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Hodnocení rentability společnosti Apple

Profitability Assessment of Apple Company

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The declaration

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

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## **1.Introduction**

As we all know, the Apple is a leader company in the mobile phone and personal computer. The Apple company promote one size iPhone, iPad and mac, they all have high sell price and quantity, the next year, they will upgrade their products. Thanks to the boutique strategy, the Apple company gets high profit in the world communication industry. Now Apple is constructing the ecosystem about their products. What profit can Apple get every year? How about the return on equity or assets? How the young company beat the old mobile phone leader Nokia and become a stronger man in the technology industry? How can Apple take so much share of the mobile phone market and beat SAMSUNG LENOVO HUAWEI and so on? How Apple show high profitability performance in this industry? How does it take measures to maintain the share of the world, and make the consumers interest in their products? These problems will be solved in my thesis.

In this thesis, we want to analyze the Financial assessment of the Apple company, especially in the profitability. Financial analysis aims to through the annual report, financial data and use all kinds of tools such as the Common-size analysis, financial ratios to assess the company. Financial analysis can evaluate the performance of a company, such as the solvency, activity ratios, return on equity and assets. On one hand, analyzing the performance of the company can help investors to select the right company, give some suggestions to the shareholders and creditors to do logical invest. On the other hand, financial analysis can help the managers to make right policies on the development, selling, advertisement and operating, change their strategy in time. Last but not least, financial analysis can give a review of a company in the last year, and depend on this, we can forecast the operating conditions of the company next year.

We select the Apple annual reports (from the 2011-2015) to analysis the thesis. This thesis is divided into five chapters; the first chapter is the introduction of the thesis. It mainly introduces the propose of the thesis and what we will analysis. Second chapter is description of financial analysis methodology, third chapter is to use Common-size analysis to analyze selected company, forth chapter uses all kinds of ratios to value the company, especially the profitability.

In the chapter 2, we describe the financial statement at first, the balance sheet, income statement, and cash flow statement. Then we explain the financial analysis methodology, Common-size analysis (Vertical and Horizontal common-size analysis). After that, we introduce four kinds of ratios: liquidity ratios, solvency ratios, activity ratios, profitability ratios. In the end of the chapter, we use the Du-Pont analysis of ROE.

In the chapter 3, we introduce our company Apple Inc. from four parts, history, development of Apple company, main competitors in the world and the structure of company. Then we use Common-size analysis to analyze the financial data, balance sheet, income statement, cash flow statement of selected years. we use four types of ratios to analyses Apple group's finance. Firstly, we calculate the four ratios of Apple (liquidity ratios, solvency ratios, activity ratios, profitability ratios) to evaluate the health of Apple. Then we use Du-Pont analysis to analyze the ROE, which factors affects ROE

In the chapter 4, we analyze some factors influence the company, which decrease the profitability, which increase the ROE. And we give some recommendation to the company, should they increase their development fees or reduce the sales expenditures.

The last chapter is a conclusion of whole thesis, it elaborates the financial statement of the company, and the profitability of the company.



## 2. Description of the financial analysis methodology

In this chapter, we will introduce some financial analysis methodology used in the next chapters. The chapter includes four parts, firstly, we will introduce the financial statement, balance sheet, cash flow statement, income statement. Secondly, we use Common-size analysis, from vertical and horizontal methodology. Thirdly we introduce four ratios of finance. At the end, we introduce the Du-Pont analysis.

### 2.1 Financial statement

Financial statement is a record of a company's business and activities, this record is presented in a logical structure and provides information to investors, creditors and others who interested in the company.

In this part, we introduce three financial statement, balance sheet, cash flow statement, income statement.

#### 2.1.1 Balance Sheet

The balance sheet, also called the statement of financial position, it reflects the information about what a company owns (its assets), the value of these assets and mix of capital (capital structure) used for financing these assets at a fixed time point.

A standard balance sheet has three parts: assets, liabilities and equity. The relationship between assets, liabilities and equity is:

$$\text{Assets} = \text{Liabilities} + \text{Equity} \quad (2.1)$$

Table 2.1 A example of balance sheet

<b>TOTAL ASSETS</b>	<b>TOTAL EQUITY+LIABILITIES</b>
<b>LONG-TERM ASSETS</b>	<b>Equity</b>
Tangible assets	Share capital (par value)
Intangible assets	Contributed capital (in excess of par value)
Financial investments	Retained earnings
Other long-term assets	
Current assets	Liabilities
Inventories	Short-term borrowings

Accounts receivables	Long-term debt
Marketable securities	Accounts payable
Other short-term assets	Notes payables
Cash and cash equivalents	Accrued expenses
<b>Other assets</b>	<b>Other liabilities</b>

Balance sheet means it has two sides of equation above-assets on the left side, the liabilities and equity on the right side, and they must balance out. We classify these items by liquidity, the assets are usually listed first. Both assets and liabilities by convention appear in descending order of liquidity, or the length time it takes for accounting to be converted into cash in the normal course of business. Business operating always measures its money in the account and money in the hand, and transaction is not happened immediately, so it has payable and receivable, these will be show in the balance sheet.

Long-term assets point that assets have more than one-year maturity or over one operating cycle and have relatively low liquidity. Long-term assets are classified into three types: tangible assets, intangible assets and financial investment. Tangible assets include the land, buildings, equipment, machinery, furniture and nature resource owned by the company. Intangible assets are assets which need to purchase, these assets are not physical, like trademark, patents, goodwill, etc. Financial investment includes investments in stocks, bonds and similar long-term financial instruments.

Current assets are cash or some assets can be converted into cash easily. Current assets include cash and cash equivalents, accounts receivables, inventory, market securities, prepaid expenses and other liquid assets can be converted into cash easily.

Total assets minus equity is the owner's liabilities. Owner's liabilities represent money or capital which is borrowed and must pay back at a predetermined date. On a company's balance sheet, it shows as current liabilities, long-term debt, accounts payable, notes payable, accrued liabilities. Current liabilities are some debts must be paid back within 12 months or a normal operating cycle. The most common components of the current liabilities are: accounts payable, notes payable, current tax payable, accrued liabilities and unearned revenue. The other type of liabilities is long-term liabilities, which include loans from banks

and other sources and the money lend for more than 12 months (bank loans, bonds payable, long-term notes payable, etc.).

Generally speaking, owner’s equity is the shareholder’s investment or capital belongs to the owners of the company. It includes these components: common stock, preferred stock, paid-in capital (share premium) and retained earnings. Equity is assets minus the liabilities, so it will be affect by the liabilities.

### 2.1.2 Income statement

Income statement indicates the amount of profit generated by a company over a certain period, often one year. The basic equation underlying the income statement is:

$$\text{Revenue} - \text{Cost} = \text{Net income/loss} \quad (2.2)$$

Table 2.2 An example of income statement

<b>Revenue</b>
Cost of services
Gross profit
Selling, general and administrative expenses
Income from operations
Interest income
Other expense
<b>Income before income taxes and minority interest(EBIT)</b>
Provision for income taxes
<b>Income before minority interest(EBT)</b>
Minority interest
<b>Net income(EAT)</b>

Source: Thomas R. Robinson, CFA, Hennie van Greuning , CFA, Elaine Henry, CFA, Michael A. Broihahn, CFA; International Financial Statement Analysis: P118.

Generally, revenue is reported on the top of an income statement. Revenue is the income charged from sale of goods and services, or any other use capital and assets of the company.

Costs is amount that must be happen when a company does daily operating activities.

Income statement has two subtotals: operating activity and financing activity.

Operating activity sometimes called operating profit before interest and taxes-EBIT (when there is no non-operating income) . The operating profit include the revenues and costs. The operating revenues are money from selling products, services and goods. Operating costs charged from salary of workers, materials, depreciations, etc.

Financial activity is a company operating about financing. Financial activity involves issuing of shares, repayment of loan, sale of an investment. Financial revenues are interests receives and revenue from owned securities. And financial costs are always interest paid and dividend paid from bonds and stocks.

### 2.1.3 Cash Flow Statement

The cash flow statement provides information about company's cash inflows (cash receipts) and outflows (cash payments) during a period, often a year. This information gives ways to managers, creditors, investors to calculate the liquidity, solvency ratios. There is also some relationship among balance sheet, income statement and cash flow statement. Cash flow statement shows how cash flows related with the ending cash flows and the beginning of a cash flow sheet and reflect the balance sheet. The cash-based information provided by the cash flow statement contrasts with the accrual-based information provided by the income statement. The cash flow statement classified the cash of a company into three types: operating activities, investing activities and financing activities.

The basic equation underlying in the cash flows statement is:

$$\begin{aligned} &\text{Cash flows from operating activities} + \text{Cash flow from investing activities} + \\ &\text{Cash flow from financing activities.} \end{aligned} \tag{2.3}$$

Table 2.3 A Example of cash flow instatement

<b>Cash flow from Operating Activities</b>
Cash received from customers
Cash paid to employees
Cash paid for other operating expenses
Cash paid for income tax
Net cash provided by operating activities

<b>Cash flow from Investing Activities</b>
Cash received from sale of equipment
Cash paid for purchase of equipment
Net cash used for investing activities
<b>Cash Flow from Financing Activities</b>
Cash paid to retire long-term debt
Cash paid for dividends
Net cash using for financing activities

Source: Thomas R. Robinson 2008, CFA, Hennie van Greuning , CFA, Elaine Henry, CFA, Michael A. Broihahn, CFA; International Financial Statement Analysis: P238

Operating activities include the company's day-to-day activities that create revenues. Cash inflows result from cash sales and from the collection of accounts receivables. For example, company's sale goods and services, collection of receivables, etc. Cash outflows result from cash payments for inventories, salaries, taxes and other operation-related expenses and from paying accounts payable, etc.

Investing activities point to purchase and sell long-term assets. They include purchasing and selling property, plant, equipment, intangible assets and financial investments.

Financial activities include cash inflows and out flows by obtaining and repaying capital. In this category, cash inflows include cash from issuing shares (common and preferred) or bonds and cash from credits and borrowings. Cash outflows include cash payments to purchase shares, to pay dividends and to repay bonds and other borrowings, etc.

## **2.2 Common-Size Analysis**

Common-size analysis is to analyze financial statement data and their changes over the time. It aims to identify the trends and major differences. The common-size financial statement makes it easier to analyze a company's operating changes and compare it with other peers.

There are two main types: horizontal common-size analysis and vertical common-size analysis.

### 2.2.1 Horizontal common-size analysis

Horizontal common-size analysis is the to use the evolution of financial statements data over a time or their changes with respect to a given period as a benchmark. This analysis uses absolute changes and percentage to show a company's trend. Horizontal analysis is a fundamental analyst tool for measuring cash flows and detecting unusually large or small trends. It can compare two or more time periods.

We can calculate the absolute change:

$$\Delta X = X_{n+1} - x_n. \quad (2.4)$$

Where the  $x_{n+1}$  represents the reference item in the benchmark or the base period, and  $x_n$  represents the same item in the benchmark or base period. The relative change as follow:

$$\%Y = \frac{\Delta x}{x_n} \cdot 100. \quad (2.5)$$

Where the  $\Delta X$  is the absolute change between  $X_{n+1}$  and  $x_n$  .

### 2.2.2 Vertical common-size analysis

In the fundamental analysis, we use the vertical common-size analysis often, it is an analysis of the evolution of financial statement data over the time or their changes with respect to a given period as a benchmarks (total revenues, total assets, total liabilities, etc.). To conduct a vertical common-size analysis of a balance sheet, the total assets and the total liabilities and shareholder's equity are the benchmark of balance sheet. All individual assets items are shown in a percentage of the total assets. To conduct a vertical common-size analysis of an income statement, revenue is a benchmark at a given point, all the other items (like the cost of sales, gross profit, operating expense, income tax, and net income etc.) are shown as a percentage of revenue.

In a vertical analysis the percentage is computed by using the following formula:

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

where the amount of base we can write as  $\sum_n X_i$ , every individual item we write as  $X_i$ .

## 2.3 Financial ratio analysis

There are many relationships between financial accounts and between expected relationships from one point to another. Ratios are a useful way to show the relationship between these data.

Financial ratio analysis uses the financial accounting and other information in the sheet to assess a company's financial performance and financial conditions. Through the financial ratio, we can formulate the present business health. The ratios calculated from the financial data and the market data. Of course, the interpretation of these ratios are considered into a business cycle or company-specific events. Common ratio categories include liquidity, solvency, activity and profitability ratios

### 2.3.1 Profitability ratio

Profitability ratio is a metrics to measure a business's earnings which compares to its costs and relevant expenses for a business period. Profitability affects a company's competitive in the market and the efficient of its management, so the better or higher profitability ratio means more competitive in the market.

The Gross profit margin (GPM) is the gross profit to revenue. The gross profit indicates the difference between the revenue and the cost of goods sold. We can know how much euro left after the cost of goods sold. The formula is:

$$GPM = \frac{Gross\ Profit}{Total\ Revenue} . \quad (2.7)$$

The operating profit margin indicates the percentage of revenue available to cover operating and other expenditures. Its function is:

$$Operating\ profit\ margin = \frac{EBIT}{Revenues} . \quad (2.8)$$

The operating profit margin can reflect a company's competition, a higher OPM means higher products price and lower production costs. If the product has some advantages than others, company can charge higher for it.

The net profit margin is the percentage of the revenue remaining after all operating expenditures have been deducted from the total revenue. The function is shown as:

$$Net\ Profit\ Margin = \frac{EAT}{Revenues} . \quad (2.9)$$

The NPM reflects every one euro can have how much net profit, when operating a company, expand the company scale, expenditures (sale, finance, manage) is increased too, so we should concentrate on the changes of net profit margin when one more euro added.

Pretax profit margin is the earning before tax take proportion of the total sales or revenues. The higher pretax profit margin means the company is more profitable. The function of pretax profit margin is:

$$\text{Pretax profit margin} = \frac{\text{Earning before tax}}{\text{Total Revenue}} \quad (2.10)$$

The return on assets is the ratio of the net income to the total assets. And it indicates a company's net profit generated per euro invested in total assets, the higher the ratio is, the more payback we can get from one euro invest. Its function is:

$$ROA = \frac{\text{Net income}}{\text{Total assets}} \quad (2.11)$$

Return on equity is the ratio of net income to the equity (including the minority, preferred stocks, and common stocks), especially directed to the return to shareholders. It measures how much profits generated per euro of the shareholder's investment. The higher it is the more return shareholders can get. Its function is shown as:

$$ROE = \frac{\text{Net income}}{\text{Equity}} \quad (2.12)$$

### 2.3.2 Liquidity Ratios

Liquidity ratios measures a company's ability to cover its short-term obligations. Generally, the higher of the ratio, the larger margin of safety that the company possesses to cover short-term debt. Liquidity is a metrics that how quickly assets are converted into cash.

Common liquidity ratios include the current ratio, the quick ratio and the operating cash flow ratio.

The current ratio is known as working capital ratio which measures a company's ability to pay short-term and long-term obligations. It is the indicator to measure the company's short term risk. The ratio can be written:

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



A higher ratio means a higher level of liquidity, in contrast, a lower ratio indicates less liquidity.

Even though we can use current ratio to measure a company's liquidity, but people want to know the liquidity precisely, so we can use the quick ratio. The calculate show as:

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

$$\text{Quick ratio} = \frac{\text{Cash} - \text{Short-term marketable investment} + \text{Receivables}}{\text{Current liabilities}}. \quad (2.15)$$

The quick ratio is more stringent measure of liquidity. The quick ratio reflects the fact that certain current assets-such as a period expenses, some taxes, and employee-related prepayments-represent.

The cash ratio normally represents a reliable measure of an individual company's liquidity. It reflects a company's solvency, only highly marketable short-term securities and cash are calculated to the current liabilities. It is most commonly used as a measure of company liquidity. The function is shown as:

$$\text{Cash ratio} = \frac{\text{Cash} + \text{short-term marketable securities}}{\text{Current liabilities}}. \quad (2.16)$$

### 2.3.3 Solvency(leverage) ratios

Solvency refers to a company's ability to fulfil its long-term debt obligation. We use solvency ratios to assess a company's level of financial risk. Solvency ratios give information regarding the amount of liabilities in a company's structure. Solvency ratios are primarily divided into two types: Debt ratios and coverage ratios. Debt ratios focus on the balance sheet and measure the amount of debt capital relative to the equity capital. Coverage ratios concentrates on the income statement and measure the ability of a company to cover its debt payments.

Debt ratio measures a company's total debt (long-term and short-term debt) to all assets. It can be interpreted as the proportion of a company's assets that are financed by debt. Lower debt ratio means lower financial risk and stronger leverage. Its function is shown as:

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

Sometimes, the following financial ratios are used to analyze in greater depth the structure of the debt used for the financing of assets:

$$\text{Long-term debt ratio} = \frac{\text{Long-term debt}}{\text{Total assets}} . \quad (2.18)$$

$$\text{Current debt ratio} = \frac{\text{Short-term debt}}{\text{Total assets}} . \quad (2.19)$$

The debt-to-equity ratio measures the amount of debt capital relative to equity capital. The D/E ratio indicates how much debt a company uses represented from shareholder's equity. A higher D/E ratio generally means weaker solvency and vice versa. The function is:

$$\text{Debt-to-equity ratio} = \frac{\text{Total debt}}{\text{Equity}} . \quad (2.20)$$

The debt-to-equity ratio less than one, it means the company's long term finance risk is low.

Financial leverage ratio measures the amount of total assets supported for each one money unit of equity. Through it, we can know how much capital comes in the form of debt, and we can evaluate a company's ability to cover financial obligations. The function of financial leverage ratio is as follow:

$$\text{Financial leverage} = \frac{\text{Total assets}}{\text{Total equity}} . \quad (2.21)$$

Interest coverage ratio, also called as the times-interest-earned ratio, means the number of times of a company's EBIT can meet its interest payments. A higher interest coverage ratio indicates strong solvency and offer greater assurance that the company can service its debt (i.e. bank debt, bonds, notes, etc.) from operating earnings. The function is as following:

$$\text{Interest coverage} = \frac{\text{Earning before interest and taxes}}{\text{Interest payments}} . \quad (2.22)$$

The fixed-charge coverage ratio is a ratio indicates a company's ability to satisfy fixed financing expenses, such as the interest and leases. It measures the number of times a firm's earning can meet the firm's interest and lease payments. A higher fixed-charge coverage ratio indicates stronger solvency. Its function is as follows:

$$\text{Fixed-charge coverage ratio} = \frac{\text{EBIT} + \text{lease payments}}{\text{Interest payments} + \text{lease payments}} . \quad (2.23)$$

The bank debt-to-equity ratio is a ratio which plays an important role in firms using primarily bank debt for asset financing. The bank debt payback period refers to the period

(number of years) required to repay bank debt from the operating cash flow (EAT + depreciation). This is the ratio used by commercial banks to assess the company's ability to repay the bank debt, the function is shown as:

$$\text{Bank debt – to – equity ratio} = \frac{\text{Bank debt}}{\text{Equity}} \quad (2.24)$$

### 2.3.4 Activity ratios

Activity ratio is to evaluate how well a company does in putting its investment to use. Activity ratios are analyzed as indicators of ongoing operating performance, how effectively assets are used by a firm. The ratios are related to working capital management and long-term assets. We can divide activity ratios into two types: turnover ratios and number of days.

Total assets turnover (TAT) is a ratio that reflects how soon from a company invest capital and get output. Total assets turnover measures a company's sales or revenues generated relative to the value of its assets, and it is an important factor shows how efficient a company is employing its assets in generating revenue. The formula of TAT is:

$$\text{Total assets turnover} = \frac{\text{Revenue}}{\text{Average total assets}} \quad (2.25)$$

Inventory turnover is the costs of goods sold to the inventory. It indicates how efficient the inventory management. The higher of the inventory turnover ratio, the shorter of the time for the inventory held in storehouse, it means lower number of days of inventory on hand. The ratio is computed as:

$$\text{Inventory turnover} = \frac{\text{Revenues}}{\text{Average inventory}} \quad (2.26)$$

Receivable turnover ratio is the ratio of total revenue to the average receivables. The ratio is an indicator of the sources tied up to the accounts receivable and how many days for receivables are collected. A relatively high receivable turnover ratio indicates a company's credit, collection, liquidity is high. Or a relatively low receivable turnover ratio indicates that the receivables remain for a long time. The function is:

$$\text{Receivable turnover} = \frac{\text{Revenue}}{\text{Average receivables}} \quad (2.27)$$

Working capital turnover compares revenues with working capital, it shows how efficiently working capital is employed. Working capital is the funds the current assets minus current liabilities, the formula is as following:

$$\text{Working capital turnover} = \frac{\text{Total Revenue}}{\text{Average working capital}} \quad (2.28)$$

The number of days a company ties up funds in inventory is determined by the total amount of money represented in inventory and the average day's costs of goods sold. The days' sales of inventory value, or we can say DSI, is a financial tool to measure how long it takes a firm to turn its inventory (including goods that are a work in progress, if applicable) into sales. The lower of the ratio means the goods is sold quickly, and the costs of inventory is low. We compute the number of days of inventory by calculating the ratio of the amount of inventory on hand to the average day's cost of goods sold:

$$\text{Number of days turnover} = \frac{\text{Inventory}}{\text{Average day's costs of goods sold}} \quad (2.29)$$

$$\text{Number of days turnover} = \frac{\text{Inventory}}{(\text{costs of goods sold} / 365)} \quad (2.30)$$

The days usually use 365 days.

Days of sales outstanding (DSO) is an indicator that how many days of a sale – an account receivable is created and account receivable is in cash. When the ratio is low, it means the efficient of the liquidity capital is high. The number of days of receivables' function is shown as:

$$\text{Days of sales outstanding} = \frac{\text{Accounts receivable}}{\text{Average day's revenue}} \quad (2.31)$$

$$\text{Days of sales outstanding} = \frac{\text{Accounts receivable}}{(\text{Revenue} / 365)} \quad (2.32)$$

Here we use 365 days in one year.

Number of days' payable tell us how long it takes a company to pay its short-term obligations. DPO (days payable outstanding) is typically looked at either quarterly or yearly. The formula is:

$$\text{Number of days of payables} = \frac{\text{Accounts payable}}{\text{Average day's purchases}} \quad (2.32)$$

The number of one year in our calculation is always 365 days.

Fixed assets turnover is a financial ratio of one company's net sales to the fixed assets. The fixed assets turnover ratio measures a company's ability to generate net sales from fixed-assets investment (including the property, plant, equipment-net of depreciation). Higher fixed ratio means a company has high efficient in using the investment in fixed assets to revenues. Its function is as shown:

$$\text{Fixed assets turnover} = \frac{\text{Revenue}}{\text{Net fixed assets}} \quad (2.33)$$

The operating cycle is a measure of how long it takes to convert an investment in cash in inventory back into cash through collection of accounts receivables:

$$\text{Operating cycle} = \text{number of days of inventory} + \text{number of days of receivables} \quad (2.34)$$

The number of days can give us information that how long it takes the company to pay for purchase made to create the inventory. The difference between the operating cycle and the number of days of payables is the net operating cycle:

$$\text{Net operating cycle} = \text{Operating cycle} - \text{number of days of payables} \quad (2.35)$$

## 2.4 Du-Pont analysis

The Du-Pont analysis is a method to evaluate company's financial conditions started by the DuPont corporation in the 1920s. It uses decomposition to analyze the inner links among a kinds of factors. Here we analyze the ROE.

DuPont analysis exposed that ROE is affected by three factors: Operating efficiency (which is measured by profit margin), Asset use efficiency (which is measured by total asset turnover), Financial leverage (which is measured by the equity multiplier).

ROE means the return on equity, through decomposing ROE into some basic ratio:

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

We use DuPont analysis step by step, we need to decompose ROE, so we can get the following formula:

$$\frac{Net\ income}{Equity} = \frac{Net\ income}{Total\ asset} \cdot \frac{Total\ * assets}{Equity} \quad (2.36)$$

Where the  $\frac{Net\ income}{Assets}$  is the ROA (return on assets),  $\frac{Total\ assets}{Equity}$  is financial leverage, so we can know ROA and the financial leverage are the factors affect ROE. In the other words, a company can through increasing ROA or financial leverage to increase ROE.

Then, the individual components such as ROE can be decomposed, the function is as following:

$$ROE = \frac{Net\ income}{Revenue} \cdot \frac{Revenue}{Total\ assets} \cdot \frac{Total\ assets}{Equity} \quad (2.37)$$

Which we can computer like this:

$$ROE = Net\ profit\ margin * Asset\ turnover * Leverage \quad (2.38)$$

We can continue to decompose the net profit margin to more details, the ROE can be computed as:

$$ROE = \frac{Net\ income}{EBT} \cdot \frac{EBT}{EBIT} \cdot \frac{EBIT}{Revenue} \cdot \frac{Revenue}{Total\ assets} \cdot \frac{Total\ assets}{Equity} \quad (2.39)$$

Where  $\frac{Net\ income}{EBT}$  is the tax burden,  $\frac{EBT}{EBIT}$  is the interest burden,  $\frac{EBIT}{Revenue}$  is the operating profit margin,  $\frac{Revenue}{Assets}$  is the assets turnover and  $\frac{Assets}{Equity}$  is the financial leverage.

There are some methods to analyze the influence on each item of ROE, now we describe three methods here.

Method of gradual changes is a method enables to quantify the changes in the basic ratio caused by the changes in the component ratio. In the case of decomposition with 3 component ratios:

$$\Delta X_{a1} = \Delta a_1 \cdot a_{2,0} \cdot a_{3,0} . \quad (2.40)$$

$$\Delta X_{a2} = a_{1,1} \cdot \Delta a_2 \cdot a_{3,0} . \quad (2.41)$$

$$\Delta X_{a3} = a_{1,1} \cdot a_{2,1} \cdot \Delta a_3 . \quad (2.42)$$

X means the basic ratio.  $\Delta X$  is the absolute change in the basic ratio.  $a$  presents the component ratio and  $\Delta a$  is the absolute change in the component ratio. We use this method to analyze the influence of each item in ROE.

Second way to decompose is the logarithmic method. It has some advantages, we need just one formula for the impact quantification regardless of how many component ratios we have. The formula is:

$$\Delta X_{ai} = \frac{\ln I_{ai}}{\ln I_x} \cdot \Delta X . \quad (2.43)$$

Where X means basic ratio and  $\Delta X$  is absolute change in the basic ratio.  $I_x$  presents the index of change in basic ratio and  $I_{ai}$  is the index of change in component ratio.

The third method is functional decomposition method. The method works with the relative changes in basic and component ratios. The functions are:

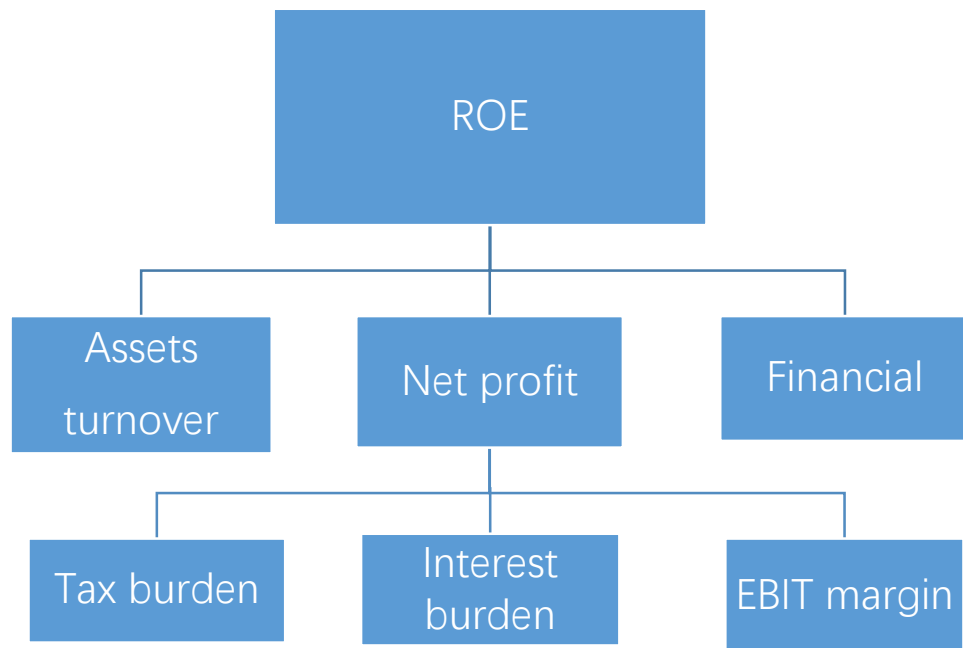
$$\Delta X_{a1} = \frac{1}{R_x} \cdot R_{a1} \cdot \left(1 + \frac{1}{2} \cdot R_{a2} + \frac{1}{2} \cdot R_{a3} + \frac{1}{3} \cdot R_{a2} \cdot R_{a3}\right) \cdot \Delta X . \quad (2.44)$$

$$\Delta X_{a2} = \frac{1}{R_x} \cdot R_{a2} \cdot \left(1 + \frac{1}{2} \cdot R_{a1} + \frac{1}{2} \cdot R_{a3} + \frac{1}{3} \cdot R_{a1} \cdot R_{a3}\right) \cdot \Delta X . \quad (2.45)$$

$$\Delta X_{a3} = \frac{1}{R_x} \cdot R_{a3} \cdot \left(1 + \frac{1}{2} \cdot R_{a1} + \frac{1}{2} \cdot R_{a2} + \frac{1}{3} \cdot R_{a1} \cdot R_{a2}\right) \cdot \Delta X . \quad (2.46)$$

The following is the ROE tree, we can know the relationships of individual items and know how they effects each other.

Chart 2.4 The decomposition of ROE





### **3 Assessment of financial situation**

In this chapter, we want to describe Apple from four parts. First, we introduce the company (history, business structure, competitors and development), then we analyze the company by the common-size analysis, at last we assess the company's financial statement by ratios analysis and Du-Pont analysis.

#### **3.1 Introduction of the company**

The Company designs, manufactures, and markets mobile communication and media devices, personal computers, and portable digital music players, and sells a variety of related software, services, accessories, networking solutions, and third-party digital content and applications. The Company's products and services include iPhone ®, iPad®, Mac®, iPod ®, Apple TV ®, a portfolio of consumer and professional software applications, the iOS and OS X ® operating systems, iCloud ®, and a variety of accessory, service and support offerings. In September 2014, the Company announced Apple Watch™, which is expected to be available in early calendar year 2015, and Apple Pay™, which became available in the U.S. in October 2014. The Company also sells and delivers digital content and applications through the iTunes Store ®, App Store™, iBooks Store™ and Mac App Store. The Company sells its products worldwide through its retail stores, online stores and direct sales force, as well as through third-party cellular network carriers, wholesalers, retailers and value-added resellers. In addition, the Company sells a variety of third-party iPhone, iPad, Mac and iPod compatible products, including application software, and various accessories, through its online and retail stores. The Company sells to consumers, small and mid-sized businesses ("SMB") and education, enterprise and government customers. The Company's fiscal year is the 52 or 53-week period that ends on the last Saturday of September. The Company is a California corporation established in 1977.

##### **3.1.1 History**

Steve Jobs and Stephen Gary found the Apple Inc. in the 1976. For 35 years' development, Apple surpassed the Microsoft company, become the second large company in the USA. And now, the Apple is the world second mobile phone company.

Since Apple company's first IPO (Initial public offerings), in 2012 Apple's market value research 623.5 billion, until the June, 2014, Apple become the world's largest company for three years. Apple ranking to the 15<sup>th</sup> at the fortune list. Recently years, Apple devoted itself to the mobile phone:(iPhone), media play(iPod), personal computer(iMac), table computer(iPad), online service include the iCloud, iTunes store, app store, and some software OS X and IOS and etc. To June 2014, Apple has 425 premium stores in 14 countries, as well as Apple's online store, iTunes store. iTunes Store is the world's largest music retailer. Apple is a company's most valuable publicly traded company in June 2014 to have a market capitalization of about \$ 600 billion, the same year in November is the first company to break the 700 billion US dollars in history. As of September 29, 2012, Apple has staff of 72,800 permanent full-time, temporary full-time employees 3300 in the world. 2013 total revenue of \$ 170.9 billion worldwide. As of the first quarter of 2014, Apple's sales in the five-year average growth rate of 39%, 45% profit margin. May 2013 Apple's first entry into the Fortune 500 list of the top 10, compared with 2012 increased by 11, ranked No. 6.

### **3.1.2 Business Strategy**

By now, Apple has three main products: consumer digital products, operating system software and application software. Consumer digital products are I -series products, operating system like IOS and OX S. The Company is committed to bringing the best user experience to its customers through its innovative hardware, software and services. The Company's business strategy leverages its unique ability to design and develop its own operating systems, hardware, application software and services to provide its customers products and solutions with innovative design, superior ease-of-use and seamless integration. As part of its strategy, the Company continues to expand its platform for the discovery and delivery of third-party digital content and applications through the iTunes Store. As part of the iTunes Store, the Company's App Store and iBooks Store allow customers to discover and download applications and books through either a Mac or Windows-based computer or through iPhone, iPad and iPod touch ® devices ("iOS devices"). The Company's Mac App Store allows customers to easily discover, download and install Mac applications. The Company also supports a community for the development of third-

party software and hardware products and digital content that complement the Company's offerings. The Company believes a high-quality buying experience with knowledgeable salespersons who can convey the value of the Company's products and services greatly enhances its ability to attract and retain customers. Therefore, the Company's strategy also includes building and expanding its own retail and online stores and its third-party distribution network to effectively reach more customers and provide them with a high-quality sales and post-sales support experience. The Company believes continual investment in research and development ("R&D"), marketing and advertising is critical to the development and sale of innovative products and technologies. The Company believes that sales of its innovative and differentiated products are enhanced by knowledgeable salespersons

who can convey the value of the hardware and software integration and demonstrate the unique solutions that are available on its products. The Company further believes providing direct contact with its targeted customers is an effective way to demonstrate the advantages of its products over those of its competitors and providing a high-quality sales and after-sales support experience is critical to attracting new and retaining existing customers.

### **3.1.3 Competitors of industry**

Recently years, the markets for the electronic and service are highly competitive and the company is met aggressive competition in the area. These markets are characterized by frequent product introductions and advanced technology that have substantially increased the capabilities and use of mobile communication and media devices, personal computer and other digital electronic devices. Apple's competitors who sell the mobile device and personal computers based on the own system or operating system must decrease their price and profit margin, in order to get more market share. The company's financial condition and operating results also effect its performance in the market. In the personal computer market, even though Microsoft has the most popular system in the world: Windows. The Apple also has a lot of consumers in OX S system. So the Apple's main competitors in personal computer are Dell, HP, Acer and Lenovo. Mobile computing is the new scientific and technological undertakings, until now, Apple has the highest operating profit in the industry. And in this

industry, Apple's competitors are Google, Samsung, Nokia and Asus. Before iPhone came out in the world, the smart phone is led by the Canada's company, RIM, blackberry and Nokia has the largest market share. But with the iPhone comes out, the mobile phone industry has a tremendous change, Google company launched a system: Android. This system is used at Huawei, Samsung, Sony, HTC and Lenovo. So these brand mobile phones are main competitors to Apple. In the entertainment media and application area, Apple and Google are the main companies, Apple's IOS are applied to own iPad, iPod and etc. And the system, Android is applied to many competitors' products. Therefore, in this industry, Apple's main competitor is Google. When October, 2014, Apple declared that it will develop mobile pay area. In this area, Apple is a new participant, the older companies are PayPal and ZhiFuBao (Alibaba's company)

And after that Samsung comes out new mobile pay item, Samsung Pay. The Company's future financial condition and operating results depend on the Company's ability to continue to develop and offer new innovative products and services in each of the markets in which it competes. The Company believes it offers superior innovation and integration of the entire solution including the hardware (iPhone, iPad, Mac and iPod), software (iOS, OS X and iTunes), online services and distribution of digital content and applications (iTunes Store, App Store, iBooks Store and Mac App Store). Some of the Company's current and potential competitors have substantial resources and may be able to provide such products and services at little or no profit or even at a loss to compete with the Company's offerings.

### **3.1.3 Development of Apple Inc.**

Now, Apple company is concentrated on transforming, Apple's main profit comes from iPhone and it is urgent to develop some other products. Apple is over-dependence on its mobile phone industry. The Company continues to develop new technologies to enhance existing products and to expand the range of its product offerings through R&D, licensing of intellectual property and acquisition of third-party businesses and technology. Total R&D expense was \$6.0 billion, \$4.5 billion and \$3.4 billion in 2014, 2013 and 2012, respectively.

### 3.2 Common-size analysis of Apple

In this chapter, we describe the common-size analysis of Apple by the vertical common-size analysis and horizontal common-size analysis.

This Simple balance of Apple Inc. you can find in the complete balance sheet is in Annex 1 and complete income statement is in the Annex 2. We will use five years' data from 2011 to 2015 to analysis.

#### 3.2.1 Vertical common-size analysis of Apple Inc.

This part, we use vertical common-size analysis to evaluate Apple, we can know each item take how much proportion in the selected sheet. Assets are given as the benchmark, the percentage result is shown in the Tab 3.1 and the percentage in the Chart

Table 3.1 Assets of the Apple from 2011 to 2015(in millions).

ASSETS	2011	2012	2013	2014	2015
Current assets:					
Cash and cash equivalents	9,815	10,746	14,259	13,844	21,120
Short-term marketable securities	16,137	18,383	26,287	11,233	20,481
Accounts receivable	5,369	10,930	13,102	17,460	16,849
Inventories	776	791	1,764	2,111	2,349
Deferred tax assets	2,014	2,583	3,453	4,318	5,546
Vendor non-trade receivables	6,348	7,762	7,539	9,759	13,494
Other current assets	4,529	6,458	6,882	9,806	9,539

Tab 3.2 The proportion of each item in current assets (%)

	2011	2012	2013	2014	2015
Cash and cash equivalents	21.82	18.64	19.46	20.20	23.63
Short-term marketable securities	35.87	31.89	35.87	16.39	22.92
Accounts receivable	11.93	18.96	17.88	25.48	18.85
Inventories	1.72	1.37	2.41	3.08	2.63
Deferred tax assets	4.48	4.48	4.71	6.30	6.21
Vendor non-trade receivables	14.11	13.46	10.29	14.24	15.10
Other current assets	10.07	11.20	9.39	14.31	10.67
Total current assets	100.00	100.00	100.00	100.00	100.00

Chart 3.1 Vertical common-size of current assets

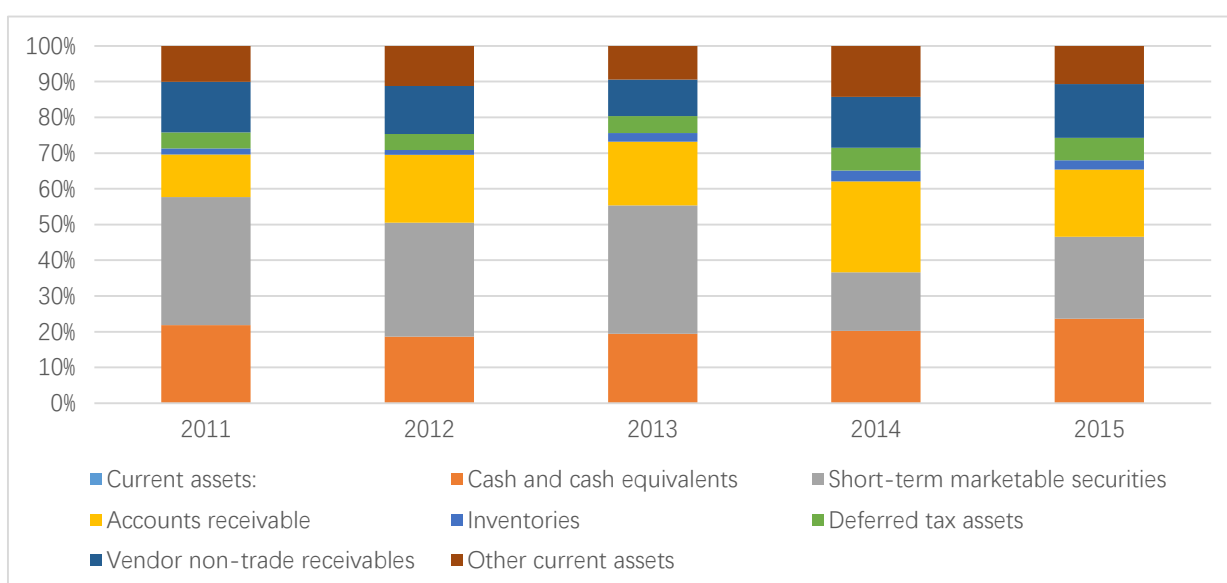


Table 3.2 The proportion of each item of total assets

<b>Total current assets</b>	<b>44988</b>	<b>57653</b>	<b>73286</b>	<b>68531</b>	<b>89378</b>
total long-term assets	71383	118411	133714	163308	201101
total assets	116371	176064	207000	231839	290479

Table 3.3 The decomposition of total assets of Apple Inc.

Total current assets	38.66	32.75	35.40	29.56	30.77
total long-term assets	61.34	67.25	64.60	70.44	69.23
total assets	1	1	1	1	1

Table 3.4 The proportion of items in long-term assets (%).

Long-term marketable securities	77.91	77.80	79.43	79.70	81.58
Property, plant and equipment net	10.89	13.05	12.41	12.63	11.17
Goodwill	1.26	0.96	1.18	2.83	2.54
Acquired intangible assets net	4.95	3.57	3.13	2.54	1.94
other assets	4.98	4.63	3.85	2.30	2.76
total long-term assets	1	1	1	1	1

In the table 3.1, we can know that cash is increased in total, but it is fluctuated in the several years. In the 2012, it is decreased by 3.18%, but when comes to the 2013 the cash is increased than 2012, it is still lower than 2011. As we all know, if a company hold too much money, the company can't realize the benefit maximization. However, the amount of cash held by the company is feasible, it makes sure that the company can have enough money to invest to other projects. The short-term marketable securities are decreased in the five years, is 22.92% in the 2015, lower 12.95 than 2011. The percentage of accounts receivable is steady growth from 2011 to 2014, it is slightly decreased in the 2015, decreased by 6.63%. Apple controls the percentage of accounts receivable, it means nearly all trades are not in credit. The proportion of inventory is between 1.37% and 3.08%. But from the chart data, inventory is increased sharply, due to the increased in market share and sales. The other

current assets are waved up and down in 10%, it includes cash surrender value of life insurance, policies advances paid to suppliers, advances paid to employees and etc. The proportion of long-term assets is fluctuated in 65%, in the 2013 and 2015, the long-term assets decreased. The long-term marketable securities are increased except 2012, it decreased 0.11%. And the long-term marketable securities are fluctuated in 75%, nearly takes up three forth of total long-term assets. Because Apple likes to gain other new technology, so Apple invested in other companies and buy others' securities. The property, plant and equipment net becomes smaller and smaller in the five years, because Apple always design products but not to make, Apple always entrusts Foxconn to make products, however itself buys materials. (OEM: Original Equipment Manufacturer). According to the vertical analysis, the proportion of current assets in 2012 and 2014 are lower than 2011, 2013, 2015. The reason was in 2012, Apple had extra investments in an associate of long-term current. And we can see that goodwill was increased in total, except 2012 and 2015 were decreased.

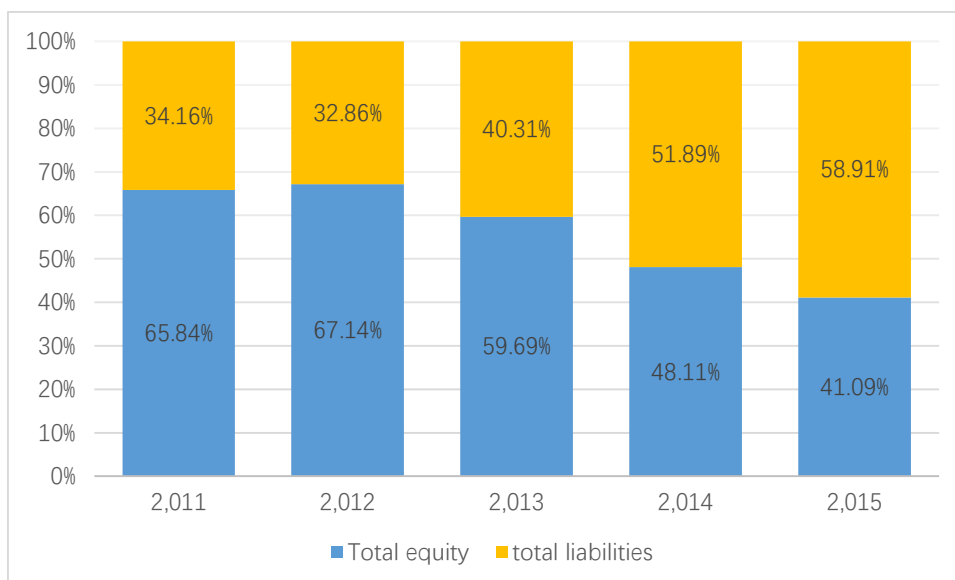
Then we calculate the proportion of each item in equity and liabilities. Given assets as the benchmark. The percentage results in the Tab 3.3 and the histogram in the Chart 3.3.

Table 3.5 The proportion of each item in total equity and liabilities (%).

	2011	2012	2013	2014	2015
Total equity	65.84	67.14	59.69	48.11	41.09
non-current liabilities	10.13	10.97	19.22	24.52	31.16
current liabilities	24.04	21.89	21.09	27.37	27.75
total liabilities	34.16	32.86	40.31	51.89	58.91
Total equity and liabilities	100.00	100.00	100.00	100.00	100.00



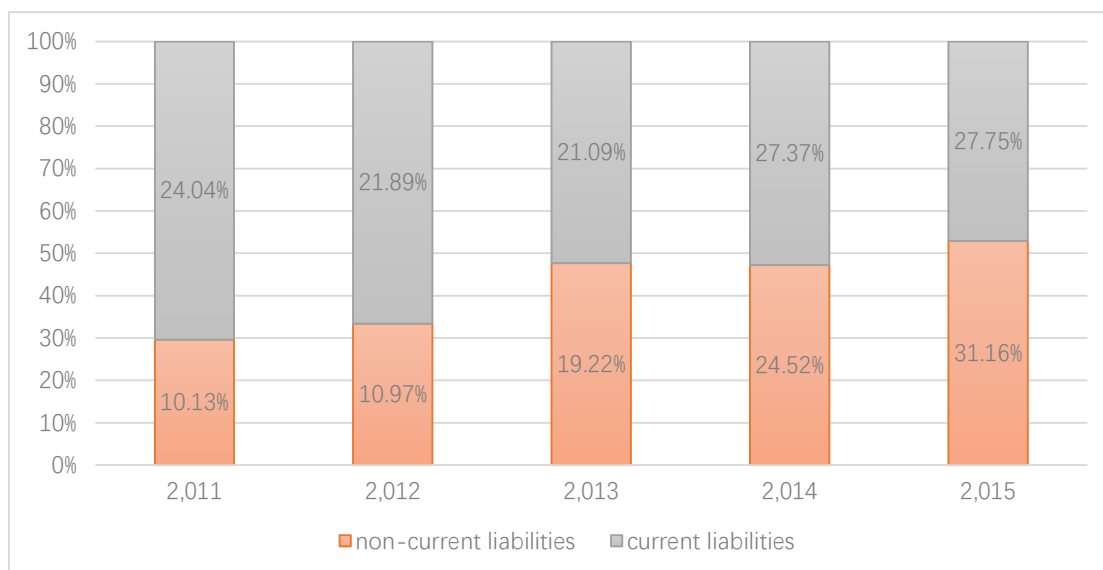
Chart 3.3 Vertical common-size analysis of equity and liabilities



In the Table 3.3, we can see the total equity is decreasing in these years except 2012, even though the amount is still increasing. Because these years, Apple through the capital to expand operating scale and market share. The total liabilities are increasing in these years except 2012, owing to Apple wants to attract investors and money, so Apple issued stocks and bonds. Non-current liabilities are increased sharply in the five years, and the current liabilities always are steady. The reserves of the total equity are decreased, and the proportion of the equity is also decreased. In the beginning, Apple's total equity takes higher percentage than total liabilities, as the time goes on, liabilities are increased and equity is decreased, in the 2015, liabilities are higher than equity in proportion.

We make a histogram to show the proportion of current liabilities and non-current liabilities. (Chart 3.4)

Chart 3.4 Vertical common-size analysis of liabilities



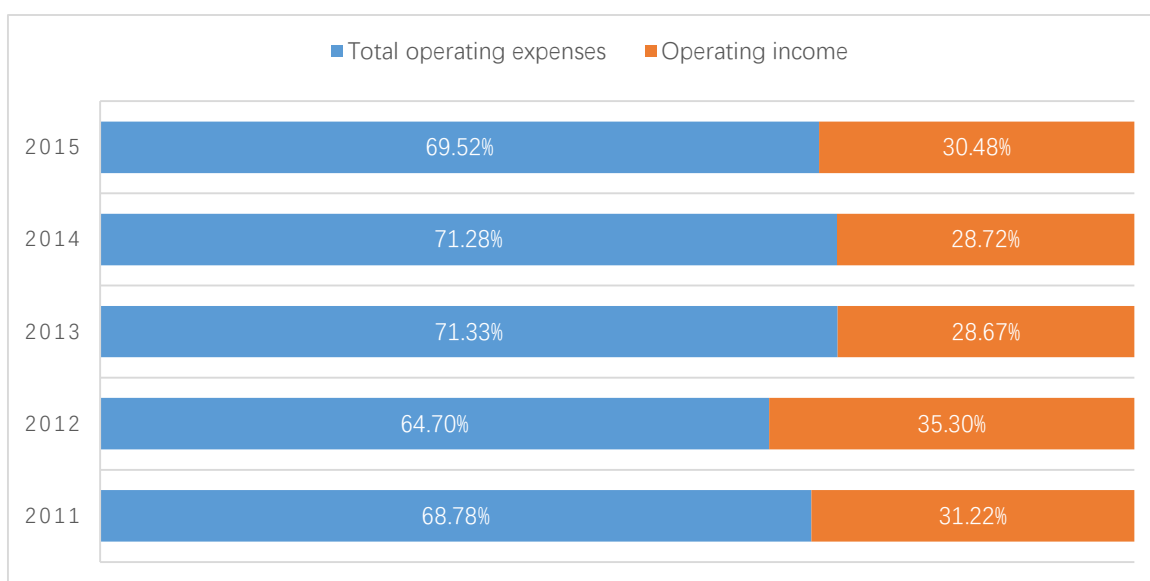
In the chart 3.4, we can see that the current liabilities were main part in 2011, but when 2015 comes, it became smaller than before, and last two years, the current liabilities were stable, it means the company was making the full use of capital to earn more money. When 2011, the non-current liabilities were very low, but when times went by, it expanded its proportion of the total liabilities. We can see it takes more than 50% of the total liabilities. When company done operating activities, company used more long-term funds, such as convertible bonds. So even though the current liabilities total percentage was increased, its percentage of liabilities became lower, from 70% to 48%.

We make vertical common-size analysis of income statement. Given data from the benchmark. The proportion of each items to total revenue are shown on the Table 3.4, and the income statement of Apple shows in Annex 2. The histogram is expressed in the Chart 3.5.

Table 3.6 Vertical common-size analysis of revenue (%)

	2011	2012	2013	2014	2015
Total operating expenses	68.78	64.70	71.33	71.28	69.52
Operating income	31.22	35.30	28.67	28.72	30.48
Financial costs(income)	0.38	0.33	0.68	0.54	0.55
EBT	31.60	35.63	29.35	29.26	31.03
Taxation	7.65	8.96	7.68	7.64	8.18
EAT	23.95	26.67	21.67	21.61	22.85
Total operating revenues	100.00	100.00	100.00	100.00	100.00

Chart 3.5 Vertical common-size analysis of revenue histogram



In the table 3.4, we can see the proportion of total operating expense is 68.78% in 2011 by the common size analysis. And it is always fluctuated, in 2012 it decreased to 64.70% and after that it increased. The proportion in the last three years are 71.33, 71.28 and 69.52. And the operating expense is the biggest part in the revenue, it means that Apple used large amount of money to manage operating activities, such as the advertising costs, advertising

expense was 1.0 billion, 933 million and 691 million for 2012, 2011 and 2010. The proportion of operating income from operating activities is decreased except 2012. In 2012, the proportion increased fiercely. This resulted by from the growth in net sales of iPhone; iTunes; software and service. Growth in 2012 reflects strong sales of iPhone 4 and 4s. The operating income rising 4.08% than before. In the worldwide area, Nokia's sell is decline, and iPhone expand its market, especially in Asia, China. In China, through cooperation with China Unicom (Internet service provider), iPhone and iPad sale well. The proportion of EBT is decreased in the several years, except 2012 and 2015. It due to the net sales of iPhone and related products and services were \$80.5 billion in 2012, representing an increase of \$33.4 billion or 71% compared to 2011. The percentage of financial costs(income) was very low and stable. Taxation is increased in 2012 and 2015, the reason is that the income is increased in these two years, and in 2011, 2013 and 2014 it is stable. The proportion of EAT was extremely stable in the five years except 2012, in 2012 it increased 2.72%.

In general, Apple Inc. had a good structure of financial conditions and develop well from 2011 to 2015.

### **3.2.2 Horizontal common-size analysis of Apple**

In this part, we use horizontal common-size analysis to describe Apple. Horizontal common-size analysis is an analysis evaluated on the financial statement over the past years. Given the data as the benchmark. We make the sheet to present the absolute and proportion changes of each items in five years (2011-2015). The main items and data in the balance sheet are shown in annexes.

Table 3.7 The main items in balance sheet from 2011 to 2015 (in millions).

	2011	2012	2013	2014	2015
Total current assets	44,988	57,653	73,286	68,531	89,378
Total long-term assets	71,383	118,411	133,714	163,308	201,101
<b>Total assets</b>	<b>116,371</b>	<b>176,064</b>	<b>207,000</b>	<b>231,839</b>	<b>290,479</b>
non-current liabilities	11,786	19,312	39,793	56,844	90,514
current liabilities	27,970	38,542	43,658	63,448	80,610
<b>total liabilities</b>	<b>39,756</b>	<b>57,854</b>	<b>83,451</b>	<b>120,292</b>	<b>171,124</b>
<b>Total shareholder's equity</b>	<b>76,615</b>	<b>118,210</b>	<b>123,549</b>	<b>111,547</b>	<b>119,355</b>
<b>Total equity and liabilities</b>	<b>116,371</b>	<b>176,064</b>	<b>207,000</b>	<b>231,839</b>	<b>290,479</b>

From the Table 3.5, we can know the absolute change and percentage of horizontal common-size analysis. The results of absolute changes of balance sheet are shown in the Table 3.6, and the percentage changes in the balance sheet you can see in the Table 3.7.

Table 3.8 Absolute change in the balance sheet from 2011 to 2015 (in millions)

	2011/2012	2012/2013	2013/2014	2014/2015
Total current assets	12,665	15,633	-4,755	20,847
total long-term assets	47,028	15,303	29,594	37,793
<b>total assets</b>	<b>59,693</b>	<b>30,936</b>	<b>24,839</b>	<b>58,640</b>
non-current liabilities	7,526	20,481	17,051	33,670
current liabilities	10,572	5,116	19,790	17,162
<b>total liabilities</b>	<b>18,098</b>	<b>25,597</b>	<b>36,841</b>	<b>50,832</b>
<b>Total equity</b>	<b>41,595</b>	<b>5,339</b>	<b>-12,002</b>	<b>7,808</b>
<b>Total equity and liabilities</b>	<b>59,693</b>	<b>30,936</b>	<b>24,839</b>	<b>58,640</b>

Table 3.9 Percentage changes in balance sheet from 2011 to 2015 (%)

	2011/2012	2012/2013	2013/2014	2014/2015
Total current assets	28.15	27.12	-6.49	30.42
Total long-term assets	65.88	12.92	22.13	23.14
<b>Total assets</b>	51.30	17.57	12.00	25.29
Non-current liabilities	63.86	106.05	42.85	59.23
Current liabilities	37.80	13.27	45.33	27.05
<b>Total liabilities</b>	45.52	44.24	44.15	42.26
<b>Total equity</b>	54.29	4.52	-9.71	7.00
<b>Total equity and liabilities</b>	51.30	17.57	12.00	25.29

In the Table 3.6 and Table 3.7, we use horizontal common-size analysis to analyze the data. From the balance sheet, we can see that the current assets increased slowly but the non-current assets increased quickly. We can find that total current assets decreased 4,755 million, and declined 6.49% in 2014. Because in 2014, Apple Inc. completed various business acquisitions, including the acquisitions of Beats Music, LLC, which offers a subscription streaming music service. And the total equity in 2014 decreased than 2013, decreased 9.71%, due to the Apple repurchased shares of its common stock in the open market. In the 2012, the structure of assets changed, the long term assets increased extremely, approximately 47028 million, 65.88% than before. At the same time, the current assets increased a little, about 28.15%. And the total assets increased 59693 million, due to Apple Inc. held more long term stocks and bonds. Additional, the intangible was increased rapidly due to the iPhone 4 and 4s.

In the 2013, non-current liabilities increased extremely huge than before, increased 20,487 million dollars, and it was 106.05% than before. In the third quarter of 2013, the company issued 17.0 billion of long-term debt, which included 3.0 billion of floating -rate notes, to manage the risk of adverse fluctuation in interest rates associated with the floating -rate notes, the company entered into interest rate swaps with an aggregate notional amount

of 3.0 billion, which, in effect, fixed the interest rate of floating-rate notes. The non-current liabilities increased quicker than the current liabilities during the five years. The Company's other non-current liabilities in the consolidated balance sheets consist primarily of deferred tax liabilities, gross unrecognized tax benefits and the related gross interest and penalties. In the 2015, Apple comes out the iPhone 6, thanks to iPhone6, Apple company took up one third market share, ranked to world second mobile phone provider. So the laurel gives Apple many chances to invest. So in the 2015, the current liabilities and non-current liabilities increased extremely.

During the five years, total liabilities increased and the total shareholder's equity is stable. The company has five million shares of authorized preferred stock, none of which is issued or outstanding. In the 2013, the shareholder's equity was increased, the reason is that in April 2013, the company's board of directors increased the share repurchase program authorization from 10 billion to 60 billion, of which 23.0 billion had been utilized as of September 28, 2013. The reason why the liabilities increased is the company issued the long-term debt. Next we will describe the horizontal common-size analysis of income statement. The main items of income statement are shown in Table 3.8.

Table 3.10 The main item of income statement from 2011 to 2015(in million)

	2011	2012	2013	2014	2015
Total operating revenue	108249	156508	170910	182795	233715
Cost of revenue	64431	87846	106606	112258	140089
Gross profit	43818	68662	64304	70537	93626
Operating (loss)/profit	20613	19184	42302	41721	46463
Interest costs(income)	415	522	1156	980	1285
Operating income	33790	55241	48999	52503	71230
EBT	34205	55763	50155	53483	72515
Taxation	8283	14030	13118	13973	19121
EAT	25922	41733	37037	39510	53394

From table 3.8, we can see every item in the five years. In the 2012, the operating revenues increased rapidly, or we can say total operating revenues was in rising trend during five years. Due to boutique products strategy, Apple promoted one phone every year, and every generation had great improvement, so the operating revenue increased rapidly. Thanks to the strategy, it made Apple more competitive in this industry. The gross margin percentage in 2012 was 43.9%, compared to 40.5% in 2011. This year-over-year increase in gross margin was largely driven by lower commodity and other product costs, a higher mix of iPhone sales, and improved leverage on fixed costs from higher net sales. The gross margin percentage in 2013 was 37.6% compared to 43.9% in 2012. The year-over-year decrease in gross margin in 2013 compared to 2012 was driven by multiple factors including introduction of new versions of existing products with higher cost structures and flat or reduced pricing. But we can find that the percentage decreased, as higher expenses associated with changes to certain of company's service policies and warranty costs. And in 2015, the amount of gross profit increased extremely huge, because Apple improved leverage on fixed costs from higher net sales. The EBIT of 2013 decreased in the five years, owing to average revenue of Apple stores decreased, and the fees of launch iPhone5 and Asia pacific segment demand lower than 2012. So the EBT in 2013 decreased. From the table, we can find that the EAT in 2012 was higher than the next two years, because in 2012, Apple promoted iPad. Then we make the absolute changes of income statement from 2011 to 2015. (in million)

Table 3.11 Absolute changes in income statement from 2011 to 2015

	2011/2012	2012/2013	2013/2014	2014/2015
Total operating revenues	48259	14402	11885	50920
Cost of revenue	23415	18760	5652	27831
Gross profit	24844	-4358	6233	23089
Operating (loss)/profit	-1429	23118	-581	4742
Interest costs(income)	107	634	-176	305
Operating income	21451	-6242	3504	18727



EBT	21558	-5608	3328	19032
Taxation	5747	-912	855	5148
EAT	15811	-4696	2473	13884

From table 3.8, we can see in 2013 and 2014 the total operating revenues decreased, but in 2015 it increased again. In 2012, the operating revenue was higher than the next two years, it was 48259 million dollars, but in 2013 and 2014, the operating revenues was smaller than before. The reason is that mix sales of iPhone sales and the older production discount, so the iPhone sold more than before, but in 2013 and 2014, fixed costs were higher and the lower commodities sold well from competitors. The gross profit in 2013 decreased, in 2012 it increased fiercely, in generally, gross profit was effected by variety of factors, the worldwide pricing pressure, the price of providers, the potential of strengthening of the U.S dollar and etc. And the EBIT in 2012 and 2014 decreased, the EBT in 2013 increased lower than before, because in 2013 the mobile phone increased slowly and R&D fees increased much. The similar factors effected the EAT, so the EAT in 2013 decreased.

Table 3.12 Percentage change of income statement from 2011 to 2015. (%)

	2011/2012	2012/2013	2013/2014	2014/2015
Total operating revenues	44.58	9.20	6.95	27.86
Cost of revenue	36.34	21.36	5.30	24.79
Gross profit	56.70	-6.35	9.69	32.73
Operating (loss)/profit	-6.93	120.51	-1.37	11.37
Interest costs(income)	25.78	121.46	-15.22	31.12
Operating income	63.48	-11.30	7.15	35.67
EBT	63.03	-10.06	6.64	35.59
Taxation	69.38	-6.50	6.52	36.84
EAT	60.99	-11.25	6.68	35.14

According to the horizontal common-size analysis, the proportion of operating revenues increased quickly in 2012, but in 2013 and 2014, its growth was slowdown, was

9.20% and 6.95% in these two years. Gross profit was negative growth in 2013, because in 2012 the sales beyond expectation and in 2013 Apple increased investment in relative industry. But we can see even though the operating revenue increased slowly in 2013 and 2014, the costs of revenue in 2013 was much more than 2014, because in 2013 iPhone was launching iPhone5, need a lot of money. The operating profit decreased in 2012 and 2014, but in 2013 and 2015 increased, the reason is that in 2012, iPhone 4s sales was under expectation and 2014 Apple was concentrated on developing new iPhone. And in 2013, due to iPhone5's sales and older productions reduced price, the iPhone 4s sold well. The operating income, EBT and EAT were negative increased in 2013 owing to the gross profit in 2013 was negative. And we can see in 2012, sales increased rapidly, because Apple promoted new iPhone, the best iPhone in history, iPhone5. So in 2012, Company's sales increased rapidly than 2011.

### **3.3 Financial analysis of selected company**

In this chapter, we will analyze Apple Inc. used financial ratios. For calculation, we use the methodology and formula in chapter 2. This chapter divides into five parts: liquidity of Apple Inc., solvency of Apple Inc., profitability of Apple Inc., activity of Apple Inc. and Du-Pont analysis of Apple Inc.

#### **3.3.1 Liquidity ratios of Apple Inc.**

Liquidity ratios are the ways which measures a company's ability to meet its short-term obligations. Liquidity measures how quickly assets are converted into cash. In part, we use three ratios: current ratio, quick ratio and cash ratio. Results are shown in the table 3.11 and trend of each ratios is presented in chart 3.6, chart 3.7 and chart 3.8. And in this part we use formula (2.13), (2.14), (2.16) in the chapter 2.

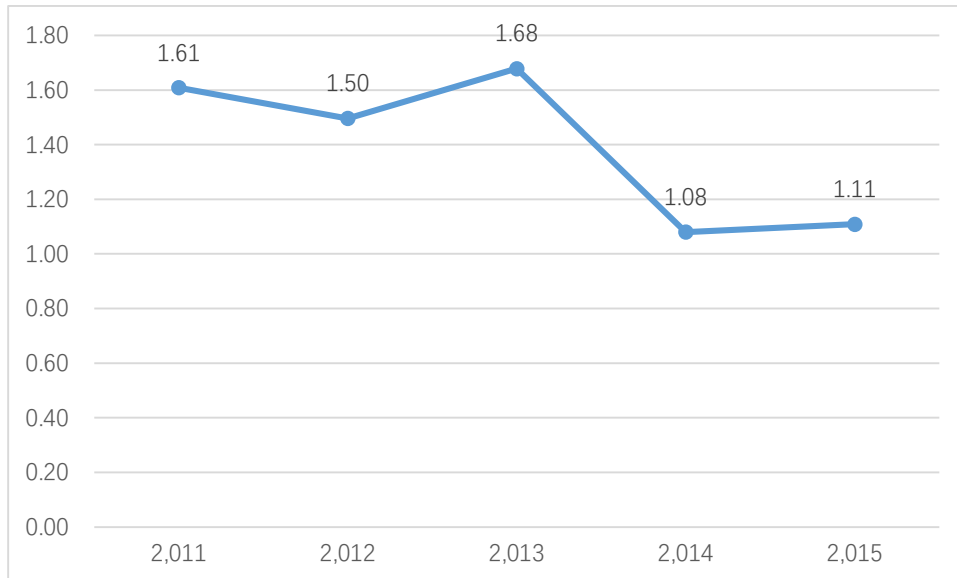
Table 3.13 Liquidity of Apple Inc. from 2011 to 2015.

	2,011	2,012	2,013	2,014	2,015
Current ratio	1.61	1.50	1.68	1.08	1.11

Quick ratio	1.58	1.48	1.64	1.05	1.08
Cash ratio	0.93	0.76	0.93	0.40	0.52

Trend of current ratio is shown in chart 3.6.

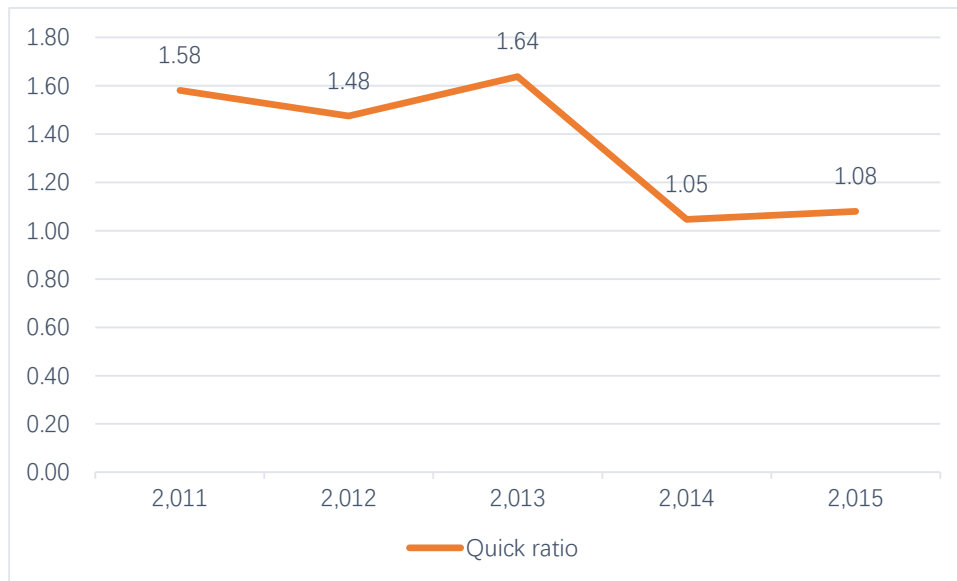
Chart 3.6 Trend of current ratio of Apple Inc. from 2011 to 2015.



From the benchmark, we know the data of current assets and current liabilities for calculation. The results are shown in the table 3.11 and chart 3.6. From the chart, we can see that current ratios were fluctuant during five years, and it has a top point in 2013, but in the total trend, it decreased. It decreased from 1.61 to 1.50 between 2011 and 2012, after that it increased to 1.68, until 2014 and 2015, the ratios were 1.08 and 1.11. Because from 2011, the world technology industry changed, Apple depended on high price level get a lot of profit, so the current ratio was high in 2013. And Apple as a leader in the industry, Apple was active to push industrial change, so Apple increased the current assets and liabilities to the productions. Apple had high current ratios, because in this way, company had enough money to meet the immediate and short-term liabilities and obligations. On conclusion, Apple has good current ratios and has enough to meet the obligations from 2011 to 2015.

The trend of quick ratios is shown in the chart 3.7.

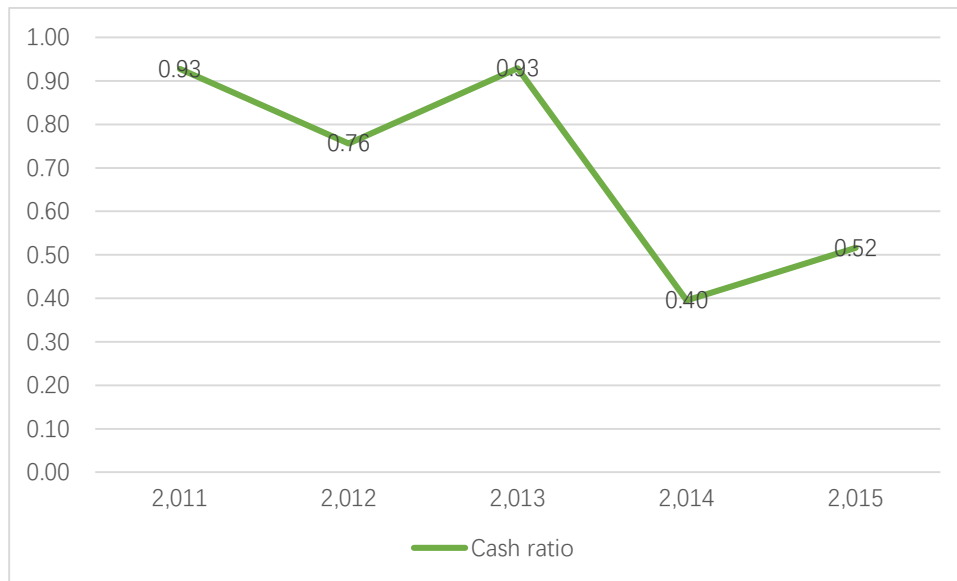
Chart 3.7 Trend of quick ratios of Apple Inc. between 2011 and 2015.



We know the current assets, inventories and current liabilities for calculation. The results are shown in the table 3.11 and chart 3.7. We can see that the quick ratio is over 1.00 in the five years, but in 2012, 2014, it decreased to 1.48 and 1.05, and in 2013 and 2015, it was increased. Due to the expectation of iPhone 5s, Apple prepared many productions in store, but customers were not willing to buy new phone, the inventories increased, so the quick ratio was high in 2013, the inventories couldn't convert into cash right now. In 2012, quick ratio was lower than 2011, because in 2012, Apple's new phone sold well in the market, there were nearly no inventories. And in 2014 and 2015, the inventories were lower than before, because Apple changed the policies and strategy of inventory, for reducing the costs of store and increased sales. Quick ratio is more stringent measure of liquidity than current ratio because it includes only the more liquidity current assets, all inventories converted into cash by selling. So Apple Inc. has good quick ratio from 2011 to 2015.

The trend of cash ratio shows in the chart 3.8.

Chart 3.8 Trend of cash ratio of Apple Inc. between 2011 and 2015.



For calculation, we need to know cash, marketable securities and current liabilities, all these data are from the benchmark. The results are shown in the table 3.11 and chart 3.8. From the chart 3.8 and table 3.11, we can know see the cash ratio was fluctuated between 0.40 and 0.93. The cash ratio decreased rapidly in the 2014, to 0.40, it is the lowest in the five years. And in 2011 and 2013, the ratio was same, 0.93. After 2014 the cash ratio returned back to 0.52. Due to the cash ratio just include the cash and short-term securities, higher ratio meant greater liquid to a company, market securities were traded on the market and if a company owned more securities, the cash ratios increased a lot. In 2011 and 2013, Apple had a large amount of cash in account and securities. So it was very high in 2011 and 2013. But in 2014 and 2015 it decreased very much, but we can believe that the cash ratio can return back to higher point in the future.

### 3.3.2 Solvency ratios of Apple Inc.

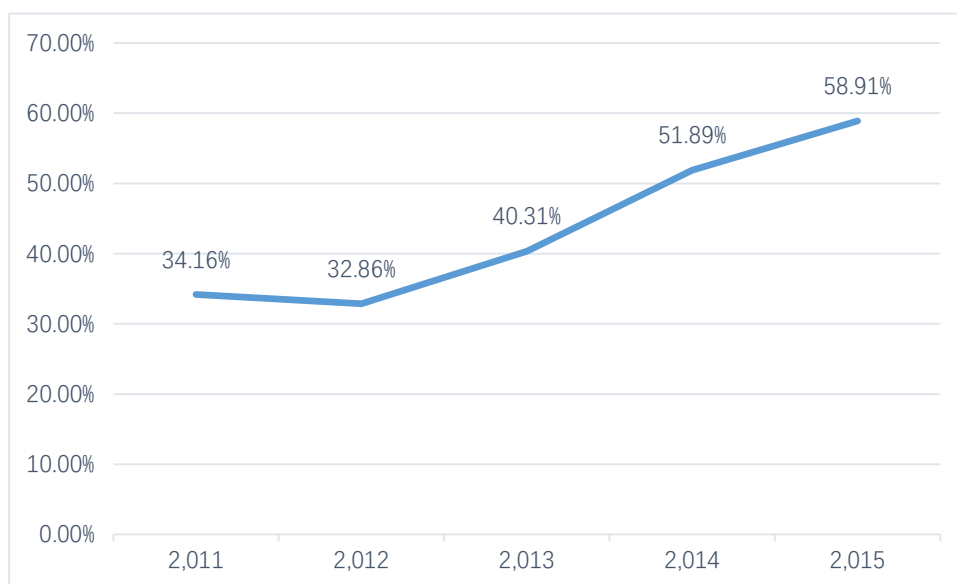
Solvency ratios are the ratios that measures a company's ability to fulfil its long-term obligations. In this chapter, we use two ratios to describe the solvency ratio of Apple Inc. The results are shown in the table 3.12 and ach items lines are shown in the chart 3.9 and chart 3.10. For the calculation, we use the formulas (2.17) and (2.20) which is written in the chapter 2.

Table 3.14 Solvency ratios of Apple Inc. from 2011 to 2015. (%)

	2,011	2,012	2,013	2,014	2,015
Debt-to-assets ratio	34.16	32.86	40.31	51.89	58.91
Debt-to-equity ratio	51.89	48.94	67.54	107.84	143.37

The trend of Debt-to-assets is shown in the chart 3.9

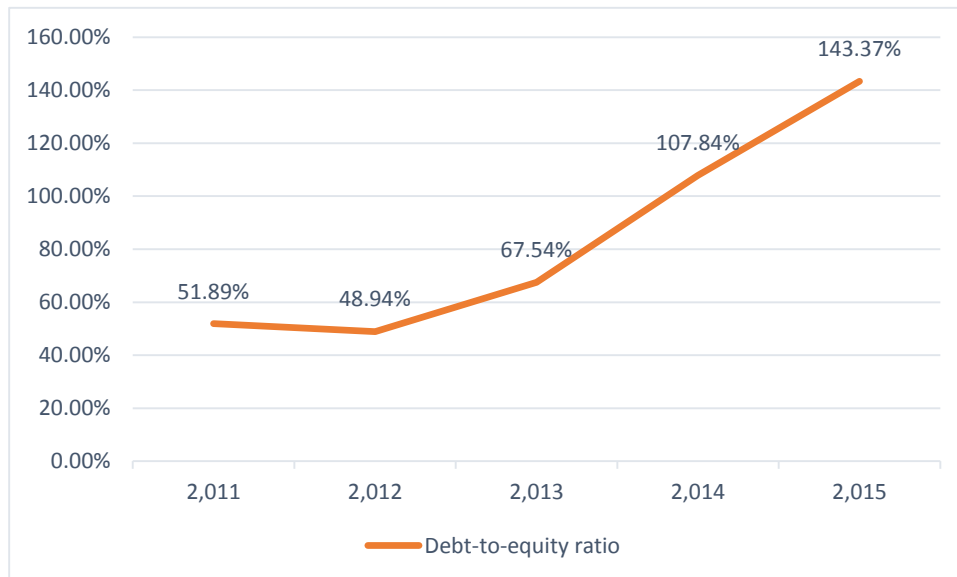
Chart 3.9 Trend of Debt-to-assets ratio of Apple Inc. from 2011 to 2015.



For calculation, we need to know the total debt and total asset. The results in the Table 3.12 and the item's line in the chart 3.9. We can see that in 2012, it decreased to 32.86%. Because during these two years, Apple's assets increased rapidly, due to the goodwill and sales of iPhone and iPad. Then from 2012, the debt-to-assets equity increased stable. From 32.86% to 58.91%, for from 2012, Apple issued a lot of long-term debt, which include a large amount of floating-rate notes. Apple's debt is 3A+, so it had good goodwill to fulfil all this long-term debt, and investors were willing to buy the long-term debt of Apple. The lower of the debt-to-assets ratios, the better of the financial conditions, it meant lower financial risk and stronger solvency. Lower ratios meant that the company had more assets to meet the long-term debt, so the ratio of Apple Inc. is high, but Apple has enough assets to fulfil on time, so Apple can get high goodwill.

The trend of Debt-to-equity ratios are shown in the chart 3.10.

Chart 3.10 Trend of Debt-to-equity of Apple Inc. from 2011 to 2015.



For calculation, we need to know the debt and total equity, all the data is from benchmark. The results are shown in the Table 3.12 and line chart presents in chart 3.10. From 2011 to 2012, the ratio decreased, because in these two years, shareholder's equity increased more than the debt, so the ratio decreased, and after 2012, the ratio increased quickly. In 2013, it increased to 67.54%, because in 2013, Apple depended on the good strategy of new iPhone and iPad, Apple had a lot of profit and stocks increased, and company entered a stable development period. In 2014 and 2015, the ratios increased to the 107.84% and 143.37%, because in these two years, Apple issued many long-term-debt to invest in the net purchase, sales and maturities of marketable securities. And Apple used the money to acquire property. The other reason is that Apple's shareholders want dividends, so every year company gave dividends to them. Debt-to -equity ratio is similar to the debt-to-assets ratio; high ratio indicates weak solvency. Apple Inc. had very low ratios in 2011, 2012 and 2013, so it meant that Apple has good solvency in this period, but from 2014, the ratio over 100%, it is bad for Apple Inc. to face long-term risk.

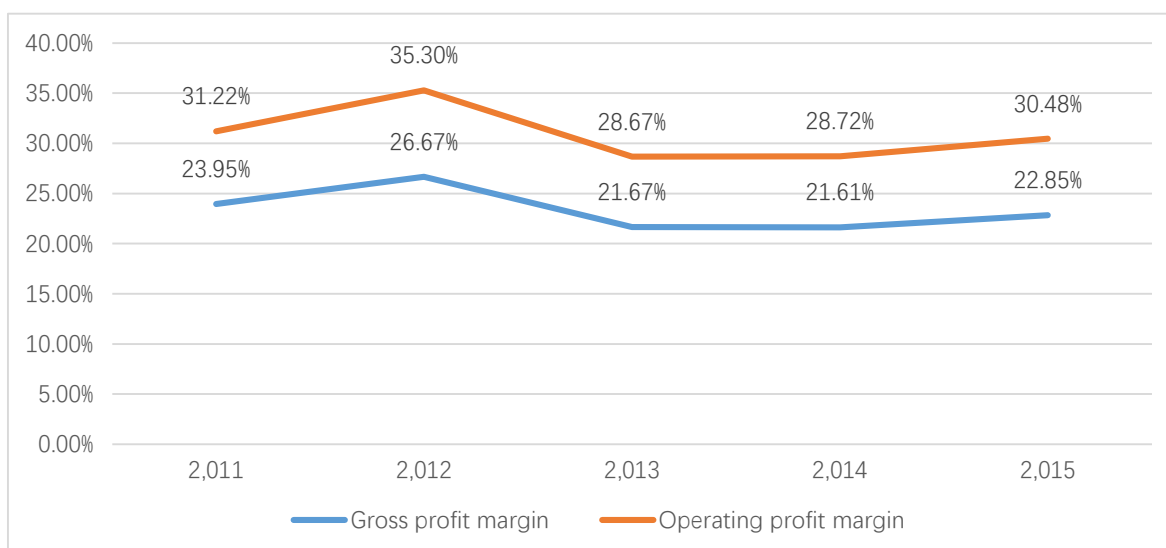
### 3.3.3 Profitability ratios Apple Inc.

In this part, we will use profit margin, operating margin, return on assets and return on equity to analyze the profitability of Apple during selected period. The results of gross profit margin and operating margin shows in Table 3.13, and each items' line are presented in chart 3.11. The formulas we use are from (2.8), (2.9), (2.11) and (2.12) in chapter 2.

Table 3.15 Gross profit margin and operating profit margin of Apple Inc. from 2011 to 2015(%)

	2011	2012	2013	2014	2015
Gross profit margin	23.95	26.67	21.67	21.61	22.85
Operating profit margin	31.22	35.30	28.67	28.72	30.48

Chart 3.11 Trend of gross profit margin and operating profit margin of Apple Inc.



For calculation, we need to know EBIT and revenues. The results are shown in the Tab 3.13 and line chat presents in the Chart 3.11. In 2012, the operating profit margin increased to 35.30%, higher than 2011. The reason is that the numerator of operating profit margin increased a lot in 2012, it meant the revenue in 2012 increased a lot. Because the costs reduced and sales increased, due to the iPhone 4s sold well and reduced the inventories, so increased gross profit of the company. Moreover, Apple invested other companies, merger



beats and some small companies. And in 2013, the operating profit margin was lower than before, it decreased by 6.63%, to 28.67%. Because Apple revenues decreased, and Apple was compared with some competitors in the market. The company was subjected to significant supply and pricing risks. After 2013, the trend of operating profit margin increased stable, a higher operating margin indicates high production pricing and low production costs. And it means that the products of Apple had a competitive advantage in the market. The operating profit in the 2012 is high, it indicates Apple need to controls its costs, the ratios show it is bad for Apple in 2012.

For calculating the gross profit margin, we need to know the EAT and revenues. The results presents in the Tab 3.13 and the line chart shows in Chart 3.11. We can see the gross profit margin was lower than the operating profit margin, because the numerator is small than operating profit margin. In 2012, the gross profit margin increased to 26.67%, because it was driven by lower commodity and other product costs. And in 2013, the ratio decreased by 5.00%, because introduction of new versions of existing products with higher cost structure and reduced pricing. During 2013 to 2015, in these three years, the gross profit margin was stable. Higher gross profit margin indicates a company earns a lot profit during a period, so it means the Apple’s productions have high profit and high quality. But the ratio was beyond 21%, it is good for Apple.

### 3.3.4 Activity ratios of Apple Inc.

Activity ratios measure how utilization of a company to use its assets. In this part, we will use the theory to analyze the receivable turnover, inventory turnover and assets turnover. The results of these two ratios are shown in the Table 3.15 and the trend of each items are presented in the Chart 3.12. We use the formulas (2.25), (2.26), (2.27) which written in the chapter 2.

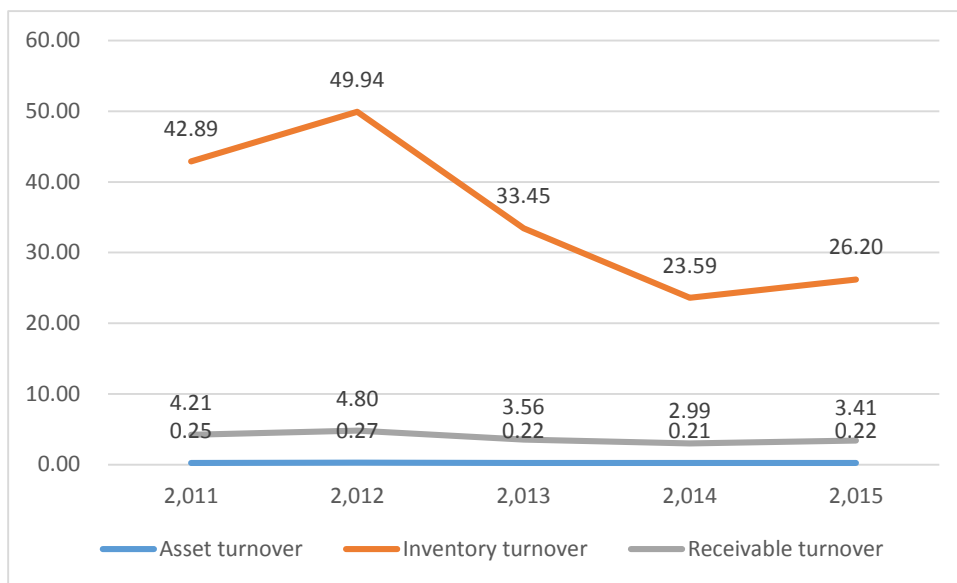
Table 3.16 Assets, inventory and receivable turnover of Apple Inc.

	2011	2012	2013	2014	2015

Asset turnover	0.25	0.27	0.22	0.21	0.22
Inventory turnover	42.89	49.94	33.45	23.59	26.20
Receivable turnover	4.21	4.80	3.56	2.99	3.41

The trend of asset turnover, inventory turnover and receivable turnover show in Chart 3.12.

Chart 3.12 Trend of activity ratios of Apple Inc. from 2011 to 2015



For calculation, we need to know the revenues, assets, inventories and receivables. The results are shown in the table 3.15 and each line represent in the chart 3.12. We can see from the table, the asset's turnover is always beyond 0.2, except 2014. The assets turnover measures a company's ability to generate revenues with a given level of assets. Higher ratio indicates a high degree of efficiency. In 2012, the assets turnover increased to 0.27, the reason is that in 2012, Apple's inventory is very low, and sold more than the last years. But after 2012, the assets turnover decreased to 0.22, the next three years, inventories increased and sales increased a little, so the ration is lower than 2012, so in the future, Apple should reduce inventories and use full of the assets.

In 2012, the inventory turnover increased to 49.94%, increased by 7.05% than 2011, because in 2012, iPhone sold well, there was nearly no inventories in store, so the ratio is

very high, it meant the Apple's production is competitive in the industry and customers preferred to buy. After 2012, the inventory turnover decreased year by year. Due to less inventories, the efficiency of inventories increased and decreased the store fees. Therefore, high inventory turnover ratio meant high effective inventory management. So the ratio shows the Apple had good inventory conditions.

The receivable turnover of 2012 was higher than 2011, because in 2012, the accounts receivable decreased, in that year, trades made by cash or transfer. After 2012, the receivable turnover decreased to 3.56%, and in 2014 the ratio still decreased to 2.99%, in 2015 the ratio increased to 3.41%. Because in the three years, Apple entered into a new development stage, the speed of production, orders and research speed increased than other companies, so the ratio decreased in the years. High receivable turnover ratio means the credit or collection policy of a company are stringent and it is worth to invest. Because account receivable can convert into cash and if company gets account receivable from consumers quickly. Even the ratio of Apple Inc. in 2014 is very low, but we can believe Apple is a good company.

## 4. Profitability Assessment

In this chapter, we will use Du-Pont analysis to evaluate the profitability performance of Apple, to find which factors effects the performance much, and we compare the competitor Lenovo and Apple's performance in /2015 and after that we will introduce more details about the Apple Inc.'s profitability performance and then we have a summary for the last two chapters, last but not least, we give some recommendations to Apple Inc.

### 4.1 Du-Pont analysis of Apple Inc.

In this part, we will use Du-Pont analysis to analyze the profit level of Apple. We use the formula (2.36), (2.37), (2.38), (2.39) and (2.40), (2.41), (2.41) of chapter 2 to calculate.

ROE can decompose for five parts, tax burden, interest burden, ROS, asset turnover and financial leverage. ROS can divide into C/R, and C/R can divide into Cs/R, Crd/R, Co/R. And the asset turnover can divide into A/R\*360, and the A/R can divide into (FA/R) and (CA/R). We calculate the results and use to shown the results. We will analyze trend of the change in component ratio by gradual changes. Gradual changes can quantify the changes in the basic ratio due to the change in the component ratio. We analyze the ROE ratio like our chart.

Chart 4.1 Value of each item in decomposition of Apple Inc. from 2012 to 2015.

	2012	2013	2014	2015
ROE	0.3530	0.2998	0.3542	0.4474
Tax burden	0.7484	0.7385	0.7387	0.7363
Interest burden	1.0094	1.0236	1.0187	1.0180
ROS	0.3530	0.2867	0.2872	0.3048
Asset turnover	0.8889	0.8257	0.7885	0.8046
Financial Leverage	1.4894	1.6754	2.0784	2.4337
C/R	0.5613	0.6238	0.6141	0.6952

A/R·360	404.9827	436.0190	456.5882	447.4357
Cs/R	0.0642	0.0634	0.0656	0.0613
Crđ/R	0.0216	0.0262	0.0330	0.0345
Co/R	0.4755	0.5342	0.5155	0.5994
(FA/R)·360	272.3690	281.6510	321.6219	309.7634
(CA/R)·360	132.6135	154.3676	134.9663	137.6723
(Receivable/R)·360	42.9954	43.4776	53.6056	46.7385
(Inventory/R)·360	1.8195	3.7156	4.1574	3.6183
(Cash/R)·360	7.1513	18.3360	20.1511	16.0981
(other CA/R)	80.6474	88.8383	57.0521	71.2175

Chart 4.2 Absolute change of decomposition of Apple Inc. from 2012 to 2015.

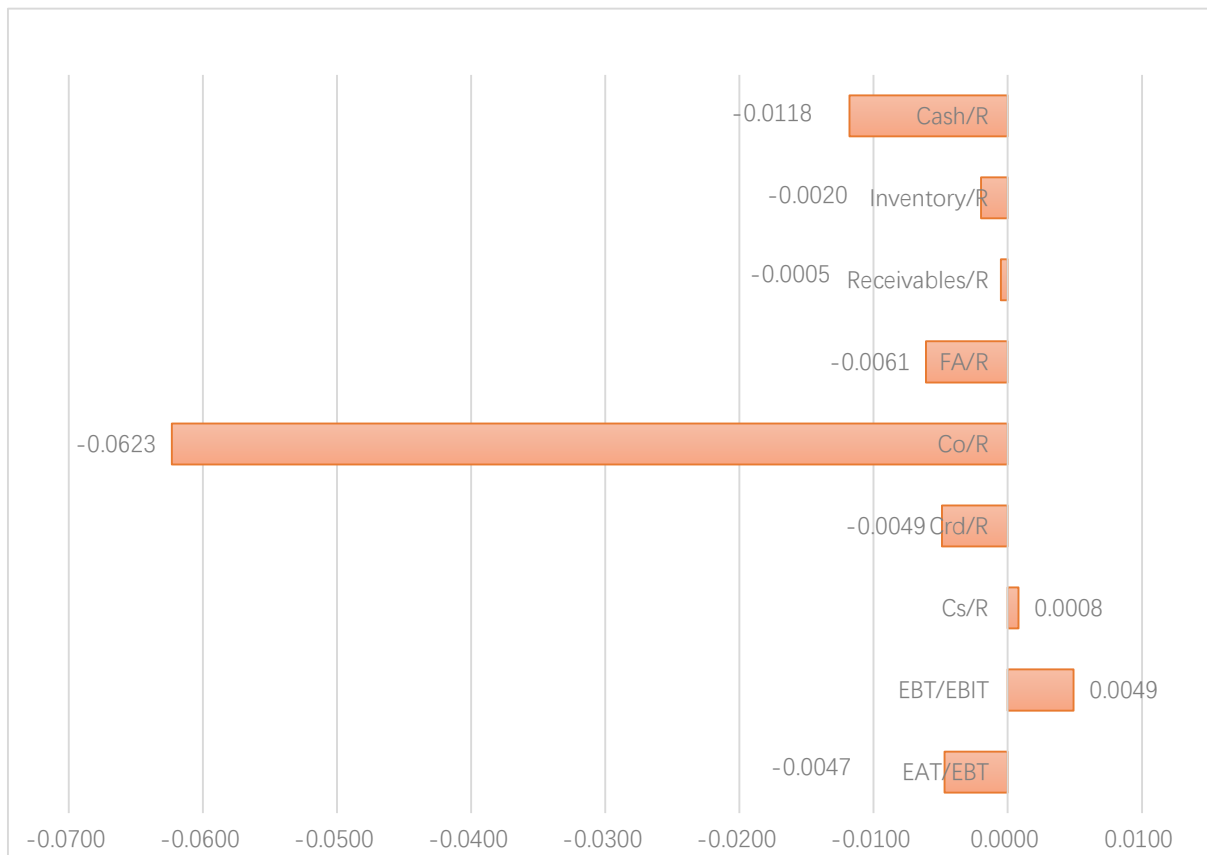
	2012/2013	2013/2014	2014/2015
ROE	-0.0532	0.0544	0.0932
Tax burden	-0.0099	0.0002	-0.0024
Interest burden	0.0142	-0.0049	-0.0007
ROS	-0.0663	0.0005	0.0176
Asset turnover	-0.0632	-0.0372	0.0161
Financial Leverage	0.1860	0.4030	0.3553
C/R	0.0625	-0.0097	0.0811
A/R·360	31.0363	20.5692	-9.1525
Cs/R	-0.0008	0.0022	-0.0043
Crđ/R	0.0046	0.0068	0.0015
Co/R	0.0587	-0.0187	0.0839
(FA/R)·360	9.2820	39.9709	-11.8585
(CA/R)·360	21.7541	-19.4013	2.7060
(Receivable/R)·360	0.4822	10.1280	-6.8671
(Inventory/R)·360	1.8961	0.4418	-0.5391

(Cash/R)·360	11.1847	1.8151	-4.0530
(other CA/R)	8.1909	-31.7862	14.1654

Chart 4.3 Gradual changes of ROE of Apple Inc. from 2012 to 2015.

	2012/2013	2013/2014	2014/2015
ROE	-0.0533	0.0544	0.0932
Tax burden	-0.0047	0.0001	-0.0012
Interest burden	0.0049	-0.0014	-0.0002
ROS	-0.0663	0.0006	0.0216
Asset turnover	-0.0204	0.0135	0.0077
Financial Leverage	0.0333	0.0687	0.0653
C/R	-0.0663	0.0006	0.0216
A/R·360	-0.0204	0.0135	0.0077
Cs/R	0.0008	-0.0001	-0.0011
CrD/R	-0.0049	-0.0004	0.0004
Co/R	-0.0623	0.0011	0.0223
(FA/R)·360	-0.0061	-0.0262	0.0099
(CA/R)·360	-0.0143	0.0127	-0.0023
(Receivable/R)·360	-0.0003	0.0104	0.0057
(Inventory/R)·360	-0.0012	0.0005	0.0005
(Cash/R)·360	-0.0074	0.0019	0.0034
(other CA/R)	-0.0054	0.0000	-0.0119

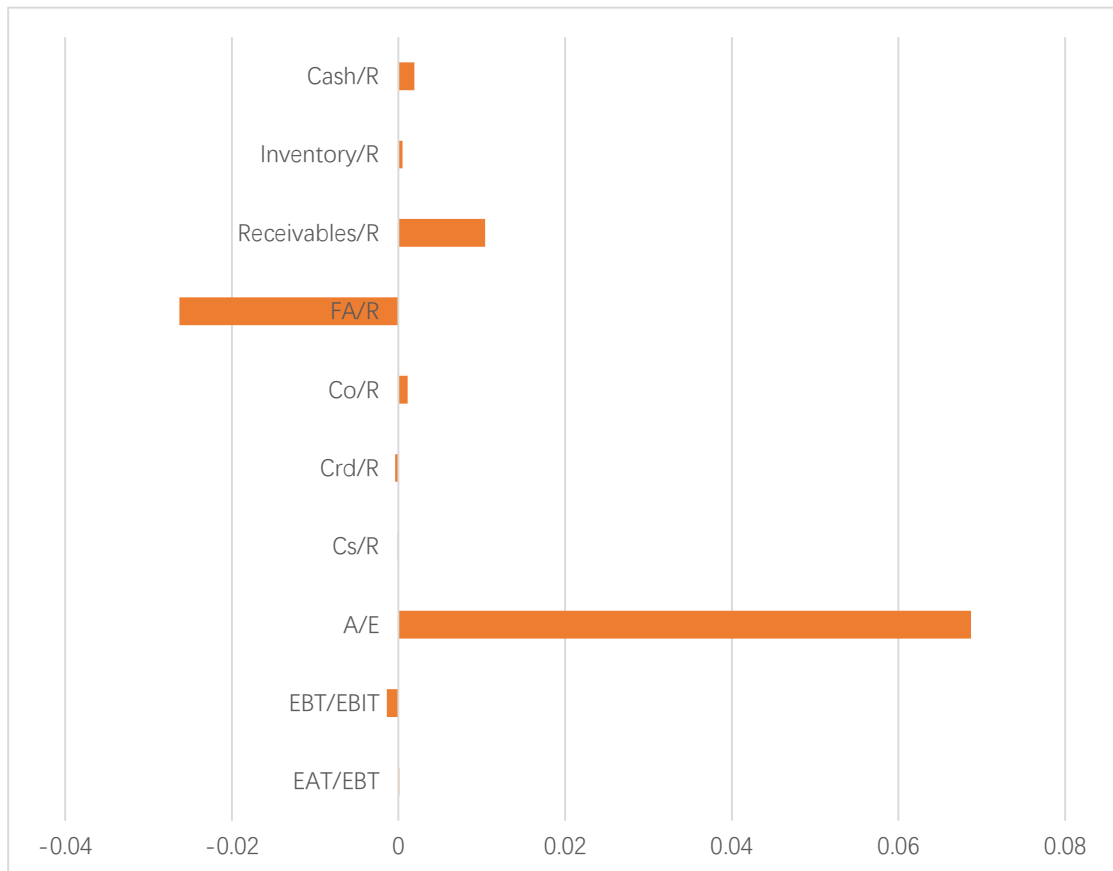
Chart 4.4 Chart of results by Du-Pont analysis from 2012 to 2013.



From this chart, it is obvious that the return on equity of our selected company is by 5.3% lower than ROE of rival. Conducting the influence analysis within decomposition, we may conclude that the difference resulted from tax burden, assets turnover and ROS.

As shown in the figure, the Co/R was 6.23% negatively and had the biggest influence in return on equity, and then was Cash/R influenced by 1.2% in negative way as through the assessment, the use efficiency of cash and the other cost were relatively lower, so it also caused ROE in 2013 was lower than 2012. And Crd/R ratio was higher than 2012, it increased to 0.0262, because Apple must invest more to develop new products, keep competitive is necessary in this industry.

Chart 4.5 Chart of results by Du-Pont analysis from 2013 to 2014.

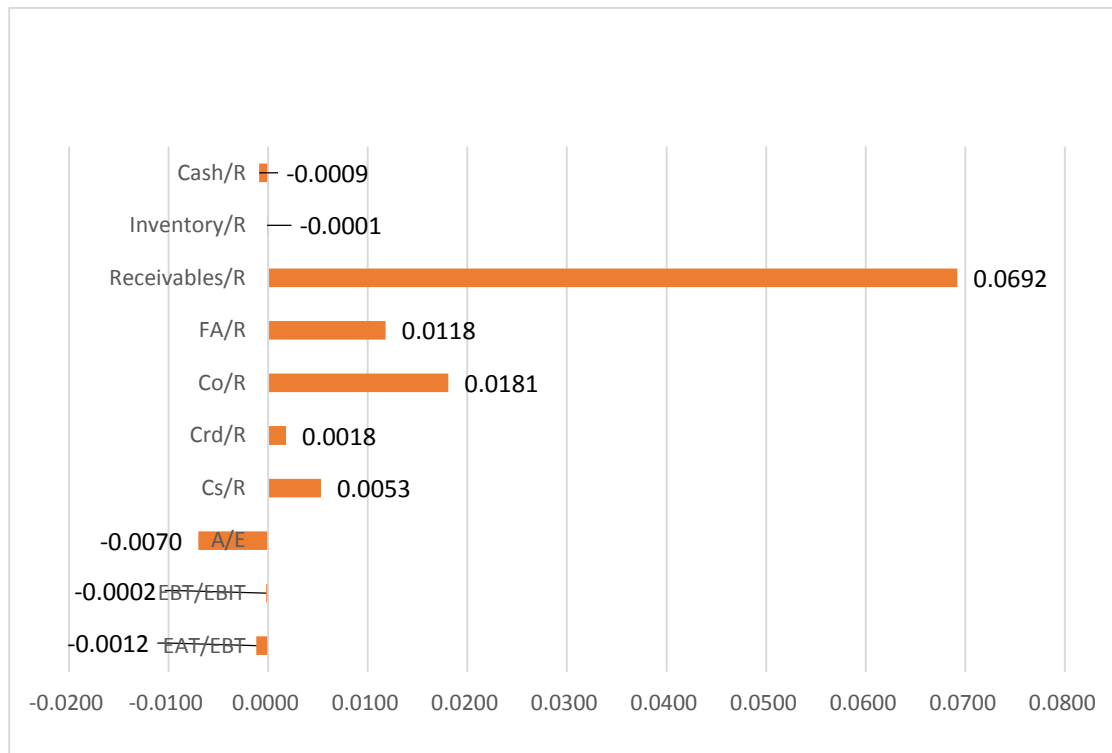


From this chart, we can find that the return on equity of analyzed company is 5.3% higher in ROE than last year. We can say that the change resulted by the tax burden, ROS and financial leverage. The tax burden is 0.01% higher than 2013, the ROS ration increased 0.2872 and financial leverage had the biggest growth in the three items, it increased to 2.0784.

According to the figure, it is clear to see the ROE was influenced by two main ratios: The FA/R\*360 influenced 2.6% in the negative way, the financial leverage affected ROE by 6.9% positively. It illustrated Apple Inc. used more fixed assets to make profit in 2014, which means Apple used fixed assets effectively in 2013 for financial leverage, the positive influence means the financial leverage was larger than the previous years, it also reflects the proportion of equity in total assets was reasonable.



Chart 4.7 Chart of results by Du-Pont analysis from 2014 to 2015.



From this chart, it is obvious that the return on equity of selected company is by 9.32% higher in ROE. This high growth resulted by ROS, Assets turnover and financial leverage. the ROS is 2.16% higher than before, and the assets turnover is 8% higher than before.

Then we continue to decompose the ratio, and found the two ratios have important influence in return on equity: receivable days (receivable/revenue $\cdot$ 360) and 5.7% positive influence in ROE; the other costs affected the ROE by 1.8% positively. It reflects Apple had good performance in the use of other cost and used other cost efficiently in 2015, in the term of receivable, Apple had efficient management as well in 2015. Under comparison with 2014, the receivable days was relatively shortly than 2014.

## 4.2 Profitability assessment.

In this chapter, we will concentrate on the profitability assessment, and evaluate which items are the main factors affect the ROE.

Chart 4.8 Value of each item in decomposition of Apple Inc. from 2012 to 2015.

	2012	2013	2014	2015
ROE	0.3530	0.2998	0.3542	0.4474
Tax burden	0.7484	0.7385	0.7387	0.7363
Interest burden	1.0094	1.0236	1.0187	1.0180
ROS	0.3530	0.2867	0.2872	0.3048
Asset turnover	0.8889	0.8257	0.7885	0.8046
Financial Leverage	1.4894	1.6754	2.0784	2.4337
C/R	0.5613	0.6238	0.6141	0.6952
A/R·360	404.9827	436.0190	456.5882	447.4357
Cs/R	0.0642	0.0634	0.0656	0.0613
Crđ/R	0.0216	0.0262	0.0330	0.0345
Co/R	0.4755	0.5342	0.5155	0.5994
(FA/R)·360	272.3690	281.6510	321.6219	309.7634
(CA/R)·360	132.6135	154.3676	134.9663	137.6723
(Receivable/R)·360	42.9954	43.4776	53.6056	46.7385
(Inventory/R)·360	1.8195	3.7156	4.1574	3.6183
(Cash/R)·360	7.1513	18.3360	20.1511	16.0981
(other CA/R)	80.6474	88.8383	57.0521	71.2175

From this chart, we can see that ROE decreased in the 2013 and in other years, the ROE increased. The tax burden was very stable from 2012 to 2015, it always floated with 0.73. It means Apple Inc. has good tax burden in the assets structure. In the ROS, we can see in the 2012 ROS was the highest, and after that the ROS decreased, but in the 2015, it creased again. Assets turnover is an item can reflect a company's efficiency to use their assets, from this ratio, we can see that in 2013 in 2014, the assets turnover decreased very much, and financial leverage increased from 2012 to 2015, even though Apple's revenue increased in these years. The Total costs/Revenue increased these years, so Apple Inc. should control the proportion of the costs, decreased the costs. And the research and development costs

increased in the four years, because in this industry, Apple Inc. is a leader, and it should keep the competition in the industry, so invest too much money in development. The receivable/R increased in 2014, and in other years it decreased.

### **4.3 Summary of Apple Inc.**

In last part, we used results to make financial analysis from four financial ratios: liquidity ratio, solvency ratio, activity ratio and profitability ratio, and we use common-size analysis, vertical common-size analysis and horizontal common-size analysis to evaluate the Apple Inc.'s performance.

For liquidity ratio, we used the current ratio, quick ratio and cash ratio to analyze the Apple company. The results of three ratios are very similar, it increased in 2013. But in general, current ratio, quick ratio and cash ratio decreased from 2011 to 2015. The trend is bad for Apple, because it means Apple had too much inventories, not the cash or some other short-term securities. But in the recently years, global economics began to recover and the consuming ability of people increased, so the sales of iPhone increased, it bought a great amount of money to Apple Inc. And due to the market share expanded, Apple Inc. promoted new phone. iPhone 5se. These influences simulated the selling increased of Apple Inc. Due to these reasons, Apple Inc.'s liquidity will be better in the future.

For solvency ratios, we used two ratios, debt-to-assets ratios and debt-to-equity ratios. Debt-to-assets ratio increased to 58.91% in 2015, the trend is not good for Apple Inc. The lower ratio means that the company has lower financial risk and stronger solvency. In another word, Apple preferred to issued bonds because Apple has good goodwill, and Apple preferred to use the investment to earn more. So in the five years, Apple Inc. expanded the market share, and had a lot of cash to develop. Debt-to-equity ratio increased from 51.89% to 143.37% in the five years. Even though it decreased in the 2012 to 28.94%. The trend was bad for Apple in these years. Because from 2011, Apple entered a high speed development period. Apple Inc. had changed strategies to operating management. All these can affect the equity in many ways. Therefore, the solvency ability of Apple Inc. will be better in the future.

For activity ratios, we used three ratios to analyze Apple's financial conditions: receivable turnover, inventory turnover, assets turnover. The trend of assets turnover decreased from 2012, from 0.27 to 0.22. Even though the turnover decreased, it can't say it is bad for Apple. During these years, the revenues of Apple increased, and the assets of Apple increased too. So the ratio decreased, but in fact, revenues increased a lot. For receivable turnover, it decreased from 4.21 to 2.41. Because in the five years, Apple Inc. entered a high speed development period, the time of production, orders and research time decreased a lot, so we can see the trend of Apple is good in the five years. For inventory turnover, it decreased in general, decreased by 16.19% to 26.20% in 2015. Because Apple's productions were popular all over the world, so there were nearly no inventories in store, these helped Apple decreased costs of operating and selling. So it decreased a lot was good for company to reduce costs.

For profitability ratio, we used gross profit margin and operating profit margin. The results of gross profit margin and operating profit margin were decreased a little in the five years, the gross profit margin from 23.95% to 22.85% and operating profit margin from 31.22% to 30.48%. The results were not changed a lot because the formula's numerator and denominator increased a lot in total. Because Apple invested a lot in the new productions research and development. So Apple should control costs and make new strategy to manage daily activities.

In summary, Apple Inc. had a good financial performance and situation from 2011 to 2015.

#### **4.4 Recommendation to Apple Inc.**

According to the results of all kind of financial methodologies, they can give us some information about company's performance and health. In this part, we compare Apple Inc. to Lenovo. Lenovo is a technology company in China, it produces the personal computers, tablet computers, smartphones, workstations, servers, electronic storage devices and so on. In this chapter, we compare the two companies' last year financial report.

The Chart 4.7 Comparison of Apple and Lenovo in 2015.

You can find the chart in Annexes.

From this chart, it is obvious that the return on equity of Apple is by 9.32% higher than Lenovo in ROE. This high growth resulted by the difference among the interest burden and ROS. Among these factors, ROS is the main reason of them. The absolutely change of interest burden is 14.21% and the gradual change is 2.84%. The absolutely change of ROS is 28.08%, but the gradual change is 238.65%. The high growth of Apple Inc. resulted by the ROS and assets turnover, the ROS is 2.16% higher than before, and the assets turnover is 8% higher than before.

It is clear to observe the receivable days ( $\text{receivables}/\text{revenue} \times 360$ ) was 7% and had the most influence in ROE, then was the other cost, influenced 2.2 positively as well. It illustrated Apple Inc. had better management in receivable, and used relatively less time to get cash back.

Furthermore, we found that C/R ratio is one of the main cause, the Lenovo's C/R ratio is 28.80% higher than Apple Inc. It means that Lenovo's profit ratio is low and it cause the revenue decreased. The profitability ratio of iPhone is about 35% to 45% without other costs (inventory costs, transport costs and so on). But Lenovo's profit ratio is about 10% to 15%. And from chart, we can see that in selling costs and research and development costs ratio, Apple is lower than Lenovo.

As we all know, Apple has high profit in this industry, it resulted from the high price, so we can see that Lenovo sells at low price and high quantity, but Apple sells at high price and high quantity. And the EBIT/R of Apple Inc. is 0.3048, but the assets turnover is lower than Lenovo, that means Apple Inc. can't use its assets efficiently and Apple Inc. should increase its assets turnover, should increase it to 0.88 and keep it stable. And Apple Inc. should decrease its selling costs, the Cr/R is 0.0345 in 2015, higher than Lenovo, so Apple Inc. should decrease its research and development costs. And the Assets/R is low, Apple should keep or decrease the Assets/R, so Apple can make full use of the money and use

money efficiently. And because Apple Inc. has big cash reserve, so Apple Inc. needn't to borrow money to operating, so the financial leverage is low. And Apple depends on the high price, so it can bring the high profit margin, and the main products is iPhone, when iPhone sells worse, the inventory ratios will increase and the Apple's profit decreased, so Apple should develop more ways to sell the phones, and it can decrease the inventory costs.

## 5. Conclusion

According to the results of two financial methodologies, they can give us so much information to evaluate the health of a company. For investors, they can know the performance of a company and choose to invest or not. For creditors, they can decide how much money they want to lend to this company, they can get how much return. For company managers, they can adjust their strategies, policies and staff, to make company get more profit in the next period.

This thesis was aimed to assess Apple Inc. financial profitability and health. We use various of ratios and methods to make the assessment. And the thesis is divided into five parts, the first and last part are introduction and conclusion, second chapter we describe theory, third chapter was about Apple's common-size analysis and ratio analysis, fourth chapter was about summary to last part and recommendation to Apple Inc.

In chapter 2, we described the financial statement, common-size analysis, financial ratio analysis and Du-Pont analysis. Firstly, we introduced financial statement. Financial statement was divided into three statements: balance sheet, income statement, cash flow statement. And we also describe each item of three sheets. Then we introduce the common-size analysis. Common-size analysis includes two types: vertical common-size analysis and horizontal common-size analysis. And then we introduce some formulas of them, at the end we introduce some financial ratios and their definition and their formulas. Financial ratios include the liquidity ratio, activity ratio, solvency ratio and profitability ratio. Last but not least, we introduce the Du-Pont analysis.

Chapter 3 was about some financial information of Apple Inc. Firstly, we introduce some basic information about Apple: history, business structure and competitor in same industry. Second, we use common-size analysis to evaluate the Apple Inc. The data is from benchmark of balance sheet and income statement of Apple Inc. Then we used the common-size analysis to compare each year data and make charts to compare. Finally, we used horizontal common-size analysis to analyze between two different years from 2011 to 2015.

We used the absolute changes and percentage changes of balance sheet and consolidated income statement of Apple Inc. to analyze. And we also use financial ratio analysis and formulas to analyze company's health. We calculate four ratios: liquidity ratio, solvency ratio, activity ratio and profitability ratio. And then we evaluate the health of company depends on our results and give many charts to describe them.

In the chapter four we make a summary to last chapter, and give some recommendation to Apple Inc. for better development.

Apple Inc. is a great technology company in the world, to some extent, it changes our ways of life, and give us new cognition of phone and tablet. Due to the recovery of global economics, the financial situation of Apple was good during five years (2011-2015). To remain competitive and stimulate customer demand, the Company must successfully manage frequent product introductions and transitions. There we believe Apple Inc. can do better in the future.



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## **List of Abbreviations**

IT Inventory turnover

DSI Days sales of inventory

DSO Days of sales outstanding

FAT Fixed assets turnover

TAT Total asset turnover

GPM Gross profit margin

OPM Operating profit margin

ROA Return on assets

ROE Return on equity

EBIT Income before income taxes and minority interest

EBT Income before minority interest

EAT Net income

NPM Net profit margin

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HUANYU LI 李环宇

Student's name and surname

## **List of Annexes**

Annexes 1: Balance sheet of Apple Inc.

Annexes 2: Income statement of Apple Inc.

Annexes3: Du-Pont Analysis of Apple Inc.

Annexes 1: Balance sheet of Apple Inc. from 2011 to 2015(in million dollar).

ASSETS	2011	2012	2013	2014	2015
Current assets:					
Cash and cash equivalents	9,815	10,746	14,259	13,844	21,120
Short-term marketable securities	16,137	18,383	26,287	11,233	20,481
Accounts receivable	5,369	10,930	13,102	17,460	16,849
Inventories	776	791	1,764	2,111	2,349
Deferred tax assets	2,014	2,583	3,453	4,318	5,546
Vendor non-trade receivables	6,348	7,762	7,539	9,759	13,494
Other current assets	4,529	6,458	6,882	9,806	9,539
<b>Total current assets</b>	<b>44,988</b>	<b>57,653</b>	<b>73,286</b>	<b>68,531</b>	<b>89,378</b>
total long-term assets	71,383	118,411	133,714	163,308	201,101
Long-term marketable securities	55,618	92,122	106,215	130,162	164,065
Property plant and equipment net	7,777	15,452	16,597	20,624	22,471
Goodwill	896	1,135	1,577	4,616	5,116
Acquired intangible asset net	3,536	4,224	4,179	4,142	3,893
other assets	3,556	5,478	5,146	3,764	5,556
total assets	116,371	176,064	207,000	231,839	290,479
<b>LIABILITIES AND EQUITY</b>					
Current liabilities:					
Accounts payable	14,632	21,175	22,367	30,196	35,490
Accrued expenses	9,247	11,414	13,856	18,453	25,181
Deferred revenue	4,091	5,953	7,435	8,491	8,940
Commercial paper			0	6,308	8,499

Current portion of long-term debt					2,500
Total current liabilities	27,970	38,542	43,658	63,448	80,610
Deferred revenue-non-current	1,686	2,648	2,625	3,031	3,624
Long-term debt				28,987	53,463
Other noncurrent liabilities	10,100	16,664	20,208	24,826	33,427
Total Liabilities	39,756	57,854	83,451	120,292	171,124
Commitments and contingencies					
Shareholders' equity:					
Common stock, no par value	13,331	16,422	19,764	23,313	27,416
Retained earnings	62,841	101,289	104,256	87,152	92,284
Accumulated other comprehensive income/(loss)	443	499	-471	1,082	-345
Total shareholders' equity	76,615	118,210	123,549	111,547	119,355
Total liabilities and shareholders' equity	116,371	176,064	207,000	231,839	290,479

Annexes 2: Income statement of Apple Inc. from 2011 to 2015(in million dollar).

	2010	2011	2012	2013	2014	2015
Cash and cash equivalents, beginning of the year	5,263	11,261	9,815	10,746	14,259	13,844
Operating activities:						
Net income	14,013	25,922	41,733	37,037	39,510	53,394
Adjustments to reconcile net income to cash generated by operating activities:						
Depreciation and amortization	1,027	1,814	3,277	6,757	7,946	11,257
Share-based compensation expense	879	1,168	1,740	2,253	2,863	3,586
Deferred income tax expense	1,440	2,868	4,405	1,141	2,347	1,382
Changes in operating assets and liabilities:						
Accounts receivable, net	-2,142	143	-5,551	-2,172	-4,232	611
Inventories	-596	275	-15	-973	-76	-238
Vendor non-trade receivables	-2,718	-1,934	-1,414	223	-2,220	-3,735
Other current and non- current assets	-1,610	-1,391	-3,162	1,080	167	-179
Accounts payable	6,307	2,515	4,467	2,340	5,938	5,400
Deferred revenue	1,217	1,654	2,824	1,459	1,460	1,042
Other current and non- current liabilities	778	4,495	2,552	4,521	6,010	8,746

Cash generated by operating activities	18,595	37,529	50,856	53,666	59,713	81,266
Investing activities:						
Purchases of marketable securities	-57,793	-102,317	-151,232	-148,489	-217,128	-166,402
Proceeds from maturities of marketable securities	24,930	20,437	13,035	20,317	18,810	14,538
Proceeds from sales of marketable securities	21,788	49,416	99,770	104,130	189,301	107,447
Payments made in connection with business acquisitions, net of cash acquired	-638	-244	-350	-496	-3,765	-343
Payments for acquisition of property, plant and equipment	-2,005	-4,260	-8,295	-8,165	-9,571	-11,247
Payments for acquisition of intangible assets	-116	-3,192	-1,107	-911	-242	-241
Other	-20	-259	-48	-160	16	-26
Cash used in investing activities	-13,854	-40,419	-48,227	-33,774	-22,579	-56,274
Financing activities:						
Proceeds from issuance of common stock	912	831	665	530	730	543



Excess tax benefits from equity awards	751	1,133	1,351	701	739	749
Dividends and dividend equivalent rights paid	0	0	-2,488	-10,564	-11,126	-1,499
Taxes paid related to net share settlement of equity awards	-406	-520	-1,226	-1,082	-1,158	-11,561
Repurchase of common stock	0	0	0	-22,860	-45,000	-35,253
Proceeds from issuance of long-term debt, net	0	0	0	16,896	11,960	27,114
Proceeds from issuance of commercial paper, net	0	0	0		6,306	2,191
Cash (used in)/generated by financing activities	1,257	1,444	-1,698	-16,379	-37,549	-17,716
Increase/(decrease) in cash and cash equivalents	5,998	-1,446	931	3,513	-415	7,276
Cash and cash equivalents, end of the year	11,261	9,815	10,746	14,259	13,844	21,120
Supplemental cash flow disclosure:						
Cash paid for income taxes, net	2,697	3,338	7,682	9,128	10,026	13,252
Cash paid for interest	0	0	0	0	339	514

Annexes 3: Du-Pont analysis chart of Apple Inc.

Chart A.1 2012 and 2013

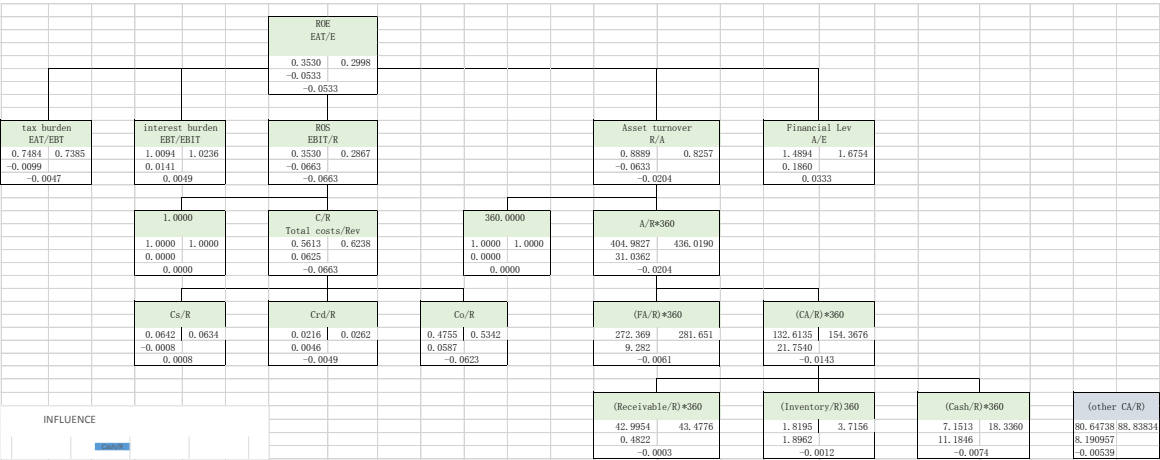


Chart A.2 2013 and 2014

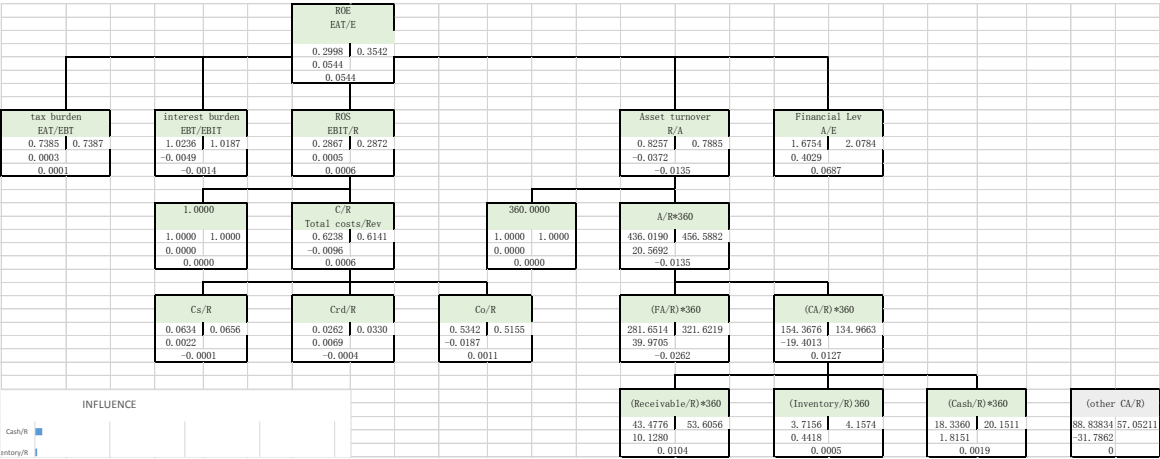


Chart A.3 2014 and 2015.

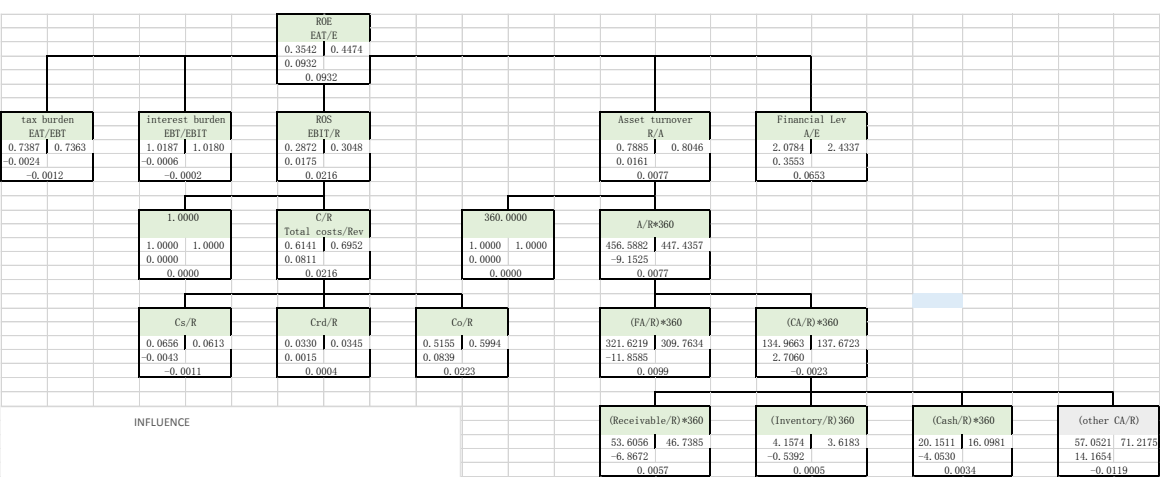


Chart A.4 Apple Inc. and Lenovo in 2015.

