

Czech University of Life Sciences Prague

Faculty of Economics and Management

Department of Economics



Diploma Thesis

Economic analysis of Apple Inc.

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CZECH UNIVERSITY OF LIFE SCIENCES PRAGUE

Faculty of Economics and Management

DIPLOMA THESIS ASSIGNMENT

Liudmila Khodykina

Economics and Management

Thesis title

Economic analysis of Apple Inc.

Objectives of thesis

Objectives of the diploma thesis are to evaluate the effectiveness of the financial and economic activity of Apple Inc., to characterize its properties and financial position in the current market, specifically for the stocks of Apple Inc.

Methodology

Literature review is conducted using methods of synthesis, induction, deduction and extraction. Analytical section will be done through quantitative, qualitative, economic and mathematical analysis methods based on – quantitative comparisons, measurement and comparison of indicators.

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Economic analysis, Apple, stock, financial position, financial indicators

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- Gribov V.D. – Economy organization (enterprise): a tutorial/.-M.:KNORUS, 2013. – 408 p.
Gubin V.E., Gubin O.V. – Analysis of financial and economic activity: the textbook. – M.: Publishing House "FORUM" INFRA.M, 2008. – 336 p.
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Declaration

I declare that I have worked on my diploma thesis titled "Economic analysis of Apple Inc." by myself and I have used only the sources mentioned at the end of the thesis. As the author of the diploma thesis, I declare that the thesis does not break copyrights of any their person.

In Prague on 31 March, 2016

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Ekonomická analýza Apple Inc.

Souhrn

Tato diplomová práce je zaměřena na ekonomickou analýzu Apple Inc, která je jednou z nejznámějších společností v průmyslu technologie a je na prvním místě podle tržní kapitalizace na světě.

První část diplomové práce je spojena s teoretickým pojmů ekonomické analýzy a akciové analýzy. V této části byly popsány definice a akcie typy, metody akciové a ekonomické analýzy, jako jsou svislé a vodorovné a podrobné definice hlavních finančních ukazatelů.

V praktické části byla analýza hlavních finančních ukazatelů, srovnání akcie Apple se svými čtyřmi hlavními konkurenty stejném odvětví podle tržní kapitalizace a ceny akcií a také analýza akcií s použitím grafy a speciálních technických indikátorů, tak to bylo provedeno technické a fundamentální analýzy společnosti.

Hlavním cílem této diplomové práce je zhodnotit ekonomickou pozici společnosti Apple Inc., pokud je zisková a finančně stabilní a mají-li její cena akcií pozitivní vývoj, identifikovat doporučení pro akcionáře a potenciální investory v případě, že by akcie společnosti měla být prodaná, jestli akcionáře a potencionální investoři by měli držet nebo koupit akcií společnosti.

Klíčová slova: ekonomická analýza, Apple, akcie, finanční pozice, finanční ukazatele.

Economic analysis of Apple Inc.

Summary

This diploma thesis is focused on the economic analysis of Apple Inc, which is one of the famous companies in technology industry and ranked first by market capitalization in the world.

The first part of diploma thesis is connected with theoretical ground of economic analysis and stock analysis. There were described definition and types of stocks, methods of stock and economic analysis such as vertical and horizontal and detailed definition of main financial ratios. In practical part there was analysis of main financial indicators, comparing stock of Apple with its four main competitors of same industry by market capitalization and share price and also analysis of stocks by charts and special technical indicators, so it was done technical and fundamental analysis of company.

The main objectives of this diploma thesis are to evaluate economic position of Apple Inc. if it is profitable and financially stable and if its stock price has positive development and to identify recommendations for shareholders and potential investors if they should sell, hold or buy shares of the company.

Keywords: Economic analysis, Apple, stock, financial position, financial indicators.

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1 Introduction

Today the American company Apple Inc. is one of the most famous corporations. Its products are known throughout the world, and it's not just computers. Nowadays the company manufactures mobile phones, tablet computers, music players and software. The high popularity of products under the trademark of Apple explained, first of all, by the company's own innovative technologies.

Consumer electronics manufactured under the logo of the company has a very attractive design, the latest features and is made on the newest technologies. Therefore, Apple products have been and remain very popular and valued in many countries. In fact, Apple Corporation in the consumer electronics market had managed to build so great reputation that it can be considered as a cult one. Now due to market capitalization company is estimated to be worth in excess of \$ 500 billion. It is one of the most expensive companies in the world. Main Apple's competitor in the IT field is the company Microsoft.

On 12 December, 1980 the company conducted the IPO. In terms of this placement it was the largest one at the time. This turned company into public one, its shares could be purchased on the London Stock Exchange and on the stock market NASDAQ but stock of Apple Inc was undervalued so initial price of its share was 0.51 USD.

Until 2007 the name of the organization was «Apple Computer» because corporation positioned itself as a manufacturer mainly of computer equipment. However, after the re-branding and changing the naming to the «Apple» corporation entered the electronics market as a whole, starting production also cellular phones, audio players, software, etc., these company actions subsequently affected reinforcement of its position of stock market and caused following increasing of share price . The more share price the more additional financial recourses company will get which can be used for development of company and its production. The price development of company stock directly connected with financial position of Apple Inc on the market that is why it was described in detail and analyzed in practical part of this thesis.

In the current economic conditions every enterprise is the subject of attention of the vast range of participants of market relations, interested in the results of its activity.

The owners analyze financial statements in order to find ways to improve the return on capital, ensure the stability of the company position. Lenders and investors analyze financial statements in order to minimize their risks on loans and deposits. Making a decision about investing in a particular company (for example, bank loan), each investor assesses the risks that might arise. An important role is played by the assessment of the financial condition of the enterprise and its performance.

To ensure the survival of the enterprise in modern conditions, management personnel are needed to carry out an economic analysis and, above all, to be able to realistically assess the financial condition as of the enterprise, as well as the existing potential competitors. Financial condition is the most important characteristic of the economic activity of the enterprise. It defines competitiveness, potential of business cooperation, assess the extent to which it is guaranteed the economic interests to the company and its partners in the financial and production relations. However, the ability to realistically assess one's financial condition is not enough for the successful management of the business and achieving its goals.

The financial condition of the company, its strength and stability depend on the results of its production, commercial and financial activities. If the production and financial plans successfully carried out, it will be a positive effect on the financial position of the company. Conversely, as a result of underperformance plan for the production and sale of products there is an increase in its cost, reducing the amount of revenue and profits, and as a result - deterioration of the financial condition of the company and of its solvency.

Economic analysis is an analysis of the general economic conditions, which is performed in order to assess the status and prospects of the company and evaluation of its emitted securities. It and its integral part - the financial analysis are an integral part of the preparation of virtually all types of business plans and management of finance as a whole. Almost all users of financial statements are using the methods of economic analysis for decision making to optimize their interests.

2 Objectives and Methodology

2.1 Objectives

Objectives of the diploma thesis are to evaluate the effectiveness of the financial and economic activity of Apple Inc., to characterize its properties and financial position in the current market, specifically for the stocks of Apple Inc, compare its stock with stocks of main competitors, to evaluate market share of company on global market of smartphones, to forecast the future price changes of Apple Inc. stock.

2.2 Methodology

Literature review is conducted using methods of synthesis, induction, deduction and extraction of related articles and literature.

Analytical section is done through quantitative, qualitative, economic and mathematical analysis methods based on - quantitative comparisons, technical analysis of stock, measurement and comparison of financial indicators such as liquidity ratios, asset turnover ratios, financial leverage ratios, profitability ratios with average of industry and comparison of company stock with its main competitors in same industry –Microsoft Corporation, Google Inc., Facebook Inc. and Sony Corp.

Technical analysis is done by predicting probable changes of Apple Inc. share prices on the basis of regularity of similar changes in prices in the past in same circumstances. It is based on the analysis of stock price charts and technical indicators and the allocation of certain regularities in the dynamics of price movement.

Time period for technical analysis was chosen March, 2013 – March, 2016 and for fundamental analysis was used data of annual company reports of fiscal years 2013 - 2015.

3 Literature Review

This part is devoted to theoretical review and basic definitions of stock and concept of economic analysis.

3.1. Concept of stocks

3.1.1. What is stock

Share / stock - security fixing the right of its owner (shareholder) to receive part of the profits of the company in the form of dividends, to participate in the management of the company and right for the assets remaining after its liquidation.

"Stock" is a general term used to describe the ownership certificates of any company, in general, and "shares" refers to a the ownership certificates of a particular company.

The shareholder – is an individual or an institution (including a corporation) that owns one or more shares of a company's stock.

Investor - a person or organization (including the company, the state, etc...) placing their capital in order to further profit (investment).

An issuer is a legal entity that develops, registers and sells securities for the purpose of financing its operations.

Thus, the **shareholder** has three types of **rights**:

1. to obtain part of company profit (dividends).
2. to participate in company management (share ownership gives the right to vote).
3. to get the share of company assets in case of liquidation (liquidation value).

The obligation to pay dividends from the company arises only after a decision on their payment. Prior to this, the joint-stock company has a right only for payment of dividends. In the case of non-payment of dividends declared in due time the shareholder may apply to the court to recover from the company owed him the sum of dividends and interest on arrears of money obligation. (Shevchenko G.N., 2005)

Shares play a huge role in the investment process. With their help, the cash savings of individuals and entities are transformed into real physical objects, equipment and technology. They redistribute cash grant certain rights to their owners, in addition to the rights of capital, generate income and (or) return of capital.

The share – is the only corporate security certifying the right of membership in the joint stock Company. The share issue may be carried out only by joint stock companies, which form its authorized capital like that. (Starodubtseva E.B., 2006)

The modern economy in a civilized country requires a large sector, based on equity. This sector is developing according to its own laws, using the share as a universal financial instrument that serves a particular purpose.

The peculiarity of the shares as a corporate security, recognizing the right of participation in the affairs of the company, is the opportunities they provide in the presence of a certain number of them have an impact on the implementation of a joint stock company business and other activities. The greater the number of shares owned by the shareholder, the greater the amount of his or her rights corresponding to its share in the authorized capital.

The share ownership gives the right to liquidation quota - the property of the company under liquidation. The right to liquidation quota arises from shareholders after the approval of the general meeting of shareholders in coordination with the state registration body of the liquidation balance. Liquidation quota means that the shareholder exercised the right of the latter to be allowed to share, so that the ratio of shareholder ceases with the company, which is in the process of liquidation. (Shevchenko G.N., 2005)

Advantages of the issue of shares for the Joint stock company:

1. Forming method of the statutory share capital.
2. The joint stock company is not obliged to return the investors their capital invested in the purchase of shares.

Purchase of shares is treated as long-term financing costs of the issuer's shareholders. Although envisaged cases where holders of voting shares have the right to demand redemption of all or part of their shares if their property rights are

affected. For example, if they voted against the decision on the reorganization of the company against a major transaction or did not participate in the voting, but these decisions are made.

3. Dividends are not guaranteed.
4. The dividends may be set arbitrarily, regardless of income.

In shareholding investor is attracted by the following:

1. The right to vote in exchange for shares in the invested capital.
2. Capital gains are associated with a possible increase in the share price in the market.
3. Additional benefits that can provide a corporation to its shareholders. They take the form of discounts when buying products or using services.
4. The right of pre-emption of the newly issued shares.
5. The right for the part of the assets of the company remaining after liquidation and settlement with all the other creditors.

However, the purchase of shares associated with a certain risk. Dividends are not guaranteed. Shareholders' rights for the part of the property in case of liquidation are realized in the last turn. A significant influence on decision-making in governance has only the holder of a major stake in the usual form of voting. Rising stock prices unstable, moreover, it is characterized by large corporations working successfully. (Shevchenko G.N., 2005)

According to existing regulations forms shares should contain the following details:

Company name and its location; denomination of the security - "share"; its serial number; the date of issue; type of shares (common or preferred); par value; the name of the holder; authorized share capital on the date of issuance; the number of issued shares; term of payment of dividends, the dividend rate and liquidation value (for preferred shares), the signature of the chairman of board of the company, printing company - issuer.

It is also possible to specify the registrar and its location, as well as an agent bank, generating dividends.

The company that produced the share, stating its nominal price, does not guarantee its real value. This determines the value of the market only. The nominal values reflect the size of the share capital, per share at the date of its formation.

In addition to the nominal price is also distinguished:

- Issue price. This price share for the first time to market of securities;
- Market or exchange rate is the price at which the stock is evaluated (listed) on the secondary securities market;
- Carrying price. It is a price determined according to the financial statements as the ratio of net assets of the company to the number of shares issued. The actual share price always deviates from the nominal price of the excess amount paid by the issuer because of its expected high profitability, or the amount of reduction as a result of low liquidity.

Holders (shareholders) can be divided into physical, collective, corporate.

Income investors when investing in shares consists of two components: growth in the share price (it depends on the success of the company) and dividends (public companies allocate part of their annual net profit to shareholders).

Most people who invest their money in shares, calculated on the profit from the growth of their market value. Amazing profitability - is the main advantage of the shares. Easy to buy and the high liquidity of the shares of the largest companies traded on the stock exchange, attracting many investors.

The most famous, highly profitable and stable company stocks called "Blue chips". As a rule, such shares consistently pay dividends regardless of the results of the company. (Starodubtseva E.B., 2006)

3.1.2. Types of stocks

There are two types of shares - *ordinary and preferred shares*.

Ordinary share gives its owner the right to vote at the shareholders meeting. Dividends received on ordinary shares, directly dependent on the performance of the company and nothing else is guaranteed. Therefore, the size of dividends on ordinary shares is not known beforehand. It is determined by manager of the company by the results of the enterprise.

Depending on the availability of the right to vote are the following types of restricted ordinary shares:

1) non-voting shares do not give their holders the right to vote at the shareholders meeting. These shares are popular among investors who do not claim to participate in enterprise management, but expect to receive stable and higher returns on invested capital as a dividend on all kinds of ordinary shares shall be paid in the same amount and the market value of non-voting shares lower than ordinary shares with voting rights. To issue non-voting shares may resort companies that regularly pay dividends on ordinary shares.

2) subordinated shares give the right to vote, but to a lesser extent;

3) shares with limited voting rights give the holder the right to vote only if it has a certain number of shares. (Kolesnikova V.I., 2006)

A preferred share can make restrictions on participation in management, and can provide additional rights management (not always). As a rule, preferred share does not give its owner the right to vote at the general meeting of shareholders. "Privilege" of such shares is that it has always paid dividends guaranteed fixed size, regardless of the performance of the company. By law, the payment of dividends on preferred shares made after payments on the bonds and before payments on ordinary shares.

There are two types of preferred shares: *cumulative and convertible*.

Cumulative are such shares on which any unpaid or partially paid dividends, the amount of which is defined in the statute, accumulated and paid subsequently. The issue of such

shares may attract investors to the possibility of increasing their income. If the holder of preferred shares decides to sell it with unpaid dividends, he will be forced to sell it at a low market value. Bought as such share has the ability to receive dividends for the entire period during which they were not paid.

Owner of cumulative preference share is entitled to vote at that time, during which it does not receive a dividend, and loses that right from the time of payment of all accumulated dividends on the specified shares in the full size.

Convertible shares - shares that can be exchanged for preferred or common at a fixed price at a certain date. When issuing convertible preferred shares shall be determined conditions and possibility of conversion it into ordinary shares or preferred shares of other types.

The whole conversion can be divided into the following types:

- conversion of shares into shares of a larger par value;
- Conversion of shares into shares with lower par value;
- Conversion of shares into shares with other rights;
- conversion of bonds into shares;
- conversion of bonds into bonds;

Shares of the company can be divided into **outstanding and declared**. Outstanding shares are actually already bought shares, and declared - a stock that corporation may issue additionally and place them later. (Kolesnikova V.I., 2006)

The company may decide to issue additional shares only if the charter of information about authorized shares. The volume of additional shares issued can not be more than declared.

By decision of the General Meeting of Shareholders shall be entitled to the consolidation of outstanding shares as a result of which two or more shares of the company shall be converted into one new share of the same category (type). In the charter of the company made the appropriate changes relative to the nominal value and the number of authorized

shares of the company. In case of formation of fractional shares in the consolidation it will be redeemable on market value.

If the implementation of the pre-emptive right to purchase the shares sold by shareholders of a closed society, in the exercise of pre-emptive right to purchase additional shares, as well as the consolidation of shares, the acquisition of the whole number of shares can not be formed of the shares - fractional shares.

A fractional share entitles the shareholder - its owner the rights granted by the share of the relevant category (type), in the amount corresponding to the part of the whole share it represents.

In order to reflect the company's charter the total number of outstanding shares, all outstanding fractional shares are summed. If the sum is fractional number, the company's charter the number of outstanding shares represented by a fraction.

Fractional shares are traded on a par with whole shares. If one person acquires two or more fractional shares of one category (type), these shares shall form one whole and (or) fractional share equal to the sum of these fractional shares. (Starodubtseva E.B., 2006)

The shares can be registered and bearer.

Registered shares - belong to a certain legal or physical person, registered in the register of owners, and are available in large denominations. The charter of the JSC should be noted that this family shares are sold only with the consent of the majority of other shareholders. Most of the securities markets of different countries use the registered shares. Use and treatment only registered shares requires a qualitatively different technical infrastructure of the stock market, the existence of a developed network of registrar.

Bearer shares - shares without specifying the name of the owner. The issuing company does not register the owner of the stock. The firm pays out dividends when a physical coupon is presented to the company.

Stocks public and private joint-stock companies are differ from each other. The main criterion by which these shares are different – is the ability to freely circulate. So shares of private JSC can be transferred from one person to another without the consent of other

shareholders. Shares of public JSC - can pass from one person to another only with the agreement of the majority of shareholders, unless otherwise specified in the statute.

Share - is a security deadline without treatment, is evidence of the introduction of the share and entitles its holder to receive part of the profits as dividends. An investor can not lose more than he put into share. The investor is not liable for the obligations of society as a whole. Two persons (eg spouse) jointly owning share, always, in any case, will be represented by only one vote at the shareholders meeting. In other words, if a share is owned by several persons, all of them are recognized as a single holder of shares. (Shevchenko G.N., 2005)

3.1.3. Exchange of stocks

Stock Exchange - a market where are made deals on the securities. Through the stock market raises funds for long-term investment into the economy and public investment programs. On the Stock Exchange occurring transactions on purchase and sale of stocks, bonds of stock companies, government bonds. In the course of buying and selling it is established rate of securities traded on the stock exchange, which is determined by the income (in the form of dividends or interest), the level of interest rate and supply and demand.

The stock exchange is one of the most advanced forms of the organization of trade in securities.

Hallmarks of the exchange market are:

- a certain time and place of the trade;
- a certain number of participants (stock market professionals);
- certain trading rules;
- trading is conducted by the organization which has the proper license.

Summary indicators of the securities rate movements are share indices, the most famous of which is the Dow Jones index which reflects the rate of the largest monopolies listed on the New York Stock Exchange.

In the USA and Britain on the Stock Exchange is elected Committee in which is organized special committee that makes a decision on the admission of securities to trading on the stock exchange. The turnover of the western stock exchanges amounts to several trillion dollars. **The largest stock exchanges** are New York Stock Exchange, NASDAQ, London Stock Exchange Group, Japan Exchange Group – Tokyo, Shanghai Stock Exchange, Hong Kong Stock Exchange and Euronext. (Michie, R., 2006).

Stock exchanges are an essential component of integrated system markets of fictitious capital, including futures exchanges, foreign exchange markets and various forms of trafficking in OTC securities.

The stock exchange is a regularly functioning and organized in a certain way a part of the *securities market (stocks, bonds, treasury bills, bills of exchange, certificates)*, where these transactions of purchase and sale are brokered by members of the exchange.

The stock exchange is created in the form of non-profit partnership. **The main purpose** of its activities is the *creation of favorable conditions for large-scale and efficient securities trading*. Stock Exchange organizes trading only among members of the exchange. Other securities market participants can make transactions on the stock exchange only through the mediation of members of the exchange. (Starodubtseva E.B., 2006)

The procedure for becoming a member of a stock exchange release and exclusion of the members of the stock exchange is determined by the stock exchange on the basis of its own internal documents. Stock Exchange is entitled to set quantitative limits the number of its members. The stock exchange is obliged to ensure transparency and publicity carried out by trading alerts its members about the place and time of the auction, on the list and quotation of securities admitted to trading on the Exchange, on the results of trading sessions.

Stock Exchange independently establishes the procedure for the inclusion in the list of securities admitted to trading on the stock exchange, listing and delisting procedures. Stock Exchange does not have the right to determine the amount of fees charged by its members for the commission of stock exchange transactions.

The operators of the stock exchange are banks, investment and financial companies and funds, brokerages.

Objectives of the stock exchange:

- Creation of a permanent market. Stock Exchange centralizes the place, where it can take place as the sale of securities to their first owners, and their secondary resale;
- Identification of the equilibrium exchange rates. Exchange collects a large number of both sellers and buyers, allowing you to identify the reasonable cost of specific securities;
- The accumulation of temporarily free funds and assistance in the transfer of property rights;
- Ensuring publicity, transparency of trading. The Exchange is responsible for the centralized dissemination of market data;
- Safeguarding the execution of transactions concluded on the exchange floor. Exchange ensures the reliability of the securities that are traded on it;
- Development of ethical standards, code of conduct for participants of exchange trade. Exchange must control it has developed standards and a code of conduct to apply penalties up to the suspension, or withdrawal of the license in case of need. (Starodubtseva E.B., 2006)

Stock Exchange Members

Members of the Exchange or their representatives may act on the stock exchange as a broker or dealer. **Broker** - is an intermediary between the client and Exchange. Broker receives requests from clients and performs the application; the broker acts on behalf of a client and receive a percentage commission for the execution of the application. The size of the commission depends on the type and number of securities and, of course, on the stock exchange on which deals are made.

Comparing with the broker, **dealer** acts on their behalf and at their own expense. Currently, the majority of exchanges are one and the same person can act either as brokers or dealers.

Broker is usually full-time employees of the Exchange, which is negotiating and formalize a deal. The broker must comply with the charter and exchange trade rules on the exchange.

By the rules of New York Stock Exchange is provided that the Bid for the purchase or sale of shares made out loud. Prohibited any whatsoever secret deals in the operating room. Moreover, the broker cannot make a deal between their clients without representation of their orders to buy or sell in the trading room.

Features of the functioning of OTC trading systems

Trading in securities can be arranged in many different ways and the meeting of sellers and buyers to conclude sales transactions may occur at different trading venues.

In the study of the components of market infrastructure it is necessary to pay attention to the differences between the two main schemes of the organization of trade - the exchange (order-driven) and OTC (dealer-driven). The difference between these schemes is in the choice of participants in the transaction and warranty performance of transactions.

It is assumed in the electronic exchange system that the deal is concluded between the parties on the principles of anonymity, and the exchange in this case acts as an intermediary in this sense, a guarantor of fulfillment of the transaction.

In the off-exchange scheme trading system in any way is not a party to the transaction, and serves only as a place where it is fixed by certain rules the fact of the transaction between the two parties, and the trading system does not act as a party, and in a certain sense as an independent arbiter in the commission of the transactions. (Investopedia, 2016)

A central role in the organization structure of the OTC market plays a system of trade rules, monitor their implementation and disciplinary measures undertaken by the organizer of off-exchange trading.

Organization of the stock market has gone from a so-called unorganized market of securities to the stock exchange and the modern electronic securities trading systems.

The value of stock exchange and OTC markets in the organization of trade in securities, their ratio in different countries differently. In some countries trade exchanges is not critical, and in others - even prohibited. At the same time in a number of countries in the OTC treatment is a large mass of papers.

OTC market main competitors are the commercial and investment banks are increasingly turning to the settlement centers and stock broking trade centers. All the more emphatically declare themselves new forms of OTC turnover with the use of computer technology and communication channels.

A significant portion of government securities in the United States exists only in the form of entries in the books or stored in databases of the Federal Reserve System. When these securities are sold, the Federal Reserve Bank carries out the transfer of property rights by cable or telex. Another alternative stock exchange market in the US is the *NASDAQ* (National Association Of Securities Dealers Automated Quote), which was formed as the inter-dealer market is registered, but not listed on the stock exchange. Under the auspices of the United States of this association since 1971, it operates a kind of electronic exchange. Similar processes occur in other advanced countries of the West.

At the same time there are securities trading system based on modern means of communication and computer technology. These systems are a likeness of geographically distributed electronic exchange. They have their own rules for the organization of trade, the admission of securities to market (listing), the selection of participants, etc. (Investopedia, 2016)

As examples of organized computer markets OTC trading are:

- NASDAQ - National Association of Securities Dealers Automated Security;
- COATC - Canadian Over-the-counter Automated);
- SESDAQ - Singapore Stock Exchange Dealing and Automated Quotation System.

Each of the above types of OTC markets is characterized by a certain system of parameters:

- traded in the market of financial instruments (the conditions of their release - issue and circulation);
- the composition of the participants (their functions);
- presence (absence) of a specific service infrastructure;
- mechanism of regulation of this type of OTC;

- rules for working with such an instrument;
- the rules of the trading.

3.1.4 Analysis of stocks

One of the main objectives of capital investment - try to find such financial instruments that can be used to increase or at least maintain their investments. Large investors, average players and small speculators are trying by various ways to foresee the future and predict the future dynamics of the markets.

To make investments effective it is necessary to carry out multi-level analysis of the stock market implemented in the investment strategy. Depending on the amount and investment period it is used two main approaches: *technical and fundamental analysis*.

- **Fundamental analysis**

In fundamental analysis it is studying the key factors that affect the economy of a particular country. Fundamental analysis of the market is an effective way to predict the economic conditions, but not the exact market prices. By using fundamental analysis it is usually created a model that would show a trading strategy.

Fundamental analysis is used to study the financial and economic condition of the company. With it, you can achieve two objectives: 1) to carry out the selection of issuers, shares of which can bring the most profits; 2) to determine the "fair" or "internal" value of the shares.

Fundamental analysis includes a wide range of different methods for determining investment attractiveness of issuers.

The task of analyzing the division of public companies into two groups: fundamentally strong; fundamentally weak.

The difference between the income of the company and all expenses, including taxes, of the net income, which is also called net income or net profit after tax of the company for the period.

To determine the "fair" value of shares used two methods: a comparison with similar businesses; discounted cash flow method (DCF). (Gavrilov A.V., 2006)

- **Technical analysis**

Technical analysis is a method of forecasting prices by considering the graphs of market movements in the previous periods.

Supporters of technical analysis examined the price charts in order to predict its future movement, but they are not interested in the reasons for which the price moves in one direction or another, because they believe that all the fundamentals are already factored into market prices.

The main task of technical analysis is to identify a trend and act in its direction. (Gavrilov A.V., 2006)

There are **3 axioms of technical analysis**:

- Axiom 1. Market movement influenced by all factors.

Any factor (economic, political, psychological) which influences the price is taken into account in advance and is reflected in the chart. On any change in prices there is a corresponding change in external conditions

- Axiom 2. Price movement is directional.

This assumption is the basis for all methods of technical analysis. The main objective of which is precisely the identification of trends and its performance from the beginning to the end for use in trade.

- Axiom 3. History repeats itself.

Analysts believe that if certain types of analysis work in the past, it will work in the future, because the work is based on a sustainable human psychology. In terms of technical analysis the future lies in the understanding of the study of the past. (Investopedia, 2016)

In real life no market moves in any direction in a straight line. The price of share is a series of zigzags, rises and falls. That direction of the dynamics of these ups and downs forms a trend on the market.

Trend - price movement in one direction or another. There are three types of trends:

- Up trend("bullish") - prices rise;
- Downtrend ("bear") - prices fall;
- Side trend ("flat") - the prices are in narrow ranges.

As a rule, market consolidation occurs before followed rapid growth or drop of prices.

The uptrend is such a price dynamic at which each subsequent peak is higher than the previous. In the case of an upward tendency trendline is built on the low prices. (Stockcharts.com, 2016)

Figure 1: Chart of Stock Uptrend



Source: Stockcharts.com, 2016

The downtrend - it is such a dynamic price at which each successive peak is also lower than the previous. The trend line built from the maxima.

Figure 2: Chart of Stock Downtrend



Source: Stockcharts.com, 2016

Side trend (flat) - the dynamics of the price at which all the peaks are at the same level as prices fluctuate in a horizontal band. It is characterized by the lack of price movement up or down.

Support / resistance levels are based on the pivots of schedule. When the price, turning once again reach the previous high / low level and can not overcome it - this is often the psychological factor which is manifested in the uncertainty of market participants in the future behavior of prices. In this case the price sooner or later breaks this level and rushes on or repelled from the previous extremum and goes in the opposite direction.

Support is a price level below which the price can not fall. In most cases the price starting to rise.

The opposite of the level of support - resistance - is a tangent to the general maximum. If the price of the currency close to this level, then further increase does not happen. But even if this level is broken, it is happen not from the first attempt. (Tradingacademy.com, 2016)

Figure 3: Chart of Support and Resistance level



Source: Tradingacademy.com, 2016

If the support is broken successfully becomes a resistance level and vice versa.

Computer analysis

Computer analysis - taught more than graphics. Its special feature is the study of time series of prices and volumes, as well as their derivatives with a computer. The main tool is a technical indicator.

Technical indicator is a mathematical transformation of prices and / or volumes aimed at forecasting of future price changes. On the basis of signals from technical indicators, decisions about how and when to open or close a position. In accordance with the functional properties of the indicators can be divided into two groups: trend indicators and oscillators. Trend indicators help to allocate price movement in one direction and detect the turn moments synchronously or with a delay. Oscillators allow to define turning points in advance or simultaneously. . (Kirkpatrick, C. and Dahlquist, J., 2011).

There are many indicators of computer, but all of them can be divided into 2 groups:

1) Trend - those that identify the existing market trend. The most popular trend indicators include:

- Moving Average or MA

- Alligator
- Ichimoku Kinko Hyo;

2).Oscillators - indicators that provide a more accurate trading signals when the market is not clear-cut trend. The most popular oscillators are:

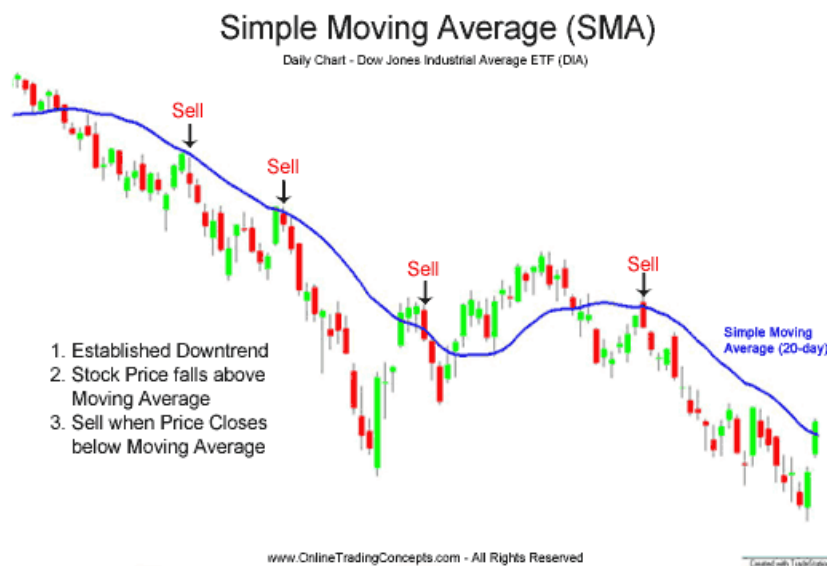
- Moving Average Convergence / Divergence [MACD]
- Relative Strength Index [RSI]
- Stochastic Oscillator

Trend indicators look like lines and channels that lie right on schedule, and oscillators are usually opened in a separate window and compared with the schedule. (Kirkpatrick, C. and Dahlquist, J., 2011).

Moving average - is the average price for a certain period of time - is the smoothed curves of the exchange rate of the time. There are three types of moving averages: simple moving average; weighted moving averages; exponential moving averages.

- Simple Moving Average (SMA)
- Exponential Moving Average (EMA)
- Smoothed Moving Average (SMMA)

Figure 4: Chart of Simple Moving Average (SMA)

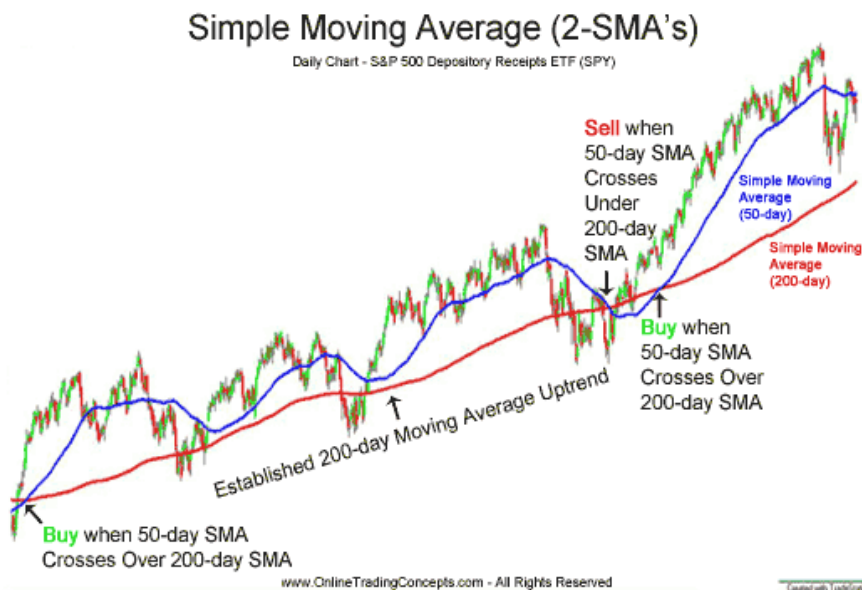


Source: *Onlinetradingconcepts.com, 2016*

When using the moving average used price curve intersection with MA. When the instrument price rises above its Moving Average, a buy signal occurs when it falls below the indicator - a sell signal. (Onlinetradingconcepts.com, 2016)

A sell signal occurs when the 50-day, faster moving average crosses below the longer-term 200-day slower average. A buy signal occurs when the faster moving average crosses above the slower average. (Onlinetradingconcepts.com, 2016)

Figure 5: Chart of Simple Moving Average (2-SMA`s)

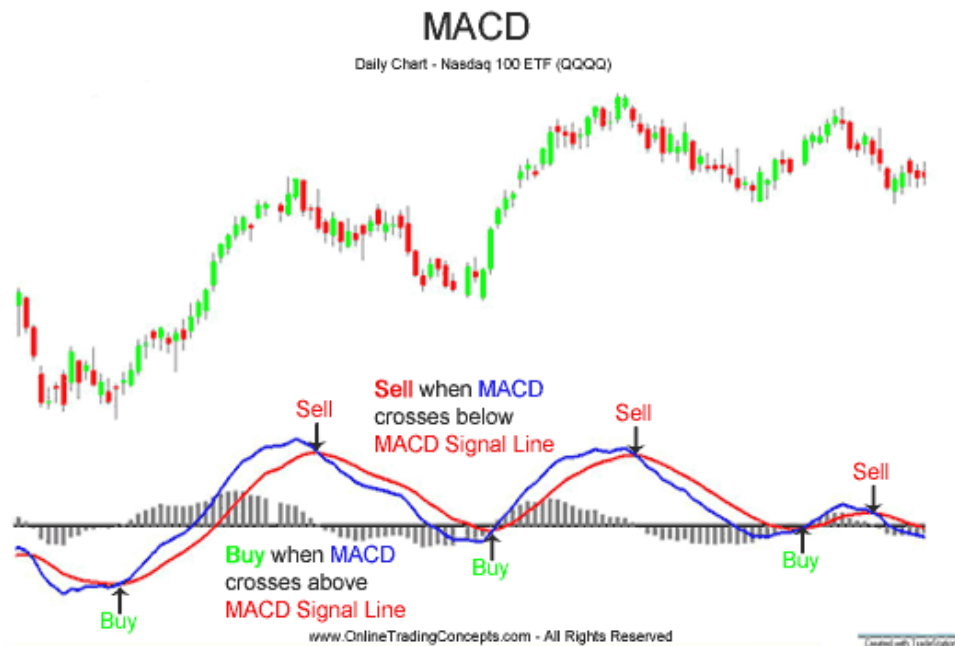


Source: *Onlinetradingconcepts.com, 2016*

Indicator MACD - Indicator convergence / divergence of moving averages - Moving Average Convergence / Divergence [MACD], the indicator used to test the strength and direction of the trend.

MACD is constructed as the difference between two exponential moving averages (EMA) with periods of 12 and 26. In order to clearly an opportune moment to buy or sell at the MACD signal line is applied. When the MACD falls below the signal line, it is necessary to sell, and when rises above the signal line - to buy. As a signal to buy / sell when the MACD crossing the zero line up / down. (Onlinetradingconcepts.com, 2016)

Figure 6: Chart of Moving Average Convergence / Divergence



Source: *Onlinetradingconcepts.com*, 2016

When the short moving average rises dramatically from the longer (ie, when the MACD rises), it means that the security price is overextending and will soon return to realistic levels.

The MACD is divergence indicator and the price chart.

Bullish divergence occurs when the price is above the previous peak, and the corresponding indicator below the previous peak. This shows the weakness of the current trend.

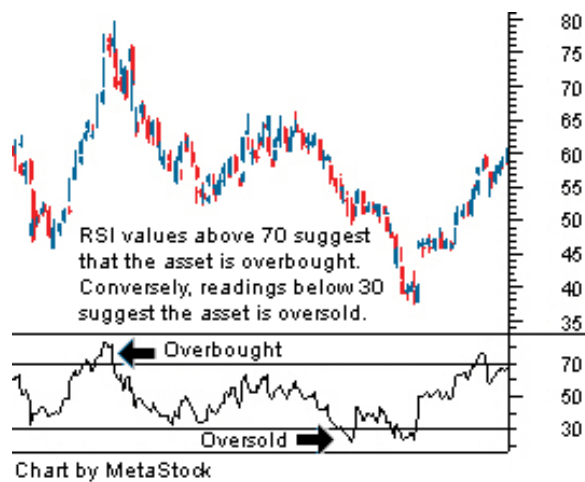
Bearish divergence occurs when the subsequent minimum price below the previous and the next at least higher than the previous indicator. It shows the evidence of the weakness of the downtrend.

Indicator RSI is Relative Strength Index. It is an indicator that determines the strength and the possibility of trend change. The indicator can draw shapes of technical analysis - "head and shoulders", "top" and others. It is an oscillator that measures the rate of change in prices. (Gavrilov A.V. 2006)

The indicator means overbuying if it rises above 70 and overselling if drops below 30.

If the indicator is below the 50 line, the market is dominated by bearish sentiment; If the above - bull; if it rises above the line 50, then falls below it, it says the horizontal market - the flat. The greater the value of RSI is close to 100, the more overvalued securities are considered - a signal to sell. (Investopedia, 2006)

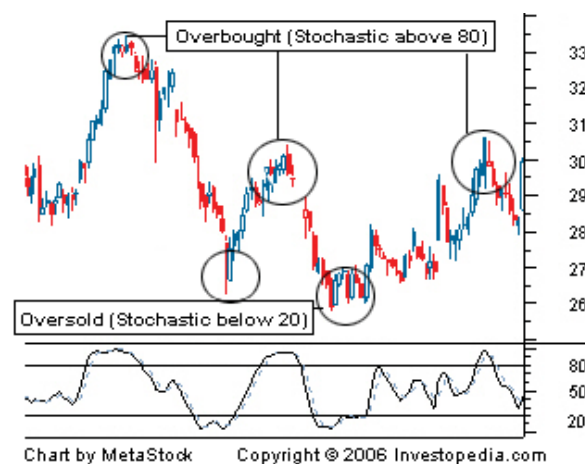
Figure 7: Chart of Relative Strength Index



Source: Investopedia, 2006

Stochastic indicator - Stochastic Oscillator. At the level of 80% and 20% of the horizontal lines indicate the overbought zone (above 80%) and oversold (below 20%). Its shown on the figure 8 above. (Investopedia, 2006)

Figure 8: Chart of Stochastic Oscillator



Source: Investopedia, 2006

3.2. Concept of economic analysis

Economic analysis plays an important role in increasing the economic efficiency of organizations in and strengthening its financial situation. It is an economic science which studies the economy of organizations and its activities in terms of assessment of the business plans implementation, assess its property and financial condition to identify untapped reserves of increase of efficiency of activity of the organizations.

The subject of economic analysis is the property and financial condition and the current activities of the organization.

Contents of economic analysis - a comprehensive and detailed study based on all available sources of information of various aspects of the functioning of the organization, aimed at improving its work through the development and implementation of optimal management decisions that reflect the reserves identified in the analysis and ways to use these reserves.

By control functions economic analysis is divided into 2 types:

- Internal (managerial, an integral part of management accounting);
- External (financial, for external users).

Internal management analysis – it is an integral part of management accounting, information and analytical support of the company's management. (Markin Y.P., 2010)

External financial analysis – it is an integral part of financial accounting, provision of external users with information of the enterprise by the data of public reporting.

Users of the economic analysis:

- 1) Internal : managers, shareholders, founders, liquidation or auditing commission.
- 2) External : state authorities, creditors, investors, auditors.

3.2.1 Financial analysis

One of the most important conditions for the successful management of business - analysis and systematic examination of the financial position of the company and the factors

influencing on it, forecasting the level of profitability of the enterprise capital. (Markin Y.P., 2010)

Financial analysis - a process by which it is evaluated the past and current financial position and results of company activity.

The financial position of the enterprise is characterized by a set of indicators that reflect the status of the capital in the process of circulation and the company's ability to finance its activities at a particular time.

The financial position of the company, its strength and stability depend on the results of its industrial, commercial and financial activities. If the assigned tasks are implemented successfully, it will be a positive effect on the financial results of financial and economic activity of the enterprise. (Savitskaya G.V., 2004)

The main purpose of financial analysis - determination of the financial position of the company, its profits and losses, the identification of weaknesses, potential sources of problems during its further operation and detection of strengths on which the company can make a bet. Financial analysis helps to identify the most rational direction of distribution of material, labor and financial resources.

The main functions of the financial analysis are:

- Objective assessment of the financial position, financial performance, efficiency and business activity of the analyzed company;
- Identification the factors and causes of the state of progress and the results obtained;
- Preparation and justification of management decisions in the field of finance;
- Identification and mobilization of reserves to improve the financial condition and financial results, increase the efficiency of all economic activities.

The purpose of the financial analysis, an initiative which does not belong to the company, may be the identification and evaluation of credit and investment opportunities of the enterprise. Thus, the representative of the bank may be interested in the question of

liquidity or solvency of the enterprise. A potential investor wants to know how profitable the company and what is the risk of loss when the contribution of its investment. (Bragg, S., 2014).

Traditional methods of financial analysis are: horizontal analysis, vertical analysis, trending, method of financial ratios, comparative analysis, factor analysis.

- ***Horizontal analysis*** - a comparison of each position reporting for the current period to the previous period.
- ***Vertical (structural) analysis*** - determination of the structure of the final financial indicators in identifying the effect of each position reporting on results as a whole.
- ***Trend analysis*** - a comparison of each position reporting with a number of previous periods and determining the trend. With the trend formed the possible values of future performance and, consequently, forward-looking analysis is conducted.
- ***Analysis of relative indicators (ratios)*** - calculation of the relationship between the individual positions of the report or the positions of different forms of reporting, the determination of interconnection rates.
- ***Comparative analysis*** - intracompany aggregates analysis of departments, subsidiaries, etc., and inter-company analysis of a company by comparing indicators with competitors and average in the industry.
- ***Factor analysis*** - analysis of the impact and individual factors (reasons) on a productive indicator using deterministic and stochastic methods of research. Factor analysis can be both direct and inverse, ie synthesis - connect the individual components to the overall performance indicators. (Markin Y.P., 2010)

The information base of financial analysis is the annual statements. The main statements are Balance Sheet, Income Statement and Cash Flow Statement.

Balance Sheet - a document that represents a set of indicators of property of an enterprise and the sources of its emergence (assets, liabilities, and equity). It consists of 2 parts: assets and liabilities. The equality values of assets and liabilities is imperative.

Income Statement - one of the main forms of financial statements which describes the financial performance of the company during the reporting period and includes data on revenues, expenditures and financial results in the cumulative total.

Cash Flow Statement - a report on the company's cash sources and their use in a given time period.

The basic tools of financial analysis are the financial ratios.

Financial ratios are the relative financial performance of the enterprise, which express the relationship between two or more parameters.

Odds allow you to compare: the company; industry; different periods of activity of the same company; the company's performance with others in the same industry.

To assess the current state of the company used a set of coefficients (financial multiples), which compares with the regulations or to the average activity of other comparable companies. The factors beyond the recommended scope point to weaknesses of the company. (Huffman, S., 2008).

3.2.1.1 Liquidity Ratios

External indicator of financial stability is the ability to pay. Solvency - is a company's ability to fulfill timely and fully its payment obligations arising from trade, credit and other operations. Evaluation of the company's solvency is determined on a specific date.

The ability of the company to pay in time and without delay its short-term obligations is called liquidity.

The liquidity of the company - is the ability of the enterprise to fulfill timely its obligations on all types of payments. The company is considered liquid if it is unable to meet its short-term obligations, implementing current assets. (Bragg, S., 2014)

- ***Current liquidity***

Ratio reflects the company's ability to repay the current (short-term) liabilities due only to current assets.

The figure is higher, the better the solvency of the company.

Current liquidity = Current assets / Short-term liabilities

The normal value of a factor is 2 or more (sometimes 1.5 to 2.5, depending on the industry). A value below 1 indicates high financial risks associated with the fact that the company is unable to consistently pay current bills. Value over 3 may signal unsustainable capital structure.

- ***Quick liquidity***

Ratio reflects the company's ability to pay its current obligations in the event of difficulties with the implementation of the product.

Quick liquidity = (Current assets - Inventories) / Short-term liabilities

The normal value of the coefficient is not less than 1.

- ***Cash liquidity***

Ratio shows how much short-term debt obligations can be paid immediately at the expense of highly liquid assets.

Cash liquidity = Cash / Short-term liabilities

The standard value of the coefficient is considered to be in the range 0.2 -0.3.

The higher is the ratio, the greater is the guarantee of repayment of debt. However, with a small value of its business can be solvent, if it manages to balance and synchronize the inflow and outflow of cash means the volume and timing. (Bragg, S., 2014)

3.2.1.2 Profitability Ratios

The effectiveness of the company in the financial sense is characterized by indicators of profit and profitability. These figures are, as it were summed up the activities of the company during the reporting period; they depend on many factors: the volume of products sold, input intensities, production organization, etc.

Profitability Ratios - is expressed as a percentage of the relative performance in which the profit is compared with a database that characterizes the company with one of the two parties - the resources, or the total income in the form of proceeds received from counterparties in the normal course of business.

- ***Return on Assets (ROA)***

ROA describes the impact of the use of the organization's assets. Ratio shows the organization's ability to generate profits without regard to its capital structure (financial leverage) Measuring these ratios can be used Net Profit as well as EBIT.

Return on Assets (ROA) = EBIT / Assets

- ***Return on Equity (ROE)***

ROE allows you to determine the effectiveness of the use of capital invested by the owner of the enterprise. Typically, this indicator is compared with a possible alternative means of attachment to other securities. ROE shows how many monetary units of net profit earned each unit invested company owners.

Return on Equity (ROE) = EBIT / Equity

- ***Return on Sales (ROS)***

ROS demonstrates the share of net profit in the amount of sales of the company, how much the company can earn profit to 1 US dollars of sales.

Return on Sales (ROS) = EBIT / Sales

- ***Return on capital employed (ROCE)***

ROCE shows the efficiency of investment in the company both own and borrowed funds.

Return on capital employed (ROCE) is used in the practice of financial analysts to determine the profitability that the company brings to the capital invested (both own and attracted). (Bragg, S., 2014)

Return on capital employed (ROCE) = EBIT / Own capital + Reserves + Long-term liabilities + Long-term bank loans

3.2.1.3 Asset Turnover Ratios

One of the performance analysis is to evaluate the business activity of the analyzed object, which manifests itself in the dynamic development of the organization, achieving its set goals that reflect the absolute and relative cost indices.

Business activity in the financial aspect is manifested primarily in the turnover rate of funds. Analysis of business activity is to explore the levels and dynamics of various financial ratios, turnover figures.

- *Turnover of Assets*

It characterizes the efficiency of the company of all available resources, regardless of the source of their attraction. This ratio shows how many times per year performed the complete cycle of production and circulation, bringing the corresponding effect in the form of profit. This factor also varies greatly depending on the industry.

Turnover of Assets = Revenues / Assets

- *Inventory turnover*

Inventory turnover ratio shows how many times on average inventories are selling for the year.

Inventory turnover = Revenues / Inventories

- *Inventory turnover period*

Inventory turnover period shows the average number of days for which are inventories are not limited to the Company prior to their consumption or to sell their inventories of own production.

Inventory turnover period = 365 / (Revenues / Inventory)

- *Maturity period of receivables*

Maturity period of receivables shows how many times over the period (year), the organization received from the buyers cost of the average balance of the unpaid debt. The indicator measures the efficiency of the dealing with customers in terms of receivables collection and reflects the company policy with respect to sales on credit. (Fridson, M. and Alvarez, F., 2002).

Maturity period of receivables = $365 / (\text{Revenues} / \text{Receivables})$

3.2.1.4 Financial Leverage Ratios

Financial sustainability - part of the overall sustainability of the enterprise, the balance of financial flows, the availability of funds to enable the organization to maintain its activities for a certain period of time, including servicing their loans and making products

The indicators reflect the capital structure, the ratio of debt to equity in the company's sources of financing, characterize the degree of financial independence from the company's creditors.

- *Debt Ratio*

It shows how much of the company's assets are financed through loans.

Debt Ratio = $\text{Total liabilities} / \text{Total Assets}$

- *Equity Ratio*

It characterizes the company's dependence on foreign borrowing. The lower the ratio, the more loans from the company, the higher the risk of insolvency.

Equity Ratio = $\text{Equity} / \text{Total Assets}$

- *Debt Equity Ratio*

Debt Equity Ratio - the ratio of debt capital to equity. Also called financial leverage effect from the use of borrowed funds to increase the size of the operations and profits, not

having sufficient capital for this purpose. The size of debt capital to equity ratio describes the degree of risk, financial stability.

Debt Equity Ratio = Liabilities / Equity

- ***Interest Coverage Ratio***

ICR characterizes the organization's ability to service its debt obligations. The indicator compares the earnings before interest and taxes (EBIT) for a certain period of time (usually one year) and interest on the debt for the same period. (Fridson, M. and Alvarez, F.,2002).

Interest Coverage = EBIT / Interest expense

3.2.1.5 Market Value Ratios

Market value ratios are various indicators that characterize the value and profitability of the company.

There are two main goals of investing in securities to obtain current income (dividend) and the accumulation of funds due to the increase in the market value of the shares. These two objectives are to some extent contradictory: if other conditions are equal the most of the profit is spent on the payment of dividends, the less money can be reinvested in the company, the slower the pace of its growth and the slower and more problematic increase in the market value of its shares. (Huffman, S., 2008).

- ***Book value***

Book value is the value of assets attributable to one share of common stock in accordance with the financial reporting data.

Book value = Equity / number of ordinary shares

For the good working of the enterprise ratio must be greater than 1, the more ratio the more shareholder has in total assets of company.

- *Earnings Per Share - EPS*

EPS is one of the most important factors affecting the market value of the company. It shows share of net profit (monetary unit) per one ordinary share.

EPS = Profit after taxation / Number of issued ordinary shares

- *Price earnings ratio – P/E*

This ratio shows how many monetary units the shareholders agreed to pay for one monetary unit of net profit of the company. It also shows how quickly can pay back the investment in the shares of the company.

P / E = Market price of shares / EPS

- *Dividend Per Share - DPS*

DPS shows the amount of dividend distributed per ordinary share.

DPS = paid dividends / Number of issued ordinary shares

- *Dividend Yield - DY*

DY characterizes the share of the capital invested return in the shares of the company.

DY = Dividend per share / Market value of share

- *Payout Ratio*

Payout Ratio reflects the share of profits paid to shareholders as dividends.

Payout Ratio = Dividend per share / EPS

4 Practical part

4.1 Description of Apple Inc.

Apple Inc. is American Corporation, a manufacturer of personal and tablet computers, music players, phones and software. It is one of the pioneers in the field of personal computers and advanced multi-tasking operating system with a graphical interface. The company is based in Cupertino, California.

In 1980 Apple Inc. conducted the largest ever initial public offering (AAPL). By December 2015 about 60% of total outstanding shares are held by Institutional and Mutual Fund Owners. (Finance.yahoo.com, 2016)

Apple Inc. ranked first place in the world by market capitalization which amount was 537 billion US dollars on January 11, 2016.

Currently among the *main products* manufactured by Apple are:

- iPhone - a mobile phones;
- iPad - tablet computers;
- iPod shuffle, iPod nano and iPod touch - Portable multimedia players;
- MacBook Pro - professional notebooks;
- MacBook Air - ultra-thin notebooks;
- Mac mini - system blocks of personal computers;
- iMac - PCs "all in one" (monitor, system unit, audio-video peripherals);
- Mac Pro - desktop-class "work station" computers;
- Thunderbolt Display - computer monitors;
- Mac Pro Server, Mac mini Server - servers;
- Apple TV - media players, Magic Mouse, Magic Trackpad, etc. In addition, the company manufactures accessories for these products, as well as software;
- Apple Watch - smart watches;
- Its online service includes the iTunes Store, the iOS App Store and Mac App Store, and iCloud.

Apple Inc. was founded on April 1, 1976, Cupertino, California, USA.

CEO: Tim Cook.

Share price: AAPL (NASDAQ) 105.35 \$ (March 18, 2016).

Types of shares: common stock.

Number of outstanding shares: 5,544,583,000. (September 26, 2015)

Headquarters: Cupertino, California, USA.

Founders: Steve Jobs, Ronald Wayne, Steve Wozniak.

Industry: Electronics, Information Technology.

Subsidiary Companies: FileMaker Inc., Anobit, Beats by Dr. Dre, Braeburn Capital, AuthenTec, FingerWorks, Apple Store, Prismo Graphics, Raycer and SchemaSoft.

Table 1: Main Direct holders of AAPL shares in 31 December, 2015

Holder	Number of shares
LEVINSON ARTHUR D	1 133 283
COOK TIMOTHY D	1 039 598
GORE ALBERT JR	442 994
FEDERIGHI CRAIG	439 728
SROUJI JOHNY	101 881

Source: Finance.yahoo.com, 2016

Table 2: Main Institutional holders of AAPL shares in 31 December, 2015

Holder	Number of shares	Percentage of total outstanding shares
Vanguard Group, Inc.	322 968 066	5.82
State Street Corporation	217 455 423	3.92
FMR, LLC	156 528 714	2.82
BlackRock Institutional Trust Company, N.A.	146 794 263	2.65
BlackRock Fund Advisors	72 243 201	1.30

Source: Finance.yahoo.com, 2016

The number of Apple Inc. employees is increasing every year. It changed from 72 800 in 2012 to 110 000 full-time employees in 2015.

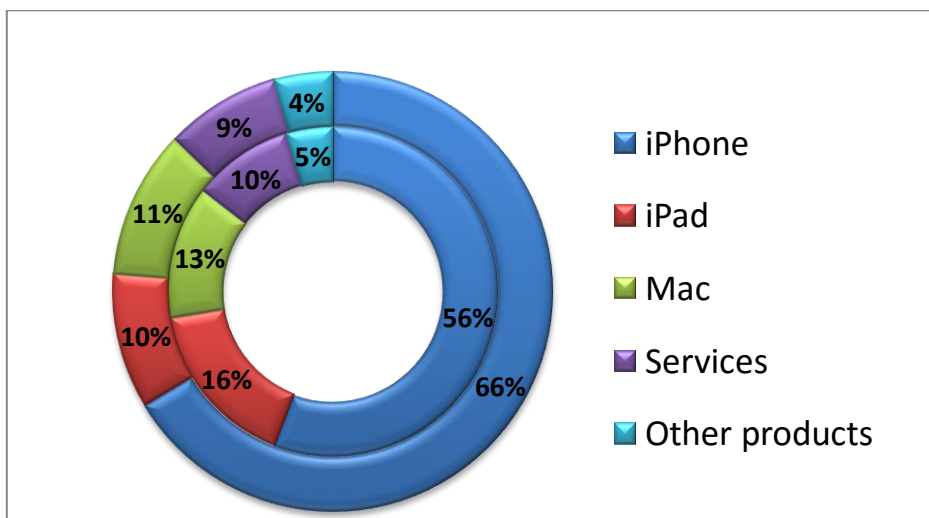
Table 3: Number of Apple Inc. employees in 2012-2015

Year	Number of employees
2012	72 800
2013	80 300
2014	92 600
2015	110 000

Source: Apple Inc., Annual report, 2012-2015.

In 2014 and 2015 the most part of company total revenue had iPhone – 56 % and 66 % respectively. The total revenue distribution of Apple Inc. is presented in the figure 9.

Figure 9: Revenue distribution of Apple inc. in 2014 - 2015



Source: own calculations, data from: Apple Inc., Annual report, 2015

4.2 Main successful principles of Apple Inc.

Apple Inc. - proof that a good idea in the right hands ensures unsurpassed results, because it is from a seemingly unrealistic idea of creating a "smart" machines, originated in the minds of the two friends, took its origin is one of the best known and most successful corporations in the world.

In the history of Apple it had everything: a huge success and the risk of failure. But it managed to overcome difficulties and reach prosperity. In no small measure the thing that contributed to the success of the company were its main principles.

The basic principles of Apple Inc.:

- ***The company is managed by engineers, not managers.***

Apple management is entirely in the hands of the engineers. Most project teams are very small and are always headed by engineers. Moreover, all the managers of the company are engineers (not managers with MBA degree). It means that all the people in the project teams are well skilled in technology and this fact greatly facilitates and optimizes the work on the product.

- ***There is culture of respect between managers and employees.***

Since all managers are former engineers themselves there is a strong relationship and mutual understanding between them and ordinary employees. When you know that your manager worked 10 years as such engineer as you - it makes you work harder. The atmosphere of trust and respect for each small project team creates a great success of Apple puzzle.

- ***Employees are free to use and improve the company's products.***

All employees have the right to use the company's new products and make suggestions for improvement by directly contacting with the project team. No bureaucracy, no negotiation with the all managers, nobody will evaluate the product better than the engineer.

- ***The company encourages employees to grow.***

Employees of the company are used to perform tasks that are slightly beyond their abilities but allow them to develop it. Within 6 months after employment staff may join the project team to prove themselves. The company is interested in the growth and development of its employees and actually allows them to do it.

- ***Deadline Priority.***

Apple has never delays the establishment of new items. If the quality of a component does not correspond to the standards of the company it is simply removed from the finished product. Product can be endlessly improved and refined but it's easier to release a new product on plan and then present a modified version.

- ***The company does not rely on the difference from competitors.***

Apple does not believe that to beat the competitors it needs to offer improving of their products. The company generally does not focus on what competitors are doing but it creates a fundamentally new product which raises a particular segment on a higher level and change the status quo in the industry. Challenge trends rather than follow them - that's the principle of the company.

- ***Be simpler. Design philosophy - constant simplification.***

In the development of iPod first models CEO Steve Jobs asked designers to get rid of buttons including on and off device button. Designers complained but then developed a scroll wheel which later became a cult.

- ***Keep company secrets.***

In the company «Apple» no one talks too much. Compliance of confidentiality helps to maintain the frenetic interest to its products resulting in the presentation of its new products which invariably became the news of the day.

- ***Balance between work and personal life.***

The company has a strong emphasis on the balance between work and personal life. Employees work hard but they can spend free time in their own discretion. Full medical insurance, generously organized by the company holidays on Christmas and Thanksgiving Day and the very friendly atmosphere of the company make the work pleasant for people. The motto of Apple employees: "We love to work here, we work a lot, but when the work is done - we can enjoy life."

Till 9 January 2007 the official name of the corporation for more than 30 years was Apple Computer Inc. Rejection of word “computer” in the title demonstrated the change of the main focus of the corporation from traditional to it computer technology market to the electronics market.

After analyzing the behavior of Apple throughout its history business idea can be identified as creation of products that attracting customers by its technical specifications, design, ease of use and the internal interface with a guarantee of high quality; providing its services to the greatest possible number of people and the continuous development of its technology. (Appleseeds.org, 2016)

4.3 Fundamental analysis

4.3.1 Horizontal analysis

Horizontal analysis - comparative analysis of financial data for a number of periods. This method is also known as analysis by line.

In horizontal analysis of reports (balance for example) it is taken the figure (line) and observed its variation over two or more periods. As periods it may be taken any identical times, but usually for financial statements it is used quarterly analysis or analysis of the data by year.

To calculate the indicator change of two particular periods comparison year and base year (t and t-1) it can be used these formulas:

Dollar change = indicator (t) – indicator (t-1)

Percentage change = Dollar change / indicator (t-1) *100

4.3.1.1 Horizontal analysis of Balance Sheet

Balance sheet consists of 2 parts: assets and stockholders` equity with liabilities.

In table 4, there are compared the data of first part of balance sheet for the three years – 2013 year with 2014 year and 2014 year with 2015. There is comparing by absolute terms in dollars and by relative terms in percents of Apple Inc. assets from its balance sheet. It

can be seen there is increase of total assets during period 2013-2015. But in 2015 the increase was in 25% or 58 640 mln. USD while in 2014 it was 12% or 24 839 mln. USD. Despite there was decrease of total current in 2014 by 6.5% (4 755 mln. USD), it was the increasing in 2015 by 30.4 % (20 847 mln. USD).

The most significant changes were in short-term investments and in goodwill. In comparison with 2014 when it was decrease of short-term investments by 57.3%, in 2015 the situation has changed for the better because of increasing by 82.3%. In 2014 goodwill greatly grew by 192.7 %, whereas in 2015 its growth was just 10.8%.

Also there was changes in terms of cash and cash equivalents, in 2014 its amount reduced by 2.9 % (415 mln. USD), but in 2015 it grew by 52.6 % (7 276 mln. USD).

In 2015 comparing with 2014 the majority of assets increased except other current assets and intangible assets, but its reduction was just 2.7% and 6% which is not so significant.

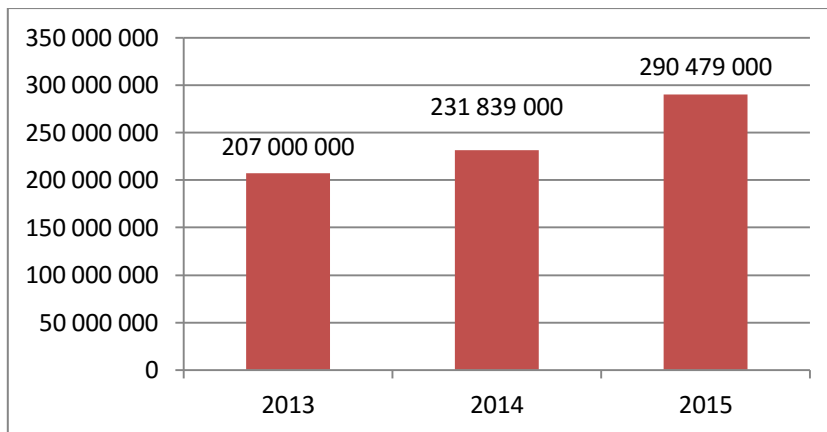
Table 4: Horizontal analysis of Apple Inc. Assets

Item	2014 /2013		2015/2014	
	in mln. \$	in %	in mln. \$	in %
Cash and Cash Equivalents	(415)	(2.9)	7 276	52.6
Short-Term Investments	(15 054)	(57.3)	9 248	82.3
Net Receivables	7 443	30.9	4 352	13.8
Inventory	347	19.7	238	11.3
Other Current Assets	2 924	42.5	(267)	(2.7)
Total Current Assets	(4 755)	(6.5)	20 847	30.4
Long-Term Investments	23 947	22.5	33 903	26.0
Fixed Assets	4 027	24.3	1 847	9.0
Goodwill	3 039	192.7	500	10.8
Intangible Assets	(37)	(0.9)	(249)	(6.0)
Other Assets	(1 382)	(26.9)	1 792	47.6
Total Assets	24 839	12.0	58 640	25.3

Source: own calculations, data from: Apple Inc., Annual report, 2015

The figure 10 below describes how total assets and liabilities were increasing in the period 2013 - 2015. From 207 000 mln. USD in 2013 it grew to 290 479 mln. USD in 2015. For the 2 years the amount of total assets and liabilities increased almost by 83 000 mln. USD what is quite large growth for such short period.

Figure 10: Total assets and liabilities in thousands of USD in 2013-2015



Source: own construction, data from: Apple Inc., Annual report, 2015

The horizontal analysis of second part of balance sheet (stockholders` equity and liabilities) is shown in the table 5.

The growth of total assets of current period is also accompanied by the same growth of stockholders `equity and liabilities – 25.3% or 58 640 mln. USD in 2015 and 12% in 2014. Between 2015 and 2014 the highest increase was the growth of long-term debt by 84.4 % (24 476 000 USD), which in 2014 comparing to 2013 also rose by 70.9 %. In 2015 it was appeared current portion of long-term debt in the amount of 2 500 mln. USD, despite that in 2 previous years 2014 and 2013 it was equal 0.

By the end of fiscal 2015 year every item of current liability was increased comparing to 2014 year. The most considerable growth was in amount of commercial paper by the 34.7 % and accrued expenses by 36.5%. This led to rise of total current assets by 27 % or 17 162 mln. USD in 2015.

The total shareholders` equity grew by 7 % in 2015, while it was its reduction by 9.7 % in 2014 comparing to 2013. In spite the amount of other equity increased by 329.7 % (1 553

mln USD) in 2014, it decreased back by 131.9 % (1 427 mln. USD) in 2015 and reach almost the same as it was in 2013.

Table 5: Horizontal analysis of Apple Inc. Stockholders` Equity and Liabilities

Item	2014 /2013		2015/2014	
	in mln. \$	in %	in mln. \$	in %
Current Liabilities				
Accounts Payable	7 829	35.0	5 294	17.5
Commercial Paper	6 308	100	2 191	34.7
Accrued Expenses	4 597	33.2	6 728	36.5
Current portion of long-term debt	0	0	2 500	100
Deffered revenue	1 056	14.2	449	5.3
Total Current Liabilities	19 790	45.3	17 162	27.0
Long-Term Debt	12 027	70.9	24 476	84.4
Other non-current Liabilities	4 618	22.9	8 601	34.6
Deferred Liability Charges	406	15.5	593	19.6
Total Liabilities	36 841	44.1	50 832	42.3
Common Stocks	3 549	18.0	4 103	17.6
Retained Earnings	(17 104)	(16.4)	5 132	5.9
Other Equity	1 553	329.7	(1 427)	(131.9)
Total Equity	(12 002)	(9.7)	7 808	7.0
Total Liabilities & Equity	24 839	12.0	58 640	25.3

Source: own calculations, data from: Apple Inc., Annual report, 2015

4.3.1.2 Horizontal analysis of Income Statement

The table 6 below represents horizontal income statement analysis in terms of absolute comparing in dollars and relative comparing in percents. It can be seen that the income of Apple Inc. is becoming more incremental. All items of income statement have positive tendency during chosen time period 2013-2015. In 2014 total revenue increased by 7 % and in 2015 it grew even much more – by 27.9 %. But it was also followed by rising cost of sales by 5.3 % in 2014 and by 24.8 % in 2015 what is quite logical. Comparing 2015

year with 2014 year it can be noticed that every indicator of income statement rose much better than in 2014 regard to 2013 excluding research and development which growth was 33.5 % in 2015, while in 2014 it was 35 %. Decreasing of research and development means that company spent less money on its development than in previous 2014 year, this can negatively influenced on success of Apple Inc. During observed period the most significant growth was in interest expense which increased by 182.4 % in 2015.

Table 6: Horizontal analysis of Apple Inc. Income Statement

Item	2014 /2013		2015/2014	
	in mln. \$	in %	in mln. \$	in %
Total Revenue	11 885	7.0	50 920	27.9
Cost of sales	5 652	5.3	27 831	24.8
Gross Profit/margin	6 233	9.7	23 089	32.7
Operating Expenses				
Research and Development	1 566	35.0	2 026	33.5
Sales, General and Admin.	1 163	10.7	2 336	19.5
Operating Income	3 504	7.2	18 727	35.7
Other income / expenses	72	5.6	654	47.9
Earnings Before Interest and Tax	3 576	7.1	19 381	36.0
Interest expense	248	182.4	349	90.9
Earnings Before Tax	3 328	6.6	19 032	35.6
Income Tax	855	6.5	5 148	36.8
Net Income	2 473	6.7	13 884	35.1
Earnings per Share				
Basic	0.77 \$	13.5	2.79 \$	43.0
Diluted	0.77 \$	13.6	2.77 \$	42.9
Cash Dividends declared per share	0.18 \$	11.0	0.16 \$	8.8

Source: own calculations, data from: Apple Inc., Annual report, 2015

The most increased indicator is earnings per share. Basic and diluted earnings per share have almost equal changes, therefore in 2015 basic earnings per share grew by 43 %, but in 2014 its raise was just 13.5 % and diluted earnings per share increased by 42.9 % in 2015,

but in 2014 its growth was just 13.6 %. Amount of income tax increased greatly by 36.8 % in 2015, it was followed by raise of operating income.

These positive results were achieved thanks to a record in the history of the company's revenue from sales of iPhone and Mac and record figures of App Store. Another new record - 74.5 million units of sold iPhones.

4.3.2 Vertical analysis

Vertical analysis allows to allocate based on the specifics of industry the most important for the enterprise proprietary components and sources of funds in the reporting period. It provides insight into the structure of the enterprise funds and their sources expressed not in absolute terms but in percentage.

4.3.2.1 Vertical analysis of Balance Sheet

In this part there is will be performed vertical balance sheet analysis and there be described what items on which extend influenced to changes of assets and liabilities of Apple Inc.

The table 7 below describes share of each item in total assets of company. During whole period 2013-2015 the largest share in total assets was long-term assets, but by the 2015 year its share increased to 56.48 % comparing to 51.31 % in 2013 and 56.14 % in 2014. In 2015 total current assets had 30.77 %, which in 2013 was 35.4 % this change is caused by the decreasing of short-term investments, it reduced to 7.05 % in 2015 while in 2013 it was 12.7 % of total assets.

In 2013 lowest contribution to total assets of the company had inventory – 0.85 % and goodwill – 0.76 %. One of the largest shares had total current assets which mostly influenced by net receivables – 11.64 % and short- term investments – 12.7%.

In 2014 the lowest significance to total assets of Apple Inc. had inventory – 0.91 %, other assets – 1.62 % and intangible assets 1.79 %. The highest contribution had long-term assets – 56.14 and total current assets – 29.56 %, which was due to high portion of net receivables – 13.6 %.

Table 7: Vertical analysis of Apple Inc. Assets

Item	2015	2014	2013
Current Assets			
Cash and Cash Equivalents	7.27	5.97	6.89
Short-Term Investments	7.05	4.85	12.70
Receivables less allowances	5.80	7.53	6.33
Net Receivables	12.36	13.60	11.64
Inventory	0.81	0.91	0.85
Other Current Assets	3.28	4.23	3.32
Total Current Assets	30.77	29.56	35.40
Long-Term Investments	56.48	56.14	51.31
Fixed Assets	7.74	8.90	8.02
Goodwill	1.76	1.99	0.76
Intangible Assets	1.34	1.79	2.02
Other Assets	1.91	1.62	2.49
Total Assets	100%	100%	100%

Source: own calculations, data from: Apple Inc., Annual report, 2015

The table 8 presents vertical analysis of liabilities and stockholders' equity of Apple Inc. during period 2013-2015. In 2015 and 2014 the highest impact on it had total liabilities in the share of 58.91 % and 51.89 % respectively but in 2013 the biggest part of liabilities and shareholders' equity was formed by total equity – 59.69 % which was better for the company. It was followed by decreasing to retained earnings which in 2013 was equal to 50.37 % but in 2015 was just 31.77 %

In 2015, the main items that contributed except retained earnings (31.77%) are accounts payable – 12.22 %, long term-debt – 18.41%. The lowest share of liabilities and stockholders' equity had current portion of long-term debt – 0.86 % and deferred liability charges – 1.25 %. More than that it was negative contribution of other equity – (0.12)%, as well as it was in 2013 – (0.23) %.

In 2014, proportions of contributions were almost the same as in 2015 but other equity has positive influence but in the small amount of 0.47 %. The largest of share of liabilities and stockholders' equity had accounts payable – 13.02 % , long term-debt – 12.5% and of course retained earnings – 37.59%

During selected period the share of total current liabilities increased from 21.09% in 2013 to 27.75 % in 2015 whereas the share of common stock vice versa decreased to 9.44% while in 2014 it was 10.06.

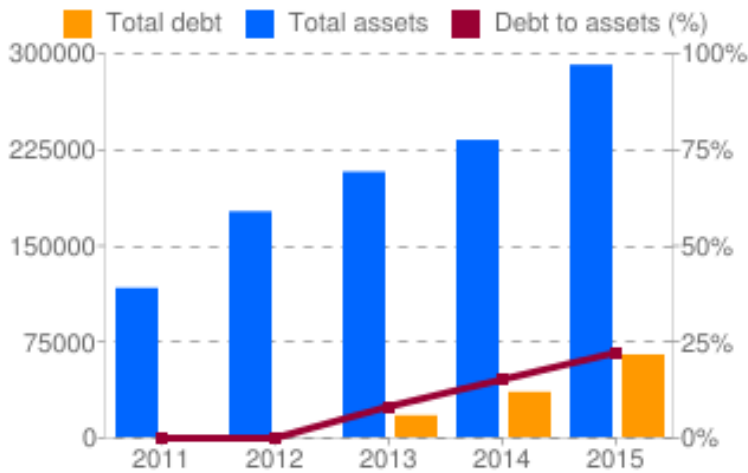
Table 8: Vertical analysis of Apple Inc. Liabilities and Shareholders' Equity

Item	2015	2014	2013
Current Liabilities			
Accounts Payable	12.22	13.02	10.81
Commercial Paper	2.93	2.72	0.00
Accrued Expenses	8.67	7.96	6.69
Current portion of long-term debt	0.86	0.00	0.00
Deffered revenue	3.08	3.66	3.59
Total Current Liabilities	27.75	27.37	21.09
Long-Term Debt	18.41	12.50	8.19
Other non-current Liabilities	11.51	10.71	9.76
Deferred Liability Charges	1.25	1.31	1.27
Total Liabilities	58.91	51.89	40.31
Common Stocks	9.44	10.06	9.55
Retained Earnings	31.77	37.59	50.37
Other Equity	(0.12)	0.47	(0.23)
Total Equity	41.09	48.11	59.69
Total Liabilities & Equity	100%	100%	100%

Source: own calculations, data from: Apple Inc., Annual report, 2015

Figure 11 presents the data from balance sheet of Apple Inc. and its comparison in the period of 2011-2015. It can be seen the constant increasing of total debt and total assets. On the figure there is also shown debt to assets ratio which is in percents, it describes the interaction between total debt and total assets. It has progressive character.

Figure 11: Apple Inc. Balance Sheet in 2011-2015 – annual data



Source: Google.com, 2016

4.3.2.2 Vertical analysis of Income Statement

By the vertical analysis of income statement of Apple Inc. represented in table 6 it was defined that during observed period largest share of company revenue had cost of sales. In 2015 the share of cost of sales decreased to 59.94 % whereas in 2013 it was 62.38 %, so there was positive dynamic and it means that by 2015 comparing with two previous years company earned more profit by decreasing its costs. Regarding selling, general and administrative expenses situation is opposite, its share was falling during 2013-2015 and from 6.34 % to 6.13 %, therefore it can be said company began to spend less on customer service which can negatively affect the revenue of Apple Inc.

The share of other income was also reduced to 0.55 % in 2015 instead of 0.68 % in 2013 and this influenced on earnings before interest and tax which share might be more. There was increasing of interest expense during 2013-2015. At the same time it was progressive growth of share of research and development expenses to 3.45 % while it was just 2.62 % in 2013, company is investing more money in development of technology and as a result of this it can be expected increasing of company revenue in future. Simultaneously net income as well as income tax had unstable shares which in 2013 was more than in 2014 but less than in 2015. In 2015 income tax was 8.18 % of total revenue which is almost 4 times smaller than gross profit margin and net income was 22.85 which is quite good. As a main result of analysis it can be noticed that share of net income was continuing to rise

while the share of costs of sales is descending, it indicates that Apple Inc. has quite satisfactory business strategy.

Table 9: Vertical analysis of Apple Inc. Income Statement

Item	2015	2014	2013
Cost of sales	59.94	61.41	62.38
Gross Profit/margin	40.06	38.59	37.62
Research and Development expenses	3.45	3.30	2.62
Sales, General and Admin. expenses	6.13	6.56	6.34
Operating Income	30.48	28.72	28.67
Other income (expense) items	0.86	0.75	0.076
Earnings Before Interest and Tax	31.34	29.47	29.43
Interest Expense	0.31	0.21	0.08
Income Tax	8.18	7.64	7.68
Net Income	22.85	21.61	21.67
Total Revenue	100%	100%	100%

Source: own calculations, data from: Apple Inc., Annual report, 2015

4.3.3 Net working capital

Net working capital shows the ability of company to its liquid assets. It can not be said that there is positive or negative trend, because situation changes every year. But the numbers of this selected period are positive; it means that Apple Inc. has enough liquid resources to pay for its obligations. Comparing to 2014, in 2015 the amount of net working capital increased to 8 768 mln. USD, while in 2014 it was just 5 083 mln. USD but it is almost 3.5 times less than it was in 2013 – 29 628 mln. USD.

Table 10: Net working capital of Apple Inc. (on September 27, in USD)

Year	2015	2014	2013
Net working capital	8 768	5 083	29 628

Source: own calculations, data from: Apple Inc., Annual report, 2015

4.3.4 Current ratio

Current ratio reflects the company's ability to repay the current (short-term) liabilities due only to current assets. A value below 1 indicates high financial risks associated with the fact that the company is unable to consistently pay current bills.

Table 11: Current ratio of Apple Inc. (on September, 27)

Year	2015	2014	2013
Current ratio	1.11	1.08	1.68

Source: own calculations, data from: Apple Inc., Annual report, 2015

Industrial average is 1.56 so Apple Inc. has lower ratio for last 2 years, whereas in 2013 it was better and much close to industrial average. For now company have more financial risks connected with ability to meet to its current debts, but it has quite sufficient indicator which grew to 1.11 in 2015 comparing to 1.08 in 2014.

4.3.5. Profitability Analysis

Analysis of Apple Inc. profitability was done through analyzing of Operating Margin, Gross Profit Margin, Net Profit Margin, Return on equity (ROE), Return on assets (ROA) and Return on Investment (ROI). The results of analysis for 2013-2015 period are presented in the table 11.

Apple Inc. belongs to industry of Technology and the results are compared with this industry. Comparing all ratios by periods it can be noticed that in 2015 every ratios is higher than in 2013. All results are positive and it is very good for company. Gross Profit Margin of company in 2015 is 40% while industry average is 26.4 % what is lower than result of Apple Inc. Operating profit margin is 30.5 % of total sales which is 3 times higher than average of industry – 9.58%. Net profit margin was just 22.85 %.

Return on assets shows how company generates its profit from assets. The return on assets describes the production power of Apple Inc. which was equal 18.38 % in 2015 and it is much higher than industry average – 6.76%. It means that the company is much more profitable than most of companies in industry.

Return on equity shows what part of profit is fall to 1 USD of capital invested by shareholder. This ratio is increasing for the 2014 and 2015years. In 2015 ROE was 44.74 % whereas the average of industry is just 14.32 % what is again indicates about great position of Apple Inc. Return on investment is also growing and it means that investors of the company are getting more profit year after year, in 2015 for each invested dollar they earned 31 cents.

Table 12: Profitability indicators of Apple Inc. (on September, 27)

Year	2015	2014	2013
Return on Investment (ROI)	31.32	26.2	26.08
Return on Assets (ROA)	18.38	17.04	17.89
Return on Equity (ROE)	44.74	35.42	29.98
Gross profit margin	40.06	38.59	37.62
Net profit margin	22.85	21.61	21.67
Operating profit margin	30.50	28.70	28.70

Source: own calculations, data from: Apple Inc., Annual report, 2015

4.3.6 Asset turnover analysis of Apple Inc.

Asset turnover analysis was made to evaluate how efficiently company uses its all resources according the sources of its attraction. The ratios of assets turnover are presented in the table below. In 2015 the ratio of inventory turnover increased to 59.64 from 53.18 as it was in 2014, what is good for the company, because the amount of times that inventories are selling for the year increased. Total assets turnover also decreased to 0.80 comparing to 0.83 in 2013, so the quantity of times that there was performed complete cycle of production which brought corresponding effect in the form of profit decreased. Receivables turnover also grew from 10.47 in 2014 to 13.87 in 2015, it means that amount of days on which debtors pay for their obligations reduced what has positive influence to the company.

Table 13: Asset turnover indicators of Apple Inc. (on September, 27)

Ratio	2015	2014	2013
Inventory Turnover	59.64	53.18	60.43
Receivables Accounts Turnover	13.87	10.47	13.04
Total Assets Turnover	0.80	0.79	0.83
Net Asset Turnover	10.40	8.86	10.30

Source: own calculations, data from: Apple Inc., Annual report, 2015

4.3.7 Financial Leverage analysis of Apple Inc.

Financial leverage analysis is analysis of sustainability of company. The table 13 shows that debt to assets, debt to capital and debt to equity increased in 2015, whereas interest coverage decreased to 99.93 in 2015 while in 2013 it was 3.5 times more – 369.79.

Debt to capital grew to 0.35 in 2015 and comparing it with amount of 2013 it is 3 times more. One of the most important ratios is debt to equity which is also has large growth from 0.14 in 2013 to 0.54 in 2015. The average of technology industry is 0.37, so it means that situation in the company changed to worse despite the fact that in 2013 Apple Inc. had better result than most companies in industry.

Table 14: Financial Leverage of Apple Inc. (on September, 27)

Year	2015	2014	2013
Debt to Assets	0.59	0.52	0.40
Debt to Capital	0.35	0.24	0.12
Debt to Equity	0.54	0.32	0.14
Interest coverage	99.93	140.28	369.79

Source: own calculations, data from: Apple Inc., Annual report, 2015

4.3.8 Market Value analysis of Apple Inc.

Market value analysis is done by various ratios that help to characterize the value and profitability of the company. These ratios help to understand which dividend investor gets

and what amount of accumulated funds investor earn due to changes of share price on the market.

Market value ratios are presented in the table 14. Due to this table it is possible to realize that in 2015 book value of Apple Inc. increased to 21.39 comparing to 19.02 in 2014, so value of assets attributable to one share of common stock grew and this is very good for shareholders. Earnings per share were increasing during whole period and in 2015 were amounted 9.22. Price earnings ratio in 2015 reduced to 12.6 while it was 15.81 in 2014. The industry average of P/E ratio is 19.67, so investor of Apple Inc. is ready to pay for earning 1 USD less than investors of most other companies in industry. Dividend yield had better value in 2013 – 2.37 than in 2015 – just 1.81, it means that there was reduction of the return of invested capital during 2013-2015, which is not good for shareholders.

Table 15: Market Value ratios of Apple Inc. (on September, 27)

Ratio	2015	2014	2013
Book value	21.39	19.02	19.63
EPS	9.22	6.45	5.68
P/E	12.6	15.81	12.2
DPS	1.98	1.82	1.63
DY	1.81	1.85	2.37

Source: own calculations, data from: Apple Inc., Annual report, 2015

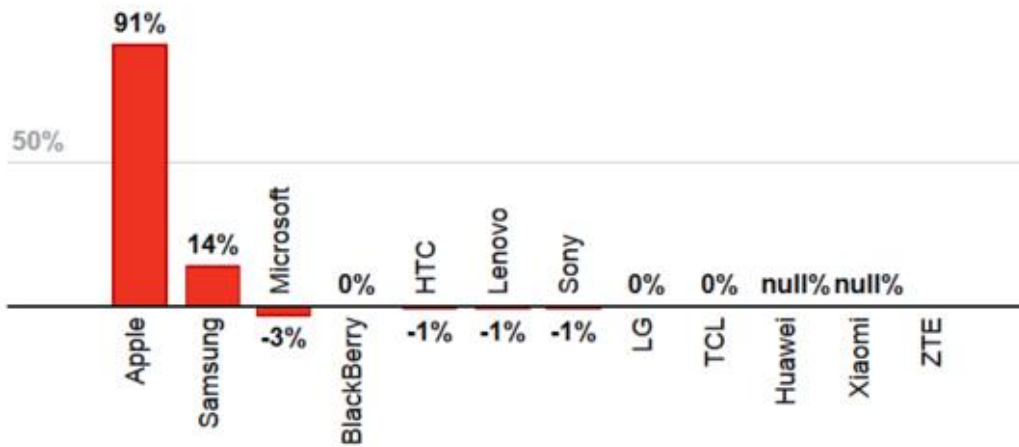
4.3.9 Share of Apple Inc. on smartphones` global market

Increasing of total revenue and net profit of Apple Inc. in 2015 was achieved thanks to a record in the history of the company's revenue from sales of iPhone and Mac and record figures of App Store. Another new record - 74.5 million units of sold iPhones.

According to market research firm Canaccord Genuity in 2015, 91% of global revenue from sales of smartphones has got Apple despite the fact that the iPhone's market share amounted just about 17% at the same year. On second place was Samsung (11%) which is currently the largest manufacturer of Android smartphones.

The fact that the total share of these companies exceeds 100% is because the vast majority of other firms were either non-profit either suffered losses.

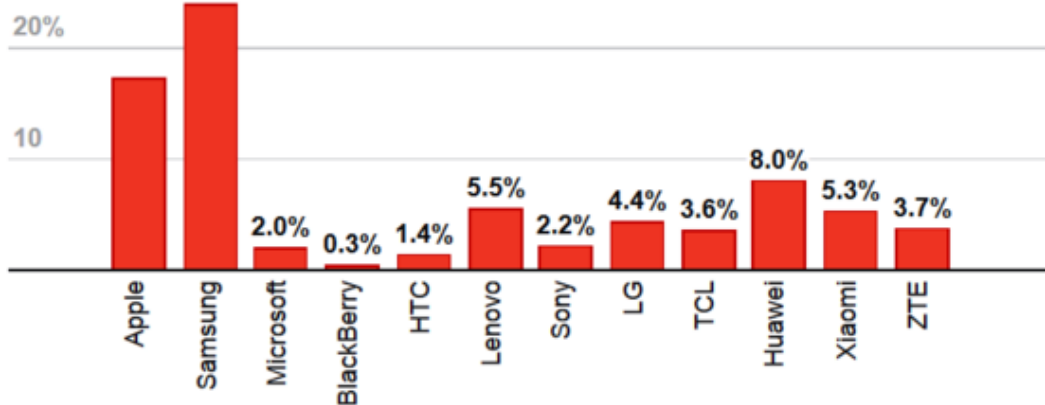
Figure 12: Global Smartphone share in 2015



Source: Phone Arena, 2016

According to analyst Mike Walkley of Canaccord Genuity, the financial losses incurred by HTC, BlackBerry, Sony and Lenovo (which is now owned by the Motorola division, previously-Google) associated with the inability of companies to compete in the smartphone market, the cost of which exceeds \$ 400.

Figure 13: Global Smartphone profit share in 2015



Source: Phone Arena, 2016

Therefore it can be noticed mostly the success of company was caused by well planned strategy of company which is mostly oriented on production of expensive quality smartphones.

4.3.10 Competitors of Apple Inc.

Apple Inc has got a lot of competitors, because there are many companies which produce electronics and software and providing information technologies. As a biggest competitors of Apple Inc. stock in industry of technology can be considered Microsoft Corporation, Google Inc., Facebook Inc. and Sony Corp.

In the table 15 it is possible to notice that the highest market capitalization is Apple Inc. and on the second place is Google Inc. but despite this fact the highest P/E ratio has Facebook Inc. in the amount of 86.4 which is almost 8 times more than Apple Inc. has.

Table 16: Main competitors of Apple Inc. (as March 21, 2016)

Company	Apple Inc.	Microsoft Corp.	Google Inc.	Facebook Inc.	Sony Corp.
Stock name	AAPL	MSFT	GOOGL	FB	SNE
Market capitalization	587.28 B	423.07 B	523.16 B	317.22 B	32.59 B
P/E ratio	11.26	38.21	32.22	86.4	35.99
Volume	43 540 926	67 517 077	1 104 784	36 254 468	1 062 746

Source: *Finviz.com*, 2016

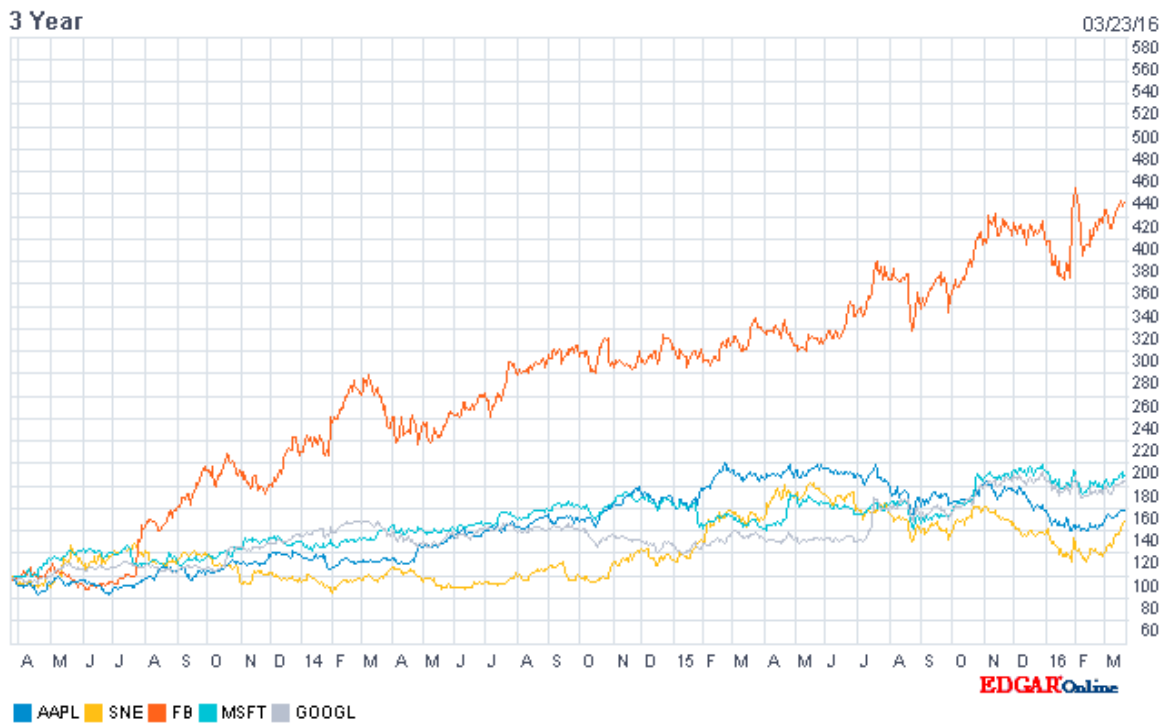
In figure below there is shown comparison of stock prices of Apple and its 4 main competitors. The observation period is from April, 2013 till March, 2016. It can be noticed that price of Apple Inc. with its dark blue color on the chart was the lowest one in the beginning of selected period but later it started to increase and June, 2014 it reached third place with price equal to Microsoft and Google stock and in March, 2016 stock of Apple Inc. was just on 4th place.

Sony with its yellow line has the lowest price most of selected period but it in March, 2016 it started to increase and its price was getting very close stock price of Apple. By March, 2016 the largest price has Facebook with orange color of the scarve, more than that it keeps its price on very high level during whole period. Google with its silver line has the middle price by the March, 2016 whereas it had the lowest price in the period from

February, 2015 to September, 2015. On the graph blue line of Microsoft stock price shows that this company has middle price during almost whole selected period as well as Apple Inc.

Therefore it possible to say that all these companies stock have strong competitive position, but the biggest threat for Apple Inc. is Facebook Inc. which price is more than 2 times than any of other four companies.

Figure 14: Price changes of main Apple Inc. competitors (September, 2014 - March, 2016)



Source: NASDAQ.com, 2016

4.4 Technical analysis of Apple Inc.

Technical analysis is used to make predictions on the future direction and magnitude of price change of financial instruments (shares, bonds, derivatives) on the stock exchange. Its use is an important part of successful trading. It is worth noting that technical analysis helps to trade on the stock exchange, however, very often even the classic and standard techniques result in losses. The reasons for this could be many. Technical analysis is not an exact science or perfectly reasonable theory allowing making definite decisions. Technical analysis is the field of knowledge the study of which will enable the reader to understand

the special language of communication traders. Often, the power of a display depends on its fame. Theoretically, the more traders take advantage of the specific indicator when making trading decisions, the greater will be the preponderance of forces on the side of the sellers or buyers.

4.4.1 Charting methods

Technical analysis of Apple Inc. stock can be done by different types of charts such as Bar chart, Candle chart, Line chart, Point and Figure chart or Equivolume chart. Through this charts it can be seen the share price historical development, trends. There are also eventually selling and buying signals some graphs.

4.4.1.1 Trend of Stock Price.

On the figure 15 there is mountain of volume of Apple Inc.'s stocks. It describes development of company stock price in the period from 22 March 2013 till 21 March 2016. Apple shares are on stock market for a long time since 1980. The price of share in the beginning of trade was equal 0.51 USD and then was increasing year after year. For now Apple Inc. is well known company so by 22 March, 2013 the price of its shares was equal to 64.68 USD.

Figure 15: Mountain type of chart – Apple Inc. stock price (March, 2013 – March, 2016)



Source: NASDAQ.com, 2016

During selected period price of Apple stock was changed from 64.68 USD to 106.68 USD on 21 March, 2016, so it can be notices that in this period has positive price development. From 22 March, 2013 till 23 February, 2015 there was bull trend, then trend was unstable and from 20 July 2015 it turned to bear trend. In this period there were big drops of share prices on 24 August 2015 to 103.12 USD but later it raised back to higher amount and also 2 other more significant drops on 27 January – 93.42 USD and on 11 February – 93.70 USD which were caused by negative trend starting on 3 November, the price of the stock reached the amount of 122.57 USD and started to fall. This fall was stopped by the end of February, 2016 and then price constantly grew right till the end of selected period. So from March, 2016 there is bull trend and it is expected price growth what is good sign for Apple Inc.

4.4.1.2 Candlestick Chart

Candlestick chart uses four types of indicators – the minimum, maximum, opening and closing rates for particular period of time. Usually as the periods of time can be one business day, one week and one month. Each period is shown as one candle which consists of body and its two wicks. The body presented the spread of price between the opening and closing rate whereas wicks indicate the range between the minimum and maximum price rate. Candlestick displays price and its change during the observed period – day, week, month or even hour. The figure 16 reflects growth and drops of Apple Inc. share price where as a time period was chosen week.

Figure 16: Weekly Candlestick chart of Apple Inc. (March, 2013 – March, 2016)



Source: NASDAQ.com, 2016

One year is quite long period, so sometimes it is better to choose wider time interval for candles, it can be weeks or even months. The figure 17 presents monthly development of Apple stock prices.

Figure 17: Monthly Candlestick chart of Apple Inc. (March, 2013 – March, 2016)



Source: NASDAQ.com, 2016

4.4.2 Technical Indicators

Technical Indicator is a function built on the values of statistical indicators of trading (price, trading volume, etc.), its analysis of the behavior is intended to answer the question of change or the current trend in the market. Based on technical indicators analysis traders and technical analysis proponents make decision to open (extension) or close (reduction) their positions. In this case the technical indicators are commonly used in the form of graphs, superimposed or combined with price charts / instruments traded volumes. Moreover, the technical indicators in one way or another are used by mechanical trading systems in algorithmic trading.

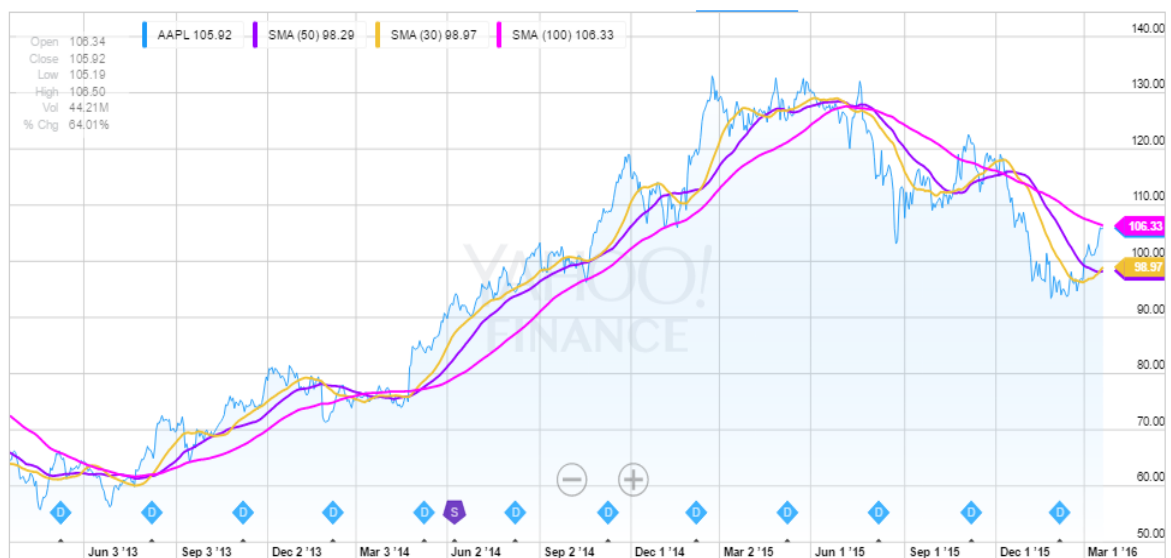
4.4.2.1 Simple Moving Average

There are many types of moving averages in technical analysis. Moving averages are one of the oldest, simplest and most useful tools of trader. On the price chart it represents as a line, every point of which corresponds to the average of the last price. Moving averages help to identify trends and find the best moments for opening positions. The first type that was described is simple moving average. Simple moving averages are calculated as the average price for the last N days. Most often it is subjected to averaging the closing price

of the bar, but it can be averaged other prices: the opening, the maximum, minimum, average values and bars etc.

There are usually two types of stock markets: bearish and bullish. Bear market means that price is decreasing and shareholders are recommended to sell their shares while when it is bull market investors should buy shares because of price growth expectations. In the figure 18 it possible to see analysis of Apple simple moving average in the selected period from March 2013 till March 2016. There 4 lines: blue line – price of Apple stock, pink line – simple moving average for 100 days, purple line – SMA for 50 days and yellow line is SMA for 20 days. Price line is above of each lines of SMA, so there are expectations of price drop.

Figure 18: Simple Moving Average of Apple Inc. (March, 2013 – March, 2016)



Source: *Finance.yahoo.com*, 2016

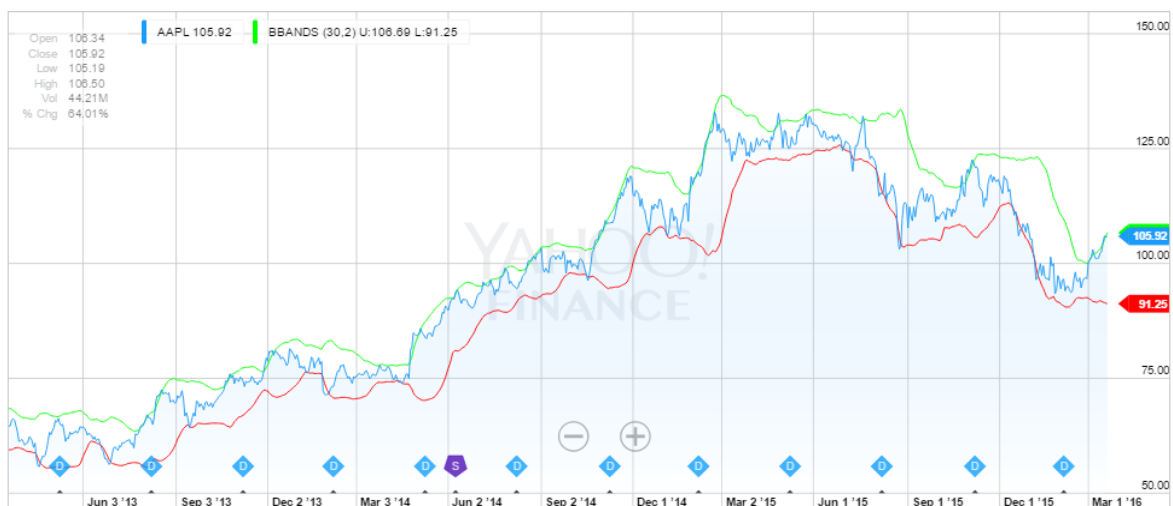
4.4.2.2 Bollinger Bands

Bollinger bands resemble moving averages in percents. But in moving averages outer boundary formed by the vertical shift of line MA (Moving Average) up and down by a certain amount expressed as a percentage while Bollinger Bands that offset is not constant and is expressed in a number of standard price deviations. The central line is a moving average and from this line Bollinger Bands are built up and down. Distance of stripes from the center line is regulated by factor which is multiplied by the standard deviation.

Standard deviation is a measure of volatility, the bands are self-adjusting: it is increasing when the market is volatile and decreasing when the market is becoming more stable.

In the figure 19 are presented Bollinger bands with 30 days period of simple moving average and standard deviation 2. These two lines are green and red. The wider Bollinger bands, more volatile Apple Inc. stock. On the graph it can be noticed that in March 2016 the distance between bands beginning to spread it means stock became more volatile and investors should be ready to price movement. By the end of selected period the price was near the upper Bollinger band and maintained it approximately for one month, so it can be the signal that in next month the price can be dropped and it is advisable to shareholders to sell their stock.

Figure 19: Bollinger Bands of Apple Inc. (March, 2013 – March, 2016)



Source: *Finance.yahoo.com*, 2016

4.4.2.3 Price Rate of Change

One of other technical analysis useful tools is the Rate of Change, indicator showing the rate of price change. This indicator can be used as an oscillator showing overbought and oversold levels. Unlike many oscillators, ROC is not pressed on the trend towards the upper or lower border of the window and continues to draw confident enough ups and downs. The higher the line, the more likely a trend will change to bearish one and vice versa. Focusing on the indicator understanding it can be very accurately determined the moment when to enter the market and exit from it.

In the figure 20 at the bottom of the graph it is expressed rate of change by the black line. The higher this black line, the more overbought Apple stock is. By the end of observed period ROC was equal (- 8.91). This indicator is negative but was growing, so it can be said that in March 2016 stock of the company is almost oversold and the bull trend will contribute future price growth so for investors it is recommended to buy the shares of Apple Inc.

Figure 20: Price Rate of Change of Apple Inc. (March, 2013 – March, 2016)



Source: NASDAQ.com, 2016

4.4.2.4 Relative Strength Index

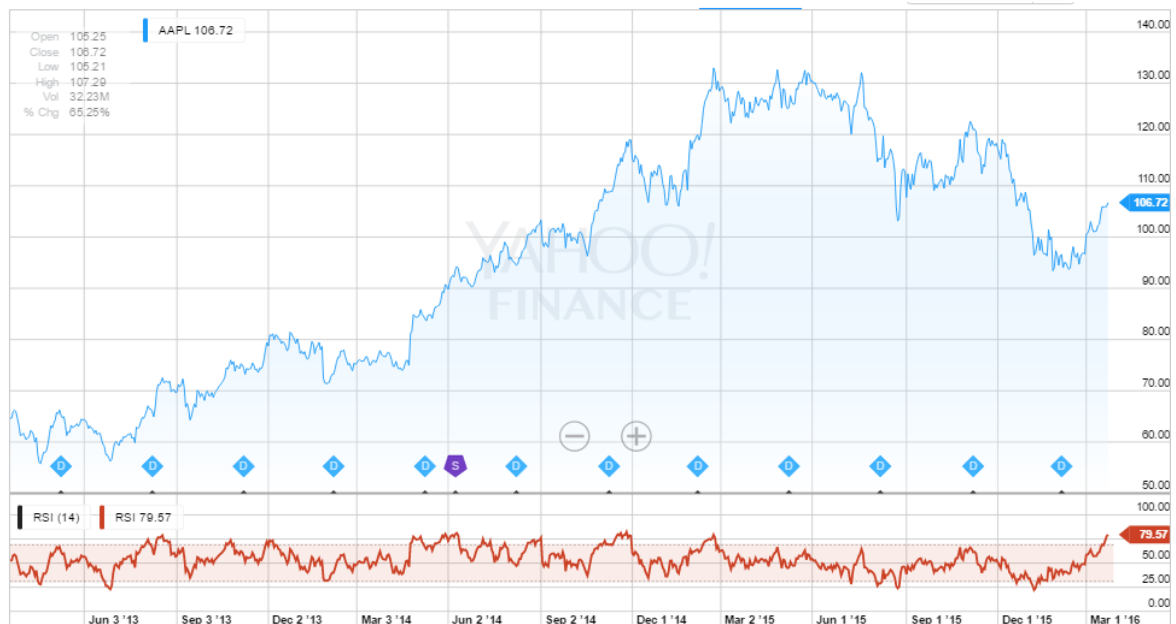
Technical indicator RSI is one of the most popular among Forex traders. It is included in the standard set of trading platforms. RSI - is an indicator that has one line and it is used to determine the strength of the current price trend as well as its possible reversal points. RSI compares the absolute value of the share price growth over a certain period of time with the level of its fall over the same period, the result of the calculation is output as a curve on a graph with a range from 0 to 100% values.

It should be borne in mind that the in active market graph curve intersects levels 30 and 70% very often so most signals are not the intersection but the noise. Screening for false alarms in such a situation the period can increase for example to 21. Shortening the time

period should be in the case if the market, on the contrary, is quiet and indicator signals are rare being simply ineffective. In such situations it is possible, for example, reduce the length of the period to 7.

RSI of Apple Inc. for the period from March, 2013 till March 2016 is shown on the figure 21 on the bottom. There are 2 lines which define 30 and 70 % and light red interval between them. Period was selected as 14 days. Red line is RSI, so it can be noticed that by March 21, 2016 it was equal 79.57 and higher than upper line of 70 %, it indicates that stock of Apple is overbought and the price in future period will be decreasing by bear trend.

Figure 21: Relative Strength Index of Apple Inc. (March, 2013 – March, 2016)



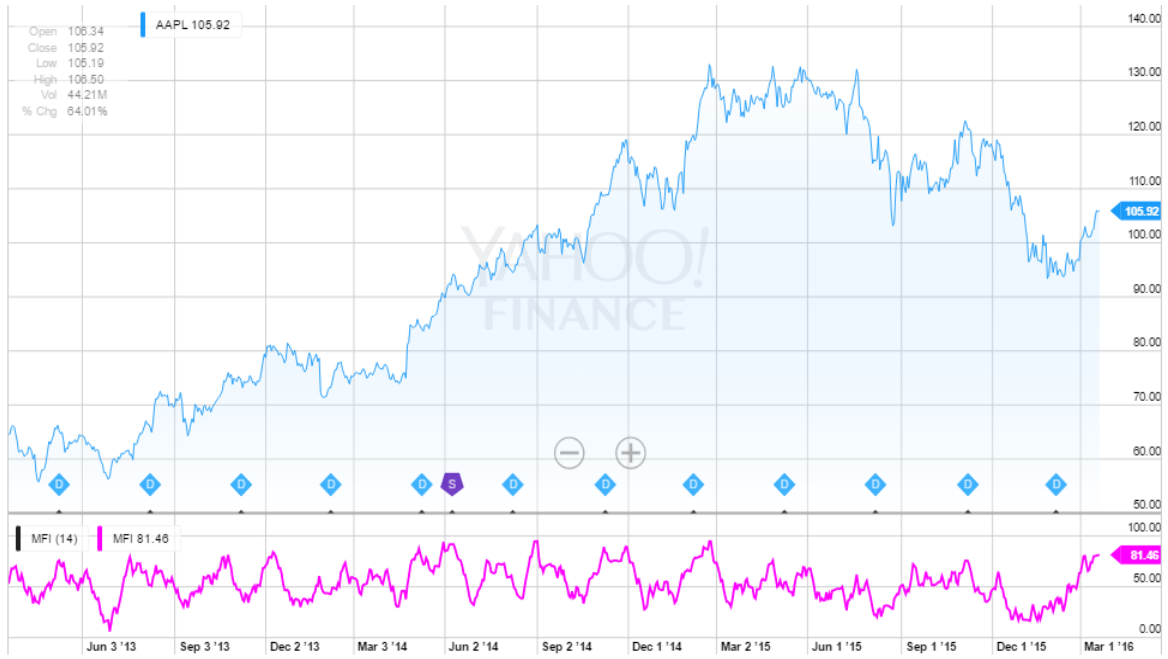
Source: Finance.yahoo.com, 2016

4.4.2.5 Money Flow Index

Money Flow Index is an indicator of the intensity of investment in any security, in our case in stock. Determining MFI is similar to Relative Strength Index, the difference is only that MFI takes into account volume also. When analyzing the MFI should be noted that if there is a rise in prices and the indicator is reduced it is likely in the near future will turn. Finding indicator zones below 20 or above 80 shows the future base or top. Like the RSI MFI indicator takes values from 0 to 100 and is usually calculated using the period of 14

days. In selected period most of time MFI was in the range 6.03 – 94.78. It the beginning of period is was equal 67.46 but by March 21, 2016 it increased to 80.90 what means high interest of investors and that stock is overbought.

Figure 22: Money Flow Index of Apple Inc. (March, 2013 – March, 2016)



Source: Finance.yahoo.com, 2016

5 Results and discussion

In this chapter will be described the results of fundamental and technical analysis of Apple Inc. Before analysis of company in the beginning of the practical part there was introduced brief information of Apple Inc., its stock, the main investors of company and its basic principles.

5.1 Results of Fundamental Analysis

Fundamental analysis of Apple Inc. was done mainly by using horizontal and vertical analysis and financial ratios by employing data from balance sheet and income statement. As selected period for observation it was chosen period from 2013 till 2016. The data for analysis was collected basically from annual reports of Apple Inc.

By the horizontal analysis of balance sheet it was defined that total assets of the company are increased, in 2014 by 12 % and in 2015 by 25.3 % as well total liabilities and equity respectively. It can be expected future growth of it in next years. In 2015 in the part of assets highest positive changes were in short-term investment by the growth of 82.3 % despite it decreased by in 2014 by 57.3 %, in cash and equivalents by the increasing by 52.6 % and other total assets which rose by 47.6 % comparing to 2014. The amount of assets grew mostly by the increasing of long – term debt by 84.4 %, whereas total equity rose just by 7 %. During selected period almost all items of balance sheet have positive tendency except intangible assets which decreased by 6 %, receivables less allowances – reduced by 3.5 % and other equity – great falling by 131.9 % in 2015.

Horizontal analysis of income statement showed that total revenue is increasing also by 7% in 2014 and by 27.9 % in 2015 as well as cost of sales by 5.3 % and 24.8 respectively, but total revenue is still developing by greater rates. Earnings before interest and tax also significantly increased by 36 % in 2015. The highest growth was raising of interest expense by 90.9 % and earnings for share by 43 % in 2015.

Vertical analysis determined that share of total current assets grew comparing to 2014 and in 2015 it was 30.77% so biggest part of assets is still long-term investments which held 58.48 % of total assets, it share is growing year after year. In 2015 total assets were formed mostly by liabilities – 58.91 % whereas in 2013 it was basically by total equity – 59.69 %

what was better for company. The part of current assets increased as a result of growth share of cash and cash equivalents from 5.97% to 7.27% and growth of short-term investments from 4.85 % to 7.05 % in 2014 and 2015 respectively. Also in 2015 there was appeared current portion of long-term debt in share of 0.86 %.

Through vertical analysis of income statement it was defined that cost of sales is accounted about 60% of total revenue and this amount has regressive dynamic whereas the share on net income as well as EBIT was growing comparing to 2013 and 2014 years. In 2015 share of net income was 22.85 and share of gross margin was 40.06 which are very sufficient numbers for company of such industry.

In next part of the fundamental analysis were calculation of financial indicators and its analyzing. First indicator was net working capital which determine the share of current assets of the company which is financed from long-term sources and has not to be used to repay the it current debts. In 2015 this ratio grew comparing to previous 2014 year, it means increasing the liquidity and creditworthiness of the company. Current ratio also rose to 1.11 in 2015 so Apple Inc. has enough current assets to pay for it current debts but is it still less than average of the industry - 1.56.

Profitability analysis was the following part of fundamental analysis. For this analysis were used such indicators as Operating Margin, Gross Profit Margin, Net Profit Margin, Return on equity, Return on assets and Return on Investment. All this indicators grew during selected period what has positive influence on the company. Operating margin of Apple is increasing and in 2015 was almost 3 times more than average of industry as well as net profit margin, ROA and ROE. Gross profit margin also has positive result which in 2015 was 40.06 % while industry average is just 26.36%.

Analysis of assets turnover has great results too. In 2014 inventory turnover decreased from 60.43 to 53.18 and then again grew to 59.64 in 2015 but despite these changes Apple Inc. still has much higher indicator than average of industry which is equal to 18.29 so inventory of company turns to money for shorter period.

In followed part it was done analysis of financial leverage of Apple Inc. Its results were not positive. By 2015 all ratios changed to worse despite that in 2013 company it were

remarkable. In 2013 the ratio debt to equity was 0.14 - 3.5 times less than in 2015, which was 0.54 what is higher than average of industry – 0.37. Most of Apple Inc. assets are financed by the debts, so company became more dependent on its creditors. There was also the large decreasing of interest coverage by 3 times, it means that enterprise is spending more money on interest to shareholders year after year while its EBIT is increasing by a slower pace.

Another part of fundamental analysis was market value analysis of Apple Inc. It was done with aim to characterize the value and profitability of company. Comparing such indicators of market value analysis as Book value, EPS, P/E, DPS and DY in 2013 and 2015 years it can be noticed that there was increasing almost all of them except DY which has negative dynamic and is reducing every year. Dividend yield had better value in 2013 – 2.37 than in 2015 – just 1.81, it means that there was reduction of the return of invested capital during 2013-2015, which is not good for shareholders.

In 2015 book value raised to 21.39 from 19.63 in 2013 despite the drop to 19.02 in 2014. EPS has positive tendency and grew every year during observed period, its growth was from 5.68 to 9.22 by 2015, what is the result of increasing of company profit is. DPS is also progressive and was equal to 1.98 in 2015, so company was paying larger and larger amount of dividend per share in 2013-2015. P/E has not so sufficient amount, during selected period it was smaller than average of industry – 19.67. In 2015 it reduced to 12.6 while it was 15.81 in 2014. It means that shareholders wish to pay less money for 1 USD of company profit.

Due to review of global market it was found that in 2015 91% of global revenue from sales of smartphones got Apple with iPhone's market share just about 17%.

Last part of fundamental analysis was done by comparison of stock price of main competitors of Apple: Microsoft Corporation, Google Inc., Facebook Inc. and Sony Corp. It was found out that the main threat for Apple is Facebook stock which price is almost double higher than Apple and its three other competitors. The smallest rivalry is presented by Sony but it is increasing in last years.

5.2 Results of technical analysis

Technical analysis was done to determine the price development of Apple Inc. stock and the shareholders interest. As the observation period it was chosen same period as for fundamental analysis - from March, 2013 till March, 2016, so it can be seen the trend for 3 years. Technical analysis was provided with such charting methods and technical indicators as Simple Moving Average, Bollinger Bands, Relative Strength Index, Rate of price change and Money Flow Index. Before the analysis of selected period it should be said that the beginning of trading Apple Inc. on exchange market was in 1980 and in that time its price was just 0.51 USD, so shares of the company were undervalued and then it became significantly increasing.

Firstly it was described mountain type of stock price development. By 22 March, 2013 the price of Apple Inc. share was 64.68 USD and then it changed to 106.68 USD by 21 March, 2016. During selected period price was in a range of 56.01 – 133.00 USD. From March, 2013 to 23 February, 2015 there was bull trend, later it was unstable situation and from 20 July, 2015 it began bear trend which ended by 11 February, 2015, since then there is again bullish trend and price is increasing.

Candlestick chart showed also the development of stock price: minimum and maximum, open and close prices by the weeks and months. The followed part of technical analysis was analyzing of technical indicators. As a result of most indicators - SMA, Bollinger Bands, RSI and Money Flow Index analysis by 21 March, 2016 shareholders are recommended to sell their Apple Inc. stock because of expectations of price decreasing in future periods while due to ROC there is still possibility to price growth.

In the table 17 there are recommendations of analytics which are prone to buy and hold Apple Inc. shares by 21 March, 2016. According to table it is possible to say that analytics are less inclining to buy company shares for the last 4 months and more prefer just hold shares. The current index of recommendations for 21 March, 2016 is 1.9 which is between 1 meaning Strong Buy and 5 meaning Sell, so by analytic's opinion it is advisable to buy while in December, 2015 it was suggested even Strong buy and index was 1.1.

Table 17: Recommendation trend of Apple Inc. stock (December, 2015 – March, 2016)

	March 2016	February 2016	January 2016	December 2015
Strong Buy	15	17	16	16
Buy	22	22	24	25
Hold	9	9	9	8
Underperform	1	0	0	1
Sell	0	0	0	0

Source: Finance.yahoo.com, 2016

By 21 March, 2016 the share price is 106.68 USD, it is even lower than median target but still far from low target, so there is hopefulness to future price increasing.

Table 18: Price target recommendations for Apple Inc. stock

Mean Target	134.08
Median Target	130
High Target	200
Low Target	82
No. of Brokers	37

Source: Finance.yahoo.com, 2016

6 Conclusion

Apple is an American company which is engaged in the production of personal computers, music players, known worldwide as iPod, software and smartphones.

Apple has become the cradle of innovation in technology for more than 10 years. This year, at the annual International Consumer Electronics Show, CES, Apple once again surpassed all other participants. This happens for 15 years in a row.

Ten and a half years ago, Apple was hardly taken seriously by other companies in the industry. However, today the company is not only the most profitable but also the most influential company in its sector. It owns many unique ideas that have become real trends, which are adopted by other manufacturers too. Apple also is trying to develop existing technologies to create their own products with their use. This strategy led to success and Apple gained the lion's share of the profits on global markets despite the fact that the technology industry is very competitive and is growing every year. That's why it was very interesting to analyze Apple Inc. more detailed in terms of economic position.

The main objectives of this diploma thesis are to evaluate economic position of Apple Inc. if it is financially stable and profitable as much as average of industry and if its stock price has positive development during last years and to identify recommendations for shareholders and potential investors if they should sell, hold or buy shares of the company.

To obtain these goals it was necessary to provide fundamental and technical economic analysis of Apple Inc. which gives more detailed information about company financial position on the technology market and its stock price development on the exchange market.

According to results of economic analysis it was determined that Apple Inc. has very sufficient position in industry because it amounts the largest market capitalization on exchange market among all industries and its net profit margin much higher than average of industry but its assets are still secured mostly by liabilities and therefore company is very depended on its creditors. Through the technical analysis it was investigated the price development of company stock and evaluated its position on exchange market. By analysis of most technical indicators and charts from it was found out that shareholders should sell their stocks but due to ROC there is still small possibility to price growth.

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