

University of Economics, Prague

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Title of the Bachelor's thesis:

Financial Analysis of Xiaomi Corporation for the Purposes of Strategic Development

Author:

Anastasia Eremeeva

Supervisor:

Patrik Sieber

Declaration of Authenticity

I hereby declare that the Bachelor's Thesis presented herein is my own work, or fully and specifically acknowledged wherever adapted from other sources. This work has not been published or submitted elsewhere for the requirement of a degree program.

Prague, May 12, 2020

Anastasia Ereemeeva

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Abstract:

The aim of my work is to create a financial analysis of Xiaomi Corporation. The thesis is divided into three parts: theoretical, practical and forecast of future performance. Theoretical part includes description of methods used in the work: horizontal, vertical and ratio analysis. In the practical part I provide income statement and balance sheet of Xiaomi Corporation during the period 2016 – 2019. Detailed horizontal and vertical analyses of Xiaomi's statements are created, vertical analysis is created for the company's competitors. Profitability, turnover, leverage and liquidity ratios are calculated, explained and compared to the results of rivals. The last part focuses on the forecast, I create an estimate of income statement for 2020 and explain the methodology for calculations.

Key Words: Financial analysis, Horizontal analysis, Vertical analysis, Ratio analysis, Smartphone manufacturing

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1. Introduction

I have chosen financial analysis of a company as a topic for my bachelor thesis. I am interested in the sphere and would like to show, that financial statements and historical data can tell a lot about the organization.

Global economy is very unstable, companies should be able to face the changes and cope with the risks. They should constantly analyze and evaluate their performance to hold positions, achieve their goals and overcome competitors. Managers are interested in financial stability of the organization and effective development, that is why it is important to continuously monitor financial situation of the company.

The main goal of my bachelor thesis is to find out what was the performance of Xiaomi Corporation in 2016 – 2019, using technical financial analysis. The main sources of information for the work are the annual reports of the firm. The result will be compared to the competing companies. I will make the prediction for 2020 using the historical data.

I decided to choose Xiaomi company, as it is a fast-growing corporation. It is mostly focused on smartphone and smart hardware production. Xiaomi manufactures devices of a high quality and quite low cost.

The work is divided into three parts. Theoretical part covers the methodology of financial analysis. I will describe main indicators used in the analysis. This part includes formulas and terminology.

The second part is focused on practical analysis. I will describe the company and main competitors and then proceed with the analysis. Financial statements of the company are analyzed, results are explained and compared to the competitors' values.

In the last part I create a forecast of future development of the company and provide estimated income statement for the year 2020.

1. Theoretical Part

2.1. Financial Analysis

Financial analysis is an instrument, which helps to evaluate performance of the company. “Financial analysis involves using financial data to assess company’s performance and make recommendations about how it can improve going forward. Financial Analysts primarily carry out their work in Excel, using a spreadsheet to analyze historical data and make projections of how they think the company will perform in the future” (Financial Analysis - Overview, Guide, Types of Financial Analysis, 2015)

Financial analysis is important for every organization. Managers should analyze performance to prepare a plan, which helps to see the steps for future development. The main goal of financial analysis is to evaluate company’s performance and to determine if it makes sufficient profits to keep the business running and to meet obligations on time.

Financial analysis is important for stakeholders, both internal and external. Managers should take into consideration condition of the potential competitors, that is why financial analyses of rivals are necessary for them.

Financial documents provide needed information about performance of the company. On the base of these reports managers make their decisions. Investors use this information in order to decide whether to provide money to the company or not.

There are several methods of carrying out financial analyses. Information from financial statements is being processed differently in each of the methods. One of the methods uses absolute data, which is taken directly from the statements. Absolute values cannot be used in the comparison of different companies, as such indicators are sensible to the size of the organization. Another method uses relative data, which makes it possible to compare values between companies (Grünwald, Holeckova, 2004).

1.1.1. Balance Sheet

There are several important statements used for analyzing financial condition of the company. One of the statements is a balance sheet. Balance sheet shows the company’s assets, liabilities and shareholders’ equity at a specific moment. Basically, it includes everything, what the organization has, what it owes and how much is invested in it. Every value in a balance sheet is expressed in monetary terms recorded at a particular point of time.

Assets are divided into two parts: current and non-current. Current assets can be converted to money within one year or less. Non-current assets are those, which have a lifespan of more than one year.

Also assets are divided into tangible and intangible ones. Tangible assets include physical things, such as buildings and machinery. Intangible assets are non-existing ones, they do not have physical substance. For example, patents and trademarks.

Liabilities are also divided into current and non-current. Current (short-term) liabilities include debt, which is due within 1-year period. Non-current (long-term) liabilities include obligations, which are due after 1-year period.

Equity shows the amount of capital contributed by the owners of the business. Equity value equals the amount of total assets diminished by the amount of total liabilities.

1.1.2. Income Statement

Income statement is the second statement used for financial analysis. It shows performance of the company during a specific period. The statement shows revenues and expenses of the company. Net income equals amount of revenues deducted by expenses amount (Chen,2019).

Income statement is used for understanding how profitable the firm is. Income statement is also used for detecting the most successful product or department in the company. Managers use this statement a lot for strategic decisions.

1.1.3. Cash flow Statement

Cash flow statement is the third statement used for analysis. It shows the amount of cash that enters and leaves the company. It can show if the company has enough cash and cash equivalent to cover the debts. The statement shows main money generating activities and items of expenditure. Cash flow statement includes several sections:

- Cash from operating activities. This section shows cash movements generated by core activities of the company.
- Cash from investing activities. This section shows the amount of cash and cash equivalents entering and leaving the company during the process of long-term investments.
- Cash from financing activities. This section shows the amount of cash used for financing the company (Murphy, 2019).

3.2. Types of Financial Analysis

Financial analysis can be carried out in different ways, every company can choose the most suitable type for it. However, generally accepted methods for conducting financial analysis have been developed. Financial data is interpreted differently in each method.

In my work I will describe three main types of financial analysis: horizontal, vertical and ratio analysis.

1.2.1. Horizontal Analysis

Horizontal analysis, which is also called trend analysis, is used for comparison of indicators over several accounting periods. Both absolute and relative comparisons are used in the method.

Horizontal analysis is a useful tool for trend tracking. It shows movement of items over the time. Such method gives an opportunity to see growth patterns, based on the analysis investors can make quite accurate projections for the future.

Here are some of the formulas used in horizontal analysis:

Difference (absolute change) = *Amount in year t* – *Amount in year (t-1)*

Index (relative change) = $\frac{\text{Amount in year } t - \text{Amount in year } (t-1)}{\text{Amount in year } (t-1)} * 100\%$

1.2.2. Vertical Analysis

In vertical analysis every item from the financial statement is shown as a percentage of another item. In case of income statement every item is compared to the amount of sales. In case of balance sheet every item is shown as a percentage of total assets.

This method is mostly used for analyzing data within one accounting period. Relative proportions can also be used to track the trend during several years. For example, if the percentage of expenses increased, the company should revise the processes (Bragg, 2019).

Vertical analysis is used for benchmarking, results of the selected company are compared with values of other firms in the industry. Based on the comparison, the analyst can conclude if the company has advantages over other market players, or if it needs to improve the processes.

Here are some examples for the formulas for vertical analysis:

Share of an item of balance sheet to total assets = $\frac{\text{Balance sheet item}}{\text{Total Assets}} * 100\%$

Share of an item of income statement to sales = $\frac{\text{Income statement item}}{\text{Sales}} * 100\%$

1.2.3. Ratio Analysis

Ratio analysis shows relations of different items from financial statements. Ratios are quite easy to calculate; the only difficulty is that there is a huge number of ratios and analysts should spend some time to decide which ratios to use.

Value of the company depends a lot on investment decisions. Investment decisions refer to the purchase of real assets. Ratios help to identify, how profitable were the investments in relation to the cost of capital and which decisions were the most efficient.

Financial decisions are also important in adding value to the company. Financial decisions refer to raising money. The company cannot develop without money. Ratios can help to detect, if the company has enough financing, if the firm is overly financed through debt, if the organization has enough liquidity. Answering these questions can prevent risky situations (Allen, F., Brealey, R.A., Myers, S.C.,2006).

In my work I will use such ratios:

- Profitability ratios
- Leverage ratios
- Liquidity ratios
- Turnover ratios

In the further chapters I will tell more about each type of ratios.

2.2.1.1. Profitability Ratios

Profitability ratios show the ability of the company to generate income. Profit amount is usually compared to the costs, balance sheet items or equity. As a form of profit analysts use earnings before interest and taxes (EBIT), earnings before taxes (EBT) and earnings after taxes (EAT). Profit should appear in the numerator of the fraction and the compared item should be in the denominator.

If the profitability ratio of a company is higher than the competitor's one, usually it means that the company is acting more efficiently in terms of profitability. Values can be also compared to average ratio of the industry or to the firm's historical values (Kenton, 2019).

Profitability ratios include margin ratios and return ratios. The first ones show profit as a percentage of sales. The second type of indicators shows the ability of the firm to generate return to the shareholders. Below I will describe some of the ratios used in the work.

Gross profit margin is used for evaluating company's profitability. The ratio shows the influence of cost of goods sold (COGS) on sales. In the numerator we can find gross profit, which is profit left after deducting costs related to acquiring and manufacturing the product or providing services. Total sales should be in the denominator of the formula.

$$\text{Gross Profit Margin} = \frac{\text{Sales} - \text{COGS}}{\text{Sales}}$$

Return on assets (ROA) shows the proportion of profit to assets. Based on the obtained value the analyst can conclude if the company uses assets effectively for generating profits or not. The ratio

shows “income available to debt and equity investors per dollar of the firm’s total assets” (Allen, F., Brealey, R.A., Myers, S.C., 2006).

EBIT is in the numerator of the formula, the advantage of using earnings before interest and tax is that it makes possible the comparison of companies with different tax systems and interest burdens. Denominator is expressed with total assets.

$$ROA = \frac{EBIT}{Total\ Assets}$$

The Du Pont system gives another expression of ROA. It shows that return of assets depends on two factors: asset turnover (sales generated from using assets) and operating profit margin (share of operating profit to sales).

$$ROA = Asset\ Turnover * Operating\ Profit\ Margin = \frac{Sales}{Total\ Assets} * \frac{EBIT}{Sales}$$

Firms try to have higher return of assets. Du Pont System shows the limitations of the companies. In some industries, for example, retail, assets turnover is large, however, profit margin is very small (Retail Sector, 2020). On the contrary technology industry shows high operating profit margin, but low asset turnover (Technology Sector, 2020).

Return of equity (ROE) shows the share of profit to equity. This ratio indicates what income the company generates for shareholders per money invested (Allen, F., Brealey, R.A., Myers, S.C., 2006).

$$ROE = \frac{Net\ Income}{Equity}$$

A company can generate higher net income by increasing the number of assets. ROE can grow, but it might mean that the assets were purchased through debt. In that case Du Pont system will be helpful again.

$$ROE = Leverage\ Ratio * Asset\ Turnover * Profit\ Margin = \frac{Assets}{Equity} * \frac{Sales}{Assets} * \frac{Net\ Income}{Sales}$$

High ROE is a good indicator, but stakeholders should understand, if the company is heavily financed through debt, return on assets might be high (as financial leverage is high in that case), however, heavy debt financing is risky. That is why it is important to use the Du Pont system.

2.2.1.2. Turnover Ratios

The next type of ratios used for financial analysis is turnover ratios, also called activity ratios. Turnover ratios show the efficiency of using company’s resources. The higher the ratio, the better the company uses resources. There are many turnover ratios, in my work I will describe several of them.

Asset turnover ratio, which is also called sales-to-assets, shows the efficiency of assets in terms of generating revenue. There are no specific norms for asset turnover ratio, as the value is different for every industry due to different operational processes (Total Asset Turnover, 2016). Sales value is in the numerator of the formula. Assets amount is in the denominator of the formula. Analysts usually use total assets at start of the period.

$$\text{Asset Turnover Ratio} = \frac{\text{Sales}}{\text{Total Assets at Start of the Period}}$$

Inventory turnover ratio shows if the inventory is managed efficiently. Inventory includes materials used for production, unfinished goods and goods for sale. Balance sheet shows the cost of inventories, not the revenue. That is why inventory amount is compared to the COGS. The ratio shows how many times the inventory was sold during the year. It is not efficient to freeze more capital than the company needs in inventories.

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Inventory at Start of the Period}}$$

There is another way to interpret inventory turnover ratio, which is called days inventory outstanding. It can show average time from the purchase of inventory to its sale. Inventory at start of the year is compared to daily COGS. There are no agreed norms for the indicator, as in every industry it is different.

$$\text{Days Inventory Outstanding} = \frac{\text{Inventory at Start of the Period}}{\text{Daily Cost of Goods Sold}}$$

$$\text{Daily Cost of Goods Sold} = \frac{\text{COGS}}{365}$$

Receivables turnover ratio shows the proportion of sales to receivables. Receivables are revenues, which are not paid yet. If the receivables are paid quickly, the proportion of unpaid invoices will be low, and the receivables turnover ratio will be high accordingly. High ratio means that the company has a strong financial department, which is responsible for overdue payments (Murphy, 2019).

$$\text{Receivables Turnover Ratio} = \frac{\text{Sales}}{\text{Receivables at Start of the Period}}$$

It is also possible to calculate the average time for customers to pay the invoices, which is called days sales outstanding (DSO). If the value does not exceed the agreed payment terms, the customers pay on time. If the ratio shows higher result, the customers breach the agreement, which may lead to lack of cash on hand at a certain point of time. The company should constantly check this ratio to minimize risks.

$$\text{Days Sales Outstanding} = \frac{\text{Receivables at Start of the Period}}{\text{Average Daily Sales}}$$

$$\text{Average Daily Sales} = \frac{\text{Sales}}{365}$$

Accounts payable turnover ratio shows the proportion of accounts payable (AP) to the cost of goods sold. Accounts payable express money owed by the firm to other parties. The ratio analyzes how many times the company pays off payables during the year. Cost of goods sold value is in the numerator of the formula. Average accounts payable value is in the denominator.

$$\text{Payables Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Accounts Payable at Start of the Period}}$$

Days Payable Outstanding (DPO) is another interpretation of the accounts payable turnover ratio. It indicates the number of days the firm needs to pay out its payables. It is important for companies to know the value of the ratio. DPO should be higher than DSO, the firm should get money from customers first and then pay to the creditors.

$$\text{Days Payable Outstanding} = \frac{\text{Accounts Payable at Start of the Period}}{\text{Daily Cost of Goods Sold}}$$

$$\text{Daily Cost of Goods Sold} = \frac{\text{COGS}}{365}$$

Cash Conversion Cycle (CCC) measures the effectiveness of the company. This indicator shows how fast a firm can convert its resources into cash. The measure shows the flow of cash along the operations of the company: at the beginning of the business process cash is invested into inventories and paid out as accounts payable, then it is collected as sales and receivables.

$$CCC = DIO + DSO - DPO$$

Usually low CCC indicates efficient management. In that case, cash is converted fast. However, it is difficult to evaluate the firm using one indicator, so it should be combined with other indexes (Mueller, 2017).

2.2.1.3. Leverage Ratios

Companies are usually financed through debt. When the company cannot use its own sources for operations, it can borrow money. If the firm is financed mostly through debt, we can say that it is highly leveraged. Leverage ratios, which are also called solvency ratios, show the proportion of external capital. Also, solvency ratios show if the company is able to meet its financial obligations.

Debt financing can be risky. When a firm borrows money, it agrees to make a series of interest payments and pay back the amount of debt. It is important to keep an eye on the value and find an appropriate proportion of own and external resources (Allen, F., Brealey, R.A., Myers, S.C., 2006). Below I will describe some of the leverage ratios used in the work.

Total debt ratio shows the proportion of total liabilities to total assets. It is the most general leverage indicator. If ratio is higher than 0,5, the company uses more debt than equity for financing. High ratio shows that the company is mostly financed through debt, which can be quite risky.

$$\text{Total Debt Ratio} = \frac{\text{Total Liabilities}}{\text{Total Assets}}$$

Sometimes analysts ignore short-term debt. It helps to measure the company's long-term ability to meet its obligations (Bragg, S., 2012).

$$\text{Debt Ratio} = \frac{\text{Long-term Debt}}{\text{Long-term Debt} + \text{Equity}}$$

Debt-to-equity ratio is basically another interpretation of the debt ratio. Debt is in the numerator of the formula; equity is in the denominator. If the ratio is higher than 1, the company is mostly financed through debt.

$$\text{Debt-to-Equity Ratio} = \frac{\text{Total Debt}}{\text{Total Equity}}$$

Times-interest-earned ratio is an indicator, which shows the coverage of interest obligations by profits. Debtors should pay interests for using external financing. Interest payment is a hurdle; the company should ensure that it has enough money to cover it. This ratio is useful for creditors as well. They prefer to lend money, if they are sure that the firm is able to pay everything back without any problems. Numerator expresses earnings before interest and tax; denominator shows interest payments. It is good when EBIT is several times higher than interest payments amount.

$$\text{Times-Interest-Earned Ratio} = \frac{\text{EBIT}}{\text{Interest Payments}}$$

2.2.1.4. Liquidity Ratios

Liquidity ratios represent another important class of ratios. In general, liquidity is the ability of the firm to convert its assets into cash. They show the ability of the company to pay its debts on time. If liquidity is not sufficient, the company will not be able to cover its liabilities. Such situation can lead to bankruptcy. On the other hand, high liquidity sometimes means inefficient use of assets. That is why every company should constantly check the level of their liquidity (Hayes, 2019).

Current ratio is the ratio of current assets to current liabilities. It shows the ability of the company to cover its current liabilities with its current assets.

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

If the ratio is less than 1, it indicates that the company is not able to cover its short-term debts with its current liabilities. The higher the ratio, the more capable a company to pay out its current liabilities. On the other hand, high ratio may show that the firm uses its current assets inefficiently.

So, current ratio should not be higher than 3. Sometimes the indicator can take other values and remain within normal limits. Payment cycle has an important role for interpretation of the measure. For example, after payment collection the value may be higher.

Quick ratio is a widely used liquidity measure. Some of the current assets are more liquid than the other. Sometimes during crises companies are not able to sell inventories and products. That is why quick ratio shows the proportion of cash equivalents and cash to current liabilities. Receivables and marketable securities are considered as cash equivalents. Quick ratio of 1 or little higher is considered to be a normal value, however, the result may vary depending on the industry.

$$\text{Quick Ratio} = \frac{\text{Cash} + \text{Marketable Securities} + \text{Receivables}}{\text{Current Liabilities}}$$

Cash ratio shows the proportion of cash and marketable securities to current liabilities. Cash and marketable securities are the most liquid assets of the company. Ideally cash ratio should be in the range from 0,5 to 1.

$$\text{Cash Ratio} = \frac{\text{Cash} + \text{Marketable Securities}}{\text{Current Liabilities}}$$

Net-working-capital-to-total-assets ratio is an important liquidity ratio. Net working capital is the difference between current assets and current liabilities. If net working capital is positive, the company is able to cover its short-term liabilities. It indicates that the firm has some funds for development. The ratio shows the proportion of net working capital to assets.

$$\text{Net Working Capital to Assets} = \frac{\text{Net Working Capital}}{\text{Total Assets}}$$

2.2.1.5. *Economic Value Added*

Economic Value added is an indicator, which evaluates financial performance of the company. The measure shows surplus value created on existing company's investments (Aswath Damodaran, 2002). EVA is Net operating profit after taxes (NOPAT) diminished by Weighted average cost of capital (WACC).

$$EVA = NOPAT - WACC * \text{Capital Invested}$$

NOPAT shows profits of company with the assumption that it has no debt

$$NOPAT = \text{After Tax Interest} + \text{Net Income}$$

WACC is average return, that is potentially paid to company's investors.

$$WACC = \left(\frac{\text{Equity}}{\text{Equity} + \text{Debt}} * \text{Cost of Equity} \right) + \left(\frac{\text{Debt}}{\text{Equity} + \text{Debt}} * \text{Cost of Debt} * (1 - \text{Tax Rate}) \right)$$

3. Practical Part

3.1. Executive Summary

This work focuses on financial analysis of Xiaomi Corporation. It is a Chinese based manufacturer of smartphones, hardware and mobile devices. Xiaomi was founded in 2010. In 2014 it started distributing products overseas. In 2018 the company filed for public offering with 50 million dollars market capitalization.

Financial performance of Xiaomi Corporation is analyzed during 2016 – 2019 in the work. Results are compared to competitors' values. Samsung, Apple and Huawei are the main rivals. The company is one of the fastest-growing firms in the technology sector. Horizontal analysis of income statement shows a continuous increase in sales. Samsung, Apple and Huawei do not obtain such growth.

Xiaomi Corporation has lower gross profit margin than its competitors, as market share is more important for the company than profits. The firm sets as low prices for its products as possible. Samsung and Apple show higher ROA and ROE than Xiaomi, which means that Chinese company should increase the efficiency of using assets and equity. EVA is positive, which means that cost of capital is less than profits.

Turnover ratios and cash conversion cycle show that from year to year the company needs more time to convert resources into cash. It is related to the increase of operations and amount of assets. In 2019 it took 30 days on average to receive cash. The value is not high, however, Xiaomi Corporation should control it, as increasing trend is observed. Samsung and Huawei obtained higher values. Apple has negative values; it has low DIO, as the company is sure that inventories depreciate fast, and high DPO due to long payment terms from the suppliers.

Xiaomi Corporation is highly financed through debt in 2016 – 2017, amount of debt increases amount of assets. In 2018 – 2019 proportion of debt is slightly higher than the proportion of equity, total debt ratio is 0,51 and 0,56 accordingly. Apple is mostly financed through debt; Samsung and Huawei use more equity.

Liquidity ratios show that Xiaomi Corporation is able to cover short-term liabilities with current assets, however, obtained values are close to the lower boundaries of the normal range, which is 1,5 – 3. Competitors have higher results. Liquidity ratio of Huawei shows that it uses current assets inefficiently, as results are higher than 3.

I expect sales of Xiaomi Corporation to grow at 10% rate in 2020. Covid-19 will have a negative impact on the company and net profits will decrease compared to 2019 value.

3.2. About the Company

Xiaomi Corporation is a Chinese based company. It manufactures smartphones, tablets, hardware and mobile devices. Now the company decided to target smart-home products sector. The vision of Xiaomi Corporation is being the “coolest company in the hearts of its users” (Mi Global Home, n.d.). Main goal of the firm is producing innovative devices of high quality for affordable prices.

Employees of the firm are passionate about producing a perfect product. The brand is trying to create strong relationships with the customers. “Just for fans” is the slogan of the company.

Xiaomi Corporation is quite a new company. It was founded by Lei Jun and his partners in 2010. The company was funded by Tamasek Holdings investment group, venture capitalist IDG Capital and Qiming Venture Partners (Xiaomi SuccessStory, 2019).

The idea of Lei Jun was to provide more convenience and efficiency to Android software. In August 2010 Xiaomi Corporation released MIUI hardware, which was based on Android system, later on in 2011 the company showed its first smartphone. During 2 years the company sold more than 10 million devices, and by the end of 2013 Xiaomi became the fifth largest brand of mobile devices in China.

In 2014 Xiaomi Corporation decided to push the boundaries and distribute its product to 10 countries, and during the first half of 2014 it sold more than 26 million mobile phones. Revenue for the first 2 quarters was 150% higher than the year before. During the further years was constantly developing and producing more and more devices.

In 2018 Xiaomi Corporation filed for initial public offering (IPO). The company expected to have the firm value of 100 billion dollars during the IPO, however, market capitalization was two times less, around 50 billion dollars. In a year, in 2019, it decreased a lot, market capitalization was 28 billion dollars (Denventhal, 2019).

Smart home became an infeasible component of the era of Internet of things. Lots of various devices are used to make our life more comfortable. Xiaomi Corporation decided to enter this sector. The company produces a wide range of products from this category, for example: lighting, cleaning devices, air and water purifiers, personal care gadgets, Wi-Fi routers, sensors and other appliances. The products be controlled through Xiaomi Mi Home application, which makes it possible to control the house even remotely.

Nowadays Xiaomi products are available in more than 90 countries around the world. The company sold more than 213.2 million devices. It has a lot of loyal customers. Xiaomi Corporation has the fourth place in the rating of the most successful mobile phone manufacturers in the world (Xiaomi: Gadgets Now, 2019).

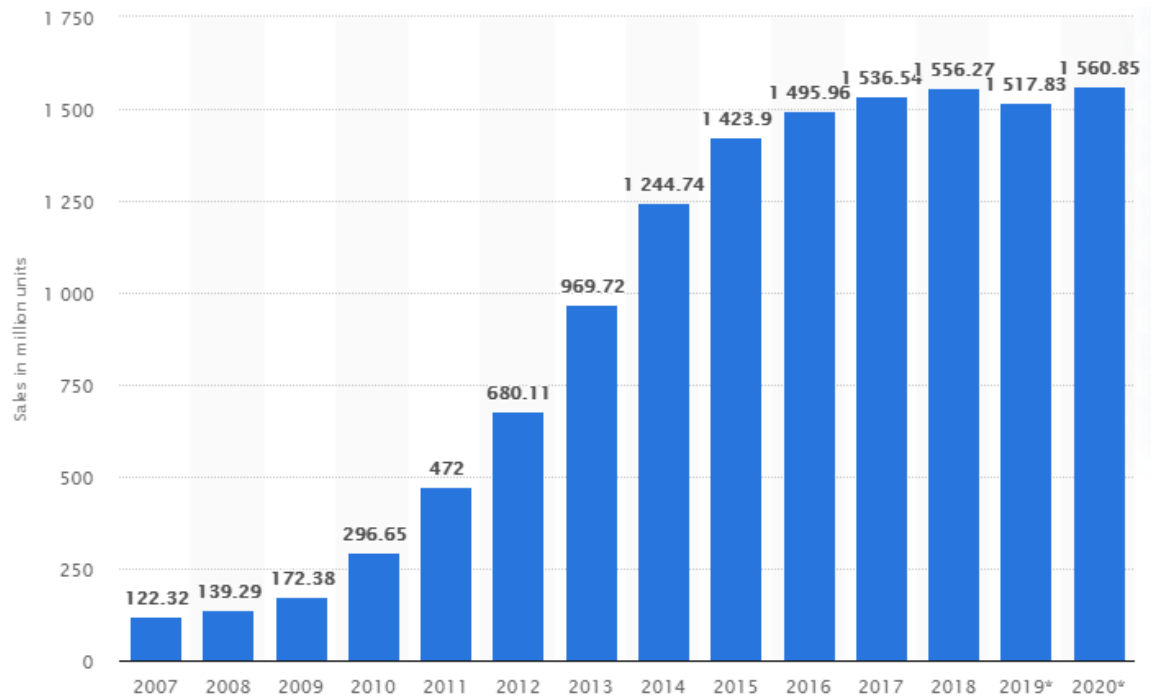
3.3. Characteristics of the sector

Mobile phone industry is quite new. The first cell phone was created in 1983, it was Motorola DynaTAC 800x (Hur, 2018). The consumer paid 4 000 \$ for it and was able to use it for only 30 minutes. Convenient mobile phones came to the market only in late 1990s. However, the real hype began after Apple released its first smartphone in 2007. The first iPhone changed the sector; consumers were shocked by the level of technologies used in the device.

The industry has been constantly developing since 2007. Nowadays it is difficult to imagine a person without a mobile phone. Our devices gather all the information about our lives. Some models can accommodate up to 500 GB of data.

As seen in figure 1, the number of sold smartphones is constantly increasing. The author made a forecast for 2020, which is quite positive. Nowadays 37% of the population own a cell phone. In North America and Western Europe, the value is even higher, it reaches 61% of the population.

Figure 1. Global smartphone sales to end users 2007-2020



Source: Statista, by S. O'Dea, 2020

The industry is quite stable and profitable. There are lots of players in the market, even though entering the sector requires a high level of technological development

3.4. Competitors

Mobile phone industry is very diverse. It includes many companies of different size from various countries. Xiaomi Corporation has lots of competitors. In my work I will describe 3 main rivals, the companies, which are at the top 3 smartphone producers. I will analyze Huawei, Apple and Samsung.

3.4.1. Huawei

Huawei is the third largest smartphone producer. The company was founded in 1987 by Ren Zhengfei in China. The firm produced phone switches, later it decided to enter the sector of telecommunications networks.

In 2004 the company opened a new department and by 2004 released the first mobile phone. In 2005 sales in China were much less than in other countries and Huawei became a strong player in the market. Later the firm got contracts from several telecommunications providers, among of those were Vodafone and British Telecom.

Nowadays, the company is one of the most well-known producers of smartphones, mobile devices, telecommunications networks, electronics and smart home gadgets. The company operates in more than 170 countries and has more than 194 000 employees (History of Huawei, 2020).

3.4.2. Apple

Apple is the second largest smartphone producer. Xiaomi corporation is usually compared to Apple, however, Chinese mobile producer does not agree with such comparison. Xiaomi tells that it tries to produce products of a high quality at affordable prices.

Steve Jobs, Ronald Wayne and Steve Wozniak created their first computer in the 1970s. In 1976 they decided to open their company. Wozniak built every computer himself and it was just a small startup. But Jobs had more large-scale ideas. Ronald Wayne, who originated the first logo, left the company 2 weeks after foundation.

In 1976 Apple has its own office and several employees, the company grew very fast. In 1977 revenue was almost 800 000 \$ and by 1980 the company got 118 000 000 \$. Apple filed for IPO in 1980 (Ahmer, 2019).

Later Apple expanded its product portfolio; the company added servers and laptops. In 2007 Apple created its first smartphone, which was a revolution in the mobile phone market. Then the firm started to produce tablets, mobile devices, operating systems, applications and various information technologies.

Nowadays Apple is one of the strongest brands in the world. There are lots of fans and loyal customers of the company. Almost 135 000 people are employed in the firm (Apple: Number of Employees 2006-2019: AAPL, n.d.).

3.4.3. Samsung

Samsung Group is the largest smartphone producer in the world. Samsung was founded in 1938 in South Korea. At the beginning the company operated as a grocery store, later Lee Byung-Chull, the founder of the company, decided to focus on textile. He was trying to create a mechanized mass production. The firm developed energetically and entered heavy, shipbuilding, chemical, and petrochemical industries during 1970s.

In 1969 Samsung released its televisions, during 1970s it continued to develop in the sector of home electronics. Later the company started exploring information systems and soon became a leader in the field. In 1990s Samsung added computers to its production line, and in 2000s the first smartphone was released.

Nowadays Samsung Group produces a wide range of products, including home and industrial electronics, appliances, smartphones and computers, digital devices. It generates nearly 20% of South Korean export. More than 320 000 people are employed in the company (Bondarenko, 2018).

3.5. Balance Sheet

In Table 1 you can see Xiaomi balance sheet for years 2016 – 2019.

Table 1. XIAOMI-W (1810.HK) Balance Sheet 2016 - 2019

Amounts are shown in million CNY				
Breakdown/ Years	2019	2018	2017	2016
Non-current assets	46 090	39 215	28 731	20 129
Property, plant, equipment	6 992	5 784	2 242	1 194
Depreciation		-716	-511	-346
Goodwill		282	248	248
Intangible assets	1 672	1 779	2 026	872
Long-term investments and advances	29 980	27 275	20 568	14 202
Other long-term	7 446	4 811	4 158	3 959
Current Assets	137 539	106 013	61 138	30 636
Inventory	32 585	29 948	16 647	8 493
Receivables	19 672	36 111	24 508	8 138
Cash and cash equivalents	25 920	30 230	11 563	9 230
Other short-term investments	37 986	8 015	5 513	3 958
Other current assets	21 375	1 708	2 907	817
Total assets	183 629	145 228	89 870	50 766
Share Capital	0	0	0	0
Reserves	81 330	71 323	-127 272	-92 192
Minority Interests	327	-73	62	134
Total Equity	81 658	71 250	-127 211	-92 058
Long Term Debt	4 787	7 856	168 703	116 192
Other long-term liabilities	5 004	4 182	1 245	568
Non-current liabilities	9 791	12 038	169 948	116 760
Payables	59 528	46 287	34 003	17 578
Taxation	479	662	421	258
Short-term debt	12 837	3 075	3 551	3 769
Other short-term liabilities	19 337	11 916	9 157	4 460
Current liabilities	92 181	61 940	47 133	26 063
Total liabilities	101 972	73 978	217 080	142 823
Total liabilities and stockholders' equity	183 629	145 228	89 870	50 766

Source: Yahoo Finance, 2020. Own processing

3.5.1. Horizontal Analysis of Assets

I will start with analyzing balance sheet of Xiaomi. Below you can see horizontal analysis of company's assets in absolute values.

Table 2. Horizontal Analysis of Xiaomi Assets (in absolute values) 2016 – 2019

Amounts are shown in million CNY			
Breakdown/ Years	2019 - 2018	2018 - 2017	2017 - 2016
Non-current assets	6 875	10 484	8 602
Net Property, plant, equipment	1 924	3 337	883
Goodwill	-282	34	0
Intangible assets	-107	-247	1 154
Long-term investments and advances	2 704	6 708	6 366
Other long-term	2 635	652	199
Current Assets	31 527	44 874	30 502
Inventory	2 637	13 301	8 154
Receivables	-16 439	11 603	16 370
Cash and cash equivalents	-4 310	18 667	2 333
Other short-term investments	29 972	2 501	1 556
Other current assets	19 667	-1 198	2 090
Total assets	38 401	55 358	39 104

Source: Autor

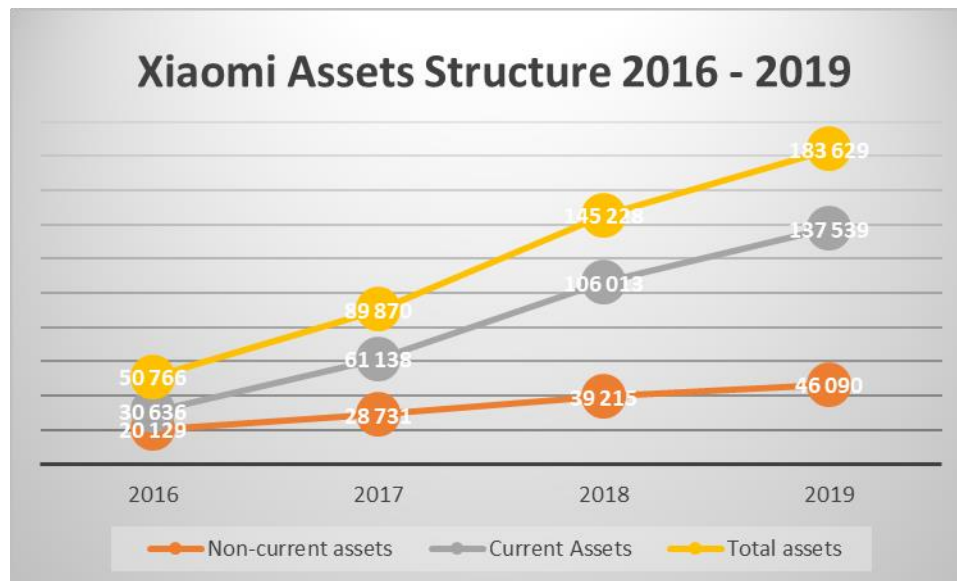
Table 3. Horizontal Analysis of Xiaomi Assets (in relative values) 2016 – 2019

Breakdown/ Years	2019 - 2018	2018 - 2017	2017 - 2016
Non-current assets	17,53%	36,49%	42,73%
Net Property, plant, equipment	37,97%	192,80%	104,02%
Goodwill	-100,00%	13,67%	0,00%
Intangible assets	-6,02%	-12,19%	132,37%
Long-term investments and advances	9,92%	32,61%	44,83%
Other long-term	54,78%	15,69%	5,03%
Current Assets	29,74%	73,40%	99,56%
Inventory	8,81%	79,90%	96,01%
Receivables	-45,52%	47,35%	201,16%
Cash and cash equivalents	-14,26%	161,43%	25,27%
Other short-term investments	373,97%	45,37%	39,30%
Other current assets	1151,20%	-41,23%	255,69%
Total assets	26,44%	61,60%	77,03%

Source: Author

In the tables above you can see horizontal analysis of company's assets. Total assets are constantly growing. The highest growth is observed in 2017, total assets in 2017 were 77% higher than in 2016, which is 39 104 million CNY in absolute values. 2018 also shows good results and the growth is 62%, 55 358 million CNY. The reason of such success is international expansion and increasing popularity of the brand. 2019 experiences a growth of 26%, which is 38 401 million CNY in absolute values. We can see that total amount of assets is constantly developing.

Figure 2. Xiaomi Assets Structure 2016 - 2019



Source: Author

Current assets growth is more massive. From 2016 to 2017 current asset value increased almost twice (99,56% or 30 502 million CNY); we can see that all the components experienced growth. Receivables and uncategorized current assets increased more than 3 times and inventory almost twice. In 2018 amount of cash and cash equivalent massively increased, which may mean that receivables were paid out, total growth of current assets is 73% or 44 874 million CNY in absolute values. In 2019 amount of short-term investments increased, which means that Xiaomi invested received cash, total growth of current assets is 30% or 31 527 million CNY.

Non-current assets are also growing during the years 2016 – 2019. 2017 shows 43% growth comparing to 2016, total amount of non-current assets increased by 8 602 million dollars. In 2018 the amount increased by 36%, which is 10 484 million CNY in absolute values. And during 2019 amount of non-current assets grew at 18% rate or increased by 6 875 million CNY.

We can see that net property, plant and equipment (property, plant and equipment diminished by the amount of accumulated depreciation) increased more than twice in 2017. In 2018 net property, plant and equipment value increased by 193% comparing to 2017. In 2019 the growth was 38%. This shows that Xiaomi Corporation invested a lot in development of the company. The value was constantly increasing during the years 2016 – 2019. This is a good sign for investors. In 2017 the

company invested in intangible assets, such as trademarks, licenses and software, which also indicates development of the firm.

3.5.2. Vertical Analysis of Assets

Below you can see vertical analysis of Xiaomi Corporation, it shows the structure of the assets.

Table 4. Vertical Analysis of Xiaomi Assets 2016 – 2019

Breakdown/ Years	2019	2018	2017	2016
Non-current assets	25,10%	27,00%	31,97%	39,65%
Net Property, plant, equipment	3,81%	3,49%	1,93%	1,67%
Goodwill	0,00%	0,19%	0,28%	0,49%
Intangible assets	0,91%	1,23%	2,25%	1,72%
Long-term investments and advances	16,33%	18,78%	22,89%	27,98%
Other long-term	4,05%	3,31%	4,63%	7,80%
Current Assets	74,90%	73,00%	68,03%	60,35%
Inventory	17,75%	20,62%	18,52%	16,73%
Receivables	10,71%	24,87%	27,27%	16,03%
Cash and cash equivalents	14,12%	20,82%	12,87%	18,18%
Other short-term investments	20,69%	5,52%	6,13%	7,80%
Other current assets	11,64%	1,18%	3,23%	1,61%
Total assets	100,00%	100,00%	100,00%	100,00%

Source: Author

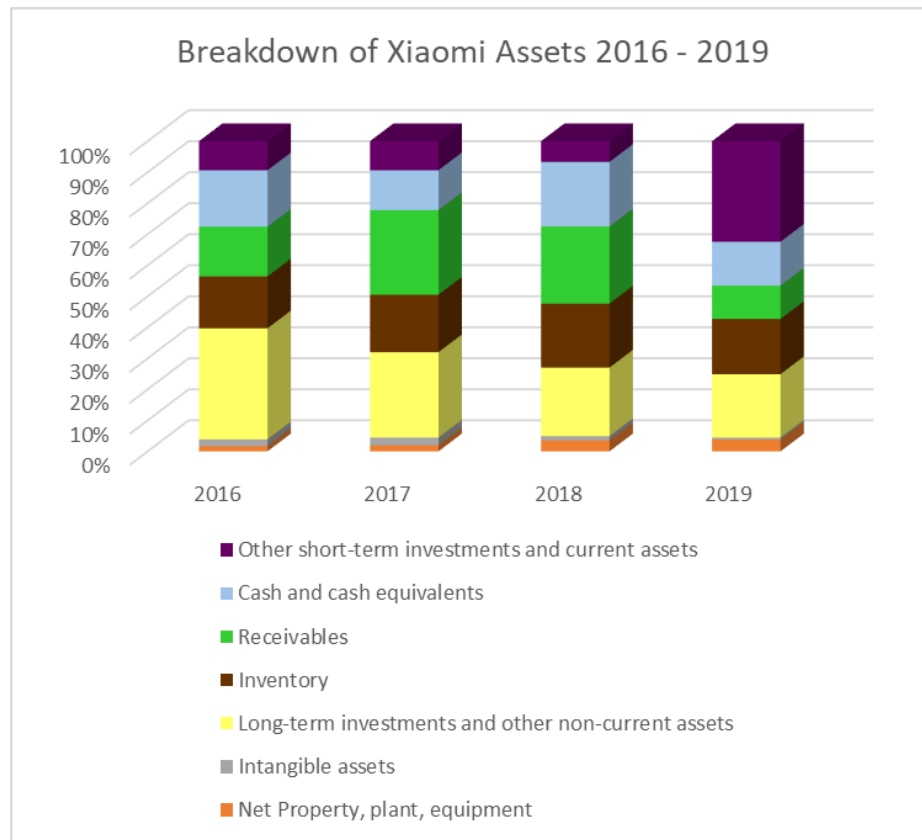
Current assets represent the largest part of assets. In 2016 they made up 60% of the total amount of assets, in 2019 the share increased to 75%. The structure of current assets changes from year to year. In 2019 we can see decrease in cash and receivables, but increase in short-term investments, which means that the company plans to generate additional income from using its cash.

In 2016 the share of non-current assets was 40%, in 2017 it became 32%, in 2018 it compiled 27% and in 2019 it was only 25%. We can clearly see the decreasing trend. The largest part of non-current assets is represented by long-term investments and advances, their share to total assets is also decreasing from year to year.

Net property, plant and equipment represents from 1,67% to 3,81%. Such low values are very unusual for a manufacturer of smartphones. This means that Xiaomi uses its plants and equipment very efficiently, so that they can generate high revenue. In 2016 net property, plant and equipment compiled only 1,67% of the total assets, in 2017 the share increased to 1,93%, in 2018 it became 3,49% and in 2019 they represented 3,81%.

In the figure below you can see the graphic representation of the breakdown of Xiaomi assets, which is based on the balance sheet.

Figure 3. Breakdown of Xiaomi Assets 2016 - 2019



Source: Author

3.5.3. Horizontal Analysis of Equity and Liabilities

In the tables below you can see horizontal analysis of equity and liabilities in absolute and relative values. The value of total equity and liabilities was constantly increasing during 2016–2017. 2017 showed 77% growth compared to 2016 values, which is 39 104 million CNY in absolute values. In 2018 we can observe 62% increase or 55 358 million CNY difference. And in 2019 amount of equity and liabilities increased by 26% compared to the value of 2018, which means that it grew by 38 401 million CNY.

Non-current liabilities do not follow any trend. In 2017 the total amount increased by 46% or by 53 188 million CNY, which was mainly due to the growth of long-term debt. In 2018 the company managed to pay it back and decreased the value of long-term debt by 160 846 million CNY.

Current liabilities are constantly increasing from 2016 to 2019. 2017 showed a growth of 81%, in 2018 they increased by 31% and in 2019 by 49%. Payables and uncategorized short-term liabilities were continuously growing during the period. We can observe a strong increase in the value of short-term debt in 2019; the amount increased more than 4 times comparing to the level of short-term debt in 2018.

Table 5. Horizontal Analysis of Xiaomi Equity and Liabilities (in absolute values) 2016 – 2019

Amounts are shown in million CNY			
Breakdown/ Years	2019 - 2018	2018 - 2017	2017 - 2016
Reserves	10 008	198 595	-35 080
Minority Interests	400	-135	-72
Total Equity	10 407	198 461	-35 153
Long Term Debt	-3 069	-160 846	52 510
Other long-term liabilities	822	2 936	677
Non-current liabilities	-2 247	-157 910	53 188
Payables	13 241	12 284	16 426
Taxation	-182	241	164
Short-term debt	9 761	-476	-218
Other short-term liabilities	7 421	2 758	4 698
Current liabilities	30 241	14 807	21 069
Total liabilities	27 994	-143 103	74 257
Total liabilities and stockholders' equity	38 401	55 358	39 104

Source: Author

Table 6. Horizontal Analysis of Xiaomi Equity and Liabilities (in relative values) 2016 – 2019

Breakdown/ Years	2019 - 2018	2018 - 2017	2017 - 2016
Reserves	14,03%	156,04%	-38,05%
Minority Interests	548,97%	-218,14%	-53,91%
Total Equity	14,61%	156,01%	-38,19%
Long Term Debt	-39,07%	-95,34%	45,19%
Other long-term liabilities	19,67%	235,79%	119,22%
Non-current liabilities	-18,67%	-92,92%	45,55%
Payables	28,61%	36,13%	93,45%
Taxation	-27,57%	57,16%	63,50%
Short-term debt	317,42%	-13,39%	-5,78%
Other short-term liabilities	62,28%	30,12%	105,35%
Current liabilities	48,82%	31,42%	80,84%
Total liabilities	37,84%	-65,92%	51,99%
Total liabilities and stockholders' equity	26,44%	61,60%	77,03%

Source: Author

3.5.4. Vertical Analysis of Equity and Liabilities

In the table below you can see vertical analysis of Xiaomi stockholder's equity and liabilities. It shows the share of each category to the total value.

Table 7. Vertical Analysis of Xiaomi Equity and Liabilities 2016 – 2019

Breakdown/ Years	2019	2018	2017	2016
Reserves	44,29%	49,11%	-141,62%	-181,60%
Minority Interests	0,18%	-0,05%	0,07%	0,26%
Total Equity	44,47%	49,06%	-141,55%	-181,34%
Long Term Debt	2,61%	5,41%	187,72%	228,88%
Other long-term liabilities	2,73%	2,88%	1,39%	1,12%
Non-current liabilities	5,33%	8,29%	189,10%	230,00%
Payables	32,42%	31,87%	37,84%	34,63%
Taxation	0,26%	0,46%	0,47%	0,51%
Short-term debt	6,99%	2,12%	3,95%	7,42%
Other short-term liabilities	10,53%	8,20%	10,19%	8,78%
Current liabilities	50,20%	42,65%	52,45%	51,34%
Total liabilities	55,53%	50,94%	241,55%	281,34%
Total liabilities and stockholders' equity	100,00%	100,00%	100,00%	100,00%

Source: Author

In 2016 and 2017 Xiaomi Corporation had negative amount of equity, which is a bad sign for investors. It means that company's debt exceeds its assets. As you can see from the balance sheet of the firm, in 2016 – 2017 it had a high amount of long-term debt. But it was paid back in 2018. In 2018 equity made up 49% of the total amount of stockholder's equity and liabilities. In 2019 the share decreased a little, equity accounted for 44% of the total amount.

Current liabilities share was quite stable during the period. In 2016 they represented 51% of the total value of equity and liabilities. By the end of 2017 the share increased to 52%. In 2018 the proportion decreased to 43%. And in 2019 current liabilities accounted for 50%. The structure of current liabilities was also stable. Payables represented 32 – 38% of the total amount of stockholder's equity and liabilities. Short-term debt and other liabilities account for 10 – 18%.

Non-current liabilities were very unstable during the period. In 2016 long-term liabilities accounted for 230% of the total value of equity and liabilities, in 2017 the proportion decreased to 189%. In 2018 the situation changed, long-term debt was paid back, and the amount decreased massively, the proportion of non-current assets became 8%. In 2019 it became even less, non-current liabilities accounted for 5%.

3.6. Income Statement

In table 8 you can see Xiaomi income statement for years 2016 – 2019.

Table 8. Income Statement Xiaomi Corporation (2016 – 2019)

Amounts are shown in million CNY				
Breakdown/ Years	2019	2018	2017	2016
Revenue	205 839	174 915	114 625	68 434
Cost of Goods Sold	177 285	152 723	99 471	61 185
Gross Profit	28 554	22 192	15 154	7 249
Operating Expenses	16 794	20 995	2 939	3 464
Selling General and Administrative Expenses	13 482	19 854	6 223	3 821
Research Development	7 493	5 267	3 015	1 993
Depreciation Expense	0	748	361	240
Other Operating Expenses (Income)	-4 181	-4 874	-6 660	-2 589
Operating Income	11 760	1 196	12 215	3 785
Interest Income (Expense)	402	259	27	-86
Other Income		12 472	-54 072	-2 523
EBT	12 163	13 927	-41 829	1 176
Income Tax Expense	2 060	449	2 060	684
Net Income	10 103	13 478	-43 889	492

Source: Investing.com, 2020. Own processing.

3.6.1. Horizontal Analysis of Income Statement

In the tables below you can find horizontal analysis of Xiaomi corporation in absolute and relative values during 2016 – 2019. Sales of the company were increasing from year to year and the growth was quite high. In 2017 revenue of the company was 68% higher than in 2016, which is 46 191 million CNY difference. In 2018 Xiaomi increased sales by 53%, which is 60 291 million CNY, compared to the year before. And 2019 showed 18% growth or 30 923 million CNY. Cost of goods sold values have proportional dynamics. Gross profit has an increasing trend.

Operating expenses decreased by 15% in 2017, however, we can observe a spike of the value in 2018, the increase was 18 057 million CNY. In 2019 operation expenses decreased by 4 202 million CNY or by 20% compared to the value of 2018. Earnings before taxes and net income fluctuate a lot due to unstable uncategorized income.

Table 9. Horizontal Analysis of Xiaomi Income Statement (in absolute values) 2016 – 2019

Amounts are shown in million CNY			
Breakdown/ Years	2019 - 2018	2018 - 2017	2017 - 2016
Revenue	30 923	60 291	46 191
Cost of Goods Sold	24 561	53 253	38 286
Gross Profit	6 362	7 038	7 905
Operating Expenses	-4 202	18 057	-526
Selling General and Administrative Expenses	-6 372	13 631	2 402
Research Development	2 226	2 252	1 023
Depreciation Expence	-748	387	121
Other Operating Expenses (Income)	693	1 787	-4 071
Operating Income	10 564	-11 019	8 430
Interest Income (Expense)	144	232	113
Other Income	-12 472	66 543	-51 548
EBT	-1 764	55 756	-43 005
Income Tax Expense	1 610	-1 610	1 376
Net Income	-3 375	57 367	-44 381

Source: Author

Table 10. Horizontal Analysis of Xiaomi Income Statement (in relative values) 2016 – 2019

Breakdown/ Years	2019 - 2018	2018 - 2017	2017 - 2016
Revenue	17,68%	52,60%	67,50%
Cost of Goods Sold	16,08%	53,54%	62,57%
Gross Profit	28,67%	46,44%	109,04%
Operating Expenses	-20,01%	614,44%	-15,17%
Selling General and Administrative Expenses	-32,09%	219,05%	62,87%
Research Development	42,26%	74,68%	51,33%
Depreciation Expence	-100,00%	107,29%	50,38%
Other Operating Expenses (Income)	14,22%	26,83%	-157,25%
Operating Income	882,92%	-90,21%	222,73%
Interest Income (Expense)	55,45%	866,69%	131,05%
Other Income	-100,00%	123,07%	-2042,88%
EBT	-12,67%	133,30%	-3658,40%
Income Tax Expense	358,34%	-78,18%	201,18%
Net Income	-25,04%	130,71%	-9027,63%

Source: Author

3.6.2. Vertical Analysis of Income Statement

Table 11. Vertical Analysis of Xiaomi Income Statement 2016 – 2019

Breakdown/ Years	2019	2018	2017	2016
Revenue	100,00%	100,00%	100,00%	100,00%
Cost of Goods Sold	86,13%	87,31%	86,78%	89,41%
Gross Profit	13,87%	12,69%	13,22%	10,59%
Operating Expenses	8,16%	12,00%	2,56%	5,06%
Selling General and Administrative Expenses	6,55%	11,35%	5,43%	5,58%
Research Development	3,64%	3,01%	2,63%	2,91%
Depreciation Expense	0,00%	0,43%	0,31%	0,35%
Other Operating Expenses (Income)	-2,03%	-2,79%	-5,81%	-3,78%
Operating Income	5,71%	0,68%	10,66%	5,53%
Interest Income (Expense)	0,20%	0,15%	0,02%	-0,13%
Other Income	0,00%	7,13%	-47,17%	-3,69%
EBT	5,91%	7,96%	-36,49%	1,72%
Income Tax Expense	1,00%	0,26%	1,80%	1,00%
Net Income	4,91%	7,71%	-38,29%	0,72%

Source: Author

Total revenue is a basis for vertical analysis of income statement. As you can see, COGS account for 86 – 89% of the total revenue. Such proportion is very high, it means that markup percentage is low, and the company earns very low amount from the production of one device. That is strongly connected with Xiaomi pricing strategy. The company tries to charge as low amount as possible. The firm is interested in gaining market share.

Selling and administrative expense represent 5 – 11% of the total revenue. Xiaomi uses not only retail stores for distribution; the products are also sold online. Such strategy helps to decrease selling expenses massively.

Operating income is positive during the years 2016 – 2019. It represented 1 – 11% of the total revenue. In 2016 operating income accounted for 6% of the total revenue, in 2017 the share took the highest value of 11%. In 2017 the share decreased to 1%, which is the lowest value for the period. In 2019 operating income represented 6% of the total revenue.

Earnings before taxes and net income were very unstable during 2016 – 2019 because of other income/expense fluctuations. The category showed expense of 4% from the total revenue in 2016. In 2017 it showed expense, which represented 47% of the sales. In 2018 Xiaomi Corporation reported income of 7%. And in 2019 other income value was not announced.

3.7. Analysis of Competitors

Xiaomi Corporation has three main competitors: Huawei, Apple and Samsung. These companies are the largest smartphone producers in the world. You can find financial statements of Xiaomi's rivals in the appendices.

Appendices 1 and 2 reflect financial statements of Samsung. Balance sheet shows that current and non-current assets are presented in relatively equal proportions. Net property, plant and equipment represent the largest part of non-current assets. Current assets include inventories, receivables, uncategorised assets, cash and short-term investments, which the largest part of current assets. Samsung is mostly financed through equity, as total shareholders' equity exceeds liabilities. Current liabilities exceed the amount of non-current liabilities.

Income statement shows that the revenue of Samsung is quite stable during the years 2016 – 2019. Revenue covers all the expenses and net profit is positive and quite high compared to Xiaomi Corporation.

Appendices 3 and 4 reflect financial statements of Apple. In 2016 – 2018 non-current assets exceed current assets twice; in 2019 the amount of non-current assets massively decreased due to the diminishing of total investments and advances, and the proportion of current and non-current assets became almost equal. Total investments and advances represent the largest part of non-current assets, and short-term investments compile the largest share of current assets. Apple is mostly financed through debt, and from 2016 to 2019 the share of debt financing is constantly increasing. Non-current liabilities overtop current ones; long-term debt represents the largest part of liabilities. We can observe high amount of payables, in case of Apple it does not mean poor cash flow and inability to cover debts. It shows that Apple has long payment terms to suppliers, the company gets product and services from providers and can pay after it generates revenue from using them. Apple minimizes the amount of upfront payments.

Revenue of Apple is increasing from 2016 to 2018. In 2019 total revenue decreased, as iPhone sales has dropped (Jack Nicas, 2019). Net income follows the same trend.

Appendices 5 and 6 reflect financial statements of Huawei. The company did not prepare detailed accounting information for 2019. In 2016 – 2017 non-current assets are twice as high as current assets. The largest portion of non-current assets is represented by intangible assets, in 2018 their amount decreases massively, and the proportion of non-current and current assets becomes almost equal. Huawei is strongly financed through equity. It is important to say that Huawei is a private company, owned by the China-based employees (Raymond Zhong, 2019). Current liabilities increase the amount of non-current ones.

Huawei reports a spike in revenue in 2019, however, operating expenses of the company increase massively as well; net income is negative. We can observe a decreasing trend of revenue during 2016 – 2018. In 2018 the company reported high uncategorized expense, that is why net income is negative in 2018. In 2016 -2017 net income is positive.

Table 12. Vertical Analysis of Competitors' (Samsung, Apple, Huawei) Balance Sheets 2016 – 2019

Breakdown/ Years	Samsung				Apple				Huawei			
	2019	2018	2017	2016	2019	2018	2017	2016	2019	2018	2017	2016
Non-current assets	47,67%	47,70%	50,53%	44,89%	51,90%	64,09%	65,72%	66,78%	48,09%	67,44%	61,99%	
Net Property, Plant & Equipment	33,99%	34,01%	37,01%	34,89%	11,04%	11,29%	9,00%	8,40%	2,48%	2,37%	2,60%	
Other Assets	13,68%	13,69%	13,53%	10,00%	40,86%	52,79%	56,72%	58,38%	45,62%	65,07%	59,39%	
Current Assets	52,33%	52,30%	49,47%	55,11%	48,10%	35,91%	34,28%	33,22%	51,91%	32,56%	38,01%	
Inventories	7,59%	8,54%	8,28%	7,00%	1,21%	1,08%	1,29%	0,66%	6,45%	6,01%	8,19%	
Accounts Receivable	11,15%	10,89%	10,54%	10,60%	13,53%	13,40%	9,50%	9,11%	20,90%	7,95%	3,65%	
Cash and short-term investments	30,85%	29,74%	27,57%	33,63%	29,71%	18,13%	19,76%	20,88%	20,21%	17,90%	22,31%	
Other Current Assets	2,74%	3,12%	3,08%	3,88%	3,64%	3,30%	3,71%	2,57%	4,34%	0,69%	3,85%	
Total assets	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	
Total Shareholders' Equity	72,30%	70,74%	68,67%	71,11%	26,73%	29,30%	35,72%	39,87%	88,47%	92,90%	87,68%	
Non-current liabilities	9,61%	8,90%	9,07%	8,03%	42,04%	38,75%	37,42%	35,57%	1,34%	2,34%	3,93%	
Current liabilities	18,09%	20,36%	22,26%	20,87%	31,23%	31,95%	26,86%	24,56%	10,19%	4,76%	8,39%	

Source: Author

In the table above you can see vertical analysis of Samsung, Apple and Huawei statements. I would like to compare the structure of companies' statements. Xiaomi Corporation has the lowest proportion of non-current assets. Samsung and Apple have a higher share of net property, plant and equipment. Apple has the lowest level of inventory; this shows efficient work of management. Tim Cook tells that inventory depreciates very quickly in such business. Apple's supply chain is a key to success (Apple Supply Chain - The Best Supply Chain in the World, n.d.). Samsung and Huawei are mostly financed through equity, Apple uses more debt financing. Xiaomi Corporation had a high proportion of debt in 2016 – 2017. In 2018 the company files for IPO, and equity financing increases massively.

Table 13. Vertical Analysis of Competitors' (Samsung, Apple, Huawei) Income Statements 2016 – 2019

Breakdown/ Years	Samsung				Apple				Huawei			
	2019	2018	2017	2016	2019	2018	2017	2016	2019	2018	2017	2016
Revenue	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	100,00%	
Cost of Goods Sold	65,55%	55,49%	55,13%	60,77%	62,42%	61,63%	61,99%	61,39%	67,91%	49,59%	46,21%	
Gross Profit	34,45%	44,51%	44,87%	39,23%	37,58%	38,37%	38,01%	38,61%	32,09%	50,41%	53,79%	
Operating Expense	22,40%	20,35%	22,48%	24,74%	13,26%	11,64%	11,74%	11,31%	20,59%	17,96%	21,24%	
EBIT	12,05%	24,16%	22,39%	14,49%	24,33%	26,73%	26,26%	27,30%	11,50%	32,46%	32,55%	
Unusual Expense	0,00%	0,00%	0,15%	0,43%	0,00%	0,00%	0,00%	-0,26%	183,82%	0,41%	0,12%	
Non Operating Income/Expense	0,12%	0,05%	0,73%	0,70%	0,43%	-0,22%	0,52%	-0,09%	-1,07%	18,37%	9,57%	
Non-Operating Interest Income	1,15%	0,94%	0,67%	0,75%	1,91%	2,14%	2,28%	1,87%	1,60%	2,21%	1,61%	
Equity in Affiliates (Pretax)	0,00%	0,22%	0,08%	0,01%	-	-	-	-	-	-	-	
Interest Expense	0,30%	0,28%	0,27%	0,29%	1,38%	1,22%	1,02%	0,68%	0,13%	0,00%	0,37%	
EBT	13,03%	25,09%	23,46%	15,21%	25,29%	27,43%	28,04%	28,65%	-171,93%	52,62%	43,23%	
Income Tax	3,77%	6,90%	5,85%	3,96%	4,03%	5,03%	6,89%	7,32%	-0,13%	4,70%	2,98%	
Equity in Affiliates	0,18%	0,00%	0,00%	0,00%					0,80%	3,45%	0,99%	
Minority Interest Expense	0,10%	0,19%	0,35%	0,15%					-0,27%	0,83%	3,60%	
Net Income	9,33%	18,00%	17,26%	11,10%	21,25%	22,40%	21,15%	21,33%	-170,72%	50,55%	37,64%	

Source: Author

In table 12 you can see vertical analysis of income statements. COGS of Samsung, Apple and Huawei account for 46 – 67% of the total revenue. In case of Xiaomi the share is much higher, cost of goods sold represent 86 – 89%. Xiaomi Corporation is interested in gaining market share, so the company sets the lowest possible prices, markup is very low. Selling and administrative expenses are lower than competitors' ones. Xiaomi uses online sales as one of the main distribution channels. Online distribution helps to decrease costs, as the company does not have to rent a place for a shop or hire employees. On average Xiaomi Corporation has the lowest share of net income to total revenues.

3.8. Ratio Analysis

3.8.1. Profitability ratios

Gross profit margin ratio shows the influence of COGS on the total revenue.

Table 14. Xiaomi Corporation Gross Profit Margin 2016 - 2019

	2019	2018	2017	2016
Gross profit margin	13,87%	12,69%	13,22%	10,59%

Source: Author

Gross profit accounts for 11 – 14% of the total revenue. It means that after deducting all the costs related to production, Xiaomi Corporation receives less than 14%. In 2016 the indicator obtains the lowest value, in 2019 it is the highest. Let us compare gross profit margin of Xiaomi to its competitors' values.

Table 15. Samsung, Apple, Huawei Gross Profit Margin Comparison 2016 - 2019

Gross profit margin	2019	2018	2017	2016
Samsung	34,45%	44,51%	44,87%	39,23%
Apple	37,58%	38,37%	38,01%	38,61%
Huawei	-	32,09%	50,41%	53,79%

Source: Author

Xiaomi Corporation has the lowest gross profit margin. This is explained by the fact, that the company sets as low prices as possible. Xiaomi Corporation is much younger than its competitors, that is why it uses penetration pricing policy, which helps to gain market share. At the same time, quality of its products is high and can be compared to the competitors' standards; this fact does not allow to keep the costs low. So, the share of costs is very high.

Huawei has a highest gross profit margin during 2016 – 2017, however, its indicator for 2018 is the lowest. Apple shows a stable result of 38 – 39% during the period. Samsung has higher share of gross profit to sales than Apple, the indicator varies in the range of 39 – 45%.

Return on assets shows the ability of a company to generate profit using its assets. In the table below you can find ROA value and its decomposition by the Du-Pont system.

Table 16. Xiaomi Corporation ROA 2017 - 2019

	2019	2018	2017
ROA	8,10%	1,33%	24,06%
Asset Turnover	1,42	1,95	2,26
Operating Profit Margin	5,71%	0,68%	10,66%

Source: Author

Return of assets is analyzed for 2017 – 2019. As described in “Principles of Corporate Finance” by Allen, F., Brealey, R.A., Myers, S.C. (2006), I used assets at the beginning of the period for calculations. Return on assets fluctuates a lot during the period. From the Du-Pont decomposition we can see that asset turnover is in the range of 1,42 – 2,26; it has a decreasing trend. In 2017 Xiaomi Corporation obtains the highest ROA, in this case high share of operating profit to sales influences the value a lot. 2018 shows the lowest results, again, the indicator is more influenced by operating profit margin, in 2018 cost of goods sold and operating costs had a higher share to total revenue than in other years, so operating profit margin is 0,68%.

Table 17. Samsung, Apple, Huawei ROA 2017 - 2019

		2019	2018	2017
Samsung	ROA	8,18%	19,51%	20,46%
	Asset Turnover	0,68	0,81	0,91
	Operating Profit Margin	12,05%	24,16%	22,39%
Apple	ROA	17,29%	18,93%	18,66%
	Asset Turnover	0,71	0,71	0,71
	Operating Profit Margin	24,33%	26,73%	26,26%
Huawei	ROA	-35,15%	2,29%	6,51%
	Asset Turnover	0,43	0,20	0,20
	Operating Profit Margin	-81,70%	11,50%	32,46%

Source: Author

In the table above you can find ROA values for Samsung, Apple and Huawei. Apple on average shows the highest result, which means that the company manages its assets more efficiently than its competitors. However, the Du-Pont system indicates, that such a high result is obtained because of high operating profit margin, which is 24 – 27% for the period. Average asset turnover of Apple for the period (0,71) is lower than the result of Samsung (0,8). Huawei obtains lower result, and in 2019 it is negative due to negative EBIT. Low asset turnover and high operating profit margins are distinctive features of technology sector. Xiaomi Corporation differs from its competitors, the company has higher asset turnover, but significantly lower operating profit margin.

Return on equity shows how companies generate income from their shareholders' capital. In the table below you can find ROE and its decomposition by the Du-Pont system.

Table 18. Xiaomi Corporation ROE 2017 – 2019

	2019	2018	2017
ROE	14,18%	-10,59%	47,68%
Leverage Ratio	2,04	-0,71	-0,55
Asset Turnover	1,42	1,95	2,26
Profit Margin	4,91%	7,71%	-38,29%

Source: Author

ROE is not stable during the period. I use equity at start of the period for calculations. In 2018 the indicator is negative because equity at the beginning of 2018 (end of 2017) is negative. In 2017 the result is high; however, it does not mean that Xiaomi earned high income using shareholders' capital. The company has a loss together with negative equity. In 2019 ROE obtains 14%; leverage ratio is 2,04, assets turnover is 1,42 and profit margin is 5%.

Table 19. Samsung, Apple, Huawei ROE 2017 – 2019

		2019	2018	2017
Samsung	ROE	8,96%	21,18%	22,18%
	Leverage Ratio	1,41	1,46	1,41
	Asset Turnover	0,68	0,81	0,91
	Profit Margin	9,33%	18,00%	17,26%
Apple	ROE	51,57%	44,41%	37,70%
	Leverage Ratio	3,41	2,80	2,51
	Asset Turnover	0,71	0,71	0,71
	Profit Margin	21,25%	22,40%	21,15%
Huawei	ROE	-38,26%	-36,57%	11,56%
	Leverage Ratio	1,13	1,08	1,14
	Asset Turnover	0,43	0,20	0,20
	Profit Margin	-78,68%	-170,72%	50,55%

Source: Author

Apple has the highest ROE of 38 – 52% during 2017 – 2019. The company has high profit margin of 21 – 22%. Leverage ratio shows, that the company mostly uses debt financing. Samsung uses equity financing and has lower profit margin of 9 – 18%, that is why ROE is in the range of 9 – 22%. Huawei has loss in 2018 – 2019, so the company has negative profit margin and negative ROE accordingly. Its leverage ratio shows, that Huawei uses much more equity than debt for financing.

In 2019 Xiaomi Corporation shows better performance in terms of equity management than Huawei and Samsung.

3.8.2. Turnover Ratios

Asset turnover ratio shows efficiency of the company in terms of using assets for generating revenue.

Table 20. Xiaomi Corporation Asset Turnover Ratio 2017 – 2019

	2019	2018	2017
Asset Turnover	1,42	1,95	2,26

Source: Author

I use assets at start of the period for calculations. From the table above we can see that Xiaomi Corporation had the highest ratio in 2017, and it has decreasing trend. It is related to the fact, that the company increased amount of assets by 200% from 2016 to 2018.

Table 21. Samsung, Apple, Huawei Asset Turnover Ratio 2017 – 2019

Asset Turnover	2019	2018	2017
Samsung	0,68	0,81	0,91
Apple	0,71	0,71	0,71
Huawei	0,43	0,20	0,20

Source: Author

Huawei has the lowest asset turnover ratio. Samsung has the highest results. Xiaomi Corporation obtains higher values than its competitors, such results are not specific for technology industry.

Inventory turnover ratio shows how many times inventory was sold during the year. Days inventory outstanding is average time from purchase to sale of the inventory.

Table 22. Xiaomi Corporation Inventory Turnover Ratio 2017 – 2019

	2019	2018	2017
Inventory Turnover	5,92	9,17	11,71
DIO	62	40	31

Source: Author

In the table above you can find values of inventory turnover ratio. Inventory turnover shows a decreasing trend, which means that from year to year it takes more time for Xiaomi Corporation to convert its inventories into money, inventories become less liquid.

In the table below you can find the same measures for other companies in the sector. Apple has the most liquid inventories. The company tries to keep the value of inventories at a low level, as they depreciate fast. Samsung has a lower inventory turnover ratio (and higher DIO accordingly)

than Xiaomi. Which means that Korean company has less liquid inventories. Huawei needs more time to convert inventories into money.

Table 23. Samsung, Apple, Huawei Inventory Turnover Ratio 2017 – 2019

		2019	2018	2017
Samsung	Inventory Turnover	5,21	5,41	7,20
	DIO	70	67	51
Apple	Inventory Turnover	41,02	33,74	66,46
	DIO	9	11	5
Huawei	Inventory Turnover	-	2,25	1,21
	DIO	-	162	301

Source: Author

Receivables turnover ratio shows how fast receivables are paid. The higher the value, the faster clients pay. Days sales outstanding indicates the amount of days that customers need for paying invoices.

Table 24. Xiaomi Corporation Receivables Turnover Ratio 2017 – 2019

	2019	2018	2017
Receivables Turnover	5,70	7,14	14,09
DSO	64	51	26

Source: Author

From the table above we can see that customers need 26 days for paying invoices in 2017, 51 in 2018, 64 in 2019. We can observe an increasing trend in DSO, as receivables are growing faster than revenues.

Table 25. Samsung, Apple, Huawei Receivables Turnover Ratio 2017 – 2019

		2019	2018	2017
Samsung	Receivables Turnover	6,24	7,66	8,62
	DSO	59	48	42
Apple	Receivables Turnover	5,31	7,45	7,80
	DSO	69	49	47
Huawei	Receivables Turnover	2,06	2,50	5,48
	DSO	177	146	67

Source: Author

Xiaomi Corporation has the lowest average DSO during 2017 – 2019, which means that the company can get money faster than its competitors. Huawei has the longest payment terms, in

2019 it takes almost half a year on average to get money from the clients. Samsung and Apple have slightly higher average DSO values than Xiaomi.

Accounts payable turnover ratio shows how many times the company pays off payables during the year. Days payable outstanding is number of days the firm needs to pay out its payables.

Table 26. Xiaomi Corporation Accounts Payable Turnover Ratio 2017 – 2019

	2019	2018	2017
Payables Turnover	3,83	4,49	5,66
DPO	95	81	65

Source: Author

In the table above you can find average amount of days, that Xiaomi Corporation needs to pay supplier invoices. We can see, that DPO is increasing, in 2017 company paid invoices within 65 days on average, in 2019 the value is 95 days. The higher DPO, the better for companies; they have more time to generate cash for paying invoices.

Table 27. Samsung, Apple, Huawei Accounts Payable Turnover Ratio 2017 – 2019

		2019	2018	2017
Samsung	Payables Turnover	17,81	14,89	20,37
	DPO	20	25	18
Apple	Payables Turnover	2,90	3,34	3,80
	DPO	126	109	96
Huawei	Payables Turnover	-	28,22	11,97
	DPO	-	13	31

Source: Author

Apple has the highest DPO, which means that the company has more time for paying supplier invoices. Xiaomi Corporation has higher DPO than Samsung and Huawei, which have 21 and 22 days on average for paying invoices respectively.

Cash conversion cycle is a measure, which shows how many days the company needs to convert resources into cash.

Table 28. Xiaomi Corporation Cash Conversion Cycle 2017 – 2019

	2019	2018	2017
CCC	30	10	-7

Source: Author

Cash conversion cycle of Xiaomi Corporation is worthening during 2017 – 2019; the value in increasing, which means that company needs more time to convert resources into cash. In 2017

the indicator is negative, so supplier invoices are paid after receiving cash generated from selling goods.

Table 29. Samsung, Apple, Huawei Cash Conversion Cycle 2017 – 2019

CCC	2019	2018	2017
Samsung	108	91	75
Apple	-48	-49	-44
Huawei	-	295	337

Source: Author

Apple has negative CCC, the company generates cash from selling goods first, and pays invoices to suppliers afterwards. Such strategy helps to minimize risk, that the company will not be able to cover payables. Xiaomi Corporation shows better results in terms of monitoring cash conversion than Samsung and Huawei. It takes more than 300 days on average for Huawei to generate cash from resources, such strategy is very risky.

3.8.3. Leverage Ratios

Leverage ratios show the proportion of debt financing.

Table 30. Xiaomi Corporation Total Debt Ratio 2016 – 2019

	2019	2018	2017	2016
Total Debt Ratio	0,56	0,51	2,42	2,81

Source: Author

There are many interpretations, which show the proportion of debt financing. I use **debt-to-assets ratio** or total **debt ratio**. In the table above you can see value of the indicator for Xiaomi Corporation during 2016 – 2019. In 2016, 2017 the value is higher than 1, which means that amount of liabilities increases the amount of assets. In 2018 and 2019 liabilities and equity are nearly the same, company uses slightly more debt than equity.

Table 31. Samsung, Apple, Huawei Total Debt Ratio 2016 – 2019

Total Debt Ratio	2019	2018	2017	2016
Samsung	0,28	0,29	0,31	0,29
Apple	0,73	0,71	0,64	0,60
Huawei	0,06	0,12	0,07	0,12

Source: Author

From the table above we can see that Huawei uses very low share of debt, the company uses equity financing. Samsung uses more equity than liabilities, as the value is less than 0,5. Apple uses 60 – 73% of debt financing. Mix of debt and equity is called capital structure.

Modigliani-Miller Theorem states that there is no difference between debt and equity financing, but it is applicable only for perfect financial markets. In reality using each method has its own advantages and disadvantages.

There are a lot of advantages of using debt. Debt financing does not decrease owners' share in the company. Creditor does not have a claim on company's profits. Interests are deducted before paying taxes, which decreases tax base and amount of taxes. Debt financing has disadvantages as well. Principal of debt or face value of bond should be paid back together with interests or coupon payments accordingly. Using debt is riskier, as debt should always be repaid.

Equity financing is less risky, shareholders get paid after creditors. If a company decides to use equity financing, it does not need to pledge assets. One of the main disadvantages is high cost of equity, usually it is higher than cost of debt, as shareholders have higher risks.

Every company decides itself what mix of equity and debt to use. Each of the described companies, uses its own strategy.

Table 32. Xiaomi Corporation Interest Income 2016 – 2019

	2019	2018	2017	2016
Interest Income (Expense)	403	259	27	-86
Interest Income	931	643	55	0
Interest Expense	528	384	28	86

Source: Author

Interest expenses are not mentioned in the income statement of Xiaomi Corporation. In the table above you can find needed information for calculating the following indicator.

Table 33. Xiaomi Corporation Times-Interest-Earned Ratio 2016 – 2019

	2019	2018	2017	2016
Times-interest-earned ratio	22,27	3,12	436,27	44,01

Source: Author

Times-interest-earned ratio shows the coverage of interest expenses by profits. Operating profit of Xiaomi Corporation is several times higher than interest expenses, which means that the company is a reliable borrower.

Table 34. Samsung, Apple, Huawei Times-Interest-Earned Ratio 2016 – 2019

Times-interest-earned ratio	2019	2018	2017	2016
Samsung	40,46	87,29	81,85	49,74
Apple	17,69	21,93	25,84	40,17
Huawei	-	86,00	-	87,33

Source: Author

Above you can see values of times-interest-earned ratio for Samsung, Apple and Huawei. On average Huawei has the highest value (interest expenses for 2017, 2019 are not reported), the company has low debt burden, that is why amount of interest expenses is low. Apple has the lowest average value of the indicator among competitors. We can see that times-interest-earned ratio depends on total debt ratio; these indicators have inverse relationship.

3.8.4. Liquidity Ratios

Liquidity ratios show the ability of the company to meet short-term obligations. **Current ratio** indicates the proportion of current assets to current liabilities and shows if the company is able to cover its short-term liabilities by current assets.

Table 35. Xiaomi Corporation Current Ratio 2016 – 2019

	2019	2018	2017	2016
Current Ratio	1,49	1,71	1,30	1,18

Source: Author

Current ratio shows that Xiaomi Corporation is able to cover its short-term liabilities by its current assets. In 2018 the company obtained the highest value.

Table 36. Samsung, Apple, Huawei Current Ratio 2016 – 2019

Current Ratio	2019	2018	2017	2016
Samsung	2,89	2,57	2,22	2,64
Apple	1,54	1,12	1,28	1,35
Huawei	-	5,10	6,84	4,53

Source: Author

Huawei has the highest ratio, as the company has low amount of short-term liabilities. Such a high value shows that current assets are used inefficiently. Current ratio of Samsung is in the range of 2,22 – 2,89. The value is higher than 1, which means that the company can cover its obligations, and lower than 3, which means that assets are used efficiently. Apple has the lowest average value, but it is still higher than 1, so short-term liabilities can be covered by current assets.

Quick ratio considers only part of current assets: receivables, marketable securities and cash. These assets are more liquid than inventories and can be converted into cash faster.

Table 37. Xiaomi Corporation Quick Ratio 2016 – 2019

	2019	2018	2017	2016
Quick Ratio	0,91	1,20	0,88	0,82

Source: Author

Only in 2018 quick ratio is higher than 1. In other years Xiaomi Corporation obtains lower results of 0,82 – 0,91. This might be risky.

Table 38. Samsung, Apple, Huawei Quick Ratio 2016 – 2019

Quick Ratio	2019	2018	2017	2016
Samsung	2,32	2,00	1,71	2,12
Apple	1,38	0,99	1,09	1,22
Huawei	-	4,04	5,43	3,10

Source: Author

On average competitors of the company have higher result of quick ratio than Xiaomi Corporation, which means that they can cover short-term liabilities with receivables, marketable securities and cash.

Cash ratio shows the ability of the company to cover short-term liabilities by cash and marketable securities – the most liquid assets.

Table 39. Xiaomi Corporation Cash Ratio 2016 – 2019

	2019	2018	2017	2016
Cash Ratio	0,69	0,62	0,36	0,51

Source: Author

Average cash ratio of Xiaomi Corporation during 2016 – 2019 is 5,5. Such value is in the normal range. Company can cover more than half short-term liabilities with the most liquid assets.

Table 40. Samsung, Apple, Huawei Cash Ratio 2016 – 2019

Cash Ratio	2019	2018	2017	2016
Samsung	1,71	1,46	1,24	1,61
Apple	0,95	0,57	0,74	0,85
Huawei	-	1,98	3,76	2,66

Source: Author

Samsung, Apple and Huawei have higher values of cash ratio. Samsung and Huawei obtain values above the norm. It indicates that amount of cash and marketable securities is too high, the assets are used inefficiently.

Net working capital to assets ratio shows the proportion of current assets, which can be invested in future activities and growth, to total assets.

Table 41. Xiaomi Corporation Net Working Capital Ratio 2016 – 2019

	2019	2018	2017	2016
Net Working Capital to Assets	0,25	0,30	0,16	0,09

Source: Author

From the table above we can see that 9 – 25% of total assets can be invested in development of the company. It shows proportion of current assets, which remain after paying short-term liabilities, to total assets.

Table 42. Samsung, Apple, Huawei Net Working Capital Ratio 2016 – 2019

Net Working Capital to Assets	2019	2018	2017	2016
Samsung	0,34	0,32	0,27	0,34
Apple	0,17	0,04	0,07	0,09
Huawei	-	0,74	0,42	0,28

Source: Author

Huawei has the largest value; it may reinvest current assets into future operations and growth. We have determined that the company tries not to use debt for development. Apple has the lowest value, which can be related to the fact that the company uses mostly debt for growing.

3.8.5. Economic Value Added

Economic Value Added (EVA) is another important indicator, which evaluates company's financial performance. Below you will find calculations of EVA for 2019.

$$NOPAT = 2\,060 + 10\,103 = 12\,163$$

WACC includes weighted average cost of equity and weighted average cost of debt. For cost of equity calculations, I used the following indicators: equity risk premiums, beta and risk-free rate. Risk-free rate represents rate of return on investments with no risk. For calculation of risk-free rate, I used rate of return on Chinese governmental bonds (3,2%) and average inflation rate during 2019 (2,9%); risk-free rate is 0,29%. Equity risk premium is 7,3% (Aswath Damodaran, 2020). Unlevered beta for the electronics sector is 1,5 (Aswath Damodaran, 2020). For WACC calculation I use levered beta, which is unlevered beta multiplied by $((1 - \text{tax rate}) * \text{debt/equity} + 1)$. Beta is 1,77.

$$\text{Cost of equity} = 7,3\% * 1,7 + 0,29\% = 13,2\%$$

For calculating weighted average cost of debt, I used interest rate paid on debt, which is 3%, tax rate of 17% and proportion on debt to capital.

$$WACC = \frac{81\,658}{81\,658 + 17\,623} * 13,2\% + \frac{17\,623}{17\,623 + 81\,658} (1 - 17\%) * 3\% = 10,86\% + 0,44\% = 11,3\%$$

Weighted average cost of capital of Xiaomi Corporation is 11,3%. This amount is quite high. It means that the company pays 0,113\$ of every 1\$ invested. Such a high value is risky for the company.

$$EVA = 12\,163 - 11,3\% * 99\,281 = 944$$

Positive EVA means that profitability of company is higher than its cost of capital. Xiaomi Corporation creates value for investors.

4. Forecast

Xiaomi Corporation has massive plans for 2020. It plans to release 10 5G smartphones and to launch new services: Mi Credit and Mi Pay (Dhruv Bhutani, 2020). Xiaomi is one of the fastest growing companies in the sector. From the vertical analysis of income statement, we can see that the firm has a continuous growth in sales. Covid-19 had a negative impact on sales. The company stopped production of smartphones in India and postponed the release of a new smartphone. Covid-19 could cause global recession in the economy. However, from Q1 2020 we can see that the situation with Xiaomi Corporation has stabilized. February showed a decrease in sales, however, in March the company continued operations and had a massive increase in sales compared to February (Covid-19: After economic fallout, Apple, Xiaomi show some recovery in China, 2020).

To my mind, Xiaomi Corporation should be one of the least affected. The company has a large market share and a well-known brand. Smartphones became a necessity for the majority of people. During this period people will not stop buying phones, but they may switch to the cheaper ones. Devices of Xiaomi are cheaper than the competitors' smartphones, but quality is nearly the same.

From the vertical analysis of income statement (Table 11) we can see that revenue growth rate has a decreasing trend. Considering plans of Xiaomi Corporation growth rate for 2020 should not be less than 20%. Covid-19 has a negative effect, however, I still forecast a growth of 10% due to the facts above. Cost of goods sold will also have 10% increase, as they are usually proportional to revenue.

Operating expenses for 2020 should be around 10% of total sales. This is based on 2018 – 2019 data from vertical analysis. Interest income is a percentage of short-term and long-term investments. During 2018 – 2019 interest income accounted for 1,6% on average from the total amount of investments. Annual reports specify that the largest part of long-term investments refer to shares (Xiaomi Corporation. 2019 Annual Report, 2020). This year will not be profitable for stockholders. Dividends will be decreased or not paid at all. To my mind, the interest income will account for 1% of the total amount of investments. From horizontal analysis of assets (Table 6), we can see that Xiaomi Corporation increases the amount of investments every year. This year the company will not increase the amount of investments much, the total increase of both short-term and long-term investments will be 5% in total, so the amount will be 71 364 million CNY.

Interest expense is the proportion of total debt. I do not consider 2016 – 2017, as in 2018 – 2019 the company changed its debt policy. Interest expense for 2020 will account for 3,25% of the total debt. In 2019 amount of debt increased by 6692 million CNY, total debt will increase by 40% in 2020, it will be 24 672 million CNY.

I do not forecast “other expenses”, as Xiaomi Corporation does not give any information about this category and the amount fluctuates a lot. From the income statement we can see that Xiaomi

Corporation does not pay taxes on other income and expenses. I will use EBIT + Interest Income – Interest Expense as a tax base. On average company pays 17% of taxes from that amount.

Table 43. Xiaomi Corporation Income Statement 2020 (Estimate)

Income Statement (Estimate)	2020
Revenue	226 423
Cost of Goods Sold	195 013
Gross Profit	31 409
Operating Expenses	22 642
Operating Income	8 767
Interest Income	-88
EBT	8 679
Income Tax Expense	1 475
Net Income	7 204

Source: Author

5. Conclusion

In my bachelor thesis I provided financial analysis of Xiaomi Corporation. In theoretical part I described main methods used for analysis in the work. In practical part I investigated company's balance sheet and income statement for the period 2016 – 2019. Horizontal, vertical and ratio analyses were chosen as methods for inspection. Indicators were compared to values of the main competitors: Samsung, Apple, Huawei.

Practical part showed that Xiaomi Corporation is a fast-growing company. Revenue of the company continuously increases during 2016 – 2019. Competitors of Xiaomi have higher gross profit margins, Chinese corporation focuses on gaining market share than on generating high profits.

Cash conversion cycle of Xiaomi shows that it took 30 days on average to convert resources into cash in 2019. The company is mostly financed through debt. Current ratio is close to the lower boundaries of the normal range.

I provided an estimated income statement for 2020. Total amount of revenues will increase; however, net income will be lower than in 2019.

To sum up, I would like to say that I am satisfied with the analysis. Xiaomi Corporation shows stable performance, no anomalous results, all indicators are within normal range. To my mind, it will remain one of the most powerful companies in the sector. It may overtake Huawei soon, as Xiaomi has better financial indicators.

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7. Abbreviations

AP – Accounts Payable

CCC – Cash Conversion Cycle

COGS – Cost of goods sold

DIO – Days inventory outstanding

DPO – Days payable outstanding

DSO – Days sales outstanding

EAT – Earnings after taxes

EBIT – Earnings before interest and taxes

EBT – Earnings before taxes

EVA – Economic value added

IPO – Initial public offering

NOPAT – Net operating profit after tax

ROA – Return on assets

ROE – Return on equity

WACC – Weighted average cost of capital

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10. Appendices

Appendix 1 – Samsung Balance Sheet

Balance sheet in million KRW				
Breakdown/ Years	2019	2018	2017	2016
Non-current assets	168 053 550	161 889 604	152 489 975	117 678 043
Net Property, Plant & Equipment	119 825 474	115 416 724	111 665 648	91 473 041
Total Investments and Advances	17 561 328	15 628 293	14 661 282	12 642 160
Intangible Assets	20 703 504	14 891 598	14 760 483	5 344 020
Other Assets	9 963 244	15 952 989	11 402 562	8 218 822
Current Assets	184 510 947	177 467 640	149 262 115	144 496 281
Inventories	26 766 464	28 984 704	24 983 355	18 353 503
Accounts Receivable	39 310 463	36 948 466	31 804 956	27 800 408
Other Current Assets	9 654 317	10 594 527	9 289 603	10 160 057
Short-Term Investments	81 893 704	70 599 438	52 639 071	56 049 330
Cash	26 885 999	30 340 505	30 545 130	32 132 983
Total assets	352 564 497	339 357 244	301 752 090	262 174 324
Common Stock Par/Carry Value	897 514	897 514	897 514	897 514
Additional Paid-In Capital/Capital Surplus	4 403 893	4 403 893	4 403 893	4 403 893
Retained Earnings	86 260 026	91 179 305	76 182 005	50 079 125
Cumulative Translation Adjustment/Unrealized For. Exch. Gain	-5 645 769	-8 612 742	-9 192 002	-2 930 886
Unrealized Gain/Loss Marketable Securities	2 573 530	1 462 266	1 879 774	1 390 624
Other Appropriated Reserves	-1 957 019	-840 775	-364 812	142 195 663
Unappropriated Reserves	168 383 297	151 579 532	139 635 231	138 721
Treasury Stock	0	0	-6 228 187	-9 750 326
Total Shareholders' Equity	254 915 472	240 068 993	207 213 416	186 424 328
Non-current liabilities	33 866 261	30 206 741	27 363 560	21 045 901
Long-Term Debt	3 172 479	1 047 057	2 767 807	1 302 780
Provision for Risks & Charges	1 081 880	1 167 683	854 246	531 782
Deferred Taxes	17 053 808	15 162 523	11 710 781	7 293 514
Other Liabilities	12 558 094	12 829 478	12 030 726	11 917 825
Current liabilities	63 782 764	69 081 510	67 175 114	54 704 095
ST Debt & Current Portion LT Debt	15 239 558	13 620 046	16 046 238	13 979 606
Accounts Payable	8 718 222	8 479 916	9 083 907	6 485 039
Income Tax Payable	1 387 773	8 720 050	7 408 348	2 837 353
Other Current Liabilities	38 437 211	38 261 498	34 636 621	31 402 097
Total liabilities	97 649 025	99 288 251	94 538 674	75 749 996
Total liabilities and stockholders' equity	352 564 497	339 357 244	301 752 090	262 174 324

Appendix 2 – Samsung Income Statement

Amounts are shown in million KRW				
Breakdown/ Years	2019	2018	2017	2016
Revenue	230 400 881	243 771 415	239 575 376	201 866 745
Cost of Goods Sold	151 017 841	135 277 299	132 072 774	122 682 833
Gross Profit	79 383 040	108 494 116	107 502 602	79 183 912
SG&A Expense	51 614 531	49 607 447	53 857 564	49 943 240
EBIT	27 768 509	58 886 669	53 645 038	29 240 672
Unusual Expense	0	1 575	366 705	872 985
Non Operating Income/Expense	277 052	112 497	1 757 371	1 409 977
Non-Operating Interest Income	2 660 024	2 297 139	1 614 223	1 504 318
Equity in Affiliates (Pretax)	0	539 845	201 442	19 501
Interest Expense	686 356	674 617	655 402	587 831
EBT	30 019 229	61 159 958	56 195 967	30 713 652
Income Tax	8 693 324	16 815 101	14 009 220	7 987 560
Equity in Affiliates	412 960	0	0	0
Minority Interest Expense	233 811	453 980	842 178	310 437
Net Income	21 505 054	43 890 877	41 344 569	22 415 655

Appendix 3 – Apple Income Statement

Amounts are shown in million USD				
Breakdown/ Years	2019	2018	2017	2016
Revenue	259 968	265 809	228 572	214 226
Cost of Goods Sold	162 264	163 826	141 702	131 506
Gross Profit	97 704	101 983	86 870	82 720
SG&A Expense	34 462	30 941	26 842	24 239
EBIT	63 242	71 042	60 028	58 481
Unusual Expense	0	0	0	-548
Non Operating Income/Expense	1 110	-585	1 183	-200
Non-Operating Interest Income	4 961	5 686	5 201	3 999
Interest Expense	3 576	3 240	2 323	1 456
EBT	65 737	72 903	64 089	61 372
Income Tax	10 481	13 372	15 738	15 685
Net Income	55 256	59 531	48 351	45 687

Appendix 4 – Apple Balance Sheet

Balance sheet in million USD				
Breakdown/ Years	2019	2018	2017	2016
Non-current assets	175 697	234 386	246 674	214 817
Net Property, Plant & Equipment	37 378	41 304	33 783	27 010
Total Investments and Advances	106 698	170 799	194 714	170 430
Intangible Assets	0	0	8 015	8 620
Other Assets	31 621	22 283	10 162	8 757
Current Assets	162 819	131 339	128 645	106 869
Inventories	4 106	3 956	4 855	2 132
Accounts Receivable	45 804	48 995	35 673	29 299
Other Current Assets	12 329	12 087	13 936	8 283
Short-Term Investments	72 456	46 643	59 665	54 888
Cash	28 124	19 658	14 516	12 267
Total assets	338 516	365 725	375 319	321 686
Common Stock Par/Carry Value	45 174	40 201	35 867	31 251
Retained Earnings	45 898	70 400	98 330	96 364
Cumulative Translation Adjustment/Unrealized For. Exch. Gain	-1 463	-1 055	-354	-578
Unrealized Gain/Loss Marketable Securities	707	-3 209	328	1 174
Other Appropriated Reserves	172	810	-124	38
Total Shareholders' Equity	90 488	107 147	134 047	128 249
Non-current liabilities	142 310	141 712	140 458	114 431
Long-Term Debt	91 807	93 735	97 207	75 427
Provision for Risks & Charges	29 545	33 589	0	0
Deferred Taxes	16 919	11 520	39 911	34 719
Other Liabilities	4 039	2 868	3 340	4 285
Current liabilities	105 718	116 866	100 814	79 006
ST Debt & Current Portion LT Debt	16 240	20 748	18 473	11 605
Accounts Payable	46 236	55 888	49 049	37 294
Other Current Liabilities	43 242	40 230	33 292	30 107
Total liabilities	248 028	258 578	241 272	193 437
Total liabilities and stockholders' equity	338 516	365 725	375 319	321 686

Appendix 5 – Huawei Balance Sheet

Balance sheet in million CNY				
Breakdown/ Years	Q3 2019	2018	2017	2016
Non-current assets		1 185	2 535	2 239
Net Property, plant, equipment	-	61	89	94
Long-term investments and advances	-	509	554	292
Intangible assets	-	531	1 828	1 831
Other long-term assets	-	84	64	22
Current Assets		1 279	1 224	1 373
Inventories	-	159	226	296
Receivables	-	515	299	132
Short-term investments	-	38	0	3
Cash	-	460	673	803
Other current assets	-	107	26	139
Total assets	1380	2 464	3 759	3 612
Common Stock Par/Carry Value	860	860	860	860
Additional Paid-In Capital/Capital Surplus	-	1 637	1 637	1 636
Retained Earnings	-	-341	979	648
Other Appropriated Reserves	-	8	-2	11
Minority Interest		16	18	12
Total Equity	1299	2 180	3 492	3 167
Non-current liabilities		33	88	142
Long-term liabilities	-	33	88	142
Current liabilities		251	179	303
ST Debt & Current Portion LT Debt	-	5	0	0
Accounts Payable	-	36	18	30
Income Tax Payable	-	0	26	1
Other Current Liabilities		210	135	272
Total liabilities	81	284	267	445
Total liabilities and stockholders' equity	1380	2 464	3 759	3 612

Appendix 6 – Huawei Income Statement

Amounts are shown in million CNY				
Breakdown/ Years	2019	2018	2017	2016
Revenue	1 060	748	724	805
Cost of Goods Sold	-	508	359	372
Gross Profit		240	365	433
SG&A Expense	-	156	130	189
Other Operating Expense	1 926	-2	0	-18
EBIT	-866	86	235	262
Unusual Expense	-	1 375	3	1
Non Operating Income/Expense	-	-8	133	77
Non-Operating Interest Income	-	12	16	13
Interest Expense	-	1	0	3
EBT		-1 286	381	348
Income Tax	-	-1	34	24
Equity in Affiliates	-	6	25	8
Minority Interest Expense	-	-2	6	29
Net Income	-834	-1 277	366	303