

**Czech University of Life Sciences Prague**

**Faculty of Economics and Management**

**Department of Economics**



**Bachelor Thesis**

**Financial Analysis of Pfizer Inc. Company**

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## BACHELOR THESIS ASSIGNMENT

Thi Phuong Mai Nguyen

Economics and Management

Thesis title

**Financial Analysis of a Pfizer Inc. Company**

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### Objectives of thesis

The primary objective of the thesis is to evaluate the financial state of Pfizer Inc., a pharmaceutical company during the past three years. It is going to be an overall assessment of the company's viability, stability and profitability through applicable methods and outstanding indicators. It could also give an overview of the company's development over years within the chosen period.

The additional purpose of carrying out such a financial analysis is to address any financial issues that may arise and allocate them to the right potential causes. The execution of analysis is mainly based on updated information about financial characteristics of the company and also some external factors that influence the value of the company.

### Methodology

The data used in the thesis is extracted from financial statements collected from most recent years 2016-2018. These include balance sheets, profit and loss statements and cash-flow statements of each year obtained from the company's annual reports and additional data from its official website.

Analyzing and assessing process in the thesis involves horizontal and vertical analysis of financial statements and ratio analysis. The outcome of the financial analysis will be accompanied with explanations and elaborations where necessary. On the basis of theoretical knowledge, main concepts of financial analysis are also reviewed and examined with the company characteristics.

## The proposed extent of the thesis

30- 40 stran

## Keywords

financial analysis, profitability, liquidity, stability, ratios

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## Recommended information sources

BAYE, M. *Managerial Economics and Business Strategy + Data Disk*. 2005. ISBN 9780073050195.

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Prague on 26. 11. 2019

## **Declaration**

I declare that I have worked on my bachelor thesis titled "Financial Analysis of Pfizer Inc. Company" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the bachelor thesis, I declare that the thesis does not break copyrights of any their person.

In Prague on 29.11.2019

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Thi Phuong Mai Nguyen

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## **Financial Analysis of Pfizer Inc. Company**

### **Abstract**

The purpose of the thesis is to assess the financial state of Pfizer's Inc. company during the period 2016-2018. It would give an overview of the company's performance in financial perspective and help provide necessary information for managers, investors and other users to make decisions. The process of analysis and assessment will be executed based on the investigation of the company's financial statements with specific tools and techniques. The structure of the thesis could be viewed generally on two major parts. The first part provides theoretical backgrounds about finance and financial analysis, including a review of main concepts and principles along with different approaches and perspectives on relevant knowledge and methodology. The other part is primarily concerned with practical work on data and figures from the financial statements for chosen period, using the methods mentioned in the first part. The final results would be displayed on either tables or graphs accompanied with interpretations and explanations if necessary.

**Key words:** Financial analysis, vertical analysis, horizontal analysis, financial ratios.

## **Finanční analýza společnosti Pfizer Inc. Společnost**

### **Abstrakt**

Účelem diplomové práce je zhodnotit finanční stav společnosti Pfizer's Inc. společnost v období 2016-2018. Poskytlo by to přehled o výkonnosti společnosti ve finančním výhledu a pomohlo by poskytnout manažerům, investorům a dalším uživatelům nezbytné informace pro rozhodování. Proces analýzy a hodnocení bude proveden na základě prozkoumání účetní závěrky společnosti pomocí konkrétních nástrojů a technik. Strukturu diplomové práce lze obecně vidět na dvou hlavních částech. První část poskytuje teoretická východiska o financích a finanční analýze, včetně přehledu hlavních konceptů a principů spolu s různými přístupy a pohledy na relevantní znalosti a metodiku. Druhá část je věnována praktické práci na údajích a číslech z účetní závěrky za zvolené období za použití metod uvedených v první části. Konečné výsledky by se zobrazily buď v tabulkách nebo grafech rozšířených o interpretace a vysvětlení, pokud je to nutné.

**Klíčová slova:** Finanční analýza, vertikální analýza, horizontální analýza, finanční ukazatele.

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## **List of Abbreviations**

EBIT – Earnings Before Interest and Taxes

EH – Essential Health

GAAP – Generally Accepted Accounting Principles

GFS – Global Financial Solution

IH – Innovative Health

NGOs – Non Governmental Organizations

R&D – Research and Development

ROA – Return On Total Assets

ROE – Return On Equity

U.S. – United States

U.N. – United Nations

# **1. Introduction**

Finance in every business plays a crucial part in enhancing effective operational process. It helps to provide essential support for other departments and business activities. As competition grows, finance becomes more important with financial plans and financial management to promote financial position of the business in the industry.

Developed as a research-based, global biopharmaceutical company from the U.S., Pfizer Incorporation is very concerned about building a strong and healthy financial system. I have got an opportunity to be involved in one of the company's processes for global financial solution (GFS) in Prague. I find myself interested in this field and desire to do a financial analysis of the company.

The main focus of the thesis is evaluating the performance of Pfizer Inc. company and its financial health over three years (2016-2018) through relevant indicators and analysis of the interrelation among major components of financial statements. The results based on the analysis and evaluation would be useful information for managers, investors and other users to make decisions. The structure of the thesis could be viewed generally on two major parts. The first part provides theoretical backgrounds about finance and financial analysis, including a review of main concepts and principles along with different approaches and perspectives on relevant knowledge and methodology. The other part is primarily concerned with practical work on data and figures from the financial statements for chosen period, using the methods and measurements mentioned in the first part. The final results would be displayed on either tables or graphs accompanied with interpretations and explanations if necessary. In addition, some basic information about the company is also included in this part.

## **2. Objectives & Methodology**

### **2.1. Objectives**

The primary objective of the thesis is to evaluate the financial state of Pfizer Inc., a pharmaceutical company during the past three years. It is going to be an overall assessment of the company's viability, stability and profitability through applicable methods and outstanding indicators. It could also give an overview of the company's development over years within the chosen period. The assessing process should be in line with an insight into the interrelation of relevant financial elements.

The additional purpose of carrying out such a financial analysis is to address any financial issues that may arise and allocate them to the right potential causes. The execution of analysis is mainly based on updated information about financial characteristics of the company and also some external factors that influence the value of the company.

### **2.2. Methodology**

Analysis conducting largely employs data from financial statements collected from most recent years 2016-2018. These include balance sheets, profit and loss statements and cash-flow statements of each year obtained from the company's annual reports and additional data from its official website.

Analyzing and assessing process in the thesis involves horizontal and vertical analysis of financial statements and ratio analysis. The outcome of the financial analysis will be accompanied with explanations and elaborations where necessary. On the basis of theoretical knowledge, main concepts of financial analysis are also reviewed and examined with the company characteristics.

### **3. Literature Review**

#### **3.1. Financial Analysis**

In today's competitive business world, when the development of business models is increasingly diverse and expanding, managers are struggling to find the right direction and keep the business alive. Among various decisions brought forward aiming to generate earnings, deal with internal or external partners, to ensure operational efficiency and managerial effectiveness, etc. the decision on financial allocation, mobilization and management is essential. In order to see how well a company is doing or what results from some business activities would be or any potential growth in the future, we usually look at the company's financial conditions commonly based on analyzing and evaluating numerical data and financial figures, which is in general referred to as '*financial analysis*'. The analysis is a source of information about the company's *stability, solvency, liquidity and profitability*. Financial data are employed and analyzed to assess a company's performance and make recommendations for improvement and development. A key aspect of financial analysis is that it should be done systematic and efficient. Judgements made about performance and value are relative to the standards and perceptions of the analyst; comparable data assist in confirming these judgments. (Helfert, 2001, p.54)

Financial management uses financial analysis in order to assess financial state and operating performance of a company, a business or an industry. It also includes future performance forecast and guidance along with examining risk and expected return (Frank J. Fabozzi, 2003).

Financial analysis is intended to serve the demand of the users or conductor of the analysis from overall assessment to final decision-making. That means, on the basis of findings or results obtained during analysis, managers or other users of financial statements would have a better review of company's performance specifically and then would make any adjustments or create relevant strategies to enhance the strengths as well as to improve the weaknesses, which is obviously supporting the company's objectives in a specific time. Beside reviewing operating data and evaluating business performance, financial analysis also involves anticipating economic trends and supporting plans or policies creation for business activities (Investopedia.com, 2019).

From an investor's point of view, financial analysis is used to evaluate his investment by measuring the company's value, which relies on the cash flow being generated in the future. With a goal of maximizing the company's value, managers should get to know if the cash flow available would be enough to cover costs and compensate the risk and liabilities from creditors in the next coming periods.

Other decision-making settings where financial analysis can be applied:

- Assigning credit ratings or extending credit for a short-term period (for example, a bank loan used to finance accounts receivable or inventories) or a long-term period (for example, a bank loan used to finance the acquisition of property, plant, or equipment);
- Evaluating the operational performance and financial health by a supplier, customer, competitor, or employer;
- Managing and reporting outcomes to investors, creditors, employees, and other stakeholders;
- Consulting with a firm and offering helpful strategic advice;
- Assessing firms for potential acquisitions or mergers or divestitures;
- Valuing a firm in the initial public offering of its stock;
- Making a judgment about potential damages in a lawsuit (James, Clyde, 2010, p.2).

### **Financial Analysis Users**

Users of financial statement analysis might be different. They can be classified into, for instance, internal and external users. Internal users are those who are involved in the management of the company, responsible for making decisions based on findings from financial analysis. On the other hand, external users such as investors, creditors, government, customers, employees, the public, etc. refer to people who own some interest of the company though not to be necessarily engaged in the company's operations and activities.

Financial analysis results can be used in various ways by several concerned entities, who might be divided into two suggested groups below:

First group includes:

- stockholders of the company;
- lenders and investors, who collect necessary financial information from the analysis to estimate the risks of giving credits to the company and evaluate the efficiency of their investments;
- customers and suppliers, who care about the reliability and trustworthiness of their relationships with the company;
- taxing entities, who are interested in the likelihood of a firm's bankruptcy;
- managers, who are aware of financial condition of the company, operational efficiency and management effectiveness (Finstanon.com, 2019).

Second group includes:

- audit authorities;
- financial consultants, who provide investing suggestions for their clients based on the results of the financial analysis;
- lawyers, who need the information to investigate the execution of contracts' terms and conditions;
- press and information agencies, who use the financial analysis to prepare reviews of past performance, forecast of trends and future development, and even make comparison among companies and industries (Finstanon.com, 2019).

### **Problems with Financial Statement Analysis**

While financial statement analysis is an excellent tool useful for assessment and evaluation, there are some issues with the interpretation of the analysis results, which include:

- ✓ ***Period Comparison:*** the results of analysis might be changed due to the change in accounts that store financial information when financial statements are being prepared. For instance, an expense may arise in cost of sales in one period, and again in other sorts of expenses like selling and administrative expense;
- ✓ ***Company Comparison:*** financial ratios are commonly use to compare two or a group of companies, usually within a sector or an industry. Nevertheless, each company has its own standards of presenting financial information and sometimes the information

would be allocated differently and might be affected by changing accounting standards by the region where the company is located. This might cause misleading conclusions or interpretations about the results when comparing a company to other similar companies;

✓ **Operational Information:** financial analysis is mainly conducted on the basis of financial statements, which provide information relating to company's finance through some indicators. Other indicators with respect to operation, marketing, management etc. (for example, the size of the order backlog, or changes in warranty claims) cannot be found in a financial analysis (Accountingtools.com, 2017).

### **3.2. Financial Statements**

The key source of information for financial analysis is the financial statements. By looking at these statements, we will obtain a good picture of how a company is doing and have necessary information to assess a company's future earnings and then the cash flow expected to result from those earnings.

Each of the statements gives a slightly different view of a company's financial conditions, though they closely interrelate. The preparation of financial statements are implemented through accounting process according to a set of standards, referred to as generally accepted accounting principles (GAAP), with the aim to communicate financial information to both internal and external users.

Three main types of information presented in financial statements include information about performance, financial position and cash flow of the company. Performance information shows the ability to manage assets effectively and efficiently. Financial position refers to economic resources controlling, liquidity and solvency. Information about cash flow involves the assessment of a company's operating, investing and financing activities and effect on cash flow itself (Frank J. Fabozzi, 2003, p.138).

#### **3.2.1. The balance sheet**

Also referred to as *the statement of financial condition* or *the statement of financial position* displays the resources of a firm (assets – what it owns) and the claims on those resources (liabilities and shareholders' equity – how these assets are financed), which illustrates your business's net worth at a particular point in time—usually the end of the



firm's fiscal year. The balance sheet derives its name from the fact that it reports the following balance, or equality:

$$\textit{Assets} + \textit{Liabilities} = \textit{Shareholders' Equity}$$

*“The recorded value of the total assets invested in the business at any point in time must be matched precisely by the recorded liabilities and owners' equity supporting these assets”.* (Helfert, 2001, p.38)

The balance sheet views resources from two perspectives: a list of the specific resources the firm holds such as cash, inventory, and equipment and a list of the persons or entities who provide the funds to finance the business and therefore have claims on the assets (for example: suppliers, employees, governments, financial institutions, and shareholders). The data included in a balance sheet help to track company's performance and assist identifying what needs improving and ways to build up finances.

Managers also reviews balance sheets with the aim to determine how to meet financial obligations and figure out the best ways to use credit to finance operations.

**Assets:** *Assets are probable future economic benefits obtained or controlled by a particular entity as a result of past transactions or events* (James, Clyde, 2010, p.22).

Assets are resources that have the potential to provide a firm with future economic benefits: the ability to generate future cash inflows (from accounts receivable, inventories, and investment securities) or to reduce future cash outflows (from prepayments) or to provide future service potential for operating activities (as with property and equipment and intangibles). Thus, asset recognition depends on managers' expectations for future economic benefits. This benefit may be achieved through enhanced purchasing power (decreased expenses), revenue generation or cash receipts (Learn.marsdd.com, 2019).

The assets portion of the balance sheet reports the effects of a firm's operating decisions mostly those involving assets consumed for day-to-day business to produce and deliver goods and services to customers and investing decisions, those that involves financial assets to generate interest income, dividends, and other returns on investment.

**Liabilities:** *Liabilities are probable future sacrifices of economic benefits arising from present obligations of a particular entity to transfer assets or provide services to other entities in the future as a result of past transactions or events* (James, Clyde, 2010, p.24).

In other words, liabilities are amounts that the company owes and will have to settle in the future, which reflects the funds for assets as debt claims (liability). Liabilities represent a firm's obligations to make future payments as a result of a past transaction or event. They are the company's responsibilities to creditors in the form of future cash outflows. Liabilities show managers' expectations of future resources consumption in order to fulfil current obligations (James, Clyde, 2010, p.24).

**Equity:** *Also called **shareholders' or stockholders' equity**, reflects ownership.*

The shareholders' equity in a firm is a residual interest or claim. That is, the owners have a claim on all assets not required to meet the claims of creditors. In other words, the equity of a firm represents the part of its value that is not owed to creditors and therefore is left over for the owners. Therefore, the valuation of assets and liabilities in the balance sheet determines the valuation of total shareholders' equity

The liabilities and shareholders' equity portion of the balance sheet reports obligations that arise from a firm's operating decisions (involving obligations to pay employees and suppliers of goods and services) and financing decisions (raising debt capital from banks and other lenders as well as raising equity capital from investors in common stock).

The company engages in daily business operations with the aim to generate revenues and create assets, but to do so, the company must consume resources and incur obligations. The balance sheet is the summary of the firm's financial position at the end of each period, which summarizes the results of the operating, investing, and financing activities.

#### **Limitations of balance sheet report:**

For some reasons, the balance sheet may provide incomplete measures of the economic position of the firms:

✓ Cash flows of a company in some cases much relies on intangible assets that is difficult to identify the estimated amount of acquisition cost. Those assets can be, for instance, a patent for technological company or a brand name for textile products, etc.;

- ✓ Market value of some assets may be much different from their amounts presented in financial statements;
- ✓ The capabilities of utilizing some resources and responsibilities for making repayments in the future may not be included in the statements while still acting as liabilities and assets of the company (James, Clyde, 2010, p.26).

### **3.2.2. The income statement**

Sometimes also known as *the profit-loss statement* provides information about the profitability of a firm for a period of time. It summarizes the operating results of the business by matching the revenue earned and expenses incurred to earn that revenue during a particular period of time (Accountingformanagement.org, 2019).

Revenues indicate the assets inflows and the obligations clearing from the sales of goods and services. In contrast, expenses show the outflows of assets consumed and the arising obligations from the business activities or operation to generate revenues (James, Clyde, 2010, p.27).

Revenues could be referred to as gross income or sales earned by the company during a period while expenses is a general term for the cost of goods and services. Net income is the remaining after excluding expenses from revenues. As a measure of performance, revenues show the earnings generated by a firm and expenses report the assets and other resources consumed.

The income statement can be utilized in examining the increase or decrease in sales or revenues in a period in comparison with other periods. Investors can evaluate the effectiveness in company's management in controlling expenses so that they can expect more profits generated thanks to cost reduction in the upcoming periods (Investopedia.com, 2019).

Although income statement is crucial to evaluate the success of business activities in terms of profitability, it has its own limitations. One noticeable limitation is that the accounting process is based on various assumptions and estimates (for example, Depreciation), which results in inaccurate net income.

### **3.2.3. The statement of cash flows**

It reports the overall net increase or decrease in cash for the firm during a period from operating, investing, and financing activities, which includes all the sources and uses of cash.

Unlike the accrual basis in income statement and balance sheet, the cash flow statement provides additional information about firm's finance conditions by demonstrating how cash flows into and out of a company. It helps users to assess the likelihood of a company to remain solvent so that they can make informed decisions. By evaluating the company's past performance, a forecast of company's capability to generate future cash flows could be made.

***Operating activities*** are involved in the provision of goods and services. Assessing operational cash flow over years reveals whether operating activities create sufficient amount of cash to maintain operations and whether the company has to rely on other sources for cash (James, Clyde, 2010, p. 34).

***Investing activities*** are those associated with the acquisition and disposal of long-term resources used in production, selling or administration. It can be either purchasing new assets or selling long-term assets as they wear out though these two portions of cash flows barely make up for each other. The company needs to obtain more cash from other sources to cover the cost of new assets.

***Financing activities*** relate to the raising capital to carry out these two activities above. A company can attract more funds from issuing shares or stock or borrowing from banks or financial institutions and repays these loans or pay dividends.

The statement of cash flows is an important tool in financial management, especially in managing the movement of funds. It is a complement to balance sheet and income statement helping users assess the company's performance. However, it has its own function, cannot be a substitute to other statements. One important fact should be taken into account is cash flow statement does not present the net income since it does not consider non-cash items. Consequently, it is not suitable of evaluating the profitability and liquidity from the statement of cash flow alone.

### 3.3. Financial Analysis Methods

#### 3.3.1. Horizontal Analysis

**Horizontal Analysis** involves taking the financial statements for a number of years, lining them up in columns, and comparing the changes from year to year (Oreilly.com, 2019).

The figures for each period can be demonstrated in form of percentage with the base year (usually starting or earliest year). The number for the baseline year is always set up as 100%. Dynamic analysis or trend analysis is another way to express this sort of analysis. The formula for calculation (Readyratios.com, 2017):

$$(1) \text{ Absolute change} = \text{Value (t)} - \text{Value (t0)}$$

$$(2) \text{ Percentage change} = [\text{Value (t)} / \text{Value (t0)}] \times 100$$

Horizontal analysis is the comparison of financial information of a company with historical financial information of the same company over a number of reporting periods. It could also be based on the ratios derived from the financial information over the same time span. The main purpose is to see if the numbers are high or low in comparison to past records, which may be used to investigate any causes for concern (Cleverism.com, 2019).

It is reviewing and comparing the dynamics of the same indicators and making conclusions on company's performance over time (Finstanon.com, 2019).

Horizontal analysis can help provide an outlook of the future expected amounts of line items. The data for the analysis is arranged by period, but the data in each succeeding period can also be expressed as a percentage of the amount in the baseline year (Accountingtools.com, 2017).

A problem might occur while doing horizontal analysis is that the data gathered from financial statements can be changed over years when there is a shift in the chart of accounts, which leads to some differences likely realized in checking account balances from one period to another (Accountingtools.com, 2017).

### 3.3.2. Vertical Analysis

**Vertical analysis** is the proportional analysis of a financial statement, where each line item on a financial statement is listed as a percentage of another item.

For income statement analysis, the base amount is revenues represented as 100%. For balance sheet analysis, total assets, or total equity and liabilities, should be considered as the base amounts. When the absolute amounts of analyzed items are transformed into percentages, they are called common-size financial statements (Opentextbooks.org.hk, 2019).

Vertical analysis is typically used within a financial statement for one period, the proportions of different items are compared more easily. Vertical analysis can play a role of viewing trends or tendency which shows the increase or decrease in the contribution from year to year (Accountingtools.com, 2017).

### 3.3.3. Ratio analysis

**Financial ratio** is an indicator that expresses the value of one financial variable to another. In ratio analysis, some selected line items in financial statements will put together to compare among themselves. The interpretation of the ratios should be in line with potential causes from either business activities or such external factors as market price, tax, exchange rate, etc. (Krishna, Paul, Victor, 2003, p.317).

*Ratios are comparative measures that indicates relative value.* Thus, users are able to compare information between two items without concerning about their different units as to be in absolute amount. Instead, proportion in percentage would be something in common that the comparison relies on. Ratios should be used in combinations to truly reflect changes in financial conditions during a period. Ratios may be used to investigate:

- The relationship between two ratios;
- The company's past and current performances over years;
- The company's performance to other similar companies in the industry;
- The company's performance to its objectives (Gallagher, 2003, p.95).

Managers, creditors, stockholders and also financial analysts are among of those entities that most use financial ratios for the company's analysis. Creditors may care more about company's liquidity with available cash flows to repay its debt and interest,

stockholders are more likely to be interested in the long term returns on their equity investment (Gallagher, 2003, p.95).

**Some cautions** needed to be considered before using ratio analysis is that ratios with large deviations from the norm only indicate symptoms of a problem, it does not provide conclusive evidence as to the existence of a problem. Moreover, inflation factor causing different book values of inventory and depreciable assets can affect final results (Gitman, 2005, p.52-53).

The fundamental financial ratios that tell us about different aspects of company's financial health are put in four main categories: profitability, liquidity, debt, asset activity.

### 3.3.3.1. Profitability Ratios

*Profitability ratios measures how company's returns compare with its sales, asset investment, and equity.*

#### **Gross Profit Margin**

This ratio indicates how much gross profit remains out of each sales after the company has paid for its goods, which is computed as follows:

$$\text{Gross profit margin} = (\text{Sales} - \text{Cost of goods sold}) / \text{Sales} = \text{Gross profit} / \text{Sales}$$

Higher ratios would suggest that the cost was better controlled in relation to sales revenues. Because prices, costs and volume are inputs for computing the gross profit margin, both internal and external factors including price premium in the market and production efficiency have great influence on the ratio (Krishna, Paul, Victor, 2003, p.324).

#### **Operating profit Margin**

The ratio shows how much gross profit remains out of each sales after removing all operating expenses other than interest, taxes and preferred stock dividends. It is calculated by dividing earnings before interest and taxes (EBIT or operating income) by sales revenue. A high operating profit margin is preferred. (Gitman, 2005, p.63)

$$\text{Operating profit Margin} = \text{EBIT} / \text{Sales}$$

### **Net profit Margin**

Similarly, the ratio presents the percentage of profit generated in relation to sales after all expense including interest, taxes and preferred stock dividends deducted. It is also preferable if the ratio appears high.

$$\text{Net profit margin} = \text{Net income} / \text{Sales}$$

### **Return on Total Assets (ROA)**

It measures how much income each dollar of assets produces on average. It shows whether the business is employing its assets effectively to generate profits. Here is the calculation:

$$\text{Return on total assets} = \text{EBIT} / \text{Total assets}$$

### **Return on Equity (ROE)**

The ratio indicates the average return on the company's capital contributions from its owners. That means how many dollars of income were produced for each dollar invested by the common stockholders. (Gallagher, 2003, p.98). ROEs between 15% and 20% are considered desirable. It is also important to note that ROE can be adjusted by leverage or debt dependency. The formula for ROE is shown as follows:

$$\text{Return on equity} = \text{Earnings available for common stockholders} / \text{Common stockholders' Equity}$$

#### 3.3.3.2. Liquidity Ratios

Liquidity ratios *measure the ability of a firm to meet its short term obligations.*

It involves how the liquid assets could be readily converted into cash in case of default. These ratios helps creditors to decide short term credit to a company should be extended or not. Stockholders would more like to see how assets were invested, was it too much in current assets compared to in long-term assets (Gallagher, 2003, p.100).

Since a common precursor to financial distress and bankruptcy is low or declining liquidity, these ratios are viewed as good leading indicators of cash flow problems (Gitman, 2005, p.54).



### **Current Ratio**

Current ratio compares all the current assets with all the company current liabilities. It is expressed as follows:

$$\text{Current Ratio} = \text{Current Assets} / \text{Current Liabilities}$$

Generally, the larger this ratio, the better the position of the company. Creditors suppose that a large excess of current assets over current liabilities helps protect claims. On the other hand, an excessively high current ratio might indicate poor inventory management as large inventory holdings appears too much more than current needs.

As suggested by a common rule, it seems to be safe for a company if its current ratio should fall around 2/1 favorably. *The problem with this concept is that the current ratio does not reflect the dynamics of a going concern since it measures a static condition and evaluates a company in case of liquidation only* (Helfert, 2001, p.127).

### **Quick Ratio**

It is similar to the current ratio but excludes inventory (generally the least liquid current asset) from current assets. The ratio is calculated as follows:

$$\text{Quick Ratio} = (\text{Current Assets} - \text{Inventory}) / \text{Current Liabilities}$$

The key concept here is to test the collectability of current liabilities in the case of a real crisis, on the assumption that inventories would have no value at all (Helfert, 2001, p.128). The quick ratio becomes more important to measure overall liquidity only when a company's inventory is hard to liquidate. If inventory is liquid, the quick ratio would not be as useful as the current ratio (Gallagher, 2003, p.101).

#### 3.3.3.3. Debt Ratios

Debt ratios aims to *assess the relative size of a company's debt load and its ability to pay off the debt*. Creditors or lenders are particularly concerned about debt ratios as a measurement of risk exposure. When a company is going to be in some financial trouble with high debt ratios, it leads to a high risk for creditors who are directly related to those claims.

### **Debt to Total Assets**

It measures *the percentage of the company's assets that is financed with debt* (Gallagher, 2003, p.101).

$$\text{Debt to Total Assets} = \text{Total Debt} / \text{Total Assets}$$

This ratio reflects the proportion of “*other people's money*” to the total claims against the assets of the business. Higher ratios can suggest more risk for creditors to get their debts repaid (Helfert, 2001, p.128-129). In contrast, stockholders are likely to see *more leverage since it magnifies expected earnings* (Brigham, 2007, p.129).

### **Interest Coverage**

The ratio describes *the firm's ability to make contractual interest payments* (Gitman, 2005, p.60). It reflects a company's debt service, which is supposed to be primarily financed with operating income (Helfert, 2001, p.131). The computation of the ratio appears as follow:

$$\text{Interest Coverage} = \text{EBIT} / \text{Interest}$$

Since interest is paid pre-tax, the company's ability to pay interest is not affected by taxes. That is the reason why EBIT (Earnings before interest and taxes) is being used instead of net income (Brigham, 2007, p.130).

#### 3.3.3.4. Activity Ratios

This group of ratios are designed to determine whether the amount of each type of assets to be reasonably enough (not too high or too low) regarding the sales level. Because exceeding capital poured into assets investments will highly lead to declining free cash flow and then stock price. In other extreme case, insufficient assets would consequently reduce sales, resulting in low profitability (Brigham, 2007, p.126). Similar function to the previous ratios, the turnover ratios also serve as one of several clues that can indicate favorable or unfavorable performance.

### **Total Assets Turnover**

This ratio indicates *the efficiency with which the firm uses its total assets to generate sales*. In general, if a company has a higher total asset turnover, it can be implied that it

utilizes its assets more efficiently (Gitman, 2005, p.57). The general formula for this ratio calculation is:

$$\text{Total Assets Turnover} = \text{Sales} / \text{Total Assets}$$

### **Inventory Turnover**

The ratio tells us *how efficiently the company converts inventory to sales* (in how many times during a given period). The low value of ratio could be accounted for either lack of demand for selling inventory or excessive inventory (Gallagher, 2003, p.103). It is commonly calculated as follow:

$$\text{Inventory Turnover} = \text{Cost of goods sold} / \text{Inventory}$$

## 4. Pfizer Company

### 4.1. History & Financial Overview

Pfizer was founded in 1849 by cousins Charles Pfizer and Charles Erhart in Williamsburg section of Brooklyn and started its manufacture with tartaric acid and cream of tartar. Their first product is a palatable form of *santonin* - an anti-parasitic used to treat intestinal worms, a common affliction in mid-19th century America. Combining their skills, Pfizer, a chemist, and Erhart, a confectioner, blend *santonin* with almond-toffee flavoring and shape it into a candy cone. The "new" *santonin* is an immediate success and the company is launched (Pfizer.com, 2019).

By 1868, the company had managed to exert their influence with increased product line and 150 new employees. It bought and renovated a post-Revolutionary-era building at 81 Maiden Lane in Manhattan and moved its headquarters there. The site carried the **Pfizer** name for nearly a century (Pfizer.com, 2019).

In 1880s, the demand for *citric acid* increased substantially as a result of growing popularity of Coca-Cola™, Dr. Pepper™, and Pepsi-Cola™. That created such a great opportunity for Pfizer to become the leading producer in America. *Citric acid* turned into Pfizer's main product and continued its growth in the following decades (Pfizer.com, 2019).

Pfizer marked its expanding success in 1938 with the production of *vitamin B-2*, or *riboflavin*, and eventually developed a vitamin mix that includes *riboflavin*, *thiamin*, *niacin*, and *iron*. After that, the company moved on to producing *vitamin A* and *vitamin C* and soon became the leader in vitamin production (Pfizer.com, 2019).

Under the foundation of *citric acid* research and manufacture from previous years, Pfizer carried on its achievement in a new area by pioneering the mass production of *citric acid* from sugar through mold fermentation. This footstep enabled the company to be independent on European citrus growers. In the years that followed, Pfizer expanded to mass-produce *penicillin*, an important drug being used in World War II (Pfizer.com, 2019).

In 2002, Pfizer was recognized the first U.S. pharmaceutical company to become a member of U.N. Global Compact, an international network that promotes good corporate citizenship based on partnerships between companies, U.N. agencies, non-governmental organizations (NGOs), trade unions and academic institutions.

From 2002 until now, Pfizer enhances its influence in global business and stock markets by successfully merging Warner-Lambert and Pharmacia to existing company. Pfizer has become one of the most diversified companies in the health care industry worldwide (Pfizer.com, 2019).

Pfizer is now one of the world's largest pharmaceutical firms, with revenue of over \$50 billion annually. Pfizer ranked No. 57 on the 2018 Fortune 500 list of the largest United States corporations by total revenue (Fortune.com, 2018).

Pfizer also spends an enormous amount on research and development, close to \$8 billion per year. Pfizer sells its products globally, mostly prescription drugs and vaccines for healthcare, with international sales representing up to 50% of its total sales. Pfizer has currently nine blockbusters, which are drugs that generate more than \$1 billion revenues during one year (Advfn.com, 2019).

#### **4.2. Business Areas**

*Pfizer, Inc.* is a fast growing company in the pharmaceutical industry worldwide. Well known with research-based drug making, the company is engaged in discovering, developing and manufacturing healthcare products which includes animal and consumer health. The company's commercial operations are divided into two business segments: *Pfizer Innovative Health* (IH) and *Pfizer Essential Health* (EH). IH is responsible for medicines and vaccines development and commercial activities. IH therapy covers internal medicine, vaccines, oncology, inflammation and immunology, rare diseases and consumer healthcare. On the other hand, EH focuses mostly on legacy brands, branded generics, generic sterile injectable products, bio-similar and infusion systems. *Research and development* (R&D) organization along with contract manufacturing business is also under EH's management and control. Pfizer has managed to get leading positions in these areas (Reuters.com).

The company also develops treatments for patients with obesity which helps slow and prevent disease progression and improve life quality after treatments. Patients who are affected by rare disorders (defined by the *Orphan Drug Act* of 1983) benefit from effective therapies developed by the company (Pfizer.com, 2019).

The company's goal is to transform the landscape of cancer treatment with the hope of saving and positively influencing the lives of cancer patients. While existing treatments for chronic inflammatory diseases has become ineffective, the company desires to reach the molecular level catching the root cause of this inflammation and transform it successfully (Pfizer.com, 2019).

The company's greatest revenue producers undoubtedly come from its prescription drugs. Pfizer's marquee pharmaceuticals include Viagra, a treatment for erectile dysfunction, Zoloft, an antidepressant, and Lipitor, a cholesterol-lowering pharmaceutical proving the bestselling drug in the world. Pfizer's products are currently being distributed over more than 150 countries (Referenceforbusiness.com).

## 5. Financial Analysis of Pfizer Company

### 5.1. Horizontal Analysis

#### 5.1.1. Horizontal Analysis of Assets

Based on the theoretical descriptions of some useful methods for financial analysis mentioned in the literature review, this part will assess financial performance of Pfizer Inc. firstly by using horizontal analysis. Source of data will be excluded from two financial statements: the balance sheet and the income statement for the full period 2016-2018. Fixed assets, current assets and total assets will be relevant information for calculation and assessment.

Table 1 represents the absolute change in million USD in three items by using formula (1) and data from Appendix 2 to compare years 2017, 2018 with base year 2016.

Table 2 displays the relative change (in percentage) of fixed assets, current assets and total assets from 2016 to 2018. Formula (2) is being used to calculate the percentage change of each year compared to base year 2016.

Table 1: Horizontal Analysis of Assets (absolute change in million USD)

	<b>2017</b>	<b>2018</b>
Fixed assets	-2010	-23170
Current assets	2192	10977
Total assets	182	-12193

Source: Author's calculation based on Pfizer Inc. Financial reports.

Table 2: Horizontal Analysis of Assets (percentage change)

	<b>2016</b>	<b>2017</b>	<b>2018</b>
Fixed assets	100%	98.48%	82.54%
Current assets	100%	105.63%	128.18%
Total assets	100%	100.11%	92.90%

Source: Author's calculation based on Pfizer Inc. Financial reports.

In general, from 2016-2018, the amount of fixed assets invested by Pfizer Inc. for the whole year tended to go down while the company's investments for current assets seemed to

go the other way around. The extent of the increase or decrease of both items appeared to be significantly different among chosen years.

Firstly, there was a slight decrease of 2010 million USD (equivalent to 1.52%) in fixed assets invested in 2017 compared to those in 2016. On the other hand, more current assets (by 2192 million USD, larger than 2010 million in absolute value) was reported in 2017 than in the previous year, which brought a rising assets in total though not to be quite a large amount (roughly 0.1% up).

It turned out to be the same situation applied for two years 2017 and 2018. However, the big difference lies in the significance of the rise or fall level. We could see a sharp decline of fixed assets with around 82.54% in 2018 (much lower compared to the base year). The absolute amounts calculated (from table 1) for the difference between two pairs of years probably shows better the decreased fixed assets (with 2010 million USD down in 2017 versus 23170 million USD down in 2018).

Similar to the analysis of current assets in 2016-2017 earlier, the rising trend continued in 2018. The increase in current assets reached by 10977 million USD. That accounted for up to 28.18% of capital more invested in current assets compared with investments for 2016. The large amount of increased current assets, however, failed to offset the greater fall in fixed assets in the same year, which resulted in a decrease in total assets (only achieved 92.9% of total assets in 2016 - the base year).

The main reason for increased current assets and decreased fixed assets in 2018 was the reclassification of intangible assets to Assets held for sale during the fourth quarter of 2018 and amortization and impairments (Annual Report 2018, p.93 & 112). Apart from this transfer, the changes in short term and long term investments also contributed to the increase or decrease of assets.

Briefly, the company' strategy for asset investment is apparently applied the same way from year to year for the whole period: upward trend for current assets investments along with cutting down capital for fixed assets. The total amount of assets over years (in chosen period for analysis, when fixed assets and current assets are grouped together) did not follow the same rule without a specific trend. It was a small rise in 2017 but quite a large decrease in 2018.



### 5.1.2. Horizontal Analysis of Equity and Liabilities

Like Assets, changes of Equity and Liabilities in later years will be compared with corresponding items in the base year using the same technique and formula. Analyzed data and figures for this part would be displayed in table 3 and 4 below.

Table 3: Horizontal Analysis of Equity and Liabilities (absolute change in million USD)

	<b>2017</b>	<b>2018</b>
Equity	11816	3918
Liabilities	-11635	-16112
Total Equity & Liabilities	182	-12193

Source: Author's calculation based on Pfizer's Inc. Financial reports.

Table 4: Horizontal Analysis of Equity and Liabilities (percentage change)

	<b>2016</b>	<b>2017</b>	<b>2018</b>
Equity	100%	119.75%	106.55%
Liabilities	100%	89.59%	85.59%
Total Equity & Liabilities	100%	100.11%	92.90%

Source: Author's calculation based on Pfizer's Inc. Financial reports.

The general trend captured for this period is that equity tended to increase while liabilities tended to decrease over years (with positive and negative sign in table 3). The rise level of equity was up to nearly 20% in 2017 compared to 2016, but it was then lowered by 6.55% in the next year. That was largely because of the changes in the retained earnings acquired after each fiscal year. This change in 2018 is specifically affected by adopting new accounting standard in January 2018.

As we can see from table 4, the liabilities over years showed no sign of rising tendency with nearly 14% down in 2018. That means the liabilities in 2016 was higher than in two other years. It was due to fact that liabilities rely much more on non-current liabilities than current liabilities, (which will be discussed more in later part). The deferred tax liabilities (one of the items included in non current liabilities section) accumulated during 2016 accounted for over one third of total liabilities for the same year. Meanwhile, the

figures for this item in the following years was less than 7 or 8 times (Additional details could be found at *Appendix 2*). That was also the major cause for a drop in liabilities in the following year (approximately at only 89.5% compared with 2016).

In short, in comparison with base year 2016, total equity and liabilities in 2017 slightly increased by 0.11% thanks to the high rise in equity. Although the liabilities in 2018 was recognized lower than in 2016, the equity increase was not much enough, which led to a decrease in total equity and liabilities in 2018.

### 5.1.3. Horizontal Analysis of Profit and Loss Statement

Continuing the analysis horizontally with a new group of relevant items obtained no longer from the balance sheet but from another financial statement called *Profit and Loss* statement or shortly *Income statement*. We focus more in this part on those factors directedly related to the company’s operations and business activities. Two main items picked up from the Income statement for calculation and analyzing are Revenue and Cost (Sales). Absolute and percentage change over years are displayed in table 5 and 6.

Table 5: Horizontal analysis of Profit & Loss statement (absolute change in million USD)

	<b>2017</b>	<b>2018</b>
Revenues	-278	823
Cost (Sales)	-1094	-1074

Source: Author’s calculation based on Pfizer’s Inc. Financial reports.

Table 6: Horizontal analysis of Profit & Loss statement (percentage change)

	<b>2016</b>	<b>2017</b>	<b>2018</b>
Revenues	100%	99.47%	101.56%
Cost (Sales)	100%	91.12%	91.28%

Source: Author’s calculation based on Pfizer’s Inc. Financial reports.

The difference between 2016 and 2017 was not significant with only 278 million missing, equivalent to approximately 0.5% down. According the information extracted from the annual report 2018, an unfavorable impact on the less revenue in 2017 compared to that in 2016 was caused by 2017 having one less selling day in U.S and international markets.

The better revenue was achieved in 2018, higher than in 2016. The increase level was by 1.56% (reflecting 823 million USD more). Both positive effect of foreign exchange and operational growth helped to boost the revenue. The little rise or fall both in absolute or percentage value indicates the level of revenue having been quite stable, mostly more than 50 billion USD in average.

The company also succeeded in cutting down cost of production and manufacturing (about 1000 million USD each year) with downward trend for costs (sales) at 91.12% and 91.28% in 2017 and 2018 respectively. The decrease in cost of sales was primarily due to the advantage of selling HIS global operations, carrying a higher cost of sales than other products (2018 Annual Report, p.31).

## **5.2. Vertical analysis**

The major items deliberately selected from the balance sheet explained in the previous part will be decomposed into more specific items (grouped as subsections for single main item). Vertical analysis is utilized aiming to examine the contribution of decomposed items as well as to compare those contributions through years.

The vertical analysis applied to Profit and Loss statement would be slightly different. The analysis is going to be conducted along the statement and focus on the profit gained (or income) after excluding each type of expenses rather than the major items of balance sheet with their decomposition.

It should be taken into account that there would be no longer *base year* during the analysis. Therefore, every comparison should be referred to the *base item* within the same year. The calculation for percentage change is independent among chosen years.

### **5.2.1. Vertical Analysis of Assets**

This part will explain the relative changes of individual item in company's Assets both within a year and over years. The total assets of each year will be automatically set to 100%. The data for the whole period is displayed in table 7 as follow:

Table 7: Vertical Analysis of Assets (percentage change)

	<b>2016</b>	<b>2017</b>	<b>2018</b>
<b>Total ASSETS</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>Current Assets</b>	<b>22.70%</b>	<b>23.95%</b>	<b>31.32%</b>
Cash and cash equivalents	1.51%	0.78%	0.71%
Short term investments	8.89%	10.86%	11.10%
Trade receivable	4.79%	4.79%	5.03%
Inventories	3.95%	4.41%	4.71%
Current Tax assets & other current assets	3.08%	3.11%	3.66%
Assets held for sale	0.47%	0.01%	6.10%
<b>Noncurrent Assets</b>	<b>77.30%</b>	<b>76.05%</b>	<b>68.68%</b>
Longterm investments	4.15%	4.08%	1.74%
Tangible Assets	7.76%	8.07%	8.40%
Intangible Assets	30.68%	28.37%	22.09%
Goodwill	31.73%	32.57%	33.50%
Noncurrent Tax Assets & other assets	2.99%	2.96%	2.96%

Source: Author's calculation based on Pfizer's Inc. financial reports.

As we can see clearly from the table, Pfizer's Assets largely depended on Noncurrent Assets as it accounted for roughly two third of the total Assets. Accordingly, around 30% of Assets rested on current ones. Since Total Assets consists of two sub-divisions: current and non-current assets, an increase (in percentage) of one division reflects a decrease in the other.

Specifically, current assets showed a small rise in proportion during the period, which was only by around 1.25% in 2017 and then went up to closely by 7.5%. Going into details of subsections for current assets, we can see five among six items over years raised more or less except a decreasing one. That was the very first item in the current assets category: *Cash and Cash equivalents*, which seemed to be a minor one with less than 1% contribution compared to 22% or 30% as a whole for current assets. Interestingly, also appeared as minorities like Cash item in 2016 and 2017, Assets held for sale in 2018 rose up to become medium contribution (6%) among current assets, which helped to push the total current assets in 2018 from around 23% to over 30%.

Regarding noncurrent assets, as implied from the current assets analysis, an downward trend with the same pace should be expected, from 77.3% (2016) down to 68.68% (2018). Intangible assets and goodwill showed up as two largest items in the table with approximately 30% contribution for each. They were both listed in noncurrent assets section having a significant influence on the proportion of the whole section. Pfizer is known for having been a leading technology-based pharmaceutical company substantially dependent on such factors as brands, patents, licensing agreements, etc. In addition, Pfizer involves in various business acquisitions during a year. That explains why intangible assets and goodwill are important assets to the company.

Intangible assets lost its contribution with a decrease from 30.68% to 28.37% and a drop at 22% in 2018 as a result of being transferred to Assets held for sale. Meanwhile, goodwill's proportion seemed to rise but not too much (less than 1%) for the whole period. Considering other items in the category with each contribution below 10% almost followed the trend of declining, whereas the percentage change in the rising item turned out to be insignificant. After all, lower contributions of noncurrent assets in later years was primarily driven by the changing proportion in intangible assets. In 2018, intangible assets seemed to be less important than in other years when losing a considerable amount to current assets resulting in its proportion increase to 31.32%.

### 5.2.2. Vertical Analysis of Equity and Liabilities

Similar to Assets, the same technique is to be applied for analyzing Equity and Liabilities with 100% represented by Total Equity & Liabilities. Specific figures corresponding to every single item can be reviewed the table below.

Table 8: Vertical analysis of Equity and Liabilities (percentage change)

	<b>2016</b>	<b>2017</b>	<b>2018</b>
<b>Total Equity &amp; Liabilities</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
<b>Total Equity</b>	<b>34.87%</b>	<b>41.71%</b>	<b>39.99%</b>
<b>Total Liabilities</b>	<b>65.13%</b>	<b>58.29%</b>	<b>60.01%</b>
Non-Current Liabilities	47.00%	40.58%	40.02%
Current Liabilities	18.13%	17.71%	19.98%

Source: Author's calculation based on Pfizer's Inc. financial reports.

Equity and liabilities are both capital source of the company, equity comes from shareholders and liabilities are from creditors. In overall period, Equity contributed 35% to 40% to the total capital, the rest was covered by Liabilities. Obviously, the capital from equity was less than from liabilities in every single year. The gap between two portions of capital was recognized at the lowest in 2017 (around 16% compared to 20% and 30% in other years). Due to larger retained earnings recorded at the end of 2017 (than in 2016) and smaller accumulated loss and treasury stock (than in 2018), equity rose to make up a bigger portion in 2017 (more details in *Appendix 2*). Simultaneously, 2017 marked a sharp decline in total liabilities (see more in Horizontal Analysis of Equity and Liabilities) leading to a lower portion of the total capital.

Looking further into the contribution of subsections of Liabilities, we could see the decreasing proportion of liabilities from 2016 to 2017 was largely caused by a fall of nearly 7% in noncurrent liabilities. The practical reason for the declined liabilities is the lower effective tax rate in 2017. In a relative comparison, the contribution of both non-current and current liabilities seemed stable during the period, which was in average 40% and 20% respectively.

### **5.2.3. Vertical analysis of Profit and Loss statement**

In this part, elements of profit and loss statement concerning profits and expenses will be analyzed vertically with total revenues presented as 100%. Accordingly, every item will be displayed in table below as its contribution to the revenues in percentage.

The table is designed in such a form that provides information about the relationship between profits gained and expenses incurred, which are investigated partially. High expenses reflects low profits and vice versa since revenue is viewed as their all aggregation. If we go along the table downwards, we could see that those figures concerning profits virtually decreased one after another with positive amounts of expenses realized before that. The exceptional case could be identified at the very last rows of the table, which will be further discussed later on, also in this section.

The first type of expense recorded right after revenue is cost of sales. It can refer to cost of production or cost of inventory sold. During the period, its proportion to revenues was slowly going down, accounted for approximately 22% each year. As a consequence, gross profit rose accordingly.

Table 9: Vertical analysis of the Profit and Loss Statement

	<b>2016</b>	<b>2017</b>	<b>2018</b>
<b>Revenues</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>
Costs of sales	23.33%	21.37%	20.97%
<b>Gross profit</b>	<b>76.67%</b>	<b>78.63%</b>	<b>79.03%</b>
Selling, informational & administrative expenses	28.10%	28.17%	26.94%
Research & development expenses	14.94%	14.62%	14.92%
Other Operating Expenses	7.68%	9.05%	9.12%
<b>Operating Profit</b>	<b>25.95%</b>	<b>26.78%</b>	<b>28.04%</b>
Other non-operating expenses	7.90%	0.95%	3.44%
<b>EBIT</b>	<b>18.05%</b>	<b>25.83%</b>	<b>24.61%</b>
Interest Expenses	2.25%	2.42%	2.45%
<b>Pre-tax Profit</b>	<b>15.81%</b>	<b>23.42%</b>	<b>22.15%</b>
Tax Provision	2.13%	-17.22%	1.32%
Other income attributable to non-controlling interests	0.02%	0.09%	0.05%
<b>Net Profit</b>	<b>13.66%</b>	<b>40.55%</b>	<b>20.79%</b>

Source: Author's calculation based on Pfizer's Inc. financial reports.

The slight change in cost of sales reveals better cost control in later years. For 2018, it was mainly resulted by increased sales volumes within product portfolio and favourable impact of foreign exchange. For 2017, it was primarily due to the advantage of sale of HIS global operations, a high cost product (Annual Report 2018, p.33).

There some other expenses than cost of sales relating the operation of company, which most typically includes selling, informational and administrative expenses and expenses for research and development (around 28% and 14.5% of revenue respectively). After deducting these expenses from gross profit, we get operating profit with a rising tendency over years (from 26% to 28% in 2018). It can be implied that besides better cost control, the company also made an improvement in keeping operating expenses lower and lower. Increased proportion in operating profit shows more operational efficiency of the company.

EBIT (earnings before tax and interest) that is usually interested by investors appears as part of operating profit after excluding non-operating expenses. However, unlike

operating profit, EBIT's contribution to revenue did not increase for the whole period. It actually rose impressively 1.5 times higher in 2017 but slightly declined in the following year. It was largely because of the great fluctuations in non-operating expenses while operating profit, as discussed earlier, increased not too much.

Following EBIT, two sorts of expenses came as the last items in the Profit and Loss Statement. Interest expenses rose gradually by 0.2% each year, representing 2.45% of revenue in 2018. The exceptional case previously mentioned for negative sign of proportion is addressed to Tax Provision. It was 2.3% in 2016, suddenly dropped to -17.22% in the next year and then came back to positive sign but lower in 2018. Lower effective tax rate applied in 2017 was a major cause for this remarkable change. That means tax benefits was recognized far too more than tax expenses for 2017 (*Additional information in Annual Report 2018, p.37*). Consequently, the proportion of net profit (after subtracting interest, tax and other expenses from previous profit gained) was heavily influenced by the large change in tax provision than any items coming before. It showed for 2017, in contrast, an increase of three times more than net profit in 2016 and a decrease by half in 2018. The specific proportion of 2017 was pretty high, around 40% of revenue. In 2018, that figure became normal as being less affected by external factors (20.79%).

### **5.3. Ratio Analysis**

This sort of analysis involves relatively comparing two main items or two partial items in form of *ratio* (sometimes expressed in percentage or proportion). Each ratio gives a specific information about some criteria to assess the company in financial perspective.

#### **5.3.1. Profitability Ratios**

As described from the theoretical part, profitability ratios measure the company's operational efficiency using its resources to generate profit. These ratios cover gross profit margin, operating profit margin, net profit margin, return on total assets, return on equity. Data for the calculation can be found in appendix 1 and 2.

#### **Gross Profit Margin**

Gross Profit is part of sales (or revenues), obtained after excluding cost of sales. Therefore, gross profit margin can reflect also the effectiveness in cost management and price volatility of the market. In the latter case, we need more information to track the



benefits the company may gain as gross profit is concerned, not to mention other related expenses.

Table 10: Gross Profit Margin

	<b>2016</b>	<b>2017</b>	<b>2018</b>
Gross profit	40502	41318	42399
Sales	52824	52546	53647
<b>Gross profit margin</b>	<b>76.67%</b>	<b>78.63%</b>	<b>79.03%</b>

Source: Author's calculation based on Pfizer's Inc. financial reports.

The Gross Profit Margin displayed in table 10 above shows insignificant variation among three years. There was actually a gradual increasing tendency from 2016 till 2018. The more important point is the figures were in high value (75% to nearly 80%). Many factors might attribute to such good results; however, with a gross profit margin kept rising steadily, the company had certainly acquired more benefits from narrowing the proportion of cost of sales.

### **Operating Profit Margin**

Continuing to examine the company's ability to generate profit with one more factor regarded - operating expenses, operating profit margin works in similar way and indicates more specifically efficiency in operation besides production, price, market, etc.

Table 11: Operating Profit Margin

	<b>2016</b>	<b>2017</b>	<b>2018</b>
Operating Profit	13710	14073	15045
Revenues	52824	52546	53647
<b>Operating Profit Margin</b>	<b>25.95%</b>	<b>26.78%</b>	<b>28.04%</b>

Source: Author's calculation based on Pfizer's Inc. financial reports.

Operating Profit Margin becomes an important indicator when the company encounters trouble since it often declines before the revenue (or sales) declines. In case of Pfizer, there was positive sign during the period with a rising trend in figures over years. In 2018, Operating Profit Margin was 28.04%. It means 0.28 dollar of operating profit was earned from each dollar of sales. That was recognized as high level in value for Operating Profit Margin.

## Net Profit Margin

Table 12: Net Profit Margin

	<b>2016</b>	<b>2017</b>	<b>2018</b>
Net Profit	7215	21308	11153
Revenues	52824	52546	53647
<b>Net Profit Margin</b>	<b>13.66%</b>	<b>40.55%</b>	<b>20.79%</b>

Source: Author's calculation based on Pfizer's Inc. financial reports.

This ratio comes as the last one dealing with profit. After deducting all sorts of costs and expenses including tax and interest, net profit (or net income) is inserted in table 12 with results present at the last row as *Net Profit Margin*. Despite being a useful parameter for measuring the company's profitability, Net Profit is considered unreliable. The great fluctuations in percentage change of the ratio through years made it more complicated to assess the actual profitability of the company. It was quite low in 2016 with 13%, then became really high with 40% in 2017 and eventually dropped by half in the last year of the period. The reason for those different changes was apparently the intervention of changing tax rate and tax related provisions.

## Return on Total Assets (ROA)

This ratio reflects how well the company converts its assets investments into profits. ROA (or the rate of return) shows the relationship between EBIT (Earnings Before Interest and Taxes) and Total Assets owned by the company and will be calculated by using these two items for each year. The data with absolute amount (in million USD) will be obtained from the balance sheet (for total assets) and the income statement (for EBIT).

Table 13: Return on Total Assets

	<b>2016</b>	<b>2017</b>	<b>2018</b>
EBIT	9537	13575	13201
Total Assets	171615	171797	159422
<b>ROA</b>	<b>5.56%</b>	<b>7.90%</b>	<b>8.28%</b>

Source: Author's calculation based on Pfizer's Inc. financial reports.

The point of choosing EBIT than other profits to represent the *return* aspect in ROA is to exclude external factors and focus more on the operation within the company with all

sorts of earnings generated during a year, which would be useful for managers to make evaluation about the company's performance. Table 13 shows ROAs with corresponding EBITs in each year. During the period, ROA was realized at around 7% on average, which was at pretty high level for a drug making company. It means that for each dollar of assets used, the company earned 0.07 dollar in absolute amount. As what was previously discussed, the company owned a large amount of total assets, which much relied on noncurrent assets (longterm assets). That greatly affected the results of assets related ratios including ROA.

Regarding tendency for ROA, there was a steady growth in the ratio over years with the highest value in the latest year (over 8%). ROA from 2016 to 2017 seemed to increase pretty more than the later part of period due to a substantial rise in EBIT (from 9537 to 13575 million USD) and inconsiderable change in total assets (roughly 100 million USD more only). Turning to 2018, EBIT slightly decreased but kept still high (over 13000 million USD) while total assets recorded for the same year dropped. Subsequently, the proportion between these items represented by ROA did not show any sign of going down; it turned out to be even little higher compared to in 2017.

### **Return on Equity (ROE)**

Being a similar indicator to ROA, Return on Equity measures the company's ability to produce earnings on ownership interest of common stockholders (or Equity). The formula to compute this ratio can be revised from literature review for ratios analysis. The results of ROEs in chosen period will be displayed in table 14 below:

Table 14: Return on Equity

	<b>2016</b>	<b>2017</b>	<b>2018</b>
Net Income	7215	21308	11153
Total Equity	59840	71656	63758
<b>ROE</b>	<b>12.06%</b>	<b>29.74%</b>	<b>17.49%</b>

Source: Author's calculation based on Pfizer's Inc. financial reports.

Pfizer's total equity showed large investments from stockholders into the company during the past three years, which reached highest amount in 2017 (over 70000 million USD funding). Compared to 2016 and 2018, equity increased by 11000 million USD and then decreased by 7898 million USD. There was a distinctive change in equity recorded among

those years. Net Income generated also followed a similar trend with dramatical rise and fall afterwards. The thing is, in comparison with the fluctuation in equity during the period, the intensity of change in net income seemed to be greater. The increase was three times higher while the decline was by half. As a result, when comparing the ratios among three years, we could see that ROE was generated outstandingly with nearly 30% for 2017, larger than in 2016 (12%) and still higher than in 2018 (17.49%). For the last year of period, lower ROE was attributed to a sharp fall in net income and still high level of equity.

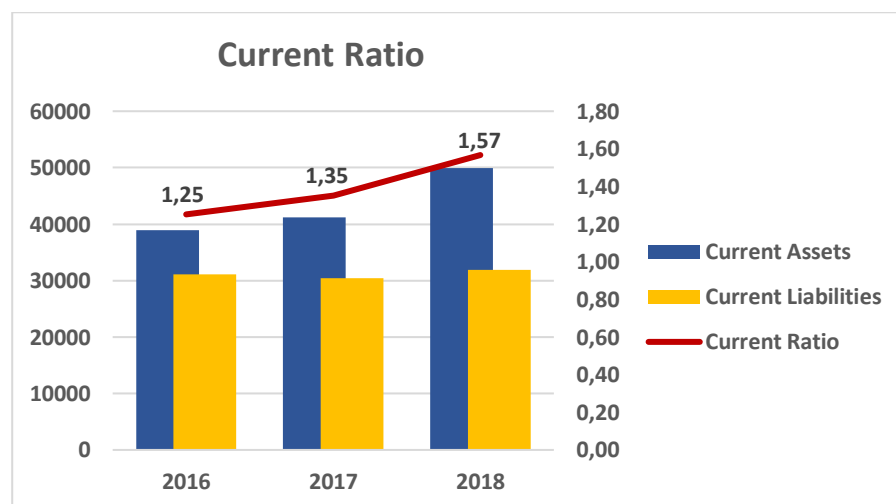
### 5.3.2. Liquidity Ratios

The focus of this part is the investigation of the company’s capability to cover the obligations at maturity using its current assets and of how easily these assets can be turned into cash.

#### Current Ratio

As realized from the called name, current ratio reflects the relationship between current assets and current liabilities of the company. Figure 1 below represents the current ratio from 2016 to 2018 with columns for the items entered in million USD and the red line in relative number for ratio results from calculation.

Figure 1: Current Ratio



Source: Author’s calculation based on Pfizer’s Inc. financial reports.

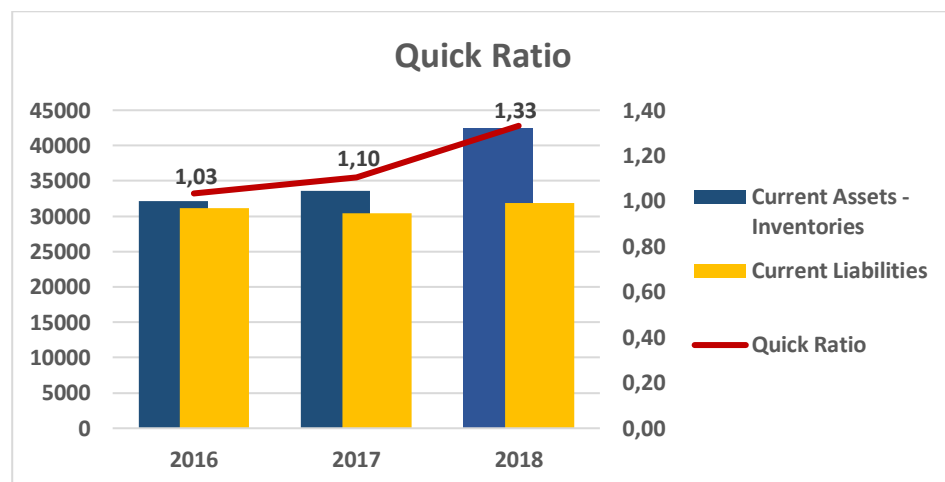
Current ratios observed during the period were all greater than 1, which implied that current assets were always over current liabilities. Therefore, the company can reasonably clear its short term liabilities, just using current assets. In addition, the ratio followed an

increasing trend with highest point reached at 1.57 in 2018. The reason for rising level in current ratio was that the current assets acquired much more than in other years (roughly 8000 million USD) along with minor change in current liabilities. Further cause of those changes in the two items could be addressed in previous parts.

### Quick Ratio

Similar approach to current ratio, quick ratio is more used to examine the company's liquidity (as been explained in preceding part) with most liquid assets. Accordingly, inventory – the least liquid asset should be removed from current assets for computing this ratio. Figure 2 displays quick ratio over three years, which represented by the red line based on proportion between two items (in blue and yellow color).

Figure 2: Quick Ratio



Source: Author's calculation based on Pfizer's Inc. financial reports.

During the period, the company managed to keep the liquidity ratio above 1 even after excluding part of current assets (inventory). That means the remaining assets except inventory could be readily convertible into cash for satisfying current liabilities. Since there was only small change in inventory over years, the tendency for quick ratio was nearly the same as for current ratio. Such a rise in the indicator from 1.03 to 1.33 shows better liquidity position of the company in later years.

### 5.3.3. Debt Ratios

Debt ratios involve determining financial risk and proportion of assets financed with debts. In this part, we will have a look at how the company coped with total amount of debt and its interest.

### **Debt to Total Assets**

The ratio indicates the relative comparison between total debt and total assets within a year. Total debt is obtained from the combination of long term and short term debts recorded in Liabilities section of the company's annual reports. The ultimate results for the ratio with relevant parameters (2016-2018) will be included in table 15 below:

Table 15: Debt to Total Assets

	<b>2016</b>	<b>2017</b>	<b>2018</b>
Total Debt	42086	43491	41740
Total Assets	171615	171797	159422
<b>Debt to Total Assets</b>	<b>0.25</b>	<b>0.25</b>	<b>0.26</b>

Source: Author's calculation based on Pfizer's Inc. financial reports.

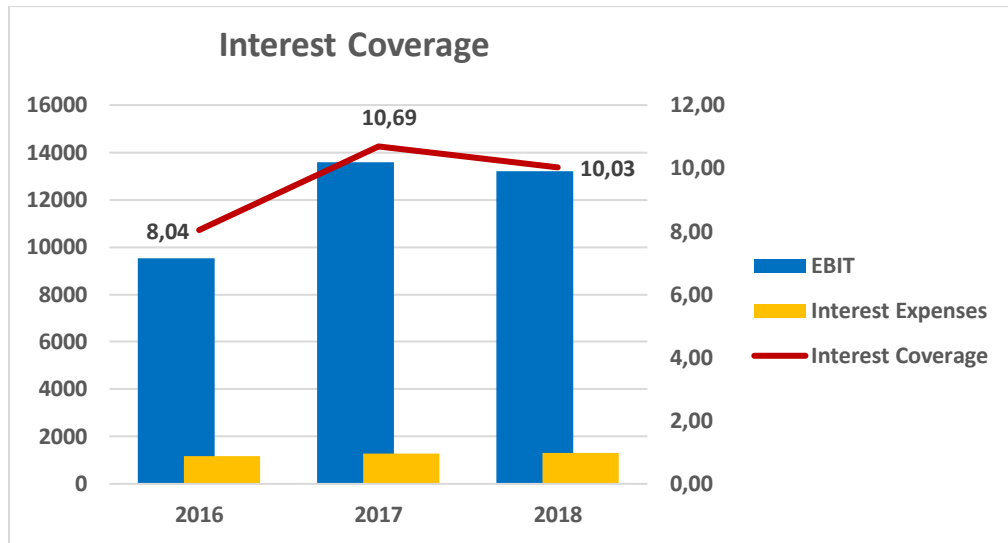
As a measure of financial leverage, the ratio shows small amount of assets financed with debts with only 25% in average in every chosen year. Such a low debt ratio reflects the company's good debt management since up to 75% of the remaining assets came from other sources and funds. Subsequently, the level of risk carried on those debts liable for the company seemed reasonably low, which was favourable information for creditors to extend further credits to the company. Moreover, the ratio nearly kept unchanged at low level over the period, reflecting the stability in debt control and operational maintenance with debt financing.

### **Interest Coverage**

The ratio measures the company's ability to fulfil its interest payments on outstanding debt, utilizing earnings before taxes and interest recognized (EBIT) for each interest expense recorded in a year. Figure 3 shows the interest coverage during observed period.

The interest coverage resulted in all three years was in acceptable values with roughly 9.5 times of available earnings more than interest liabilities. That was high enough to satisfy creditors or lenders, which would help to increase investment opportunity for the company. The fluctuation can be clearly seen from the figure above with highest point of over 10.5 in the middle year of the period. There was a huge growth of the ratio from 2016 to 2017. It was largely due to a high increased level of EBIT in 2017. On the other hand, interest expenses was growing slightly for the whole period. In 2018, it reduced in minor amount both for EBIT and interest coverage that followed.

Figure 3: Interest Coverage



Source: Author’s calculation based on Pfizer’s Inc. financial reports.

#### 5.3.4. Activity Ratios

The purpose of these ratios is to measure how quickly its assets can be turned into sales, which helps to assess the company’s efficiency in assets management to generate earnings.

##### Total Assets Turnover

The ratio shows the value of sales relatively compared to the value of total assets. The formula for its calculation can be referred back to the literature review of activity ratios.

Table 16: Total Assets Turnover

	2016	2017	2018
Sales	52824	52546	53647
Total Assets	171615	171797	159422
<b>Total Assets Turnover</b>	<b>0.31</b>	<b>0.31</b>	<b>0.34</b>

Source: Author’s calculation based on Pfizer’s Inc. financial reports.

The turnover for total assets during the period was averagely 0.31, meaning that generally the company made 0.31 dollar of sales for every dollar invested in assets. It was rather the same in the two earlier years and improved to higher value in 2018 though still under the average industry level. It would suggest that the company was not able to reach the potential of assets to create revenues as much as possible. With 34% sales generated from

total assets in 2018, considered as an improvement in comparison with that sales in previous years, the company still needs to continue taking effective measures to raise the level of the ratio.

### **Inventory Turnover**

This ratio gives an insight about how well the company manages inventory by comparing it in relation to cost of sales. The purpose of using the ratio is to measure how many times inventory can be sold and replaced during a year.

Table 17: Inventory Turnover

	<b>2016</b>	<b>2017</b>	<b>2018</b>
Cost of sales	12322	11228	11248
Inventory	6783	7578	7508
<b>Inventory Turnover</b>	<b>1.82</b>	<b>1.48</b>	<b>1.50</b>

Source: Author’s calculation based on Pfizer’s Inc. financial reports.

Inventory Turnover demonstrated in table 17 shows a decline from 2016 to 2017 and a small rise later in 2018, eventually at 1.5. The decrease in ratio was driven by lower cost of sales and higher inventory in the following years. Increased recorded inventory in 2017 was related to new or potential product launches and effective new standard applied to measure inventory at lower cost. Decreased cost of sales was affected by several factors both favourably and unfavourably (Additional information can be viewed from 2017 Annual Report, p.34). The highest value achieved from the first year was, however, still below the industry average (less than 2). The low level of ratio indicates again the inefficiency in inventory control.



## 6. Conclusion

The thesis was executed with the aim to investigate the recent performance and financial health of Pfizer Incorporation, a leading global pharmaceutical company during the period 2016-2018. Relevant materials and documents were reviewed for theoretical background. Based on those knowledge and principles, the actual financial analysis was conducted utilizing audited financial statements of the company in chosen years for data collection and processing. With a similar order that has been described, the structure of the whole thesis came out with two major parts.

The first part provided a literature review of fundamental knowledge about finance in general and financial analysis. Besides relevant concepts, essential indicators with formula, descriptions and their effects was specifically presented, which would be later used in the following part. Most importantly, explanation for horizontal and vertical analysis of the balance sheet and income statement was firstly mentioned as one of financial analysis methods. Following as a separate analysis was financial ratios including profitability ratios, liquidity ratios, debt ratios and activity ratios.

The second part was practical work on real data with outcomes presented in either tables or graphs for each analysis section. Description of which items were picked up and how the calculations worked out were given at the beginning. Afterwards, comparisons of the figures that showed the relation between items for examining a specific financial aspect would follow. Lastly, some explanations were at times included for tracking the reason behind the figures' increase or decrease to get a larger picture of the company's finance.

The practical analysis firstly began with Horizontal Analysis on the balance sheet and income statement. Some major findings could be viewed as follow:

Total assets showed a small rise at the beginning of period, then a large fall at the end of period. The fixed assets tended to decrease, but not much as the increase in current assets compared to base year 2016, the first year in observed period. It was mostly due to the company's selling part of their intangible assets and these kinds of assets' amortization and impairments as well.

Total liabilities and equity tendency was corresponding to the fluctuation of the total assets, which was slightly up and then moving down since they had to be in equal amount. The equity of 2017 and 2018 was both higher while liabilities was lower than the base year.

The equity realized in 2017 grew substantially but slowed down in the following year. Liabilities moved downward over time, at the lowest in the final observed year. The main reason was addressed by the fact that the deferred tax liabilities recognized was much lowered in two later years.

The revenues recognized in 2018 increased compared to in the base year, influenced by favorable foreign exchange and operational growth, which was always of high level at around 50 billion USD each year. Together with better revenues, lower cost of sales partly showed a good sign in the company's management and operation as well as capability and stability in generating greater revenues.

Regarding vertical analysis of the same chosen items as horizontal analysis, general outcomes would be presented below:

As a research-based pharmaceutical company, Pfizer relied on noncurrent assets (which could be also address as fixed assets) much more than current assets. The proportion showed an increase in current assets (though a maximum level achieved was only 31% in 2018) while a decrease in noncurrent assets. A noticeable fact that some noncurrent assets were reclassified to current ones like Assets for held occurring during 2018 contributed to the change in asset proportion. The capital from equity was less than from liabilities (about two third in general proportion). The liabilities was at the lowest contribution of the total capital in 2017 favorably impacted by larger retained earnings and lower effective tax rate. The tendency in the last year came back as normal with portion raised in liabilities and lowered in equity, but still going around the general proportion mentioned earlier. The contribution of operating profit in total revenues improved showing better operational management. The large changed tax have a great impact on the net profit proportion, which was subsequently less reliable figures with a sudden rise or fall over years. However, it was able to reach 20% in 2018 and kept staying above 10% somehow reflecting the acceptable profitability of the company.

Concerning financial ratios, with specific measurements, each ratio revealed an evaluation of a financial characteristic of the company comparatively with the industry level.

Profitability ratios showed up with relatively stable indicators. Gross profit margin and operating profit margin kept rising steadily, which might indicate better control over production cost and other operational expenses. Net profit margin was an exception with a

great fluctuation caused by the tax intervention, which might not truly reflect the company's performance but can imply some changes beneficial to the company from external factors. ROA and ROE are two important indicators that measure the return on total assets and on equity. They were both in high levels with around 7% and 17% respectively, compared to the industry average. While ROA followed an upward trend over years, ROE showed a substantial change during the period. The reason was because net income (or net profit) with previously discussed exceptions was selected item used for calculating ROE ratio. Nevertheless, if considering the starting year and the last year only, we could still see a rising tendency for ROE, which indicates earnings on equity was kept highly produced.

Liquidity ratios including current and quick ratio were at acceptable level (1.3 averagely), which suggests pretty good liquidity position in the industry. Both ratios showed an increasing tendency over years with a rise in current assets accordingly. It can be implied that the company could easily turn its assets with or without inventory into cash to satisfy current liabilities and thus, to attract more investors.

Debt ratios measure financial risk and funding source of assets. Firstly, Debt to total assets showed a good result with 25% of assets financed with debt and nearly without difference among all three years. Secondly, Interest coverage was 9.5 acceptable enough to satisfy creditors. There was a fluctuation in the middle year 2017 with EBIT rising high and being slightly lowered in the following year. That could suggest an improvement in the interest coverage for later years compared to the first year 2016.

Activity ratios help to measure how quickly the company can turn its assets into sales. Both total assets turnover and inventory turnover were below the industry average. Such poor results indicate the company's inefficiency in assets management for generating earnings. In other words, with a large amount of assets owned by the company, the sales produced did not satisfy the potential of assets utilization. Each year, the company is involved in several acquisitions or joint venture agreements. Assets and liabilities from those businesses would be accordingly recorded in the balance sheet of that year when the activities occurred. Thus, the total assets was built up and added more and more over years. That could be considered as such a sudden investment that the return on that investment would not be seen promptly, especially if it came in the last quarter of the year when the balance sheet and other financial statements were going to be prepared. It was somehow

understandable why the company had pretty low total asset turnover. However, it can be improved in various ways with company's policies for more efficient asset management.

Based on the analysis, all the solvency, profitability, stability, liquidity have been examined. It can be summarized with a general evaluation that the company showed a pretty good performance during the period 2016-2018 with high profitability and stability, reasonable liquidity and debt handling. With respect to efficiency in asset management, the company did not perform really well. It would be necessary for the company to review its inventory and activate its potential assets for greater revenues generated. Pfizer has proved its financial strength and position with impressive indicators that satisfied the shareholders and creditors. Pfizer continued to show up as a strong competitor among top leading companies in the industry. Some improvements in managing assets still need to be achieved for raising activity ratios to the level of the industry, which would partially help the company to stay competitive.

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## 8. Appendix

**Appendix 1:** Simplified Income Statement of Pfizer Inc. 2016-2018 (*million USD*)

	<b>2016</b>	<b>2017</b>	<b>2018</b>
Revenues	52824	52546	53647
Costs of sales	12322	11228	11248
<b>Gross profit</b>	<b>40502</b>	<b>41318</b>	<b>42399</b>
Selling, informational & administrative expenses	14844	14804	14455
Research & development expenses	7892	7683	8006
Other Operating Expenses	4056	4758	4893
<b>Operating Income</b>	<b>13710</b>	<b>14073</b>	<b>15045</b>
Other non-operating expenses	4173	498	1844
<b>EBIT</b>	<b>9537</b>	<b>13575</b>	<b>13201</b>
Interest Expenses	1186	1270	1316
<b>Pre-tax Income</b>	<b>8351</b>	<b>12305</b>	<b>11885</b>
Tax Provision	1123	-9049	706
Total Other Income gained or loss	13	46	26
<b>Net Income</b>	<b>7215</b>	<b>21308</b>	<b>11153</b>



**Appendix 2:** Simplified Balance Sheet of Pfizer Inc. 2016-2018 (*million USD*)

	<b>2016</b>	<b>2017</b>	<b>2018</b>
<b>Total ASSETS</b>	<b>171615</b>	<b>171797</b>	<b>159422</b>
<b><i>Current Assets</i></b>	<b>38949</b>	<b>41141</b>	<b>49926</b>
Cash and cash equivalents	2595	1342	1139
Short term investments	15255	18650	17694
Trade receivable	8225	8221	8025
Inventories	6783	7578	7508
Current Tax assets & other current assets	5290	5338	5835
Assets held for sale	801	12	9725
<b><i>Noncurrent Assets</i></b>	<b>132666</b>	<b>130656</b>	<b>109496</b>
Longterm investments	7116	7015	2767
Tangible Assets	13318	13865	13385
Intangible Assets	52648	48741	35211
Goodwill	54449	55952	53411
Noncurrent tax Assets & other assets	5135	5083	4722
<b>Total LIABILITIES &amp; EQUITY</b>	<b>171615</b>	<b>171797</b>	<b>159422</b>
<b>LIABILITIES</b>	<b>111776</b>	<b>100141</b>	<b>95664</b>
<b><i>Non-Current Liabilities</i></b>	<b>80661</b>	<b>69714</b>	<b>63806</b>
Long term debt	31398	33538	32909
Non-Current deferred tax Liabilities	30753	3900	3700
Other taxes payable	4000	18697	14737
Other non-current liabilities	14510	13579	12460
<b><i>Current Liabilities</i></b>	<b>31115</b>	<b>30427</b>	<b>31858</b>
Short term debt	10688	9953	8831
Income tax payable	437	477	1265
Liabilities held for sale	0	0	1890
Other current liabilities	19990	19997	19872
<b>EQUITY</b>	<b>59840</b>	<b>71656</b>	<b>63758</b>
Share capital	485	485	486
Additional paid-in capital	82,685	84,278	86253
Treasury stock	-84,364	-89,425	-101610
Retained earnings	71774	85291	89554
Accumulated other comprehensive loss	-11036	-9321	-11275
Non-controlling interests	296	348	351