employee benefits assets	537	383	109	310	392

Current income tax assets	124	128	128	114	62
Deferred tax assets	2243	2058	1643	2049	1967
Total assets	120442	133450	123992	131901	130380
In millions of CHF	2013	2014	2015	2016	2017
Total current liabilities	32917	32895	33321	37517	36054
Financial debt	11380	8810	9629	12118	10536
Trade and other payables	16072	17437	17038	18629	18872
Accruals and deferred income	3185	3759	3673	3855	4094
Provisions	523	695	564	620	863
Derivative liabilities	381	757	1021	1068	507
Current income tax liabilities	1276	1264	1124	1221	1170
Liabilities directly associated with assets held for sale	100	173	272	6	12
Total non-current liabilities	23386	28671	26685	28403	31549
Financial debt	10363	12396	11601	11091	15932
Employee benefits liabilities	6279	8081	7691	8420	7111
Provisions	2714	3161	2601	2640	2445
Deferred tax liabilities	2643	3191	3063	3865	3559
Other payables	1387	1842	1729	2387	2502

Total liabilities	56303	61566	60006	65920	67603
Share capital	322	322	319	311	311
Treasury shares	-2196	-3918	-7489	-990	-4537
Translation reserve	-20811	-17255	-19851	-18799	-19433
Retained earnings and Other reserves	85260	90981	90637	84068	85163
Total equity attributable to shareholders of the parent	62575	70130	62338	64590	61504
Non- controlling interests	1564	1754	1648	1391	1273
Total equity	64139	71884	63986	65981	62777
Total liabilities and equity	120442	133450	123992	131901	130380

Annex 2: Consolidated income statement of Nestlé (In millions of CHF)

In millions of CHF	2013	2014	2015	2016	2017
sales	92158	91612	88785	89469	89791
Other revenue	215	253	298	317	330
Cost of goods sold	-48111	-47553	-44730	-442	-44923
Distribution expenses	-8156	-8217	-7899	-8059	-8205
Marketing and administration expenses	-19711	-19651	-20744	-21485	-20540
Research and development costs	-1503	-1628	-1678	-1736	-1724
Other trading income	120	110	78	99	111
Other trading expenses	-965	-907	-728	-713	-1607
Trading operating profit	14047	14019	13382	13693	13233
Other operating income	616	154	126	354	379
Other operating expenses	-1595	-3268	-1100	-884	-3500
Operating profit	13068	10905	12408	13163	10112
Financial income	219	135	101	121	152
Financial expenses	-850	-772	-725	-758	-771
Profit before taxes, associates and joint ventures	12437	10268	11784	12526	9493
Taxes	-3256	-3367	-3305	-4413	-2779
Share of results of associates and joint ventures	1264	8003	988	770	824
Profit for the year	10445	14904	9467	8883	7538

Annex 3: Consolidated cash flow statement of Nestlé (In millions of CHF)

In millions of CHF	2013	2014	2015	2016	2017
Operating activities					
Operating profit	13068	10905	12408	13163	10112
Non-cash items of income and expense	4352	6323	4348	3807	6731
Cash flow before changes in operating assets and liabilities	17420	17228	16756	16970	16843
Decrease/(increase) in working capital	1360	-114	741	1801	-243
Variation of other operating assets and liabilities	-574	85	-248	54	393
Cash generated from operations	18206	17199	17249	18825	16993
Net cash flows from treasury activities	-351	-356	-93	-327	-423
Taxes paid	-3520	-2859	-3310	-3435	-3666
Dividends and interest from associate and joint ventures	657	716	456	519	582
Operating cash flow	14992	14700	14302	15582	13486
Investing activities					
Capital expenditure	-4928	-3914	-3872	-4010	-3934
Expenditure on intangible assets	-402	-509	-422	-682	-769
Acquisition of businesses	-321	-1986	-530	-585	-696
Disposal of businesses	421	321		271	140
Investments(net of divestments) in associate and joint ventures	-28	3958	-44	-748	-140

Inflows/(outflows) from treasury investments	2800	-844	521	-335	593
Other investing activities	766	-98	-19	-34	-134
Cash flow from investing activities	-1606	-3072	-4153	-6123	-4940
Financing activities					
Dividends paid to shareholders of the parent	-6552	-6863	-6950	-6937	-7126
Dividends paid to non-controlling interests	-328	-356	-424	-432	-342
Acquisition (net of disposal) of non-controlling interests	-337	-49	–	-1208	-526
Purchase(net of sale) of treasury shares	-421	-1617	-6377	760	-3295
Inflows from bonds and other non-current financial debt	3814	2202	1381	1695	6406
Outflows from bonds and other non-current financial debt	-2271	-1969	-508	-1430	-2489
Inflows/(outflows) from current financial debt	-6063	-1985	643	1368	-1009
Cash flow from financing activities	-12158	-10637	-12235	-6184	-8381
Currency retranslations	-526	42	-478	-169	-217
Increase/(decrease) in cash and cash equivalents	702	1033	-2564	3106	-52
Cash and cash equivalents at beginning of year	5713	6415	7448	4884	7990
Cash and cash equivalents at end of year	6415	7448	4884	7990	7938