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Zhodnocení finanční pozice společnosti GlaxoSmithKline, a.s.
Evaluation of Financial Position of the Company GlaxoSmithKline plc.

Student: Xinran Chen
Supervisor of the bachelor thesis: Ing. Ingrid Petrová, Ph.D.

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2. Description of the Financial Analysis Methodology
3. Profile of the Company
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List of Annexes
Annexes

References:

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


prof. Dr. Ing. Zdeněk Zmeškal
Dean

The declaration

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

Ostrava dated May 5, 2017

Xinren Chen 陈欣冉

Student's name and surname

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1 Introduction

Financial analysis is a series of economic management activities used to analyze and evaluate the profitability, operational capacity, solvency and growth capacity related to financing activities, investment activities, business activities, financial institutions in past and present of the company, which is based on accounting and reporting information, and a series of specialized, analytical techniques and methods. In simple terms, by analyzing the financial statements, investors can know whether the company is worth investing or borrowing, managers know how to make decisions to improve operational efficiency and assess the company's past financial performance and forecast the future operating developments of the enterprise.

The GlaxoSmithKline plc (GSK) Company was chosen because of its strong competitive performance in the pharmaceuticals industry in worldwide. It is the biggest British pharmaceutical company headquartered in Brentford, London and in 2014 it proposed three-part transaction with Novartis. The Chief Executive Officer Sir Andrew Witty said it will accelerate the strategy of making GSK a simpler, stronger and more balanced platform for long-term growth. GSK Company also is the world's eighth largest drugs and biotech company as of 2016, after Johnson& Johnson, Pfizer, Novartis, Roche, Sanofi, Merck and Bayer.

The aim of the thesis is to evaluate the financial performance of GSK company for the by the help of annual reports for period 2011 - 2015.

The main content in this thesis is divided into five chapters, while the first one is introduction and the last one is conclusion.

In Chapter 2, there are five main parts of this chapter, goal of financial analysis, source of data for financial analysis(including balance sheet, income statement and cash flow statement), description of three methods of financial analysis used in this thesis, including common size analysis, financial ratio analysis, pyramidal decomposition.

In Chapter 3, the general idea about the GSK Company's business scope, history, management structure and the team as well as aim and strategies will be presented. Through this chapter, you will have the image of what GSK Company looks like in your mind.

Chapter 4 is the most important part of the thesis. Data from counting materials mentioned before in period 2011 to 2015 of GSK Company will be used. The results of common size analysis, financial ratios and pyramidal decomposition of return on equity will be presented with the tables and figures to provide us with the more vivid idea about the financial trend of GSK Company.

In the last chapter, the general conclusion will be summarized about what is the company financial situation in the past, which aspects need to be improved, how GSK Company will develop in the future.

2 Description of the Financial Analysis Methodology

In this chapter, we will first illustrate the goal of financial analysis, then describe the source of the financial data (balance sheet; cash flow; income statement). Last but not least, in the third part of this section we will provide the overall of financial analysis methodology, namely, common-size analysis, financial ratio analysis, and DuPont analysis. This chapter is based on Dluhošová (2014) and Robinson (2015).

2.1 Goal of financial analysis

Financial analysis is a series of economic management activities to analyze and evaluate the financial situations of the company.

To understand the industry's general production and management pattern we usually analysis companies in the same industry. Because different industries have different needs for the occupation of funds. For example, there is a significant difference in cash liquidity between retail industry and heavy industry. The supermarkets usually have a higher ratio of cash while car manufacturing has more fixed assets.

By comparing with the industry data, enterprise financial ratios help enterprises understand the advantages and disadvantages of enterprises, which were reflected in the indicators of enterprise solvency, profitability and other ratios. Through the comparison between relevant indicators, a corporation enables to locate their status in the market, find out management problems, thus to make the enterprise management and development strategies.

In addition to industry data compare, the two companies in same industry also compare the ratios in business operation process, which contributes to understanding the strengths and weaknesses of competitors, identifying gaps, in order to take an effective competitive strategy.

2.2 Source of data for financial analysis

Financial statements (or financial report) is a set of accounting documents, which reflects a business financial performance over a financial period (mainly quarterly or annual), and the situation in the end. It is quantified by the financial data. Financial statements can help investors and creditors understand the business situation of enterprises and further help economic decision-making. The financial statements are based on generally accepted accounting principles to report the financial position selectively and are an approximate description of the real economic situation. They typically include basic financial statements, accompanied by a management discussion and analysis.

These three statements are:

An income statement, also known as a statement of revenue & expense, profit and loss report, which reports on a company's income, expenses, and profits over a period of time. A profit and loss statement provides information on the operation of the enterprise, including sales and the various expenses incurred during the stated period.

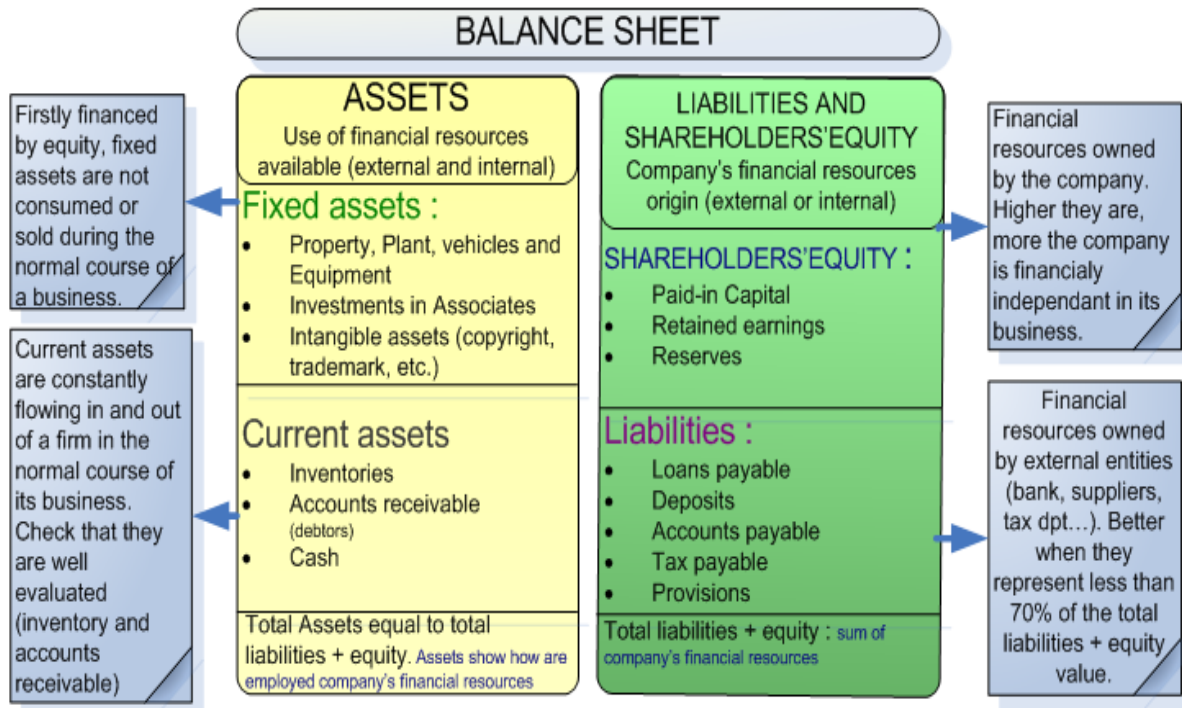
A balance sheet referred to as a statement of financial position, reports on a company's assets, liabilities, and owner's equity at a given point in time.

A cash flow statement reports on a company's cash flow activities, particularly its operating, investing and financing activities.

2.2.1 Balance sheet

The balance sheet provides the information about a company's assets, liabilities and shareholders' equity at a specific point in time. The image 2.1 shows the structure of balance sheet.

Image 2.1 Balance sheet format



Source:

<http://www.creditmanagement-tools.com/understand-and-analyze-the-balance-sheet-c1-r13.php>

As shown in the image 2.1, the right sides provided information about where the company's assets come from, borrowing or shareholder investment? The liabilities are the financial resourced owned by external borrowers, such as banks. The shareholders' equity are the financial resources owned by the company or say by the shareholders, which includes paid-in capital, retained earnings, reserves and so on. The left side refers how the company's funds are used. Is it used to the investment in land equipment or the purchase of raw materials? The assets are usually divided into current assets and fixed assets according to weather the assets can be quickly converted into cash or cash equivalents, such as accounts receivable. The current assets refers to investments with short maturity (usually shorter than one year), strong liquidity, easy conversion to known amounts of cash, and very little risk of change in value, such as inventories. But the fixed assets have a longer life cycle and cannot be converted into cash quickly and in most of the time the converting process companies with

the loss. For example, if a company wants to sell its property or plant in a relatively short time, the price must be lower than its actual price, because of the lack of time for discovering the value.

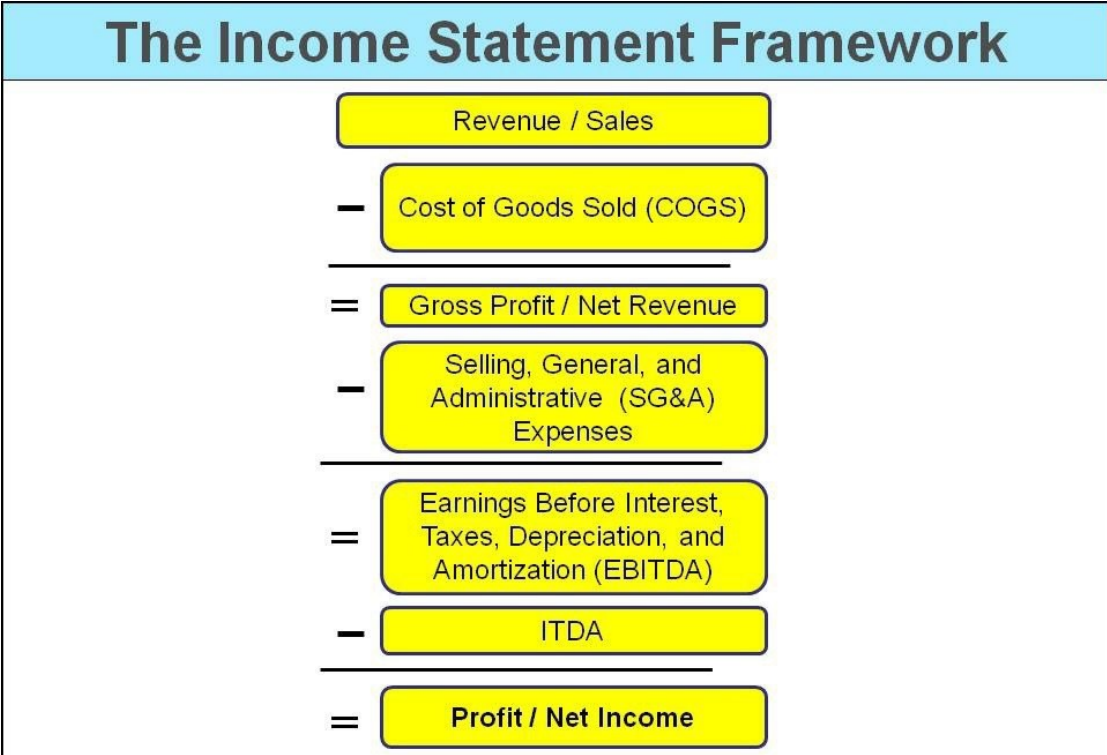
The money invested in the company should be equal to the company's total assets, as the following formula:

$$\text{Assets} = \text{Liabilities} + \text{Shareholder's equity} \tag{2.1}$$

2.2.2 Income statement

How the managers and investors know whether the company make any profits or not in a certain period. One financial statement that provides this information is income statement. Unlike the balance sheet which represents a single moment in time, income statement (P/L statement) is a dynamic report that represents a period of time like the cash flow statement. The detailed structure is provided in the following image.

Image 2.2 Income statement format



Source: <http://financialstatementform.org/10-what-is-the-purpose-of-an-income-statement/>.

Image 2.2 provided the basic structure of income statement; the internal relationships showed the equation below.

$$\text{Net income} = \text{Revenues} - \text{Expenses} \quad (2.2)$$

The first component listed in the income statement is sales, then sales minus cost of sales derived gross profits; after subtracting selling, general and administrative costs derived operating profit (or loss); then minus non-operating expenses, such as depreciation, interest and tax, we get the net profit (loss).

The profit and loss statement can provide the readers with the relevant information needed to make reasonable economic decision-making. By analyzing the changes in net profit among the past few years, investors can learn about company's profitability in the past and even forecast its profitability performance in future, thus decided whether to invest the company or not. It can also be used to analyze the reasons for the change of profit. For instance, the decline of profit may due to the increase in company's financing costs or decline of sales or any other causes. Specific circumstances need to analysis the specific company's statement.

2.2.3 Cash flow statement

The cash flow statement reflects the inflow and outflow of during an accounting period. The money invested into the business is called cash inflows, and the funds come out of the business are called cash outflows. The cash flow statement can be used to analyze whether a firm or institution has sufficient cash to meet the expenses in the short term. The cash flow statement is intended to reflect the impact of the various items in the balance sheet of cash flows and to classify them into three categories: business, investment and financing, depending on their use. As shown below:

Image 2.3 Cash flow statement

Cash flow statement			
+	Operating Activities	Inflow	Sales of goods or services Sales of trading securities Interest Revenue
		Outflow	Inventory purchases Wages and salaries Taxes, Interest expenses
+	Investing Activities	Inflow	Sales of Plants Sales of business segments Sales of nontrading securities
		Outflow	Purchase of plant assets Purchase of nontrading securities Making loans to other entities
+	Financing Activities	Inflow	Issuance of stock Borrowing
		Outflow	Cash dividends Repayment of loans Repurchase of Stock
=	Net Change in cash	Net change in cash balance from the beginning of the period to the end of the period	

Source: <http://credit-help.pro/forex/31674>.

As shown in the image, the basic equation in cash flow is:

$$Net\ cash\ flow = Total\ inflows - Total\ outflows \quad (2.3)$$

Operating activities section includes the cash flows derived out from an enterprise's daily business activities such as production, sales and delivery of the company's product as well as collecting payment from the customers. In more specific words, operating outflows includes payments for inventory purchases, wages and salaries, taxes and so on; operating inflows includes sales of goods or services, interest revenues and so on.

Cash flows from investing activities refer to examples of cash flow operations that can affect the business of non-current assets investment, including the sale and purchase of fixed

assets such as equipment and housing. Cash inflows from investing activities are usually derived from the recovery of investments and the sale of fixed assets and intangible assets. Cash outflows include and purchase of fixed assets and intangible assets and investments.

Funding activities refer to activities that lead to changes in the size and structure of corporate capital (the paid-in capital and capital reserve in the owner's equity of the balance sheet) and the debt (short-term borrowings and long-term borrowings and bonds payable). Cash flows from financing activities refer to cash flows from operations that affect business equity and debt. Examples of such operations include the issuance and recovery of equity securities and debt securities.

2.3 Common-size analysis

The common-size analysis is a tool used for evaluation of a company's performance by providing ratios calculated from financial statements. The common size analysis makes it possible for a company to compare its performance with peers and evaluate the company's performance by comparing data in previous time. There are two types of common-size analysis: vertical common-size analysis and horizontal common-size analysis.

2.3.1 Vertical common-size analysis

The vertical common-size analysis is an analysis of the changes in the proportions of selected benchmarks (total revenues, total assets, total liabilities, etc.). Compared with horizontal common-size analysis method, the vertical common-size analysis focus on the composition of given financial statement. The result is expressed as a percentage proportion, in which the data is divided by a given base. For example, on income statement analysis, the base is usually given by total revenues. In the balance sheet analysis, the base is usually given by total revenues.

The basic relationship is

$$\text{Percentage} = \frac{\text{Amount of item}}{\text{Amount of benchmark}}. \quad (2.4)$$

2.3.2 Horizontal common-size analysis

The horizontal common-size analysis focuses more on the change of the data, both absolute change and percentage change. Horizontal common-size analysis helps to solve two problems. Firstly, by comparing the data with the same trade or business, it helps to determine a company's position and make future decisions. Secondly, comparing the data with previous periods, which helps to understand the corporation performance over the years, in-depth analysis the long-term trend of company performance and made predictions of the development of corporation. In the practical financial analysis, we usually use a given year as a basis, then calculate the absolute change or relative change to compare the performance during the past period.

The formula of absolute change and relative change as below

$$\text{Absolute change} = U_t - U_0 = \Delta U_t \quad (2.5)$$

$$\text{Relative change} = \frac{U_t - U_0}{U_0} = \frac{\Delta U_t}{U_0} \quad (2.6)$$

Where U_t represents the amount of the item in comparison year, and U_0 represents the amount of the item in base year.

In the horizontal common-size analysis, it is also important to take all possible changes in specific economic conditions into consideration, such as inflation, taxation, etc.

2.4 Financial ratio analysis

Financial ratio analysis is a quantitative analysis of the information contained in the company's financial statements and compares the financial data in the form of financial ratios to assess the company's financial status. If the company's stock is traded on a financial market,

the market price of the stock is used as financial data. There are four kinds of ratios in this chapter classified according to their targets and focus, namely, profitability ratios, liquidity ratios, solvency ratios and activity ratios.

2.4.1 Profitability ratios

Profit is the main goal of business; therefore, profitability analysis is an important part of financial analysis. Profitability analysis refers to the ability of an enterprise to make a profit within a certain period of time.

The size of the profitability is a relative concept, that is, the profit is relative to a certain amount of resources and a certain amount of income. The higher the profit margin, the stronger the profitability company has. Profitability is the source of funds for the investor to obtain investment income, creditors receive the principal and interest, is the embodiment of the business managing ability. And it is usually evaluated by the following ratios: operating profit margin, net profit margin, return on assets and return on equity.

Operating profit margin

Operating profit margin refers to the ratio of operating profit and operating income of an enterprise. It is an indicator to measure business efficiency, reflecting the ability of enterprise managers to obtain profits without considering the non-operating costs. Operating profit is the difference between operating revenues and operating expenses. When a firm does not have non-operating income, then operating income is sometimes used as an EBIT (Earnings before interest and taxes) and operating profit. EBIT is a firm's profit that includes all expenses except interest and income tax expenses.

The operating profit margin is calculated as:

$$\text{Operating profit margin} = \frac{\text{Operating income}}{\text{Revenues}} = \frac{\text{EBIT}}{\text{Net sales}} \quad (2.7)$$

Net profit margin is the percentage of net profit to sales revenue. This indicator reflects the net profit from each dollar's sales revenue, indicating the level of revenue from sales

revenue.

It is proportional to the net profit, inversely proportional to sales revenue. At the same time when enterprises increase their sales revenue, enterprises must obtain corresponding more net profit in order to make the net profit margin remains unchanged or improved. By analyzing the ups and downs of sales net profit margin, you can encourage enterprises to expand sales and pay attention to improve management, improve profitability simultaneously. Generally, the greater the index, the stronger the profitability corporate has in sales. If a business can maintain a good sustained growth in the net profit margin, it should be said that the financial situation of enterprises is good, but not absolutely speaking, the greater the better sales net profit margin, but also must see the company's sales growth and net profit changes.

The net profit margin is calculated as:

$$\text{Net profit margin} = \frac{\text{Net profit}}{\text{Revrnues}} = \frac{\text{EAT}}{\text{Revenues}} \quad (2.8)$$

Return on assets

Return on assets (ROA) is used to measure how much net profit was created by per unit of assets, can also be interpreted as the ratio of corporate profits to the average assets of enterprises.

Return on assets is an indicator that reflects the comprehensive utilization of assets. It is also an important indicator that measures the profitability of enterprises using the total amount of creditors and owners' equity. The higher the yield of assets, the higher the efficiency of asset utilization, which means the profitability of the whole enterprise is stronger and the management level of the enterprise is better. In contrast, the lower the asset return, the less the utilization efficiency of the enterprise assets, the less profit are created by the same assets, the worse profitability of the whole enterprise, the lower the level of business management.

ROA can be computed as:

$$ROA = \frac{\text{Net income}}{\text{Total assets}} = \frac{\text{EAT}}{\text{Assets}} \quad (2.9)$$

Return on equity

Return on equity (ROE) refers to the ratio of net profit after tax to equity investment. It is an indicator of the return on investment relative to shareholders' equity, reflecting the company's ability to generate net profit using the net asset. The calculation is based on the net profit after tax deducting the preferred dividend and the special income then divided by the shareholders' equity. This ratio calculating the return on investment of the company's common shareholders is an important indicator of the profitability of listed companies.

However, the company's high return on equity does not mean strong profitability. Some industries do not need too much investment in assets, therefore they usually have higher ROE, such as consulting firms. Some industries need to invest a lot of infrastructures to generate profits, such as refineries. Therefore, you cannot determine the company's profitability single to ROE. In general, the capital-intensive industry has a higher threshold for entry and less competition. On the contrary, industries with high ROE but low assets are easier to enter but face greater competition. Because of this reason, ROE should be used to compare the same industry.

ROE can be computed as:

$$ROE = \frac{\text{Net income}}{\text{shareholder's equity}} = \frac{EAT}{Equity} \quad (2.10)$$

2.4.2 Liquidity ratios

Whether the enterprise has the ability to pay in cash and the ability to repay the debt is the key to the healthy survival and development of the enterprise. Liquidity ratios are used to assess the safety of corporate liabilities and the ability of an enterprise to repay its short-term debt. These ratios are mainly current ratio, quick ratio and cash ratio and each of them has its special emphasis. The details are described below.

Current ratio

The current ratio is the most common indicator of the company's short-term solvency. The current ratio is the ratio of current assets divided by current liabilities. It not only represents the degree of security of short-term creditor claims but also reflects the ability of

enterprises to operate capital.

The higher the ratio, the stronger the short-term solvency of the company and the sufficient working capital of the company; conversely, the company's short-term solvency is not strong or funding is not sufficient. Generally, perfect financial companies, their current assets should be much higher than the current liabilities, at least not less than 1:1, generally considered greater than 2:1 is more appropriate. However, from companies and shareholders perspective, this ratio is not the higher the better. The excessive accounts receivable and inventory balances can lead to high current ratio, which does not mean excel financial situation. In contrast, it may be harmful to financial soundness. When the ratio is higher than 5:1, it means that the company's assets are not fully utilized.

The formula is as follows:

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}} \quad (2.11)$$

Quick ratio

Although the liquidity ratio can be used to assess the overall liquidity of liquidity, people (especially short-term creditors) want to obtain a further ratio of liquidity to assess the liquidity. This indicator is called the quick ratio, used to measure the company's clearing capacity. Investors can detect the ability of a company to pay a short-term debt in a very short period of time by analyzing the quick ratio.

It is generally believed that the normal quick ratio is 1 if the quick ratio is less than 1 will be considered short-term solvency is low. Generally, the minimum speed ratio is 0.5:1, and if it keeps at 1:1, the safety of current liabilities is more secure. Because, when this ratio reaches 1:1, even if the company's cash face difficulties, it will not affect the immediate solvency. This is just a general view because various industries have very different speed ratios, there is no uniform standard. For example, in cash-operated stores, there are almost no receivables, the quick ratio is much lower than 1. On the contrary, some enterprises with more accounts receivable may have a quick ratio of more than 1.

The formula is as follows:

$$\text{Quick ratio} = \frac{\text{Current assets} - \text{Inventories}}{\text{Current liabilities}} \quad (2.12)$$

Cash ratio

The cash ratio is the ratio of a company's total cash and cash equivalents to its current liabilities. The higher the cash ratio, the higher the cash assets accounted for the current assets, the lower risk of realization loss. The cash ratio is generally a more conservative look at a company's ability to cover its liabilities than many other liquidity ratios because other assets, including accounts receivable, are left out of the equation.

The formula is as follows:

$$\text{Cash ratio} = \frac{\text{Cash} + \text{Cash equivalents}}{\text{Current liabilities}} \quad (2.13)$$

2.4.3 Solvency ratios

The solvency of an enterprise, static speaking, is the ability to use corporate assets to pay off corporate debt; dynamic speaking is the capacity to repayment the debt by using corporate assets and running a business. The solvency of an enterprise refers to the ability of an enterprise to repay its long-term debt with its assets.

The solvency ratios are also called as leverage ratios. Two ratios will be mentioned below: debt to assets ratio and debt to equity ratio.

Debt to assets ratio

The debt-to-assets ratio reflected the proportion of capital provided by the creditor to the total capital, therefore is a comprehensive indicator of the company's debt levels and it is generally positively correlated with the long-term solvency of the firm.

It can also be used to measure the level of protection of creditors' rights when the company faces liquidation problems. It is also an index used to measure the ability of companies of using funds of the creditors to carry out business activities as well as the degree of security of creditors to issue loans. If the asset-liability ratio reaches 100% or more than 100%, it means that the company has no net assets or insolvency.

The formula is as follows:

$$\text{Debt-to-assets ratio} = \frac{\text{Total debt}}{\text{Total assets}} \quad (2.14)$$

Debt to equity ratio

The debt-to-equity ratio used to measure the company's financial leverage shows the proportion of equity and debt in the company's assets. Creditors and investors pay great attention to the debt-to-equity ratio, as it shows how much the company's managers are willing to borrow, rather than using their own share capital. Lenders such as banks are particularly sensitive to this ratio because an excessive debt-equity ratio will make them face the risk of loans that cannot be recovered. Faced with this risk, banks tend to use a restrictive contract to force companies to pay their debts with excess cash flow. It is very common to use extractive requirements as well as to require investors to invest more of their own capital.

It may be more meaningful to compare the debt-to-equity ratios of different companies in the same industry. The debt-to-equity ratio reflects the contrast between the funds provided by the creditor and the funds provided by the shareholders. The lower the ratio, the better the long-term financial position the firm has and the protection of the creditor's rights are better. The ratio should generally be less than 1.

The formula is as follows:

$$\text{Debt-to-equity ratio} = \frac{\text{Total debt}}{\text{Total equity}} \quad (2.15)$$

Interest coverage

The interest coverage ratio is a measure of a company's ability to meet its interest payments. High interest coverage ratio means that creditors have a comfort level with companies that can easily service debt interest payments. This ability usually means the strong profitability and high liability level. The interest coverage ratio is calculated by dividing a company's earnings before interest and taxes (EBIT) during a given period by the amount of interest payment on its debts during the same period.

As the following formula calculate:

$$\text{Interest coverage} = \frac{\text{Operating profit}}{\text{Interest paid}} \quad (2.16)$$

2.4.4 Activity ratios

The activity ratios are financial ratios used to measure the efficiency of the company's asset management. There are some ratios that focus on several specific assets, such as inventory or accounts receivable while some other ratios focus on the overall efficiency of the firm. Here we mainly discuss the three operating activities ratio: inventory turnover, accounts receivable turnover and total asset turnover.

Inventory turnover

The inventory turnover represents the ratio of the cost of goods sold to the average inventory for a certain period of time used to reflect the turnover rate of inventory, the liquidity of inventory and measure whether the capital occupancy of inventory is reasonable. The analysis of inventory turnover helps to enhance the efficiency of the use of funds and the short-term solvency of the enterprises to ensure the continuity of production and operation.

Inventory turnover rate is a supplementary explanation of the current assets turnover rate. Through the calculation and analysis of inventory turnover rate, it is possible to measure the turnover rate of inventory assets in a certain period of time which reflects the efficiency of purchasing, producing and selling enterprises. The higher the inventory turnover, the stronger the liquidity of the enterprise's inventory assets, the faster the turnover of capital spent on inventories.

The formula is as follow:

$$\text{Inventory turnover} = \frac{\text{Costs of goods sold}}{\text{Average inventory}} \quad (2.17)$$

Accounts receivable turnover

Accounts receivable turnover, also known as the collection ratio is the average times of accounts receivable converted into cash over a period of time (usually in one year), which is used to measure the degree of liquidity of corporate accounts receivable. Accounts receivable

turnover is the ratio of sales revenue divided by the average receivables, that is, the average number of accounts receivable into cash in the year, which indicates the rate at which accounts receivable flows.

The formula is as follow:

$$\text{Accounts receivable turnover} = \frac{\text{Revenues}}{\text{Accounts receivable}} \quad (2.18)$$

Total assets turnover

The total asset turnover is the ratio of the sales income to the total assets of the enterprise over a certain period of time, which is an important indicator for comprehensively evaluating the quality of operation and use efficiency of all the assets of the enterprise. The greater the turnover rate indicates that the faster the total asset turnover, reflecting the stronger sales capacity. Enterprises can accelerate the turnover of assets to get an increase in the absolute amount of profits through the small profits but quick turnover.

The purpose of inventory turnover analysis is to find out the problems in inventory management from different perspectives and links, so that inventory management can ensure the production and operation continuity at the same time, as little as possible to take up operating funds, improve the efficiency of the use of funds, solvency, and promote the improvement of enterprise management level. In general, it improves management level of the enterprise.

The total asset turnover is calculated as:

$$\text{Total assets turnover} = \frac{\text{Revenues}}{\text{Total assets}} \quad (2.19)$$

2.5 DuPont analysis

DuPont analysis enables to analysis the financial situation of enterprises synthetically, by using the relationship between several major financial ratios. The name comes from the DuPont Corporation that started using this formula in the 1920s. The basic idea is to decompose the return on assets of enterprises into a number of financial ratio products, which will help in-depth analysis and comparison of business performance. Through decomposition of the target ratio, we are allowed to in-depth analysis which component ratio contributed

most to the target ratio's change and focus on improving the most influential factor. The DuPont analysis is a classic method used to evaluate corporate performance from a financial point of view of the company's profitability and level of return on shareholders' equity. This sector is based on Zmeškal (2004).

The following formula is a fundamental example of the pyramidal decomposition in the DuPont analysis:

$$ROE = \frac{EAT}{Equity} = \frac{EAT}{Revenues} \cdot \frac{Revenues}{Total\ assets} \cdot \frac{Total\ assets}{Equity} \quad (2.20)$$

In this formula, the ROE ratio is broken into three component ratios: net profit margin (EAT/revenues) measures profitability; assets turnover (revenues/total assets) measures asset use efficiency, and equity multiplier (total assets/equity) measures financial leverage.

With this method, we enable to analyze indicators, whose change have caused the change in the basic ratio and quantify each component ratio's contribution to the change in basic ratio.

In addition, if we want to separate the effects of taxes and interest, the profit margin can be decomposed as follows:

$$\frac{EAT}{Revenues} = \frac{EAT}{EBT} \cdot \frac{EBT}{EBIT} \cdot \frac{EBIT}{Revenues} \quad (2.21)$$

In this formula, the net profit margin is broken into three component ratios: tax burden (EAT/ EBT); interest burden (EBT/EBIT) and operating margin (EBIT / Revenue)

There are five methods for quantification of influence:

- Methods of gradual changes;
- Methods of decomposition with surplus;
- Logarithmic decomposition method;
- Functional decomposition method;
- Integral method.

Here we only introduce some of them.

Method of gradual changes

The method concentrates on working with absolute changes in component ratios. The

advantage of the method is that it can be applied regardless of positive or negative values in component ratio or basic ratio and the disadvantage is that the different order in component ratios can cause different results.

The formula is following:

$$\begin{aligned}
 \Delta x_{a_1} &= \Delta a_1 \cdot a_{2,0} \cdot a_{3,0} \cdot \dots \cdot a_{n,0} \cdot \frac{\Delta y_x}{\Delta x} \\
 \Delta x_{a_2} &= a_{1,1} \cdot \Delta a_2 \cdot a_{3,0} \cdot \dots \cdot a_{n,0} \cdot \frac{\Delta y_x}{\Delta x} \\
 &\vdots \\
 \Delta x_{a_n} &= a_{1,1} \cdot a_{2,1} \cdot a_{3,1} \cdot \dots \cdot \Delta a_n \cdot \frac{\Delta y_x}{\Delta x} \\
 \Delta x_{a_i} &= \Delta a_i \cdot \prod a_{j,0} \cdot \prod a_{j,l} \cdot \frac{\Delta y_x}{\Delta x}
 \end{aligned} \tag{2.22}$$

Symbols: X - basic ratio, ΔX - absolute change in the basic ratio, a - component ratio, Δa - absolute change in the component ratio, ΔX_{a_i} - absolute change in the basic ratio caused by the change in the a_n component ratio.

Method of logarithmic decomposition

This method only includes one formula to quantify the impact regardless of how many component ratios and impact of the i -the component ration on the change in the basic ratio is calculated as follows:

$$\Delta x_{a_i} = \frac{\ln I_{ai}}{\ln I_x} \cdot \Delta y_x \tag{2.23}$$

Symbols: x -basic ratio, Δx_{a_i} - absolute change in the basic ratio, $I_x = \frac{x_1}{x_0}$ - index of change in

basic ratio, $I_a = \frac{a_{1,1}}{a_{1,0}}$ - index of change in component ratio.

3 Profile of the Company GSK

In this section, we will provide an overview of GlaxoSmithKline plc (GSK) including its business scope, history, structure, management structure and its achievement.

GlaxoSmithKline plc is a British pharmaceutical company headquartered in Brentford, London, established in 2000 by a merger of Glaxo Wellcome and SmithKline Beecham. GSK was the world's tenth largest pharmaceutical company as of 2016, after Johnson & Johnson, Pfizer, Novartis, Roche Holding, Sanofi, Merck & Co., Bayer. Andrew Witty has been the chief executive officer since 2008.

The company has a primary listing on the London Stock Exchange and is a constituent of the FTSE 100 Index. As of November 2016, it had a market capitalization of £74 billion, the fifth largest on the London Stock Exchange. It has a secondary listing on the New York Stock Exchange.

GSK's drugs earned £14.2 billion occupied 60% and vaccines earned £3.7 occupied 15% of group turnover in 2015. GSK's consumer products, which earned £6 billion in 2015, include wellness, oral health nutrition and skin health. GSK has a deep portfolio of innovation focused on six core areas of scientific research and development: HIV and infectious diseases, oncology, immune-inflammation, vaccines, respiratory and rare diseases. In 2015, they profiled around 40 new potential medicines and vaccines, 80% of which are believed have the potential to be first-in-class. This means they may offer benefits beyond current standards of care and, in some cases, could radically transform how patients are treated.

3.1 Company business scale

GlaxoSmithKline is a science-led global healthcare company. GlaxoSmithKline research and develop a broad range of innovative products in three primary areas of Pharmaceuticals, Vaccines and Consumer Healthcare. It has a significant global presence with commercial operations in more than 150 countries, a network of 89 manufacturing sites, and large R&D centers in the UK, USA, Belgium and China.

Pharmaceuticals

Their Pharmaceuticals business develops and makes medicines to treat a broad range of acute and chronic diseases. They have leading positions in respiratory disease and HIV with a portfolio of innovative and established medicines.

Vaccines

Their Vaccines business is one of the largest in the world, developing, producing and distributing over 1.9 million vaccines every day to people across the world. They have a broad portfolio of 39 paediatrics, adolescent, adult and travel vaccines. In 2015, GSK distributed more than 690 million doses to over 150 countries.

Consumer Healthcare

Their Consumer Healthcare business develops and markets products in Wellness, Oral health, Nutrition and Skin health. They have a portfolio of some of the world's most trusted and bestselling brands which include Sensodyne, Voltaren, Horlicks and Panadol.

3.2 Company History

The merger between Glaxo Wellcome and SmithKline Beecham was announced completed in December 2000, forming GlaxoSmithKline (GSK). Glaxo Wellcome was founded in the 1850s as a general trading company in Bunnythorpe, New Zealand, by a Londoner, Joseph Edward Nathan. Glaxo Laboratories opened new units in London in 1935. After the company bought Meyer Laboratories in 1978, it began to play an important role in the US market. In 1983 Glaxo Inc., moved to Research Triangle Park and Zebulon in North Carolina.

Burroughs Wellcome&Company was founded in 1880 in London by the American pharmacists Henry Wellcome and Silas Burroughs. The company moved to Research Triangle Park in North Carolina in 1971. Glaxo and Burroughs Wellcome merged in 1995 to form Glaxo Wellcome. By 1999 Glaxo Wellcome had become the world's third-largest pharmaceutical company by revenues (behind Novartis and Merck), with a global market share of around 4 per cent. The company had R&D facilities in Hertfordshire, Kent and London, and manufacturing plants in Scotland and the north of England. It had R&D centres

in the US and Japan, and production facilities in the US, Europe and the Far East.

SmithKline Beecham

In 1843 Thomas Beecham launched his Beecham's Pills laxative in England, giving birth to the Beecham Group. By the 1960s Beecham was extensively involved in pharmaceuticals. John K. Smith opened its first pharmacy in Philadelphia in 1830. In 1865 Mahlon Kline joined the business, which 10 years later became Smith, Kline & Co. In 1891 it merged with French, Richard and Company, and in 1929 changed its name to Smith Kline & French Laboratories as it focused more on research. SmithKline & French merged with Beckman Inc. in 1982 and changed its name to SmithKline Beckman. In 1988 it bought its biggest competitor, International Clinical Laboratories, and in 1989 merged with Beecham to form SmithKline Beecham plc. The headquarters moved from the United States to England.

3.3 Company's mission and strategy

GSK company said that their mission is to help people do more, feel better, live longer.

The company management team focused on delivery of their strategic priorities which aim to increase growth, reduce risk and improve the company's long-term financial performance. These priorities are: grow a balanced global business, deliver more products of value, simplify the operating model and be a responsible business. In order to achieve the aims, they made some strategic responses.

To grow a balanced global business, GSK centre on three business areas of Pharmaceuticals, Vaccines and Consumer Healthcare. By creating a more balanced business and product portfolio, the company's capable of delivering sustainable sales and earnings grow and return to shareholders are improved.

To deliver more products of value, the research and development organisation has been reorganized aim to improve productivity and rates of return in research and development department so that it is better able to sustain a pipeline of products that offer valuable improvements in treatment for patients and healthcare providers.

To simplify the operating model, GSK transforms its operation so that the company can

reduce complexity and become more efficient. For example, the number of board members declined from 16 in 2015 to 12 in 2016. This frees up resources to reinvest elsewhere in the business or return to shareholders.

GSK also believed that being a responsible business is central to strategies, and the company want to ensure their values are embedded in their culture and decision-making which helps them better meet the expectations of society.

3.4 Achievements

In 2015, GSK invested £3.1 billion in search to develop new medicines vaccines and consumer products.

They profiled around 40 new potential medicines and vaccines in the pipeline at research and development (R&D) event in 2015, 80% of which are believed potentially first-in-class. GSK have a network of 89 manufacturing sites, and large R&D centres in the UK, US, Belgium and China.

6 billion albendazole tablets donated to eliminate two neglected tropical diseases, reaching over 760 million people.

More than 11,000 people work in R&D in searching for new medicines, vaccines and consumer healthcare products.

In 2015, GSK distributed more than 690 million doses of vaccines around the world. GSK employ around 101,000 people in over 150 countries, with more than a third of these in emerging markets.

4 Evaluation of the Financial Situation of the Company

This practical part is focused on analyzing the GlaxoSmithKline plc. This chapter is divided into three sections according to aforementioned analysis methods: common-size analysis (including both vertical and horizontal), financial ratio and decomposition analysis. All figures come from the annual reports of GlaxoSmithKline plc. during the period from 2011 to 2015. Some pharmaceutical industry data in the United Kingdom will also be used to analyze the company's financial performance and compare it with the industry average.

4.1 Common-size analysis

The common-size analysis can be divided into two parts: vertical common-size analysis and horizontal common-size analysis. In this section, we use these two methods to analysis the trends and major characteristics of GSK's financial situation in recent five years.

4.1.1 Vertical common-size analysis

Based on the balance sheet of GSK, according to equation 2.4, all individual assets or groups of assets are shown as a percentage of total assets. It shows in Tab. 4.1.

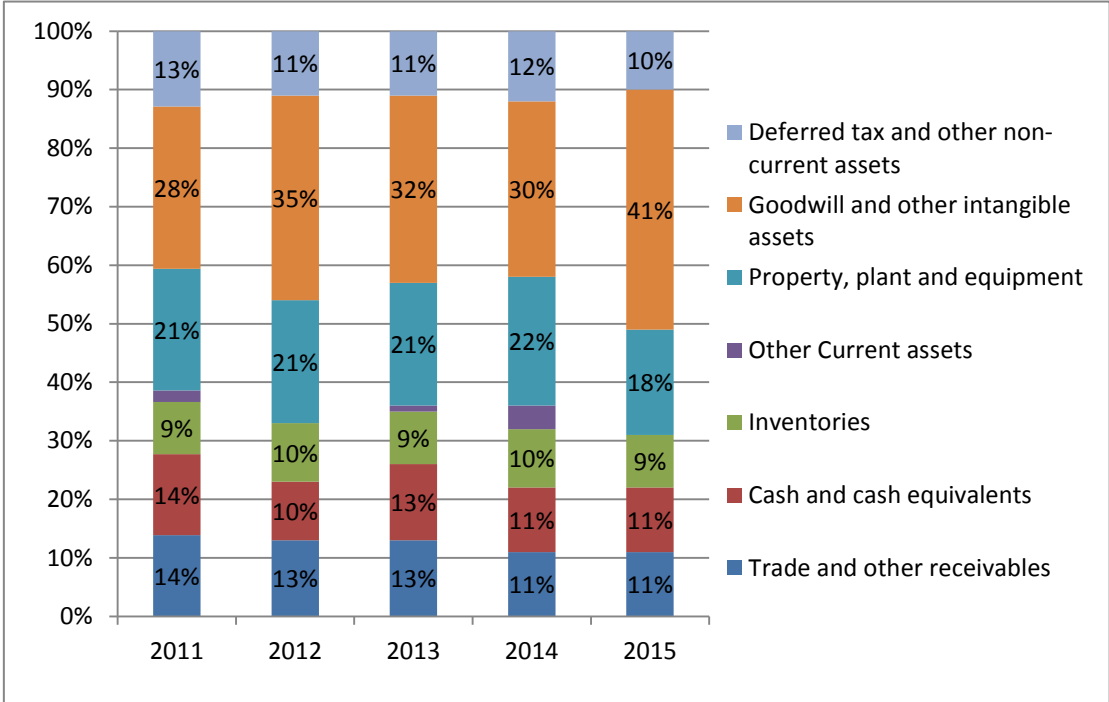
Table 4.1 Vertical common-size analysis of balance sheet

	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>	<i>2015</i>
<i>Current assets</i>	39%	33%	36%	36%	31%
Trade and other receivables	14%	13%	13%	11%	11%
Cash and cash equivalents	14%	10%	13%	11%	11%
Inventories	9%	10%	9%	10%	9%
Other Current assets	2%	0%	1%	4%	0%
<i>Non-current assets</i>	61%	67%	64%	64%	69%
Property, plant and equipment	21%	21%	21%	22%	18%
Goodwill and other intangible assets	28%	35%	32%	30%	41%
Deferred tax and other non-current assets	13%	11%	11%	12%	10%
<i>Total assets</i>	100%	100%	100%	100%	100%

Source: Our elaboration

In Tab. 4.1, we can see the assets structure keep stable in general during the last five years. Non-current assets increased steadily from 61% in 2011 to 69% in 2015. The total value of current assets remains steady during the five years, due to the increase in total assets, the proportion declined by 8%, from 39% in 2011 to 31% in 2015.

Figure 4.1 Vertical common-size balance sheet of GSK



Source: Own elaboration

Now we can easily see from Fig. 4.1 that each part has experienced their own changes through the period. The yellow part is goodwill and other intangible assets, which account for most and changed most. The ratios of this part to total assets are 28% in 2011, while in 2015 it increased to 41%, which contributes the biggest increments of non-current assets. Goodwill increased during the year 2014-2015 reflected the goodwill arising from the acquired Novartis Vaccines business and the creation of the Consumer Healthcare Joint Venture. Other intangible assets include the cost of intangibles acquired from third parties and computer software. The increase in 2015 reflected the impact of acquiring the Vaccines business and the creation of the Consumer Healthcare Joint Venture.

The following part is property, plant and equipment (21%~18%) and deferred tax and other non-current assets (13%~11%). The value of these two was on the rise but the percentage was in decline. As a pharmaceutical company, the business is science-based, technology intensive and highly regulated by governmental authorities. Plenty of financial resources need to be used the renewal and maintenance of the company’s property, plant and equipment to minimize risks of interruption of production and to achieve compliance with regulatory

standards.

Current assets have three main compositions: cash and cash equivalents, trade and other receivables, and inventories. The percentage of inventories was roughly unchanged, at around 9%. The proportion of both cash and cash equivalents and trade and other receivables had a slight drop, from 14% in 2011 to 11% to 2015; inventories, 24% in 2011 and 28% in 2015.

Then we concentrate on liabilities and assets, the percentage is showed in Tab. 4.2.

Table 4.2 Vertical common-size analysis of balance sheet

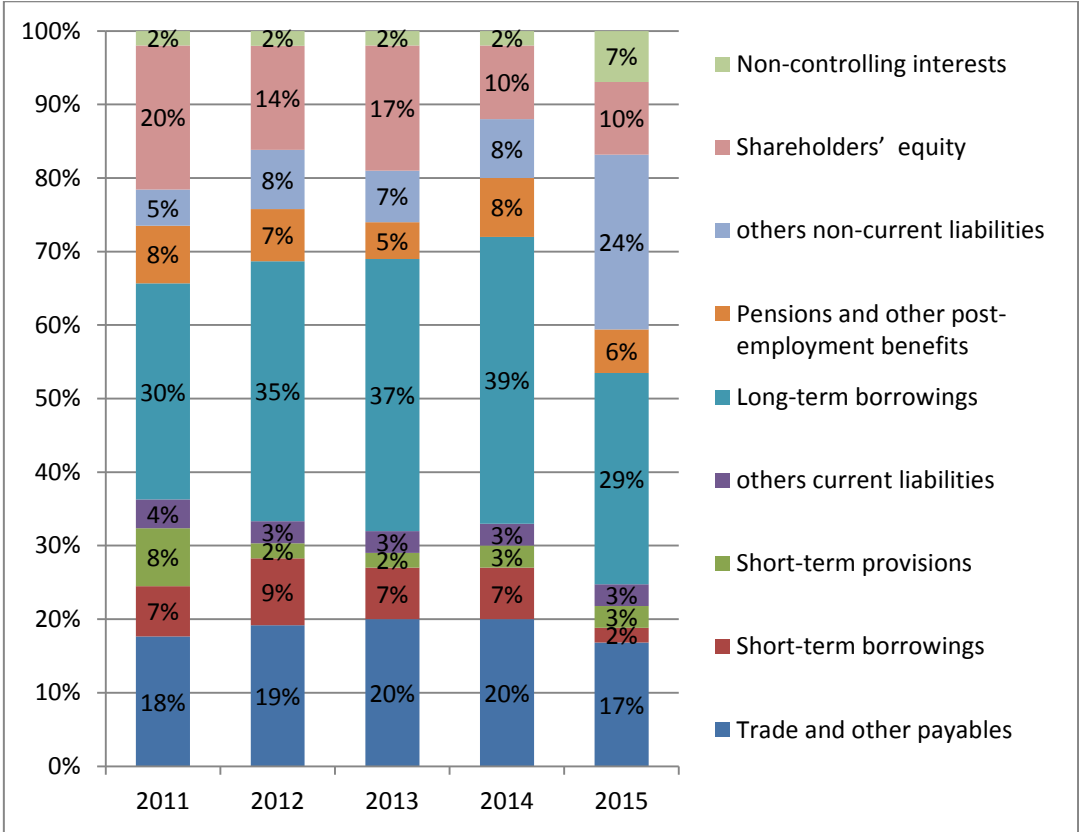
	2011	2012	2013	2014	2015
Trade and other payables	18%	19%	20%	20%	17%
Short-term borrowings	7%	9%	7%	7%	2%
Short-term provisions	8%	2%	2%	3%	3%
Others current liabilities	4%	3%	3%	3%	3%
<i>Total current liabilities</i>	37%	33%	32%	33%	25%
Long-term borrowings	30%	35%	37%	39%	29%
Pensions and other post-employment benefits	8%	7%	5%	8%	6%
Others non-current liabilities	5%	8%	7%	8%	24%
<i>Non-current liabilities</i>	42%	50%	49%	55%	58%
<i>Total liabilities</i>	79%	84%	81%	88%	83%
Shareholders' equity	20%	14%	17%	10%	10%
Non-controlling interests	2%	2%	2%	2%	7%
<i>Equity</i>	21%	16%	19%	12%	17%

Source: Own elaboration

In Tab. 4.2, we can also know the liabilities account for around 80%~90% in total assets, which means the major capital resources come from borrowing. The proportions fluctuate mildly during the last five years. And the general trend of liabilities proportion was upward. As for liabilities composition, the chart shows that the non-current liabilities is the major part, which increased by 16%, from 42% to 58% during the period. Total current liabilities

proportion fell from 37% in 2011 to 25% in 2015. Despite the fluctuation, the general trend of equity proportion was downward. The proportion of shareholder's equity, the largest equity composition part, dropped from 20% to 10%.

Figure 4.2 Vertical common-size analysis of balance sheet



Source: Own elaboration

From the Fig. 4. 2 we can learn that the proportion of shareholder’s equity, the largest equity composition part, dropped from 20% to 10%. The non-controlling interests bottomed out at 2% before 2015, as shown in the graph, 2015 saw a steep increase, rising to 7%. The main part of non-current liabilities is long-term borrowings, the proportion of which rise from 30% to 39% steadily before 2015. In 2015, it accounts for 29%. Pensions and other post-employment benefits remained steady for five years. Other non-current liabilities bottomed out for four years and peaked at 24% in 2015, almost three times more than the number in 2004. The reason why other non-current liabilities grew so markedly in 2015 is that major deal with Switzerland's Novartis, which will see the two pharmaceutical group trade

more than \$20 billion of assets. The transaction, which includes GSK buying Novartis' vaccines business for 7.1 billion dollars, Novartis purchasing GSK's cancer drugs for 16 billion dollars, and the two groups tying up in consumer healthcare, was unveiled in April.

As shown in the Tab. 4. 2, trade and other payables was the main part of the current liabilities, accounting for around 19%. The short-term borrowings reached a plateau in 2011 around 8%, before declining suddenly in 2015 to 2%. Another significant change is the proportion of short-term provisions fell from 8% to 2% then bottomed out at 2% till 2015.

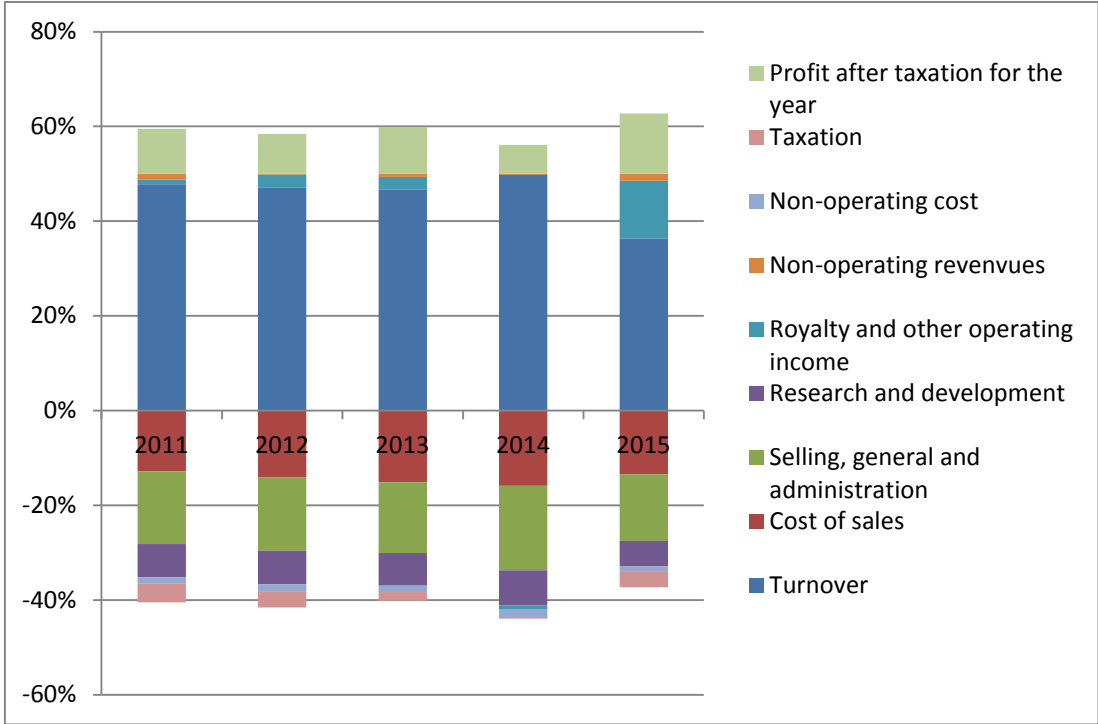
Then we will analyze the income statement, the table below is a short version of the income statement. The below Tab. 4.3 is the component percentage in the income statement. The data come from GSK's income statement between 2011 and 2015.

Table 4.3 Vertical common-size analysis of income statement

	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>	<i>2015</i>
Turnover	100%	100%	100%	100%	100%
Cost of sales	27%	30%	32%	32%	37%
Selling, general and administration	32%	33%	32%	36%	39%
Research and development	15%	15%	15%	15%	15%
Royalty and other operating income	2%	6%	6%	-2%	34%
Total costs	71%	72%	73%	84%	57%
Operating profit	29%	28%	27%	16%	43%
Non-operating revenues	3%	0%	1%	0%	4%
Non-operating cost	3%	3%	3%	3%	3%
Profit before taxation	28%	25%	25%	13%	44%
Taxation	8%	7%	4%	1%	9%
Profit after taxation for the year	20%	18%	21%	12%	35%

Source: Own elaboration

Figure 4.3 Vertical common-size analysis of income statement



Source: Own elaboration

In Tab. 4.3 and Fig. 4.3, we can see the proportion of individual items of the income statement and how the proportions influence the company performance over the years.

The proportion of selling, general and administration, the largest cost portion rises from 32% to 39%. Similarly, the proportion of the cost of sales increases in past five years, from 27% in 2011 to 39% in 2015. Selling, general and administration also increased by 7% during this period. Therefore, the total costs were on a rise, which was steadily before 2013 and in the following two years fluctuate wildly. Comparing with data 73% in 2013, total costs hit the highest point in 2014 at 84%. Taking into account the growth of administrative costs, GSK decided to streamline the management team to carry out a number of restructuring plans. In 2014, GSK said that in the next three years, the company will plan to cut the cost of £ 1 billion (about \$ 1.6 billion), which contributes a lot to the lowest ratio during the period at 57% in 2015. In generally, the proportion of profit before taxation hold steady at 25% and profit after taxation stands at 20%. While the proportion of the two parts respectively fell to 13% and 12% in 2014 and climbed to 44% and 35% in 2015, which was influenced by a big deal with Novartis, changing as other operating income and profit changing. Because the new

savings plan does not include the acquisition of the Novartis vaccine business segment and the establishment of consumer health joint venture. Royalty and other operating income hit the lowest point at -2% in 2014 then peaked at 34% in 2015. Similarly, operating profit hit the lowest point at 16% then peaked at 43%.

4.1.2 Horizontal common-size analysis

The horizontal common-size analysis also called trend analysis, is another form of the common size analysis, which is the time series analysis which is used for analysis the trend and the growth in the account over the period of time. To see the trend more clearly we use the original data in the annual report. As shown below.

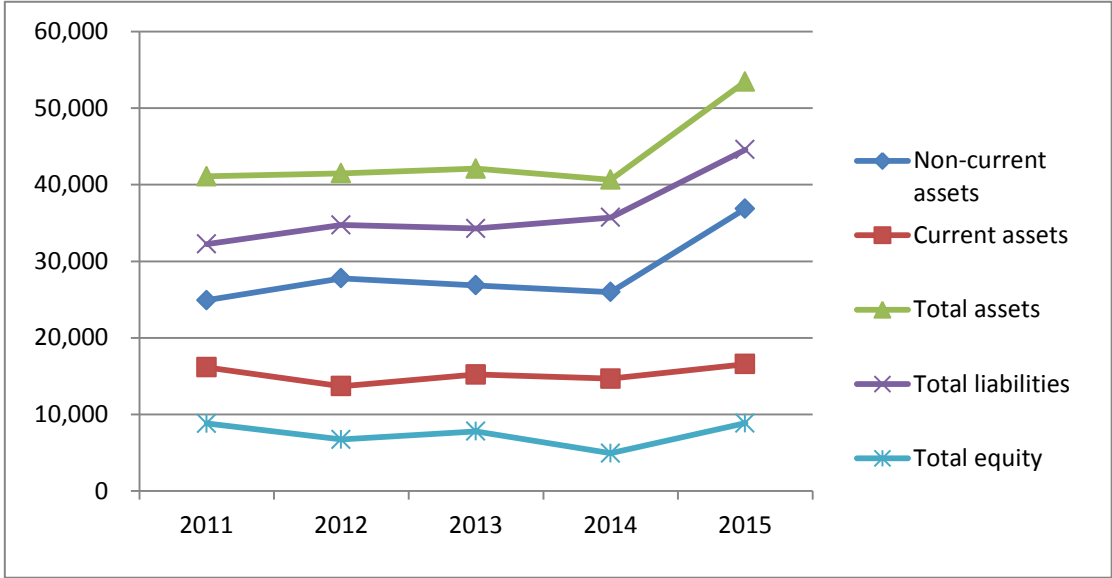
Table 4.4 Horizontal common-size analysis of balance sheet

	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>	<i>2015</i>
Non-current assets	24,913	27,783	26,859	25,973	36,859
Current assets	16,167	13,692	15,227	14,678	16,587
Total assets	41,080	41,475	42,086	40,651	53,446
Total liabilities	32,253	34,728	34,274	35,715	44,568
Total equity	8,827	6,747	7,812	4,936	8,878

Source: Own elaboration

From the data of Tab. 4.4, we can get some information about horizontal common-size analysis of assets, liabilities and equity. We can make a graph form to represent this information, which allows us to get a more specified trend over the period.

Figure 4.4 Horizontal common-size analysis of balance sheet



Source: Own elaboration

Figure 4.4 clearly represents how the assets, liabilities and equity of GSK changed over this period. We can see almost each item related to assets plateau from 2011 to 2014. Except total equity was reduced by one-third, all fall from 8,827 to 4,936 during this period. The decrease arose principally from an increase in the pension deficit and the impact of dividends paid out in the year. During the past five years, liabilities constantly increased, in which other non-current liabilities is £10,656 million at 31 December 2015 (2011 – £626 million). Based on the annual report, we can learn from annexes 1 that 2015 saw a dramatic increase in every item, and the other non-current liabilities include £3,549 million of contingent consideration payable, of which £3,110 million was in respect of the acquisition in 2012 of the former Shionogi-ViiV Healthcare joint venture, and £398 million was payable to Novartis in relation to the Vaccines acquisition during 2015. In addition, £6,287 million related to the present value of the estimated amount payable by GSK in the event of the full exercise of Novartis’ right to require GSK to acquire its 36.5% shareholding in the Consumer Healthcare Joint Venture. In the major deal with Switzerland's Novartis, which will see the two pharmaceutical group trade more than \$20 billion of assets. The transaction, which includes GSK buying Novartis' vaccines business for 7.1 billion dollars, Novartis purchasing GSK's cancer drugs for 16 billion dollars, and the two groups tying up in consumer healthcare.

After analyzing the balance sheet, the absolute changes compared to 2011 in income statement is showed below. Calculation is based on equation 2.6.

Table 4.5 Relative changes compared to 2011 in income statement

	<i>2011</i>	<i>2012</i>	<i>2013</i>	<i>2014</i>	<i>2015</i>
Turnover	100%	-3%	-3%	-16%	-13%
Cost of sales	100%	8%	17%	0%	21%
Selling, general and administration	100%	-1%	-4%	-7%	5%
Research and development	100%	-1%	-2%	-14%	-11%
Royalty and other operating income	100%	166%	157%	-166%	1270%
Total costs	100%	-3%	-1%	-1%	-31%
Gross profit	100%	-5%	-10%	-54%	32%
Non-operating revenues	100%	-84%	-44%	-86%	39%
Non-operating cost	100%	221%	216%	211%	214%
Profit before taxation	100%	-13%	-14%	-61%	37%
Taxation	100%	-13%	-55%	-94%	-4%
Profit after taxation for the year	100%	-13%	3%	-48%	53%

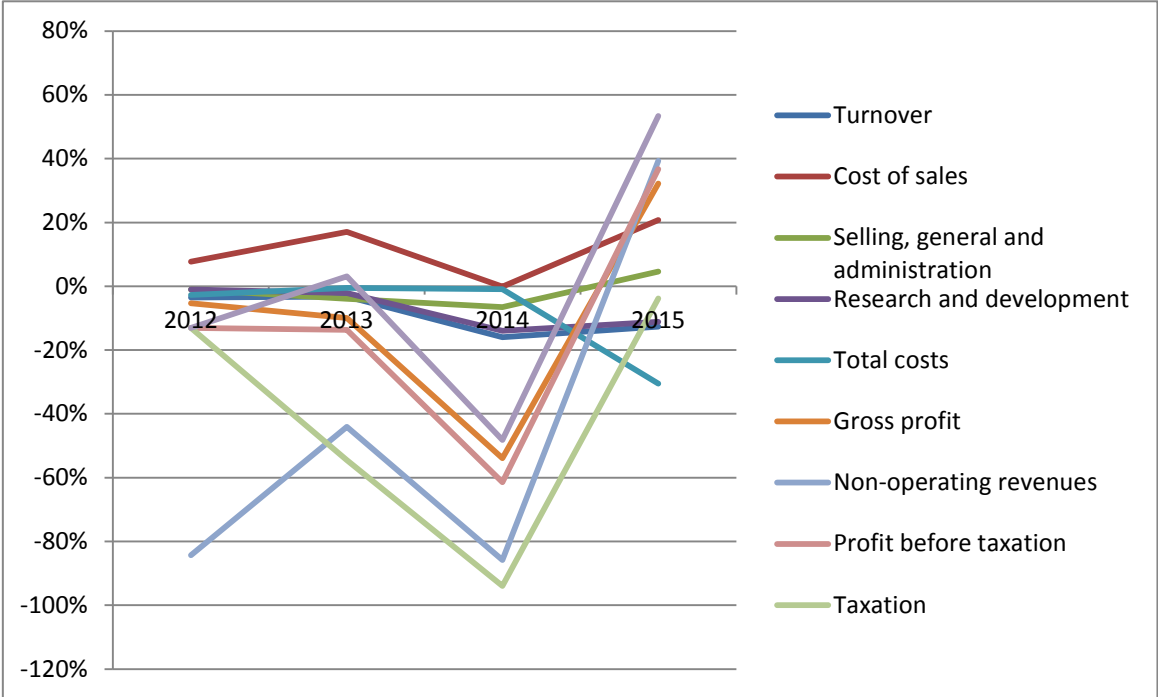
Source: Own elaboration

According to the results given in Tab. 4.5, it is clearly that royalty and other operating income and non-operating cost changed most intense, which is ten times and two times compared to the data in 2011. Two major causes are the decrease of the operating profit and other operating income. To do deep analysis on operating profit, compared with previous data, the drop in operating profit is attributable to the significant growth of other reconciling items between segment profit and operating profit, which comprise items not specifically allocated to segment profit. These include impairment and amortization of intangible assets, major restructuring charges, legal charges and expenses on the settlement of litigation and government investigations and certain other items related to major acquisition and disposal activity. As for other operating income, disposal of businesses and other assets, fair value premeasurements on contingent consideration recognized in business combinations, fair value

adjustments on derivative financial instruments underwent the bigger change.

Based on part of results in Tab. 4.5, we made the followed Fig. 4.5.

Figure 4.5 Relative changes compared to 2011 in income statement



Source: Own elaboration

In Fig. 4.5, the years from 2012 to 2013, each items fluctuation within a narrow range except non-profit revenues and taxation and the company is in a relatively stable state. While in 2014 we saw a dramatic decline in almost every item and the go up in 2015. In 2015, the relative change compared to 2011 of the total cost was -31%, showing a striking decrease thanks to the major deal with Switzerland's Novartis, which lead to a rise in other operating income. As for the trade involving more than \$20 billion of assets, the change also brings about the growth of Profit before taxation and Profit after taxation in 2015.

4.2 Financial ratio analysis

This chapter we will evaluate the GSK Company's financial situation in four aspects, profitability, liquidity, solvency and activity ratios. Before the ratio analysis, we will provide the general situation in pharmaceutical industry in the United Kingdom.

Britain is the world's pharmaceutical industry, and the United States, Japan, one of the world three major drug development centre. According to the British Pharmaceutical Industry Association (ABPI) report, one in five of the world's top 100 prescription drugs is developed in the UK.

The pharmaceutical sector is the main source of surplus, according to European federation of pharmaceutical industries and associations' report, the British pharmaceutical industry in 2014 exports 26,172 million pounds, the trade surplus of 64 million pounds. The research and development investment are also huge, in 2014 British pharmaceutical industry research and development investment reached 4,868 million pounds, accounting for 15,8% of European R&D investment. The United Kingdom also is home to GlaxoSmithKline and AstraZeneca, both of them are the world's top 10 largest pharmaceutical companies. Because of British extensive international investment cooperation, many of the world's top pharmaceutical groups has been attracted, such as Pfizer, Novartis, Lilly and Merck, all of them set up R & D centers and production sites in the UK. In 2014, the number of employees of British pharmaceutical companies reached 64,000.

In order to have a more detailed understanding of GSK's financial situation, in the following analysis, we will compare GSK's financial ratios with the ratios in AstraZeneca and Johnson & Johnson. AstraZeneca plc is a British–Swedish multinational pharmaceutical and biopharmaceutical company with its headquarters in Cambridge, England.

4.2.1 Profitability ratios

In this section, we use three basic ratios to analysis the profitability of GSK, in terms of return on assets (ROA) based on equation 2.9, return on equity (ROE) based on equation 2.10 and net profit margin (NPM) based on equation 2.8. All data are from financial statements of GSK and AZN.

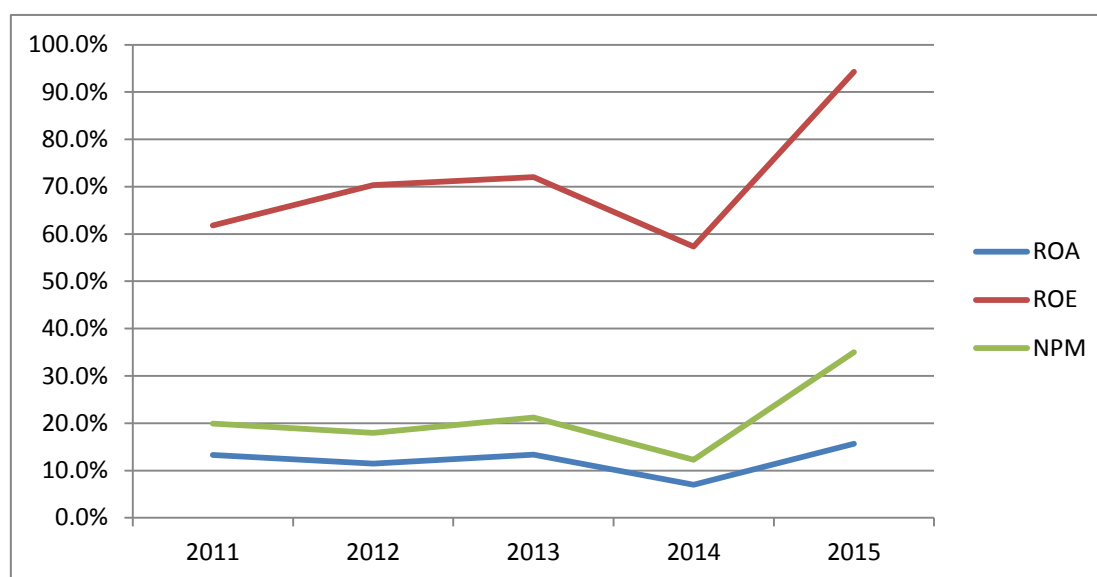
The following table shows the GSK and AZN key profitability ratios between 2011 and 2015.

Table 4.6 Profitability ratio analysis of GSK

	2011	2012	2013	2014	2015
ROA GSK	13.3%	11.4%	13.4%	7.0%	15.7%
ROE GSK	61.8%	70.3%	72.0%	57.4%	94.3%
NPM GSK	19.9%	17.9%	21.2%	12.3%	35.0%
ROA AZN	19.0%	11.7%	4.6%	2.1%	4.7%
ROE AZN	42.7%	26.2%	11.1%	6.3%	15.3%
NPM AZN	29.8%	24.0%	10.0%	4.7%	11.4%

Source: Own elaboration

Figure 4.6 Profitability ratio analysis of GSK



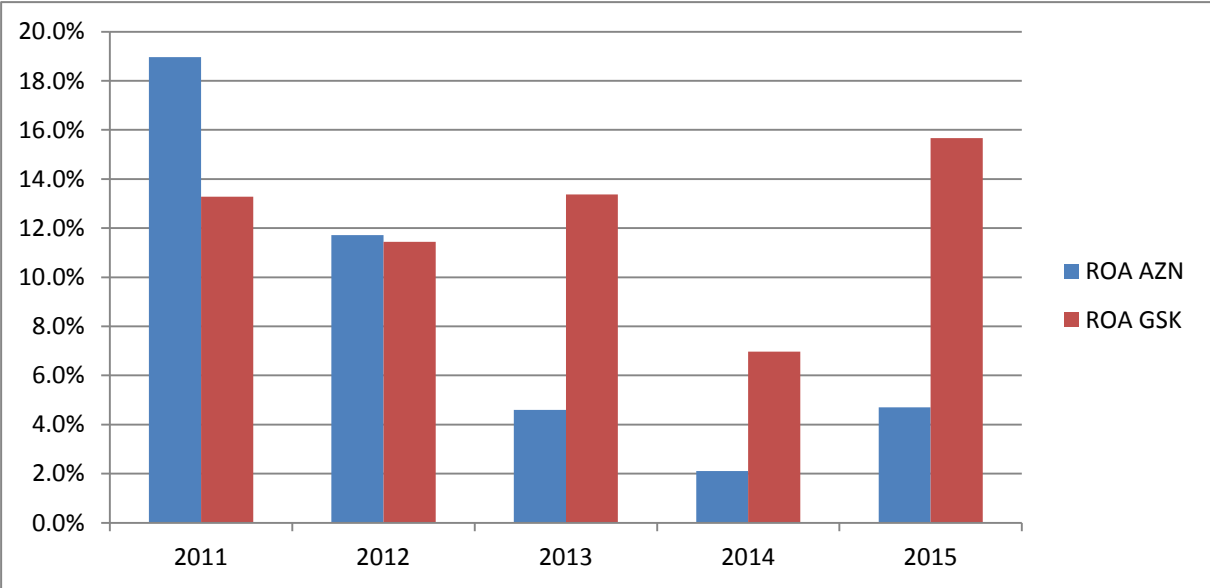
Source: Own elaboration

First, we focus on the results of GSK given in the Tab. 4.6 show that the return on assets and not profit margin were around 13% and 20% respectively, while the return on equity in average was 70%. As it is shown in the Fig. 4.6, in the first three years, three indicators climbed at a modest pace. In year 2014 we saw a steep drop in all indicators, afterwards in 2015, the upward trend is likely to resume, pushing key ratio to reach a new high level. The big fluctuation was caused by the three-part transaction with Novartis, which is a part of the company plan to accelerate strategy of making GSK a simpler, stronger and more balanced platform for long-term growth.

To sum up, the profitability condition of GSK was in a good condition, and in present years, the company will have better develop prospects.

Then we focus on the profitability ratios compare between GSK and AZN, with ROA as an example. Fig. 4.7 presents information about the changes in ROA ratio from 2011 to 2015.

Figure 4.7 ROA compare between GSK and AZN



Source: Own elaboration

It is clear in Fig. 4.7 that ROA ratio in AZN was higher than GSK’s in 2011 and 2012 and the gap became smaller; after 2012, GSK’s figure becomes greater than AZN’s one. In the Fig. 4.7, we can see the trend of these two ratios, GSK and AZN both have shown the decreasing trend during the period between 2011 and 2014 then show the sign of recovery in 2015. This

due to the reason that the two companies in recent years are in the strategic adjustment of the layout, the different is the change in GSK’s data is more gentle, whilst the recovery is faster, the growth is more robust, as shown in the Fig. 4.7, ROA of GSK reached the highest point in 2015. The trend of ROE and NMP in these two companies is similar.

4.2.2 Liquidity ratios

Liquidity ratios are used to analysis a company's availability of cash to pay off its short-terms debts obligations. We take GSK Company’s financial statement 2011-2015 into the calculation as the following table and here are most common liquidity ratio includes:current ratio based on equation 2.11, quick ratio based on equation 2.12 and cash ratio based on equation 2.13.

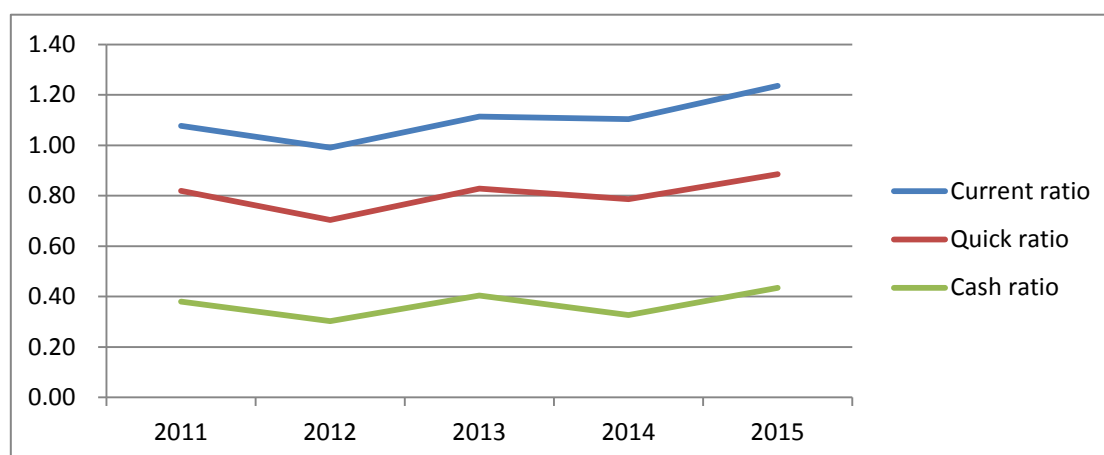
Table 4.7 Liquidity ratio analysis of GSK

	2011	2012	2013	2014	2015
Current ratio GSK	1.08	0.99	1.11	1.10	1.24
Quick ratio GSK	0.82	0.70	0.83	0.79	0.88
Cash ratio GSK	0.38	0.30	0.40	0.33	0.43
Current ratio AZN	3.35	3.85	3.48	3.38	4.04
Quick ratio AZN	3.24	3.70	3.36	3.27	3.90
Cash ratio AZN	0.48	0.55	0.57	0.37	0.42

Source: Own elaboration

Based on the part of data from the Tab. 4.7, the following graph was made.

Figure 4.8 Liquidity ratio analysis of GSK



Source: Own elaboration

We will find a result from the Fig. 4.8 and Tab. 4.7 that despite the fluctuation, the general trend of liquidity ratios was upward. Generally, perfect financial companies, their current assets should be much higher than the current liabilities, at least not less than 1: 1, generally considered greater than 2: 1 is more appropriate. According to the results given in the Tab. 4.7, the current ratios of GSK are higher than 1 in four years, except 2012. The current ratio in 2015 was 1.24 compared 1.08 in 2011, showing an increase of 0.16. As the quick ratio, it is usually believed that if the ratio is less than 1, the short-term solvency is low. And the minimum quick ratio is 0.5 if it keeps at 1: 1, the safety of current liabilities is more secure. Although the general trend of the quick ratio in GSK was upward, the quick ratios were still lower than 1, fluctuating mildly around 0.8. Similarly, the cash ratio ranges from 0.3 to 0.43.

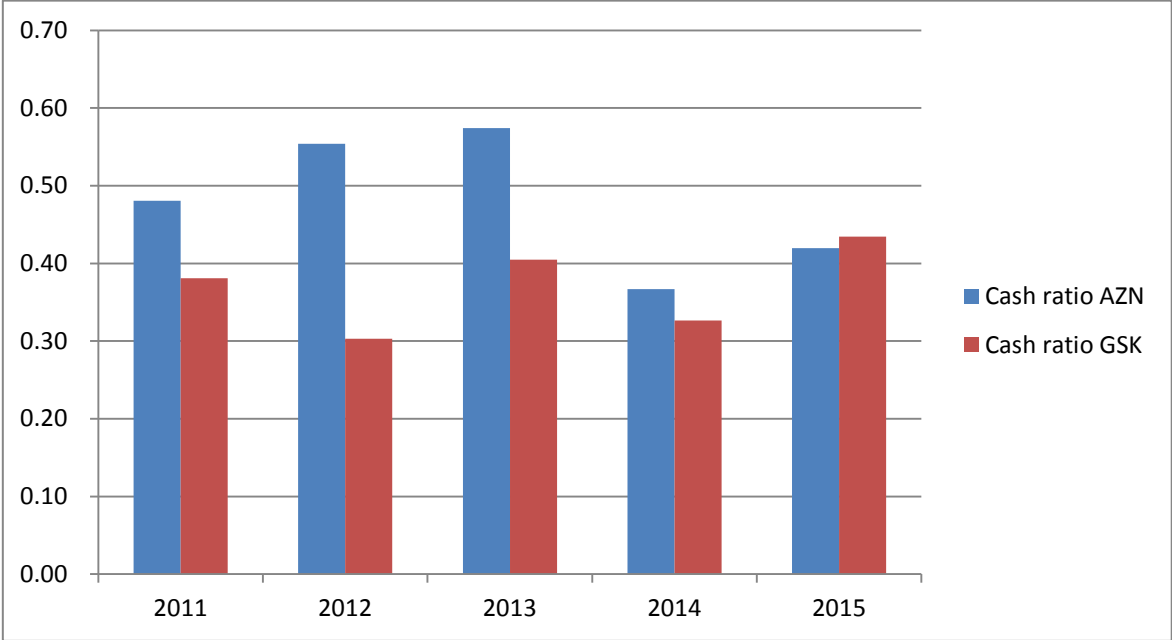
Overall, the liquidity of current assets is getting better, even though the stricter acquirement, such as quick ratio and cash ratio had not been met.

After analyzing the liquidity ratio in GSK, we will have a look for different between the two companies. As shown in the table 4.7, the value of current ratio and quick ratio of AZN are between 3 and 4 while the ratio in GSK is about 1, which means AZN's liquidity situation is far better than GSK. However, the two ratios are not the higher the better, excessive assets relative to the current liabilities indicating that it may be the backlog of inventory or too much cash or both. In AZN, it due to the excessive inventories and trade and other receivables, this

may pose a threat to the company’s future development.

The gap between cash ratios is relatively narrow, as the Fig.4.9 shown below:

Figure 4.9 Cash ratio compare between GSK and AZN



Source: Own elaboration

As shown in Fig. 4.9, the cash ratios of the two companies are relatively low.

The first three years, the cash ratios of AZN are in 0.5 or so, which is very optimistic, 2014 saw a dramatic drop and in 2015 the ratio go up again, but still maintained at a low level, GSK’s cash ratio has a slight change in the past five years, in general, the situation is improving. The two companies should focus on the cash ratios change to prevent the situation that cash shortage leads to cash flow dilemma even capital chain rupture.

4.2.3 Solvency ratios

Solvency ratios evaluate the ability of an enterprise to repay its long-term debt with its assets.

Based on equation 2.14, 2.15 and 2.16, some key solvency ratios of GSK are calculated from data in a financial statement during 2011 to 2015.

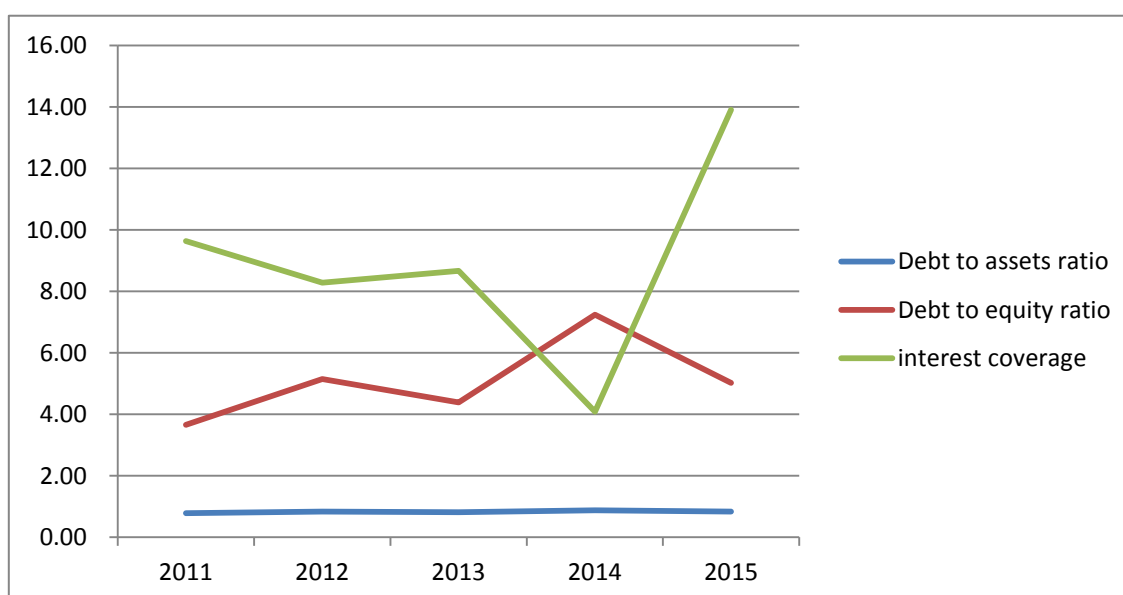
Table 4.8 Solvency ratio analysis of GSK

	2011	2012	2013	2014	2015
Debt to assets ratio GSK	0.79	0.84	0.81	0.88	0.83
Debt to equity ratio GSK	3.65	5.15	4.39	7.24	5.02
Interest coverage GSK	9.63	8.28	8.67	4.08	13.90
Debt to assets ratio AZN	0.56	0.55	0.58	0.66	0.69
Debt to equity ratio AZN	1.25	1.24	1.40	1.98	2.25
Interest coverage AZN	21.86	14.06	6.60	1.29	2.85

Source: Own elaboration

According to Tab. 4.8, we made Figure 4.9 as follow.

Figure 4.9 Solvency ratio analysis of GSK



Source: Own elaboration

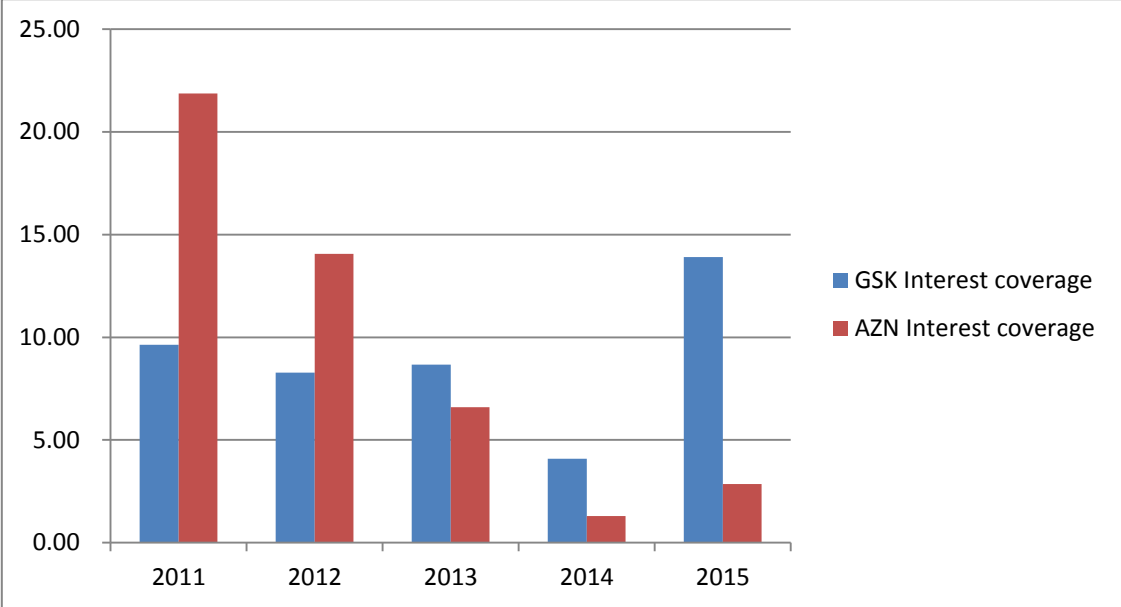
From Tab. 4.8 and Fig. 4.9, we can see that the debt-to-assets ratio plateau for 5 years around 0.8, in other words, 80% of the company's total assets are raised through borrowing thus the company has little net assets or solvency. On one side it means the ability of

companies of using funds of the creditors to carry out business activities is great and on the other hand, it also reflects the degree of security of creditors to issue loans is relatively low. Despite the debt to equity ratio and interest coverage fluctuated wildly during the five-year period, especially in 2014 and 2015 (because of three-part Novartis transaction), in general, they go up.

To summaries, the proportion of debt in all assets is increasing, which pose a threat to financial health, while the interest coverage peaked at 14 or so in 2015 after a transaction with Novartis, there is no need to worry about financial cost in recent years.

To compare the two company’s solvency ratio, here is a figure about two company’s interest coverage ratio in detail.

Figure 4.10 Interest coverage compare between GSK and AZN



Source: Own elaboration

From the information in Fig 4.10, despite the different fluctuation, the trend of two company is similar; the ratios decrease in first four years, then rise up. During the whole period, the interest coverage in GSK and AZN are in the very excellent situation. Combined with other solvency ratios, through the Tab. 4.8, we can also clearly find out the debt to asset ratio and debt to equity ratio in GSK is higher than the ratio in AZN, especially the debt to equity ratio is far more than AZN, which due to the GSK’s high proportion of liability in

company’s capital structure. In theory, the higher asset-liability ratio, the bigger financial risk. When there is insufficient cash flow, the potential funding strand breaks, not timely debt service, leading to the bankruptcy case. The high asset-liability ratio will lead to further financing costs. Both banks and investors have a certain demand for asset-liability ratios. But a high level of interest coverage indicates the GSK has enough profit to pay interest expense, with high profitability as security. Thus may be the reason why the long-term borrowing occupies a large proportion of its total assets.

4.2.4 Activity ratios

The activity ratios are financial ratios used to measure the efficiency of the company's asset management.

The results given in the following table represent the ratio of the inventory turnover based on 2.17 accounts receivable turnover based on 2.18 and total asset turnover based on 2.19 in GSK during fast five years.

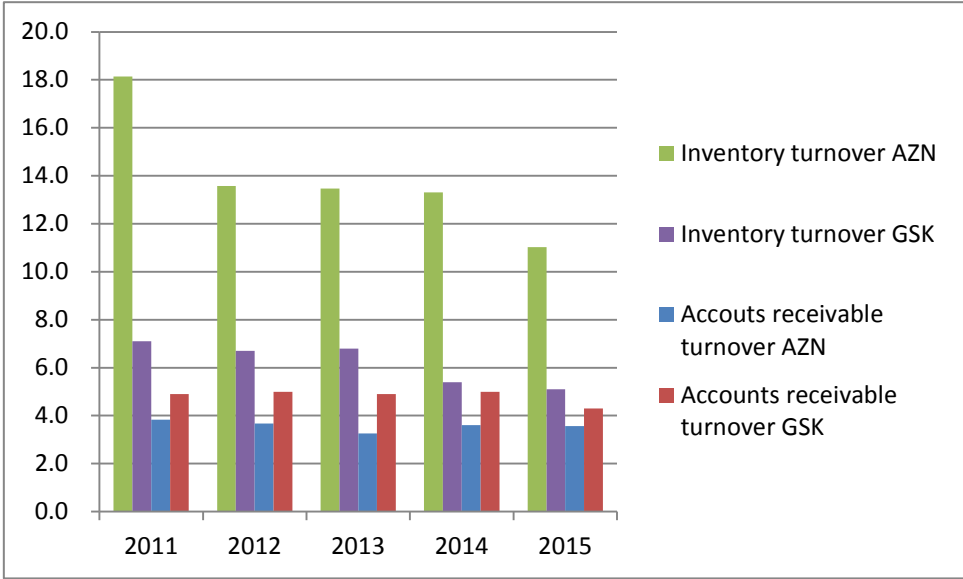
Table 4.9 Activity ratio analysis of GSK and AZN

	2011	2012	2013	2014	2015
Inventory turnover GSK	7.1	6.7	6.8	5.4	5.1
Accounts receivable turnover GSK	4.9	5.0	4.9	5.0	4.3
Total assets turnover GSK	0.7	0.6	0.6	0.6	0.4
Inventory turnover AZN	18.1	13.6	13.5	13.3	11.0
Accounts receivable turnover AZN	3.8	3.7	3.3	3.6	3.6
Total assets turnover AZN	0.6	0.5	0.5	0.4	0.4

Source: Own elaboration

In the Tab. 4.9, we find out the differences in total assets turnover is relatively small, at around 0.5, while the inventory turnover and accounts turnover is shown in the following graph.

Figure 4.11 Comparison between GSK and AZN

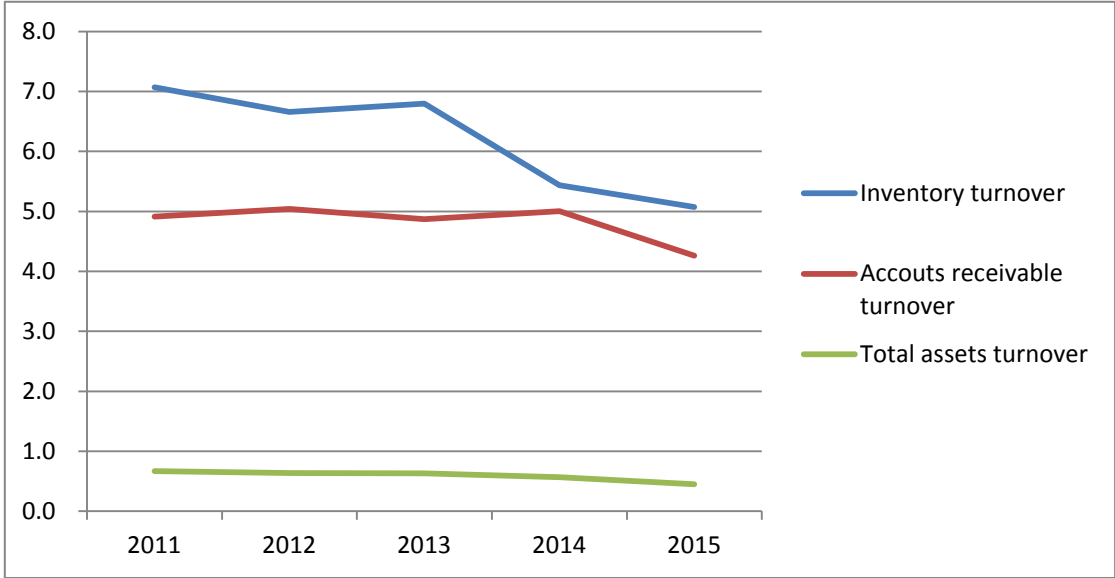


Source: Own elaboration

As it is shown in the Fig. 4.11, AZN has higher inventory ratio whilst GSK has a higher accounts receivable ratio. Higher inventory usually means that a retailer that is able to turn over, or sell, its inventory more often than a rival is a better operator. The receivables turnover ratio indicates the efficiency with which a firm manages the credit it issues to customers and collects on that credit. Because accounts receivable are money owed on a credit agreement without interest, by maintaining accounts receivable firms are indirectly extending interest-free loans to their clients. As such, because of the time value of money principle, a firm loses more money the longer it takes to collect on its credit sales.

Based on the data from Tab. 4.9, we made Fig. 4.12 here as follows:

Figure 4.12 Activity ratio analysis of GSK



Source: Own elaboration

From the Tab. 4.9 and the Fig. 4.12, we can find that all three activity ratios decrease in general during 2011 and 2015. Inventory turnover saw the steepest decrease from 7.1 in 2011 to 5.1 in 2015. Similarly, total assets turnover dropped to 0.4 by a decrease of 0.3 compared to the ratio in 2011. In general, the faster the inventory turnover, the lower the occupancy level of inventory, the stronger the liquidity, the faster the inventory is converted to cash or receivables, indicating that the more efficient inventory management. Raising the inventory turnover rate can improve the company's liquidity. The decrease of inventory turnover means the decline of inventory management efficiency. Accounts receivable turnover stayed at around 5 for four years except 2015, in which the ratio shirked to 4.3.

Though the trend was downward, the inventory turnover and accounts receivable turnover were still in an excellent condition. As the total assets turnover saw a steep drop, it should be paid more attention.

4.3 Pyramidal decomposition

Pyramidal decomposition analysis (DuPont analysis) enables to the analysis of the financial situation of enterprises synthetically, by using the relationship between several major financial ratios. According to DuPont analysis, it is an expression that breaks return on equity (ROE) down into three parts: profit margin, total asset turnover and financial leverage. It means that ROE is affected by three items: Operating efficiency, which is measured by profit margin; asset use efficiency, which is measured by total asset turnover; financial leverage, which is measured by the equity multiplier.

In this part, we use decomposition method of gradual change to analyze indicators and evaluation of how these component ratios affect the ROE of GSK during 2011 to 2015. The absolute change and Index of change of ROE are shown in the Tab. 4.10 as follows:

Table 4.10 Analysis of ROE 2011-2015

	2011	2012	2013	2014	2015
EAT	5458	4744	5628	2831	8372
Total equity	8827	6747	7812	4936	8878
Operating profit	7807	7392	7208	3597	10322
Total assets	41080	41475	42086	40651	53446
ROE	61.8%	70.3%	72.0%	57.4%	94.3%
Absolute change	×	8.5%	1.7%	-14.7%	36.9%
Index of change	×	113.7%	102.5%	79.6%	164.4%

Source: Own elaboration

According to Tab. 4.10, we can see that the absolute change of return on equity is positive in four years except 2014. In general, the return on equity was increased during the period the index change is stable in first two years; then dropped a lot in 2014, and the ratio in 2015 is really high, which are over 150%. It means the main trend about return on equity was upward, but 2014 saw a drop to 57.4%. From this value we can see that GSK Company has a robust

return on equity during the completion of the proposed three-part Novartis transaction and further restructuring and innovation. It means that GSK Company can deliver a stable return on equity and steady earning grows during this period. After 2015, finishing the transaction with Novartis, the situation may even get better. A strong return on equity indicated that GSK Company can sustain its competitive advantage and earnings growth. Although the ROE was decreased in 2014, the percentage of ROE was higher than 50%.

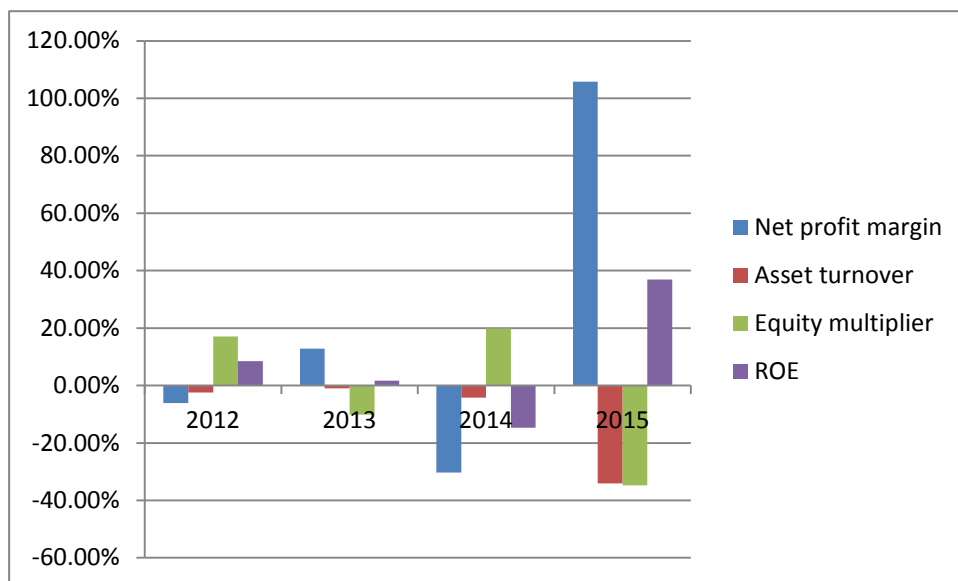
We have known that the four possible ways of quantification the effect of each factor change. In this work, we will only focus on one method, which is the method of gradual changes to analyze.

Table 4.11 Pyramidal decomposition of ROE in GSK

	2011	2012	Δa	ΔROE	ORDER
EAT/REV	0.20	0.18	-2.0%	-6.1%	2
REV/ASSETS	0.67	0.64	-2.9%	-2.5%	3
ASSETS/EQUITY	4.65	6.15	149.3%	17.1%	1
SUM				8.5%	
	2012	2013	Δa	ΔROE	ORDER
EAT/REV	0.18	0.21	3.3%	12.9%	1
REV/ASSETS	0.64	0.63	-0.7%	-1.0%	3
ASSETS/EQUITY	6.15	5.39	-76.0%	-10.2%	2
SUM				1.7%	
	2013	2014	Δa	ΔROE	ORDER
EAT/REV	0.21	0.12	-8.9%	-30.3%	1
REV/ASSETS	0.63	0.57	-6.4%	-4.2%	3
ASSETS/EQUITY	5.39	8.24	284.8%	19.8%	2
SUM				-14.7%	
	2014	2015	Δa	ΔROE	ORDER
EAT/REV	0.12	0.35	22.7%	105.8%	1
REV/ASSETS	0.57	0.45	-11.8%	-34.1%	3
ASSETS/EQUITY	8.24	6.02	-221.6%	-34.7%	2
SUM				36.9%	

Source: Own elaboration

Figure 4.13 Pyramidal decomposition of ROE in GSK



Source: Own elaboration

In Tab 4,11 and Fig. 4.13 we can find out the order of influential, except the period from 2011 to 2012, net profit margin contributed most to ROE change, and the change of net profit margin became more violent, in 2015, the changes of net profit margin contributed 105.8% in total ROE change. Therefore, the company should focus more on the ability of making profit and decrease the costs to improve both revenues and earnings after tax. The followed one is financial leverage and the smallest change comes from asset turnover in the whole period. Because of its high level of profitability the company normally have stable, predictable cash flows and typically carry high debt levels. Nevertheless, GSK should take precautions of financial leverage changes.

5 Conclusion

In this thesis, we focused on the financial analysis of GSK company, before that, we introduced the source of data, the three main statements: balance sheet, income statement and cash flow statement, then explained three methods of financial analysis: common-size analysis, financial ratio analysis and pyramidal decomposition.

The aim of the thesis was to evaluate the financial performance of GSK company for the by the help of annual reports for period 2011 - 2015.

This thesis analyzed the GSK Company's ability to financing, make profits, repaid the funds and other abilities in three methods, including common-size analysis, financial ratio analysis and pyramidal decomposition. Overall, it shows a future perspective of the company.

By analyzing the financial statements of GSK Company, we found there are three main periods in past five years. Before 2014, GSK Company kept a quite stable state, though its revenue decreasing slightly, considering the increasing costs. In 2014, after proposing three-part transaction with Novartis, GSK Company had more volatile changes in reporting materials. On March 2015, GSK and Novartis announced the completion of their major three-part transaction. In 2015 annual report, the most financial analysis indicators go back to normal and even better.

In the common-size analysis we can find that the assets structure keeps stable in general during the last five years. And the liabilities account for around 80%~90% in total assets and the general trend of liabilities proportion was upward. Despite the fluctuation, the general trend of equity proportion was downward. The proportion of shareholder's equity, the largest equity composition part, dropped from 20% to 10%. 2015 saw a dramatic increase in every item due to the major deal with Switzerland's Novartis, which will see the two pharmaceutical group trade more than \$20 billion of assets. The transaction, which includes GSK buying Novartis' vaccines business for 7.1 billion dollars, Novartis purchasing GSK's cancer drugs for 16 billion dollars, and the two groups tying up in consumer healthcare, was unveiled in April.

From financial ratio analysis, we can learn that the profitability condition of GSK was in a good condition, and in present years, the company will have better develop prospects. In

addition, the liquidity of current assets is getting better, even though the stricter acquirement, such as quick ratio and cash ratio had not been met. From solvency ratios analysis, we find that the proportion of debt in all assets is increasing, which pose a threat to financial health, but after the transaction with Novartis the interest coverage peaked at 14 or so in 2015, there is no need to worry about financial cost in recent years. As for activity ratio, though the trend was downward, the inventory turnover and accounts receivable turnover were still in an excellent condition. As the total assets turnover saw a steep drop, it should be paid more attention.

From the pyramidal decomposition of return on equity analysis, we could find out after the transaction with Novartis the ROE reached 36.9%, contributed by 109% increase in net profit margin.

The summary of this thesis suggests that a big and stable developing company, with strong profitability and good prospects. But they still should pay attention to its liquidity, especially the quick ratio and cash ratio. After the big transaction with Novartis, GSK would focus more on vaccines and consumer healthcare. They should pay attention to the distribution of assets in different areas.

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List of Abbreviations

GSK-----GlaxoSmithKline

AZN ----- AstraZeneca

EAT-----earning after tax

EBT-----earning before tax

EBIT-----earning before interest and

ROA-----return on asset

ROE-----return on equity

FLA-----financial leverage

NPM-----net profit margin

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Student's name and surname

List of Annexes

Annexe 1 Balance sheet

Annexe 2 Income statement

Annexe 3 Cash flow

Annexe 1 Balance sheet

Consolidated balance sheet					
	2011	2012	2013	2014	2015
	£m	£m	£m	£m	£m
Non-current assets					
Property, plant and equipment	8,748	8,776	8,872	9,052	9,668
Goodwill	3,754	4,359	4,205	3,724	5,162
Other intangible assets	7,802	10,161	9,283	8,320	16,672
Investments in associates and joint ventures	560	579	323	340	207
Other investments	590	787	1,202	1,114	1,255
Deferred tax assets	2,849	2,385	2,084	2,688	2,905
Derivative financial instruments	85	54	1	-	-
Other non-current assets	525	682	889	735	990
Total non-current assets	24,913	27,783	26,859	25,973	36,859
Current assets					
Inventories	3,873	3,969	3,900	4,231	4,716
Current tax recoverable	85	103	129	138	180
Trade and other receivables	5,576	5,242	5,442	4,600	5,615
Derivative financial instruments	70	49	155	146	125
Liquid investments	184	81	66	69	75
Cash and cash equivalents	5,714	4,184	5,534	4,338	5,830
Assets held for sale	665	64	1	1,156	46
Total current assets	16,167	13,692	15,227	14,678	16,587
Total assets	41,080	41,475	42,086	40,651	53,446
Current liabilities					
Short-term borrowings	-2,698	-3,631	-2,789	-2,943	-1,308
Trade and other payables	-7,359	-8,054	-8,317	-7,958	-9,191
Derivative financial instruments	-175	-63	-127	-404	-153
Current tax payable	-1,643	-1,374	-1,452	-945	-1,421
Short-term provisions	-3,135	-693	-992	-1,045	-1,344
Total current liabilities	-15,010	-13,815	-13,677	-13,295	-13,417
Non-current liabilities					
Long-term borrowings	-12,203	-14,671	-15,456	-15,841	-15,324
Deferred tax liabilities	-822	-1,004	-693	-445	-1,522
Pensions and other post-employment benefits	-3,091	-3,105	-2,189	-3,179	-3,229
Other provisions	-499	-699	-552	-545	-420
Derivative financial instruments	-2	-2	-3	-9	-
Other non-current liabilities	-626	-1,432	-1,704	-2,401	-10,656
Total non-current liabilities	-17,243	-20,913	-20,597	-22,420	-31,151
Total liabilities	-32,253	-34,728	-34,274	-35,715	-44,568

Net assets	8,827	6,747	7,812	4,936	8,878
Equity					
Share capital	1,387	1,349	1,336	1,339	1,340
Share premium account	1,673	2,022	2,595	2,759	2,831
Retained earnings	3,370	652	913	-2,074	-1,397
Other reserves	1,602	1,787	2,153	2,239	2,340
Shareholders' equity	8,032	5,810	6,997	4,263	5,114
Non-controlling interests	795	937	815	673	3,764
Total equity	8,827	6,747	7,812	4,936	8,878

Annexe 2 Income Statement

Consolidated income statement					
	2011	2012	2013	2014	2015
	£m	£m	£m	£m	£m
Turnover	27,387	26,431	26,505	23,006	23,923
Cost of sales	-7,332	-7,894	-8,585	-7,323	-8,853
Gross profit	20,055	-18,537	17,920	15,683	15,070
Selling, general and administration	-8,826	-8,739	-8,480	-8,246	-9,232
Research and development	-4,009	-3,968	-3,923	-3,450	-3,560
Royalty income	-	306	387	310	329
Other operating income	587	1,256	1,124	-700	7,715
Operating profit	7,807	7,392	7,208	3,597	10,322
Finance income	90	79	61	68	104
Finance costs	-799	-808	-767	-727	-757
Profit on disposal of interest in associates	585	-	282	-	843
Share of after tax profits of associates and joint ventures	15	29	43	30	14
Profit before taxation	7,698	6,692	6,647	2,968	10,526
Taxation	-2,240	-1,948	-1,019	-137	-2,154
Profit after taxation for the year	5,458	4,744	5,628	2,831	8,372
Profit attributable to non-controlling interests	197	179	192	75	-50
Profit attributable to shareholders	5,261	4,565	5,436	2,756	8,422
	5,458	4,744	5,628	2,831	8,372
Basic earnings per share (pence)	104.6P	92.9P	112.5P	57.3P	174.3P
Diluted earnings per share (pence)	103.2P	91.5P	110.5P	56.7P	172.3P

Annexe 3 Cash Flow

Consolidated cash flow statement					
	2011	2012	2013	2014	2015
	£m	£m	£m	£m	£m
Cash flow from operating activities					
Profit after taxation for the year	5,458	4,744	5,628	2,831	8,372
Adjustments reconciling profit after tax to operating cash flows	2,255	1,304	2,871	3,453	-3,741
Cash generated from operations	7,713	6,048	8,499	6,284	4,631
Taxation paid	-1,463	-1,673	-1,277	-1,108	-2,062
Net cash inflow from operating activities	6,250	4,375	7,222	5,176	2,569
Cash flow from investing activities					
Purchase of property, plant and equipment	-923	-1,051	-1,188	-1,188	-1,380
Proceeds from sale of property, plant and equipment	100	68	46	39	72
Purchase of intangible assets	-405	-469	-513	-563	-521
Proceeds from sale of intangible assets	237	1,056	136	330	236
Purchase of equity investments	-76	-229	-133	-83	-82
Proceeds from sale of equity investments	68	28	59	205	357
Purchase of businesses, net of cash acquired	-264	-2,235	-247	-104	-3,541
Disposal of businesses	-	-	1,851	225	10,246
Investments in associates and joint ventures	-35	-99	-8	-9	-16
Proceeds from disposal of subsidiary and interest in associate	1,034	-	429	1	564
(Increase)/decrease in liquid investments	30	224	15	1	-2
Interest received	97	30	59	63	99
Dividends from associates and joint ventures	25	46	18	5	5
Net cash inflow/(outflow) from investing activities	-112	-2,631	524	-1,078	6,037
Cash flow from financing activities					
Proceeds from own shares for employee share options	45	58	-	-	-
Shares acquired by ESOP Trusts	-36	-37	-45	-95	-99
Issue of share capital	250	356	585	167	73
Purchase of own shares for cancellation or to be held as Treasury shares	-2,191	-2,493	-1,504	-238	-
Purchase of non-controlling interests	-	-14	-588	-679	-
Increase in long-term loans	-	4,430	1,913	1,960	-

Increase in short-term loans	45	1,743	-	-	-
Repayment of short-term loans	-8	-2,559	-1,872	-1,709	-2,412
Net repayment of obligations under finance leases	-38	-35	-31	-23	-25
Interest paid	-769	-779	-749	-707	-762
Dividends paid to shareholders	-3,406	-3,814	-3,680	-3,843	-3,874
Distributions to non-controlling interests	-234	-171	-238	-205	-237
Other financing cash flows	110	-36	-64	-13	233
Net cash outflow from financing activities	-6,232	-3,351	-6,273	-5,385	-7,103
Increase/(decrease) in cash and bank overdrafts	-94	-1,607	1,473	-1,287	1,503
Cash and bank overdrafts at beginning of year	5,807	5,605	3,906	5,231	4,028
Exchange adjustments	-108	-92	-148	84	-45
Increase/(decrease) in cash and bank overdrafts	-	-1,607	1,473	-1,287	1,503
Cash and bank overdrafts at end of year	5,605	3,906	5,231	4,028	5,486
Cash and bank overdrafts at end of year comprise:					
Cash and cash equivalents	5,714	4,184	5,534	4,338	5,830
Overdrafts	-109	-278	-303	-310	-344
	5,605	3,906	5,231	4,028	5,486