Czech University of Life Sciences Prague

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Bachelor Thesis

The Introduction to Stock Market

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Business Administration

Thesis title

The introduction to stock market

Objectives of thesis

The main objective of the bachelor's thesis is, based on the methods used, to recommend whether to invest in shares.
Sub-objectives include explaining the basic knowledge and concepts of securities booms and clarifying the analysis of stock market performance and economic indicators.

Methodology

This thesis will begin with an introduction and history of who invented the stock market, how the US stock market began, explain initial public offerings, over-the-counter exchanges, market advantages and disadvantages, how to value stocks, fundamental analysis, technical analysis, analyze a company's financial situation and determine whether investing in the company would be a profitable decision or not. In the practical part, various factors will be addressed (economic changes, inflation, financial problem, poor management of the company, which is the main reason why their share price moves up and down). A real example of a selected company in the USA will also be presented here. Based on the analysis, financial statement, reputation, future growth, it will then be recommended whether to invest in shares or not.

The proposed extent of the thesis

30-40 pages

Keywords

stock market, volatile, principle, analyse, investment, data, risk, market cap, PE ratio

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Recommended information sources

Benjamin, G., 1973. The Intelligent Investor. United States of America: Hermes, Magazines of Columbia Business School.

Gursida, H., 2017. The Influence of Fundamental and Macroeconomic Analysis on Stock Price. Jurnal Terapan Manajemen dan Bisnis, Svazek 3, p. 223.

Hossain Mohammed, H. A. S. R., 2013. An examination of the relationship between stock market and economics growth. Journal of transformative Entrepreneurship.

Lynch, P., 2020. One up on Wall street. s.l.:Simon Schuster.

Mittal, M., 2010. tudy of Differences in Study of Differences Behavioral Biases in Investment Decision-Making Between the Salaried and Business Class Investor. The IUP Journal of Behavioral Finance, Svazek VII, p. 4.

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Declaration

I declare that I have worked on my bachelor thesis titled "The introduction to stock market" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the bachelor thesis, I declare that the thesis does not break any copyrights.

In Prague on 7th February 2023____________________________

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The Introduction to Stock Market

Abstract

The stock market is an important sector in the financial sector, it plays an important role in the process of economic growth. (Hossain Mohammed, 2013) The stock market is like a place where buyers and sellers meet and make a transaction. Investors can buy or sell their shares on the stock exchange. An investor, however, must be careful and patient during the whole process because the market can be very risky and volatile.

In this thesis, the author will focus mainly on the digital US stock exchange. The objective of it is to provide a basic overview of what is stock market, its principle, history, how to start investing, analysing the data like EPS, P/E ratio, P/B ratio, financial statements, and information of the company, analysing graph data, and sum up all the information for easy understanding.

Keywords: stock market, volatile, principle, analyse, investment, data, risk, market cap, PE ratio

Úvod do Akciového Trhu

Abstrakt

Burza cenných papírů je důležitým sektorem ve finančním sektoru, hraje důležitou roli v procesu ekonomického růstu. (Hossain Mohammed, 2013) Akciový trh je jako místo, kde se kupující a prodávající setkávají a uskutečňují transakce. Investor může své akcie koupit nebo prodat na burze. Jako investor však musí být během celého procesu opatrný a trpělivý, protože trh může být velmi rizikový a volatilní.

V této práci se autor zaměří především na digitální burzu v USA. Cílem je poskytnout základní přehled o tom, co je akciový trh, jeho princip, historii, jak začít investovat, analyzovat data jako EPS, poměr P/E, poměr P/B, účetní závěrky a informace společnosti, analyzovat grafová data a shrnout všechny informace pro snadné pochopení.

Klíčová slova: akciový trh, volatilní, princip, analýza, investice, data, riziko, tržní kapitalizace, PE poměr akciový trh, volatilita, princip, analýza, investice, data

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1 Introduction

To get started, let us look at the basic definition of the stock market. The stock market is where we can purchase or sell stocks or shares of public trade companies. The price of the stock is varying from one company to another, and it depends on the economic situation around us the demand and supply. In short, way to say, the more demand for the stock, the price will go higher. Buying the stock of one company means that you are one part owner of the business, and you may also get some dividend from some stock. For us as an investor to buy one company's stock, first, they will have to go public which is called "IPO or Initial public offering", which is defined as the first sale of a company's shares to the public. It is the process by which a private company becomes a publicly traded company and raises capital by issuing shares to outside investors who are interested in becoming part-owners of the business. (Graham, 2006) After analysis the current situation and history of the company and you have confidence in a company's future profitability, you may choose to invest in it. By pooling funds from investors, the company can use the capital to expand its operations, improve efficiency, and attract skilled personnel, leading to increased success. As a result, the business is likely to attract even more investors who see the potential for further growth. As more investors put their money into a company, the share price tends to rise, which means that if you invested early on and bought shares at a lower price, you can sell them for a profit once the price goes up. However, it's important to note that the economy can be unstable, and businesses can be impacted by various factors such as inflation, rising labor costs, and increased costs of raw materials. If a company is not profitable or experiences other problems, investors may sell their shares, which can lead to a decline in the share price. This is very risky because if you as an investor do not know how to react or think carefully, not only that you will not make any profit, but you might have a big loss too.

At the beginning of investing, the investors should decide if they want to be long-term traders who will hold shares for a longer period, or if they just want to be short-term traders who will buy or sell shares in shorter periods. The best method in the author's opinion according to what has happened in the past, is better if you hold it for a longer period if you do not have experience in stock before, but of course, it depends on your analysis of the company and experiences. We will also discuss more on why we say a long-term investment is better than a short-term investment.

2 Objectives and Methodology

2.1 Objectives

The main objective of the bachelor's thesis is to provide a better understanding of the stock market, we will go through some definitions or keywords that are mostly used for the stock market. The information will be based mostly on the investing book such as "The intelligent investors". Based on the fundamental analysis, technical analysis, and economic factors, then recommend whether to invest in shares.

We will go through the basics meaning of stocks, bonds, mutual funds, the supply and demand in the stock market, the benefit of investing, risks, large cap, medium cap, and small-cap companies. Moreover, this thesis will highlight the importance of diversification in investing and explain how investors can build a diversified portfolio using various investment strategies.

Sub-objectives include explaining the basic knowledge and concepts of securities booms and clarifying the analysis of stock market performance and economic indicators.

2.2 Methodology

This thesis will begin with an introduction and history of who invented the stock market, how the US stock market began, explain initial public offerings, over-the-counter exchanges, history analysis, earning per share, PE ratio, PB ratio, market advantages, and disadvantages, how to value stocks, fundamental analysis, technical analysis, analyse a company's financial situation and determine whether investing in the company would be a profitable decision or not. In the practical part, various factors will be addressed (economic changes, inflation, financial problem, and poor management of the company, which is the main reason why their share price moves up and down).

A real example of a selected company in the USA will also be presented here. Based on the analysis, financial statement, reputation, and future growth, it will then be recommended whether to invest in shares or not. Finally, this thesis will conclude with a summary of the key findings and recommendations for investors looking to invest in the stock market.

3 Literature Review

There are different types of financial instruments such as certificates of deposit, funds, bonds, and stocks. All of those are similar and different in their way. But we will focus mainly on stocks. The biggest stock exchange market in the US is NYSE and Nasdaq. New York Stock Exchange (NYSE) is an American stock exchange where investors can invest globally. And National Association of Securities Dealer Automated Quotations (Nasdaq) is also an American stock exchange, but it consists mainly of a technology company.

The S&P 500 is weighted based on the market capitalization of each company and is commonly used as a benchmark and is a measure of the performance of the US stock market and consists of 500 large publicly traded companies. According to the book "The Intelligent Investor", it is an index of 500 large-cap stocks that are generally considered to be representative of the U.S. stock market. The index is maintained by Standard & Poor's, a financial services company that provides research, analysis, and ratings of various investments. the S&P 500 as a way for investors to gain broad exposure to the U.S. stock market without having to analyze individual stocks. By investing in a fund that tracks the S&P 500, investors can benefit from the overall growth of the U.S. economy and the stock market. (Graham, 2006)

The DJIA, on the other hand, is another stock market index that includes 30 major publicly traded companies in the US. It was established in 1896 and is recognized as one of the oldest and most well-known stock market indices worldwide. According to Graham, the DJIA is a way for investors to gain exposure to a small selection of large, established companies in the U.S. stock market. (Graham, 2006)

Unlike the S&P 500, the DJIA is weighted based on the price of each company's stock.

3.1 The differences between NYSE and Nasdaq

NYSE was founded in 1972, it is an auction market that allows people to make a transaction with each other on an auction basis, whereas Nasdaq was incorporated in 1971, and is a dealer's market which means the individuals are trading through a dealer but not directly with each other. There are around 3300 companies listed on Nasdaq compared to only around 2800 companies listed on NYSE.

The NYSE's listing standards are stricter compared to those of Nasdaq, which includes a minimum market capitalization and a specific number of shareholders. For example, companies seeking to list on the NYSE must meet certain financial criteria, such as minimum stock price and net income. (Lynch & Rothchild, One up on Wall street, 2000) Consequently, numerous well-known and established firms are listed on the NYSE, while Nasdaq typically features a greater number of technology and growth-oriented businesses.

According to Lynch, about the market cap, the NYSE tends to have larger companies with higher market capitalizations, while the Nasdaq is home to smaller companies with lower market caps. (Lynch & Rothchild, One up on Wall street, 2000)

3.2 The history of the stock market

The origins of the stock market can be traced back to the 17th century when the Dutch East India Company issued shares of stock to finance its voyages to the East Indies. This marked the beginning of modern stock markets, which allowed investors to buy and sell shares in publicly traded companies. the growth of the stock market was fueled by various factors, including the expansion of trade and commerce, the rise of industrialization, and the development of new financial instruments. He also notes that the creation of joint-stock companies was another important development, as it allowed investors to pool their resources and share the risks and rewards of business ventures. (Malkiel, 2007)

The first modern stock trading was created in Amsterdam, and the Dutch East India Company was the first publicly traded company. To raise capital for the company, they issued shares and pay dividends to those who own their shares. (Hwang, 2021) Later, the Amsterdam stock exchange was created, and this idea quickly spread to many other countries and finally to America in the late 1700s which is today known as NYSE stands for New York Stock Exchange.

In the stock market exchange, we use the word “Bearish” when the market is down, and we use the word “bullish” when the market is up.

3.3 The basics of the stock market investing

3.3.1 Stocks

A stock is a share of ownership in a publicly traded company. When you buy a stock, you become a fractional ownership interest in a business enterprise, and you can profit from the company's growth and earnings. According to Graham, stocks are usually traded on stock exchanges or over-the-counter markets, with prices being influenced by supply and demand. A stock's value can change significantly over time, based on various factors like alterations in the company's earnings, economic situations, and investor sentiment. However, stock prices can also fluctuate based on a variety of factors, including market conditions, the company- performance, and global events. (Benjamin, 1973)

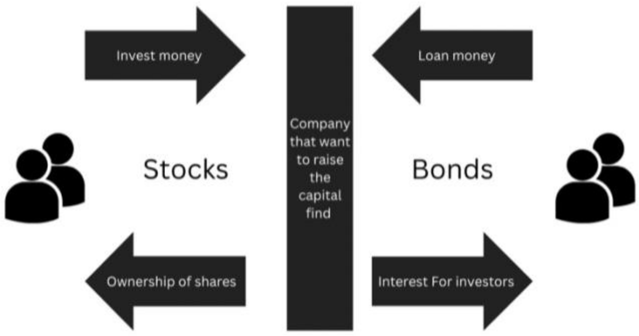


Figure 1 The differences between stocks and bonds (Own photo edition)

3.3.2 Bonds

A bond is a legal agreement to repay borrowed money at fixed intervals with interest. When an investor buys a bond, they are lending money to the company or government that issued the bond. The investor receives interest payments at regular intervals and is promised to get back the principal amount when the bond matures. Graham notes that bonds are generally considered to be lower-risk investments than stocks since they offer a fixed rate of return and are typically backed by the creditworthiness of the issuer. (Benjamin, 1973)

According to the book One Up on Wallstreet, when interest rates rise, bond prices fall, and vice versa. This happens because as interest rates increase, investors can obtain higher yields on newly issued bonds, making the older, lower-yielding bonds less attractive. This, in turn, causes the price of existing bonds to fall as demand for them decreases. The inverse relationship between interest rates and bond prices is not always consistent and can be affected by various factors, including inflation, economic growth, and investor sentiment. Therefore, it is important for investors to consider the broader economic and market conditions when making investment decisions related to bonds. (Lynch & Rothchild, One up on Wall street, 2000)

Here is a quote from "One Up On Wall Street" where Lynch discusses the relationship between interest rates and bond prices:

"As a rule, when interest rates go up, the price of bonds falls. It's a fundamental law of investing, like the law of gravity, that higher interest rates cause lower bond prices. Conversely, when interest rates decline, bond prices go up. It's as simple as that. The logic is compelling, and most of the time it works out that way. But like everything else in the stock market, it's not always that easy." (Source: "One Up On Wall Street" by Peter Lynch, p. 190) (Lynch, One Up On Wall street, 2020)

Bonds are generally considered less risky than stocks because they provide a fixed return and are typically less volatile. (FERNANDO, 2022)

3.3.3 Mutual fund

The term "mutual fund" is defined by Benjamin Graham in "The Intelligent Investor" as a type of investment company that consolidates funds from many investors and invests them in a diversified portfolio of securities such as bonds, stocks, or other investments. When an individual buys shares in a mutual fund, they are investing in a small portion of ownership in a portfolio of underlying assets, instead of investing in individual stocks or bonds directly. (Graham, 2006)

Mutual funds can provide benefits to investors such as diversification, professional management, and access to a wider range of investment opportunities that may not be available to individual investors. However, investing in mutual funds can carry certain risks associated with fees and expenses. It is important for investors to carefully consider the performance record and management of the funds they choose in order to minimize these risks. Mutual funds can also carry some risks, particularly in terms of fees and expenses, investors should choose funds with strong performance records and responsible management. To achieve success in investing in mutual funds, investors to focus on identifying funds with low expenses, a consistent investment strategy, and a track record of strong performance over the long term. Additionally, we should the importance of understanding the underlying investments in a mutual fund and being aware of the risks and potential drawbacks connected with this type of investment. (Benjamin, 1973)

Mutual funds are managed by professional fund managers, who aim to maximize returns while minimizing risks for investors. Mutual funds are a popular choice for individual investors who want to invest in a diversified portfolio without having to research and manage individual stocks and bonds.

To help better understand, we can look at the picture shown below: credit to wallstreetmojo.com/mutual-funds/

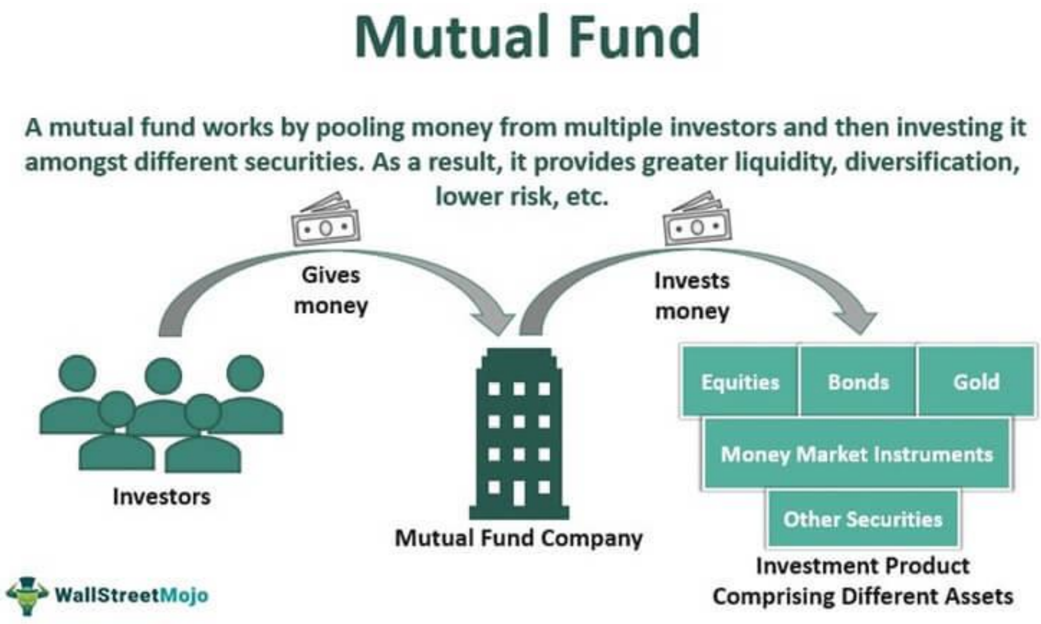


Figure 2 How Mutual fund work (source: wallstreetmojo.com)

3.3.4 Initial Public offering (IPO)

To raise capital, the business can borrow money from the bank or by selling shares to the general public. But borrowing money from a bank can be very risky so it is better to go with the second one. The company can sell shares to the public through an initial public offering (IPO). And that will turn the company from a private firm whose shares are owned by several shareholders into a publicly traded company in which shares can be bought and owned by the public.

According to Benjamin Graham, who wrote the book “The intelligent investor” cautioned investors to be wary of IPOs, noting that they are often overhyped and overpriced in the early stages of trading. He also emphasized the importance of conducting thorough research on a company before investing in its IPO, including examining the financial statements and management team. Additionally, Graham suggested that investors avoid IPOs that have excessive fees, such as underwriting commissions and other expenses. He believed that these costs could eat into an investor's potential returns and advised seeking out IPOs with reasonable fees. (Benjamin, 1973)

3.3.5 Over-the-counter exchange (OTC)

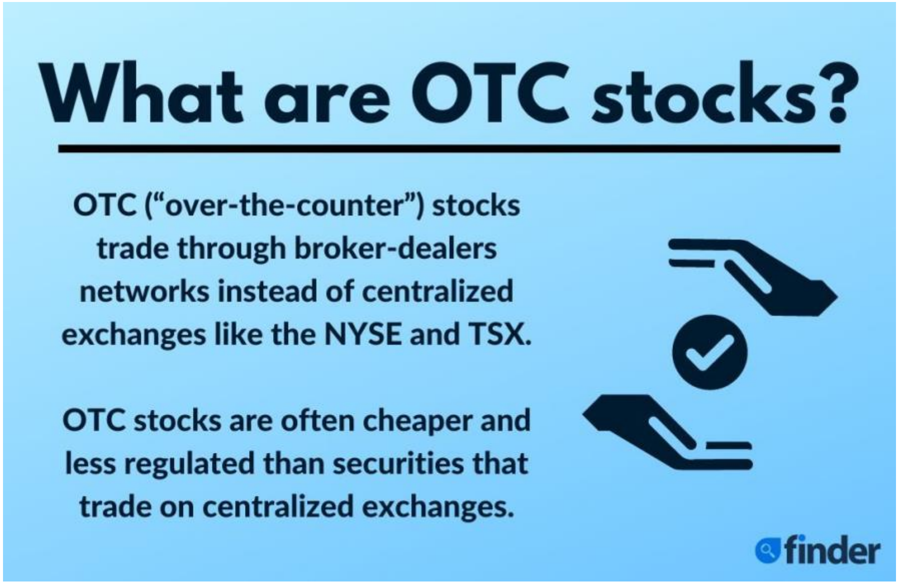


Figure 3 OTC stocks by finder.com

Peter Lynch, the author of the book "One up on wall street" discusses the concept of Over-The-Counter (OTC) stocks. OTC stocks are securities that are not listed on a formal stock exchange but are instead traded through a decentralized network of dealers and brokers. OTC stocks present significant opportunities for individual investors, as they are frequently disregarded by institutional investors and analysts. Nonetheless, the author cautions that OTC stocks can be immensely unstable and risky, as they are usually linked to small, emerging companies that may possess limited financial resources or uncertain prospects. (Lynch & Rothchild, One up on Wall street, 2000)

Because these stocks are riskier because they did not pass the strict listing criteria so generally it is better not to invest a big amount of money into this kind of stocks, because most of the time, they are so volatile and unpredictable, unlike the bigger exchange that the company already in operation for some time already and they meet criteria regarding the company revenue or profitability.

3.4 How the stock market works

The patient is the most important thing to remember for investing. It is a long process, and you cannot expect a return when you just start investing.

When investing in the stock market, it's important to understand the potential benefits and drawbacks of various investment types while investing in the stock market. Additionally, it is crucial to have a diversified portfolio that balances risk and return based on your financial objectives and tolerance for risk. Moreover, it is recommended to conduct research, keep up to date on market conditions and economic trends, and seek the advice of a financial advisor, if necessary, you must divide equally between large-cap, medium-cap, and small-cap companies, otherwise, you may put your portfolio at risk. This thesis will explain some tips on how to keep your portfolio safe.

3.4.1 Supply and demand

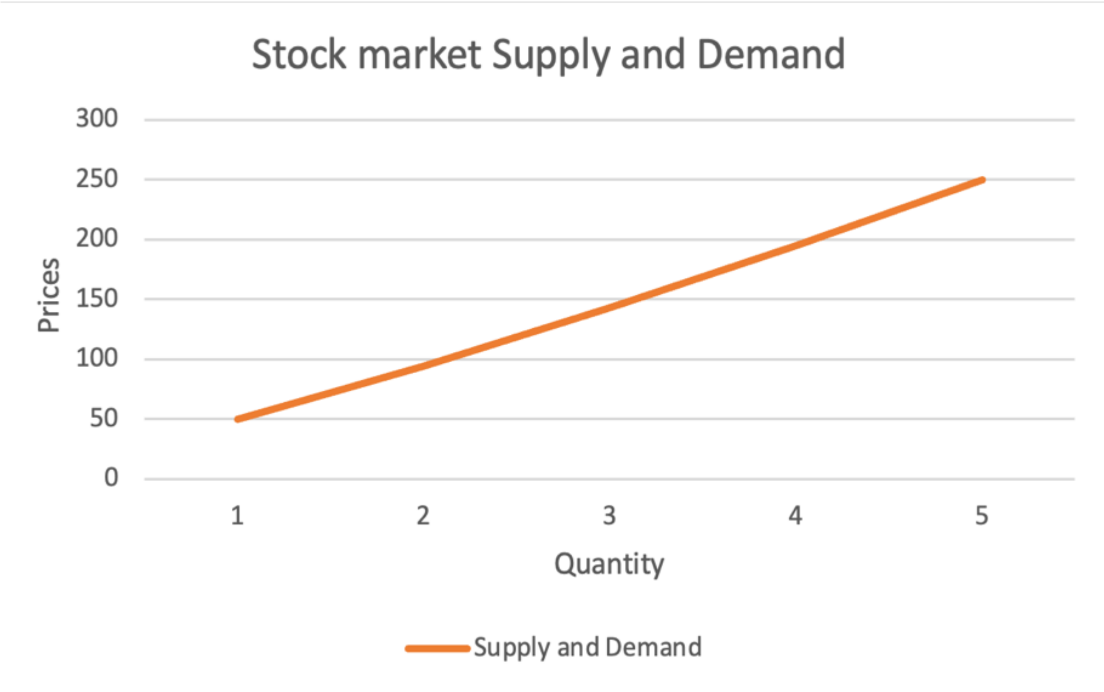


Figure 4 Supply and Demand of stock market (own work in excel)

Just like in economics, the stock market is a theory of supply and demand, there will be a seller and a buyer. when there are more buyers than sellers, demand for a particular stock increase, causing its price to rise. Conversely, when there are more sellers than buyers, -

the supply of the stock increases and its price falls. The supply of a stock represents the number of shares that are available for purchase. This can be affected by a variety of factors, such as the number of shares that have been issued by the company, the number of shares held by insiders or institutional investors, and the rate at which new shares are being issued. On the other hand, the demand for a stock represents the number of investors who are interested in purchasing shares. This can be influenced by a variety of factors, such as the company's financial performance, market sentiment, and overall economic conditions. The factors influencing supply and demand can include a variety of economic and market conditions, as well as changes in investor sentiment and company-specific news or events. However, over the long term, the supply and demand of a stock will eventually be influenced by the company's financial performance. Changes in the levels of supply and demand can result in price fluctuations in the stock market, leading to an increase or decrease in prices. Investors should concentrate on recognizing firms with a good fundamental and fair valuation in relation to their inherent worth, rather than attempting to predict short-term changes in supply and demand. (Benjamin, 1973)

3.4.2 The benefit of investing in the stock market

Just like many other investments, there are pros and cons in investing in the stock market too. First, let's start with the benefit, there is potential for high returns. Over the long term, stocks have historically provided higher returns than other types of investments, such as bonds or cash. Secondly, investing in the stock market can help diversify your investment portfolio, spreading out risk across different companies and sectors. Thirdly is that stocks offer investors liquidity and quick buying and selling options, enabling them to adapt to dynamic market conditions. Fourthly, some stocks pay regular dividends, providing investors with a source of passive income. Also, it can help Stocks can be a good hedge against inflation, as the value of companies and their assets tend to increase over time. And finally, there is also a potential for capital gains, investors can potentially profit from increases in the stock price, selling their shares at a higher price than they purchased them for. (Graham, 2006)

3.4.3 Risk of investing in the stock market

On the other hand, there are also some risks in investing stock market. Initially is the volatility, the stock market can be highly volatile, with significant price fluctuations in response to economic, political, and other events. Overall market conditions can impact the value of individual stocks and the stock market. There is also a risk from the company that we invest in because investing in individual stocks carries the risk that the company may perform poorly, change in management, product recall, or go bankrupt, potentially resulting in a significant loss of investment. Furthermore, in behavioral risk, investing in stocks can be influenced by behavioral biases, such as overconfidence, and a fear of missing out, however, we should avoid these biases. (Graham, 2006)

Also, as an individual investor, you have limited control over the management and decisions of the companies you invest in. It's important to understand the potential benefits and risks of investing in the stock market and to develop a well-diversified portfolio that aligns with your financial goals and risk tolerance. As with any investment, it's important to do your own research.

Stock prices can be influenced by a lot of reasons including economic and non-economical. For example, the stock price could depend on the company's performance if the company reported strong earnings and revenue growth, it could lead to an increase in stock price (Gursida, 2017)

Economic indicators such as GDP, inflation, interest rates, and employment data can have a significant impact on the stock market. Positive economic news can lead to an increase in stock prices, while negative economic news can cause stocks to fall.

Inflation in simple definition means an increase in the price of goods or services over a period and devaluing the power of purchasing and currency.

3.4.4 Diversification

According to Peter Lynch, the author of the book “One Up on Wall Street”, it is very important to diversify in building a successful investment portfolio. Lynch suggests that investors should aim to hold around 10 to 20 stocks in their portfolio, and they should invest in various sectors and industries instead of investing in just a few companies or industries, in another word, we should not put all eggs in one basket. Furthermore, each stock should not represent more than 5 to 10% of the total portfolio value. This rule can help the investor to lower the risk of losses due to the industry’s performance. After investing in the company that we choose, it is also important to follow up with the news, market change, and economic change over time in those industries or the change within the company itself. (Lynch & Rothchild, One up on Wall street, 2000)

Similarly, the portfolio should be adequate but not too diversified, there should be a maximum of 30 shares so that you will have enough time to follow up with the company's situation. (Benjamin, 1973)

In summary, diversification is a crucial component for a successful investment portfolio, meanwhile, investors should conduct research before they decide to invest in the company, so their portfolio is not too diversified, and the investors won't have enough time to follow up with those companies. (Graham, 2006)

3.4.5 Invest early

The principle of investing early is a fundamental concept in personal finance and investing. It is the idea that the earlier an individual begins investing, the more time their money can compound and grow over the long term. There is a significant impact on an individual's investment returns if they invest early, as the power of compounding allows small investments to grow exponentially over time. Even if the investors put in just a small amount of money and continue to add a little every month consistently, there is a possibility that their money can accumulate potentially and become a significant amount of wealth over the long term. (Buffett & Dodd, 2008) The power of compounding is what makes investing early so powerful. Because when an investor earns a return on their investment, that return is reinvested and generates additional returns. Another benefit of investing early is that it also helps investors during market fluctuation and downturns because the stock market can be volatile in the short term but in the long term, it usually produced a positive return. (Bogle, 2017)

The return an investor can expect from stock investments can vary widely depending on the performance of the overall stock market, the length of time the investments are held, and the specific stocks are chosen, However, historical data suggests that over the long term, stock investments have tended to produce average annual returns of around 7-10%. (Siegel, 2002)

In the table below you can see the return of 10 years investment portfolio, assuming an annual return of about 10% every year. As you can see in the table, if we start with 1000

$, after 10 years, you will get $2 594 from that $ 1000, which is a significant return compared to the saving interest with the bank. According to "The Little Book of Common Sense Investing" the importance of starting early is to take advantage of the power of compounding and the potential for long-term market growth. (Bogle, 2017)

	Capital	Return in percentages	Return in dollar	Profit
Year 1	$1 000	10%	$100	$1 100
Year 2	$1 100	10%	$110	$1 210
Year 3	$1 210	10%	$121	$1 331
Year 4	$1 331	10%	$133	$1 464
Year 5	$1 464	10%	$146	$1 611
Year 6	$1 611	10%	$161	$1 772
Year 7	$1 772	10%	$177	$1 949
Year 8	$1 949	10%	$195	$2 144
Year 9	$2 144	10%	$214	$2 358
Year 10	$2 358	10%	$236	$2 594

Figure 5 Return on 10 years investment (own work in excel)

3.4.6 Long-term investment

The principle of long-term investing is when the investors invest intending to hold them for a prolonged period, mostly 5 years or longer. The reason for long-term investing is to get a significant gain through the power of compounding and the tendency of the market to produce positive returns over time. According to John C. Bogle, the author of “The Little Book of Common Sense Investing, long-term investing is the only way to guarantee a fair share of stock market returns. (Bogle, 2017)

Firstly, because of the power of compounding, it is the interest-earning process, which means the money is working for you over time. The example this can be illustrated by the example of two investors who invest the same amount of money, but one invests for a longer period than the other. The investor who invests for a longer period can potentially earn significantly more due to the effects of compounding. The second argument of this strategy is that the investors may not be affected by market fluctuation. Because as we mentioned before, the market can be volatile in the short term but in the long term it can produce positive returns. If we applied this strategy to other strategies above the investors can avoid the pitfalls of short-term market fluctuations. Another crucial factor in achieving long-term success in the stock market is to invest in a way that is not expensive. High costs, like sales commissions, management fees, and other investment-related expenses, can considerably reduce investment returns. To overcome this, investors should adopt low-cost investment strategies like index funds, which can potentially yield higher returns over the long run by minimizing such expenses. To summarize, the long-term investment is persuasive, backed up by past data and Investors who stick to a diversified portfolio of low-cost investments and adopt a long-term investment approach have the potential to benefit over time. (Bogle, 2017)

3.4.7 Large Cap, Middle Cap, and Small Cap company

We can differentiate the company's stock into 3 market capitalizations or market cap, that is large-cap company, medium-cap company, and small-cap company. Market capitalization is the total value of a company's outstanding shares of stocks. We can calculate the market cap by multiplying the current stock price by the number of outstanding shares. (Lynch & Rothchild, One up on Wall street, 2000)

Large-cap company refers to companies with a market capitalization of over $10 billion, and usually well-known companies with a strong foundation of brand, and a good financial situation. Medium-cap companies refer to companies with a market capitalization between $2 billion to $10 billion, they are usually in the developing phase, and they still have growth potential. The last one is small capitalization companies, which refer to the companies with a market capitalization between $300 million to $2 billion, they are early-stage companies, and even though, their stock may be riskier and more volatile but there may also be potential for a higher return. (Lynch & Rothchild, One up on Wall street, 2000)

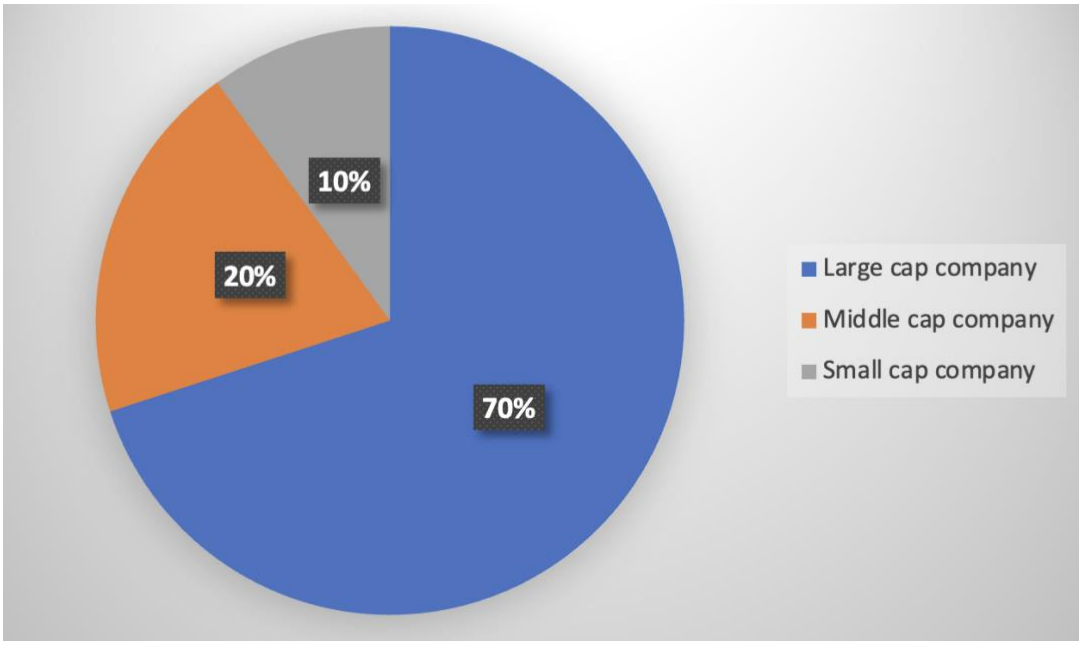


Figure 6 Pie chart of Stock portfolio

Your portfolio should consist mostly of large-cap companies because they are reliable, prominent, and financially secure, even though, they may take longer to see the profit but important is that they are safe. Then you can add some middle cap and small cap companies to the portfolio because those might be the growth stock and might earn you a profit quickly sometime. (Benjamin, 1973)

3.4.8 Dividend Investing

Dividend investing is a strategy where investors focus on buying stocks that pay regular dividends, which are typically a portion of a company's profits that are paid out to shareholders. Dividends are periodic payments made by companies to owners of their stock. The goal of dividend investing is often associated with a buy-and-hold strategy, and to generate a regular stream of income from these dividend payments, while also potentially benefiting from capital appreciation of the stock. Most companies pay out dividend quarterly which means four times per year. (Miller, 2006)

According to Miller, the author of the book "The Single Best Investment", investors should look for companies that not only have a history of consistent dividend payments, but also have a strong balance sheet, a track record of earnings growth, and a competitive advantage in their industry. dividend investing is closely tied to value investing, which involves buying stocks that are undervalued by the market. Additionally, we should look for companies with strong fundamentals, such as a history of consistent earnings growth and a strong balance sheet, that are trading at a discount to their intrinsic value. By investing in undervalued companies with a history of increasing dividends, investors can potentially benefit from both the income generated by dividends and the potential for long-term growth as the market recognizes the company's true value. Dividend-paying stocks have historically outperformed non-dividend-paying stocks over the long term. (Miller, 2006)

Investing in dividend stocks offers investors the possibility of compounding returns by reinvesting the dividends to acquire more shares. Through this process, investors may realize greater returns and generate additional income from their investments. We should be looking beyond just the dividend yield when evaluating potential investments. While a high dividend yield can be attractive, it is important to also consider other factors such as the company's financial health, growth prospects, and dividend history. (Miller, 2006) He recommends focusing on companies with a dividend yield that is above average for their industry, but not necessarily the highest. (Miller, 2006)

Year	Investment	Year start valuation	Dividend (3%)	year end valuation
1	$10 000,00	$10 000,00	$300,00	$10 300,00
2	$10 000,00	$20 300,00	$609,00	$20 909,00
3	$10 000,00	$30 909,00	$927,27	$31 836,27
4	$10 000,00	$41 836,27	$1 255,09	$43 091,36
5	$10 000,00	$53 091,36	$1 592,74	$54 684,10
6	$10 000,00	$64 684,10	$1 940,52	$66 624,62
7	$10 000,00	$76 624,62	$2 298,74	$78 923,36
8	$10 000,00	$88 923,36	$2 667,70	$91 591,06
9	$10 000,00	$101 591,06	$3 047,73	$104 638,79
10	$10 000,00	$114 638,79	$3 439,16	$118 077,96

Figure 7 Dividend investing for 10 years (own excel work)

As you can see in the example table above, let's assume that the investor invests in a company that provides a dividend of 3% annually. After year 1, they receive $300 in income. However, assuming they will keep investing their $10 000 each year and reinvesting those 3% dividends, after 10 years their portfolio will be producing $3 439 in income each year.

4 Analysis of stocks

Stock analysis is a method that investor uses to evaluate the stock and they decide buying or selling based on those analyses. The analysis will help the investor to get more insight into the company.

Analyzing stocks is not an easy task, there are so many things to consider, and there are factors such as Loss aversion overreaction, underreaction, too confident, education, age, gender, income, and wealth that can influence the decision-making for individual investors. (Mittal, 2010)

One psychological factor is Loss aversion, a sensitive level of people toward loss which is twice as much as the gain. What it means is people tend to be more regretful when losing than gaining the same amount of money (Daniel Kahneman, 1979) We all want the highest ROI (Return on Investment) at a lower risk, if you want an investment that guarantees more than 10 % return and is safe to invest in, you should keep in mind that such investment does not exist.

There are 2 types of methods that are used the most for stock analysis, those are fundamental analysis and technical analysis.

4.1 Fundamental analysis

Fundamental analysis is the method that evaluates the business based on the basic financial level. There are lots of different factors that can be used as fundamental analysis such as the economic situation, and finances of the company to predict the stock value, and there are several types of ratios used to determine the financial health and understand the real value of the company’s stock. looking at a company's financial and economic data, such as earnings reports, balance sheets, and industry trends.

4.1.1 Earning Per Share (EPS)

Earning Per Shares (EPS) EPS is calculated by dividing a company's net income by its total number of outstanding shares. This indicates how much profit a company has generated per share of stock. It is useful for comparison between the companies that operate in the same industry. EPS shows its profitability, therefore, when it is increasing, investors consider that a good sign. When the value of EPS increases higher, that means that the company’s stock is worth buying. EPS is an important financial metric for investors because it can help them evaluate the profitability of a company and make informed decisions about whether to invest in that company's stock. (Graham, 2006)

The formula of Earning per share is net income divided by the number of shares. (Graham, 2006)

$$\text{EPS} = \frac{\text{Net income}}{\text{Number of share}}$$

Figure 8 Earning Per share formula

Let us look at the example of an Apple financial statement below, we can see in December 2021 the net income of Apple is \$ 34,630,000 and the number of basic shares is 16,391,724 shares. Hence, earning per share is equal to \$ 2.11. The same methods are applied to the diluted shares.

Apple Inc.

CONDENSED CONSOLIDATED STATEMENTS OF OPERATIONS (Unaudited)

(In millions, except number of shares which are reflected in thousands and per share amounts)

	Three Months Ended	
	December 25, 2021	December 26, 2020
Net sales:		
Products	$ 104,429	$ 95,678
Services	19,516	15,761
Total net sales (1)	123,945	111,439
Cost of sales:		
Products	64,309	62,130
Services	5,393	4,981
Total cost of sales	69,702	67,111
Gross margin	54,243	44,328
Operating expenses:		
Research and development	6,306	5,163
Selling, general and administrative	6,449	5,631
Total operating expenses	12,755	10,794
Operating income	41,488	33,534
Other income/(expense), net	(247)	45
Income before provision for income taxes	41,241	33,579
Provision for income taxes	6,611	4,824
Net income	$ 34,630	$ 28,755
Earnings per share:		
Basic	$ 2.11	$ 1.70
Diluted	$ 2.10	$ 1.68
Shares used in computing earnings per share:		
Basic	16,391,724	16,935,119
Diluted	16,519,291	17,113,688

Figure 9 Apple Financial Statement 2021

4.1.2 Price to Earnings Ratio (P/E)

Price to Earnings Ratio (P/E) is widely used by investors to compare the performance of a similar company for making decisions on buying or selling shares, it shows how much investors are willing to pay for the earning of a company. The P/E ratio is simply comparing the stock's price to the company's earning or profit. The P/E ratio is commonly used by investors to determine whether a stock is undervalued or overvalued. A higher P/E value can mean an overvalued stock, it can also mean that the market is expecting the company to perform very well over time, while a low P/E ratio indicates that the stock is undervalued. (Graham, 2006)

$$P/E = \frac{\text{Price per share}}{\text{EPS}}$$

Figure 10 Price to earning ratio formula

To calculate the P/E ratio is the price per share divided by earning per share. Let us look at the Apple P/E ratio, according to Yahoo Finance, currently, the price per share of Apple is $ 164.31 and EPS is 6.01. So, the P/E ratio is 27.34 which means its stock is trading about 27 times its earning per share.

As you can see that the P/E ratio is quite high but that does not mean it is bad. Because Apple just invented their new chip, which is much faster than the intel chip, this might increase demand for their new products which means the company is making more profit too. However, we should not only use this method to evaluate the stock.

4.1.3 Price to Earnings to Growth ratio (PEG)

The PEG helps to determine the company's stock value and might help investors to find an undervalued stock based on earnings or dividend yield. To calculate the PEG ratio is the P/E ratio divided by the growth rate (of EPS). A stock with the PEG below 1 is typically considered undervalued and has growth potential. Whereas the stock with a PEG ratio between 1 to 2 may consider fairly valued, and if the PEG ratio is greater than 2 is likely to overvalue. The PEG ratio was a useful tool for investors because it considered both a company's current earnings and expected earnings growth. (Graham, 2006)

We might have a clearer picture and evaluation of the company if we use both methods P/E ratio and PEG ratio at the same time.

The PEG ratio is calculated by dividing a company's price-to-earnings (P/E) ratio by its earnings growth rate. (Graham, 2006)

$$\text{PEG} = \frac{\text{P/E Ratio}}{\text{Growth Rate}}$$

Figure 11 Price to Earnings to growth ratio formula

According to data from Yahoo Finance, and our calculation above, the P/E ratio of Apple company is 27.34, and the growth rate is 8.42, so the PEG ratio is equal to 3.24.

4.1.4 Price to Book Ratio (P/B)

The P/B ratio is used to compare the current stock’s price to the net worth of the company. Graham believed that the P/B ratio was a useful metric for investors because it provided a measure of a company's value that was relatively stable over time. (Graham, 2006)
A company with good financial health will trade for more than its book value because the investors will consider the future growth of the company when evaluating the stock. It is a common valuation ratio to help investors know how much they are paying for the stock price compared to the net value of the company asset or book value. Book value is the value of how much the company is worth if it sold all its asset and pay back all liabilities, it includes only tangible assets like cash and real estate. (Mcclure, 2022)
A high P/B ratio means the company is expensive and a low P/B ratio means the company is cheap if compared to the company's net assets. If P/B is less than 1, it means that the company’s net asset is worth more than the stock price, in contrast, if the P/B ratio is more than 1, it means that the stock price is worth more than the net assets. And if the P/B is negative, that means the company has more liabilities than assets. In this case, it may be risky to invest in that company, because even after the company liquidates all their asset, the profit from sell is not enough to pay back shareholders. (Fernando, 2022)
Let's calculate the P/B value of an apple company. According to the data from gurufocus.com, As of 13 March 2022, Apple is trading at $ 154.73, and its book value per share in December 2021 was $ 4.4. So, the P/B value is equal to 35.13. This number means that currently the stock price is valued at 35.13 times larger than the book value of the business.

The P/B ratio is calculated by dividing the market price of a stock by its book value per share. (Graham, 2006)

$$P/B = \frac{\text{Company share price}}{\text{Company book value per share}}$$

Figure 12 Price to Book ratio formula

4.1.5 Return on Equity (ROE)

Return on Equity (ROE) is a key financial ratio used to measure a company's profitability. ROE is calculated by dividing a company's net income by its shareholders' equity. (Graham, 2006)

ROE measures the efficiency of how the company uses assets for producing earnings. A higher ROE indicates that a company is generating more profits per dollar of shareholders' equity, while a lower ROE suggests that a company is not using its investors' funds as effectively. ROE is one of the important factors to consider before investing in a company, and we should look for a company with stability, with a consistent record of high ROE over an extended period. (Graham, 2006)

We can calculate ROE by dividing a company's net income by its shareholders' equity. (Graham, 2006)

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

Figure 13 Ruturn of Equity formula

According to data from gurufocus.com, Apple's net income at the end of 2021 was $ 138,520 million and the equity was $ 67,511 million, so the ROE is equal to 205.18 %.

4.1.6 Historical analysis

This involves studying the history of the stock market to gain insights into its development, trends, and patterns over time. This approach can involve the use of archival data, such as historical stock prices and company reports. By studying the historical performance of the stock market, investors can gain insights into the long-term trends and patterns that may impact future stock prices. (Graham, 2006)

According to Graham, it is important to look at the long-term performance of the stock, rather than just look at the short-term fluctuation in the market. This method includes using technical analysis tools, such as charts and graphs, to identify patterns and trends in stock prices. This method is based on the idea that stock prices tend to follow specific patterns that can be recognized and used to make investment decisions. (Graham, 2006)

4.2 Technical analysis

In the early 20th century, technical analysis became a popular method of stock market analysis. This approach focuses on analysing market data, such as stock prices and trading volume, to identify patterns and trends that can be used to predict future market movements. (HAYES, 2022)

4.2.1 Trade volume

Trade volume means the number of shares of a particular stock bought or sold during a specific period, usually measured on a daily or weekly basis. When there is a high trade volume, it usually indicates a higher level of market interest and suggests that the stock is in demand. Conversely, when there is a low trade volume, it may imply that the stock is less popular or experiencing a lack of interest from investors. The trading volume of a stock can be used to determine the level of market interest in it. (Graham, 2006)

4.2.2 Quantitative analysis

In the 1960s and 1970s, quantitative analysis became a popular method of stock market analysis. This involves using statistical methods and mathematical models to analyse market data and identify patterns and trends that can be used to invest, such as stock prices, trading volumes, and other financial metrics. This approach can involve the use of software tools and programs, such as econometric modeling software, to conduct complex statistical analysis of stock market data. This approach uses statistical models and algorithms to analyse market data and identify patterns and trends that can be used to make investment decisions. (KENTON, 2020)

4.2.3 Behavioral finance

In the 1980s and 1990s, behavioral finance emerged as a method of stock market analysis. This approach looks at how human psychology and emotions can influence investment decisions and market behavior. This involves studying the psychology of investors and other stakeholders in the stock market to gain insights into how they make decisions and react to market events. This approach can involve conducting surveys, experiments, and other forms of research to gain insights into the behavior of investors and other stakeholders in the stock market. (Shiller, 2016)

4.3 Own analysis of individual company's stock

In this part, we will analyse real companies depending mostly on fundamental analysis and a bit of technical analysis, then will decide if the company is good for investing.

4.3.1 Google (Alphabet Inc.)

According to the report from yahoo finance, the market cap of the Alphabet Inc. is 1.222 T. The company also has a strong trading volume which is a positive signal for investors. The revenue of google in 2020 is reaching 182.5 billion up from 161.8 billion in 2019 and around 110.9 billion in 2017, the main reason for this growth is heavily because of the advertising business. Moreover, with a market share of approximately 92%, Google is the clear leader in the search engine industry, which gives it a major edge over its competitors like Bing and Yahoo.

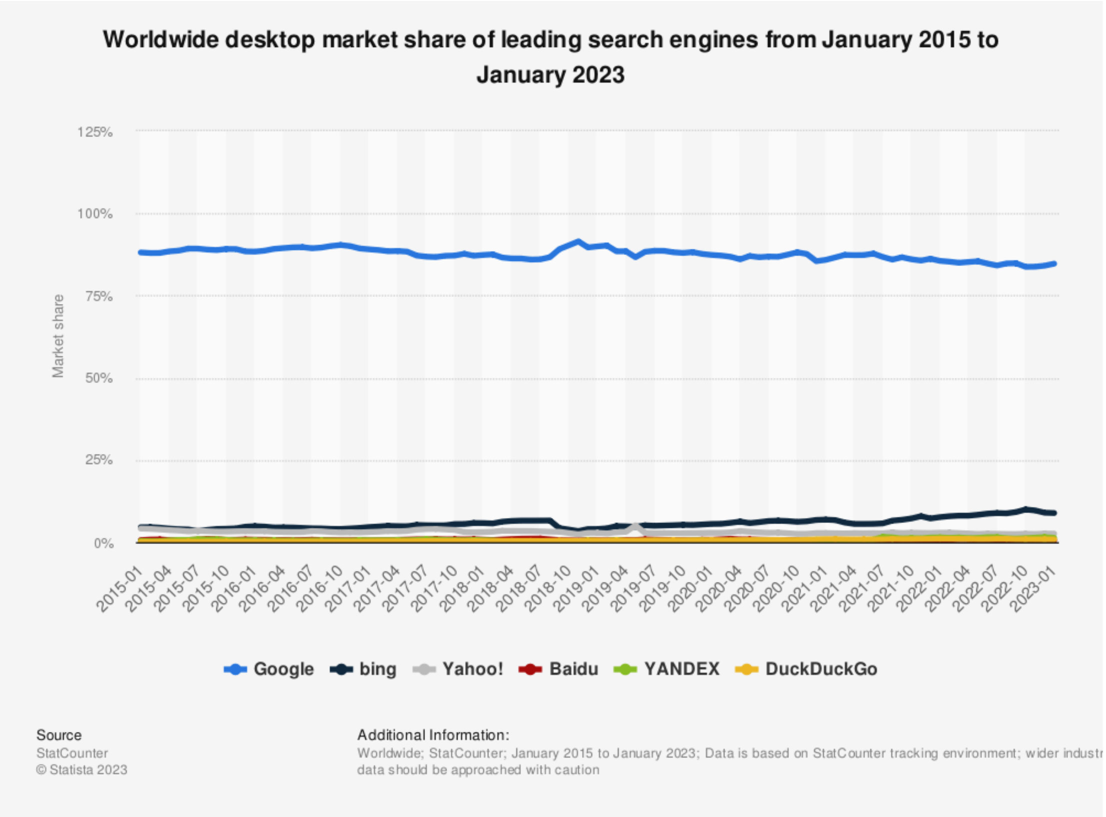
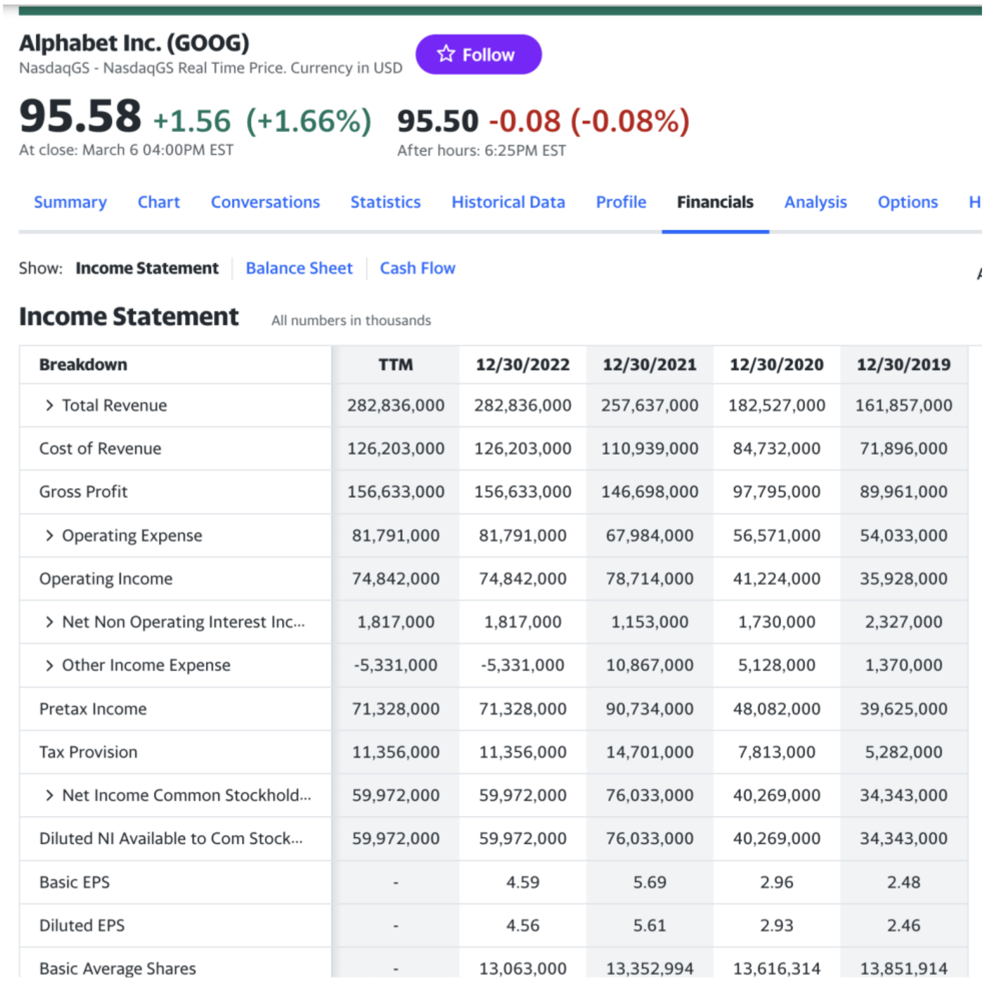


Figure 14 Market share of search engines

According to the companiesmarketcap.com, the valuation of Google's price-to-earnings (P/E ratio) is currently around 20, which is quite a high number, and this also suggests that investors are expecting the company to perform well in the future. According to the data from www.macrotrends.net, the PB ratio of the company in 2022 is 4.83, and this implies that investors anticipate the company to have a favorable performance in the future.

On the other hand, we should consider many other factors too such as, high-interest rates, inflation, and unemployment. we can see that there is a rise in interest rates around the world. And this may affect the company if they need to borrow money to expand their business or invest in a new project, then they will have to pay more for the expenses due to the rise in interest, which leads to lower profit for the company. Inflation is also another problem for the big company because that means an increase in the operating cost including the cost of services, cost of goods, increase in the price of energy, wages for employees, and many more. Inflation also decreases the



Alphabet Inc. (GOOG)
NasdaqGS - NasdaqGS Real Time Price. Currency in USD
Follow

95.58 +1.56 (+1.66%) **95.50** -0.08 (-0.08%)
At close: March 6 04:00PM EST After hours: 6:25PM EST

Summary Chart Conversations Statistics Historical Data Profile **Financials** Analysis Options H

Show: **Income Statement** Balance Sheet Cash Flow

Income Statement All numbers in thousands

Breakdown	TTM	12/30/2022	12/30/2021	12/30/2020	12/30/2019
> Total Revenue	282,836,000	282,836,000	257,637,000	182,527,000	161,857,000
Cost of Revenue	126,203,000	126,203,000	110,939,000	84,732,000	71,896,000
Gross Profit	156,633,000	156,633,000	146,698,000	97,795,000	89,961,000
> Operating Expense	81,791,000	81,791,000	67,984,000	56,571,000	54,033,000
Operating Income	74,842,000	74,842,000	78,714,000	41,224,000	35,928,000
> Net Non Operating Interest Inc...	1,817,000	1,817,000	1,153,000	1,730,000	2,327,000
> Other Income Expense	-5,331,000	-5,331,000	10,867,000	5,128,000	1,370,000
Pretax Income	71,328,000	71,328,000	90,734,000	48,082,000	39,625,000
Tax Provision	11,356,000	11,356,000	14,701,000	7,813,000	5,282,000
> Net Income Common Stockhold...	59,972,000	59,972,000	76,033,000	40,269,000	34,343,000
Diluted NI Available to Com Stock...	59,972,000	59,972,000	76,033,000	40,269,000	34,343,000
Basic EPS	-	4.59	5.69	2.96	2.48
Diluted EPS	-	4.56	5.61	2.93	2.46
Basic Average Shares	-	13,063,000	13,352,994	13,616,314	13,851,914

Figure 15 Google's Financial statement from Yahoo Finance

consumer’s income and makes people think twice about spending their money on various things, for example, products or services that are offered by the company. The business owner, therefore, may affect by this problem too and they might decide to cut their expenses on advertising or other services provided by Google.

However, advertising is not the only thing that the company relies heavily on, there are other innovations and diversification in the new technology like cloud computing, hardware, phone, AI, and many more, which help the company to continuously grow and be profitable for the long-term perspective. To sum up, based on those basic analyses, we can say that Google (Alphabet Inc.) is quite a good stock to invest money in because they have a big market share, strong financial performance, and creative, innovative, and growth potential.

4.3.2 Redfin Corporation (RDFN)

Redfin Corporation (RDFN) is a real estate company in the US, the company provides online real estate services to home buyers, home sellers, and home renters. The headquarter of the company is in Seattle, Washington, founded in 2004. Redfin offers a large range of online real estate services, for example, the tools for the user to browse in detail and photos of the properties listed for sale and track the real estate market in the area that they want to buy, rent or sell. Moreover, there is also a home-selling service that allows the homeowner to list and sell their homes on the platform and they can get support from the Redfin agents when needed.

They also include the tools for scheduling a home tour, submitting offers, and negotiating contracts. The company has an agent responsible for a specific area and is supported by a team of other agents and support staff. There is also a function that we can calculate the mortgage with different banks.

According to the data from realtrends.com, the website that rank the top real estate brokerages in the US, Redfin’s market share in the real estate industry is estimated to be around 1.14 % in terms of transaction sides. But if compare this data to other big real estate brokerages like Coldwell Banker, Redfin is just a small player in the industry.

However, Redfin has been increasing its market share in recent years, largely due to its emphasis on technology and innovation in the real estate industry. The company's online platform and mobile app have made searching for properties, connecting with agents, and navigating the real estate process more accessible for buyers and sellers.

Furthermore, Redfin's commission rates are lower than traditional brokerages, making it more appealing to customers. Although Redfin's market share is not as significant as some of the bigger companies in the industry, its emphasis on technology and potential for growth could make it an appealing investment opportunity for certain investors. According to the data from Yahoo finance, the market cap of Redfin is $ 801.066 million, price to Book is 12.35, In 2021, revenue increased by $1,036.7 million, or 117%, as compared with 2020. Included in the increase was $121.9 million resulting from our acquisition of RentPath, where there were no such revenues in 2020. Excluding these revenues from RentPath, this increase in revenue was primarily attributable to a $671 million increase in property revenue and a $252.1 million increase in real estate services revenue. Property revenue increased 320%, primarily driven by a 220% increase in RedfinNow homes sold and a 28% increase in revenue per RedfinNow home sold. These increases are largely due to our property business's expansion, greater customer awareness of that business, and COVID-19's impacts on that business during the period. (Redfin, 2021)

In the COVID era, everyone was stuck at home and could not go out at all due to the lockdown or curfew rule that the government set, to stop spreading the virus. So, everyone must adapt to their new lifestyle, staying at home, and working remotely. This leads to a sudden increase in demand for properties in a suburban area, rises in home prices, and because everyone can’t go out so there is a high demand for online virtual real estate tour services like Redfin corporation.

	Year Ended December 31,		
	2021	2020	2019
		(in thousands)	
Revenue	$ 1,922,765	$ 886,093	$ 779,796
Cost of revenue[1]	1,518,945	653,983	635,693
Gross profit	403,820	232,110	144,103
Operating expenses:			
Technology and development[1]	156,718	84,297	69,765
Marketing[1]	138,740	54,881	76,710
General and administrative[1]	218,315	92,140	76,874
Total operating expenses	513,773	231,318	223,349
(Loss) income from operations	(109,953)	792	(79,246)
Interest income	635	2,074	7,146
Interest expense	(11,762)	(19,495)	(8,928)
Income tax benefit	6,107	—	—
Other income (expense), net	5,360	(1,898)	223
Net loss	$ (109,613)	$ (18,527)	$ (80,805)

Figure 16 Redfin Corperation financial statement 2021

In February 2021, Redfin’s stock price went up to the highest price of around 96 USD. In my opinion, it is mainly due to the covid impact and the increasing demand for a virtual tour because people are not able to, or they are not willing to visit properties in person. This is the reason that virtual tours, 3D walk-throughs, and 360-degree views becoming so popular for both buyers and renters.

Figure 17 Stock price of RDFN over the 2 year period by yahoo finance

However, at the end of 2022 the stock price has fallen hard to as low as around 4 USD per share and currently stays at only around 7.3 USD per share. The reason behind this is also because the pandemic boom in the housing market starting to disappear, while we are healing, and recovering from COVID, transiting to life before covid means that the need for space is not really that important anymore. The world economic situation, the war that is happening, and the increase in interest rates make it more difficult for people to get a mortgage, hence, there is a decreased demand in the housing market. A declining housing market would have negative consequences for Redfin since the majority of its revenue is generated through sales commissions. As a result, in the chart below from yahoo finance, we can see a steady decline in the stock price.

To sum up, whether we should invest in this stock or not, the answer is it depends on the situation if you are a long-term or short-term investor. In my point of view, if you are a long-term investor, then there is still potential growth in the company because the standout thing about the company is that they provide a convenient virtual tour for the customer which is important and may offer a high return in the future. However, if you are a short-term investor then I would say many economic issues are happening right now and I can’t say that it is a good stock to invest in.

4.3.3 The Walt Disney Company (DIS)

The Walt Disney Company (DIS) is a prominent American enterprise specializing in entertainment and media. The corporation has various branches that include Media Networks, Parks, Experiences and Products, Studio Entertainment, and Direct-to-Consumer and International. The Walt Disney Company is a worldwide entertainment and media corporation that produces and distributes content across multiple mediums such as movies, television, and streaming.

Walt Disney stock is traded on the New York Stock Exchange (NYSE) with the symbol “DIS”. The stock is included in several major stock indices such as the Dow Jones Industrial Average (DJIA) and the S&P 500.

During the COVID period, The Walt Disney Company also affecting the company’s financial situation, due to the social distancing rule and everyone must stay at home, so the company has to reduce its capacity or close its Disney Park around the world. At that time, there is also a competitor with Disney plus streaming services like Netflix which is also a threat to the company's revenue. Inflation is also one reason that people may have to decide to lower their expenses in streaming services.

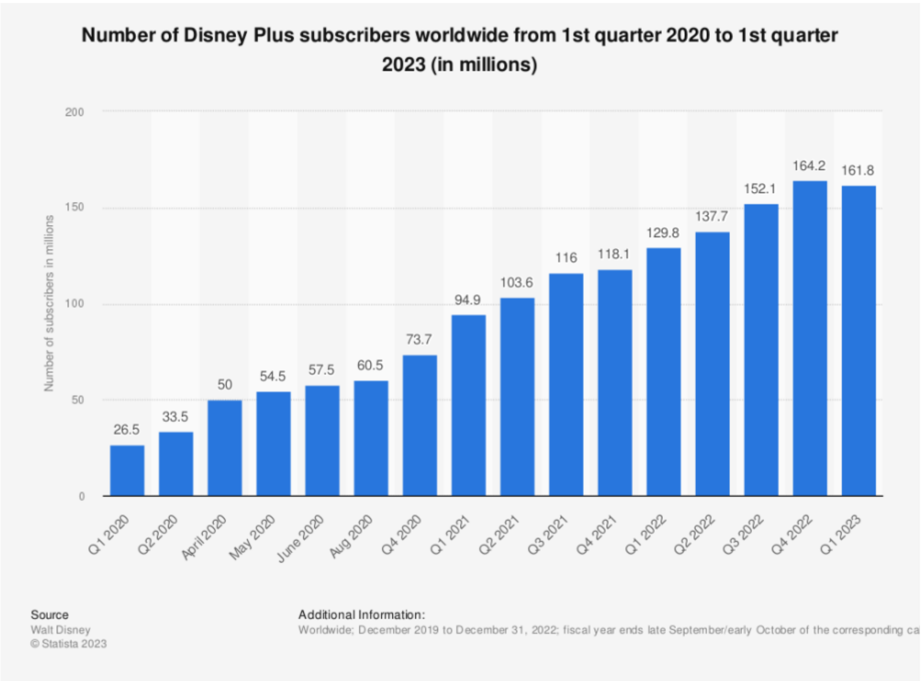


Figure 18 Disney plus subscribers by statista.com

However, according to the data from statista.com The Walt Disney Company has been improving its streaming services including Disney plus, Hulu, and ESPN+, and there is a strong growth in subscribers since 2020. Additionally, after the COVID situation eased, the company is able to open its park to the customer again and is seeing a return of visitors, even though there are not as many visitors as before the COVID, we can expect a recovery of this business. According to the data from yahoo finance, DIS's market cap is 180.964 billion, day trading volume is 6,861,053 which is a very high number, this tells us that there is a lot of interest between the buyer and the seller in this stock. The total revenue of the Walt Disney Company in 2022 is around 82 billion up from about 67 billion in 2021. That is a significant growth over the period of 1 year.

The Walt Disney Company (DIS) Follow
NYSE - NYSE Delayed Price. Currency in USD

99.06 -1.60 (-1.59%) **99.20** +0.14 (+0.14%)
At close: March 7 04:03PM EST After hours: 06:25PM EST

Summary Chart Conversations Statistics Historical Data Profile **Financials** Analysis Options

Show: **Income Statement** Balance Sheet Cash Flow

Income Statement All numbers in thousands

Breakdown	TTM	9/29/2022	9/29/2021	9/29/2020	9/29/2019
> Total Revenue	84,415,000	82,722,000	67,418,000	65,388,000	69,570,000
Cost of Revenue	56,220,000	54,401,000	45,131,000	43,880,000	42,018,000
Gross Profit	28,195,000	28,321,000	22,287,000	21,508,000	27,552,000
> Operating Expense	21,628,000	21,551,000	18,628,000	17,714,000	15,701,000
Operating Income	6,567,000	6,770,000	3,659,000	3,794,000	11,851,000
> Net Non Operating Interest Inc...	-1,456,000	-1,397,000	-1,406,000	-1,491,000	-978,000
> Other Income Expense	259,000	-88,000	308,000	-4,046,000	3,071,000
Pretax Income	5,370,000	5,285,000	2,561,000	-1,743,000	13,944,000
Tax Provision	1,656,000	1,732,000	25,000	699,000	3,031,000
> Net Income Common Stockhold...	3,320,000	3,145,000	1,995,000	-2,864,000	11,054,000
Diluted NI Available to Com Stock...	3,320,000	3,145,000	1,995,000	-2,864,000	11,054,000
Basic EPS	-	1.73	1.10	-1.58	6.68
Diluted EPS	-	1.72	1.09	-1.58	6.64

Figure 19 The Walt Disney company financial statement by Yahoo Finance

In short, I would say the company is good for long-term investment, they have had a steady increase in revenue over years and there is a lot of interest in the company, the company itself is also focused on various businesses and does not rely heavily on one. The Walt Disney Company is also currently improving its streaming service and they are attracting new customers by discounting the streaming services in some countries.

4.3.4 Yahoo

Even though Yahoo was acquired by Verizon in 2017, it is a good example of bad management and decision in the company. So, we decided to look on what were the mistakes they made and why we should also consider these problems before investing in another company.

Yahoo is an internet services company that was founded in 1994 by Jerry Yang and David Filo. Yahoo started as a web directory, but quickly expanded to offer a wide range of online services, including search, email, news, finance, sports, and entertainment. At that time there are not many competitors like Google, Facebook, or other tech giants. So, people are willing to pay quite a lot for the advertisement on their platform. However, Yahoo has never had a clear vision of its company and it also made so many poor decisions.

In 1996, yahoo become a public company with shareholders. In 2000, yahoo's stock hit an all-time high of $475 (pre-split price). Then in 2001 the internet stock bubble burst, as a result, the company lost billions of dollars and closed many of its companies. (Kupperberg, 2009)

The biggest mistake that they made was that they had a chance to buy Google for $1 billion, but they didn't accept the offer, because, in the late '90s, search engines were generating only 6% of the company's income so they didn't think that it was worth the price. However, later by the time they decide to accept the offer, Google's price has already increased to $3 billion. Again, Yahoo rejected and that was another huge mistake because later in 2020, Google become the fourth biggest tech company and was worth $1 trillion. (Acharya, 2020)

Then in 2006, Yahoo wanted to acquire Facebook for $1 billion, and Mark Zuckerberg verbally agreed to sell Facebook to Yahoo, However, Yahoo made another big mistake by lowering the offer to $800 million, so Facebook decided to turn down the offer. (Kafka, 2007)

In 2008, Microsoft wanted to compete with google and offer $44.6 billion to buy Yahoo, However, Jerry Yang, CEO of yahoo rejected it. (Acharya, 2020)

In conclusion, Yahoo never had a clear vision of the purpose of the company. The company is not a search company, neither is the tech company, the leader is having a poor vision for the company's future and has made a similar mistake again and again, also due to

The Dot-com bubble, make yahoo fail so hard despite used to be one of the biggest tech companies in the 90s.

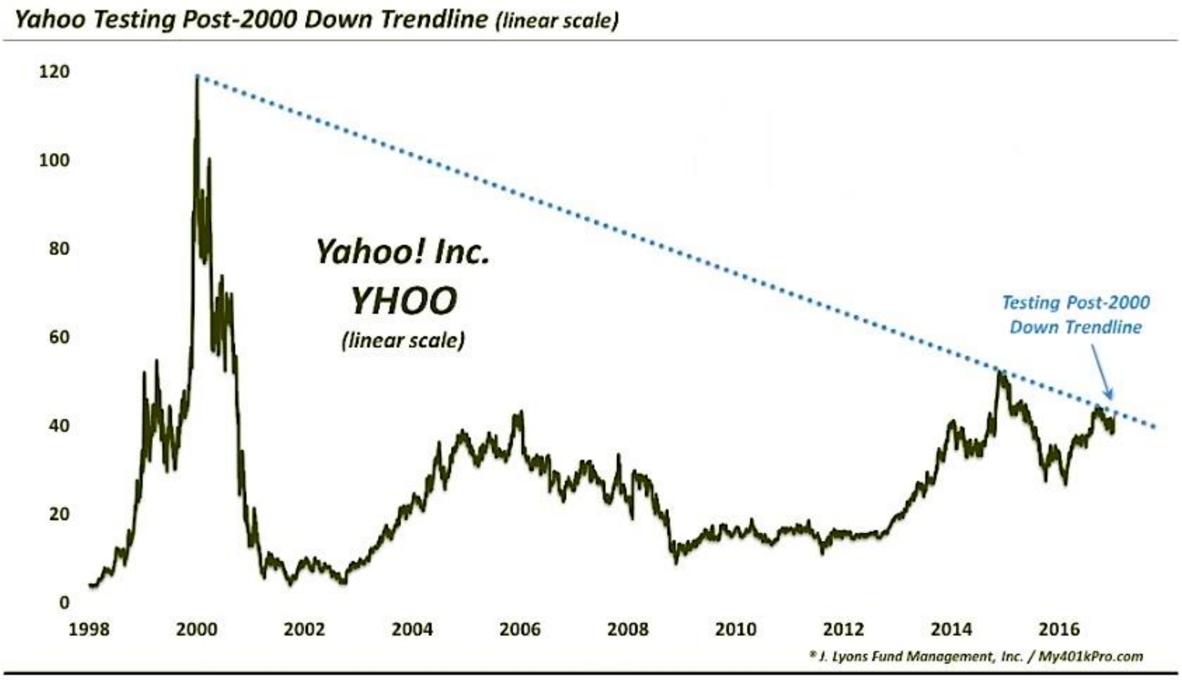


Figure 20 Yahoo Inc. stock chart (source: seeitmarket.com)

5 Conclusion

The main objective of this thesis is to explain the simple term of the basics of the stock market, based on various factors, such as fundamental analysis, and technical analysis, then decide whether we should invest in a specific stock or not.

In the literature review, we cover a range of topics related to the stock market, its history, how the market work, and the benefit and risk of investing in the stock market, we also discuss a different type of investment such as bonds, mutual fund, stocks, IPOs, OTC exchanges. Moreover, we also discuss the importance of long-term investment and diversification of the portfolio.

In fundamental analysis, we explain some terms of the financial metrics such as earning per share, price to earnings ratio, price to earnings to growth ratio, price to book ratio, return on equity, and historical analysis. And for technical analysis, we explain the quantitative analysis and behavioral finance as well as trade volume.

In the last part of the analysis, we also conclude with examples of individual companies like Google, Redfin, Walt Disney, and yahoo. We discuss their financial situation, the economic factors, and what was the problem with the management skill of the company, and how it can affect the company. Then we advise whether to invest in those stocks or not.

In our opinion, however, there are lots of things going on in our society and there are many other factors and situations that we should consider and compare, but because this is just the introduction to the stock market that is why we just mention some fundamental information,

To sum up, if we want to start investing, we should not decide solely on just one or two factors, we should consider carefully what we want, whether there is a risk in that investment and should we take that risk or not, and most importantly always diversify your portfolio.

6 References

Bibliography

Hossain Mohammed, H. A. (2013). An examination of the relationship between stock market and economic growth. *Journal of transformative Entrepreneurship*.

Mittal, M. (2010). tudy of Differences in Study of Differences Behavioral Biases in Investment Decision-Making Between the Salaried and Business Class Investor. *The IUP Journal of Behavioral Finance, VII*, 4.

Hwang, I. (2021). *A brief history of the stock market*. Retrieved from https://www.sofi.com/learn/content/history-of-the-stock-market/

Daniel Kahneman, A. T. (1979). *Prospect Theory : An Analysis of Decision Under Risk.*

Gursida, H. (2017). The Influence of Fundamental and Macroeconomic Analysis on Stock Price. *Jurnal Terapan Manajemen dan Bisnis, 3*, 223.

FERNANDO, J. (2022). *Bond: Financial Meaning*.

team, C. (2022, December 9). *Investing in Stocks With Dividends vs Stocks Without Dividends.* Retrieved from https://corporatefinanceinstitute.com/resources/equities/investing-in-stocks-with-dividends-vs-stocks-without-dividends/

KENTON, W. (2020, November 27). *Quantitative Analysis.* Retrieved from https://www.investopedia.com/terms/q/quantitativeanalysis.asp

HAYES, A. (2022, march 14). *Technical Analysis.* Retrieved from https://www.investopedia.com/terms/t/technicalanalysis.asp

Shiller, R. J. (2016). In *Irrational Exuberance.* Princeton University Press.

Redfin, C. (2021). *Redfin Annual report 2021.* Redfin Corporation.

Lynch, P., & Rothchild, J. (2000). *One up on Wall street.* Simon and Schuster.

Graham, B. (2006). *The Intelligent Investor.* Harper Business.

Buffett, W., & Dodd, D. (2008). *Security Analysis.* McGraw Hill.

Bogle, J. C. (2017). *The Little Book of Common Sense Investing: The Only Way to Guarantee Your Fair Share of Stock Market Returns.* Wiley.

Siegel, J. J. (2002). *Stocks for the Long Run : The Definitive Guide to Financial Market Returns and Long-Term Investment Strategies.* McGraw-Hill.

Miller, L. (2006). *The Single Best Investment: Creating Wealth with Dividend Growth.* Print Project.

Benjamin, G. (1973). *The Intelligent Investor.* New York: Harper and Row.

Kupperberg, P. (2009). Jerry Yang . In P. Kupperberg, *Jerry Yang* (p. 106). Chelsea House Publications.

Kafka, P. (2007, September 25). *How Terry Semel Fumbled Yahoo's Facebook Deal*. Retrieved from Insider: https://www.businessinsider.com/2007/9/how-terry-semel

Unknown. (n.d.). *What Happened to Yahoo in 6 Points*. Retrieved from University of Maryland: https://onlinebusiness.umd.edu/blog/what-happened-to-yahoo-in-6-points/

Acharya, B. (2020, September 9). *How Yahoo Missed Out on Hundreds of Billions, Again and Again*. Retrieved from Better Marketing: https://bettermarketing.pub/how-yahoo-missed-out-on-hundreds-of-billions-again-and-again-905f3bc86413

Mcclure, B. (2022, May 22). *Using the Price-to-Book (P/B) Ratio to Evaluate Companies*. Retrieved from Investopedia: https://www.investopedia.com/investing/using-price-to-book-ratio-evaluate-companies/

Fernando, J. (2022, December 20). *Price-to-Book (PB) Ratio: Meaning, Formula, and Example*. Retrieved from Investopedia: https://www.investopedia.com/terms/p/price-to-bookratio.asp

Lynch, P. (2020). *One Up On Wall street.* Simon Schuster.

Malkiel, B. G. (2007). *A Random Walk Down Wall Street.* W. W. Norton & Company.

Websites:

David Thorpe, 2016, Whatinvestment, The principles of investment,
Available at: https://www.whatinvestment.co.uk/the-principles-of-investment-2502801/

Inyoung Hwang, 2021, A brief history of the stock market,
Available at: https://www.sofi.com/learn/content/history-of-the-stock-market/

Difference101, What is the difference between Nasdaq and NYSE
Available at: https://www.difference101.com/nasdaq-vs-nyse-what-is-the-difference-between-nasdaq-and-nyse/

Ben Lobel, 2018, Top 7 differences traders should know,
Available at: https://www.dailyfx.com/nas-100/NASDAQ-vs-NYSE.html

Corporate Finance Institute, Stock Analysis,
Available at: https://corporatefinanceinstitute.com/resources/knowledge/trading-investing/stock-analysis/

Yahoo Finance, https://finance.yahoo.com/quote/AAPL/analysis?p=AAPL
Gurufocus, P/B ratio calculation
Available at: https://www.gurufocus.com/term/pb/NAS:AAPL/PB-Ratio/Apple
https://www.gurufocus.com/term/ROE/NAS:AAPL/ROE-/Apple

Investing in Stocks with Dividends vs Stocks Without Dividends
Available at: https://corporatefinanceinstitute.com/resources/equities/investing-in-stocks-with-dividends-vs-stocks-without-dividends/