

**Czech University of Life Sciences Prague**

**Faculty of Economics and Management**

**Department of Economics**



**Diploma Thesis**

**Fundamental analysis of Netflix Inc. stocks**

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## DIPLOMA THESIS ASSIGNMENT

Bc. ARTEM STEPANOV

Economics and Management  
Economics and Management

Thesis title

**Fundamental analysis of Netflix Inc. Stocks**

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### Objectives of thesis

Objective of the thesis is assessment of Netflix Inc. stocks on their profitability for investors. Method of fundamental analysis will help to evaluate if Netflix's stocks are priced properly or not. This topic is interesting because this company became most valuable US Media Company, overtaking Disney Inc. in May of 2018.

### Methodology

Tools of fundamental analysis will be described in theoretical part. After they will be used in analytical part to check if company's stocks are valued properly. Methodological approach will be based on different sources that connected with fundamental analysis. Data will be collected from official website of the company, financial statements, articles and analytical internet pages such as Yahoo finance.

## The proposed extent of the thesis

60-80

## Keywords

stocks

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## Recommended information sources

- BUFFETT, Warren a Lawrence A. CUNNINGHAM. The essays of Warren Buffett: lessons for corporate America. New York: L. Cunningham, c2001. ISBN 0966446119.
- BULKOWSKI, Thomas N. Fundamental analysis and position trading: evolution of a trader. Hoboken, NJ: John Wiley, [2013]. ISBN 9781118464205.
- GRAHAM, Benjamin. The intelligent investor: a book of practical counsel. 4th rev. ed., with a new pref. and appendix. New York, N.Y.: Harper & Row, 1973. ISBN 0060155477.
- LYNCH, Peter a John ROTHCHILD. One up on Wall Street: how to use what you already know to make money in the market. New York, N.Y., USA: Penguin Books, 1989. ISBN 0140127925.
- PORTER, Michael E. Competitive advantage: creating and sustaining superior performance. New York: Free Press, 1985. ISBN 0-02-925090-0.
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### **Declaration**

I declare that I have worked on my diploma thesis titled " Fundamental analysis of Netflix Inc. stocks" 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 29.11.2020

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I would like to thank Ing. Karel Malec, Ph.D. for his advices and support during my work on this thesis.

# **Fundamental analysis of Netflix Inc. stocks**

## **Abstract**

Recently decision about the saving and raise of money is crucial. Securities and mainly stocks are the most common instruments for investing. Objective and clear analysis is an important requirement for a successful investment. For long-term strategy specialists use a fundamental analysis of stocks. Consequently, stock of the Netflix Inc. which is a developed company with a high potential in streaming video service sector is the best choice. This company is a pioneer of a streaming service which became extremely popular and highly demanded. The aim of the thesis is the evaluating the fair value of Netflix Inc., stock and compare it with the market price to make a decision about investment. The thesis consists of three main parts: methodology, literature review and practical part. All formulas, evaluation indicators and their description, models used for evaluating the fair value of the stock are stated in the methodological part. The definitions of financial terms, description of purchasing, clearing, settlement processes and other theoretical knowledge about fundamental analysis are included in literature review. The practical part consists of calculations of ratios, indexes, fair value of the stock which are used in the fundamental analysis. Results of the analysis are compared and taken into consideration for the determining of the final decision.

**Keywords:** fundamental analysis, stock, security, streaming, exchange, investment, video streaming, Netflix, fair value.

# Základní analýza akcií Netflix Inc.

## Abstrakt

V dnešní době je rozhodování o ukládání a získávání peněz zásadní. Cenné papíry, a hlavně akcie jsou nejběžnějším nástrojem investování. Objektivní a jasná analýza je důležitým předpokladem úspěšné investice. Pro dlouhodobou strategii specialisté používají základní analýzu zásob. V důsledku toho jsou zásoby společnosti Netflix Inc. což je rozvinutá společnost s vysokým potenciálem v oblasti streamování video služeb, je tou nejlepší volbou. Tato společnost je průkopníkem streamovací služby, která se stala extrémně populární a velmi žádanou. Cílem práce je vyhodnocení reálné hodnoty akcií společnosti Netflix Inc. a její srovnání s tržní cenou za účelem rozhodnutí o investici. Práce se skládá ze tří hlavních částí: metodologie, přehled literatury a praktická část. V metodické části jsou uvedeny všechny vzorce, hodnotící ukazatele a jejich popis, modely používané k hodnocení reálné hodnoty akcií. V přehledu literatury jsou uvedeny definice finančních pojmů, popis nákupu, zúčtování, procesy vypořádání a další teoretické znalosti o fundamentální analýze. Praktická část se skládá z výpočtů poměrů, indexů, reálné hodnoty akcií použitých při fundamentální analýze. Výsledky analýzy jsou porovnány a zohledněny při rozhodování o konečném rozhodnutí.

**Klíčová slova:** fundamentální analýza, akcie, zabezpečení, streamovací služba, investice, streamování videa, Netflix, reálná hodnota.

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## **List of abbreviations**

P/E – price to earnings

P/B – price to book value

P/S – price to sales

ROA – return on assets

ROE – return on equity

ROCE – return on capital employed

ROIC – return on invested capital

NOPAT – net operating profit after tax

DCF – discounted cash flow

FCF – free cash flow

WACC – weighted average cost of capital

RI – residual Income

PEG – price to earnings to growth

EBITDA – earnings before interest, tax, depreciation, amortization

EPS – earnings per share

# 1 Introduction

In the market economy households, firms and governments should spend their earnings continuously so the whole economy can grow and develop. Majority of all funds is concentrated on the financial and commodity markets. Financial market is the physical or virtual place where financial instruments such as stocks, bonds, futures, options, warrants, indexes are traded. The commodity market is the physical or virtual place where raw materials and primary products are mostly traded. However, the amount of funds which are circulated on the financial markets is growing each year. One of the reasons of this change is introducing special electronic systems where the trading of securities can be processed swiftly and more efficiently.

This diploma thesis is concentrated on the analysis of the stock which is traded on the financial market. The stock of Netflix Inc. is traded on several stock exchanges. The stock with code NFLX which is traded on NASDAQ stock exchange was chosen for the analysis.<sup>1</sup> Netflix inc. is the company which provides streaming entertainment services worldwide. It is a leader on the market with the biggest share of the subscribers.<sup>2</sup> This company was selected due to its popularity, rich history and extraordinary development through the years. The sector of streaming videos also becomes attractive for the analysis due to its massive revenues and attention of majority of traders on the stock exchange.

There are two types of the financial markets: primary and secondary. It is important to note that volatility on the primary market is usually high and most of companies has low starting prices on their IPOs due to unpredictable behaviour of buyers. The secondary market is the financial market where securities are traded after distributing on the primary market. The number of transactions processed on a secondary market is massively more significant than number of transactions on the primary market. There is no limit to sell or buy the same stock. Instead of investment banks and underwriters the main participants involved in a trade here are broker and dealer companies.

Obviously, market of stocks is a complex mechanism which needs to be described and analysed in more details. For better understanding of the processes on the stock exchange it

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<sup>1</sup> NASDAQ. 2020. Netflix, Inc. Common Stock. [online] Available at: <<https://www.nasdaq.com/market-activity/stocks/nflx>> [Accessed 7 August 2020].

<sup>2</sup> Netflixinvestor.com. 2020. Netflix - Home. [online] Available at: <<https://www.netflixinvestor.com/home/default.aspx>> [Accessed 10 July 2020].

is necessary to clarify the fact that the clients can't sell or buy securities by their own. The help of special participants on the stock exchange is required. All participants are qualified and licensed. It is important to state that stock exchange is a participant as well as other parties there. Its main function is an organising of trades and all processes connected. Simply a stock exchange, securities exchange, or bourse is a "facility where stockbrokers and traders can buy and sell securities, such as shares of stock and bonds and other financial instruments." <sup>3</sup>

After the determining of stock and stock exchange the fundamental analysis and all approaches connected to it are described in this diploma thesis.

Fundamental analysis of a stock as a method of evaluating of the fair value of a stock is a very important tool for the investor. The aim of the fundamental analysis is determining of feasibility of investment in the company's security by designation of the fair value of the stock which can be compared to the current market price of the stock for making a decision of investing in the stock. The distinctive feature of the fundamental analysis is its suitability mainly for long-term investment. This analysis won't be helpful for purchasing and selling the stock in a short-term period of time. The change of the price which happens on the short-term depends on completely other factors which are analysed in a methodology of a Technical analysis.

Fundamental analytics consider countless number of factors while doing the research. The main factors described in this paper are macroeconomic analysis, sectoral analysis, company specific analysis.

The state of the world economy and the U.S. economy where the company is functioning is analysed in the macroeconomic analysis. For this purpose, the GDP growth rates, Inflation rate, Unemployment rates, comparison of the deposit rates of the Federal bureau and S&P 500 stock index for a period from 2010 to 2019 are introduced. The trends from analysed data are also compared with fluctuations of the Netflix Inc. stock price for the given period.

The state of the sector where the company operates is analysed in the part of fundamental analysis called sectoral analysis. The characteristic of the sector of streaming video services is determined with the analysis of the revenue gained in its sector in the U.S.,

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<sup>3</sup> Investopedia. 2020. Stock Market. [online] Available at<<https://www.investopedia.com/terms/s/stockmarket.asp>> [Accessed 12 July 2020].

number of subscribers and its growth rate, share of the Netflix Inc. subscribers in total and amount of viewers subscribed to the streaming video services and its development. It is obvious that recently this sector has been increased significantly and became one of the most profitable in the U.S.<sup>4</sup> Hence, reasons of this growth rate are analysed and determined as well. Moreover, the life cycle of the economy which is an important feature for the investor are be also evaluated. Its importance is hard to underestimate because the investment in the company which operates in the sector which is in recession cycle is hardly can be called successful. Then the investment in the company which operates in the expansion stage is the best one.<sup>5</sup>

Finally, in the last part the company specific analysis is introduced. The financial statements and their characteristic are specified in the literature review and analysed in the practical part. For evaluating the data from company's financial reports of type "10-K" several approaches were chosen. They include vertical analysis, horizontal analysis, evaluation of market capitalization, calculation of ratios which help to estimate company's financial results from different sides. For the detailed analysis the company's credit ratings are also taken into consideration. For the estimation of the fair value of the stock 3 methods were chosen. They are discount free cash flow analysis, residual income analysis and Peter Lynch fair value analysis.

All required indicators are compared with values from previous years, values of competitors. In case of fair values of the stock, they are compared with the market price of the stock which was registered at the end of December, 2019.

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<sup>4</sup> Fast Company. 2020. *Fast Company*. [online] Available at: <<https://www.fastcompany.com/>> [Accessed 23 July 2020].

<sup>5</sup> THOMSETT, M., 1998. *Mastering Fundamental Analysis: How to Spot Trends and Pick Winning Stocks*. Brighton, Vic.: Wrightbooks. ISBN: 0793128730, p. 44

## **2 Objectives and Methodology**

The objective of the diploma thesis and methodological approaches used in the diploma thesis are stated in following chapters.

### **2.1 Objectives**

The main objective of this diploma thesis is to determine the feasibility of investing in shares of Netflix Inc. It is implemented by analysis of the state of the economy of the country where the company operates, state of the sector of streaming video services, determining the share of the Netflix Inc. and defining the stage of the life cycle of the industry. Moreover, the analysis of fundamental indicators of the company and estimation of its fair value is necessary. To reach this objective, it is necessary to execute subobjectives such as:

- analysing macro economical state of the economy;
- analysing economical state of the chosen sector of economy;
- analysing financial statements of the company and its competitors;
- calculating financial ratios, indicators for fundamental analysing;
- evaluating fair value of the company's stock using fair valuation models;
- comparing results of the analysis for determining final decision about investment.

### **2.2 Methodology**

Fundamental analysis for the chosen stock is made on three levels.

Macroeconomic analysis is made through the comparison of quantitative data of the real GDP growth rates, growth rates of the inflation and comparison of deposit rates with Index S&P 500. All used data was taken from official open sources of statistical agencies and financial portals.

The analysis of the sector of economy where the Netflix Inc. is functioning, reasons of expanding of this sector, determining of the current stage of the economy and share of market of chosen companies is assembled in the sectoral analysis. All quantitative annual data was analysed by comparison with data from previous years.

For the company's specific analysis quantitative data from company's and its competitors' financial statements was used for estimating appointed values and ratios. All calculations were processed in a software "Microsoft excel".

For the purposes of the vertical analysis annual quantitative data from financial statements of the Netflix Inc. for the period 2010-2019 was taken into consideration. The changes in annual ratios of cost of sales and gross profit on a base of operating revenue were compared. The calculated values for the year 2019 were also compared with performances of competitors.

In the horizontal analysis the fluctuations of indicators from financial statements are compared with data from previous years to find a trend those changes.

### **Market Capitalization**

For the calculation of the market capitalization the formula below was used.<sup>6</sup> Values of share price and amount of shares outstanding were chosen from the end of December 2019.

$$\text{Market capitalization} = \text{Share price} * \text{Amount of shares outstanding} \quad (1)$$

For determining the liquidity level of company the Current and Quick ratios are calculated per formulas.

### **Current ratio**

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current liabilities}} \quad (2)$$

### **Quick ratio**

$$\text{Quick Ratio} = \frac{\text{Current assets} - \text{Inventory} - \text{Prepaid expenses}}{\text{Current liabilities}} \quad (3)$$

### **Debt-to-equity ratio**

For determining the debt level of company Debt-to-equity, Debt-to-asset ratios are calculated per formulas.<sup>7</sup>

$$\text{Debt} - \text{equity Ratio} = \frac{\text{Market capitalization}}{\text{Total shareholders equity}} \quad (4)$$

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<sup>6</sup> THOMSETT, M., 2006. *Getting Started in Fundamental Analysis*. Hoboken, N.J.: J. Wiley and Sons. ISBN: 0471754463., p.137.

<sup>7</sup> THOMSETT, M., 2006. *Getting Started in Fundamental Analysis*. Hoboken, N.J.: J. Wiley and Sons. ISBN: 0471754463., p.150.

### **Debt-to-asset ratio**

$$\text{Debt – asset Ratio} = \frac{\text{Market capitalization}}{\text{Total assets}} \quad (5)$$

### **Price to Earnings ratio (P/E)**

The evaluation of relative value of company's shares was processed by calculation P/E ratio as per formula.<sup>8</sup>

$$\text{Price to Earnings Ratio} = \frac{\text{Market capitalization}}{\text{Net Income}} \quad (6)$$

### **Price-to-Book ratio (P/B)**

The evaluation of relative value of company's shares was processed by calculation P/B ratio as per formula.<sup>9</sup>

$$\text{Price to Book Ratio} = \frac{\text{Market capitalization}}{\text{Shareholders equity – Value of issued preferred stocks}} \quad (7)$$

### **Price-to-Sales ratio (P/S)**

The evaluation of relative value of company's shares was processed by calculation P/S ratio as per formula.<sup>10</sup>

$$\text{Price to Sales Ratio} = \frac{\text{Market capitalization}}{\text{Total Sales}} \quad (8)$$

Potential financial profitability of the company's stock is evaluated by calculating ROA, ROE, ROCE and ROIC ratios.

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

$$\text{Return on Assets} = \frac{\text{Net Income}}{\text{Average amount of Total Assets for previous periods}} * 100 \quad (9)$$

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

$$\text{Return on Equity} = \frac{\text{Net Income}}{\text{Average Shareholder equity for previous periods}} * 100 \quad (10)$$

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<sup>8</sup> THOMSETT, M., 2006. *Getting Started in Fundamental Analysis*. Hoboken, N.J.: J. Wiley and Sons. ISBN: 0471754463., p.173

<sup>9</sup> THOMSETT, M., 2006. *Getting Started in Fundamental Analysis*. Hoboken, N.J.: J. Wiley and Sons. ISBN: 0471754463., p.176

<sup>10</sup> THOMSETT, M., 2006. *Getting Started in Fundamental Analysis*. Hoboken, N.J.: J. Wiley and Sons. ISBN: 0471754463., p. 180



Average shareholder equity was calculated as an average of values for 2018 and 2019 years.

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

For the calculating the ROCE ratio Earnings Before Interest and Tax (EBIT) needs to be calculated at first.<sup>11</sup>

$$EBIT = \text{Operating revenue} - \text{Cost of revenue} - \text{total operating expenses} \quad (11)$$

Then,

$$ROCE = \frac{EBIT}{(\text{Total assets} - \text{Current Liabilities})} * 100 \quad (12)$$

### **Return on invested capital (ROIC)**

For the calculating the ROIC ratio, Tax rate and Net Operating Profit After Tax (NOPAT) are calculated at first.<sup>12</sup>

$$Tax\ rate = \frac{Income\ tax}{Income\ before\ tax} * 100 \quad (13)$$

$$NOPAT = Tax\ rate * Operating\ Income \quad (14)$$

Then,

$$ROIC = \frac{NOPAT}{Average\ Invested\ capital} \quad (15)$$

The evaluation of the fair value of the stock with a free cash flow model the formula below is used.<sup>13</sup>

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<sup>11</sup> BULKOWSKI, T., 2012. *Fundamental Analysis And Position Trading*. Hoboken: WILEY. ISBN: 9781118508749, p.81

<sup>12</sup> BULKOWSKI, T., 2012. *Fundamental Analysis And Position Trading*. Hoboken: WILEY. ISBN: 9781118508749, p.83

<sup>13</sup> Gurufocus.com. 2020. Financial Dictionary(Iv\_Dcf^M). [online] Available at: <[https://www.gurufocus.com/term/iv\\_dcf/NFLX](https://www.gurufocus.com/term/iv_dcf/NFLX)> [Accessed 23 July 2020].

### Discounted cash Flow

$$DCF = \frac{CF_1}{1+R} + \frac{CF_2}{(1+R)^2} + \frac{CF_3}{(1+R)^3} \dots + \frac{CF_n}{(1+R)^n} \quad (16)$$

CF – estimated future cash flow;

R – Discount rate;

n – number of periods for calculation.

The discount rate is replaced by weighted average cost of capital (WACC). For the calculation of WACC weight of Equity and debt needs to be calculated as well as Cost of equity and debt.

$$\text{Weight of Debt} = \frac{\text{The book value of debt}}{\text{Market capitalization} + \text{Book value of debt}} \quad (17)$$

$$\text{Weight of Equity} = \frac{\text{Market capitalization}}{\text{Market capitalization} + \text{Book value of debt}} \quad (18)$$

$$\text{Cost of debt} = \frac{\text{Interest expense}}{\text{Book value of debt}} \quad (19)$$

For the calculation cost of equity risk free rate,  $\beta$  risk rate of stock and Market premium are used. Equity risk free rate equals to 10-Year Treasury Constant Maturity Rate.  $\beta$  risk rate of stock is provided by the stock exchange where the security trades. In this case, it is provided by NASDAQ. The market risk premium is the difference between the expected return on the investment and the risk-free rate.

$$\text{Cost of equity} = \text{Risk free rate} + \beta \text{ risk rate of stock} * \text{Market premium} \quad (20)$$

### WACC

$$WACC = \frac{\text{Weight of Equity} * \text{Cost of Equity}}{\text{Weight of Equity and Debt}} + \frac{\text{Weight of Debt} * \text{Cost of Debt}}{\text{Weight of Equity and Debt}} * (1 - \text{Tax rate}) \quad (21)$$

After WACC and free cash flow of the company is calculated the terminal value of company needs to be determined.

### **Terminal value**

$$\text{Terminal value} = \frac{FCF}{WACC - \text{Terminal rate}} \quad (22)$$

According to the FCF model terminal value needs to be discounted.

### **Discounted terminal value**

$$\text{Discounted terminal value} = \frac{\text{Terminal value}}{DCF} \quad (23)$$

The, total equity value is calculated as per formula below:

$$\text{Total equity value} = \text{Discounted terminal value} + \text{Total terminal value} \quad (24)$$

Next step is to find the Net asset value which defines company value without debt.

### **Net asset value**

$$\text{Net asset value} = \text{Total equity value} - \text{Book value of debt} \quad (25)$$

Finally, the fair value of the company stock is defined by dividing received net asset value by amount of shares outstanding.

### **Fair value of stock per FCF model**

$$\text{Fair value of the stock} = \frac{\text{Net asset value}}{\text{Amount of shares outstanding}} \quad (26)$$

### **Residual Income**

Another method of evaluating the fair value of the stock uses residual income on the company. The Residual Income is calculated with formula below.<sup>14</sup>

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<sup>14</sup> Investopedia. 2020. Residual Income. [online] Available at: <<https://www.investopedia.com/terms/r/residualincome.asp>> [Accessed 23 July 2020].

$$\text{Residual Income(RI)} = \text{Net Income} - (\text{Equity} * \text{Expected rate of return}) \quad (27)$$

Net equity and Equity amounts are used from the financial statement of the company. Expected rate of return is calculated with formula below.

$$\text{Expected rate of return} = \text{Risk free rate} + \text{Beta risk} * (\text{Market risk} - \text{Risk free rate}) \quad (28)$$

After all variables are calculated, the company book value and fair value of the stock can be found.

$$\begin{aligned} \text{Company book value} = & \text{Total Shareholders Equity} + \frac{\text{RI}}{(1+\text{Expected rate of return})^1} + \\ & + \frac{\text{RI}}{(1+\text{Expected rate of return})^2} + \frac{\text{RI}}{(1+\text{Expected rate of return})^3} + \dots + \frac{\text{RI}}{(1+\text{Expected rate of return})^n} \end{aligned} \quad (29)$$

Where:

n – chosen number of analysed periods;

RI – Residual Income.

$$\text{Fair value of the stock} = \frac{\text{Company book value}}{\text{Amount of shares outstanding}} \quad (30)$$

### **Peter Lynch fair valuation model**

For evaluation of the stock with the Peter lynch model PEG ratio, EPS growth rate and EBIDTA growth rate are necessary to be calculated. <sup>15</sup>

**PEG ratio** is calculated as:

$$\text{PEG ratio} = \frac{\text{P/E}}{\text{EPS growth rate}} \quad (31)$$

**EBITDA** is calculated as:

$$\text{EBITDA} = \text{Net Income} + \text{Interest} + \text{Taxes} + \text{Depreciation} + \text{Amortization} \quad (32)$$

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<sup>15</sup> LYNCH, P. ROTHCHILD J. *One up on Wall Street: how to use what you already know to make money in the market*. New York, N.Y., USA: Penguin Books, 1989. ISBN 0140127925., p.198

**Earnings per share** are calculated as:

$$EPS = \left( \frac{\text{Net Income}}{\text{Amount of shares outstanding}} - 1 \right) * 100 \quad (33)$$

**Peter Lynch Fair Value**

$$\text{Fair value of the stock} = PEG * EBITDA \text{ growth rate for selected period} * EPS \quad (34)$$

### 3 Literature Review

The literature review of this diploma thesis describes main terms connected to securities, mainly stocks, and financial markets where they are traded. The process of the trade is determined in this part as well.

#### 3.1 Securities and the stock exchange

Security as a one of the main instruments of an investor gains its role on a financial market every year. Consequently, investors have to consider the securities market as their first priority. Securities trades have been existing for centuries, however, only from the second middle of XX century these trades started to accumulate vastly funds. With a developing of the computer technologies pace of its developing increased swiftly. As a result, in 2019 amount of Stocks traded equals to USD 60.359 trillion, Market capitalization of listed domestic companies is USD 68.65 trillion and there are 43,342 domestic companies in total listed.<sup>16</sup> Obviously, this sector needs to be explored deeply.

##### 3.1.1 Securities and their type

There is considerable amount of definitions of the term security, one of them introduces it as “an instrument of investment in the form of a document (such as a stock certificate or bond) providing evidence of its ownership”<sup>17</sup>. Thus, the holder of a security has a real right to access the recourses which is its underlying. The underlying can be the physical recourse, money or other type of a tangible asset as well as another security. The debt and equity securities can be referred for them. When entrepreneurs create companies, or existing companies need a financial inflow without the obligation to return the money, shares appear as a good decision for these parties. Common shares are “units of equity ownership interest in a corporation or financial asset that provide for an equal distribution in any profits, if any are declared, in the form of dividends”<sup>18</sup>. These types of the securities are common for creating a firm as a joint-stock company because, obviously, it is rather beneficial for all the participants. From one side, there are the founders who don't

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<sup>16</sup> Data.worldbank.org. 2020. Stocks Traded, Total Value (Current US\$) | Data. [online] Available at: <<https://data.worldbank.org/indicator/CM.MKT.TRAD.CD>> [Accessed 18 July 2020].

<sup>17</sup> GRAHAM, B., DODD, D., BUFFETT, W. and KLARMAN, S., 2008. *Security Analysis*. New York: McGraw-Hill. ISBN: 0071592539, p.112

<sup>18</sup> GRAHAM, B., DODD, D., BUFFETT, W. and KLARMAN, S., 2008. *Security Analysis*. New York: McGraw-Hill. ISBN: 0071592539, p.130

have a need of having a huge amount of money to start their company and implement in reality plans which they could only imagine. From the other side, there are investors who have required amount of money and they can increase their capital by investing in the shares of the company and at the same time, investors don't need to come up with original ideas, make all decisions in a company to keep it alive because it is a work of the another group. Moreover, investors don't only gain their capitals with a developing of a company. They receive special benefit for holding share called dividends. However, some shareholders have significant rights when it comes to decide about future of the company connected to its growing or payment of dividends. It depends on corporation code what power each shareholder have in relation to the company's decisions connected with a financial position on a market. And not only the previously mentioned code is important. There are other types of shares which functions slightly differ from the common ones.

For example, preferred share is a hybrid between equity and debt securities, and it combines their features. Holders of preferred shares are guaranteed to receive fixed amount of dividends to compare with a common shareholders. Also, preferred shares give a preference in assets in the event liquidation and an ability to convert the share in a common stock. Hence, the investors who have chosen this type are deprived of a right to vote.<sup>19</sup>

Another type of equity security on the financial market is the American depositary receipt and Global depositary receipt. Their existence is connected with prohibitions on a trade internationally.<sup>20</sup> ADR is a “is a negotiable certificate issued by a U.S. depository bank representing a specified number of shares—often one share—of a foreign company's stock.” ADR gives U.S. investors opportunities to simplify the process of purchasing the shares of companies from outside of the U.S. ADRs are sold in U.S. currency which also solves the problem of converting the currency. The idea of this process is very clear. According to the U.S. jurisdiction, foreign companies not listed in the U.S. or those which do not provide their financial reports in English and not in appliance with U.S. standards can't bet traded in the U.S. Consequently, there is an issue for investors in holding shares of foreign companies. As a solution, U.S. banks buy these shares from overseas, holds them in a “depository” and issue ADRs which usually equal to one share of the original company. As a result, investors

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<sup>19</sup> GRAHAM, B., DODD, D., BUFFETT, W. and KLARMAN, S., 2008. *Security Analysis*. New York: McGraw-Hill. ISBN: 0071592539, p.131

<sup>20</sup> Investopedia. 2020. American Depositary Receipts – Adrs: A Good Way To Go Global. [online] Available at: <<https://www.investopedia.com/terms/a/adr.asp>> [Accessed 24 July 2020].

can gain more money by having access to a foreign market and banks make profits as an intermediary in this process. GDRs are similar instruments which were introduced to complete deals in euros as well as in U.S. dollars. The main difference is that GDRs can be traded globally and not only in the U.S.

Debt security is completely another type on the market. The main difference from the equity securities is an underlying. Bond is “is an instrument of indebtedness of the bond issuer to the holders”. The underlying of a bond is money which the borrower obliged to return to the lender with the fixed interest. If the shares have no “end-date” (only if company is liquidated”), bonds do have it. It is called maturity date and after that date within a specified in a terms and conditions and the pricing supplement of the bond time period the payment for the bond needs to be processed. The main types of bonds are corporate bonds and governmental. These securities can be issued by a private corporation or a government of a country, region, municipal, territorial units etc. Also, special types of U.S. bonds called “Money Market Instruments” (MMI).<sup>21</sup> These are “short term debt instruments that may have characteristics of deposit accounts, such as certificates of deposit, Accelerated Return Notes (ARN), and certain bills of exchange.’ The main advantage of this type of bond is a short time period. They are one of the most liquid on a market and called also “near cash”. Determining of a type of the bond is crucial aspect in a settlement stage in a converting of bonds. Special procedures apply there. For example, due to this difference corporate bonds and MMIs are processed by different departments of the company which is the transfer agent. Consequently, if the processor who is responsible for the setup of security’s specifications in the system makes a mistake then the full process of the conversion can be cancelled or can take twice more time.

Besides the main securities there is also another type of securities on the financial market which is called “derivatives”<sup>22</sup>. Derivative is a s a contract that derives its value from the performance of an underlying entity. The most important difference between main securities and derivatives is in their underlying. When the main security must have in its underlying the physical asset (land, part of the company’s assets, cash etc.), the underlying

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<sup>21</sup> Dtcc.com. 2020. *Money Market Instrument Transaction Processing*. [online] Available at: <<https://www.dtcc.com/settlement-and-asset-services/settlement/money-market-instrument-transaction-processing>> [Accessed 28 July 2020].

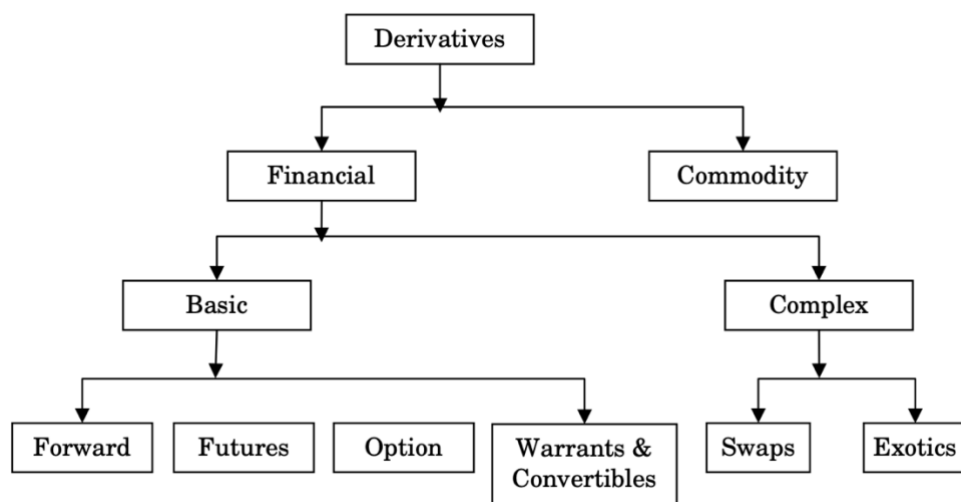
<sup>22</sup> BAZ, J. and CHACKO, G., 2009. *Financial Derivatives*. Cambridge: Cambridge University Press. ISBN: 978-0-521-81510-9.



of the derivative is another security, index, interest rate and other non-tangible assets. Even if the existence of the derivatives for the weather forecast sounds unbelievable, it is a fact. In the beginning, the derivative was created to hedge risks mainly. As it is the agreement between two sides on some non-tangible asset, these two participants of the deal can make a deal regarding a sale of some security in future by the fixed price which is comfortable for both sides. This agreement saves time and costs of one side so they don't need to keep an eye on the price of the security at the stock exchange until the date of the deal and at the same time the another side saves itself of the risk of not selling the security at exact point of time. To sum up, both sides are insured of the non-expected high volatility on the market.

First of all, all derivatives can be sorted by the type of the underlying.<sup>23</sup> There are commodity derivatives and financial derivatives. Obviously, the underlying of the commodity derivative is the commodity. It can be any agricultural commodity, metal, natural resources as oil etc. Underlying of the financial derivative can be stock, bond, bills, interest rates, indexes and other securities.

Figure 1. Classification of Derivatives



Source: Baz, (2009)

<sup>23</sup> BAZ, J. and CHACKO, G., 2009. *Financial Derivatives*. Cambridge: Cambridge University Press. ISBN: 978-0-521-81510-9.

Financial derivatives can be also sorted for basic and complex ones on the figure 1. Basic derivatives are forward, future, option, warrants and convertibles. Complex are swaps and exotics.

### 3.1.2 Stock markets and its participants

The stock exchange is an institution where the buyers and dealers can meet each other for the purpose of exchanging securities.<sup>24</sup>

First of all, before the determining of the term stock exchange in more details, it is crucial to mention classification of markets of securities.

There is a primary market which is a financial market, which is also called new issues market, where all securities which are sold in a first time are available for clients to purchase. The company who is responsible for distributing securities to clients, checking correctness of all requirements, and issuing prospectus outlining the price and other details is called underwriter.

In addition, companies issuing securities can also hire investment banks for purposes of obtaining all obligations from huge clients.

It is important to note that volatility on the primary market is usually high and most of companies has low starting prices on their IPOs due to unpredictable behaviour of buyers.

Secondly, there is a secondary market of securities. Obviously, the securities which are available on this market are selling not from the company directly but from the other participants who purchased them previously. Consequently, secondary market is the financial market where securities are traded after the issuer sold its securities on the primary market. The number of transactions processed on a secondary market is enormously more significant than number of transactions on the primary market. The reason is simple. Investors can buy securities on the primary market only once when on the secondary market it can be done many times, not directly from the issuer but from other traders. Instead of investment banks and underwriters the main participants involved in a trade here are broker and dealer companies. New York Stock exchange, NASDAQ, London stock exchange, EURONEXT, Deutsche Borse and other world stock exchanges are examples of the registered secondary markets (stock exchanges).

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<sup>24</sup> TEWELES, R. and BRADLEY, E., 1998. *The Stock Market*. New York, N.Y: Wiley. ISBN: 0471191345., p.20

Moreover, except registered exchanges, dealers can process trades on the Over-the-counter market which is another type of the secondary market (OTC). OTC market is the place where brokers exchange with securities of companies which are not listed on the stock exchange. Listing is the process of the registration of the company's security to be traded on the stock exchange. Companies which securities are traded on the stock exchange are called "listed" when securities traded on the OTC market are unlisted. The main reason of existence of the unlisted securities is a non-meeting of listing requirements.

For example, requirements of the NYSE U.S. companies are stated in the list below.<sup>25</sup>

- Adjusted Pre-tax Income
- Global market capitalization;
- Shareholders' Equity
- Market Value of Publicly Held Shares

Consequently, small companies can't meet the requirements of stock exchanges and their securities are traded on the OTC market. OTC markets can be organised or unorganised. This factor makes the first type more secured and attractive for customers. Well known examples, of the OTC organised markets are the Best Market (OTCQX), the Venture Market (OTCQB), and the Pink Open Market. Even when these OTC institutions don't oblige clients to satisfy listing requirements, other requirements are in place.<sup>26</sup>

The first stock exchange was created in 1531 in Antwerp, Belgium and in spite of its name no stocks were traded there. Only promissory notes and bonds were securities which people could buy and sell. However, in the next century London stock exchange was created since a significant amount of people were sailing overseas to the America and East India. The risk of not returning and loss of all investments was the main reason for implementing shares to attract investors for the campaigns overseas. Stock issuers simply were paying dividends monthly (or at another fixed period of time) for investors just to use their big stacks of capital. The first successful company of that kind was the South Seas Company and its profits inspired other entrepreneurs to replicate this business. The more shares were thrown away in the market the bigger bubble was appearing in the UK. Right after the SSC firstly couldn't pay the dividends for its shares all other companies met the same faith. Since that

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<sup>25</sup> Nyse.com. 2020. [online] Available at:  
<[https://www.nyse.com/publicdocs/nyse/listing/NYSE\\_Initial\\_Listing\\_Standards\\_Summary.pdf](https://www.nyse.com/publicdocs/nyse/listing/NYSE_Initial_Listing_Standards_Summary.pdf)>  
[Accessed 27 July 2020].

<sup>26</sup> Investopedia. 2020. Over-The-Counter (OTC). [online] Available at:  
<<https://www.investopedia.com/terms/o/otc.asp>> [Accessed 14 July 2020].

time United Kingdom and then its stock exchange was banned of issuing shares until 1825. This fact was enormously beneficial for the new stock exchange which was created in the U.S. New York stock exchange (NYSE) which was not the exactly first one created but which growth rate was undoubtedly the biggest became the leader in trading stocks from 18<sup>th</sup> century till nowadays mostly due to the ban of the U.K. Moreover, NYSE played the main role in the fast development of the whole U.S. economy and by the virtue of its take-off the GDP of the U.S. still is the first compared to any other country in the world. Consequently, when the stock exchange and all terms connected to it are discussed it is crucial to keep in mind that there is not only one stock exchange. According to the report from world-exchanges.org in May 2019 the number of stock exchanges in the world equalled to 80. However, the capitalization only of the NYSE and NASDAQ combined is around 38,29 trillion U.S.D. which is 41 % of the world share. That is the impressive result, however, there are other stock exchanges which are not deprived by their potential.<sup>27</sup>

National Association of Securities Dealers Automated Quotations (NASDAQ) is the second biggest stock exchange in the U.S. NASDAQ became the first exchange which was not fixed to the physical place and processed deals with securities using the computerised system. Except the main exchange situated in the U.S. NASDAQ also owns the stock exchanges of Sweden, Finland, Estonia, Latvia, Lithuania, Denmark, Iceland and Armenia. This subsidiary is called Nasdaq Nordic.<sup>28</sup>

London stock exchange is one of the oldest in Europe and its share of the market is still one of the biggest. The exchange has a significant influence in Europe since its opening. This exchange was even functioning during the second World War except one day in 1945 when the rocket hits the building of the exchange. Currently London stock exchange is a part of London stock exchange group. Except the LSE the Italian stock exchange called Borsa Italiana is a member of this organisation.<sup>29</sup>

Euronext N.V. is the first stock exchange in Europe for the amount of processed operations and holdings of clients. Euronext is the main stock exchange in Netherlands,

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<sup>27</sup> Investopedia. 2020. The Birth Of Stock Exchanges. [online] Available at: <<https://www.investopedia.com/articles/07/stock-exchange-history.asp>> [Accessed 6 August 2020].

<sup>28</sup> NASDAQ. 2020. About NASDAQ. [online] Available at: <<https://www.nasdaq.com/about>> [Accessed 20 August 2020].

<sup>29</sup> Londonstockexchange.com. 2020. Our History | London Stock Exchange. [online] Available at: <<https://www.londonstockexchange.com/discover/lseg/our-history?lang=en>> [Accessed 20 August 2020].

Belgium, France, Portugal, Ireland, Norway and Danish VP securities. Euronext has a rich history and it once was merged with NYSE but after the International continental exchange bought them the decision of selling Euronext as a part of company was implemented.<sup>30</sup>

Deutsche Borse AG is the main stock exchange in Germany which was founded in 1585 in Frankfurt am Main. Over the years the exchange has expanded by merging with Luxembourg stock exchange and by purchasing European energy exchange, Eurex exchange and STOXX. As previously mentioned, stock exchanges Deutsche Borse was trying to merge with London Exchange and NYSE Eurex but none of the deals were successful. The main reason for both deals was the decision of European Commission to block deals for avoidance of the monopoly in the European security market.<sup>31</sup>

Obviously, market of stocks is a complex mechanism which needs to be described and analysed in more details. For better understanding of the processes on the stock Exchange it is necessary to clarify the fact that the clients can't sell or buy securities by their own. The help of special participants on the stock Exchange is required. All participants are specially qualified in their field and have a license of the participant. At first, it important to state that stock exchange is a participant as well as other parties there. Its main function is an organising of trades and all processes connected. Simply a stock exchange, securities exchange, or bourse is a facility where stockbrokers and traders can buy and sell securities, such as shares of stock and bonds and other financial instruments.

First of all, the stock exchange itself is one of the participants. Liabilities of stock exchanges are organising deals, securitisation of deals, checking the correctness of deals and fulfilment of other participants' obligations established by the exchange.<sup>32</sup>

The first participant which gained its popularity in a media sources through the time is a broker firm or a broker. A broker is "firm who arranges transactions between a buyer and a seller for a commission when the deal is executed."<sup>33</sup> When it comes to processing of a

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<sup>30</sup> Euronext.com. 2020. Our Organisation. [online] Available at: <<https://www.euronext.com/en/about/our-organisation>> [Accessed 20 August 2020].

<sup>31</sup> Deutsche-boerse.com. 2020. Deutsche Börse Group - Company History. [online] Available at: <<https://deutsche-boerse.com/dbg-en/our-company/deutsche-boerse-group/company-history/text-collection-30738?frag=245282>> [Accessed 20 August 2020].

<sup>32</sup> TEWELES, R. and BRADLEY, E., 1998. *The Stock Market*. New York, N.Y: Wiley. ISBN: 0471191345., p.60

<sup>33</sup> TEWELES, R. and BRADLEY, E., 1998. *The Stock Market*. New York, N.Y: Wiley. ISBN: 0471191345., p.311

client's request to buy or sell the security a broker is a first main company which helps investor to enter the market. So, a broker can be a seller or a buyer when it comes to a participant party to the deal. Before processing of the incoming requests to buy or sold the risk management unit in broker company starts to check the potential deal on business risk, non-business risk. Also, they have to check if the sanctioned entity involved in the deal or not. Of course, on of the most important part is the amount of available funds on the account. As a consequent action, after all checks are done, the order to sell or buy the security is being sent to the Stock exchange where broker of a counterparty receives it and setting up all things to finish the transaction from their side. The requests are usually made via SWIFT exchange between broker companies. SWIFT (Society for Worldwide Interbank Financial Telecommunications) is a special messaging network used by banks worldwide to securely send and receive information. As described in a definition, SWIFT main advantages are: security and siph speed. There are many types of SWIFT messages. In settlement MT566s, MT546, MT544, MT564, MT568 and others are commonly used. Their difference are in a structure of standardized fields which are helpful for a quick acknowledgment and processing by banks.<sup>34</sup>

Dealers are people or financial institutions who or which arrange transaction between buyer and seller of the security by using the own dealer's account. The main difference between a dealer and a broker is the availability of this account. For processing orders dealer uses its account to post and remove securities from it while a broker acts as an agent who process orders on behalf of clients. <sup>35</sup>

Moreover, the way of charging for services provided by broker and dealer differs. Dealer will charge a markup of the security while broker will charge a commission for executing trade. Other common services provided by a dealer are: underwriting, formulating ideas of successful portfolios of securities and other investment services. It is also possible for a dealer to act as a broker for special trades. These entities are called broker-dealers. Providing of both services depends on amount of funds involved in the deal, type of the security and market.

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<sup>34</sup> SWIFT - The global provider of secure financial messaging services. 2020. What Is ISO 20022? | SWIFT - The Global Provider Of Secure Financial Messaging Services. [online] Available at: <<https://www.swift.com/standards/iso-20022>> [Accessed 24 August 2020].

<sup>35</sup> TEWELES, R. and BRADLEY, E., 1998. *The Stock Market*. New York, N.Y: Wiley. ISBN: 0471191345., p.320

Clearing organizations are participants which are main players when it comes to the payments between participants. It processes all transaction to make the deal happened and avoid any issues and losses between the participants in a deal. They participate in a deal after the paid amount is agreed and the requirement of payment and transferring the security is in place. A clearing company is “a financial institution formed to facilitate the exchange (i.e., clearance) of payments, securities, or derivatives transactions.” Companies in charge of clearing deals with common securities are called clearing firms or banks when companies which clear deals with derivatives – clearing houses.<sup>36</sup>

The responsibility of clearing firms is to process all transactions in a correct amount with a correct date and in consideration with the other aspects. After reconciliation of all information regarding the payment clearing bank contact counterparties to provide them with the requirements which are currently needed to be fulfilled to finish the process.

Logically, the presence of the clearing banks on the stock exchange is questionable. There are several reasons why the counterparties don't calculate all amounts of transactions and not pay to each other directly. Firstly, the amount of operations, participants and other entities on the market is tremendously giant. It is just too complicated, slow and, as a consequence, not efficient to find each other and register the deal. Clearing houses using the special applications have access to all registered market operations which are directed to them. This feature gives other participants an opportunity to settle the deal as soon as possible. Secondly, transactions made through the clearing houses are definitely secured. They always check the eligibility of counterparties and guarantee the confidentiality of the deal. It is hardly possible that each party which wants to sell the security is allowed to check any company on its ability to pay.

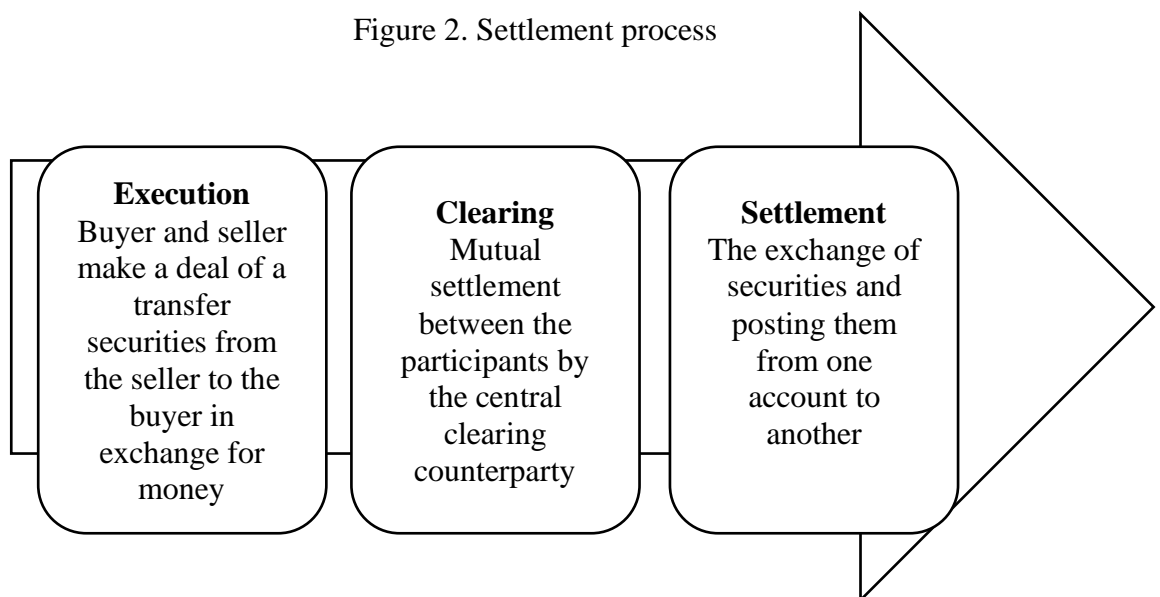
After the clearing firms the other parties participate in a process to settle the deal. In the U.S. and Canada its function executed by the Transfer agent. “A stock transfer agent is a company, usually a third party unrelated to stock transactions, that manages the change in ownership on shares and maintains a register of ownership.” Basically, this participant makes amendments in the documentation connected with the security (name change, denomination, aggregate amounts etc) It is important to mention that in the UK and Australia it's called share registry.

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<sup>36</sup> LOADER, D., 2019. *Clearing, Settlement And Custody*. 3rd ed. Butterworth-Heinemann. ISBN: 9780128186916., p.14

In EU this function as well as others is executed by the Central securities depository (CSD). “A central securities depository (CSD) is a specialist financial organization holding securities such as shares either in certificated or uncertificated (dematerialized) form so that ownership can be easily transferred through a book entry rather than the transfer of physical certificates.” Both sides of the deal have accounts in a CSD, and the transfer of the security happens internally in the CSD. The amount of the security with one ISIN (International Security Identification number which is unique for each security, common in EU, U.S use CUSIP numbers instead) moves from an account of the seller to the account of the buyer. As a result, these processes are swift and secured as well. Counterparties exchange their securities usually on the 1st, 2nd or 3rd day after the trade. It is officially stated as a T+1, T+2, T+3 accordingly. These days are called settlement dates. The securities must be transferred from a seller side to a buyer side on this exact settlement date while money for the purchase must be sent from a seller side. Previously settlements were processed at T+3 and even T+5 due to lack of modern computer technologies. Recently, majority settlements are processed as T+2 or T+1, however, it depends on a market.<sup>37</sup>

Figure 2. Settlement process



Source: Loader, (2019)

<sup>37</sup> LOADER, D., 2019. *Clearing, Settlement And Custody*. 3rd ed. Butterworth-Heinemann. ISBN: 9780128186916., p.59



The registrar is the financial institution which is registering holders of shares and bonds for purposes of offering securities from the issuer to the public. The services of the registrar are common for companies paying dividends on shares and interests on bonds.

In addition, the registrar confirms that the amount of shares on the market does not outreach the registered amount of authorized shares. The company cannot issue more shares than disclosed amount.<sup>38</sup>

Finally, except parties involved directly to the process of a trade the self-regulatory organizations which have another role on the market are also participants on the stock exchange. “A self-regulatory organization (SRO) is an organization that exercises some degree of regulatory authority over an industry or profession.” The SRO help to clarify and specify new rules on the exchange, how fairly participants are treated and improve their position in case of inequitable accessment. SROs can be performed as a company with a governmental support but can be also without any governmental support.<sup>39</sup>

Definitely, there are other participants on the market, however all stated below are the main ones which are connected to the trade cycle.

Their roles are different, and they take part in the cycle in different stages.

### 3.2 Fundamental analysis of stocks

Fundamental analysis of a stock is method of evaluating of the fair value of a stock by analysing related economic and financial factors. The aim of the fundamental analysis is getting the number which can be compared to the current market price of the stock for making a decision of investing in the stock or refrain of investing. This number is called fair or fair value of a stock. Using the fundamental analysis, the investor decides if he or she shall buy or shall not buy a stock of a company issued it. It is significant to mention that the fundamental analysis is created only for long-term investment.<sup>40</sup> This analysis won't be helpful for purchasing and selling the stock in a short-term period of time. The change of the price which happens on the short-term depends on completely other factors which are analysed in a methodology of a Technical analysis. The broker companies as well are using

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<sup>38</sup> LOADER, D., 2016. *Fund Custody And Administration. 1st ed.* Elsevier. ISBN: 9780128499016., p.44

<sup>39</sup> TEWELES, R. and BRADLEY, E., 1998. *The Stock Market.* New York, N.Y: Wiley. ISBN: 0471191345., p.321

<sup>40</sup> GRAHAM, B., 1973 *The intelligent investor: a book of practical counsel. 4th rev. ed., with a new pref. and appendix.* New York, N.Y.: Harper & Row, 1973. ISBN: 0060155477., p.112

these analyses for their Buy-Hold-Sell recommendations.<sup>41</sup> As an obvious disadvantage, the broker clearly realising the fair value of the stock and as a result final investor can buy stock for less profitable price comparing if he or she made the own research. In addition, brokers commission can be added on the top.

Fundamental analytics consider countless number of factors while doing the research. The main ones which are described in this paper are macroeconomic analysis, sectoral analysis, company specific analysis.

### 3.2.1 Macroeconomic analysis

Macroeconomic analysis is the evaluation of the general status of the world economy. All significant global events related to the status of the economy are necessary for analysing to get the clear picture of the world economy. Obviously, COVID-19 and its impact is the main factor to be considered in a global analysis recently. However, there is an enormous number of events happened in the world in the current year including: Trade War of the U.S. and China, last meeting of the OPEC+, purchasing of the rights for the Tik Tok company by ORACLE etc.

Main quantitative coefficients for macroeconomic analysis are GDP, Interest rates, Inflation rates and Unemployment rates.

GDP is a value of all goods and services produced inside the country's territory in a concrete time period. GDP is helpful tool for analysing because it is a meaningful indicator for tracking the state of the economy and its growth rate.<sup>42</sup>

GDP data for this particular analysis is collected from Bureau of Economic Analysis (BEA) and The World Bank, International Money Fund, Organization for Economic Cooperation and Development (OECD).

Interest rate is the amount which lender requests from the borrower for its service.<sup>43</sup>

Inflation is a financial process which is characterized by increasing of prices on goods and services. The result of such rise is a weakening of a purchasing power of the currency.<sup>44</sup>

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<sup>41</sup> BULKOWSKI, T., 2012. *Fundamental Analysis And Position Trading*. Hoboken: WILEY. ISBN: 9781118508749., p.2

<sup>42</sup> SHAPIRO, E., 2010. *Macroeconomic Analysis*. New Delhi: Galgotia Publications Pvt. Ltd. ISBN: 8175157550., p. 23

<sup>43</sup> SHAPIRO, E., 2010. *Macroeconomic Analysis*. New Delhi: Galgotia Publications Pvt. Ltd. ISBN: 8175157550., p.27

<sup>44</sup> SHAPIRO, E., 2010. *Macroeconomic Analysis*. New Delhi: Galgotia Publications Pvt. Ltd. ISBN: 8175157550., p. 32

Unemployment rate is a financial indicator which shows amount of unemployed labour force. It depends directly on the economy state. The worse situation is, the higher unemployment rate. The better situation is - the lower rate.<sup>45</sup>

### 3.2.2 Sectoral analysis

Sectoral analysis provides the investor with the status of not the whole country where the issuer of the stock operates but in a specific area. The analysis of the area helps to realise how the company challenge its competitors, what are main trends in this sector and if there is enough demand for the goods or services which company delivers to clients.<sup>46</sup>

Main factors for sectoral analysis are:

- Regulatory environment;
- Growth potential;
- Competitiveness;
- Determining of the stage in a cycle of economy;

### 3.2.3 Specific analysis of the company

The part of the fundamental analysis which comes right after the evaluation of the economy's status of the state where company operates, the sector within this company is functioning is the fundamental analysis of the company using its financial statements for calculating via several methods the fair value of its stock.<sup>47</sup>

#### **Financial statements of the company**

Companies' financial statements used for the purposes of the company specific analysis are Balance sheet, Income statement, Cash flow.

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<sup>45</sup> SHAPIRO, E., 2010. *Macroeconomic Analysis*. New Delhi: Galgotia Publications Pvt. Ltd. ISBN: 8175157550., p.44

<sup>46</sup> Investopedia. 2020. Sector Analysis. [online] Available at: <<https://www.investopedia.com/terms/s/sector-analysis.asp>> [Accessed 24 August 2020].

<sup>47</sup> THOMSETT, M., 2006. *Getting Started in Fundamental Analysis*. Hoboken, N.J.: J. Wiley and Sons. ISBN: 0471754463., p.20

## **Balance sheet**

Balance sheet is a financial statement of company's net worth and one of three main financial documents used for the fundamental analysis. Balance sheet displays the company's assets, liabilities and amount of invested funds from the shareholders at the specific point of time. Therefore, the coefficients calculated on a base of a balance sheet needs to be compared with others which was received from the balance sheet of the same company from another period of time or with coefficients calculated on a base of balance sheets of other companies in the same sector of economy. The amount of assets in a balance sheet must be equal to som of liabilities and equity. The methodology used to get the balance sheet properly arranged is called double entry. Double entry is a fundamental concept accounting which states that all transactions processed by a company have a positive and a negative consequence stated in two or more accounts in a balance sheet. The basis is simple. Once the transaction is recorded as a increase in funds on one account, the opposite transaction of a decrease of funds is stated on another account. These records are added in terms of debits and credits. When one account is debited, another is automatically credited. Then the basic equation of a balance sheet is satisfied.

In assets accountants register current and non-current assets. The difference between them is in their liquidity. Liquidity is the characteristic of the asset or security which defines the time period within this asset or security can be converted into cash. Logically, the cash is the most liquid asset as it can be used as a payment immediately. Current assets are most close to the cash so it can be sold within a period of current fiscal year or during the current trade cycle. Non-current assets are types of funds which cannot be converted to the cash within the current fiscal year.

The order of assets is specified in accordance to their liquidity. Hence, Cash and cash securities are more liquid than marketable securities, marketable securities are more liquid than accounts receivable etc.

On the other hand, there are liabilities. Liabilities are amount of funds which the company owes to third parties for the purchased goods or services, fixed interests from issued bonds, dividends from shares etc. Liabilities are classified as well as assets. There are current and long-term liabilities. Current are liabilities are due within one fiscal year and long-term – more than one year.

Shareholders' Equity is the money received from shareholders through the issued stocks. Shareholders' equity is also called net assets of a company. It comes from the main

equity: Assets – Liabilities = Equity. In addition, there are other types of shares issued by a company which are recorded in the shareholder's equity section. The preferred stocks which were described before are listed separately from the common stock. When it comes to evaluating amounts the accounts for common and preferred stocks are multiplied by par value but the number of shares issued. Treasury stock which is the type of stocks company issues and purchases by itself to increase the percentage of shares owned by the company are also recorded in a shareholders' equity. Another type of funds stated in this section of the balance sheet is retained earnings. Retained earnings are the net earnings of the company which company directs to pay debts or reinvest.

The main items which are included in shareholders' equity are common stocks, preferred stocks, treasury stocks, retained earnings.<sup>48</sup>

### **Income statement**

The second of the three main financial statements is Income statement. Income statement is a financial statement which reflects profitability or the loss of the company over the fixed period of time. The income statement calculates as the difference between revenues and expenses, losses. This document is basically was introduced for purposes of evaluating company's efficiency. Investors can clearly see if the company profitable or not.

The income statements must satisfy to standards provided by Securities Commission. Securities commission is a governmental department or agency responsible for control over financial standards of the country. Hence in different countries there are different organisations responsible for compliance. In the U.S. it is called Securities and Exchange Commission (SEC), in Europe – The European securities and Market Authority (ESMA).

According to the formula of Income statement, the main value which can be provided is Net Income. Net Income or Net Earnings is the number which state amount of holdings left in the company after the settlement with creditors. This number is an indicator of company's profitability. After the Net Income is available the Earnings per share can be calculated by dividing it for amount of outstanding shares.

Revenues and Gains are funds received by a company on its accounts for the period when sales are made.

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<sup>48</sup> THOMSETT, M., 2006. *Getting Started in Fundamental Analysis*. Hoboken, N.J.: J. Wiley and Sons. ISBN: 0471754463., p.22-25

First type of the revenues is an operating revenue. Operating revenue is the money which is realised through the its primary activity. If the company sells goods, then its operating revenue is income from selling of these goods. Accordingly, if the company provides services, then its operating revenue is profit from payments received in exchange of these services.

Second type of the revenues is a non-operating revenue. From the name it is obvious that this type of revenue company gets from secondary business activities.<sup>49</sup> These revenues are not directly connected with the main company's business. These activities are:

- Interests from bonds;
- Dividends from stocks;
- Other income from having securities;
- Profits from loans;
- Profits from rent;
- Profits from advertisement.

Gains is another type of income except revenues. Gains are the net income which the company received for non-business activities. These activities can be selling of company owned property, machines, rent of unused land or property (if the company not specialises on the rent) etc. Expenses and losses are costs which company spent to sustain its business. Expenses can be classified by its nature to primary and secondary expenses. The logic of grouping expenses in this way is similar to the one which was described above for revenues. Primary expenses are costs which the company spent on first priority items such as costs of goods sold, advertisement, depreciation, salaries of employees, transportation costs, administrative expenses etc. Primary expenses are inevitable as the company is dependent directly on them. Hence secondary expenses are costs which company spent on business activities which are not prioritised as they are not main for the company, marketing overheads etc.

Losses are funds which company spent with no benefit for itself. Compared to expenses, losses are those costs which could be avoided by company. Examples of losses are:

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<sup>49</sup> THOMSETT, M., 2006. *Getting Started in Fundamental Analysis*. Hoboken, N.J.: J. Wiley and Sons. ISBN: 0471754463., p.25-26

- The sale of an asset for the price lower than its recorded book value;
- The payment in favour of third party as a result of court's decision;
- The obligation to return the nominal of the matured bond which is higher than its market price;

## **Cash flow**

The last but not least of the three main financial statements is Cash Flow statement. The cash flow statement is a financial statement which reveals the amount of cash or cash equivalents incoming and outgoing from a company. This document helps investors to evaluate how successful the company works with the cash. Especially how the company manages to pay its current expenses. The Cash flow statement as well as Balance Sheet and the Income statement is the mandatory part of majority of companies' financial reports worldwide.<sup>50</sup>

The main sections of the cash flow statement are:

1. Cash from operating activities (CFO);
2. Cash from investing activities (CFI);
3. Cash from financing activities (CFF).

Cash Flow from operating activities is the most important section to be considered by investors analysing the company because the company which is not able to generate sufficient positive cash flow most probably is not intended to grow. Consequently, the investment in this company is rather risky. CFO reflects all processed records in the operating activity of the company. It calculates by converting the net income and all its components to a cash item. All records connected with the main business operations of a company such as buying material for goods, payout of salaries, selling inventory etc.

Cash Flow from investing activities is the section where the company's financial investments for future purposes is calculated. As the opposite of CFO, negative cash flow of CFI is not surely the bad sign for the investor as the company may have processed some investments in this period which are not the absolute loss. Furthermore, investors do not consider the positive CFI always as a good sign. As mentioned before the positive CFO is important one while CFI only displays company's activity in future investments.

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<sup>50</sup> THOMSETT, M., 2006. *Getting Started in Fundamental Analysis*. Hoboken, N.J.: J. Wiley and Sons. ISBN: 0471754463., p.30

Cash Flow from financing evaluates cash flow between company and its shareholders (or creditors). The CFF's results are provided to investors annually in a special 10-K report. CFF is used for analysing of amounts of paid payments, interests and other transactions with creditors and shareholders. CFF helps also to evaluate the amounts of raised capital which is used in operational activities. The negative number of CFF simply means that there is more funds outgoing than incoming to the company. The positive means the opposite scenario.

After the defining all three main financial documents it is important to describe methodologies used for analysing these documents.

### **Analysis of company's financial statements**

After determining of the main financial statements of companies it is important to clarify the approaches of their analysis. The reviewed approaches are: horizontal analysis, vertical analysis, evaluation of market capitalization, evaluation of specified ratios characterizing the company from different economic aspects.

#### **Horizontal analysis**

Horizontal analysis is the method of a fundamental analysis of the financial statement which compares current records with a historical data from statements published previously. Horizontal analysis can be calculated in a percentage as in vertical analysis and in absolute comparisons. The percentage calculation based on baseline year with an amount of 100% is called base-year analysis. Horizontal analysis can be processed in percentages as well as in absolute measures.<sup>51</sup>

Investors using this type of the analysis can specify main reasons of company's successful or unsuccessful performance on the market. Furthermore, the evaluation of impact of seasonality – possibility of repeating regular changes in company's performance, can be done.

The horizontal analysis main difference for the vertical analysis is the approach which is used for selecting the base item. In vertical analysis it is a main total number which is the sum of all reviewed records. In horizontal analysis accountants and investors compare the

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<sup>51</sup> MURPHY, K., 2020. *Horizontal Analysis Vs Vertical Analysis: How To Use Them To Drive Business Success*. [online] PurchaseControl Software. Available at: <<https://www.purchasecontrol.com/blog/horizontal-analysis-vs-vertical-analysis/>> [Accessed 24 August 2020].



same item from one period to another in future or in the past. The significant rule for the analysis is to correctly choose the data for comparison. Data from one quarter can be significantly more positive in comparison to previous one but at the same time it can be same or even worse than data taken from the same quarter a year ago. Global, sectoral or some current internal events must be taken into account. In addition, various companies can dodge from the fair evaluation by transferring their funds often between their accounts. Even when all movements must be disclosed to the market, the process of analysis becomes more complex and can lead to inaccurate data.

### **Vertical analysis**

Vertical analysis is the method of a fundamental analysis of the financial statement by calculation of the percentage of each item in comparison to the entire table. In accordance to this methodology, accountants or investors interested in the company's performance calculate percentages which every item of the financial statement constitutes in relation to the total amount in the section. The financial statements analysed with this method often called common size financial statements, so the method is also having another name: "common-size". To make the analysis more substantial it is better to take into consideration several reports from different periods of time or different companies in the same sector of the economy as the received results are needed to be compared with others. In case of applying this method to a balance sheet the total assets of the company are set up as 100% so all other items will display what part of the current assets, they state in a balance sheet. Analysing the income statement, the total sales revenue must be a base item. In case of cash flow statement, the correct item is a total sales.

The main advantage of implementing the vertical analysis is the possibility of comparing performance of companies which have different size and relatively different amount of assets accordingly. As the method uses percentages there is no need also to convert amounts from different currencies.<sup>52</sup>

Moreover, the company's management can use the vertical analysis to find correlation of their actions and final results. Consequently, decisions regarding correct choice of direction new funds can be made.

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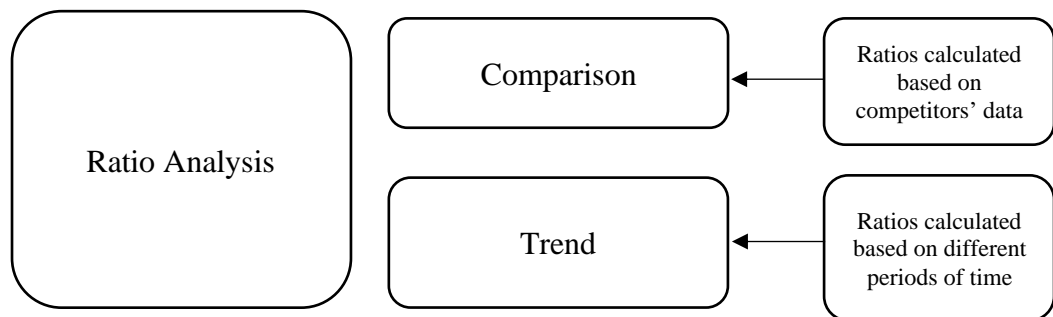
<sup>52</sup> MURPHY, K., 2020. *Horizontal Analysis Vs Vertical Analysis: How To Use Them To Drive Business Success*. [online] PurchaseControl Software. Available at: <<https://www.purchasecontrol.com/blog/horizontal-analysis-vs-vertical-analysis/>> [Accessed 24 August 2020].

## Financial ratios of company

Ratio analysis is the part of the fundamental analysis mainly based on calculating of economical ratios helpful for estimating company's liquidity, profitability, efficiency of management and as a consequence fair value of its stock.<sup>53</sup>

As per figure 3, it is obvious that good analysis requires to take into consideration several ratios which spotlight important parts of company's functionality from different sides. Evaluations of other companies' performance as well as performance of the analysed company overtime is necessary to be made. The ratios which were chosen for the analysis of the Netflix inc. stock are specified below.

Figure 3. Ratio analysis.



Source: *Investinganswers.com*, (2020)

## Market capitalization

Market capitalization of the company is the indicator of company's size on the market. It is calculated by multiplying price of the company's share to the amount of the total outstanding shares. Market capitalization is a quick way to evaluate worth of company's asset due to simplicity of its calculation. However, this indicator does not take into consideration the equity value of the company and it is not correct to value a company and make investment decisions only based on its market capitalization.<sup>54</sup>

Using this indicator, it is possible to classify companies by its size which can help to predict the future behaviour of their stock prices.

<sup>53</sup> THOMSETT, M., 2006. *Getting Started in Fundamental Analysis*. Hoboken, N.J.: J. Wiley and Sons. ISBN: 0471754463., p. 203

<sup>54</sup> THOMSETT, M., 1998. *Mastering Fundamental Analysis: How to Spot Trends and Pick Winning Stocks*. Brighton, Vic.: Wrightbooks. ISBN: 0793128730., p.131

Large-cap companies have capitalization from 10 billion USD to infinity. They tend to be a good long-term investment as companies exist for a long time in the market, they have suffered from various issues and successfully solved them. These stocks are not high-volatile but high liquid. On the other hand, the earnings per share of this securities are not high and their growth rate is relatively small.

Shares of mid-cap companies (from 2 to 10 billion USD) have a different behaviour. As these companies still have the place to expand, the growth rate of these shares is usually higher which makes the investment more desired. As a consequence, the risk of investment in this type of company is higher compared to ones with large-cap.

Investments in small-cap companies' shares (from 300 million to 2 billion USD) can be very successful if company's potential was correctly analysed. Nevertheless, this type of investment is noticeably risky as these shares are high-volatile, less liquid and hardly predictive in their behaviour.

Ratios which evaluate liquidity of the company's assets are current and quick ratio.

### **Current ratio**

The current ratio which is also called working capital ratio reflects ability or inability of the company to get rid of all liabilities which are due within a year. It calculates as the ratio between current assets and current liabilities. This ratio useful for investors to evaluate company's level of liquidity. The greater the ratio the more liquid company's assets are.

### **Quick ratio**

The quick Ratio or acid test ratio is the measurement of the ability of the company to pay its current liabilities only with the most liquid items of balance sheet: cash and its equivalents, marketable securities, accounts receivable. The quick ratio doesn't take into consideration inventory and prepaid expense assets as it is in a current ratio. It depends on a company how fast it can sell these items. However, for the better analysis both ratios are important to be included. In this case as well as for current ratio the greater the ratio the more liquid company's assets are. Another type of ratios for fundamental analysis are ratios determining company's leverage. There are debt ratio and debt-to-equity ratios.

### **Debt Ratio**

The debt ratio is a financial indicator of a level of the company's leverage. It is calculated as a ratio between total debt and total assets. Investors using this value can

estimate how much funds the company has borrowed. If the ratio is greater than 1 then the company's share is estimated as a risky investment because the amount of borrowed holdings exceeds the owned. It doesn't mean that company will surely become bankrupt. Some companies can gain more funds even faster with negative leverage but only in case of the precise management.<sup>55</sup>

### **Debt-equity ratio**

The debt-equity ratio is a evaluation of a company's financial leverage. It calculates by total liabilities dividing the total shareholders equity. Debt-equity ratio is a popular check for the commercial banks to decide to approve or deny providing a loan to the client. If the ratio is greater than 1, a 10 for example, then the company has more liabilities per its equity and investment to its stock can be evaluated as a highly risky. More the ratio index, the riskier the investment.<sup>56</sup>

Ratios which evaluate fair value of the company's share using information about its dividend payments, sales and data from financial statements are P/E, P/B and P/S ratios.

### **Price-to-earnings ratio**

The price to Earnings ratio calculates as market value of the share dividing the share's earnings. This ratio shows how the market price of the share reflects the potential earnings which can be received by holding its share. It is calculating in absolute values. The lower the ratio the more beneficial and profitable the stock.<sup>57</sup>

### **Price-to-book value ratio**

Price-to-book value ratio compares the real share price with its real price calculated by the difference of its total assets and total liabilities. It is a quick tool for analysing if

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<sup>55</sup> BULKOWSKI, T., 2012. *Fundamental Analysis And Position Trading*. Hoboken: WILEY. ISBN: 9781118508749., p. 61

<sup>56</sup> BULKOWSKI, T., 2012. *Fundamental Analysis And Position Trading*. Hoboken: WILEY. ISBN: 9781118508749., p. 62

<sup>57</sup> BULKOWSKI, T., 2012. *Fundamental Analysis And Position Trading*. Hoboken: WILEY. ISBN: 9781118508749., p.67

company's shares are overestimated by market or not. However, this ratio does not take in account other important measures and might be elucidated incorrectly.<sup>58</sup>

### **Price-to-sales ratio**

Price-to-sales ratio is a financial indicator which compares company's revenues with its share price. It indicates how market valued the share price of this company based on its revenues which is a measure of its performance.<sup>59</sup>

Profitability ratios are following type of ratios used in fundamental analysis. Profitability ratios are useful to indicate level of company's profitability which it was able to generate.

### **Return on assets ratio**

The return on Assets (ROA) is the indicator of the company's profitability in terms of its total assets. Generally, this ratio shows amount of earnings formed from invested capital. ROA is strongly dependent on the sector where company operates so it is crucial to compare companies within one environment using this this ratio. Higher the ROA the more efficient company uses its assets.<sup>60</sup>

### **Return on equity ratio**

The return on Equity ratio (ROE) is the indicator of level of company's efficient in managing of assets. It shows how much profit company receives based on its assets. The crucial difference between ROE and ROA is that debts and liabilities are not taken into account in calculating. So the amounts of liabilities changing overtime can be a reason of increasing distinction between indicators. ROE as well as ROE is used for comparisons of companies from one sector only. It is also used often for matching the values of the company with the averages in the sector. Higher the ROA the more efficient company uses its assets.<sup>61</sup>

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<sup>58</sup> BULKOWSKI, T., 2012. *Fundamental Analysis And Position Trading*. Hoboken: WILEY. ISBN: 9781118508749., p.24

<sup>59</sup> BULKOWSKI, T., 2012. *Fundamental Analysis And Position Trading*. Hoboken: WILEY. ISBN: 9781118508749., p.73

<sup>60</sup> BULKOWSKI, T., 2012. *Fundamental Analysis And Position Trading*. Hoboken: WILEY. ISBN: 9781118508749., p.81

<sup>61</sup> BULKOWSKI, T., 2012. *Fundamental Analysis And Position Trading*. Hoboken: WILEY. ISBN: 9781118508749., p.81

### **Return on capital employed ratio**

Return on capital employed (ROCE) is an indicator company's profitability based on its capital's expenditures. Unlike ROE, ROCE takes into considerations data from company's debt as well as equity while ROE doesn't take account of debt at all. This distinction makes possible further analysis of companies with remarkable debt. Another distinctive feature of ROCE is that it is a helpful indicator for analysing companies functioning in capital-intensive sectors. The more ROCE ratio is the more profit company is generating per one USD of capital employed.<sup>62</sup>

### **Return on invested capital**

If the ROCE is a ratio calculated based on data before-tax and ROIC – based on data after-tax. Another advantage of the ROIC is its correlation with another financial indicators such as P/E ratio. Analysing of company's ROIC and P/E combined avoids the investor from the losses due to incorrect interpretation of results.<sup>63</sup>

### **Credit ratings**

In addition to analysing financial statements of the company its credit rating needs to be taken into consideration as well. Credit rating helps investors to determine if the company's financial condition is satisfactory for purposes of investment in it or not.

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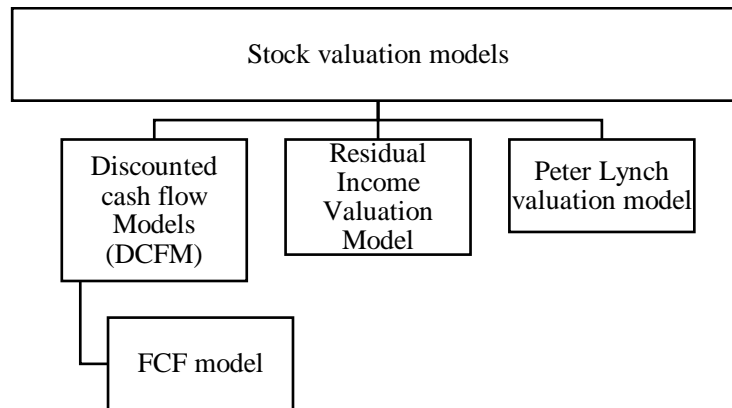
<sup>62</sup> Corporate Finance Institute. 2020. Return On Capital Employed - Learn How To Calculate ROCE. [online] Available at: <<https://corporatefinanceinstitute.com/resources/knowledge/finance/return-on-capital-employed-roce/>> [Accessed 24 August 2020].

<sup>63</sup> Corporate Finance Institute. 2020. ROIC - Formula, Examples, How To Calculate ROIC. [online] Available at: <<https://corporatefinanceinstitute.com/resources/knowledge/finance/what-is-roic/>> [Accessed 24 August 2020].

## Stock valuation models

Stock valuation can be calculated in various ways. The methodology of the stock valuation models is provided in the figure 4 <sup>64</sup>.

Figure 4. Stock valuation Models



Source: *Sciencedirect.com*, (2015)

## Discount cash flow models

Discount cash flow (DCF) models are used for evaluation the investment in stock based on company's future cash flows. Investors who use this model assume that the value of share today can be calculated based on projections of amounts which will be accumulated by company in future. The discounted cash flow model used for those companies which growth rates and margins are not expected to be stable and tend to vary in future. DCF model can be calculated based on earnings of the company or its free cash flow (FCF).

## Residual Income model

First of all, residual income is the type of income that company generates after accounting for the accurate cost of its capital. Accurate cost of capital differs from the cost of capital stated in the income statement. Accurate cost of capital takes into consideration cost of debt but cost of equity as well. Defining of the residual income helpful for investors because it clarifies the actual profitability of investment in company stock. The investment is not potentially successful if the residual income is negative even when the company is

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<sup>64</sup> Procedia Economics and Finance, 2020. *Fundamental Analysis Models in Financial Markets*. [online] 30(2015), pp.939-947. Available at: <<http://www.sciencedirect.com>> [Accessed 24 July 2020].

profitable in accordance to its financial statements. Residual income model estimates fair value using values of company's residual income, current book value of the company and expected rate of return of investment.

### **Peter Lynch valuation model**

Peter Lynch is deservedly named one the best mutual fund manager in history. One of his best performances was his work in Fidelity's Magellan Fund for 13 years where value of assets was increased by his supervisory from 18 million USD to 14 billion USD.

Peter Lynch has introduced the Price-to-Earnings-to-Growth ratio which is a transformed version of P/E ratio. It solved a shortcoming of the P/E ratio by including in the formula future growth rate of earnings. The formula of Peter Lynch fair value of stock also includes Earnings before interest, taxes, depreciation, taxes, amortization ratio (EBIDTA) for the chosen amount of years and Earnings per share without non-recurring items (EPS without NRI).



### 3.3 Technical analysis

Technical analysis is the opposite type of the analysis compared to the fundamental analysis. Technical analysis is the trading discipline for evaluating a profitability of the investment in stock on a base of statistical data and current trends on the securities market. Methodology used in a technical analysis do not take into consideration the factors used in a fundamental analysis such as GDP, inflation, unemployment rate, ratios based on financial statements etc. Technical analysis tools are aimed to evaluate the relationship between the demand and supply on this stock, security potential to growth in nearest future. Technical analysis can be used for any security which has the historical records of trade.

Modern methodological approach used in technical analysis is based on a Dow theory from Charles Dow. It was introduced in 1800s in the U.S. as the new way of analysing of investment in stock. Dow implemented methods of registering the highest and lowest prices of stock for a certain period of time. Then correlation between these values and trends is investigated. Except Dow other people: William P. Hamilton, Robert Rhea, Edson Gould, John Magee were also implicated in developing of the technical analysis.<sup>65</sup>

Three main rules used in a technical analysis are:

- 1) The market considers everything;
- 2) Price moves according to trends;
- 3) History repeats itself.

First rule means that all news on the markets as well as rumours, demand and supply on the stock can affect its price. Consequently, the analyst who use the technical analysis has to pay more attention on the above factors than on fundamental factors.

Second rule represents the importance of trends in analysing. The price of the trend doesn't change disorderly. There is always a trend which can be calculated, and future price can be predicted on its base.

Third rule is shows that if the analysis if a chart made in the past has worked then it can be used in future when the same cycle of trend will be in place.

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<sup>65</sup> THOMSETT, M., 2006. *Getting Started in Fundamental Analysis*. Hoboken, N.J.: J. Wiley and Sons. ISBN: 0471754463., p.187

## 4 Practical Part

### 4.1 History of the company

Netflix Inc. was founded on the 29th of August in the 1997 in Scotts Valley, California by Marc Randolph and Reed Hastings. They were software engineers.

In the beginning Netflix provided to its customers services where people could rent DVD`s with films. At that time Randolph was a co-founder of computer mail-order company MicroWarehouse. He had some experience in the similar field.

On April 14, 1998 Netflix office with 30 workers was opened and there were only 925 films for rent.

Name of the company is a combination of two words “Net” and "Flix”. “Net” means internet an “Flix” - abbreviation of "flicks" which is a slang word used for a film.

The main advantage of the company was ability to send the small size packages which could be shipped very cheaply. Competitors of the company were video rental stores.

After a month since opening Netflix announced a promotional venture with Toshiba America to offer three free DVD for customers who bought new Toshiba DVD players and Pioneer DVD players. Later contracts with Hewlett-Packard, Apple, Sony were also signed.

In 1998 Netflix stopped selling DVDs and asked customers to use a website of Amazon.com instead. Netflix in this deal got promoted on Amazon's which was enormously highly-trafficked website.

Later in September Netflix introduced a new service which was a start of the new way of developing. It was the Marquee Program which allowed members for \$15.95 per month to pre-select four DVDs, with no late fees or due dates.

Next year the company reported losses of \$29.8 million on revenues of only \$5 million which was not attractive for investors.

In February 2000, Netflix introduced another new service which was called CineMatch. It helped clients to choose a film comparing films and looking for similarities in taste, using this information to recommend titles to people whose profiles were similar.

At the same time, the firm phased out single-title rentals, as 97 percent of its business was now derived from the Marquee Program. The company was currently distributing more than 100,000 DVDs per week.

In May 2000, Netflix announced plans for an initial public offering (IPO) of \$86.25 million worth of common stock, but they cancelled it after.

In 2000 Netflix inc. have set an agreement with Warner Home Video and Columbia Tri-Star which helped company to fulfil requests for new releases. A number of other studios, including DreamWorks and Artisan, were soon signed up as well.

Amount of foreign films were increasing in years which was a great advantage comparing to competitors such as Blockbuster and Wal-Mart.

In September 2001, Netflix decided to provide their products in 1800 stores among the country with a partnership with electronics and DVD retailer Best Buy.

In March 2002 finally made its IPO. It sold 5.5 million shares in late May it raised \$82.5 million, more than some had expected. In conjunction with the IPO, the firm also quietly amended its name to Netflix, Inc.

With an increasing of number of subscribers competition with others started heating too. At first, old rival Blockbuster unlimited subscription for DVD services. Moreover, Wal-Mart started its own unlimited online DVD Rental service which was priced at \$18.86 which was one dollar less than Netflix`s price. Also, Wal-Mart had 12,000 titles available which is also more than in Netflix`s collection.

All these events led to increasing of a subscriber cancellation rate and the company's stock price dropped by more than half.

One million people were subscribed in February of 2003. Stock price hit \$22 per share which was twice higher than at the IPO. (Netflix has raised a total of \$3.1B in funding over 10 rounds.)

Netflix, Inc. was still in growth mode since the start of the business. Possible reasons of this performance were: a strong distribution system, customer loyalty, and the newly received patents for its software programs.

For improving situation on the market Netflix launched the \$1 million prize for changing its recommendation system, an algorithm for predicting an individual`s movie preferences for customers. Three years later it was awarded to a team made up of seven mathematicians, computer scientists, and engineers.

2007 year was very crucial for the company because at that moment of time Netflix decided to change the way of providing content to clients. As a result, content started to offer for viewing from a PC or other devices with connection to the internet. The company is primarily responsible for the rise of streaming and it influenced on all production of films in Hollywood. The main way of delivery of the content was changed.

In 2007 Netflix made a huge mistake. CEO Reed Hastings announced that the company would charge separately for the DVD rentals and the streaming content. New company Qwikster would be working with the physical DVD rentals. While Netflix would concentrate the streaming. Consequently, prices for subscribers had increased and later cancellations of subscriptions started increasing significantly. Then company denied an idea of separating but the damage was done, and stock price had dropped 75% from its peak.

As an investment stock of the Netflix inc. was very successful if you bought it in the beginning. In 2018 its price was nearly \$400 for a share. Reasons for this growth were incredible numbers of subscribers who were rising each quarter. But after some time, investors had a doubt about future growth of the company.

On 20th of October 2019 its price was \$275,30. Company struggles to find a bullish strength and it is a result of a new imminent threat - strong competition on the market. In 2020 some powerful giants such as Disney and Apple will participate in streaming of their content. And it can be more harmful for Netflix inc. due to size of their budgets. Thus, Netflix inc. needs to pay more for producing its own content to attract clients and hold them. But the problem is that require huge amount of money and Netflix already has a poor cash flow which is not a good sign for investors.<sup>66</sup>

## 4.2 Competitors

Home Box Office (HBO) is an American paid television and online streaming service which provides clients with its original content. HBO is one of the oldest subscription services in the U.S. as it was launched on November 8, 1972. The main difference between HBO and Netflix is their assortment of movies and TV series. While Netflix streams its original content as well as content produced by third parties and streamed on a base of various agreements, HBO streams only their own-filmed content. Consequently, main attractive points for clients to purchase the subscription are projects which companies produce their selves. Currently HBO is owned by a telecommunication company AT&T,

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<sup>66</sup> Netflix, I., 2020. History Of Netflix, Inc. – Fundinguniverse. [online] Fundinguniverse.com. Available at: <<http://www.fundinguniverse.com/company-histories/netflix-inc-history/>> [Accessed 24 August 2020].

hence there is no stock of HBO directly but of AT&T and analysing will be processed on a base of AT&T shares.<sup>67</sup>

Amazon Prime Video is an American video streaming service which provides clients with its original movies and series and other media. It is available by subscription called Amazon Prime. The Amazon is one of the main competitors of Netflix because of its price and variety of projects. However, it is available only together with services for Amazon marketplace (discounts, possibilities to buy products on amazon website as a special offer, discounts in U.S. groceries etc.). Shares of amazon prime also are not available on the stock exchange. Shares of the Amazon are traded instead so the analysis of this share was made.<sup>68</sup>

Disney + and Hulu are American streaming services both owned by a Disney company. Disney has noticed that demand on streaming services have been increasing through last ten years and the management decided to purchase stake of 30% of shares of the quickly gaining popularity service Hulu in 2017 and the majority of shares (67%) as a consequence of acquisition with the 21<sup>th</sup> century Fox in 2019. The service is popular among others mostly because it was a pioneer in producing original series which are the main attractive feature for clients. Its subscription price is also lower comparing to other competitors. Disney + was introduced by Disney only in on November 12<sup>th</sup>, 2019. As Disney has already owned the Hulu the target groups of services differ. When Hulu is mainly focused on adults, Disney+ produces family content. Comparing to other streaming services Disney+ has significantly more original content as the company has the rights for all most popular movies, tv series, cartoons etc.<sup>69</sup>

Apple TV+ is the American streaming service which provides to clients the original content only owned by Apple inc. Apple did not choose to stand aside while other giants have been introducing their paid subscription services so Apple+ was created on November

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<sup>67</sup> Investors.att.com. 2020. 2020. [online] Available at: <<https://investors.att.com/financial-reports/quarterly-earnings/2020>> [Accessed 10 July 2020].

<sup>68</sup> Ir.aboutamazon.com. 2020. *Amazon.Com, Inc. - Overview*. [online] Available at: <<https://ir.aboutamazon.com/overview/default.aspx>> [Accessed 10 July 2020].

<sup>69</sup> The Walt Disney Company. 2020. *Investor Relations - Stock Information, Events, Reports, Financial Information, Shareholder Information - The Walt Disney Company*. [online] Available at: <<https://thewaltdisneycompany.com/investor-relations/>> [Accessed 10 July 2020].

1<sup>st</sup>, 2019. As other competitors' clients can find popular movies and series as well as content which is available only on this platform. <sup>70</sup>

### 4.3 Fundamental analysis of Netflix Inc. stock

Fulfilment of the fundamental analysis can't be fully finished without analysing the state of the economy at the level of the U.S. and the financial sector where Netflix operates as well as the sector of the economy. Moreover, for creating a clear picture of the company's performance the financial statement must be analysed and used for evaluating of specific coefficients. Then, the stock fair value can be calculated.

#### 4.3.1 Macroeconomic analysis

##### Real GDP growth rate

Obviously, GDP of all countries worldwide has decreased due to consequences of implementations of restrictions connected with COVID-19. The U.S. is not an exception in this case. Real GDP growth rates of the U.S. and average GDP worldwide is stated in in the table 1 according to the OECD's data, the growth rates on a 10-year distance were on the same level between 1,5%-3% and 2,5%-5,3% in the U.S. and worldwide accordingly. However, the change of this indicator in 2020 is impressively high. It is -8,5% for the U.S. and 7,6% worldwide. OECD's analysis regarding the economy's recovery in 2020 is evidently positive.

The GDP growth rate probably might rise to 1,9% in the U.S. and 2,75% Worldwide. Nevertheless, due to a big recession in the year 2020 the GDP of countries still will be lower than in last 2 years.<sup>71</sup>

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<sup>70</sup> Investor.apple.com. 2020. *Apple - Investor Relations*. [online] Available at: <<https://investor.apple.com/investor-relations/default.aspx>> [Accessed 10 July 2020].

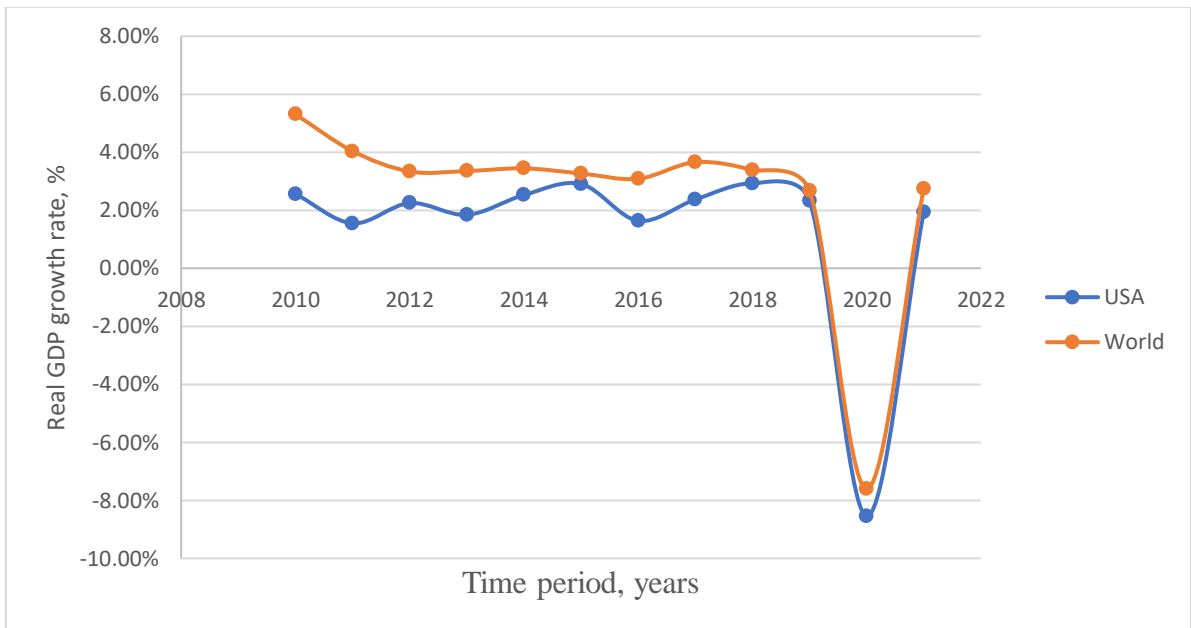
<sup>71</sup> OECD. 2020. *OECD Data*. [online] Available at: <<https://data.oecd.org/>> [Accessed 30 September 2020].

Table 1. Real GDP growth rate, 2010-2019, %

Date/Region	U.S	World
2010	2,5638%	5,3093%
2011	1,5508%	4,0403%
2012	2,2495%	3,3367%
2013	1,8421%	3,3528%
2014	2,5260%	3,4458%
2015	2,9080%	3,2686%
2016	1,6378%	3,0852%
2017	2,3698%	3,6574%
2018	2,9273%	3,3894%
2019	2,3333%	2,6645%
2020	-8,5398%	-7,6026%
2021	1,9312%	2,7502%

Source: data.oecd.org, (2020)

Figure 5. Real GDP growth rate forecast in the U.S. and Worldwide, 2010 – 2021, %



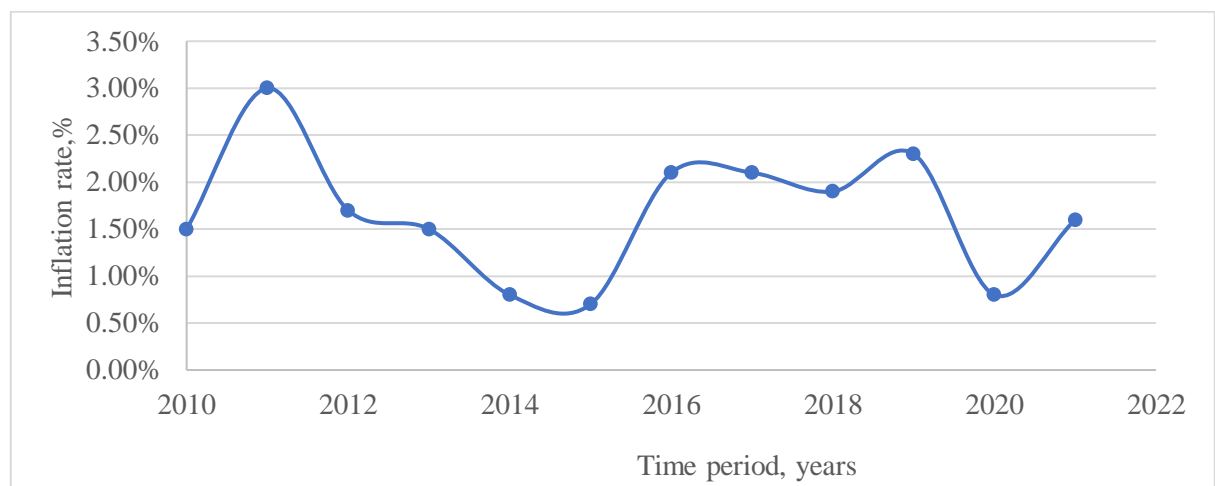
Source: data.oecd.org, (2020)

The changes in Real GDP growth rates in the U.S. and in the world are mentioned on the figure 5 as well. OECD forecast states that the magnificent decrease in 2020 is obvious. Analytics assume that it will be improved in 2021.<sup>72</sup>

### **Inflation rate**

There are no extraordinary fluctuations of the inflation rates of the U.S. from 2010 to 2019. The lowest record of 0,7 % was in 2015 and the highest – 3,00% in 2011. Even, after financial consequences of COVID-19 restrictions in the country the future inflation rate prognosed to be lower than in 2019.

Figure 6. Inflation rate forecast, 2010 – 2021, %



Source: *data.oecd.org*, (2020)

### **Unemployment rate**

Next main factor of analysis of GDP is the unemployment rate. The annual data of unemployment rate in the U.S. is stated on the figure 7 and it is obviously confirming that restrictions implemented by a government due to COVID-19 measures made a serious impact in 2020. The trend of unemployment rate from 2010 to 2019 was decreasing and each

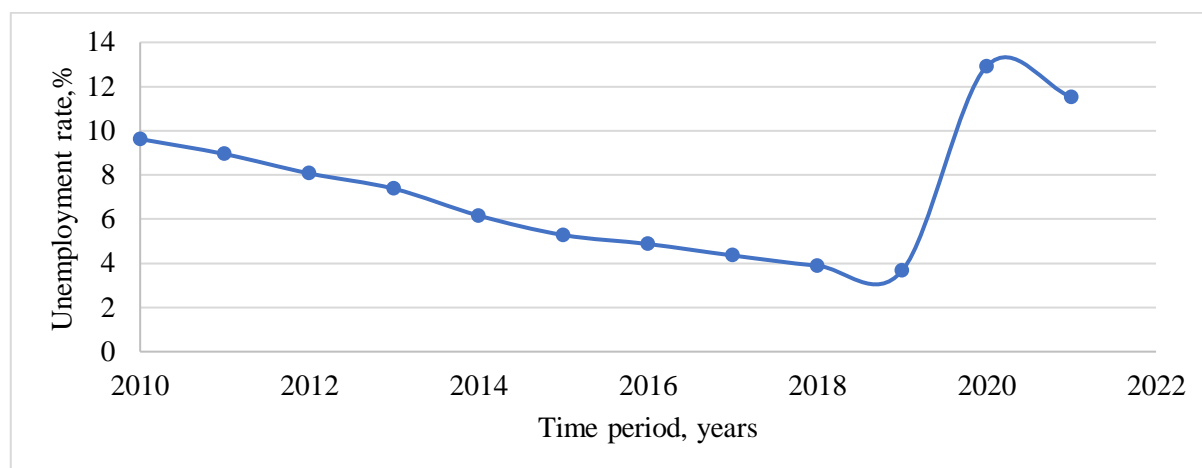
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<sup>72</sup> OECD. 2020. *OECD Data*. [online] Available at: <<https://data.oecd.org/>> [Accessed 30 September 2020].



year rate was changing negatively by 1%. Although OECD predicts that finally in 2020 it will be equal 12,92% and will slightly decrease in 2021 to 11,52%.<sup>73</sup>

Figure 7. Unemployment rate forecast, 2010 – 2021, %



Source: *data.oecd.org*, (2020)

### Comparison of Deposit rates with Index of S&P 500

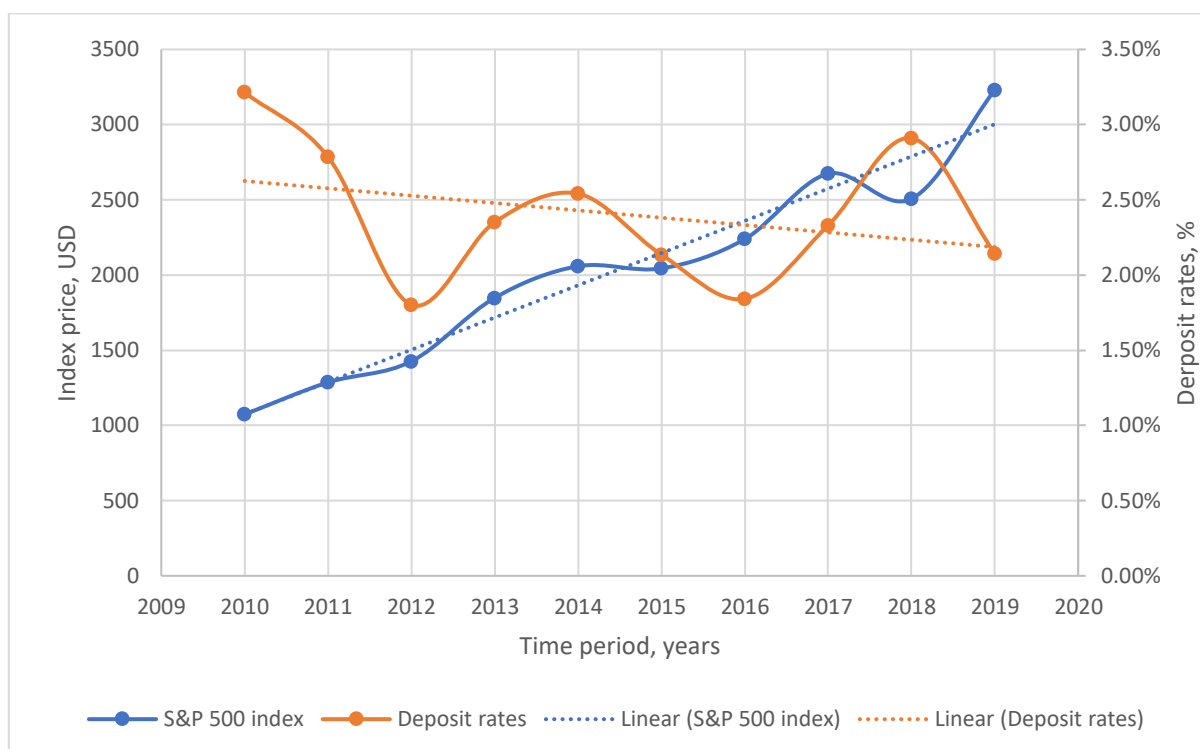
As the deposit rates of central banks and share prices of companies are contrary to each other it is appropriate for the analysis to compare them. The main share index of the U.S. S&P 500 and deposit rates of Federal Bank (FB) of the U.S.A are compared on the figure 8. According to the data from FB official website and Yahoo. Finance. com the behavioural trend of share prices is growing and for deposit rates of FB it is decreasing. According to the trends stated below the deposit rates are supposed to continue to fall while the share prices of selected companies – grow. However, due to effects of COVID-19 restrictions these amendments are supposed to happen deliberately.<sup>74 75</sup>

<sup>73</sup> OECD. 2020. *OECD Data*. [online] Available at: <<https://data.oecd.org/>> [Accessed 30 September 2020].

<sup>74</sup> Federalreserve.gov. 2020. Federal Reserve Board - Home. [online] Available at: <<https://www.federalreserve.gov/>> [Accessed 24 September 2020].

<sup>75</sup> Finance.yahoo.com. 2020. *Yahoo Is Now A Part Of Verizon Media*. [online] Available at: <<https://finance.yahoo.com/>> [Accessed 10 July 2020].

Figure 8. Changes in prices of S&P 500 index and rates of FB, 2010-2019, USD and %



Source: *Data.oecd.org*, (2020), *Yahoo Finance*, (2020)

### Historical data for Netflix’s stock price

After all selected indicators of the macroeconomic analysis are reviewed it is useful to compare the fluctuations, trends and changes in data with historical prices of Netflix’s stock.

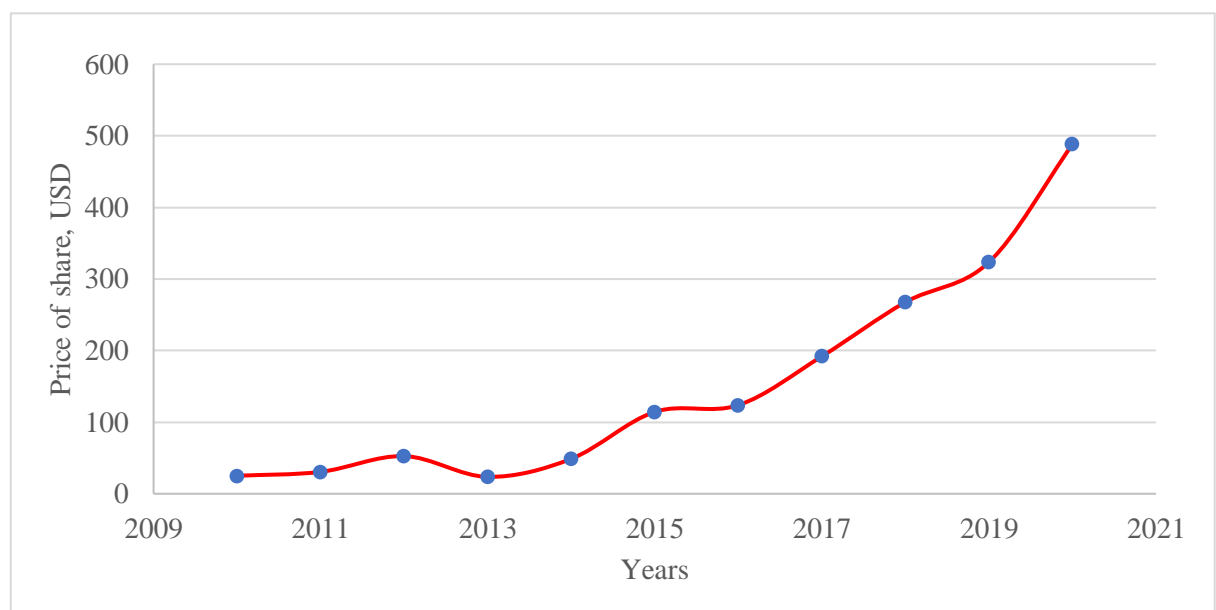
First of all, there is no doubt that the stock price of Netflix has a trend for growing and the price has been increased swiftly for the last 5 years. The biggest changes were in a period from 2013 to 2015. The price of the stock has fallen in the 2013 due to their careless treatment with customers and losing 800,000 subscribers that year. As no extraordinary changes were in the U.S. economy’s figures that year the reason above was the main one for the decrease in the price. From the figures specifying whole economy of the state it is obvious that conditions for companies stayed positive and comfortable for developing. Consequently, the change in management approach of treatment the customers lead the stock price of the company to increasement by 107% in the 2014 and 134% in 2015.<sup>76</sup>

<sup>76</sup> Finance.yahoo.com. 2020. *Yahoo Is Now A Part Of Verizon Media*. [online] Available at: <<https://finance.yahoo.com/>> [Accessed 10 July 2020].

In addition, as a consequence of limitations of free movement across the U.S., closing the public places in 2020, the stock price of Netflix is currently increasing, and its growth rate can be one of the most massive compared to previous years.

On the other hand, the process of growing of the stock prices of Netflix and other streaming services can be suspended by the implementing of the new vaccine for the COVID-19. According to the report of Moderna from 16<sup>th</sup> of November 2020, its vaccine has level of efficiency equals 95% which makes it the best one on the market. Another pharmacy company called Pfizer announced that its efficiency is on the same level. All these reports in addition with rumours on the market make investors and speculators think that the trend which pushes shares of media companies to grow will change its direction. In other words, the belief in the end of the pandemic measures and lockdown is close and customers will diversify their spending in a different way and allocate them for other purchases rather than for streaming of videos due to willingness to spend more time outside.<sup>77</sup>

Figure 9. Development of stock price of Netflix, 2010-2020, USD



Source: *Yahoo.Finance.com*, (2020)

<sup>77</sup> Tseng, A., 2020. *Ignore The Coronavirus Vaccine Sell-Off, Netflix Is Still A Huge Buy | The Motley Fool*. [online] The Motley Fool. Available at: <<https://www.fool.com/investing/2020/11/19/ignore-the-coronavirus-vaccine-sell-off-netflix-is/>> [Accessed 20 November 2020].

## **Political shocks**

The main political shock which needs to be taken into consideration is effect of COVID-19 restrictions introduced in the U.S. and all around the world. The impact of the virus didn't affect only China where it was registered in a first place. After several months from first cases the whole world has suffered from it. In the beginning the countries in the Asia were affected the most: China, Japan, South Korea, Taiwan etc. After it was spread to all regions. To solve those issues countries, try to reduce interest rates. European Central Bank has lowered the interest rates to negatives. Moreover, U.S. Federal reserve has reduced interest rates by 0,5 percentage points which can attract businesses to borrow more which will increase the money supply.

Another fact which was caused by virus is the increase in purchasing of U.S. bonds. The reason is that investor is interested in purchasing of safe assets in this uncertain time. However, it is obvious that containment measures have resulted the magnificent amount of short-term asset losses. The researches of International Monetary fund confirm that short-term economic losses are more considerable in countries with stronger fiscal policy and less in those where the monetary policy is more applied.

On the hand, the countries which have softened lockdown restrictions have an increase in economic activity due to resumption of economic ties. On the other hand, this result is temporary, and it depend on continuing health situation and governmental decisions. Though it was proven on the Sweden's economy indicators that even those countries which haven't implemented lockdown measures are still suffering from caused economic problems due to global nature of this shock.

Elections process in the U.S. is also the major political factor which influences on stock prices. As the chosen company and its competitors are based in the U.S. there is no doubt that the result of election will affect their prices. Analysts assume that prices will be slightly changed for the following year while prices on bonds will be higher significantly. It is expected that there is no much difference which party will take the leadership, but it is more important if the president and senate will be presented by members of the same party. Only this fact will most probably bring in the high volatility on market. According to US bank's research, if the president of the new party will be controlling in senate then the stock

market will increase around 5%. If the president will be unchanged or one party retains control of the White House, then the increase will be 6,5%.<sup>78</sup>

#### 4.3.2 Sectoral analysis

The analysis of streaming video services sector is presented in this part. The performance of companies of the industry within U.S. their competition and regulation by the state was analysed.

If COVID-19 impacted the whole economy as a thread. The companies of the information technologies sphere did not suffer so much. Just the other way around, those companies have announced mostly the impressively grown revenues. Their share prices have grown since all lockdowns were implemented all around the world.

The streaming video service or Subscription-based Video-on-Demand service is a type of service which offer to customers access to their collections of videos (films, TV series, etc) for a subscription fee. This sector became popular in US and worldwide since the devices used for consuming of the content has been developed in a way that watching of the content became comfortable, accessible and affordable. The number of subscribers of those services in 2015 was only 171,3 million people while in 2019 this number increased to 642 million. According to data prognosed by analysts the number of subscribers will be around 1.161 billion people in 2025. Consequently, the 10 times growth of this number shows that the sector has a massive potential to accumulate more recourses and companies which are functioning in this sector tend to become most expensive in the world.

Moreover, the industry of video streaming services has been called one of the fastest growing in the U.S. currently. Its growth rate of all accumulated revenue has increased by 24%. It is comparable with stock and commodity exchange rate with its rate of 26,3% and 3D printing & prototyping services with growth rate of 28,8%.<sup>79</sup>

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<sup>78</sup> Usbank.com. 2020. How Presidential Elections Affect The Stock Market | U.S. Bank. [online] Available at: <<https://www.usbank.com/investing/financial-perspectives/market-news/how-presidential-elections-affect-the-stock-market.html>> [Accessed 24 October 2020].

<sup>79</sup> IG. 2020. *Streaming Wars: Will Netflix, Amazon, Disney Or Apple Come Out On Top?*. [online] Available at: <<https://www.ig.com/en/news-and-trade-ideas/streaming-wars--will-netflix--amazon--disney-or-apple-come-out-o-191120>> [Accessed 20 August 2020].

The main reasons for rapid growth of the industry are:

*Internet services becoming more accessible*

Number of internet users has grown significantly recently. From 2005 to 2015 it changed from 1 to 3,3 billion people. If in developed countries internet is a usual attribute and majority of population have access to it, number of users in developing countries continues to grow annually and still there is enough space for growing. In addition, speed of the connection becomes cheaper and faster each year. This factor is crucial for streaming providers as their content requires high speeds for downloading.

*Development of mobile technologies*

From the presentation of the iPhone in 2007 market of smartphones started to develop rapidly. For past decade possibilities of mobile devices has changed significantly. Watching of content became possible not only on devices used at home but on portable devices as well. Hence, customers can access their subscribed services at any location where they want it.

*High competition on the market provides more options for lower costs*

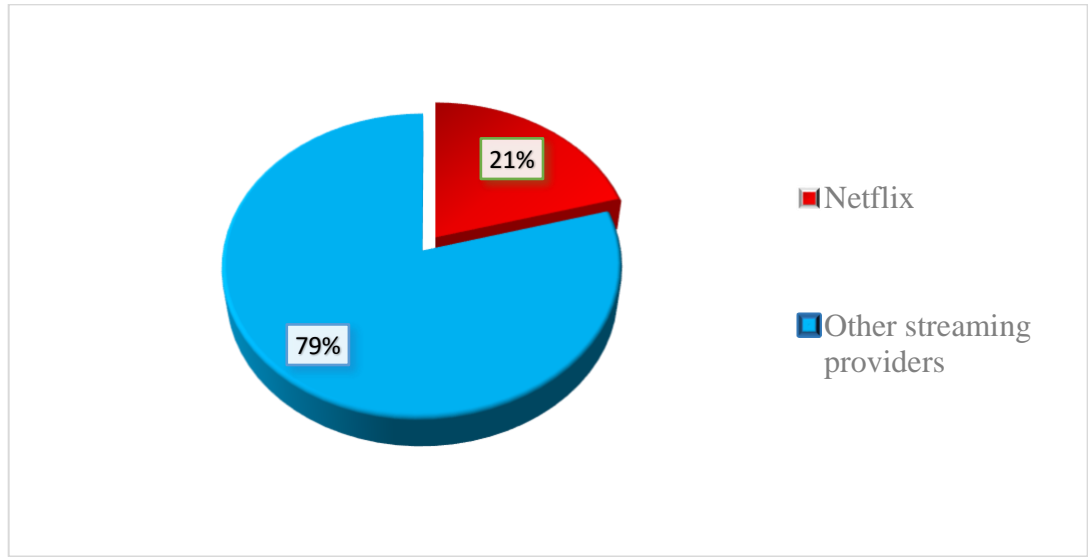
Obviously, the higher competition in the industry, the higher quality on the product companies need to provide. Prices changes, implementing of different discount types are also the way to achieve more attention from customers. In the aggregate all this expand increase consumer layer.

### **Companies' share of market**

Compared to Netflix other services such as HBO, Amazon Prime Video and Apple TV+ have an obvious advantage in recruiting an audience. As streaming services are owned by a larger corporation which have diversified business activity, streaming services' subscriptions are distributed to clients not only through the direct purchase on the website but also in addition to other products which companies sell to clients. AT&T provides HBO subscriptions to clients with an unlimited plan, Amazon gifts clients subscription for Amazon Prime in addition with purchased Amazon hardware products and so the Apple do.

However, the content quality is the most important aspect for customers to make a decision for buy a subscription. As a consequence of the successful managing of Netflix Inc. its share of the market equals 21% worldwide which is the first place in a rating. The total amount of Netflix's users prevails others and equalled 167,1 million people in 2019. The share of the market of Netflix is stated on the figure 10.

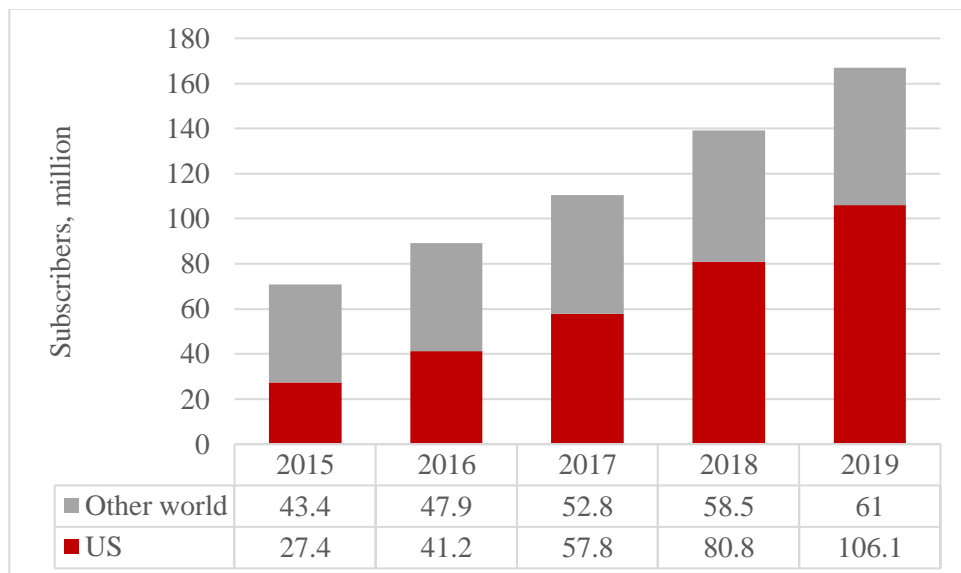
Figure 10. Share of Netflix's subscribers worldwide, 2019, %



Source: *statista.com*, (2020)

It is necessary to mention that the chosen company increase number of subscribers not mainly from U.S. but also from other countries. On the figure 11 the expansion of Netflix Inc. is stated in a period from 2015 to 2019.

Figure 11. Netflix's expansion, 2015-2019, million subscribers



Source: *Statista.com*, (2020)

## **Life cycle**

In general, the demand on streaming video services grows constantly. The competition on the market is high and will become more intensive due arriving of new companies to this sector.

The annual number of users worldwide has grown from 348 million USD to 403 million USD in 2019 compared to 2018.

The revenue of this sector only in U.S. has increased from 12,8 to 15,9 million USD in 2019. Worldwide it has changed from 36 to 53 billion USD in 2019.

Number of competitors grows as well. Chinese companies are entering the local market with a massive customer layer. The biggest companies as Disney and Apple launch their own services with original content available.

All this data is sufficient to make a conclusion that the chosen sector in an expansion stage of economic growth which is the most attractive for investors.

### **4.3.3 Specific analysis of the company**

Company specific analysis has been introduced through vertical analysis, horizontal analysis, calculating company's financial ratios and estimating fair value of its stock.

#### **Vertical analysis**

As a result of vertical analysis, the key changes in the balance sheet are:

Decreased amount of Prepaid Expenses and Other Current Assets from 22,71% in 2018 to 3,41% in 2019 as well as total amount of current assets – from 37,32% to 18,19% accordingly. Goodwill is also increased in around 15%, from 57,56% to 72,12. According to the income statements for 2010-2019 years the amounts of cost of sales and gross profit were on the same level with no extraordinary fluctuations which is reflected in table 2. This fact confirms that management of the company spends the similar share of capital to achieve its financial goals. It is a positive change that in 2019 the cost of sales decreased comparing to previous year while the gross profit increased as a result.



Table 2. Key changes in Income statement of Netflix, 2010-2019, %

Year/Statement	Operating Revenue	Cost of Sales	Gross Profit
2010	100	62,76	37,24
2011	100	63,66	36,34
2012	100	73,48	26,52
2013	100	71,26	28,74
2014	100	68,17	31,83
2015	100	67,73	32,27
2016	100	70,86	29,14
2017	100	68,70	31,30
2018	100	63,11	36,89
2019	100	61,72	38,28

Source: Own calculations, (2020)

Using the vertical analysis, it is also suitable to compare other companies' indicators.

In the table 3 the key changes in income statement of Netflix and its competitors are stated. Compared to other numbers of Netflix are not the best but they are on the same level as numbers of Disney, Amazon and Apple. The AT&T has the best result in the industry according to this range of data.

Table 3. Key changes in Income statement of streaming service companies in 2019, %

Statement/ Company	Netflix	Amazon	AT&T	Disney	Apple
Operating Revenue	100	100	100	100	100
Cost of Revenue	61,72	59,01	46,44	60,40	62,18
Gross Profit	38,28	40,99	53,56	39,60	37,82

Source: Own calculations, (2020)

## Horizontal analysis

According to financial statements of Netflix for last ten years its financial indicator were constantly growing which is reflected in the table 4.

Table 4. Changes in financial indicators of company, 2010-2019, %

Year/Statement	Changes in Operating Revenue, %	Changes in Cost of Sales, %	Changes in Gross Profit, %	Changes in Net Income, %
2011	48,18	50,28	44,63	40,52
2012	12,63	30,01	-17,82	-92,39
2013	21,20	17,54	31,36	553,49
2014	25,83	20,39	39,33	137,37
2015	23,16	22,35	24,89	-54,05
2016	30,26	36,28	17,61	52,28
2017	32,41	28,37	42,22	199,36
2018	35,08	24,08	59,22	116,71
2019	27,62	24,81	32,43	54,14

Source: Own calculations, (2020)

The operating revenue for last 5 years is growing in average by 30% which is a positive sign for the investors. Changes in cost of sales were growing as well but there is no extraordinary value in the range which confirms that management does its work properly as its indicator correlates with increasing operating revenue and net income.

The change in gross profit is also increasing, however the measures in 2017 and 2018 were higher on 10% and 27% accordingly. It states that the company inputs more money in production of its new content rather than to collect it.

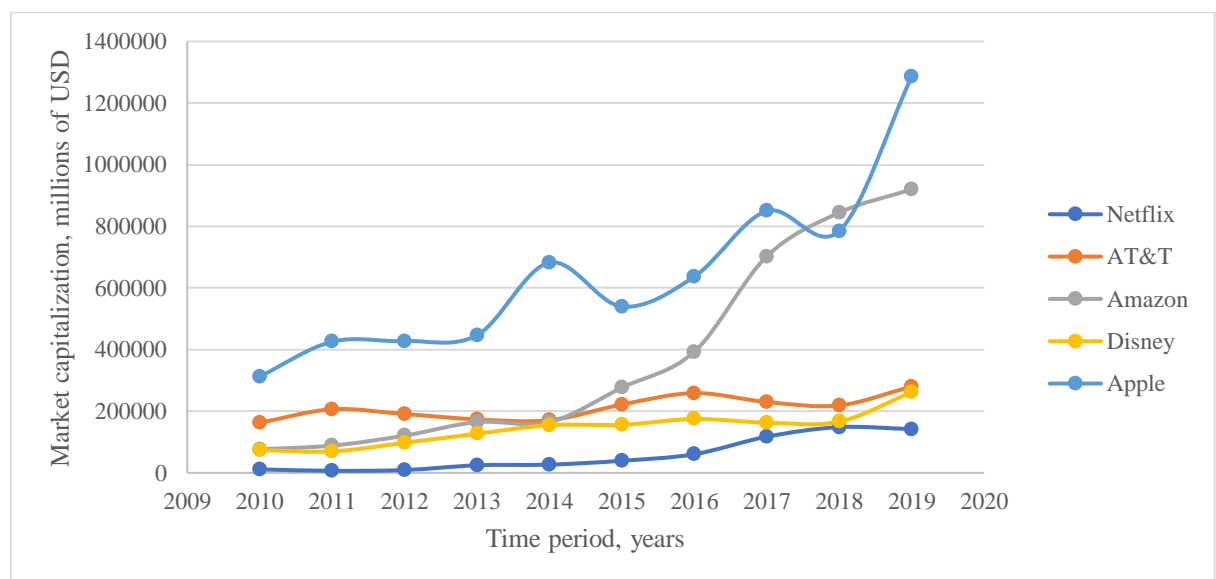
As the measures of gross profit, the net income numbers are attractive for investors and shareholders. The amounts in 2017 and 2018 were relatively high in comparison to measures of all other years recorded. But in 2019 it is 54,14% which is a good characteristic of a company.

## Market Capitalization

Market capitalization of selected company and its competitors is stated on the figure 12. It is obvious from the graph that market capitalizations of all companies are significantly higher than 2 billion USD and companies belong to high-cap type. However, the performance of the AT&T is not confidently positive due to various fluctuations.

Market capitalizations of Netflix and Disney are more close to each other even when Disney market capitalization numbers are noticeably different during ten analysed years but the numbers from last two years confirm that Netflix has grown quicker than Disney and in 2018 their market Capitalizations become close – 148 billions USD for Netflix and 166 billions for Disney accordingly. However, the capitalization of Netflix Inc. in 2019 was the lowest compared to competitors.

Figure 12. Market capitalization of selected companies, 2010-2019, millions of USD



Source: Own calculations, (2020)

## Financial ratios of company

Liquidity ratios of the Netflix Inc. are calculated in the table 5. According to the results for the period from 2010 to 2019, the company has a stable management functionality as the ratios has not been changed significantly. The results for the year 2019 state that the liquidity level of the company is low. The amount of its current debt is over the amount of assets so the company can't quickly settle its short-term debt.

On the other hand, the Debt-to-Equity and Debt-to-Asset ratios show that company's financial leverage is not high, consequently risk of investment in company's stock is moderate.

Table 5. Liquidity ratios and ratios determining Netflix's leverage, 2010-2019

Ratio/Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
<b>Current Ratio</b>	1,81	1,64	1,5	1,34	1,42	1,48	1,54	1,25	1,4	<b>1,49</b>
<b>Quick Ratio</b>	1,41	0,9	0,65	0,56	0,56	0,6	0,65	0,38	0,52	<b>0,58</b>
<b>Debt-to-Asset</b>	0,13	0,09	0,05	0,06	0,20	0,23	0,25	0,34	0,4	<b>0,43</b>
<b>Debt-to-Equity</b>	2,41	2,39	3,78	4,33	3,06	2,79	3,59	4,07	4,31	<b>3,96</b>

Source: Own calculations, (2020)

Price ratios of the Netflix Inc. are stated in the table 6. According to this data, the changes of the P/E ratio has been changed a lot through the analysed ten years. The highest values were registered in a period from 2016 to 2018. The level of the P/E has become 99,87 in 2019 which means that investors get less earning per the amount of money contributed to the firm. Moreover, comparing the P/E value of Netflix with value of P/E of S&P500, it is obvious that the P/E of Netflix is 4 times bigger which is inadequate mark.

According to the method of calculating P/B ratio, the value of undervalued stock should be equal to 1 or less. In this case, it is 22,31 which means that price of the stock is overvalued by market. On the one hand, it means that shareholders and interested investors have a belief in a company's potential and its future growth. On the other hand, the purchasing of the stock by its current price can be not profitable as it is not intrinsic.

As it common to consider a profitable value of the P/S ratio between 1 and 2, and values which prevail 4 are considered as unfavourable, the P/S value of Netflix belongs to the second characteristic. It was in the normal amount from 2010 to 2013 but after and still it is much bigger than it should. It means that investors pay more money than the company can potentially return them in future for their investment.

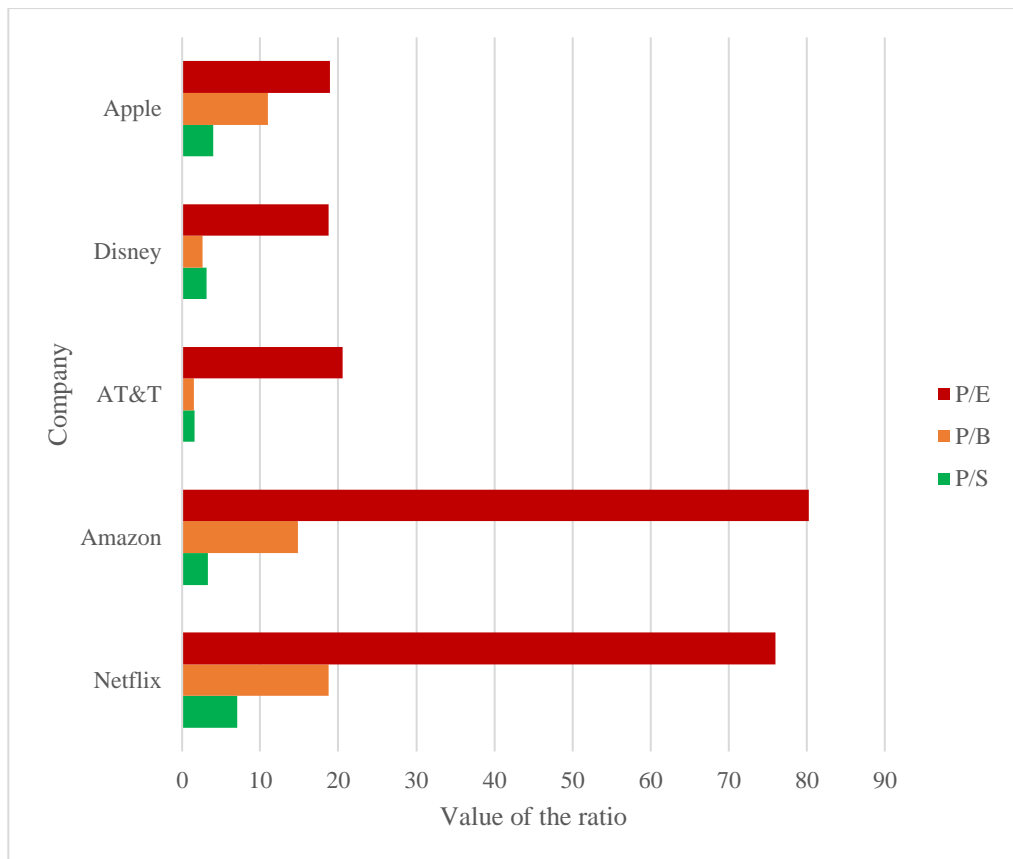
Table 6. Price ratios of Netflix, 2010 - 2019

Ratio/Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
P/E	27,68	59,35	16,26	318,73	201,21	79,07	402,32	294,76	153,57	<b>99,87</b>
P/B	14,78	31,96	5,97	6,91	16,46	11,11	22,01	19,87	23,23	<b>22,31</b>
P/S	1,95	4,41	1,17	1,49	5,1	3,83	7,36	6,14	7,33	<b>7,65</b>

Source: Own calculations, (2020)

Moreover, P/E, P/B, P/S ratios of AT&T, Disney and Apple are more attractive as their value is significantly lower which is shown at the figure 13.

Figure 13. Comparison of price ratios of Netflix and its competitors, 2019



Source: Own calculations, (2020)

Profitability ratios of Netflix Inc. calculated for the period from 2010-2019 are stated in the table 7. The worst values of the company were in 2013 and 2016. It is connected with the massive outflow of subscribers and increased competition on the market in those years.

Also, the values from the year 2010 and 2011 are significantly higher than in 2019, nevertheless, the stock price is several times higher in 2019.

The ROA and ROE values are on the good level meaning that Netflix Inc, is good at turning the investments into profits. The big difference between ROA and ROE indicates that the company has a massive amount of borrowed assets and its leverage is high which is risky. However, it also gives company the potential to grow faster.

ROCE which is connected to P/B is also on a good level. It is higher than general measure (20%) and equals 29,12% which is the second-best result among other streaming service providers.

ROCE and ROIC values are also competing enough which is the proof of company's effective management and profitability in recent years

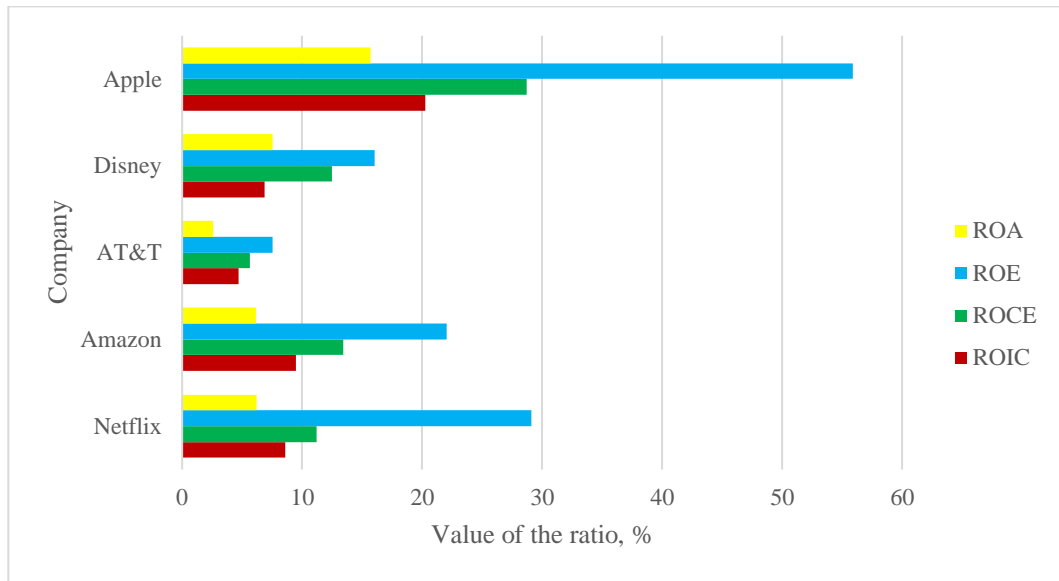
Table 7. Profitability ratios of Netflix, 2010-2019, %

Ratio/Year	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
<b>ROA</b>	19,22	20,81	11,70	0,46	2,34	4,06	1,25	1,54	3,35	<b>5,26</b>
<b>ROE</b>	41,78	79,90	54,84	2,42	10,05	15,95	5,86	7,56	17,24	<b>25,81</b>
<b>ROCE</b>	68,62	74,45	4,24	20,1	20,09	5,53	5,24	7,44	9,97	<b>11,54</b>
<b>ROIC</b>	52,65	66,16	54,89	4,53	13,70	15,72	6,84	7,42	10,30	<b>12,27</b>

Source: Own calculations, (2020)

The values of profitability ratios of Netflix Inc. and its competitors are also described at the figure 14. According to this data the Apple inc. is the most profitable stock for investment. Netflix Inc. and Amazon.com Inc. are the relatively similar compared with each other. However, ROE of Netflix is bigger.

Figure 14. Comparison of profitability ratios of Netflix and its competitors, 2019, %



Source: Own calculations, (2020)

### Credit ratings

All companies which shares are available to purchase on the market have been evaluated by special credit rating companies. The credit ratings for selected companies given by Moody’s and S&P500 are stated in the table 8.

Table 8. Credit ratings of Netflix and its competitors

Rating/Company	Netflix	AT&T	Amazon	Disney	Apple
Moody’s	Ba3	Baa2	A3	A2	Aa1
S&P	BB-	BBB	AA-	A-	AA+

Source: Moody’s, S&P, (2020)

According to the credit ranks given by credit agencies, Netflix credit indexes are less confident than its competitors’ indexes.

### Stock valuation models

Stock valuation models which are used in the fundamental analysis for estimating fair value of the stock are stated in following chapters.

### Discount cash flow model

For evaluating fair value of Netflix stock with FCF model several indicators need to be stated before calculation.

Discount rate for the calculation will be replaced by weighted average cost of capital (WACC) of Netflix.

For the calculation of WACC the market value of equity is chosen as market capitalization 141.985,75 million USD, the book value of debt is 12.559,66 million USD.

Hence,

$$\text{Weight of debt } D / (E + D) = (12559.659 / (141.985,75 + 12559.66)) * 100 = (12559,66/154545,41) * 100\% = 8,13\%$$

and

$$\text{Weight of equity } E / (E + D) = 141.985,75 / (141.985,75 + 12559.66) * 100\% = 91,87\%$$

Cost of debt is calculated as ratio between interest expense and book value of debt.

$$\text{Cost of debt } 626,02 / 12559.66 = 4.98\%$$

For the cost of equity, the risk-free rate is taken as 10-Year Treasury Constant Maturity Rate which is 0,83%. Beta risk of the NFLX stock traded on NASDAQ is 0,95. Market premium is 6%.

Consequently:

$$\text{Cost of Equity} = 0.83\% + 0.96 * 6\% = 6.59\%$$

After calculating all required components, the WACC can be estimated:

$$\text{WACC} = 141.985,75 / (141.985,75 + 12.559,66) * 0,0659 + 12.559,66 / (141.985,75 + 12.559,66) * 0,0498 * (1 - 0,0947) * 100\% = 6,42\%$$

As per formula (15), except rate of return the amount of free cash needs to be found. Free cash flow is calculated per table 6 on a base of data from previous years.

The growth rate for estimated FCF is chosen as 33%.

After calculating free cash flow to the firm for the selected years (appendix 1) these measures need to be discounted using the WACC, estimated above in table 9.



Table 9. Estimated free cash flow to the firm of Netflix, 2020-2024 million USD

<b>FCFF calculation</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>
Sales	26808,01	35654,66	47420,69	63069,52	83882,46
EBITDA	15858,92	21092,36	28052,84	37310,28	49622,68
Depreciation	12395,33	16485,79	21926,11	29161,72	38785,09
EBIT	3463,59	4606,57	6126,74	8148,56	10837,59
TAXES on EBIT	269,92	295,43	323,35	353,91	387,35
EBIT*(1-t)	3136,28	4171,25	5547,76	7378,52	9813,43
Capital expenditures	-336,49	-447,53	-595,22	-791,64	-1052,88
Change in working capital	-789,88	-921,31	-1074,62	-1253,44	-1462,01
Free cash flow to the firm	2009,91	2802,40	3877,92	5333,45	7298,55
Discounted FCFF	<b>26808,01</b>	<b>35654,66</b>	<b>47420,69</b>	<b>63069,52</b>	<b>83882,46</b>

Source: Own calculation, (2020)

For determining the terminal value for the year 2024, the GDP growth rate of the US which is 2,33% was used as a terminated rate. Hence,

$$\text{Terminal value} = 7298,55 / (0,0642 - 0,0233) = 178448,5906 \text{ mil USD}$$

Its discounted measure is:

$$\text{Discounted terminal value} = 178448,5906 / (1 + 0,065)^5 = 130736,4986 \text{ mil USD}$$

Adding to the terminal value the sum of free cash flow to the firm the total equity value is calculated as:

$$\text{Total equity value} = 130736,4986 + 6809,17 = 137545,67 \text{ mil USD}$$

The net asset value is the next measure is necessary to find in the discounted cash flow model. It equals total equity value without the book value of debt, then:

$$\text{Net asset value} = 137545,67 - 12559,66 = 124986,01 \text{ mil USD}$$

As the value of company is calculated as a sum of its shares the fair value of the stock is calculated as the ratio between net asset value and amount of company's shares:

$$\text{Fair value of stock} = 124986,01 / 438,81 = 284,83 \text{ USD}$$

## Residual Income model

Firstly, the expected rate of return on investment ( $E(R_i)$ ) is required to be calculated. Risk free rate which is used for the calculation was chosen as 0,11% in accordance to the data from U.S. department of the Treasury. Beta risk of the NFLX stock traded on NASDAQ is 0,95. Market risk provided by S&P 500 index is 10%. Consequently,

$$E(R_i) = (0,0011 + 0,95 * (0,1 - 0,0011)) * 100 = 9,5\%$$

Secondly, the residual income can be calculated.

$$R_i = 1.866,9 - (7.582,2 * 0,095) = 1.866,9 - 720,309 = 1.146,591 \text{ mil. USD}$$

Using the value of the residual income, the fair value of the stock can be calculated.

$$\begin{aligned} RI \text{ price of share} &= (7.582,1 + (1.146,591 / (1,095)^1) + (1.146,591 / (1,095)^2) + \\ &+ (1.146,591 / (1,095)^3) + (1.146,591 / (1,095)^4) + (1.146,591 / (1,095)^5)) / 437,19 = \\ &= 11.984,67 / 437.190.000 = 27,41 \text{ USD} \end{aligned}$$

## Peter Lynch evaluation method

For determining of the fair value of the stock with Peter Lynch method the PEG ratio, EBITDA growth rate and EPS are necessary to be calculated.

The EBITDA set of values for the chosen analysed period of 10 years is stated in the table 10.

Table 10. Growth rate of EBITDA of Netflix, 2010-2019, mil USD and %

Years	EBITDA, mil USD	Growth Rate,%
2010	622,00	-
2011	1216,00	95,50
2012	1752,00	44,08
2013	2470,00	40,98
2014	3184,00	28,91
2015	3853,00	21,01
2016	5305,00	37,68
2017	7108,00	33,99
2018	9220,00	29,71
2019	11924,00	29,33

Source: Own calculations, (2020)

Their median of their growth rates is chosen as the EBIDTA growth rate for the forecast 34%.

Earnings per share in 2019 for the Netflix stock equals to 3,12 USD, for the year 2019 – 5,04 USD.

For determining PEG ratio both variables are estimated, hence:

$$PEG = 76,04/61,5 = 1,24.$$

The PEG of the company is known. This fact allows to find the fair value of the Netflix stock by Peter Lynch model is calculated:

$$Peter\ Lynch\ fair\ Value\ of\ share = 34 * 5,04 * 1,24 = 212,49\ USD.$$

## **5 Results**

Results of processed calculations and output from evaluating of the stock is described in this part of the thesis.

### **5.1 Macroeconomic analysis**

The result of macroeconomic analysis manifested that the status of the world economy in the beginning of the 2019 had a smooth growth trend, however in the end of the year the indicators of the economy started to fall swiftly. The GDP growth rate decreased slightly in 2019 comparing to 2018. The analysts prognose that after a crucial recession in 2020, global economy should be stabilized a year after. In addition, the process of recovery will probably take more than one year.

The level of inflation unexpectedly hasn't changed noticeably. It is persisting on comparable level during last 5 years.

On the other hand, the unemployment rate achieved is prognosed to rise significantly and achieve its peak at 12,92%. There is no doubt that this factor can crucially influence the volatility on stock markets.

Comparison of average share prices and deposit rates shows that currently, the share prices should keep the pace of increasing confirming the positive conditions for long-term investing.

Political shocks mentioned in the analytical part tend to influence negatively on stock market as well as on whole world economy. However, these fluctuations are valued as hazardous for short-term investments mostly. As a relief for conservative investors, the state of economy in general is prognosed to be settled down in nearest years.

### **5.2 Sectoral analysis**

The result of the sectoral analysis states that the industry where Netflix Inc. is functioning is in the expansion stage. Revenues of industry grow constantly and are one of the biggest in economy as a whole. It means that company's assets and share price tends to grow overtime and has a reliable potential.

### **5.3 Specific analysis of the company**

Comparison of prices of selected video streaming services showed that Netflix prices are on the level above the average. Netflix doesn't provide any student discounts which is less attractive for clients. The only way of getting its services by lower price is the purchasing of a package which gives the opportunity to use it for 4 people. On the other hand, it is an effective method to get new clients.

#### **Vertical and Horizontal analysis**

According to the vertical analysis the management of Netflix use its resources efficiently as its results are on the same level as of their competitors and improving last years.

According to the horizontal analysis the company invested more money in production of its new content in rather than to collect it. The net income values are attractive for investors and shareholders.

#### **Market Capitalization**

Market capitalization of the chosen company is constantly growing through the last ten years. However, the growth rate is relatively slow comparing to competitors and the value in 2019 is the lowest among the five of them.

#### **Financial ratios of company**

The results of the evaluation of company's liquidity ratios and ratios showing the level of debt is stated in the table 11. According to these results liquidity level of the company is low as the amount of its current debt prevail the amount of assets so the company can't quickly settle its short-term debt.

On the other hand, the Debt-to-Equity and Debt-to-Asset ratios show that company's financial leverage is not high, consequently risk of investment in company's stock is moderate.

Table 11. Ratios determining liquidity and amount of debt of Netflix, 2019

Ratio/Company	Netflix
Current ratio	0,9
Quick Ratio	0,9
Debt-to-Equity ratio	1,55
Debt-to-Asset ratio	0,42

*Source: Own calculations, (2020)*

The ratios which are used to evaluate share value of the company by its earnings, sales and year results provided in annual financial statements are stated in the table 12. The values of company's competitors in chosen sector are also included in the table.

First of all, Netflix's P/E ratio which equals 76,03 shows that investors get less earning per the amount of money contributed to the firm. In this case, P/E ratios of AT&T, Disney and Apple are more attractive as their value is significantly lower.

P/B ratio value of 18,72 shows that company's stock is overpriced which means that the actual price of stock is less, but investors believe in company's potential to grow and that's why they still hold its shares. Comparing to other values from the table Netflix's is the biggest one However, for the investor which decides to buy this stock this aspect tells that the investment is risky.

P/S ratio is 7,04 which is higher than 1 significantly shows again that the stock value is overpriced.

Table 12. Ratios determining relative value of company's shares

Ratio/Company	Netflix	Amazon	AT&T	Disney	Apple
P/E	76,03	80,31	20,57	18,72	18,9
P/B	18,72	14,83	1,54	2,61	11
P/S	7,04	3,32	1,58	3,13	4,01

*Source: Own calculations, (2020)*

Ratios which determine financial profitability of the analysed company are stated in the table 13. Values of company's participants are presented as well.

ROA value is relatively high as it is higher than the average 5% level. ROA of Netflix which equals 6,23% means that for each 15 or 16 USD invested company produces 1 USD of profit. The only deviant value has Apple in this industry.

ROE which is connected to P/B is also on a good level. It is higher than general measure (20%) and equals 29,12% which is the second-best result among other streaming service providers.

ROCE and ROIC values are also competing enough which is the proof of company's effective management and profitability in recent years.

Table 13. Ratios determining financial profitability of company

Ratio/Company	Netflix	Amazon	AT&T	Disney	Apple
ROA	6,23	6,16	2,57	7,56	15,69
ROE	29,12	22,05	7,55	16,06	55,92
ROCE	11,18	13,45	5,66	12,48	28,73
ROIC	8,6	9,46	4,7	6,88	20,29

Source: Own calculations, (2020)

### Credit ratings

The credit agencies have evaluated the secureness of investing in Netflix's bonds as Ba3 by Moody's and BB- by S&P. This mark is interpreted as "speculative and are subject to substantial credit risk". Securities with this rating is also called "junk" due to high volatility and high demand of speculators. This factor can be substantial reason to evaluate the company's stock overpriced as it is a reflection of a company's performance.

### Fair value evaluation Models

According to results of calculations of stock's fair value stated in the table 14, the fact of the overpricing of the stock is obvious. As the fair value evaluation models used in the analysis are based on a different company's financial data it is rational to conclude that market price of the stock of Netflix is overpriced. The high difference between result of residual income model and others appeared due to specifications of the method. The model

relies so heavily on forward-looking estimates of a firm's financial statements, leaving forecasts vulnerable to psychological biases or historic misrepresentation of a firm's financial statements.

Table 14. Fair value evaluation of Netflix stock

Model	Fair value	Market price
Discounted cash flow model	284,83	<b>323.57</b>
Residual Income model	27,41	
Peter Lynch model	212,49	

*Source: Own calculations, (2020)*



## **Conclusion**

The main objective of the diploma thesis was determining of the feasibility of investing in shares of Netflix Inc. For this purpose, approaches to the fundamental analysis were applied in the practical part and then results of the evaluation were stated in the results and discussion part.

In the literature review the terms of stock, bond, derivative, warrant, future, option, stock exchange and other main securities and connected items or markets were defined. The classification of securities with determining of their aspects were introduced as well. Also, the main difference between the stock as the equity security and bond as debt security was given. There was also described specific type of securities called derivatives which are not based on a physical asset and their classification as well. The definitions of the stock exchange, primary market, secondary market and trades over-the-counter were specified in details.

The history of stock exchanges from leading countries in Europe and in the U.S. was also described. In the chapter “stock markets and its participants” the chain of parties involved in a trade of the stock or any other security on the stock exchange were mentioned for this purpose. Describing participants on the stock exchange the processes of clearing, settlement and custody were clarified as well.

In the second main part of the literature review the fundamental analysis of stock was described. Firstly, analysis of chosen factors of the macroeconomic analysis as GDP growth rate, Inflation, Unemployment rate was conducted. Secondly, the analysis of the sector of the economy where Netflix Inc. operates and chosen approaches was done. Finally, the company specific analysis was described as a concluding part of the literature review. Three main financial statements of the company such as balance sheet, income statement and cash flow statement were introduced. Then – methodological proposals for the analysis of these statements. They are horizontal analysis, vertical analysis, evaluation of market capitalization, calculation of the specific ratios which determine company’s liquidity, leverage, profitability and pricing of the stock; stock valuation models. The selected stock valuation models are Discounted free cash flow model, Residual Income model and Peter Lynch valuation model. They were chosen due to ability to evaluate stock fair value from different sides.

Practical part of the diploma thesis starts with the history of the company. Netflix Inc. was founded in 1997. Returning to the past, it was providing different type of services for clients as the advanced informational technologies and internet were not available for majority of people. However, it started with specifying on a streaming in 2007 which makes it a pioneer in this sector. Even suffering from losses in several periods of its history the company showed a constant ability to grow and develop which made it so successful in last 5 years.

Nevertheless, the competitors were also developing and occupying the niches on the market. Amazon Prime videos, Hulu, Disney +, Apple TV + and HBO Max started to become more popular each quarter. All competitors used the similar mechanism of providing a video content through the request and a monthly charge which made the process of expanding the share of subscribers harder. Companies spent more capital for producing of the original content rather than purchasing rights for the streaming of films and TV series created by third parties. This factor kept clients to pay for the subscription and gained more profits for companies such as Netflix Inc.

Following the previously stated chapter the fundamental analysis of the Netflix Inc. stock was provided.

According to the macroeconomic analysis the changes in Real GDP growth rates in the U.S. and in the world in the period from 2010 to 2019 were on the same level between 1,5% - 3% and 2,5% - 5,3% in the U.S. and worldwide accordingly. However, analysts declared that the change of this indicator in the end of 2020 will be impressively high. It will be -8,5% for the U.S. and -7,6% worldwide.

Inflation rate's data showed no extraordinary fluctuations of the inflation rates in the U.S. from 2010 to 2019. The lowest record of 0,7 % was in 2015 and the highest – 3,00% in 2011. Even, after financial consequences of COVID-19 restrictions in the country the future inflation rate prognosed to be lower than in 2019.

However, unemployment rate is prognosed to increase massively in 2020. In the period from 2010 to 2019 there was a trend to decrease but in 2020 due to COVID-19 measures it will be higher more than 3 times.

As the deposit rates of central banks and share prices of companies are contrary to each other the comparison was made. The main share index of the U.S. S&P 500 and deposit rates of Federal Bank of the U.S.A were compared. The trend of share prices is growing and for deposit rates of FB it is registered as decreasing. According to the identified trends the

deposit rates are supposed to continue to fall while the share prices of selected companies to grow. However, due to effects of COVID-19 restrictions these amendments are supposed to happen deliberately.

The political shocks which influenced on the state of economy were chosen COVID-19 restrictions measures and elections in the U.S. The influence of the first factor was defined as positive while there is no significant influence from elections in the U.S. Only the election president, majority of members of senate and white house from the same party can lead to the higher short-term volatility on the market.

The historical data of the stock of Netflix Inc. showed that the state of the economy and the COVID-19 restrictions measures influenced positively on the stock price. The stock price was only growing since 2016. In addition, as a consequence of limitations of free movement across the U.S., the stock price of Netflix Inc. is increasing, and its growth rate can be one of the highest compared to previous years.

On the other hand, the process of growing of the stock prices of Netflix and other streaming services can be suspended by the implementing of the new vaccine for the COVID-19. It has been already registered that the publication of reports which confirm 95% of efficiency of invented vaccines can lead to decrease in stock prices of companies operating in the sector of streaming services. The reason is simple. Analysts think that the end of the pandemic measures and lockdown is near, consequently customers most probably will allocate their resources for other purchases rather than for streaming of videos due to willingness to spend more time outside.

The sectoral analysis showed that the industry is gaining more revenue each year and its growth rate is impressively high. The number of subscribers of all streaming services in 2015 has increased from 171,3 million people to 642 million in 2019. According to data prognosed by analysts the number of subscribers will be around 1.161 billion people in 2025. The 10 times growth of this number shows that the sector has a massive potential to accumulate more recourses and companies which are functioning in this sector tend to become most expensive in the world. Moreover, the industry of video streaming services has been called one of the fastest growing in the U.S. in last years. Its growth rate of all accumulated revenue has increased by 24%. It is comparable with stock and commodity exchange rate with its rate of 26,3% and 3D printing & prototyping services with growth rate of 28,8%.

Netflix's share of the market in 2019 was determined as 21% which is the biggest number among all competitors. The stage of the life cycle of the sector is determined as expansional which is the best choice for the investor as it makes possible to keep funds invested in shares theoretically for a long-term period because the sector has the potential to grow still.

As a result of company's vertical analysis, the key changes in the balance sheet are:

Decreased amount of Prepaid Expenses and Other Current Assets from 22,71% in 2018 to 3,41% in 2019 as well as total amount of current assets – from 37,32% to 18,19% accordingly. Goodwill is also increased in around 15%, from 57,56% to 72,12. According to the income statements for 2010-2019 years the amounts of cost of sales and gross profit were on the same level with no extraordinary fluctuations. This fact confirms that management of the company spends the similar share of capital to achieve its financial goals.

The compared shares of cost of revenue and gross profit in income statements of competitors are relatively similar which is a good sign for investors.

According to horizontal analysis of Netflix Inc. for last ten years its financial indicator were constantly growing. The operating revenue for last 5 years is growing in average by 30% which is a positive sign for the investors. As the measures of gross profit, the net income numbers are attractive for investors and shareholders. The amounts in 2017 and 2018 were relatively high in comparison to measures of all other years recorded. But in 2019 it is 54,14% which is a good characteristic of a company.

The market capitalization of the company is characterised as a large-cap. It has decreased in 2019 but its positive trend remains.

The ratio analysis indicated that the company has a stable management functionality as the ratios has not been changed significantly. The results for the year 2019 stated that the liquidity level of the company is low. The amount of its current debt is over the amount of assets so the company can't quickly settle its short-term debt. The Debt-to-Equity and Debt-to-Asset ratios show that company's financial leverage is not high, consequently risk of investment in company's stock is moderate.

P/E value is qualified as not adequate due to difference with an industry average by 4 times.

P/B ratio has the value of **22,31** and states that the stock is overvalued massively.

P/S ratio of **7,65** also confirms that investors pay more money than the company can potentially return them in future for their investment. Moreover, P/E, P/B, P/S ratios of AT&T, Disney and Apple are more attractive.

According to the profitability ratios calculated, company showed the worst profitability in 2013 and 2016. It was connected with the massive outflow of subscribers and increased competition on the market in those years. However, recent results are on the good level comparing to competitors. The ROA equals to 5,26 % and ROE equals to 25,81 % meaning that company is good at turning the investments into profits. ROCE which is connected to P/B is also on a good level. It is higher than general measure (20%) and equals 29,12% which is the second-best result among other streaming service providers. ROCE and ROIC values are also competing enough which is the proof of company's effective management and profitability in recent years.

On the other hand, the credit rating of the company is the worst among competitors. Moody's agency has qualified Netflix debt securities as Ba3 when S&P as BB-. Analysts call securities of this type as "junk" bonds which also negatively influence on the confidence of the stocks of the company.

Results of estimated stock fair value showed that the stock of Netflix Inc. is overpriced. The fair value according to the discounted cash flow model is 284,83 USD, residual income model – 27,41 USD, Peter Lynch model – 212,49 USD when the market price in the end of December 2019 was registered as 323,57 USD.

All in all, the fundamental analysis of the stock of Netflix allows to conclude that the investment in this stock is not reasonable at the moment as the price which is given by market is too high. There is no doubt that company's product has a colossal potential to grow in future as this sector started to grow only several years ago. The competition in the sector is high but Netflix copes with it confidently by massive input of recourses in production of the original content which is the main reason for customers to purchase the subscription, investing in popular content which will be paid off by high demand, and efficiently managing company's recourses. Company's profitability ratios are on the satisfactory level which is a good sign as well.

However, there are several unfavourable factors which are important for the fundamental investors. The market price is the one of the main. As previously mentioned, it is higher than the company's fair value. Moreover, company's debt prevails its assets for last three years. Company's cash flow has negative for last free years which is not the attractive

aspect as well. The last but not least, company has never paid dividends for its stock. This fact is not attractive for those who are interested in constant revenue received from investments.

All in all, Netflix is a constantly growing company which is well-known worldwide. It has a significant potential to develop and overtake its competitors and it is important to stake off the price of this share to buy it when it will be lower than its fair value.

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## Appendix

Appendix 1. Calculated free cash flow to the firm of Netflix Inc. 2010-2019, millions USD

<b>FCFF calculation</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
<b>Sales</b>	2162,60	3204,60	3609,30	4374,60	5504,70	6779,50	8830,70	11692,70	15794,30	20156,40
<b>EBITDA</b>	622,00	1216,00	1752,00	2470,00	3184,00	3853,00	5305,00	7108,00	9220,00	11924,00
<b>Depreciation</b>	338,7	839,6	1702,1	2241,7	2781,8	3547	4925	6269,7	7615,2	9319,8
<b>EBIT</b>	283,30	376,40	49,90	228,30	402,20	306,00	380,00	838,30	1604,80	2604,20
<b>TAXES on EBIT</b>	26,83	35,65	4,73	21,62	38,09	28,98	35,99	79,39	151,97	246,62
<b>EBIT*(1-t)</b>	256,47	340,75	45,17	206,68	364,11	277,02	344,01	758,91	1452,83	2357,58
<b>Capital expenditures</b>	-34,00	-50,00	-40,00	-54,00	-70,00	-91,25	-107,70	-173,30	-173,90	-253,00
<b>Change in working capital</b>	248,65	605,80	564,87	904,56	1263,90	1902,22	1133,63	2203,66	3206,82	-677,19
<b>Free cash flow to the firm</b>	-26,18	-315,05	-559,69	-751,88	-969,79	-1716,44	-897,32	-1618,05	-1927,89	1427,39

Source: Own calculation, (2020)