

**Czech University of Life Sciences Prague**  
**Faculty of Economics and Management**  
**Department of Economics**



**Bachelor Thesis**  
**Economic Analysis of Google Inc. Stock**

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# BACHELOR THESIS ASSIGNMENT

Vlada Dementeva

Business Administration

Thesis title

**Economic Analysis of Google Inc. Stock**

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## Objectives of thesis

The main purpose of this paper is to describe the current state of Google. In the theoretical part of this thesis describes the history of the company, the types of exchanges and shares. We explore the Alphabet company to evaluate its profit by using fundamental and technical analysis.

Partial goals:

The first objective is the description and structure of the work as a whole, economic data and their impact on the global economy as a whole.

The main topic of the practical part is an analysis with which we find it profitable to invest in the shares of Google Inc. in the future.

## Methodology

In the theoretical part we give the reader an idea about the company and how investment affects any company. What factors affect the success of the corporation and a description of the main concepts and historical data.

In the analytical part, the methodology includes the purpose of the assessment of fundamental and technical analysis methods. In this part, we consider in practice is the purchase or sale of shares for long-term or short-term deals.

**The proposed extent of the thesis**

40 pages

**Keywords**

Stock, investment, stock of exchange, fundamental analysis, technical analysis, Google Inc.

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**Recommended information sources**

BATEMAN, Katherine Roberta. The young investor: projects and activities for making your money grow. 2nd ed. Chicago, Ill.: Chicago Review Press, 2010. ISBN 1569765464.  
Faerber, E. (2008). All about stocks. 1st ed. New York: McGraw-Hill.  
Technical Analysis of the Financial Markets: A Comprehensive Guide to Trading Methods and Applications (New York Institute of Finance) Hardcover – January 1, 1999  
VIŠE, David A. a Mark MALSEED. Google story. Praha: Pragma, 2007. ISBN 978-80-7349-034-8

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## **Declaration**

I hereby confirm that I wrote my bachelor thesis “Economic Analysis of Google Inc. Stock” by myself and I have used only the sources mentioned in the reference.

In Prague on March 13<sup>th</sup> 2016

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Vlada Dementeva

## **Acknowledgement**

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## **Economic Analysis of Google Inc. Stock**

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### **Summary:**

This bachelor thesis is written with the aim to perform an economic analysis of the shares of the company Google in order to determine the investment.

In the theoretical part the author examines basic economic concepts: interaction stock of exchange and types of shares, economic indicators of the company's profits and history data of the Alphabet Inc., the risks facing the investor.

In the practical part the author applies the theoretical knowledge with fundamental and technical analysis decides in which period of time to invest in the stocks of the company Google.

### **Keywords:**

Stock, investment, stock of exchange, fundamental analysis, technical analysis, Google Inc., revenues.

### **Ekonomická Analýza Společnosti Google Inc.**

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### **Souhrn:**

Tato bakalářská práce je psaná s cílem vytvoření ekonomické analýzy akcií společnosti Google a určení investice. V teoretické části autor zkoumá základní ekonomické koncepty, vztah mezi burzou a druhem akcií hospodářské ukazatele firemních zisků a historická data společnosti Alphabet Inc. a rizika pro investora.

V praktické části autor aplikuje znalost teorie se základní a technickou analýzou za účelem určení období investice do akcií společnosti Google.

### **Klíčová slova:**

Akcie, investice, burza, základní analýza, technická analýza, Google Inc., zisk

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## List of Abbreviations

**AJAX** Asynchronous JavaScript and XML

**AMEX** American Stock Exchange **AOL**

America Online, Inc.

**CEO** Chief Executive Officer

**CFD** Contract for Difference

**CME** Chicago Mercantile Exchange & Chicago Board of Trade

**CBOE** The Chicago Board Options Exchange

**CPC** Cost per click

**CTR** Click-Through Rate

**HTML** Hypertext Markup Language

**IBM** International Business Machines Corporation

**IPO** Initial Public Offering

**MADC** Moving Average Convergence/Divergence

**MSN** Microsoft Network

**NASDAQ** National Association of Securities Dealers Automated Quotations

**NYMEX** New York Mercantile Exchange

**NYSE** The New York Stock Exchange

**USA** United States of America

# 1. Introduction

Google's mission is to organize the world's information and make it universally accessible and convenient to use. The corporation provides users a number of technologies: the ability to search, business dealings, and web applications. In modern world, the most important resource for all of us is information. In the past, in order to find the answer to a question, it was necessary to spend a lot of time, but with the invention of the Internet and Google it's much faster.

Google search gives the ability to instantly find information from a weather forecast, news, currency exchange rates and prices to videos, images, and addresses of the nearest stores. With the development of its business, Google does not adhere to traditional solutions. The company was founded on the money received from investors and used the funds to compete with two competing venture capital firms to form their own initial capital. While around there is a rapid increase in the number of Internet companies, and competitors have invested millions in marketing campaigns creating and developing brands, Google has focused its efforts on developing the best search service.

## **2. Objectives and Methodology**

### **2.1. Objectives**

The main purpose of this paper is to describe the current state of Google. In the theoretical part of this thesis describes the history of the company, the types of exchanges and shares. We explore the Alphabet company to evaluate its profit by using fundamental and technical analysis.

Partial goals:

The first objective is the description and structure of the work as a whole, economic data and their impact on the global economy as a whole.

The main topic of the practical part is an analysis with which we find it profitable to invest in the shares of Google Inc. in the future.

### **2.2. Methodology**

In the theoretical part we give the reader an idea about the company and how investments affect any company. What factors affect the success of the corporation, what are the different types of risks, description of the main concepts and historical data.

In the analytical part, the methodology includes the purpose of the assessment of fundamental and technical analysis methods. In this part, we consider the purchase or sale of shares for long-term or short-term deals.

## 3. Theoretical Section

### 3.1. Alphabet Inc.

#### 3.1.1. The Creation of Google

Alphabet Inc. holding, located in California (USA) owns several companies previously owned by Google Inc. At the head of the holding company are the co-founders of Google Larry page and Sergey Brin. (wired.com, 2015)

Google is a game with the word “googol”. The term was coined by Milton Sirotta. Google is the number ten to the hundredth degree, that is a unit with a hundred zeros. The use of this term reflects the company's goal of Google to make searchable the entire, almost endless, amount of information available on the Internet. (Mathematics and the imagination Edward Kasner and James Newman, 2001).

The starting point of the history of corporation Google is 1995 when Larry Page met Sergey Brin in Stanford University. By January 1996 Larry and Sergey had begun collaboration on a search engine called BackRub, so named for its unique ability to analyze incoming links to the site. As they felt the need for money just like any other students at this age, they have become warehouses of different faculties in the hope of finding unnecessary equipment that they could use. A year later, their unique algorithm BackRub became known to almost everyone, and they have become very popular, later it was called PageRank. BackRub ranked documents depending on the number of references to them in other documents, since it was made popular in academic circles. Google was launched in 1998. Andy Bechtolsheim, co-founder of “Sun” writes a check for 100 thousand U.S. dollars for the name is not an existing organization: a company called Google Inc. Google is settling in the garage of Susan Wojcicki. 4 September 1998 the application was filed for registration of the company Google in California. In the same year, they received \$25 million from Sequoia Capital and Kleiner Perkins Caufield & Byers. Then the company moved to its first own office in Mountain View. (David A. Vise., Mark Malseed., 2007)

*“Google! the Stanford University project designed to find the most relevant web pages”.*  
(PC magazine, December 1998)

In the year 2000, the company represented 10 regional editions of Google.com: French, German, Italian, Swedish, Finnish, Spanish, Portuguese, Dutch, Norwegian and Danish. In June, Google enters into a partnership agreement with Yahoo! and becomes its main provider of services in the area of search. In September of the same year, implementation allowed for the ability to search in Chinese, Japanese and Korean and the total number of languages increases to 15. (David A. Vise., Mark Malseed., 2007)

The company had to think about one of the main goals: how to get revenue from the search engine. Sergey and Larry decided not clutter up search system a lot of advertising, as did other search engines, and began to look for another way. The solution to this problem the owners of Google has prompted Bill Gross, everything was quite simple:

when a person enters a query into a search engine, he is displayed in a separate frame is on request. This advertising system is basic, but very effective and was named AdWords.

Stock prices began immediately to grow and ahead of such giants as Coca-Cola, McDonalds, IMB. (David A. Vise., Mark Malseed., 2007)

*“AdWords (Google AdWords) is an advertising service by Google for businesses wanting to display ads on Google and its advertising network. The AdWords program enables businesses to set a budget for advertising and only pay when people click the ads. The ad service is largely focused on keywords.”* (Webopedia.com, 2006)

In December 2000, the users have the Google Toolbar. Is a plug-in for your browser that allows you to search without visiting the Google homepage. Brin and Page bore the burden of running the company, while the number of its employees did not exceed 200 people. In the summer of 2001, they handed over power to chief Executive officer Eric Schmidt. (David A. Vise., Mark Malseed., 2007)

In August 2004, Google launched its initial offering of its shares on the NASDAQ under the stock symbol (GOOG). Once again abandoning the beaten path, the company's executives ignored the traditional methods of a Wall Street IPO (Initial Public Offering), preferring a "Dutch" auction. In any case, the IPO generated considerable interest from investors. (David A. Vise., Mark Malseed., 2007)

In 2004, partners for the first time appeared in the published authoritative Forbes magazine list of billionaires, with \$1 billion each. In 2005, the Breen as already estimated by Forbes at \$11 billion, and he shared with Paige 16-th place in the list of richest US citizens Forbes 400. It should be noted that, starting from the second quarter of 2004, when Google was preparing to IPO to the present time, Brin, Page and Schmidt receive \$1 per year as a basic

salary, fully expecting to receive stock options and rising share prices. (David A. Wise., Mark Malseed., 2007)

The reorganization of the Google to the Alphabet was officially announced on 10 August 2015 and completed by 2 October 2015. All Google stock was converted into shares of the Alphabet, they continue to be traded on Nasdaq as GOOG and GOOGL (class -A GOOGL with one vote each and class -C GOOG without voting rights). There are also shares of the class -B, giving its owners the right to ten votes. Only holders of shares of this class are Google founders Larry page and Sergey Brin and former CEO Eric Schmidt. (wired.com, 2015)

### **3.1.2. Web Search Engine**

Web search engine is a hardware and software system designed to perform a search on the Internet the most comprehensive attempt to organize and classify a variety of information on the Internet. For the user the search engine looks like an interactive site, which the user will address your request. The website is responsive and almost instant response, in the form of a sickle that is the generated page containing the response of successive links and other items. (Seobook.com, 2006)

That means, the search engine must "think" the same as the user thinks when searching for information. When a user makes a request to the search engine, he wants to find what they need, quickly and easily. Developers search engines are constantly improving search algorithms and principles, adding new features and capabilities, are trying to speed up your system. But, what is visible to the user "face" of search engines, a website is only the intellectual superstructure of a large complex. It has a material basis, expressed in real and powerful machines are equipped with specially written unique software. Despite the fact that the programs have much in common, their individual characteristics cannot be disclosed. And there is a difference between the search engines. In addition, the search system is not a static phenomenon, it evolves, expands, changes the algorithms. Most major international search engines: "Google", "Yahoo", "MSN", which have their own database and search algorithm. (Seobook.com, 2006)

The primary task of any search engine is to give people exactly the information they are looking for. And to teach users to do the "right" queries is impossible, i.e. queries that are relevant to the principles of search engines. Therefore, the developers create such

algorithms and principles of search engines, which would allow users to find their desired information. (Seobook.com, 2016)

Search engines have some search robots, that continuously reads the new information online, find new sites, pages, updates. The number of robots is quite impressive, the task of finding and collecting information are different. All of this information recorded by the indexer is a database search engine, which is also relatively variable. This is natural, because are constantly being added new web pages, and the old often have to clean up from the database. In order to access the necessary information, the visitor accesses the web server of a search engine. It has a system of issuing, that is, the ability to instantly sort the available data and give relevant answers. (Seobook.com, 2006)

### **3.1.3. Types of Services**

#### ***Gmail***

For users of this mail service is the mailing address in the domain gmail.com and alias in a domain googlemail.com. Service offers for mail storage over 7.6 GB of space, and this number is constantly increasing from 1 April 2005, when, in honor of the anniversary of the launch of the service, available capacity was increased from 1 GB to 2 GB. This announcement was accompanied by the promise that Google will increase its volume. (Webopedia.com, 2006).

Web Gmail interface is built entirely on the browser-based scenario programming language JavaScript, which gives unusual for web environment features, such as receiving commands from the keyboard, the page updates without rebooting (technology AJAX), drop-down lists to select recipients and others. It is also possible to switch to interface, built only on HTML - a standard markup language web pages that are supported by all browsers. When loading the web interface checks the version of the browser, and if browser does not support all of the user JavaScript, the web interface will automatically switch to HTML-mode and the user is notified that the browser does not support all functions. (Webopedia.com, 2006).

#### ***Google Maps***

Google Maps is a set of applications built on the basis of free cartographical service and technology provided by Google. The service is a map and satellite imagery of planet Earth

(and moon and Mars). With the service integrated business directory and map of roads, routes, covering USA, Canada, Japan, Russia, Hong Kong, China, Great Britain, Ireland (only the centers of cities) and some parts of Europe. (Webopedia.com, 2006).

### ***Google Translate***

Google Translate is the web service of Google, designed to translate sections of text or web pages into another language. For some languages, users are offered the options of transfers, for example, for technical terms that should be included in future updates of the translation system.

Unlike other translation services such as Babel Fish and AOL, which use the technology of SYSTRAN (English), Google, and Translate.ru uses own software. Apparently, the use of self-learning algorithm for statistical machine translation. (Webopedia.com, 2006).

### ***YouTube***

YouTube is the service that provides video hosting services. Users can add, view and comment on those or other videos. Due to the simplicity and ease of use, YouTube has become a popular video sharing website, and third in the world in the number of visitors. The site presents a professionally filmed movies and clips and amateur videos, including video blogs. (Webopedia.com, 2006).

## **3.2. Economical Analysis of the Company**

### **3.2.1. Company Revenue from Advertising**

94% of Google's revenue comes from AdWords, it's related to the key performance indicators CPC and CTR. (Wordstream.com, 2013) The impact on revenue Google provides:

- Decrease or increase in the average price-per-click advertising services online advertising
- Competitors
- Position of the dollar, fluctuations in currency exchange rates

(Economicimpact.google.com, 2015).



### ***CPC and CTR***

“Cost per click (CPC) is a method websites use to bill based on the number of times a visitor clicks on an advertisement.” (Investopedia.com, 2003)

“Click-Through Rate (CTR) is the percentage of individuals viewing a web page who click on a specific advertisement that appears on the page.” (Investopedia.com, 2003)

The formula of Google's revenue from advertising can be presented as follows: number of ad impressions multiplied by the CTR multiplied by the CPC. (Wordstream.com, 2013)

### ***Advertising on the Internet***

There are the following types of online advertising:

- Contextual Ads
- Social Media Ads
- Banner/Display Ads
- Related Content Ads
- Video Overlay Ads

Some form of advertising used depending on purposes: for example, contextual advertising is mainly aimed at the sale of the advertised product or service, unlike display advertising, the purpose of which is to promote the brand. (Wordstream.com, 2013)

The display network of Google is a collection of more than a million websites, mobile applications, in partnership with Google to show ads on their resources. This network includes sites owned by Google (such as Finance, Gmail, Blogger and YouTube) and its partners, which may seem like your advertising. (Wordstream.com, 2013)

There are other types of online advertising, which usually combine the characteristics of media and search advertising. Some form of advertising used depending on purposes: for example, contextual advertising is mainly aimed at the sale of the advertised product or service, unlike display advertising, the purpose of which is to promote the brand. (Wordstream.com, 2013)

### ***Google AdSense & Google AdWords***

Google has a system that allows you to choose the most effective ads for placement on the website – Google AdSense.

The differences between Google AdWords and Google AdSense is that the first is to create and display ads on relevant pages of Google search results and the second to display Google AdWords ads on individual sites. In other words, Google AdSense is a system for automatic selection of advertising messages for the website. It differs from AdWords in that it's free, the publisher pays nothing, and only gets the profit from the ads posted on its

website. Google pays publishers or ad clicks or impressions, depending on their type. (WSI Online.,2013).

AdWords (Pay-Per-Click) is a service of Google, which rely on keywords when a person prints a keyword in Google, your ad appears "advertising links" in search results page. If the user clicks on the link in your ad, Google charges you a payment for that click. (WSI Online.,2013).

**10 industries that spend on advertising in Google AdWords most:**

1. Finance
2. Travel
3. Shopping
4. Job and Education
5. Internet and Telecom
6. Computers and Electronics
7. Business and Industry
8. Home and Garden
9. Cars and Transport
10. Beauty and Fitness

The average CPC in the industry “Finance” is \$ 3 per click in the search and \$ 1 per click on the Google display network. In the second place, the industry “Job and Education”, where CPC is 1.80 dollars per click in Google Search.

Advertising relating to Finance, leads to more than 1 000 000 daily conversions in the Google AdWords.

The highest CTR in the “Business and Industry”, of 5.23%, slightly below the industry "Travel" to 4.88%.

“Jobs and education” has the highest conversion rate — of 6.27%, “Shopping” — 6,09%, and “Beauty and Fitness” — 5,63%. (Wordstream.com, 2013)

### 3.2.2. Stock of Exchange

#### *The System of the Stock of Exchange*

Only professional participants of the securities market (brokers and dealers members of the stock exchange) are able to buy and sell securities on the stock exchange. Not all securities can be traded on the exchange. There is a very strict procedure of admission of securities to trading that is called listing. Also, not every broker can be an accredited member of the exchange. Stock exchanges impose strict requirements to its members concerning the financial condition. All trading operations of the exchange are concentrated in one place and are subject to detailed rules. These rules establish the members of the exchange. (J. Dalton, 2001).

Membership on the stock exchange, in the USA is very expensive. To become a member of the exchange, for example, an American, an individual or firm must own or rent a "chair", or place on the exchange. Exchange members are divided into several groups according to what they do. Most of them are operations with securities on behalf of their clients (the brokers), but some carry out transactions on behalf of other exchange members. Dealers carry on only its own operations. Specialists or market makers create a regular and orderly system of trade for the specific securities allocated to them do deal with incomplete lots for the other members of the exchange. Specialists are required to maintain certain prices for the paper when the flow of orders on the paper is interrupted. In order to carry out transactions on the stock exchange it is also necessary to have a special license. (J. Dalton, 2001).

A tangible expression of an exchange (for example, the New-York stock exchange) is the place (building) where transactions are conducted. When a customer decides to buy or sell a stock, he calls a local broker and the local broker sends the order to the clerk on the exchange. The clerk, in turn, transmits instructions to his broker in the room and if the market has the opposite offer, the broker enters into the transaction. That's right-the negotiations in the trade hall "by filing special characters" - transactions on the New York stock exchange. (J. Dalton, 2001).

Another stock trading option is electronic. Applications are sent here from remote traders via a dedicated communication channel or through systems of Internet-trading from different parts of the country. (J. Dalton, 2001).

After the transaction, a real transfer of money and securities must occur. Modern technology has simplified this procedure. Now the application can proceed to the exchange within just a fraction of a second. It all happens automatically. Daily information is transmitted to computers of participants after the end of the auction and the handling of committed transactions (called clearing). (J. Dalton, 2001).

### ***Stock Market***

Two main Market of stocks:

1. The Primary Market
2. The Secondary Market  
(Investopedia.com, 2003)

### ***Types of Stock of Exchanges***

1. *Stock exchange (bourse)* provides a high volume of trading in securities aimed at maintaining high liquidity and market value of securities, improvement of professionalism of participants of exchange trades.

Two major stock exchanges are:

- NYSE (The New York Stock Exchange)
- NASDAQ (National Association of Securities Dealers Automated Quotation)  
(Investopedia.com, 2003)

2. *Foreign exchange market* is the place where buying and selling of national currencies at a specified rate, which is formed on the market based on supply and demand at a specific point in time. (Investopedia.com, 2003)
3. *Futures* provide services for buying and selling of futures contracts. As a rule, as the underlying asset of the futures are securities, currencies and commodities.

Major stock exchanges of the world are:

- CME
  - NYMEX (Investopedia.com, 2003)
4. *Options exchange* the stock exchange specialized in the sale of debt financial obligations.

Major stock exchanges of the world are:

- AMEX
- CBOE (Investopedia.com, 2003)

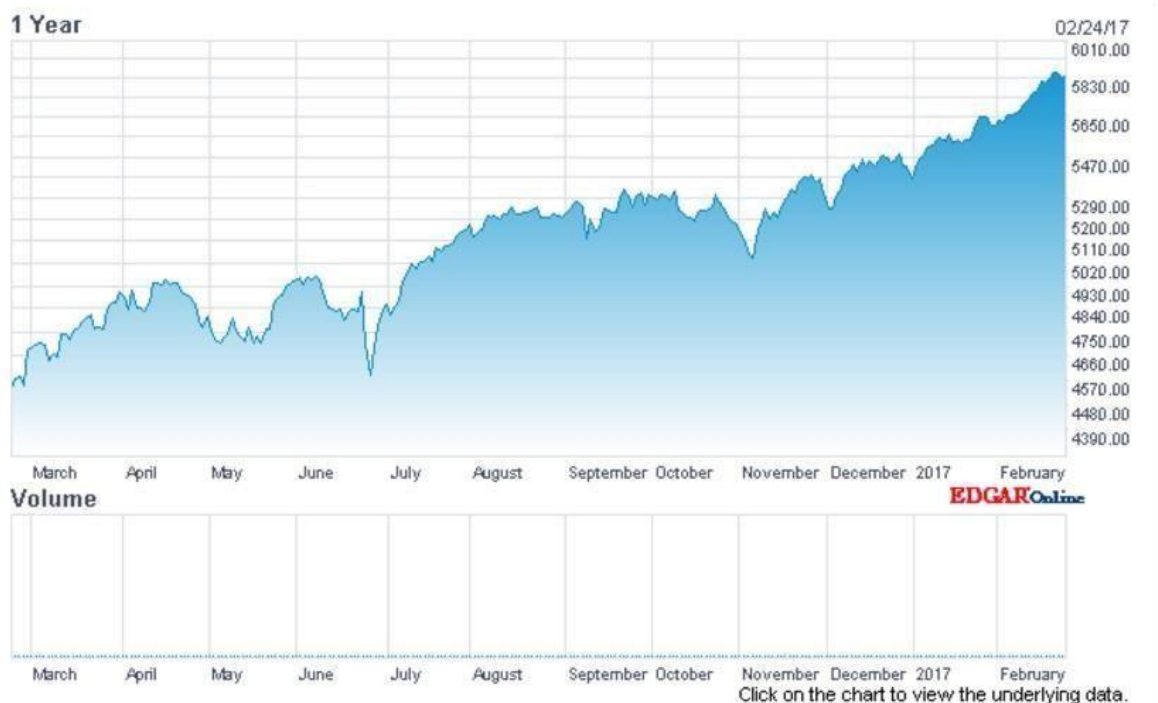
5. *Commodity* trading all sorts of goods. The main categories are mainly, energy and raw materials (oil, gasoline, etc.), precious metals, products of the agricultural sector. commodity exchanges are divided further into two types, namely: specialized and versatile. The first type involves a narrow product orientation: as a rule, they trade one category or even one kind of goods. (Investopedia.com, 2003)

### 3.2.3. NASDAQ

NASDAQ (cont. from the National Association of Securities Dealers Automated Quotations system) is an American stock exchange, specialized in shares of high-tech companies (electronics manufacturing, software, etc.). (Investopedia.com, 2003)

Today, NASDAQ provides wide range of services, from risk management and ending with trading and clearing. Monthly trading volume over the past year is reflected in the graph below.

Figure 6: NASDAQ Trading Volume: year 2016-2017



Source: Nasdaq.com (2017)

### *The Division of Market*

Under the NASDAQ operates two market:

- NASDAQ National Market
- The Nasdaq Small Cap Market

The first market is for securities the largest issuers. To obtain a listing on a site of the NASDAQ National Market is difficult – criteria corporate governance, capitalization and financial regulations are unusually strict. On the NASDAQ about 4 thousand shares of large corporations are available. The second market is focused on the company's stock with small capitalization. Today the listing site includes more than 1000 securities. (Investopedia.com, 2003)

### ***The Main Indexes of the NASDAQ***

1. *Free the NASDAQ Composite index*, which includes about 5,000 companies (involved both U.S. and foreign issuers) with the NASDAQ Composite. Shares of each of the Issuer have an impact on the NASDAQ Composite in proportion to the market value of the company. The absolute record of the development of the index was reached in the year 2000, which reached a record mark of the five-thousandth level. (Marketvolume.com, 2015)
2. *NASDAQ National Market Composite*  
Similar in substance index, is the NASDAQ National Market Composite. The main difference from the NASDAQ Composite index is formed based on the stocks listed on the National market. (Marketvolume.com, 2015)
3. *NASDAQ-100 Index* Another well - known index, the NASDAQ-100 Index. The index is calculated market capitalization of the hundred largest companies of non-financial sector. (Marketvolume.com, 2015)

### ***The Advantages of the NASDAQ Stock Market:***

- The American stock exchange, the NASDAQ attracts not only traders but also investors, who receive a high level to a *volatile* resource, unlike competitors, which is a major advantage.  
“*Volatility* is a statistical measure of the dispersion of returns for a given security or market index.” (Investopedia.com, 2003)
- The Nasdaq stock is a powerful tool for Finance, which brings traders earnings.

- Traded on the NASDAQ are well-known world leaders like Google Inc., Intel Corporation and Microsoft Corporation. (Investopedia.com, 2003)
- Stock shares are securities of companies that are associated with high technology. From the very beginning of the American stock exchange, the aim was for these companies and continues to cooperate with them until today. (Investopedia.com, 2003)

### ***The Disadvantages of the NASDAQ Stock Market:***

- *Large spread*  
“A *spread* is the difference between the bid and the ask price of a security or asset.” (Investopedia.com)

## **3.2.4. Types of Equity Derivatives**

***Equity derivative*** (financial instrument) — agreement of implementation for the parties’ rights and liabilities, associated with changes in the underlying asset price underlying the financial instrument and leading to positive or negative financial result for each party.

1. **Stock Options** are a contract of purchase or sale of some underlying asset in the future at a certain price.

Options are of two types:

- call options (a contract which gives the right to buy but not binding)
  - put options (a contract which gives the right to sale but not binding) (Faerber, E.,2008)
2. **Single Stock Futures** is an exchange contracts obliging its owner to realize (or accept) delivery of the goods of a certain kind, quality and quantity at a specified price within a specified time in the future. Each futures contract is characterized by the amount of the underlying asset, the date of execution of the contract, the price at which the buyer agrees to buy the underlying asset and the owner to sell. (Faerber, E.,2008)

**The underlying asset can be:**

- A certain number of shares (futures on stocks);
- Stock indices (index futures);
- Currency (currency futures);
- Products traded on exchanges, such as oil (commodity futures); Interest rates (interest rate futures). (Faerber, E.,2008)

3. **Warrant** is right to buy a certain number of shares of the company in a fairly distant future (from 1 year up to 5 years).

The warrants are not traded on the stock exchange and traded on the OTC market. They are often used by shareholders who want to protect their stake in the company, in case of additional share issues and merger and acquisitions. (Faerber, E.,2008)

4. **CFD** (Contract For Difference) is a deal between the buyer (usually a trader) and the seller (the broker), which provides that one party will pay the other the difference between the current value of an asset and its value at the time of the transaction. (Faerber, E.,2008)

5. **Index Return Swaps** is a contract under which the asset is sold and simultaneously accepted an obligation to buy it back at a fixed price. A swap can be used to Fund under securities and Vice versa for a loan of securities with a view to their delivery under the contract. A contract under which the asset is sold and simultaneously accepted an obligation to buy it back at a fixed price. A swap can be used to Fund under securities and Vice versa for a loan of securities with a view to their delivery under the contract. (Faerber, E.,2008)

### 3.3. Stocks

#### The Main Investment Assets:

- Stock
- Bonds
- Money
- Real Estate
- Precious Metals

*Definitions:*



**Stock** is a security which confirms the fact of possession of the investor shares in the authorized share capital of a company and gives it the right to receive any part of profits of the company, as well as on the part of the company's assets if it is declared bankrupt and liquidated.

**Dividend** is the part of the company's profit that is paid to shareholder's investors.

### 3.3.1. Class of Shares

*“The multi-class share structure at Google came about as a result of the company's restructuring into Alphabet Inc. (NASDAQ: GOOG). Founders Sergey Brin and Larry Page found themselves owning less than majority ownership of the company's stock, but wished to maintain control over major business decisions. The company created three share classes of the company's stock as a result. Class-A shares are held by regular investors and carry one vote per share. Class-B shares, held primarily by Brin and Page, have 10 votes per share. Class-C shares are typically held by employees and have no voting rights. The structure gives most voting control to the founders, although similar setups have proven unpopular with average shareholders in the past.” (Investopedia.com, 2003)*

Class of shares characteristics of securities (common, preference) one of the Issuer indicating the various parameters of the asset (for example, the availability of rights of participation in management, the number of votes). (Investopedia.com, 2003)

Class of shares investment funds is a designation that characterizes securities in the amount of commissions and principles of reclamation. Shares in mutual funds can be labeled A, B and C. Knowing the class of shares, the investor can accurately determine the choice of necessary asset and to calculate potential yield.

Each joint stock company may issue two types of shares – common and preferred. But many companies for convenience, divide securities into classes. This is to ensure that the correct mixing ratio to allocate voting rights between shareholders and to give more privileges to certain holders. To avoid confusion in the shares with different rights were introduced marking A, B, C. (Investopedia.com, 2003)

## **1. Class A (GOOGL)**

Stock class A charge one-time fee at purchase, the amount of which is deducted from the amount of the initial investment of the investor. (Investopedia.com, 2003)

### ***Advantages***

Class A shares typically have a minimum size of the commission, and if the investor plans to own the shares for several years, paying one-time commission upon purchase can be more profitable in the long run.

The presence of points of transition. The attachment of a certain size of investment provides a discount from the normal fee for buying every time when the investment reaches a certain amount. For example, if the first transition point is \$20000, then investing the amount of money initially to get the first discount.

The right to a cumulative discount. It gives the investor the opportunity to get a discount on the Commission when you buy, if it reaches the first transition point to the second installment. For example, if the first transition point is \$20000, and the size of the initial investment of \$10,000, in the case of investing more than \$10,000 will reach the required level, the investor will receive a commission discount when you purchase.

The letter of intent. Some investment companies also offer discounts on Commission if you purchase the individuals who initially Express the intention to invest more than a certain transition point within a specified period of time. (Investorsolutions.com, 2015)

### ***Disadvantages***

The large size of the initial investment. Investors who have insufficient funds to reach the transition point before the deadline specified in the letter of intent, will have to pay the usual Commission fee for the purchase.

The long investment horizon. These funds are suitable for investors, focused on short-term investments. This is due to the large size of the Commission for the purchase. (Investorsolutions.com, 2015)

## **2. Class B**

These shares are usually charged Commission when selling or postpone collection of the sales. These shares usually are well suited for investors with a little investment opportunities and long-term investment horizon. (Investopedia.com, 2003)

### ***Advantages***

No Commission when buying. The entire initial capital contribution will yield interest.

Deferred a sales charge. The longer an investor holds a stock, the lower will be the size of a pending Commission for the sale.

The possibility of conversion into shares of class A. Shares of class B will automatically convert into Shares of class A after a certain period of time. It is beneficial for investor because Stock class A ratio of operating expenses lower than class B.

(Investorsolutions.com, 2015)

### ***Disadvantages***

The long investment horizon. If the investor makes on the shares to maturity, and an investment Fund within a certain period of time (usually five to eight years), he is obliged to pay the Commission for the sale or postponed the Commission for the sale.

The lack of transition points. Shares of class B does not provide transition points to receive the discount on the deferred charge for selling, so regardless of how much money is invested, the discount will not be provided. (Investorsolutions.com, 2015)

A higher ratio of operating expenses. Stock-class B the ratio of operating expenses are higher than the shares of Class A and C until the stock will not receive the right to convert to Class A. (Investorsolutions.com, 2015)

## **3. Class C (GOOG)**

Stock class C will be charged an annual fee. This class is well suited for investors who plan to hold the shares for an extended period of time. (Investopedia.com, 2003)

### ***Advantages***

No Commission when buying. The whole initial investment Deposit provides interest income.

Low Commission for the sale, size of it is usually less than 1%.

An opportunity not to pay a Commission for the sale. The Commission generally is extinguished if the investor held the shares for more than one year. (Investorsolutions.com, 2015)

### ***Disadvantages***

The relatively high operating expenses. Although the ratio of operating expenses to Class C shares lower than the Shares of class B, it is still higher than for shares of class A.

(Investorsolutions.com, 2015)

### 3.3.2. Types of Stocks

Types of stocks are:

- The Common stock
  - The Preferred stock
- (Investopedia.com, 2003)

#### *Features of Common Stock*

- The holders of ordinary shares – residual owners of the company. They have the right to vote and carry the maximum risks associated with owning shares.
- In the event of bankruptcy, equity holders are the lenders of last line (after bondholders and preference shares). (Faerber, E.,2008)
- Liability of shareholders is limited to the size of their investments (limited liability).
- The holders of ordinary shares are entitled to receive dividends only after payment of all corporate bonds.
- Shareholders receive dividends only if the Board of Directors of the company announces the payment of dividends. (Faerber, E.,2008)

When you create a new company ordinary shares sold to shareholders, which allows to obtain funds for the company. The company need additional funds to expand its activities to sell a greater number of ordinary shares, bonds and preferred shares. (Faerber, E.,2008)

The possession of the ordinary shares evidenced by share certificates. On the face of the certificate States: the name of the Issuer name of owner shares number of acquired shares, the registration number, name of the holding the signal register and the nominal value of the shares; on the reverse side usually contains an endorsement which is signed by the shareholder when the transfer of ownership. (Faerber, E.,2008)

## *Types of Common Stock*

### 1. Blue-Chip Stocks

Blue chips called the company with a long history, stable financial status, regularly paying dividends. These companies occupy leading positions in their industries, and their position allow them to have a sustainable profit and to make regular dividend payments. Most or even all companies whose shares comprise the Dow Jones index are considered blue chip. Shares of blue chips attractive to those investors who prefer to invest in companies with stable profits and regularly paying dividends. (Faerber, E.,2008)

### 2. Income Stocks

Income stocks called stocks that paid high dividends. Their profit is growing at a slower pace. This does not mean that these companies have poor financial performance or are going to go out of business. On the contrary, they have stable profits and cash flow, however, prefer to direct on payment of dividends is significantly larger portion than other companies. (Faerber, E.,2008)

### 3. Growth Stocks

Growth stocks called shares of those companies in respect of which the expected high growth of sales and profits. These companies typically are characterized by a high ratio of cost shares to income (P/E) and pay dividends. (Faerber, E.,2008)

### 4. Value Stocks

The value stocks are stocks having a low value of the coefficient P/E and for one reason or another do not enjoy attention from investors. One such reason could be the low earnings for the quarter. Patient investors with a substantial margin of time ready to acquire such shares in the calculation of the income growth in the future. (Faerber, E.,2008)

### 5. Cyclical Stocks

A cyclical stock is a stock which price changes according to the change of economic activities. Prices of cyclical shares often reach highs and lows when reaching respective peaks and downturns in the economy. When the economy is in recession, companies of these stocks are experiencing a decline in sales and profits. In periods of

economic growth, prices of cyclical shares grow due to increasing sales and profits.  
(Faerber, E.,2008)

#### 6. Defensive Stocks

Defensive stocks – these are shares of companies that are able to withstand fall market prices during periods of economic difficulties. In General, such actions resistant to economic downturns because companies are busy with production of the required products. These actions demonstrate weak growth during periods of economic upswings. Defensive stocks –are shares whose prices are expected to remain stable or will show a good yield because they are resistant to fluctuations in the economy and did not suffer the significant impact of declining business activity. (Faerber, E.,2008)

#### 7. Speculative Stocks

Speculative stocks have the greatest potential growth rates, but investment in these securities are the riskiest due to the fact that emitted their companies have a high possibility of financial problems. Speculative stocks – these are stocks, the probability of growth rates which is small. Companies can get high profit and to suffer serious losses, so the price of these assets has the greatest variability. (Faerber, E.,2008)

#### 8. Penny Stocks

Penny stocks are a speculative stock with low price, which are usually traded on the OTC market. (These systems maintain lists and published quotes (demand and supply) cheap, illiquid shares of local and foreign companies). (Faerber, E.,2008)

#### 9. Foreign Stocks

Stocks of foreign companies – these are shares of companies registered abroad. Despite the fact that the US stock market remains the largest by market capitalization in the world, foreign stock markets gradually take an increasing share. Buying shares in foreign companies provides investors with the opportunity to obtain high returns and diversify investment portfolios. (Faerber, E.,2008)

### ***Preferred Stocks***

Preferred stocks are securities, possessing characteristics as debt and equity. As a rule, on the preferred shares paid a fixed dividend, but the shareholders in this case do not have the right to vote. Despite the fact that the preference shares relate to the equity holders do not

hold shares in the company. The inability of the company to pay dividends to holders of preferred shares does not lead to bankruptcy. (Faerber, E.,2008)

### ***Types of Preferred Stock***

#### **1. Cumulative stocks**

Cumulative preference stocks assume that if because of difficult financial situation or any other factors, dividends are not paid in the current year, they are accumulated in the dividend arrearage and will be paid in subsequent years. As a rule, the period of accumulation of dividends shall not exceed three years. All arrearage must be paid before dividends on ordinary shares. Due to the fact that the payment of dividends does not apply to debt obligations of the company, the holders of preferred shares may not receive dividends if the firm is not going to pay dividends on ordinary shares. (Faerber, E.,2008)

#### **2. Noncumulative preference**

Noncumulative preference stocks these are stocks which in the case of nonpayment of dividends for the current year of their accumulation is not performed, and the holder of which cannot expect to receive dividends in subsequent years. Thus, the firm may pay dividends on the ordinary shares, despite the fact that in previous years, the preference shares are not paid. For investors non-cumulative preference shares are of little interest, as there are no guarantees of payment of dividends and the liquidation of the company they are on the penultimate place in the appreciation of property rights. In this respect, foreign companies are very rarely produced non-cumulative preference shares. (Faerber, E.,2008)

### **3.3.3. Investing in Stocks**

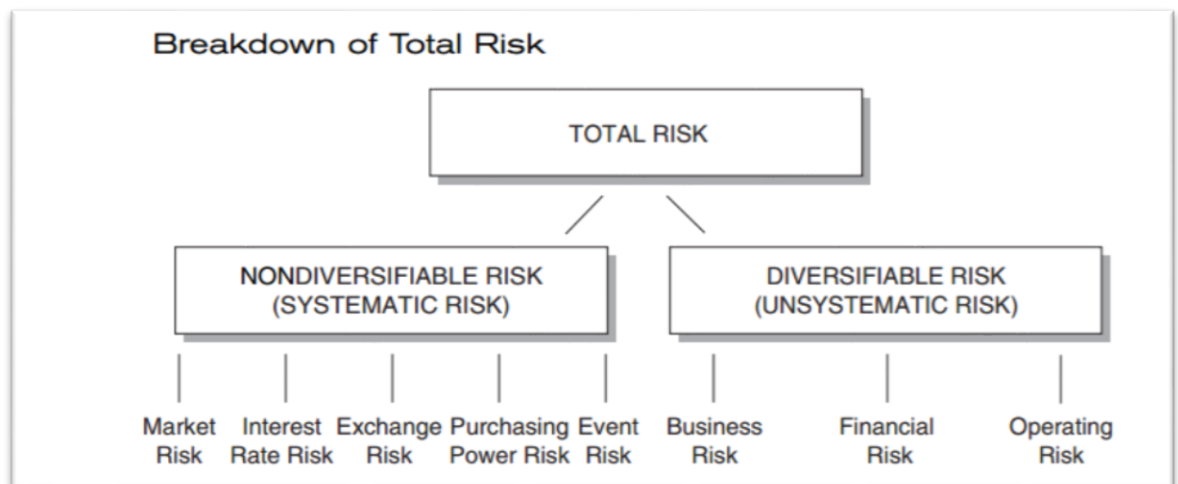
- Shares can provide income in the form of dividends and capital appreciation. Historically, stock returns in the long term (seven years or more) surpassed the yield of the bonds and securities of the money market. Investing in stocks provides growth of the investment portfolio in addition to income in the form of dividends. (Faerber, E.,2008)

- Promotion is a means of capital preservation. Buy and hold growing in the price of the stock in your portfolio is a tax efficient way against increasing their cost, because if the holding period before the sale of the shares exceeded one year, the income from capital gains subject to Federal tax at a rate not exceeding 15 %. Income from shares that are held less than a year is taxed at your marginal rate of tax, which can exceed 35 %;
- Dividend income on qualified stock that are subject to tax incentives shall be taxed at lower rates than interest income from bonds and securities money market.  
(Faerber, E.,2008)

### ***Risks of Investing in the Stock***

The *investment risk* refers to the reasons for the volatility of investment income. Risk is the uncertainty of the investment results. However, all investments are subject to various kinds of risks. The more price fluctuation, the higher the level of risk. Understanding the risks associated with various securities it is very important for building a quality portfolio. Probably the risk is the same factor that deters many investors from investing in stocks and prompts them to invest in so-called safe bank accounts, certificates of deposit and bonds.  
(Faerber, E.,2008)

*Figure 7: Risks*



Source: (Faerber.,2008)



### ***Classification of Risks:***

**Unsystematic risks** are risks inherent in a particular company or industry. This type of risk relates to the company's business, its operating and financial activities. Operational risks include events such as the death of a CEO, a strike or trial. Non-system risks are sometimes called diversifiable. (Faerber.,2008)

**Systemic risks** caused by factors that affect all securities. Such risks include external risks to the company, such as market risk, accidental risk, interest rate risk, currency risk, liquidity risk, inflation risk. Such risks cannot be mitigated through diversification. (Faerber.,2008)

### ***Types of Risks:***

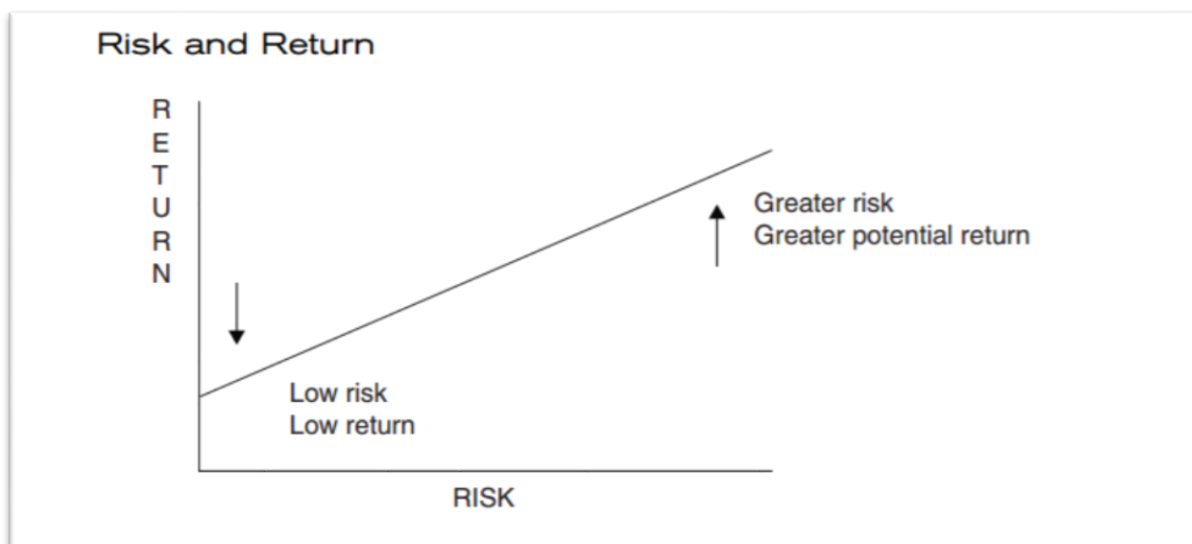
1. ***Business risk*** is the uncertainty of future sales and profits of companies, i.e. the probability that in a certain period of time the sales and profits of companies will deteriorate. Some companies are inherently more prone to risk than others. Such companies are often faced with changes in sales and profits. If these figures are greatly reduced, the shares of companies falling in price. The drop in sales and profit in the worst case may lead the company to bankruptcy, that will devalue their securities (stocks and bonds). Company with stable sales are not faced with situations where they cannot cover fixed costs. (Faerber.,2008)
2. ***Financial risk*** is the company's inability to meet its financial obligations. The level of financial risk of the company is measured by the value of its aggregate debt to own capital. The company with high leverage is more likely to be in a situation when it cannot meet its long-term and short-term financial obligations. The larger the size of debt relative to equity, the higher financial risk since the company needs to get profit, sufficient for servicing and repayment obligations. (Faerber.,2008)
3. ***Market risk*** associated with changes in the market value of securities which typically react to external events not connected with fundamental indicators of the companies. Market risk is the risk that a market decline will lead to a change in the value of investments. In the long run, stock prices generally rise relative to their nominal value. In other words, long-term stock returns are determined by fundamentals of the

company. Market risk matters to those who invest in the stock market for a short time. If in the case of falling market you will need cash, you will have to sell shares and may incur losses. When investing in the stock should focus on long time horizons, to not have to sell securities in a falling market. (Faerber.,2008)

4. Interest - rate risk is the rise or fall in interest rates affecting the market value of investments. The interest rate risk associated with changes in market interest rates that affect all investments. Securities fixed income (bonds and preferred stocks) in this case, impacted. In periods of rising interest rates the value of securities with fixed yield are falling, allowing them to compete on profitability with the papers for the new releases. (Faerber.,2008)
5. Inflation risk (purchasing power) is the risk that changes in consumer prices will lead to decline in the future purchasing power of returns from investments. If prices rise (the inflation rate) for the money in the future, you will be able to buy fewer goods and services than today. Inflation risk has the greatest impact on fixed income instruments (bonds, savings accounts and certificates of deposit). (Faerber.,2008)
6. Event risk is the possibility of occurrence of a specific event, which may affect the prices of shares and bonds of the company. For example, shares of Taiwan Semiconductor fell in price after the earthquake in Taiwan, as investors feared the destruction of the production capacity of the company. Because external events are difficult to predict, investors have little that can be done to prevent this type of risk. They can, however, assess the consequences of the events in the event of its occurrence. (Faerber.,2008)
7. Exchange-rate risk is the risk that exchange rates may cause the value of investments. The rising cost of the dollar against a particular foreign currency can nullify all income and lead to a loss of all invested capital in case of sale of currency. (Faerber.,2008)
8. Liquidity risk is the risk that, if necessary, it will be impossible to turn our investments into cash without losing a significant proportion of the capital invested. Securities of one species may have greater liquidity than other securities. The higher the liquidity, the easier it is to buy or sell an asset with no concessions in price. Investing in certain securities, you should pay attention to the following factors:

- “The length of time you will need to hold the investment before selling it.”
- “The relative certainty of the selling price” (Faerber.,2008)

There is a direct relationship between risk and return, which are illustrated in the graph below. The higher the risk, the higher the potential return. However, investing in securities with high yield and consequently, increased risk can lead to ruin if things don't go according to plan. *Figure 8: Risk and Return*



(Faerber.,2008)

### 3.4. Fundamental Analysis

Fundamental analysis is a system based on the analysis of key financial indicators of the company the methods by which it is possible to predict its market value.

The basic concept of the theory of fundamental analysis is the so-called "intrinsic value" of shares of a particular company. This indicator is derived by substitution of a special formula of these financial statements.

#### **The main components of fundamental analysis:**

- the value of the company (the stock price should be lower than intrinsic value);
  - long-term approach (annual reports).
- (Bulkowski., 2013)

#### **Benefits of fundamental analysis:**

it allows the identify of main trends;

□

- fundamental analysis indicates the factors that really affect the market.

The movement in the Forex market relate to fundamental factors. This is the key macroeconomic indicators of the state of the national economy, influencing on participants of the currency market Forex and currency rates. These factors studying fundamental analysis.

In other words, fundamental analysis is the evaluation of the situation from the point of view of political, economic and financial-credit policy. Information about interest rates, Central banks, economic policy of the government, possible changes in political life of the country, as well as various rumors and expectations are most important in fundamental analysis.

(Bulkowski., 2013)

Fundamental analysis includes assessment of the following factors that affect exchange rates:

- Economic growth (gross national product, industrial production, etc.)
- The condition of trading balance, degree of dependence on external sources of raw materials
- Money supply growth in the domestic market
- Inflation and inflationary expectations
- The interest rate
- The solvency of the country and trust to national currency on the world market
- Speculative operations in the currency market
- The degree of development of other sectors of the world financial market, for example a securities market competing with the currency market. (Bulkowski., 2013)

The internal accounting value of the shares is a difficult and thoughtful work. But with the right approach, it will bring very good dividends in the form of profit. In order to carry out fundamental analysis of stocks efficiently, it is necessary to estimate the five coefficients.

(Bulkowski., 2013)

These include, in particular:

- liquidity; business activity of the company;
- financial stability;
- profitability;

□

- market activity.

**EBITDA** is an analytical indicator equal to the volume of profit before deduction of expenses on interest, taxes, depreciation and amortization. EBITDA is one of the most important indicators, as characterized by the performance of the company. (Bulkowski., 2013)

### 3.5. Technical Analysis

Technical analysis is the study of what is happening over time, changes in the prices of selected stocks (market indexes) that are reflected on charts. Moving rates produce the graphs of certain shapes or patterns. And since people tend to acquire habits, price patterns are also repeated many times. When technical analysts say begins to form one of these models, they are able to calculate what may be the next price movement. (Hardcover., 1999)

#### **The benefits of technical analysis:**

- Visibility. Technical analysis – is the work with graphs.
- The availability of tools. Most of the tools for technical analysis presented in modern trading platforms. (Hardcover., 1999)
  
- 7 Technical Analysis Tools:
  - On-Balance Volume
  - Accumulation/Distribution Line
  - Average Directional Index
  - Aroon Indicator
  - MACD
  - Relative Strength Index
  - Stochastic Oscillator(Investopedia, 2003)

□

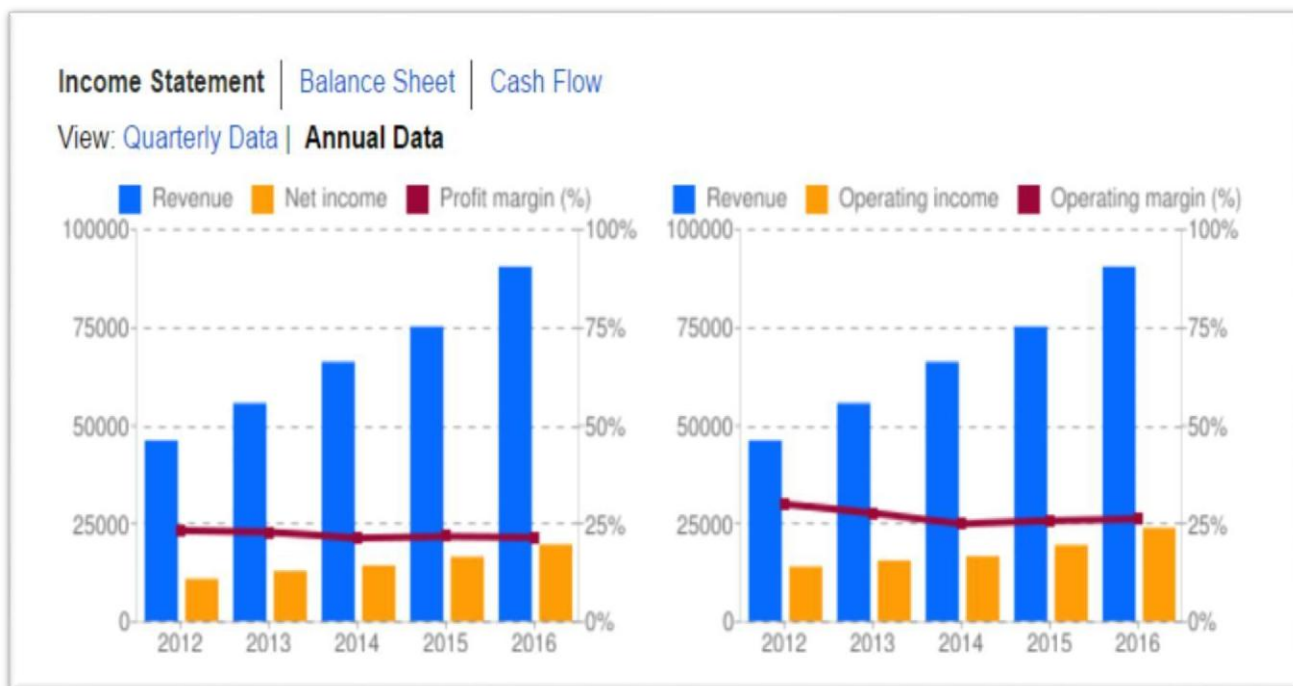
## 4. Analytical Section

### 4.1. Fundamental Analysis

#### 4.1.1. Income Statement of Google Inc. (GOOG)

In the section below, we consider aspects of past activities of Google, as well as how the company worked during the last four years in terms of profitability, debt and capital, and operating efficiency. Based on this information, you can find strengths and weaknesses in the fundamental performance of the company. This should give an understanding of how the company has worked over the last few years and give us an idea of what to expect in the future.

Figure 9 Income statement of GOOG (2012-2016 years)



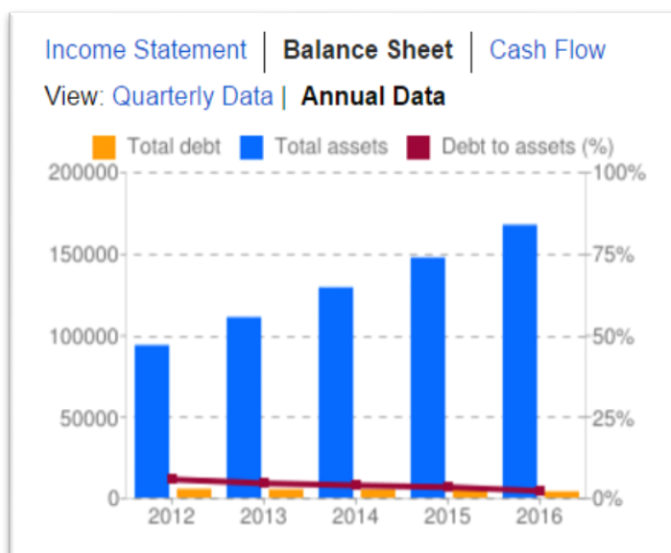
Source:Google.com (2016)

Figure 10: Income statement 2 of GOOG (2012-2016 years)

Source:Google.com (2016)

| In Millions of USD (except for per share items)  | 12 months ending 2016-12-31 | 12 months ending 2015-12-31 | 12 months ending 2014-12-31 | 12 months ending 2013-12-31 |
|--|-----------------------------|-----------------------------|-----------------------------|-----------------------------|
| Revenue  | 90,272.00                   | 74,989.00                   | 66,001.00                   | 55,519.00                   |
| Other Revenue, Total                             | -                           | -                           | -                           | -                           |
| Total Revenue                                    | 90,272.00                   | 74,989.00                   | 66,001.00                   | 55,519.00                   |
| Cost of Revenue, Total                           | 35,138.00                   | 28,164.00                   | 25,313.00                   | 21,993.00                   |
| Gross Profit                                     | 55,134.00                   | 46,825.00                   | 40,688.00                   | 33,526.00                   |
| Selling/General/Admin. Expenses, Total           | 17,470.00                   | 15,183.00                   | 13,982.00                   | 10,986.00                   |
| Research & Development                           | 13,948.00                   | 12,282.00                   | 9,832.00                    | 7,137.00                    |
| Depreciation/Amortization                        | -                           | -                           | -                           | -                           |
| Interest Expense(Income) - Net Operating         | -                           | -                           | -                           | -                           |
| Unusual Expense (Income)                         | -                           | -                           | 378.00                      | -                           |
| Other Operating Expenses, Total                  | -                           | -                           | -                           | -                           |
| Total Operating Expense                          | 66,556.00                   | 55,629.00                   | 49,505.00                   | 40,116.00                   |
| Operating Income                                 | 23,716.00                   | 19,360.00                   | 16,496.00                   | 15,403.00                   |
| Interest Income(Expense), Net Non-Operating      | -                           | -                           | -                           | -                           |
| Gain (Loss) on Sale of Assets                    | -                           | 0.00                        | 0.00                        | -57.00                      |
| Other, Net                                       | 344.00                      | 256.00                      | 178.00                      | 252.00                      |
| Income Before Tax                                | 24,150.00                   | 19,651.00                   | 17,259.00                   | 15,899.00                   |
| Income After Tax                                 | 19,478.00                   | 16,348.00                   | 13,620.00                   | 13,160.00                   |
| Minority Interest                                | -                           | -                           | -                           | -                           |
| Equity In Affiliates                             | -                           | -                           | -                           | -                           |
| Net Income Before Extra. Items                   | 19,478.00                   | 16,348.00                   | 13,620.00                   | 13,160.00                   |
| Accounting Change                                | -                           | -                           | -                           | -                           |
| Discontinued Operations                          | -                           | -                           | -                           | -                           |
| Extraordinary Item                               | -                           | -                           | -                           | -                           |
| Net Income                                       | 19,478.00                   | 16,348.00                   | 14,136.00                   | 12,733.00                   |
| Preferred Dividends                              | -                           | -                           | -                           | -                           |
| Income Available to Common Excl. Extra Items     | 19,478.00                   | 15,826.00                   | 13,620.00                   | 13,160.00                   |
| Income Available to Common Incl. Extra Items     | 19,478.00                   | 15,826.00                   | 14,136.00                   | 12,733.00                   |
| Basic Weighted Average Shares                    | -                           | -                           | -                           | -                           |
| Basic EPS Excluding Extraordinary Items          | -                           | -                           | -                           | -                           |
| Basic EPS Including Extraordinary Items          | -                           | -                           | -                           | -                           |
| Dilution Adjustment                              | 1,267.00                    | 0.00                        | 0.00                        | 0.00                        |
| Diluted Weighted Average Shares                  | 698.71                      | 692.93                      | 687.07                      | 736.95                      |
| Diluted EPS Excluding Extraordinary Items        | 29.69                       | 22.84                       | 19.82                       | 17.86                       |
| Diluted EPS Including Extraordinary Items        | -                           | -                           | -                           | -                           |
| Dividends per Share - Common Stock Primary Issue | 0.00                        | 0.00                        | 0.00                        | 0.00                        |

Figure 11 Balance Sheet of GOOG (2012-2016 years)



Source:Google.com (2016)

Figure 12 Balance Sheet of NASDAQ:GOOG (2013-2016 years)

Source:Google.com (2016)

| In Millions of USD (except for per share items) | As of 2016-12-31 | As of 2015-12-31 | As of 2014-12-31 | As of 2013-12-31 |
|---|------------------|------------------|------------------|------------------|
| Cash & Equivalents                              | 5,840.00         | 9,169.00         | 8,484.00         | 8,989.00         |
| Short Term Investments                          | 73,472.00        | 56,519.00        | 46,048.00        | 39,831.00        |
| Cash and Short Term Investments                 | 86,390.00        | 73,068.00        | 64,395.00        | 58,729.00        |
| Accounts Receivable - Trade, Net                | 14,137.00        | 11,556.00        | 9,383.00         | 8,882.00         |
| Receivables - Other                             | -                | -                | -                | -                |
| Total Receivables, Net                          | 14,232.00        | 13,909.00        | 10,849.00        | 9,390.00         |
| Total Inventory                                 | 268.00           | -                | -                | -                |
| Prepaid Expenses                                | 3,979.00         | 2,511.00         | 2,560.00         | 3,021.00         |
| Other Current Assets, Total                     | 539.00           | 626.00           | 852.00           | 1,746.00         |
| Total Current Assets                            | 105,408.00       | 90,114.00        | 78,656.00        | 72,886.00        |
| Property/Plant/Equipment, Total - Gross         | 47,527.00        | 40,146.00        | 32,746.00        | 23,837.00        |
| Accumulated Depreciation, Total                 | -13,293.00       | -11,130.00       | -8,863.00        | -7,313.00        |
| Goodwill, Net                                   | 16,468.00        | 15,869.00        | 15,599.00        | 11,492.00        |
| Intangibles, Net                                | 3,307.00         | 3,847.00         | 4,607.00         | 6,066.00         |
| Long Term Investments                           | 5,878.00         | 5,183.00         | 3,079.00         | 1,976.00         |
| Other Long Term Assets, Total                   | 2,202.00         | 3,432.00         | 3,363.00         | 1,976.00         |
| Total Assets                                    | 167,497.00       | 147,461.00       | 129,187.00       | 110,920.00       |
| Accounts Payable                                | 2,041.00         | 1,931.00         | 1,715.00         | 2,453.00         |
| Accrued Expenses                                | 10,107.00        | 8,293.00         | 7,473.00         | 6,253.00         |
| Notes Payable/Short Term Debt                   | 0.00             | 2,000.00         | 2,000.00         | 0.00             |
| Current Port. of LT Debt/Capital Leases         | 0.00             | 1,225.00         | 9.00             | 3,009.00         |
| Other Current liabilities, Total                | 4,608.00         | 5,861.00         | 5,582.00         | 4,193.00         |
| Total Current Liabilities                       | 16,756.00        | 19,310.00        | 16,779.00        | 15,908.00        |
| Long Term Debt                                  | 3,935.00         | 1,995.00         | 2,992.00         | 1,990.00         |
| Capital Lease Obligations                       | -                | 0.00             | 236.00           | 246.00           |
| Total Long Term Debt                            | 3,935.00         | 1,995.00         | 3,228.00         | 2,236.00         |
| Total Debt                                      | 3,935.00         | 5,220.00         | 5,237.00         | 5,245.00         |
| Deferred Income Tax                             | 226.00           | 189.00           | 758.00           | 1,947.00         |
| Minority Interest                               | -                | -                | -                | -                |
| Other Liabilities, Total                        | 7,544.00         | 5,636.00         | 4,562.00         | 3,520.00         |
| Total Liabilities                               | 28,461.00        | 27,130.00        | 25,327.00        | 23,611.00        |

### Net Income in Millions of USD (Except for per Share Items)

"Net income (NI) is a company's total earnings (or profit); net income is calculated by taking revenues and subtracting the costs of doing business such as depreciation, interest, taxes and other expenses." (Investopedia.com, 2003)

2013 = 12,733.00

2014 = 14,136.00

2015 = 16,348.00 2016 = 19,478.00

Over the past four years, profits of company Google increased from \$12,733.00 million USD to \$19,478.00 million USD, that represents an increase of 52.97 per cent. The net income figure is positive, it means the company made a profit during this period that, undoubtedly, will cause positive investor reaction.

### Operating Income in Millions of USD (Except for per Share Items)

"Operating income is a measure of profitability that tells investors how much revenue will eventually become profit for a company." (Investopedia.com, 2003)



2013 = 15,403.00

2014 = 16,496.00

2015 = 19,360.00

2016 = 23,716.00

Operating income is cash flow from operations and campaigns generally defined as revenue less all operating expenses. Over the past four years, operating income increased from 15,403.00 million USD to \$23,716.00 million USD, that represents an increase of 53,97 per cent. As operating income increases, we can conclude that Google minimizes costs, promotes the growth of the company in the market.

### **ROE (Return on Equity) = Net Income / Total Equity**

*“ROE (Return on Equity) is the amount of net income returned as a percentage of shareholders equity.” (Investopedia.com, 2003)*

This indicator is crucial for strategic investors, which define their investments for the long term more than one year. The ratio of return on equity shows how the company's managers and owners control the capital of the company and what rate of return they generate for existing capital. ROE can be used to compare businesses and select the most investment attractive objects of investment. Strategic investors invest directly in the share capital of the company in return for a share of the profits of the organization. Therefore, the ROE is a key indicator of investment attractiveness of enterprises and the efficiency of the management.

2013 =  $12,733.00 / 87,309.00 = 14.58 \%$

2014 =  $14,136.00 / 103,860.00 = 13.61 \%$

2015 =  $16,348.00 / 120,331.00 = 13.59 \%$

2016 =  $19,478.00 / 139,036.00 = 14.01 \%$

Over the past 4 years the ROE has decreased. Since 2013, the indicator of profitability of own capital decreased from 14.58% to 14.01%. This suggests that earnings growth was slower than the growth rate of capital stock, which indicates the increase in shareholder value.

## **ROA (Return on Assets) = Net Income / Total Assets**

This indicator is crucial for strategic investors, which define their investments for the long term more than one year. The ratio of return on equity shows how the company's managers and owners control the capital of the company and what rate of return they generate for existing capital. ROE can be used to compare businesses and select the most investment attractive objects of investment. Strategic investors invest directly in the share capital of the company in return for a share of the profits of the organization. Therefore, the ROE is a key indicator of investment attractiveness of enterprises and the efficiency of the management.

$$2013 = 12,733.00 / 110,920.00 = 11.48 \%$$

$$2014 = 14,136.00 / 129,187.00 = 10.94 \%$$

$$2015 = 16,348.00 / 147,461.00 = 11.08 \%$$

$$2016 = 19,478.00 / 167,497.00 = 11.63 \%$$

By 2016, we see an increase in ROA, it tells to investors about the success of the company.

## **Total Assets in Millions of USD**

$$2013 = 110,920.00$$

$$2014 = 129,187.00$$

$$2015 = 147,461.00$$

$$2016 = 167,497.00$$

In 4 years an increase of \$56,577.00 million

## **Total Liabilities in Millions of USD**

$$2013 = 23,611.00$$

$$2014 = 25,327.00$$

$$2015 = 27,130.00$$

$$2016 = 28,461.00$$

In 4 years an increase of \$4,850.00 million

For the last 4 years the total assets of the company of Google rose \$56,577.00 million, while total liabilities increased by \$4,850.00 million. This means that the company's assets have increased more than the liabilities and thus increased shareholder value.

### **Current Ratio = Current Assets / Current Liabilities**

Working capital is a common measure of liquidity of a firm. It is an indicator of financial stability.

### **Current Assets in Millions of USD**

*“Current assets are balance sheet accounts that represent the value of all assets that can reasonably expect to be converted into cash within one year.”* (Investopedia.com, 2003)

2013 = 72,886.00

2014 = 78,656.00

2015 = 90,114.00

2016 = 105,408.00

The increase of current assets promotes the mobilization of assets and the acceleration of turnover of funds of the company.

### **Current Liabilities in Millions of USD**

*“Current liabilities are a company's debts or obligations that are due within one year, appearing on the company's balance sheet and include short term debt, accounts payable, accrued liabilities and other debts.”* (Investopedia.com, 2003)

2013 = 15,908.00

2014 = 16,779.00

2015 = 19,310.00

2016 = 16,756.00

Increasing the amount of Current Liabilities in the structure of assets indicates an increase in business activity.

### **Current Liquidity Ratio = Current Assets / Current Liabilities**

$$2013 = 72,886.00 / 15,908.00 = 4.58$$

$$2014 = 78,656.00 / 16,779.00 = 4.69$$

$$2015 = 90,114.00 / 19,310.00 = 4.67$$

$$2016 = 105,408.00 / 16,756.00 = 6.29$$

Over the past four years, current ratio of Google is growing. As currently coefficient current liquidity ratio is currently well above 1, this means that Google will be able to pay off its liabilities if they had to pay at the moment.

### **Total Common Shares Outstanding**

$$2013 = 672.59$$

$$2014 = 680.17$$

$$2015 = 687.35$$

$$2016 = 691.29$$

Over the last 4 years the number of shares of the company increased from 672.59 million to 691.29 million, which is 2.7%.

### **Gross Profit Margin = Gross profit / Sales Revenue**

GPM is a measure of the efficiency of production and sales. Gross profit shows investors what percentage of revenue/sales left after subtracting the cost of goods sold. The company, which has a higher gross margin ratio than its competitors is more efficient.

Investors will rely on that company, which brings more profit.

$$2013 = 33,526.00 / 55,519.00 = 60.38\%$$

$$2014 = 40,688.00 / 66,001.00 = 61.65\%$$

$$2015 = 46,825.00 / 74,989.00 = 62.44\%$$

$$2016 = 55,134.00 / 90,272.00 = 61.08\%$$

Over the last 4 years GPM is increased. This ratio increased from 60.38% in 2013 to 61.08% in 2016.

### **Growth of Revenue in Millions of USD**

2013 = 55,519.00

2014 = 66,001.00

2015 = 74,989.00

2016 = 90,272.00

### **Growth of Total Assets**

2013 = 110,920.00

2014 = 129,187.00

2015 = 147,461.00

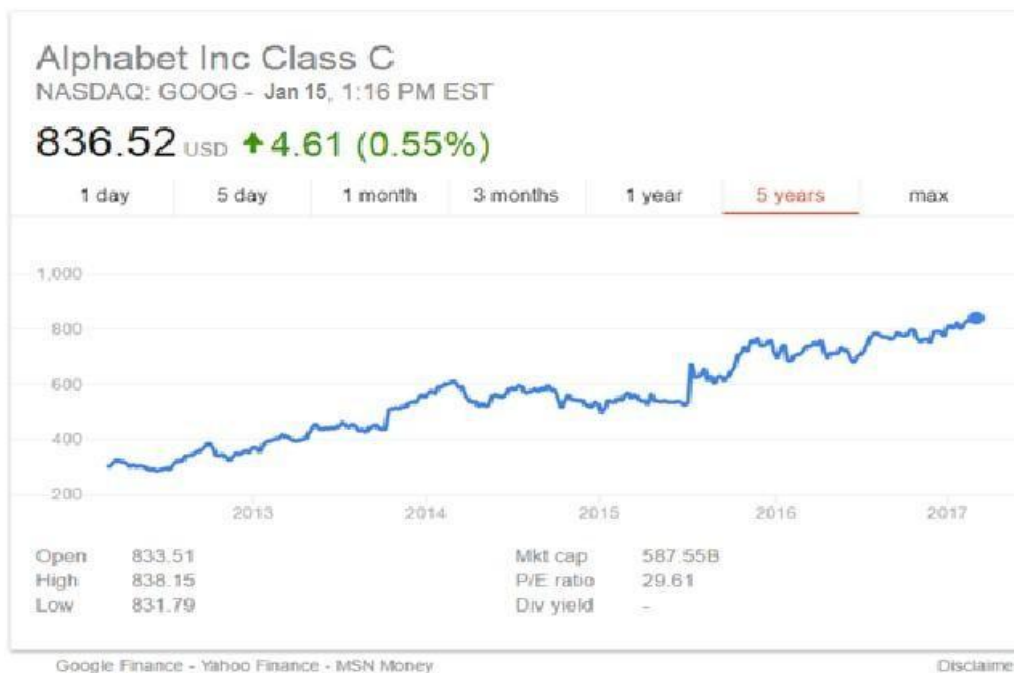
2016 = 167,497.00

For the last 4 years, revenue growth increased by 62.6% and assets increased by 51%. This is an indication that interest point of view, was more efficient at generating income from its assets.

On the basis of information that we see above, we can conclude that Google had a very strong performance during this period (from 2013 to 2016). Net Income increased by 52.97%, performance Revenue Total Assets and GMP has also increased. The negative aspect is the decline in ROE. Despite the decline in ROE, the stock is profitable to buy longterm buy.

Currently, shares of GOOG are trading at \$836.52

*Figure 13 Class C Capital Stock Quote & Summary Data*



Source:Google.com (2017)

## 4.2. Technical Analysis (GOOG)

### 4.2.1. How to Understand MACD Signals

In the theoretical part, we found that there are many methods of technical analysis. In the practical part the author used indicator in technical analysis the MACD in order to understand in what period of time is to buy or sell shares. Technical analysis of stocks relevant for short-term trading in securities. Therefore, we consider the sale/ purchase of shares on the chart, which lists the last several months. An experienced trader should watch constantly for changes in the schedule, to make a later transaction.

The MACD indicator includes three main indicators, which are displayed in the area under the price chart: the MACD line, signal line and histogram, which basically shows the difference between the two previous readings.

MACD uses two exponential moving averages (EMA): "fast" (period - 12) and "slow" (with a period of - 26). To understand how to apply properties of this indicator, we will consider it in more detail.

The image below shows how the MACD indicator is displayed on the chart:

Figure 14 MACD indicator of GOOG (2016-2017 years)



Source: [www.tradingview.com](http://www.tradingview.com), own processing

Movement in the direction of the intersection of the two curves, which corresponds to the zero value bars in the histogram is called convergence. The opposite phenomenon, when the histogram bars are rising, and with them increases and the distance between the 12- and 26- day exponential moving averages (EMA), called the divergence. Hence the name under consideration of the technical indicator MACD - Moving Average Convergence Divergence.

Moreover, the stronger the discrepancy (i.e., the greater the length of the bars), the more pronounced the trend. So if after crossing the curves start to diverge strongly, it is indicative of the formation of a new trend and can be considered as a trade signal to buy or sell, depending on the direction of the trend (bullish or bearish).

- Pink graph – histogram
- Blue line – MACD (26-day EMA)
- Orange line – signal (12-day EMA)

The buy signal comes when MACD crosses the signal line upwards. The signal strength becomes stronger, if the histogram is above the zero line.

If the MACD line crosses the signal line bottom-up, but the bars in the histogram have not yet crossed above the zero line, it is also a buy signal, only not as strong. The buy signal

comes when MACD crosses the signal line upwards. The signal strength becomes stronger, if the histogram is above the zero line.

If the MACD line crosses the signal line bottom-up, but the bars in the histogram have not yet crossed above the zero line, it is also a buy signal, only not as strong.

The graph below shows how the MACD shows **a strong buy signal:**

Figure 15 MACD indicator of GOOG (Jan-Feb 2017 year)



Source: [www.tradingview.com](http://www.tradingview.com), own processing

1. In the period from 5 to January 9 2017, the MACD crossed the signal line bottomup.
2. The histogram is above the zero line.

The sell signal comes when MACD line crosses top to down the signal line. The signal becomes stronger if the bars in a histogram located below the zero line.

If MACD crosses the signal line from top to bottom, but the bars in the histogram have not yet moved below its zero line - it is also a signal to sell, only not as strong.

The graph below shows how the MACD indicator shows **a strong sell signal:**

Figure 16 MACD indicator of GOOG (Jul-Oct 2016)





Source: [www.tradingview.com](http://www.tradingview.com), own processing

- 15 Aug 2016 MACD has crossed the signal line downwards. •  
The histogram is below the zero line.

Bullish divergence is defined as a lower low on the chart and more minimum indicator and is typically used as a signal to search for long trades.

Figure 17 MACD indicator of GOOG (Aug-Dec 2016) "bullish divergence"



Source: [www.tradingview.com](http://www.tradingview.com), own processing

In this case (from September to October), strong positive divergence is a signal a high probability of subsequent growth rates. At this point profitable to buy stocks to profitably sell after the price increase.

Bearish divergence is defined as the greater of the maximum on the chart, and the smaller maximum of the indicator and is typically used as a signal for finding short trades. A bearish divergence occurs when a new price low not confirmed by a new minimum bar, i.e. the next value is lower than the previous and the next value of the indicator is above the previous one. In other words, the bearish divergence is a situation when the histogram is making new lows while prices fail to form. Bearish divergence is an indication of the weakness of the bearish trend.

Figure 18 MACD indicator of GOOG (Apr-Jun) "bearish divergence"



Source: [www.tradingview.com](http://www.tradingview.com), own processing

From 20th of April to 11th of May we can see classic bearish divergence, that informs the trader that the price may go down, and you should be ready to sell the asset.

## 5. Main Findings

During the technical analysis using the indicator MADC, we found that you can buy share for short-term trades profitable in a certain time, and also profitable to sell class C shares with the help of indicators histogram, and MADC signal.

For short term trades we used the MACD indicator and found that at some point it was profitable to buy shares, for example, in January 2017 and October to December 2016. We have studied the intersection of graphics and key trends (bearish and bullish divergence).

The results of the analysis of whether or not Google Inc. is a good investment currently and in the near future, it was necessary to explore important things of the company: net income, operating income, return on equity, return on assets, total assets, total liabilities, current liquidity ratio, total common shares outstanding, gross profit margin, growth of revenue growth of total assets, earnings per share.

## 6. Conclusion

This thesis should have assisted the reader in becoming more informed about the topical issue of stock Google Inc., specifically about its stock as well as learn important information about the economics and concepts that are connected with stock.

On the basis of information that we see from results above, we can conclude that Google had a very strong performance during this period (from 2013 to 2016). We are convinced that investing in Google stocks on a long-term or short-term basis is beneficial.

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