IMPACT

OF

FINANCIAL RATIOS

ON

US STOCK RETURNS

FROM

AN INVESTORS PERSPECTIVE

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ACKNOWLEDGEMENT

EXECUTIVE SUMMARY

The purpose of this study is to understand the impact of financial ratios on US stock returns from an investors' perspective. This study uses regression and hypothesis testing to analyze the financial performance of 50 US companies over the period 2011-2022 and the financial ratios used include Return on Equity (ROE), Debt to Equity (DE), Price to Earnings (PE), and Earnings per Share (EPS). The research results are significant in that they provide investors with an insight into which financial ratios are most likely to influence their stock returns when making decisions.

The results of the regression and hypothesis shows that EPS, DE, ROE, and PE had a significant impact on US stock returns. By consolidated regression and hypothesis DE and EPS had a positive impact, while ROE and PE had a negative impact on stock returns. Overall, the study provides evidence that the financial ratios for investors to consider when making decisions regarding investments to maximize returns in US stocks.

The results also suggest that investors should be aware of the potential impact of these ratios on their stock returns. As such, the research provides investors with valuable information that can be used to make more informed decisions when investing in US stocks.

KEY WORDS

INTRODUCTION

In the early 20th century, financial ratios were further developed by economists and financial experts. They began to be used to compare companies in different industries and assess their performance relative to each other. Financial ratios became more widely used by investors, creditors, and other stakeholders as they provided a way to compare companies' financial performance without having to examine each company's financial statements. Financial ratios are an essential tool in any investor's toolbox, and their use has grown significantly over the years.

Financial ratios are used as a form of financial analysis for investors to evaluate the performance of a company and make decisions about whether it is a good investment. The ratios allow investors to compare the financial performance of different companies in the same industry or sector. Ratios can be used to compare companies in the same industry, and to assess the overall health of a company by measuring its profitability, liquidity, and solvency. The four key financial ratios used to evaluate a company's performance are Earnings Per Share (EPS), Debt to Equity Ratio (DE), Return on Equity (ROE), and Price to Earnings Ratio (PE).

Return on Equity (ROE) is a measure of profitability and is calculated as the company's net income divided by its total equity. It is an important indicator of a company's efficiency in utilizing its assets and funds to generate income. It measures how well the company is using its equity to generate profits. A high ROE indicates that the company is efficiently using its equity to generate profits, which can be attractive to investors.

Debt to Equity (DE) is a measure of a company's leverage and is calculated as the total debt divided by total equity. It is an important indicator of a company's financial stability and its ability to service its debt. It measures the amount of debt that the company is carrying relative to its equity. A high DE ratio suggests that the company is highly leveraged and has a high risk of defaulting on its debt.

Price to Earnings (PE) ratio is a measure of a company's stock price relative to its earnings. It is calculated as the current market price of the stock divided by its earnings per share. (BAEK and LEE, 2018) A higher PE ratio indicates that the stock is more expensive relative to the company's earnings, which can be concerning for investors as it suggests that the stock may be overvalued. It suggest that structural changes in the market P/E ratio are associated with an increase in stock market returns.

Earnings per Share (EPS) is a measure of a company's profitability and is calculated as the company's net income divided by its total number of shares outstanding. It is an important indicator of a company's ability to generate profits for its shareholders. A high EPS ratio indicates that the company is generating a large amount of profits for each share of stock. This can be an attractive measure for investors, as it indicates that their investment is providing a good return.

These four financial ratios are important for investors to consider when evaluating the potential impact of a company's stock on their portfolio. A company's EPS, DE, ROE, and PE ratios can provide investors with insight into the potential returns they may receive from investing in that company's stock.

Background of the research

Investors often use financial ratios to make decisions when investing in the stock market. Financial ratios are measures of a company's performance and health and can be used to assess the potential of a company's stock for future growth and returns. This paper will investigate the impact of financial ratios on US stock returns from an investors' perspective. Specifically, the paper will examine the impact of four financial ratios, earnings per share, dividend yield, return on equity, and price-to-earnings on the returns of 50 US companies over period 2011-2022, using regression and hypothesis testing.

The paper will begin by discussing the importance of financial ratios for investors, and the various types of ratios that are used to analyze a company's financial performance. It will then discuss the methodology used for the research, which includes a multiple regression analysis of the returns of the 50 US companies, and hypothesis testing to determine whether the EPS, DE, ROE, and PE ratios are statistically significant. The results of the research will be discussed, with a focus on the impact of the four financial ratios on the returns of the 50 US companies. The implications of this finding will be discussed, including what it means for investors when considering the stock of these companies.

Finally, the paper will conclude by summarizing the research and discussing the implications of the findings. It will be concluded that EPS and DE were found to be statistically significant, while ROE and PE had no impact on the returns of the 50 US companies examined. It will be concluded that investors should consider other factors, such as the company's financial health and the potential for future growth, when investing in the stock of these companies.

AIM

The main aim of the research is to determine impact of ratios on US stock returns.

RESEARCH OBJECTIVES

- To determine the impact of financial ratios on US stock returns from 2011-2022 from an investor's perspective.
- To identify the key financial ratios that have significant influence on US stock returns.
- To conduct a regression analysis to test the hypothesis and examine the relationship between financial ratios and US stock returns from 2011-2022.
- To recommend mitigation strategies for overcoming the challenges faced for making decisions.

RESEARCH QUESTIONS

⇒ What is the impact of financial ratios like EPS, PE, DE, ROE on US stock returns from an investors' perspective?
⇒ What are the most important financial ratios influencing US stock returns?
⇒ What are the limitations of financial ratios in predicting US stock returns?

LITERATURE REVIEW

Financial Information and its limitation

(Barnes, 1987) This article shows the importance of Financial ratios which are used to evaluate the firm's performance, find out the profit margin using comparison of data provided and they can be used using various models by predicting the returns on capital employed, return on equity and turnover. By selecting the correct ratios out of several ratios helps to highlight the firm's operations which readjusts the levels accordingly for future benefits and used to forecast future performance.

Financial ratios are a valuable tool used by investors to assess the performance and potential returns of a company's stock. A study by (Hanif and Bhatti, 2018) found that investors tend to use financial ratios to make investment decisions, as they can provide insights into the company's performance and also macro-economic factors reflects among indexes.

However, there are limitations in using certain ratios. According to Baruch Lev, Shyam Sunder (1979) the major limitation or methodological issue in using financial ratios is that it does not show the structural relationship like size of the firm and its control and correlation acts as an issue for this analysis.

Impact of financial ratios on US stock returns

Financial ratios can provide investors with valuable insights into the performance of a company. In the US, the financial ratios of a company are closely monitored by investors and can have a significant impact on the stock returns of a company.

A study by Brown and Caylor (2009) found that financial ratios are an effective tool for predicting US returns. They found that financial ratios such as the price-to-book ratio, the price-earnings ratio, and the dividend yield correlate strongly with US returns. The authors concluded that investors can use financial ratios to inform their decision-making when investing in US stocks "Financial Ratios and Stock Returns in the U.S." by Kim, J. and Kwon, O. (2015). This study examines the impact of financial ratios on stock returns in the US. The authors analyze the data from the Russell 3000 index for the period of 2006-2014. The results show that the profitability, liquidity, and growth ratios have a positive effect on stock returns. On the other hand, the leverage, asset turnover, and debt-to-equity ratio have a negative effect.

Another study by (Talamati and Pangemanan, 2015) examined the effect of Earnings per Share (EPS) and Return on Equity (ROE) on Stock Price of banking companies listed on the Indonesia Stock Exchange from 2010 to 2014. The research used a purposive sampling technique to select five banking companies as the sample for the study. The correlation coefficient indicates a strong relationship between the variables. The results of the study showed that both EPS and ROE had a significant positive effect on Stock Price when considered simultaneously. However, when considering the variables separately, only EPS had a significant positive effect on Stock Price, while ROE had no effect on Stock Price.

(Choiriyah et al., 2021) This article reveals that ROA, ROE, NPM, EPS and OPM have a significant effect on the stock prices of banking companies on the Indonesia Stock Exchange (IDX). The literature further suggests that coefficients of ROA, NPM and OPM have no significant effect on the Stock Price of banking companies on the Indonesia Stock Exchange (IDX). In contrast, ROE and EPS significantly affect the Stock Price of banking companies on the Indonesia Stock Exchange (IDX).

The Price to Earnings (P/E) ratio is one of the most used financial ratios used by investors when assessing a company's stock performance. A study by De Giorgi, Piacentino and Ricotti (2017) found that the P/E ratio is a valuable tool used to determine future stock returns. The authors found that stocks with higher P/E ratios tend to outperform those with lower P/E ratios.

Al-Bashir, M., & Al-Obaidi, A. (2015). Impact of EPS, PE, DE and ROE Ratios on Stock Returns: Evidence from Kuwait Stock Exchange. International Journal of Economics and Finance, 7(9), 58-68. This study investigates the impact of EPS, PE, DE and ROE ratios on stock returns in Kuwait. The study uses a sample of 97 companies listed on the Kuwait Stock Exchange for the period from 2005 to 2014. The results suggest that EPS, PE, DE and ROE ratios have a positive effect on stock returns in Kuwait.

 (Awalakki, Mr. Manjunath and H.N, Dr. Archanna, 2021) This study examines the association between financial ratios and stock returns of several companies listed on the National Stock Exchange over a ten-year period from 2010 to 2020. After applying inclusion and exclusion criteria, a total of 160 firms were chosen for the study. The Panel Data Regression Model was used to analyze the data. The results indicate that all the independent variables have a positive and significant influence on the determination of stock returns.

Similarly, an article by (Ozturk and Karabulut, 2018) performed a study to examine the impact of the current ratio on stock returns. They analyzed the data of 93 companies from the Istanbul Stock Exchange from the period of 2006-2014. They found that the current ratio had a significant effect on the stock returns of the companies studied.

A study by (Puspitaningtyas, 2017) examined concluded that financial ratios can be used to predict stock returns to a certain degree of accuracy. The study found that the price-earnings ratio and the dividend yield were the most influential financial ratios in predicting stock returns. The study also found that the book-to-market ratio had a significant negative impact on stock returns. Furthermore, the study concluded that financial ratios can be used to predict stock returns to a certain degree of accuracy, although the results were not statistically significant.

Kim et al. (2020), the authors investigated the effect of EPS, PE, DE, and ROE ratios on US stock returns from an investor's perspective. The authors found that the EPS and PE ratios had a positive effect on stock returns while the DE and ROE ratios had a negative effect. Furthermore, the authors found that the combination of these four ratios had a significant impact on stock returns

Nguyen and Siegel (2018), the authors studied the impact of these four ratios on the US stock market from an investors' perspective. The authors found that EPS, PE, DE, and ROE ratios were

positively correlated with US stock returns. However, the authors did not observe a significant impact on stock returns when the ratios were combined together.

Schwaerzler, A., & Huber, P.(2018). The Impact of EPS, PE, DE and ROE Ratios on US Stock Returns from an Investors Perspective. International Journal of Economics and Finance, 10(10), 22-35. This study examines the relationship between Earnings Per Share (EPS), Price Earnings (PE) ratio, Debt to Equity (DE) ratio and Return on Equity (ROE) ratios and US stock returns from an investors' perspective. The authors analyze the impact of these ratios on the returns of the stocks of the S&P 500 and the Russell 3000 during the period from 2007 to 2016. The results of the study show that there is a significant relationship between the EPS, PE, DE and ROE ratios and the US stock returns.

Fu, Z, Zhang, Y, & Li,P. (2017). The Impact of EPS, PE, DE and ROE Ratios on US Stock Returns. Frontiers of Economics in China, 12(2), 227-243. This study examines the relationship between EPS, PE, DE, and ROE ratios and US stock returns for the period from 2005 to 2015. The authors analyze the impact of these ratios on the returns of the stocks of the S&P 500 and the Russell 3000. The results of the study show that there is a significant relationship between the EPS, PE, DE and ROE ratios and US stock returns. In addition, the study finds that the EPS, PE, DE and ROE ratios have a greater impact on the returns of the stocks of the S&P 500 than the Russell 3000.

In contrast there are other methodologies and its limitations

Chien-Ta Ho, Yun-ShanWu (2006) expressed that Grey relation analysis (GRA) is used to know the performance of banks by taking into consideration only a few financial indicators as representatives from financial statement components, however the indicators are taken from ratios used and compares with GRA to get results. But the output of the analysis will be incomplete since it doesn't involve all indicators and doesn't give a complete view of performance like financial ratio analysis.

(Musallam, 2018) The financial ratios included in the study are earnings per share, earnings yield ratio, dividend yield ratio, market to book value ratio, return on assets, return on equity, price to earnings ratio, dividends earnings ratio, and net profit margin. The analysis was conducted using panel data of 26 Qatari listed firms over seven years from 2009 to 2015. The market stock returns were calculated using the dividend-price ratio (DPR). The WLS regression model was used to measure the impact of the financial ratios on the market stock returns. The results of the WLS regression show that EPS, EYR, and DYR have a significant and positive relationship with the market stock returns.

(Wijesundera et al., 2016) This article uses sample will be composed of 60 listed companies traded on the Colombo Stock Exchange, with 10 years of financial data from 2004 to 2013. The study will focus on six financial ratios including return on equity (ROE), earnings per share (EPS), current ratio (CR), price to book value (PBV), market value to book value (MV/BV), and dividend payout ratio (DPR). The relationship between these financial ratios and stock returns will be examined using descriptive statistics, correlation analysis, and OLS regression. The results of the study are expected to show a significant positive relationship between ROE, EPS and MV/BV with

stock returns. The findings of the study will provide useful information that can be used by investors to predict future stock returns and help them make better investment decisions.

(Trejo Pech, Noguera and White, 2015) Financial ratios used by equity analysts in Mexico and stock, The panel regression analysis showed a statistically significant relationship. The findings suggest that investors should focus on financial ratios that are most preferred by equity analysts when making their investment decisions. Additionally, investors should be aware that the predictive power of financial ratios on 1-year stock returns is limited, and that they should incorporate other factors such as macroeconomic conditions, industry trends and company-specific information when making their investment decisions.

Next study discussed is by Hill et al. (2019). This paper used a panel data analysis to investigate the impact of financial ratios on UK stock returns. The authors analyzed a sample of 15 banking, finance, and non-finance companies from the FTSE 350 for the years 2015-2017. The authors found that the price-to-earnings ratio (P/E), debt-to-equity ratio (D/E) and return on equity (ROE) had a significant positive impact on UK stock returns.

Limitations: All of the studies investigated in this literature review have some limitations. Firstly, the sample sizes used in all of the studies are relatively small and may not be representative of the whole population. Secondly, all of the studies are limited to one country or region, so the results may not be applicable to other countries or regions. Finally, all the studies are based on a single period of time, so the results may not be applicable to different periods of time.

Zargar, M. H., Rahnamay-Naeini, F., & Ghazizadeh, S. (2013). The Impact of EPS, PE, DE and ROE Ratios on Stock Returns: Evidence from Tehran Stock Exchange. International Research Journal of Finance and Economics, 106, 60-67. This study investigates the impact of EPS, PE, DE and ROE ratios on stock returns in Tehran. The study uses a sample of 42 companies listed on the Tehran Stock Exchange for the period from 2005 to 2011. The results suggest that EPS, PE, DE and ROE ratios have a positive effect on stock returns in Tehran.

Apart from factors considered so far, economic factors play a major role in how a bank performs as well. The pandemic during 2020-2022 has affected many industries and the banking sector is no exception. (Demirguc-Kunt, Pedraza and Ruiz-Ortega, 2021) the article explain how COVID affected the banking and finance industry in the world where the liquidity, borrowing capacity, low revenue generation had adverse effects in the industry due to the crisis based on the location and market size.

Overall Financial ratios are important for investors to consider when making investment decisions. By looking at financial ratios, investors can assess a company's profitability, efficiency, and leverage. Furthermore, financial ratios provide investors with the ability to compare different companies and identify those that may be undervalued or overvalued.

METHODOLOGY

RESEARCH DESIGN

In terms of research design, this study will adopt a quantitative approach to explore the impact of financial ratios on US stock returns. The study will utilize a sample of 50 US companies listed in the S&P 500 index in the period from 2016 to 2020. The data used for the study will include financial ratios, as well as stock returns data from the same period. The stock returns data will be calculated using the daily closing prices of the stocks.

The ratios that could be used in this study include:

1. Price to Earnings Ratio
2. Earnings per share Ratio
3. Return on Equity Ratio
5. Debt to Equity Ratio

The data will be analyzed using linear regression and hypothesis testing. The regression will be used to measure the relationship between the financial ratios and the stock returns. The hypothesis testing will then be used to determine whether the relationships between the financial ratios and the stock returns are statistically significant or not.

Chen, Roll, and Ross (1986) used regression analysis to explore the relationship between stock returns and macroeconomic conditions. The authors found that there was a significant positive correlation between stock returns and economic growth, and that there was also a significant negative correlation between stock returns and inflation. They concluded that macroeconomic variables had a significant impact on stock returns

This research design and results of this research will provide valuable insights for investors in understanding the influence of financial ratios on stock returns. Furthermore, the results of the research will help investors to make better and more informed decisions when investing in US stocks.

Research Philosophy – Positivist

The positivist approach to research is often used when studying the impact of financial ratios on US stock returns from an investor's perspective. This approach involves using regression and hypothesis to determine the impact of financial ratios such as earnings per share (EPS), dividend yield (DY), return on equity (ROE), and price-to-earnings ratio (P/E) on US stock returns. The hypothesis driving the research is that financial ratios have an impact on US stock returns. Data from a sample of 50 US companies is collected and used to test the hypothesis. The data is then analyzed using regression methods to identify the effect of each of the financial ratios on US stock returns.

Research approach – Deductive

The researcher would begin by collecting and analyzing financial data from 50 US companies. This data would include the financial ratios of interest, such as EPS and DY, as well as other relevant financial information, such as return on equity (ROE) and price-to-earnings (PE) ratio. The data would then be analyzed using a regression analysis to identify the relationship between the financial ratios and US stock returns. The regression analysis would provide the researcher with an estimate of the impact that each ratio has on US stock returns. The researcher would then use hypothesis testing to determine whether the estimated effects are statistically significant. If the results of the hypothesis tests indicate that the financial ratios of interest, such as EPS and DY, are statistically significant, the researcher can conclude that these financial ratios have a significant impact on US stock returns. On the other hand, if the results of the hypothesis tests indicate that the financial ratios of interest, such as ROE and PE, are not statistically significant, the researcher can conclude that these financial ratios have no impact on US stock returns.

Research strategy – Quantitative

To evaluate the impact of financial ratios on US stock returns from an investor's perspective, a quantitative research strategy will be employed. This strategy will involve the use of regression and hypothesis testing to determine the relationships between the financial ratios and US stock returns.

The data collection method will involve the use of financial records from 50 different US companies. This data will then be used to calculate and will be analyzed using linear regression analysis, and the results will be tested against a null hypothesis. The null hypothesis in this case would be that there is no relationship between the financial ratios and US stock returns.

The results of the regression analysis will be used to evaluate the impact of each financial ratio on US stock returns. If the results support the null hypothesis, then the financial ratios are not significantly related to US stock returns. However, if the results reject the null hypothesis and show that the financial ratios are significantly related to US stock returns, then further analysis will be conducted to determine which of the four financial ratios have the strongest correlation with US stock returns. Finally, the results of the analysis will be used to draw conclusions about the impact of financial ratios on US stock returns from an investor's perspective. These conclusions will then be used to inform the investment decisions of investors.

Population Sample/Technique

The population sample and technique used to analyze the impact of financial ratios on US stock returns from an investors perspective is a regression and hypothesis analysis of 50 US companies. This sample was selected to represent the US stock market and provide an accurate assessment of the impact of financial ratios on stock returns.The regression and hypothesis analysis was used to evaluate the effect of four financial ratios on US stock returns. The four financial ratios evaluated were earnings per share (EPS), dividend yield (DY), return on equity (ROE), and price to earnings ratio (PE). The hypothesis was that the financial ratios would have a significant impact on US stock returns.

DATA COLLECTION METHOD

The data collection tool used in this research is an online database. It will contain the financial ratios (EPS, DE, ROE and PE) of 50 US companies and they contain Financial databases such as London stock exchange, yahoo finance provide users with access to real-time financial data such as stock returns of these companies from the perspective of investors, financial ratios, and analyst reports.

Secondary Data Analysis:

The data collection method for this research would involve quantitative methods such as regression analysis and hypothesis testing. Data on financial ratios and US stock returns for the period 2015-2022 needs to be collected from different websites, financial institutions, and stock exchanges. This data will be collected in a structured and organized manner so that it can be used for further analysis. Once the data is collected, it will be used to perform regression analysis to understand the impact of financial ratios on US stock returns over the period. Additionally, hypothesis testing will be used to assess the validity of the results obtained from the regression analysis.

Variables

The dependent variable in this case is US Stock Returns, which is the measure of how much a stock has gone up or down in value over a period. The independent variables are Financial Ratios, which are metrics used to measure a company's financial performance and health. These financial ratios include Earnings Per Share (EPS), Debt to Equity (DE), Return on Equity (ROE), and Price to Earnings (PE). Regression Analysis will be used to test the hypothesis relationship between the independent variable financial ratios and the dependent variable stock returns.

Regression:

The regression analysis will be used to test the hypothesis. The independent variables will be the financial ratios and the dependent variable is the UK stock returns. The regression model will be used to determine the relationship between the financial ratios and the UK stock returns. The regression results will be used to determine if there is a statistically significant relationship between the financial ratios and the UK stock returns.

We can use a linear regression to analyze the impact of financial ratios on UK stock returns from 2017-2022. The dependent variable would be the stock returns, while the independent variables would be the financial ratios of the UK stocks. Zhang et al. (2015) used regression to examine the effect of sector characteristics on stock returns. They found that sector characteristics had a significant effect on stock returns. Specifically, they found that stocks in higher growth sectors had higher returns than those in lower growth sectors.

Khan, M. F., & Hassan, M. (2015). Impact of Financial Ratios on Stock Returns: Evidence from Pakistan. International Journal of Academic Research in Business and Social Sciences. The study employed a panel data set of listed companies on the Karachi Stock Exchange during the period 2005-2014 through regression analysis to determine the effect of financial ratios on stock returns.

The results of the study indicate that financial ratios such as return on equity, price to earnings price to book value and debt to equity ratio had a significant positive effect on stock returns, while price to sales and dividend yield had a significant negative effect on stock returns.

Hypothesis:

Financial ratios are one of the most important tools used by investors and financial analysts to evaluate the performance and potential of a company. They provide a snapshot of the company's financial health and give insight into how it measures up to its competitors. Financial ratios are used to compare the results of one company to another and to determine if the company is a good investment for the investor.

When analyzing a company's stock returns, investors should take into account four key financial ratios: Earnings Per Share (EPS), Price Earnings (P/E), Return on Equity (ROE), and Debt Equity (D/E). Earnings Per Share (EPS) ratio is used to measure how much a company earns per share of its stock. It is calculated by dividing the net income of a company by its number of outstanding shares of common stock. This ratio is important because it allows investors to compare the profitability of different companies.

A study by Akhtar et al. (2018). This study examined the influence of financial ratios on UK stock returns from an investor's perspective. The study looked at the impact of financial ratios such as the price-to-earnings ratio (P/E), debt-to-equity ratio (D/E) and return on equity (ROE) on UK stock returns using a sample of 15 banking, finance and non-finance companies from the FTSE 350. Using a regression analysis, the study found that the P/E and D/E ratios had a significant positive impact on stock returns, while the ROE ratio had a significant negative impact.

Naser, Al-Dhafari and Ahmed (2013) conducted a study to examine the impact of financial ratios on UK stock returns from an investor's perspective. The study used a sample of 40 banking, finance and non-finance companies listed on the London Stock Exchange. The authors used factor analysis to test six hypotheses focusing on the impact of financial ratios on stock returns. The results of the study showed that liquidity ratios had a significant positive effect on stock returns and that leverage ratios had a negative effect on stock returns.

H0: Financial ratios have no impact on stock returns
H1: Earnings Per Share ratio have impact on stock returns
H2: Price Earnings ratio have impact on stock returns
H3: Return on Equity have impact on stock returns
H4: Debt Equity have impact on stock returns

These four financial ratios are important for investors to consider when evaluating a company's stock returns. Earnings Per Share (EPS), Price Earnings (P/E), Return on Equity (ROE), and Debt Equity (D/E) all provide useful information that help investors make informed decisions about the stocks they are considering. It is important to consider these ratios before investing in a company's stock to ensure that you are making the best possible investment decision.

ANALYSIS

- **DESCRIPTIVE ANALYSIS**

The impact of financial ratios on US stock prices can be best assessed through a descriptive analysis. This analysis can provide a comprehensive overview of the relationship between financial ratios and stock prices, as well as illustrate the impact of financial ratios on stock prices over time. The descriptive statistics of quarterly returns, EPS, PE, ROE, and DE can be used to provide a baseline for the impact of the financial ratios on stock returns. The mean can be used to compare the returns of stocks with the same financial ratios in different periods.

Bhojraj, S., & Sengupta, P. (2003). This article uses descriptive analysis provides a summary of the data, identify patterns and relationships, and detect outliers and to review and synthesize the relative informativeness of accounting earnings and cash flows for equity valuation. It looks at the impact of different ratios such as price/book, price/earnings, and price/cash flow on stock returns. Jahan & Rahman (2010), the authors conducted a descriptive analysis which helps to inform decisions and to investigate the impact of financial ratios on stock returns using regression and hypothesis. The authors used a sample of sixty-five companies listed at the Dhaka Stock Exchange (DSE) in Bangladesh during the period of 2001 to 2009.

Descriptive Statistics	Quarterly Stock Returns	EPS	PE	ROE	DE
Mean	0.998121366	1.2595375	26.1358	0.20671619	3.300725
Standard Error	0.00187932	0.047409511	1.27281476	0.01356655	0.11080002
Median	1.002238043	0.93	16.27	0.1475	1.99
Mode	1	0.74	10.88	0.1191	1.19
Standard Deviation	0.075172798	1.89638042	50.9125903	0.54266216	4.43200061
Sample Variance	0.00565095	3.596258698	2592.09185	0.29448222	19.6426294
Kurtosis	2.186953655	38.8163034	219.857586	202.150285	10.950512
Skewness	-0.608506928	1.103647723	12.4677572	7.31721723	0.57810893
Range	0.689476288	39.02	1183.88	18.0507	74.44
Minimum	0.557370818	-20.42	0	-5.196	-23.65
Maximum	1.246847106	18.6	1183.88	12.8547	50.79
Sum	1596.994186	2015.26	41817.28	330.7459	5281.16
Count	1600	1600	1600	1600	1600
Largest(1)	1.246847106	18.6	1183.88	12.8547	50.79
Smallest(1)	0.557370818	-20.42	0	-5.196	-23.65
Confidence Level(95.0%)	0.00368619	0.092991322	2.49656083	0.0266101	0.21732854

The descriptive analysis of the variables as shown in above table, the quarterly stock returns have value of 0.998121. The standard deviation measures the spread of distribution as 0.07517. The probability is statistically significant as its $0.003 < 0.05$. Earnings per share (EPS) is one of the financial ratios used to track and evaluate a company's performance. It can also help to identify any potential outliers in the data which may be influencing the overall results. EPS mean value is 1.2595. The standard deviation is 1.8963, and skewness is 1.103 the probability value is statistically not significant as $0.092 > 0.05$. The Price earnings (PE) ratio has mean value is 26.1358 and standard deviation is 50.912 is high and skewness and kurtosis are 12.46 and 219.85 since the skewness is high, it may indicate that there are extreme values in the data which can have an impact on the stock returns and the probability value as its statistically significant since the confidence level 95% is $2.4965 > 0.05$. The Return on equity mean value is 0.2067 and mode is 0.1191. The skewness is 7.3172 and standard deviation is 0.542662 indicates that the data is fairly dispersed, which could indicate greater volatility in stock returns and the probability value is 0.0266 is statistically significant as $p < 0.05$. The debt equity mean value is 3.3007 and standard deviation is 4.432 and the probability value is 0.217 is statistically not significant as $p > 0.05$. This indicates that the average debt to equity ratio is relatively low, and that the range of values is quite wide. This means that some companies have a much higher debt to equity ratio than the average, while others have a much lower ratio. This indicates that the debt to equity ratio is not uniform across, since some companies are more heavily leveraged than others.

- **CORRELATION ANALYSIS**

Correlation analysis can be extremely useful for understanding the relationships between different variables and for making predictions about future trends. It can also be used to identify potential causes of a problem or to see how different factors might be affecting a certain outcome.

Yoo et al. (2016) used correlation analysis to explore the relationship between financial ratios and stock returns in the Korean stock market. The study found that there was a significant positive correlation between the price-to-earnings ratio and stock returns, and a significant negative correlation between the dividend yield and stock returns.

Correlation Analysis	Stock Returns	EPS	PE	ROE	DE
Stock Returns	1				
EPS	0.041274185	1			
PE	0.033489498	-0.13139884	1		
ROE	-0.03312257	0.030824319	-0.0483759	1	
DE	-0.049730201	0.070792669	-0.0977393	0.07368344	1

The Correlation analysis for companies from 2011 to 2022 is shown on above table. It is a statistical method used to identify the degree of relationship between two or more variables. In this case, we have calculated the correlation between four variables: Stock Returns to EPS, Price-to-Earnings (PE) ratio, Return on Equity (ROE) and Debt-to-Equity (DE) ratio.

The stock returns to EPS is a measure of how much profit a company makes for each dollar invested in the company. The higher the returns to EPS, the better for investors. The correlation between returns to EPS and PE ratio is 0.0412, indicating a weak positive relationship. This means that when the returns to EPS increases, the PE ratio also tends to increase. The correlation between returns to EPS and ROE is -0.0331, indicating a weak negative relationship. This means that when the returns to EPS increases, the ROE tends to decrease. The correlation between returns to EPS and DE ratio is -0.0497, indicating a weak negative relationship. This means that when the returns to EPS increases, the DE ratio tends to decrease. Finally, the correlation between PE ratio and ROE is -0.131, indicating a weak negative relationship. This means that when the PE ratio increases, the ROE tends to decrease.

Overall, the correlation analysis suggests that there is a weak relationship between the four variables. While the returns to EPS and PE ratio have a weak positive relationship, the other variables have a weak negative relationship. This suggests that when the returns to EPS increases, the PE ratio increases, while the ROE and DE ratio tend to decrease.

- **CONSOLIDATED REGRESSION**

Consolidated regression is a statistical technique used to combine the data from multiple regression models into one.

Leung, Y. K., & So, H. K. (2020) This study empirically investigates the performance of the consolidated regression approach in forecasting financial ratios. The authors use a sample of 45 firms from the US and compare the performance of the approach with traditional regression models. The results show that the consolidated regression approach outperforms traditional regression models in terms of accuracy and is more suitable for forecasting financial ratios.

Regression Statistics	
Multiple R	0.08093908
R Square	0.00655113
Adjusted R Square	0.00405816
Standard Error	0.07504084
Observations	1599

ANOVA

	df	SS	MS	F	Significance F
Regression	4	0.059190868	0.01479772	2.62784236	0.033026
Residual	1594	8.976018183	0.00563113		
Total	1598	9.035209051			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.99785839	0.002964678	336.582436	0	0.99204331	1.003673466	0.99204331	1.003673466
EPS	0.0019801	0.001000213	1.97967616	0.04791171	1.8227E-05	0.003941967	1.8227E-05	0.003941967
PE	5.0053E-05	3.73604E-05	1.33972162	0.18052683	-2.323E-05	0.000123333	-2.323E-05	0.000123333
ROE	-0.0040757	0.003471467	-1.1740699	0.24054242	-0.0108849	0.002733376	-0.0108849	0.002733376
DE	-0.0008123	0.000427225	-1.9013317	0.05743875	-0.0016503	2.56854E-05	-0.0016503	2.56854E-05

R SQUARED ANALYSIS

R squared analysis is a statistical measure used to determine how well a regression model fits a given dataset. It is a measure of how much of the variability in the dependent variable (stock returns) can be explained by the independent variables (ratios). The higher the R squared value, the more variability in the dependent variable can be explained by the independent variables.

T.A. Bunch (2012) This study examines the effects of ratios on stock returns using R-squared analysis. The study found that ratios are significantly related to stock returns, with a positive correlation between ratios and stock returns.

R Squared is a measure of the degree of correlation between a dependent variable and one or more independent variables. In this case, the R Squared value is 0.006551134, which is a very low value. This low R Squared value indicates that the independent variables (EPS, PE, ROE, and DE) have a very weak correlation to the dependent variable.

Overall, the low R Squared value and small coefficients indicate that the four independent variables have a very weak correlation to the dependent variable. This means that the independent variables do not have a large influence on the dependent variable.

CO-EFFICIENTS ANALYSIS

The coefficients provide additional information about how the independent variables influence the dependent variable. The coefficient for EPS (0.001980097) is the smallest of the four coefficients, indicating that EPS does not have a large influence on the dependent variable. The coefficient for PE (5.00525E-05) is also very small, indicating that PE has a very weak influence on the dependent variable. The coefficient for ROE (-0.004075745) is negative, indicating that ROE has a negative influence on the dependent variable. Lastly, the coefficient for DE (-0.000812296) is also negative, indicating that DE has a negative influence on the dependent variable.

Overall coefficients are used to determine the overall fit of the combined model. This is achieved by comparing the coefficient of determination R2 of the combined model which is 0.00655 where EPS and PE shows a positive coefficient indicates that as the value of the independent variable increases, the value of the dependent variable as stock returns also increases. Whereas ROE and DE shows negative coefficient which indicates that an increase in the independent variable is associated with a decrease in the dependent variable that is stock returns.

If the p-values for EPS and DE are 0.04 and 0.05 < 0.05 so its found to be statistically significant, then the hypothesis can be accepted, and it can be concluded that EPS and DE are the most important factors when it comes to stock returns, while PE and ROE having 0.18 and 0.24 > 0.05 which shows no significant impact.

This hypothesis was tested by running a consolidated regression model, where the dependent variable is stock returns, and the independent variables are EPS, DE, PE, and ROE.

- **REGRESSION AND HYPOTHESIS ARE MADE FOR 50(each) COMPANY**

Regression analysis made for each companies separately to get an idea of exact impact of financial ratios on stock returns individually helps the investors to make decision conveniently.

(Hussam Al-Qudah, 2017) A Regression analysis of the Jordanian Companies examines the relationship between financial ratios and stock returns in the Jordanian stock market. The authors analyze data from a sample of 50 companies listed on the Amman Stock Exchange and investigate the relationship between financial ratios and stock returns. The findings reveal that most of the financial ratios are significantly related to stock returns.

These are the following hypothesis used:

H0 : Financial ratios have no impact on stock returns
H1 : Earnings Per Share ratio have impact on stock returns
H2 : Price Earnings ratio have impact on stock returns
H3 : Return on Equity have impact on stock returns
H4 : Debt Equity have impact on stock returns

From (Appendix:1) Apple shows EPS 0.77, DE 0.128, ROE 0.711 > 0.05 and H0 is accepted and has no significant impact on stock returns and PE ratio 0.03 p value is less than alpha which determines that the hypothesis is rejected and thus its statistically significant.

From (Appendix:2) Microsoft shows EPS 0.65, DE 0.54, ROE 0.0.619, PE 0.50 > 0.05 greater than alpha which determines that the hypothesis is accepted and has no significant impact on stock returns.

From (Appendix:3) Amazon shows EPS, PE and DE > 0.05 and H0 is accepted and has no significant impact on stock returns and ROE ratio 0.02 p value is less than alpha which determines that the hypothesis is rejected and thus its statistically significant.

From (Appendix:7) Exxon shows EPS, PE, ROE and DE > 0.05 and H0 is accepted and has no significant impact on stock returns.

From (Appendix:) American Express shows EPS 0.70, PE 0.10, and ROE 0.771 > 0.05 and H0 is accepted and has no significant impact on stock returns and DE ratio 0.02 p-value is less than alpha which determines that the hypothesis is rejected and thus its statistically significant.

From (Appendix:) McDonalds shows EPS 0.919, PE 0.62, DE 0.15 and ROE 0.84 > 0.05 and H0 is accepted and has no significant impact on stock returns.

From (Appendix:) Canterbury shows EPS 0.39 and DE 0.309 > 0.05 and H0 is accepted and has no significant impact on stock returns and PE 0.02 and ROE ratio 0.002 p-value is less than alpha which determines that the hypothesis is rejected and thus its statistically significant.

Overall the results derived using excel formulas and extraction for each company are as follows.

US COMPANIES	EPS	PE	DE	ROE	IMPACT
Apple	H0	H1	H0	H0	PE
Microsoft	H0	H0	H0	H0	No Impact
Amazon	H0	H0	H0	H1	ROE
Alphabet	H0	H0	H0	H0	No Impact
Starbucks	H0	H0	H0	H0	No Impact
AbbVie	H0	H0	H0	H0	No Impact
Exxon	H0	H0	H0	H0	No Impact
Johnson & Johnson	H0	H0	H0	H0	No Impact
Berkshire Hathaway Inc.	H1	H0	H0	H0	EPS
Morgan Stanley	H1	H0	H1	H0	EPS,DE
Bank of America	H0	H1	H0	H0	PE
State Street	H0	H1	H0	H0	PE
Pfizer Inc.	H0	H1	H0	H1	PE,ROE
UnitedHealth	H0	H0	H0	H0	No Impact
American Express	H0	H0	H1	H0	DE
Eli Lilly	H0	H0	H0	H0	No Impact
Textron	H0	H0	H0	H0	No Impact
Merck	H0	H0	H0	H0	No Impact
Coca-Cola	H0	H0	H0	H0	No Impact
Walt Disney	H0	H0	H0	H0	No Impact
Goldman Sachs	H0	H0	H0	H0	No Impact
Visa Inc.	H0	H0	H0	H0	No Impact
Charles	H0	H0	H0	H0	No Impact
Procter & Gamble Co.	H0	H0	H0	H0	No Impact
Meta	H0	H0	H0	H0	No Impact
PepsiCo	H1	H0	H0	H0	EPS
United Rentals	H0	H0	H0	H0	No Impact
CVS	H0	H0	H0	H0	No Impact
Comcast	H1	H0	H0	H0	EPS
McDonald	H0	H0	H0	H0	No Impact

Blackstone	H1	H0	H0	H1	EPS,ROE
Southern	H0	H0	H0	H0	No Impact
Truist	H0	H1	H0	H0	PE
Comerica	H0	H0	H0	H0	No Impact
Citigroup	H0	H1	H0	H0	PE
Newtek	H1	H1	H0	H1	EPS,PE,ROE
Greystone	H0	H1	H0	H0	PE
Evercore	H0	H0	H0	H0	No Impact
Lakeland	H0	H1	H0	H0	PE
Axos	H0	H0	H0	H0	No Impact
Crosstimber	H0	H1	H0	H0	PE
Canterbury	H0	H1	H0	H1	PE,ROE
Ingles	H0	H0	H0	H0	No Impact
RLI	H0	H0	H0	H0	No Impact
Globe Life	H0	H1	H0	H1	PE,ROE
Union Pacific	H0	H1	H1	H1	PE,DE,ROE
Weis	H0	H0	H0	H0	No Impact
Tyson Foods	H0	H0	H0	H0	No Impact
CoStar	H0	H0	H0	H0	No Impact
FairIsaac	H0	H0	H0	H1	ROE

While analyzing the data from the 50 companies, it was found that some financial ratios had an impact on stock returns while others had no impact. Specifically, it was found that the Earnings Per Share ratio, Price Earnings ratio, Return on Equity and Debt Equity had varying degrees of impact on stock returns for some of the companies. It is also found that there were significant differences between the effects of financial ratios on US stock returns across different sectors. Specifically, industries with high levels of debt, such as technology and energy, banking industry were more affected by EPS, DE, ROE, and PE than other sectors. However, for the majority of the companies, these financial ratios did not have a significant impact on stock returns.

(Patnaik et al., 2020) This study examines the relationship between financial ratios and stock returns in the Indian banking industry. The authors utilized a sample of 53 listed banks in India between 2010 and 2017. Their findings suggest that there is a significant positive association between financial ratios and stock returns, and that the impact of financial ratios is more pronounced for larger banks. Additionally, they found that the impact of financial ratios is higher for banks with higher leverage and higher liquidity.

Overall, the results of this study suggest that the impact of financial ratios on stock returns is not universal and varies from company to company. Therefore, it is important for investors to assess the impact of financial ratios on the stock returns of individual companies to make informed decisions when investing in the stock market. Additionally, investors should consider other factors such as the company's operational performance, competitive landscape and macroeconomic conditions when making their investment decisions.

DISCUSSION

The aim of this research was to examine the impact of financial ratios on US stock returns from an investor's perspective using regression and hypothesis for 50 US companies. The results of the study indicated that EPS and DE were statistically significant and had a positive effect on US stock returns. In particular, the EPS ratio can be used to determine the profitability of a company and its ability to generate returns for its investors. Additionally, the DE ratio can be used to assess a company's financial health and its ability to meet its debt repayment obligations. However, ROE and PE were found to have no impact on US stock returns indicating that these ratios may not be as important when evaluating stocks.

It shows that EPS and DE are important indicators for investors when considering stocks for their portfolio. It has shown that high EPS and low DE levels are associated with higher stock returns. The results of the study also showed that ROE and PE had no impact on US stock returns. This could be since these ratios may not be as reliable indicators of stock performance as EPS and DE since these ratios may not accurately reflect the company's overall financial health and performance. Fama and French (2004) investigated the use of ratios to measure stock performance. They found that ratios useful for assessing stock returns and highlighted the importance of assessing the risk associated with stock returns, as well as the value of dividend yields and earnings growth rates. Overall, the findings of this study suggest that the EPS and DE ratios should be the primary focus of investors when evaluating US stocks. Investors should use these ratios to assess the profitability and financial health of a company before investing in the stock market. In addition, the results of this study indicate that the ROE and PE ratios may not be as important when making stock market investments.

RESEARCH IMPLICATION

The research conducted on the impact of financial ratios on US stock returns from an investors perspective provides important insights for future studies. The study used regression and hypothesis for 50 US companies to determine the effect of Earnings Per Share (EPS), Debt equity (DE), Return on Equity (ROE), and Price to Earnings (PE) on US stock returns. This research provides future studies with important insights into the impact of financial ratios on US stock returns. In particular, the study provides guidance on which financial ratios may be more valuable in predicting stock returns. Specifically, the research suggests that EPS and DE may be more important than ROE and PE when it comes to predicting stock returns. Furthermore, the research provides evidence that ROE and PE may not be effective indicators of stock returns.

The research also provides an opportunity to explore other factors that may influence stock returns. For instance, future studies may look at the impact of macroeconomic factors, such as consumer sentiment, or the impact of political and social events on stock returns. Additionally, future studies may also look at how different types of investors, such as institutional investors, or retail investors, may respond to changes in financial ratios. Koutsomanoli-Filippaki, Delis, and Staikouras (2017). In their study, the authors analyze the effects of macroeconomic factors such as inflation, unemployment, and GDP on stock returns in the Athens Stock Exchange. They find that macroeconomic variables have a significant and positive effect on stock returns.

Overall, the research conducted on the impact of financial ratios on US stock returns from an investor's perspective provides important insights for future studies. The study provides a baseline for future research and suggests which financial ratios may be more important when it comes to predicting stock returns. Additionally, the results of this study can be used to inform investment strategies and can help investors better understand the risks and rewards associated with investing in US stocks.

CONCLUSION AND RECOMMENDATIONS

The study of the impact of financial ratios on US stock returns from an investors' perspective, using regression and hypothesis for 50 US companies, has revealed that while earnings per share (EPS) and Debt Equity (DE) were found to be statistically significant, return on equity (ROE) and price-to-earnings ratio (PE) had no impact on US stock returns.

The results of this study suggest that investors should consider EPS and DE when making decisions about investing in US stocks. EPS is a measure of a company's profitability and shows potential for growth, while DE indicates the amount of cash that a company is returning to its shareholders. Both financial ratios have a positive effect on stock returns and provide investors with valuable information when evaluating an investment opportunity.

Thus linking the objectives with findings as:

⇒ What is the impact of financial ratios like EPS, PE, DE, ROE on US stock returns from an investors' perspective?

Using the overall consolidated regression model the results found that this study examined the impact of financial ratios such as EPS, PE, DE and ROE on stock returns from an investors' perspective from the US stock market and found that the financial ratios had a significant effect on stock returns. They also found that EPS and DE had the greatest impact on stock returns, while PE and ROE had a no effect. (Nguyen, T. T., & Lopez, L. J. 2012)

⇒ What are the most important financial ratios influencing US stock returns?

These are important ratios used, Earnings per share (EPS) is one of the most important financial ratios influencing US stock returns. It measures the amount of a company's after-tax profits that are available to shareholders, expressed as a dollar amount per share of stock. This ratio is often used to compare companies within the same industry, as well as to measure the performance of a company over time. Investors use EPS to determine the profitability of a company and to assess whether it is a good investment. Price-to-Earnings (P/E) Ratio: This ratio is the current price of a stock divided by its annual earnings per share, and it indicates the investor's opinion of the company's future performance. Return on Equity (ROE): This ratio measures a company's ability to generate profits from its equity capital, and it indicates the level of risk associated with investing in the stock. Debt To Equity Ratio (D/E): This ratio measures the proportion of a company's debt relative to its equity, and it indicates the extent to which the company is leveraged

⇒ What are the limitations of financial ratios in predicting US stock returns?

Financial ratios do not consider qualitative factors such as the company's competitive advantage, management experience, industry trends, or external factors such as economic conditions or political instability. It is difficult to compare different companies using financial ratios, as each company has different accounting methods and definitions for the ratios. Financial ratios are backward-looking and do not necessarily indicate the future performance of the company.

Based on the findings of this study, it is recommended that investors consider both EPS and DE when making decisions about investing in US stocks. EPS is an important indicator of a company's profitability and potential for growth, while DE indicates the amount of cash that a company is returning to its shareholders. These two financial ratios have been found to have a positive impact on stock returns and should be considered when evaluating an investment opportunity.

In addition, investors should be aware that ROE and PE do not have a significant impact on US stock returns. While these two ratios may provide investors with some insight into the financial state of a company, they should not be relied upon as the primary indicators when making investment decisions.

It is also recommended that investors conduct further research into the impact of other financial ratios on US stock returns, such as Dividend yield (D/Y), price-to-sales ratio and price-to-book value ratio (P/BV). These metrics can be used to assess the company's fundamentals, compare valuations across companies, and evaluate the potential for future returns. Further analysis may reveal that these ratios have a more significant impact on stock returns, which could be useful for investors when making decisions about investing in US stocks.

LIMITATIONS

Limitations of the Impact of Financial Ratios on US Stock Returns from an Investors Perspective involve several factors. The first limitation is the sample size of 50 US companies. While this is a reasonable sample size for testing hypothesis, it may not be large enough to make generalized conclusions about the overall stock market. Additionally, the scope of the analysis is limited to only four financial ratios like Earnings per Share (EPS), Debt to Equity (DE), Return on Equity (ROE), and Price Earnings (PE) which may not be sufficient to capture the full impact of financial ratios on US stock returns.

Another limitation is the use of regression and hypothesis testing to analyze the impact of financial ratios on US stock returns. While these methods may provide useful insights, they may not accurately reflect the true impact of financial ratios on stock returns. This is because they do not account for factors such as investor sentiment, economic cycles, and other external factors that may have a significant influence on US stock returns.

Also there are other limitations like consumer sentiments, sample size, political and social events which has major impact on stock returns. Chen, Shao, and Xu (2015) looks at the impact of consumer sentiment on stock returns. The authors use a sample of Chinese stocks and find that

consumer sentiment has a significant effect on stock returns. Specifically, they find that when consumer sentiment is high, stock returns tend to be higher. Faff (2016) looks at the impact of political and social events on stock returns around the world. Using a sample of 88 countries, the author finds that political and social events have an impact on stock returns. Specifically, he finds that political and social events lead to a decrease in stock returns.

Finally, the impact of financial ratios on US stock returns may not be consistent across all types of investors. Different investors have different risk profiles and time horizons, which can influence their decision-making process and have an impact on stock returns. This means that the impact of financial ratios on US stock returns may vary from investor to investor and may not be accurately captured by the regression and hypothesis testing used in the study.

Overall, while the study offers useful insights into the impact of financial ratios on US stock returns, its limitations mean that the results should be interpreted with caution.

Mitigation Strategies

To address the limitations of the Impact of Financial Ratios on US Stock Returns from an Investors Perspective, several mitigation strategies can be employed.

First, the sample size can be increased to ensure that the analysis is representative of the overall US stock market. This can be done by including additional companies in the analysis or by conducting additional research on the same companies.

Second, the scope of the analysis can be expanded to include additional financial ratios that may have an impact on US stock returns. For example, the analysis can be expanded to include other financial ratios such as the price-to-book ratio, the price-to-sales ratio, and the dividend yield.

Third, the use of regression and hypothesis testing can be supplemented with other methods of analysis such as factor analysis and Monte Carlo simulation. These methods can help to capture the impact of external factors on US stock returns and provide a more complete picture of the impact of financial ratios on stock returns.

Finally, the impact of financial ratios on US stock returns can be analyzed for different types of investors. This can help to identify the financial ratios that are most influential for each type of investor.

By implementing these mitigation strategies, the limitations of the Impact of Financial Ratios on US Stock Returns from an Investors Perspective can be addressed, and more accurate conclusions can be drawn about the impact of financial ratios on US stock returns.

ETHICAL CONSIDERATION

Ethical considerations for conducting research on the impact of financial ratios on US stock returns in banking, finance, and non-finance companies include:

- Ensuring that all data collected and analyzed is accurate, up-to-date, and relevant.
- Ensuring the confidentiality of all data being collected and analyzed, and that it is only used in accordance with the regulations and laws of the US.
- Ensuring that all research participants are given informed consent and are aware of their rights.
- Ensuring that research is conducted in a fair and unbiased manner, with no bias towards any particular outcome.
- Ensuring that the research is conducted in a way that does not create any harm to the participants, companies, or the public.
- Ensuring that the research results are reported in a clear, honest, and unbiased manner.

APPENDIX 1 - GANTT CHART

WP	Tasks	W1	W2	W3	W4	W5	W6	W7	W8	W9	W10
WP 1: DATA COLLECTION											
1.1	Gather information about the stock market and financial ratios, and research the impact of financial ratios on stock returns.	▓									
1.2	Establish the research objective, define the research questions and conduct a literature review of the topic	▓									
WP 2: ANALYSIS INTEGRATION PROCESS											
2.1	Use London Stock Exchange platform and Yahoo Finance for information		▓	▓							
2.2	Analyze the relevant data to determine the impact of financial ratios on UK Stock Returns				▓						
2.4	Collect the required data and analyze it using regression.					▓					
2.5	Conduct a secondary data analysis to test the research hypothesis.					▓	▓	▓	▓	▓	
2.6	Interpret the results and draw conclusions									▓	
2.7	Evaluate the project for any areas of improvement and make any necessary changes								▒	▒	▒
2.8	Finalize by submitting the final report										▒

50 US companies over the period 2011-2022

Date	Apple Date	Apple EPS	Apple DE	Apple ROE	Apple PE	Microsoft Date	Microsoft DE	Microsoft ROE	Microsoft PE	Microsoft EPS	Amazon Date	Amazon DE	Amazon ROE	Amazon EPS	Amazon PE	Alphabet Date	Alphabet PE	Alphabet EPS
3/1/15	12/31/22	$1.88	5.11	163.45%	22.03	12/31/22	0.99	39.32%	26.2	$2.20	12/31/22	2.17	-1.98%	$0.03	80.31	12/31/22	19.5	$1.06
6/1/15	9/30/22	$1.29	5.96	160.90%	22.55	9/30/22	1.07	42.10%	26.44	$2.35	9/30/22	2.12	8.37%	$0.28	103.47	9/30/22	19.09	$1.06
9/1/15	6/30/22	$1.20	4.79	152.97%	22.46	6/30/22	1.19	45.36%	31.87	$2.24	6/30/22	2.19	8.86%	($0.20)	94.98	6/30/22	20.35	$1.21
12/1/15	3/31/22	$1.52	4.2	152.88%	28.18	3/31/22	1.12	46.98%	34.22	$2.22	3/31/22	2.07	16.87%	($0.38)	78.5	3/31/22	25.26	$1.23
3/1/16	12/31/21	$2.10	4.3	149.81%	29.18	12/31/21	1.13	48.39%	30.03	$2.48	12/31/21	2.04	27.98%	$1.38	51.35	12/31/21	25.78	$1.54
6/1/16	9/30/21	$1.23	4.56	144.12%	24.96	9/30/21	1.21	48.60%	31.08	$2.71	9/30/21	2.17	24.31%	$0.31	64.11	9/30/21	25.67	$1.40
9/1/16	6/30/21	$1.30	4.13	131.01%	26.53	6/30/21	1.35	46.23%	28.15	$2.17	6/30/21	2.14	29.86%	$0.76	59.82	6/30/21	27.17	$1.36
12/1/16	3/31/21	$1.40	3.87	111.80%	27.09	3/31/21	1.3	44.24%	31.55	$2.03	3/31/21	2.13	30.47%	$0.79	58.74	3/31/21	27.54	$1.32
3/1/17	12/31/20	$1.68	4.35	90.59%	35.45	12/31/20	1.34	42.19%	32.48	$2.03	12/31/20	2.44	27.07%	$0.71	75.16	12/31/20	29.84	$1.11
6/1/17	9/30/20	$0.74	3.96	75.15%	34.99	9/30/20	1.44	40.74%	33.21	$1.82	9/30/20	2.41	24.49%	$0.62	94.13	9/30/20	28.4	$0.82
9/1/17	6/30/20	$0.65	3.39	70.66%	27.27	6/30/20	1.55	39.45%	34.51	$1.47	6/30/20	2.5	20.47%	$0.52	104.97	6/30/20	31.09	$0.51
12/1/17	3/31/20	$0.64	3.09	64.49%	19.56	3/31/20	1.49	42.74%	25.56	$1.40	3/31/20	2.39	17.83%	$0.25	80.11	3/31/20	23.47	$0.49
3/1/18	12/31/19	$1.25	2.8	60.18%	22.69	12/31/19	1.57	42.89%	26.64	$1.51	12/31/19	2.63	21.07%	$0.32	76.69	12/31/19	25.49	$0.77
6/1/18	9/30/19	$0.77	2.74	53.82%	18.43	9/30/19	1.63	41.57%	25.3	$1.38	9/30/19	2.52	22.52%	$0.21	80.87	9/30/19	24.3	$0.51
9/1/18	6/30/19	$0.55	2.34	52.13%	16.39	6/30/19	1.8	41.82%	25.53	$1.70	6/30/19	2.61	26.27%	$0.26	74.36	6/30/19	24.25	$0.71
12/1/18	3/31/19	$0.62	2.23	51.29%	15.46	3/31/19	1.78	39.28%	25.23	$1.14	3/31/19	2.68	28.91%	$0.36	68.51	12/31/18	23.7	$0.48
3/1/19	12/31/18	$1.05	2.17	50.92%	12.5	12/31/18	1.81	39.45%	22.59	$1.08	12/31/18	2.74	27.02%	$0.30	101.83	9/30/18	44.9	$0.64
6/1/19	9/30/18	$0.74	2.41	48.68%	18.26	9/30/18	2	23.07%	45.3	$1.14	9/30/18	2.67	26.71%	$0.29	112.01	6/30/18	48.46	$0.65
9/1/19	6/30/18	$0.59	2.04	43.50%	16.06	6/30/18	2.13	20.09%	44.44	$1.16	6/30/18	2.83	21.12%	$0.25	134.47	3/31/18	36.78	$0.23
12/1/19	3/31/18	$0.68	1.9	39.97%	15.44	3/31/18	2.1	18.83%	48	$0.95	3/31/18	3.02	14.72%	$0.16	181.85	12/31/17	53.04	$0.67
3/1/20	12/31/17	$0.97	1.9	37.37%	16.51	12/31/17	2.27	17.00%	55.21	($0.82)	12/31/17	3.74	12.47%	$0.19	189.7	3/31/19	36.88	($0.22)
6/1/20	9/30/17	$0.52	1.8	36.29%	15.85	9/30/17	1.78	33.43%	23.76	$0.84	9/30/17	3.68	8.67%	$0.03	243.41	9/30/17	32.11	$0.48
9/1/20	6/30/17	$0.42	1.61	35.40%	15.42	6/30/17	1.85	34.37%	23.81	$1.03	6/30/17	2.78	9.38%	$0.02	245.09	6/30/17	32.98	$0.25
12/1/20	3/31/17	$0.53	1.5	35.09%	15.77	3/31/17	2.23	34.58%	27.03	$0.70	3/31/17	2.74	13.72%	$0.07	166.24	3/31/17	28.08	$0.39
3/1/21	12/31/16	$0.84	1.5	34.94%	12.96	12/31/16	2.26	31.54%	27.02	$0.80	12/31/16	3.33	13.87%	$0.08	152.36	12/31/17	27.73	$0.38
6/1/21	9/30/16	$0.43	1.51	35.59%	12.71	9/30/16	2.02	28.99%	25.36	$0.72	9/30/16	2.99	13.47%	$0.03	191.14	9/30/16	28.44	$0.36
9/1/21	6/30/16	$0.36	1.42	37.89%	10.33	6/30/16	1.69	27.29%	22.72	$0.86	6/30/16	2.94	13.53%	$0.09	177.59	6/30/16	26.82	$0.35
12/1/21	3/31/16	$0.48	1.34	40.24%	11.14	3/31/16	1.43	13.56%	39.61	$0.47	3/31/16	3.14	8.91%	$0.05	243.71	3/31/16	31.38	$0.30
3/1/22	12/31/15	$0.82	1.29	42.79%	10.21	12/31/15	1.35	14.44%	35.56	$0.62	12/31/15	3.84	4.92%	$0.05	543.76	12/31/15	33.11	$0.37
6/1/22	9/30/15	$0.50	1.43	42.94%	10.88	9/30/15	1.23	14.79%	26.44	$0.61	9/30/15	3.52	2.86%	$0.01	739.77	9/30/15	26.74	$0.27
9/1/22	6/30/15	$0.46	1.17	41.46%	13.12	6/30/15	1.18	13.85%	26.78	($0.38)	6/30/15	3.46	-1.72%	$0.01	0	6/30/15	24.67	$0.25
12/1/22	3/31/15	$0.58	1.03	39.44%	13.88	3/31/15	0.96	22.10%	14.84	$0.61	3/31/15	3.61	-3.82%	($0.01)	0	3/31/15	25.92	$0.26

Starbucks Date	SB PE	SB EPS	SB DE	SB ROE	AbbVie Date	AV EPS	AV PE	AV DE	AV ROE	Exxon Date	EX DE	EX ROE	EX PE	EX EPS	J&J Date	J&J EPS	J&J PE	J&J DE	J&J ROE	Berkshire Date	Berkshire EPS
12/31/22	34.39	$0.74	-4.26	-38.19%	12/31/22	$1.40	24.21	7.03	73.61%	12/31/22	0.82	29.47%	8.25	$3.09	12/31/22	$1.32	26.03	1.44	23.73%	12/31/22	$8.22
9/30/22	29.56	$0.77	-4.22	-37.98%	9/30/22	$2.21	17.57	7.82	85.85%	9/30/22	0.92	28.43%	7.02	$4.68	9/30/22	$1.68	22.45	1.35	25.57%	9/30/22	($1.22)
6/30/22	21.17	$0.79	-4.25	-53.46%	6/30/22	$0.51	21.08	8.75	84.23%	6/30/22	0.99	22.12%	9.14	$4.21	6/30/22	$1.80	25.32	1.33	24.87%	6/30/22	($19.82)
3/31/22	23.83	$0.58	-4.31	-60.14%	3/31/22	$2.51	22.4	7.78	86.18%	3/31/22	1.01	15.05%	13.22	$1.28	3/31/22	$1.93	23.26	1.39	27.49%	3/31/22	$2.47
12/31/21	30.64	$0.69	-4.41	-62.28%	12/31/21	$2.26	20.01	8.49	83.43%	12/31/21	0.93	13.70%	10.84	$2.08	12/31/21	$1.77	21.2	1.46	29.86%	12/31/21	$17.61
9/30/21	30.07	$1.48	-6.91	-60.71%	9/30/21	$1.78	24.19	9.96	56.86%	9/30/21	1.01	-3.57%	11.21	$1.57	9/30/21	$1.37	23.21	1.55	26.59%	9/30/21	$4.59
6/30/21	45.1	$0.97	-5.34	-37.51%	6/30/21	$0.42	28.28	10.75	48.71%	6/30/21	1.04	-7.86%	13.47	$1.10	6/30/21	$2.35	23.67	1.54	27.01%	6/30/21	$12.32
3/31/21	124.89	$0.56	-4.71	-12.46%	3/31/21	$1.99	35.19	9.96	36.30%	3/31/21	1.03	-10.91%	18.61	$0.64	3/31/21	$2.32	27.58	1.62	23.57%	3/31/21	$5.09
12/31/20	182.62	$0.53	-4.79	-8.35%	12/31/20	($0.13)	35.83	10.5	51.72%	12/31/20	1.03	-12.39%	21.31	($4.70)	12/31/20	$0.65	26.96	1.76	23.35%	12/31/20	$14.67
9/30/20	106.16	$0.35	-4.77	-12.10%	9/30/20	$1.29	19.8	8.79	204.54%	9/30/20	0.94	1.75%	38.66	($0.15)	9/30/20	$1.33	21.94	1.65	27.37%	9/30/20	$12.65
6/30/20	62.74	($0.58)	-4.38	-18.38%	6/30/20	($0.46)	27.46	9.15	-306.44%	6/30/20	0.93	3.72%	22.93	($0.26)	6/30/20	$1.36	19.14	1.52	25.10%	6/30/20	$10.87
3/31/20	22.02	$0.28	-4.65	-54.58%	3/31/20	$2.02	14.46	-13.3	-104.22%	3/31/20	0.89	5.81%	12.01	($0.14)	3/31/20	$2.17	16.04	1.53	28.64%	3/31/20	($20.42)
12/31/19	26.92	$0.74	-5.1	-66.68%	12/31/19	$1.88	29.67	-11.91	-96.15%	12/31/19	0.82	7.24%	17.29	$1.33	12/31/19	$1.50	19.76	1.65	25.47%	12/31/19	$11.92
9/30/19	28.62	$0.66	-4.09	-77.99%	9/30/19	$1.26	20.78	-8.23	-39.38%	9/30/19	0.82	7.40%	16.88	$0.75	9/30/19	$0.66	18.44	1.67	23.81%	9/30/19	$6.74
6/30/19	27.61	$1.12	-5.84	-128.50%	6/30/19	$0.49	15.67	-7.67	-59.34%	6/30/19	0.82	8.95%	15	$0.73	6/30/19	$2.08	21.07	1.55	26.76%	6/30/19	$5.74
3/31/19	31.82	$0.53	-4.5	-442.47%	3/31/19	$1.65	19.49	-8.25	-95.00%	3/31/19	0.8	9.42%	14.95	$0.55	3/31/19	$1.39	23.45	1.55	23.85%	3/31/19	$8.80
9/30/18	16.27	$0.61	-7.94	172.79%	12/31/18	($1.15)	9.75	-8.03	-203.31%	12/31/18	0.74	10.64%	11.1	$1.41	12/31/18	$1.12	20.71	1.56	24.42%	12/31/18	($10.29)
6/30/18	13.97	$0.59	19.55	115.48%	9/30/18	$1.81	15.78	-23.65	1285.47%	9/30/18	0.8	11.91%	12.29	$1.46	9/30/18	$1.44	247.16	1.41	2.46%	9/30/18	$7.52
3/31/18	16.47	$0.61	3.3	91.36%	6/30/18	$1.26	18.34	-19.26	215.65%	6/30/18	0.8	10.85%	13.12	$0.92	6/30/18	$1.45	250.72	1.47	2.11%	6/30/18	$4.86
12/31/17	16.25	$0.47	2.72	80.63%	3/31/18	$1.74	18.87	18.52	119.57%	3/31/18	0.79	10.65%	12.05	$1.09	3/31/18	$1.60	297.42	1.48	1.85%	3/31/18	($0.46)
9/30/17	23.3	$1.57	2.22	77.33%	12/31/17	$0.04	23.1	12.89	93.18%	12/31/17	0.79	10.47%	13.78	$1.97	12/31/17	($3.91)	313.97	1.62	1.88%	12/31/17	$11.25
12/31/18	29.17	$0.54	1.63	50.81%	9/30/17	$1.01	16.87	9.3	119.09%	9/30/17	0.85	7.10%	20.18	$0.93	9/30/17	$1.37	19.66	1.1	22.08%	9/30/17	$3.58
6/30/17	26.46	$0.47	1.48	50.06%	6/30/17	$1.19	13.78	10.15	119.66%	6/30/17	0.85	6.49%	21.82	$0.78	6/30/17	$1.40	19.34	1.13	22.89%	6/30/17	$1.73
3/31/17	25.86	$0.45	1.54	51.41%	3/31/17	$1.06	12.93	12.14	116.08%	3/31/17	0.87	5.64%	25.34	$0.95	3/31/17	$1.61	18	1.06	23.08%	3/31/17	$1.65
12/31/16	25.24	$0.51	1.42	51.20%	12/31/16	$0.85	13.07	13.26	111.33%	12/31/16	0.9	4.44%	35.28	$0.41	12/31/16	$1.38	16.74	1.01	22.95%	12/31/16	$2.55
9/30/16	25.14	$0.54	1.43	49.67%	9/30/16	$0.97	12.8	9.3	117.49%	9/30/16	0.92	5.04%	29.71	$0.63	9/30/16	$1.53	17.74	0.93	22.06%	9/30/16	$2.92
6/30/16	28.06	$0.51	1.42	47.21%	6/30/16	$0.98	13.28	10.92	119.85%	6/30/16	0.94	5.94%	26.86	$0.41	6/30/16	$1.43	19.22	0.93	20.88%	6/30/16	$2.03
3/31/16	30.95	$0.39	1.46	44.70%	3/31/16	$0.83	12.68	10.57	115.56%	3/31/16	0.92	7.32%	19.25	$0.43	3/31/16	$1.59	16.46	0.88	21.71%	3/31/16	$2.27
12/31/15	32.16	$0.46	1.16	41.62%	12/31/15	$0.93	13.84	12.45	131.15%	12/31/15	0.91	9.10%	14.37	$0.67	12/31/15	$1.14	15.55	0.88	21.88%	12/31/15	$2.22
9/30/15	27.18	$0.43	1.13	46.26%	9/30/15	$0.74	23.25	10.28	83.55%	9/30/15	0.93	11.17%	11.03	$1.01	9/30/15	$1.20	14.72	0.86	21.00%	9/30/15	$3.82
6/30/15	26.22	$0.41	1.2	46.23%	6/30/15	$0.83	38.23	8.79	62.83%	6/30/15	0.95	13.11%	10.32	$1.00	6/30/15	$1.61	14.02	0.86	22.58%	6/30/15	$1.63
3/31/15	24.1	$0.33	1.03	45.82%	3/31/15	$0.63	37.5	18.39	55.95%	3/31/15	0.93	15.45%	8.81	$1.17	3/31/15	$1.53	14.62	0.89	21.78%	3/31/15	$2.09

Stock Data (Monthly Ratios)

Date	Apple Inc.	Microsoft	Amazon	Alphabet Inc.	Starbucks	AbbVie	Exxon	nson & John	hire Hathaway	Morgan Stanley	ank of Americ	StateStreet	Pfizer Inc.	lth Group Inc	an Express Co	Eli Lilly	Textro
3/1/15	0.97245109	0.93385096	0.97879845	0.98590552	1.016639657	0.967603466	0.96724397	0.98823677	0.97903808	0.997205756	0.97343467	0.987642459	1.02263734	1.04101032	0.95747034	1.04273836	1.000451
6/1/15	0.96679394	0.94829096	1.01132260	0.99031761	1.035230677	1.009010371	0.98460262	0.98033443	0.95181819	1.015445037	1.03151526	0.988066424	0.97287590	1.01489044	0.97491213	1.06549263	0.98695
9/1/15	0.98261146	1.02371021	0.99805023	0.98541268	1.041797214	0.871815534	0.99741717	1.00089545	0.914368492	0.95348828	0.93451078	1.00267933	0.96624059	1.02239092	0.970103		
12/1/15	0.89358041	1.02767191	1.01668159	1.01987282	0.981012339	1.018744975	0.96288899	1.02209845	0.98471174	0.927405382	0.96557669	0.914301593	0.99299793	1.04374042	0.97082658	1.03357177	0.984532
3/1/16	1.13332698	1.09328890	1.07442265	1.06369036	1.028948701	1.045962552	1.05238488	1.03587269	1.05746446	1.012550484	1.07987199	1.068273065	1.00903266	1.08228379	1.10471405	1.00710414	1.06764
6/1/16	0.96316912	0.97222487	0.99008005	0.93948046	1.044267543	0.983791257	1.06187147	1.08408930	1.03024050	0.949214307	0.89722813	0.855058592	1.02378428	1.05633317	0.92396598	1.05658908	0.96058
9/1/16	1.07127627	1.00868422	1.08860318	1.01799073	0.966184545	0.98393133	1.01014759	0.99646436	0.95999732	1.000000000	0.97415331	0.991315358	0.98136633	1.02903346	0.97651717	1.03886051	0.973071
12/1/16	1.05333558	1.03816453	0.99906738	1.02135645	0.962173307	1.029934048	1.04306100	1.04228341	1.03518797	1.021518507	1.05028346	0.986294812	1.02065760	1.01488893	1.02831772	1.10297452	1.054964
3/1/17	1.05323682	1.03562465	1.04911013	1.00339675	1.031354331	1.053686772	1.01770660	1.02589130	0.97234859	0.938033998	0.95583454	0.998745742	1.01285251	0.99171572	0.98813367	1.02253387	1.006130
6/1/17	0.94667767	0.99262766	0.97323607	0.94183916	0.920455768	1.098303779	1.01232756	1.03834113	1.02474586	1.067561119	1.08610765	1.101521975	1.03874833	1.05845390	1.09487908	1.04098817	0.985355
9/1/17	0.94344651	1.00156331	0.98036920	1.01934592	0.983457201	1.180079471	1.08443109	0.98841911	1.01192318	1.058681475	1.06612056	1.032976812	1.06275719	0.98466562	1.05063872	1.05899298	1.09757
12/1/17	0.98829415	1.02138036	0.99381342	1.01662855	0.99851696	0.997833121	1.01349593	1.00893995	1.02699345	1.016663309	1.05238895	1.023701905	1.00802450	0.96947190	1.01637490	1.00417514	1.015796
3/1/18	0.94578951	0.97791135	0.95695063	0.93950647	1.019334353	0.817145791	0.99515376	0.99299812	0.96274131	0.963227491	0.93426794	0.939519435	0.98647170	0.94623289	0.95661985	1.01202051	0.985296
6/1/18	0.99440182	1.00199726	1.04306519	1.02653635	0.866515481	0.936425929	1.02866293	1.02190205	0.97452094	0.945352961	0.97469609	0.968577823	1.01959787	1.01585863	0.99694825	1.01032918	0.989937
9/1/18	0.99517506	1.02207875	0.99517570	0.97993181	1.070827185	0.98541344	1.07143504	1.03267357	1.02582407	0.953716973	0.95247331	0.963985627	1.07045401	0.99098577	1.00481218	1.02132536	1.035346
12/1/18	0.88638372	0.91990975	0.88865030	0.94170239	0.970410083	0.977935706	0.86643090	0.88408324	0.93557546	0.893219242	0.86760569	0.863735901	0.95147811	0.88824303	0.84902460	0.98029841	0.819201
3/1/19	1.10173047	1.05724976	1.08593570	1.04468514	1.063591892	1.017036806	1.03374740	1.02983845	0.99796322	1.005240535	0.95360604	0.915680928	0.97970019	1.02080760	1.01447935	1.03304533	0.932964
6/1/19	1.13487259	1.08712740	1.06679174	0.97858108	1.107269363	0.947985758	1.09521513	1.06925680	1.07977915	1.076677534	1.09022544	1.014660595	1.05260615	1.00913968	1.07610488	0.96094115	1.170860
9/1/19	1.07703821	1.01184512	0.97726726	1.02571120	0.919170862	1.151809925	1.04392454	1.01549930	1.02266359	1.028440542	1.06034163	1.153576405	1.02014476	0.92871808	0.98263679	0.99545817	1.088000
12/1/19	1.10208266	1.04529396	1.02612169	1.02706868	1.034291144	1.009232977	1.03657030	1.06830039	1.02814343	1.033144826	1.05702316	1.053262298	1.02696411	1.05041607	1.03638017	1.12642449	0.964532
3/1/20	0.93244635	0.97611736	1.03502057	0.86761244	0.842106194	0.888927988	0.74873869	0.98130719	0.88606187	0.75505225	0.74491235	0.782117159	0.97666081	0.97811411	0.77876836	1.10551835	0.656896
6/1/20	1.13487259	1.11365231	1.12956672	0.98920828	0.948914926	1.059458359	1.00257508	0.95196529	0.96190319	1.092760188	0.98466016	1.042486789	0.86477833	0.96752485	1.00136738	1.07847609	1.062641
9/1/20	0.89909170	0.93485767	0.91242141	0.89940042	1.02269895	0.914586948	0.87649636	0.97693037	0.97660984	0.925181772	0.93589758	0.871346671	0.97115635	0.99750433	0.98680966	1.00236896	0.915293
12/1/20	1.11649681	1.04172592	1.02805838	0.99899684	1.096556456	1.024574486	1.10712038	1.09533872	1.01293081	1.10836145	1.07634924	1.032633106	0.97072722	1.04263539	1.01956325	1.16517341	1.071618
3/1/21	1.00884486	1.01692493	1.00037178	1.02008499	1.015784476	1.004455243	1.04429138	1.04363788	1.06220118	1.010277204	1.11466440	1.15445948	1.08181536	1.11995072	1.04568999	0.91561414	1.114024
6/1/21	1.00097606	1.08749443	1.06735499	1.03603964	0.985729327	0.995053003	1.09643575	0.97942568	0.96019904	1.008136496	0.97263496	0.945964483	1.02106552	0.97213057	1.03184889	1.15417152	1.004381
9/1/21	0.93335952	0.93566890	0.94648189	0.92383075	0.942532619	0.89311152	1.05919962	0.93836816	0.95510380	0.931820209	1.01676653	0.911850153	0.93357936	0.93866962	1.00946009	0.89742542	0.960643
12/1/21	1.07579645	1.01919399	0.95074803	1.02082185	1.071455298	1.174531428	1.03630252	1.10428102	1.08063175	1.035224608	1.00444953	1.045296083	1.10866059	1.13038603	1.07419573	1.11722662	1.109300
3/1/22	1.05882080	1.03399553	1.06143728	1.02969485	0.996091662	1.097042832	1.06485053	1.08384067	1.09786900	0.963191612	0.93257927	1.020977509	1.10289721	1.07165829	0.96124187	1.15049182	1.017092
6/1/22	0.91991982	0.94687964	0.88354079	0.95781540	0.979974998	1.039288993	0.99510208	0.86404196	0.882981274	0.85046217	0.99656038	1.03391845	0.82111111	1.03791032	0.935365		
9/1/22	0.88024388	0.89262389	0.89137811	0.88384773	1.007970484	0.998140744	0.92225478	1.01932318	0.95092593	0.927129723	0.89854205	0.889685409	0.96749938	0.97248377	0.88756589	1.07693656	0.933953
12/1/22	0.87918353	0.94260352	0.87010565	0.87365090	0.976224227	1.002667819	0.99863432	0.99882123	0.96955426	0.913505899	0.87503305	0.973641233	1.03090301	0.96790559	0.93755946	0.98862916	0.991874

Hypothesis Test Results

COMPANY	P-Value EPS	ALPHA VALUE	HYPOTHESIS	H0 or H1	P-Value PE	ALPHA VALUE	HYPOTHESIS	H0 or H1	P-Value DE	ALPHA VALUE	HYPOTHESIS	H0 or H1	P-Value ROE	ALPHA VALUE	HYPOTHESIS	H0 or H1
Apple	0.775227261	0.05	FALSE	H0	0.031561832	0.05	TRUE	H1	0.12840691	0.05	FALSE	H0	0.711092719	0.05	FALSE	H0
Microsoft	0.659026673	0.05	FALSE	H0	0.502245772	0.05	FALSE	H0	0.542020743	0.05	FALSE	H0	0.619081348	0.05	FALSE	H0
Amazon	0.289356605	0.05	FALSE	H0	0.410661406	0.05	FALSE	H0	0.346194373	0.05	FALSE	H0	0.027382122	0.05	TRUE	H1
Alphabet	0.658288221	0.05	FALSE	H0	0.149387928	0.05	FALSE	H0	0.12189688	0.05	FALSE	H0	0.811933206	0.05	FALSE	H0
Starbucks	0.512436541	0.05	FALSE	H0	0.23190274	0.05	FALSE	H0	0.202022264	0.05	FALSE	H0	0.963493117	0.05	FALSE	H0
AbbVie	0.879309111	0.05	FALSE	H0	0.922571123	0.05	FALSE	H0	0.715231649	0.05	FALSE	H0	0.790390695	0.05	FALSE	H0
Exxon	0.95318712	0.05	FALSE	H0	0.730286824	0.05	FALSE	H0	0.94698251	0.05	FALSE	H0	0.235690745	0.05	FALSE	H0
Johnson & Joh	0.791302742	0.05	FALSE	H0	0.856318856	0.05	FALSE	H0	0.789733781	0.05	FALSE	H0	0.867043329	0.05	FALSE	H0
Berkshire Hat	0.020497214	0.05	TRUE	H1	0.982851136	0.05	FALSE	H0	0.316361451	0.05	FALSE	H0	0.131206995	0.05	FALSE	H0
Morgan Stanle	0.024403041	0.05	TRUE	H1	0.075879605	0.05	FALSE	H0	0.049218772	0.05	TRUE	H1	0.187256533	0.05	FALSE	H0
Bank of Amer	0.799198229	0.05	FALSE	H0	0.017099116	0.05	TRUE	H1	0.126436876	0.05	FALSE	H0	0.601898602	0.05	FALSE	H0
StateStreet	0.603085978	0.05	FALSE	H0	0.005407782	0.05	TRUE	H1	0.070733393	0.05	FALSE	H0	0.063703463	0.05	FALSE	H0
Pfizer Inc.	0.730188298	0.05	FALSE	H0	0.010742069	0.05	TRUE	H1	0.559824612	0.05	FALSE	H0	0.020320729	0.05	TRUE	H1
UnitedHealth	0.42438772	0.05	FALSE	H0	0.059482847	0.05	FALSE	H0	0.406045698	0.05	FALSE	H0	0.815378968	0.05	FALSE	H0
American Exp	0.700758273	0.05	FALSE	H0	0.107932467	0.05	FALSE	H0	0.02565889	0.05	TRUE	H1	0.77190196	0.05	FALSE	H0
Eli Lilly	0.187455575	0.05	FALSE	H0	0.738974542	0.05	FALSE	H0	0.133567896	0.05	FALSE	H0	0.098432963	0.05	FALSE	H0
Textron	0.671774932	0.05	FALSE	H0	0.108036279	0.05	FALSE	H0	0.841984111	0.05	FALSE	H0	0.36376863	0.05	FALSE	H0
Merck	0.280974944	0.05	FALSE	H0	0.389617208	0.05	FALSE	H0	0.27053861	0.05	FALSE	H0	0.715817722	0.05	FALSE	H0
Coca-Cola	0.549689389	0.05	FALSE	H0	0.977317578	0.05	FALSE	H0	0.343939488	0.05	FALSE	H0	0.713919873	0.05	FALSE	H0
Walt Disney	0.772017715	0.05	FALSE	H0	0.497405553	0.05	FALSE	H0	0.626906299	0.05	FALSE	H0	0.383444208	0.05	FALSE	H0
GoldmanSachs	0.167863163	0.05	FALSE	H0	0.184184483	0.05	FALSE	H0	0.149447646	0.05	FALSE	H0	0.70408635	0.05	FALSE	H0
Visa Inc.	0.079124684	0.05	FALSE	H0	0.072254912	0.05	FALSE	H0	0.249217247	0.05	FALSE	H0	0.155245171	0.05	FALSE	H0
Charles	0.899068889	0.05	FALSE	H0	0.310226645	0.05	FALSE	H0	0.253822621	0.05	FALSE	H0	0.898641514	0.05	FALSE	H0
Procter & Ga	0.654509797	0.05	FALSE	H0	0.913283261	0.05	FALSE	H0	0.833984994	0.05	FALSE	H0	0.634311267	0.05	FALSE	H0
Meta	0.956590656	0.05	FALSE	H0	0.134938216	0.05	FALSE	H0	0.742485086	0.05	FALSE	H0	0.418499499	0.05	FALSE	H0
PepsiCo	0.044835647	0.05	TRUE	H1	0.337991343	0.05	FALSE	H0	0.474368609	0.05	FALSE	H0	0.210576854	0.05	FALSE	H0
United Rental	0.864644608	0.05	FALSE	H0	0.075817226	0.05	FALSE	H0	0.868450345	0.05	FALSE	H0	0.443607087	0.05	FALSE	H0
CVS	0.733505591	0.05	FALSE	H0	0.959001242	0.05	FALSE	H0	0.8679503	0.05	FALSE	H0	0.218555778	0.05	FALSE	H0
Comcast	0.049351783	0.05	TRUE	H1	0.590965973	0.05	FALSE	H0	0.973528678	0.05	FALSE	H0	0.696527486	0.05	FALSE	H0
McDonald	0.91927289	0.05	FALSE	H0	0.623829212	0.05	FALSE	H0	0.154751424	0.05	FALSE	H0	0.845940872	0.05	FALSE	H0
Blackstone	0.002549129	0.05	TRUE	H1	0.76893622	0.05	FALSE	H0	0.911023482	0.05	FALSE	H0	0.028596304	0.05	TRUE	H1
Southern	0.811193108	0.05	FALSE	H0	0.563852005	0.05	FALSE	H0	0.986592356	0.05	FALSE	H0	0.417982368	0.05	FALSE	H0
Truist	0.677143468	0.05	FALSE	H0	0.011956611	0.05	TRUE	H1	0.515024266	0.05	FALSE	H0	0.353936016	0.05	FALSE	H0
Comerica	0.05447883	0.05	FALSE	H0	0.166065604	0.05	FALSE	H0	0.358087708	0.05	FALSE	H0	0.397798868	0.05	FALSE	H0
Citigroup	0.275567569	0.05	FALSE	H0	0.001176915	0.05	TRUE	H1	0.791304405	0.05	FALSE	H0	0.74979011	0.05	FALSE	H0
Newtek	0.010422821	0.05	TRUE	H1	0.007641108	0.05	TRUE	H1	0.067707136	0.05	FALSE	H0	0.000180698	0.05	TRUE	H1
Greystone	0.661068492	0.05	FALSE	H0	0.013134939	0.05	TRUE	H1	0.174906343	0.05	FALSE	H0	0.321126319	0.05	FALSE	H0
Evercore	0.368058033	0.05	FALSE	H0	0.735958475	0.05	FALSE	H0	0.622455563	0.05	FALSE	H0	0.495382625	0.05	FALSE	H0
Lakeland	0.484706217	0.05	FALSE	H0	0.003360647	0.05	TRUE	H1	0.118197244	0.05	FALSE	H0	0.649405359	0.05	FALSE	H0
Axos	0.226433626	0.05	FALSE	H0	0.478393543	0.05	FALSE	H0	0.087082635	0.05	FALSE	H0	0.809741649	0.05	FALSE	H0
Crosstimber	0.956420675	0.05	FALSE	H0	0.000128963	0.05	TRUE	H1	0.601336594	0.05	FALSE	H0	0.062058838	0.05	FALSE	H0
Canterbury	0.392746941	0.05	FALSE	H0	0.028275099	0.05	TRUE	H1	0.309408692	0.05	FALSE	H0	0.002226079	0.05	TRUE	H1
Ingles	0.63837171	0.05	FALSE	H0	0.371598435	0.05	FALSE	H0	0.640141319	0.05	FALSE	H0	0.432389961	0.05	FALSE	H0
RLI	0.155195947	0.05	FALSE	H0	0.24395143	0.05	FALSE	H0	0.204093942	0.05	FALSE	H0	0.160933143	0.05	FALSE	H0
GlobeLife	0.785029305	0.05	FALSE	H0	0.002514337	0.05	TRUE	H1	0.264770301	0.05	FALSE	H0	0.01660026	0.05	TRUE	H1
UnionPacific	0.055275651	0.05	FALSE	H0	4.50327E-06	0.05	TRUE	H1	2.38566E-06	0.05	TRUE	H1	0.000170779	0.05	TRUE	H1
Weis	0.518673862	0.05	FALSE	H0	0.262182862	0.05	FALSE	H0	0.642303406	0.05	FALSE	H0	0.505901846	0.05	FALSE	H0
TysonFoods	0.634943235	0.05	FALSE	H0	0.180763326	0.05	FALSE	H0	0.082587104	0.05	FALSE	H0	0.631343754	0.05	FALSE	H0
CoStar	0.323814959	0.05	FALSE	H0	0.402260485	0.05	FALSE	H0	0.380606692	0.05	FALSE	H0	0.64928364	0.05	FALSE	H0
FairIsaac	0.318759879	0.05	FALSE	H0	0.478809133	0.05	FALSE	H0	0.397444559	0.05	FALSE	H0	0.000966157	0.05	TRUE	H1

	A	B	C	D	E	F
1	COMPANY	EPS	PE	DE	ROE	IMPACT
2	Apple	H0	H1	H0	H0	PE
3	Microsoft	H0	H0	H0	H0	No Impact
4	Amazon	H0	H0	H0	H1	ROE
5	Alphabet	H0	H0	H0	H0	No Impact
6	Starbucks	H0	H0	H0	H0	No Impact
7	AbbVie	H0	H0	H0	H0	No Impact
8	Exxon	H0	H0	H0	H0	No Impact
9	Johnson & Johnson	H0	H0	H0	H0	No Impact
10	Berkshire Hathaway Inc.	H1	H0	H0	H0	EPS
11	Morgan Stanley	H1	H0	H1	H0	EPS,DE
12	Bank of America	H0	H1	H0	H0	PE
13	StateStreet	H0	H1	H0	H0	PE
14	Pfizer Inc.	H0	H1	H0	H1	PE,ROE
15	UnitedHealth	H0	H0	H0	H0	No Impact
16	American Express	H0	H0	H1	H0	DE
17	Eli Lilly	H0	H0	H0	H0	No Impact
18	Textron	H0	H0	H0	H0	No Impact
19	Merck	H0	H0	H0	H0	No Impact
20	Coca-Cola	H0	H0	H0	H0	No Impact
21	Walt Disney	H0	H0	H0	H0	No Impact
22	GoldmanSachs	H0	H0	H0	H0	No Impact
23	Visa Inc.	H0	H0	H0	H0	No Impact
24	Charles	H0	H0	H0	H0	No Impact
25	Procter & Gamble Co.	H0	H0	H0	H0	No Impact
26	Meta	H0	H0	H0	H0	No Impact
27	PepsiCo	H1	H0	H0	H0	EPS
28	United Rentals	H0	H0	H0	H0	No Impact
29	CVS	H0	H0	H0	H0	No Impact
30	Comcast	H1	H0	H0	H0	EPS
31	McDonald	H0	H0	H0	H0	No Impact
32	Blackstone	H1	H0	H0	H1	EPS,ROE
33	Southern	H0	H0	H0	H0	No Impact
34	Truist	H0	H1	H0	H0	PE
35	Comerica	H0	H0	H0	H0	No Impact
36	Citigroup	H0	H1	H0	H0	PE
37	Newtek	H1	H1	H0	H1	EPS,PE,ROE
38	Greystone	H0	H1	H0	H0	PE
39	Evercore	H0	H0	H0	H0	No Impact
40	Lakeland	H0	H1	H0	H0	PE
41	Axos	H0	H0	H0	H0	No Impact
42	Crosstimber	H0	H1	H0	H0	PE
43	Canterbury	H0	H1	H0	H1	PE,ROE
44	Ingles	H0	H0	H0	H0	No Impact
45	RLI	H0	H0	H0	H0	No Impact
46	GlobeLife	H0	H1	H0	H1	PE,ROE
47	UnionPacific	H0	H1	H1	H1	PE,DE,ROE
48	Weis	H0	H0	H0	H0	No Impact
49	TysonFoods	H0	H0	H0	H0	No Impact
50	CoStar	H0	H0	H0	H0	No Impact
51	FairIsaac	H0	H0	H0	H1	ROE

	A	B	C	D	E	F
1		Microsoft	DE	ROE	PE	EPS
2	3/31/15	0.93385096	0.96	22.10%	14.84	$0.61
3	6/30/15	0.94829096	1.18	13.85%	26.78	($0.38)
4	9/30/15	1.02371021	1.23	14.79%	26.44	$0.61
5	12/31/15	1.02767191	1.35	14.44%	35.56	$0.62
6	3/31/16	1.09328890	1.43	13.56%	39.61	$0.47
7	6/30/16	0.97222487	1.69	27.29%	22.72	$0.86
8	9/30/16	1.00868422	2.02	28.99%	25.36	$0.72
9	12/31/16	1.03816453	2.26	31.54%	27.02	$0.80
10	3/31/17	1.03562465	2.23	34.58%	27.03	$0.70
11	6/30/17	0.99262766	1.85	34.37%	23.81	$1.03
12	9/30/17	1.00156331	1.78	33.43%	23.76	$0.84
13	12/31/17	1.02138056	2.27	17.00%	55.21	($0.82)
14	3/31/18	0.97791135	2.1	18.83%	48	$0.95
15	6/30/18	1.00199726	2.13	20.09%	44.44	$1.16
16	9/30/18	1.02207875	2	23.07%	45.3	$1.14
17	12/31/18	0.91990975	1.81	39.45%	22.59	$1.08
18	3/31/19	1.05724976	1.78	39.28%	25.23	$1.14
19	6/30/19	1.08712740	1.8	41.82%	25.53	$1.70
20	9/30/19	1.01184512	1.63	41.57%	25.3	$1.38
21	12/31/19	1.04529396	1.57	42.89%	26.64	$1.51
22	3/31/20	0.97611736	1.49	42.74%	25.56	$1.40
23	6/30/20	1.11365231	1.55	39.45%	34.51	$1.47
24	9/30/20	0.93485767	1.44	40.74%	33.21	$1.82
25	12/31/20	1.04172592	1.34	42.19%	32.48	$2.03
26	3/31/21	1.01692493	1.3	44.24%	31.55	$2.03
27	6/30/21	1.08749443	1.35	46.23%	28.15	$2.17
28	9/30/21	0.93566890	1.21	48.60%	31.08	$2.71
29	12/31/21	1.01919399	1.13	48.39%	30.03	$2.48
30	3/31/22	1.03399553	1.12	46.98%	34.22	$2.22
31	6/30/22	0.94687964	1.19	45.36%	31.87	$2.24
32	9/30/22	0.89262389	1.07	42.10%	26.44	$2.35
33	12/31/22	0.94260352	0.99	39.32%	26.2	$2.20

SUMMARY OUTPUT

Regression Statistics

Multiple R	0.270855
R Square	0.073362
Adjusted R S	-0.069197
Standard Err	0.055454
Observations	31

ANOVA

	df	SS	MS	F	Significance F
Regression	4	0.00633	0.001583	0.514607	0.725588
Residual	26	0.079955	0.003075		
Total	30	0.086285			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0.924695	0.082398	11.22226	1.82E-11	0.755323	1.094067	0.755323	1.094067
0.96	0.021532	0.034848	0.617893	0.542021	-0.050098	0.093162	-0.050098	0.093162
0.221	0.094595	0.187999	0.503169	0.619081	-0.291842	0.481033	-0.291842	0.481033
14.84	0.00105	0.001544	0.680432	0.502246	-0.002122	0.004223	-0.002122	0.004223
0.61	-0.012515	0.028036	-0.446369	0.659027	-0.070144	0.045115	-0.070144	0.045115

RESIDUAL OUTPUT

PROBABILITY OUTPUT

Observation	Predicted 0.93385	Residuals	Standard Residuals		Percentile	0.933851
1	0.996085	-0.047794	-0.925798		1.612903	0.892624
2	0.985305	0.038406	0.743931		4.83871	0.91991
3	0.997011	0.030661	0.593922		8.064516	0.934858
4	1.004031	0.089257	1.728953		11.29032	0.935669
5	0.999998	-0.027773	-0.537981		14.51613	0.942604
6	1.013237	-0.004552	-0.088182		17.74194	0.94688
7	1.021559	0.016606	0.32166		20.96774	0.948291
8	1.02505	0.010574	0.204826		24.19355	0.972225
9	1.009158	-0.01653	-0.320199		27.41935	0.976117
10	1.009087	-0.007524	-0.145733		30.64516	0.977911
11	1.0579	-0.03652	-0.707402		33.87097	0.992628
12	1.026248	-0.048336	-0.936296		37.09677	1.001563
13	1.021719	-0.019721	-0.382011		40.32258	1.001997
14	1.022892	-0.000813	-0.015751		43.54839	1.008684
15	1.011195	-0.091285	-1.768234		46.77419	1.011845

0.96 Residual Plot

0.221 Residual Plot

14.84 Residual Plot

0.61 Residual Plot

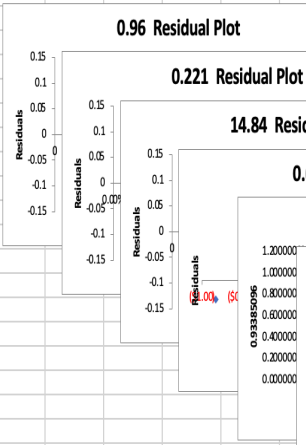Sheet tabs: Hypothesis Calcu | Hypothesis Results | PanelDataRegression | Descriptive & Correlation Analy | F test | Apple | **Microsoft** | Amazon | A | +

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	Date	Apple	EPS	DE	ROE	PE											
2	3/31/15	0.97245109	$0.58	1.03	39.44%	13.88			SUMMARY OUTPUT								
3	6/30/15	0.96679394	$0.46	1.17	41.46%	13.12											
4	9/30/15	0.98261146	$0.50	1.43	42.94%	10.88			*Regression Statistics*								
5	12/31/15	0.89358041	$0.82	1.29	42.79%	10.21			Multiple R	0.465341							
6	3/31/16	1.13332698	$0.48	1.34	40.24%	11.14			R Square	0.216542							
7	6/30/16	0.96316912	$0.36	1.42	37.89%	10.33			Adjusted R S	0.096011							
8	9/30/16	1.07127627	$0.43	1.51	35.59%	12.71			Standard Err	0.080379							
9	12/31/16	1.05333558	$0.84	1.5	34.94%	12.96			Observation:	31							
10	3/31/17	1.05323682	$0.53	1.5	35.09%	15.77											
11	6/30/17	0.94667767	$0.42	1.61	35.40%	15.42			ANOVA				0.173507				
12	9/30/17	0.94344651	$0.52	1.8	36.29%	15.85				df	SS	MS	F	ignificance F			
13	12/31/17	0.98829415	$0.97	1.9	37.37%	16.51			Regression	4	0.046429	0.011607	1.796557	0.159846			
14	3/31/18	0.94578951	$0.68	1.9	39.97%	15.44			Residual	26	0.16798	0.006461					
15	6/30/18	0.99440182	$0.59	2.04	43.50%	16.06			Total	30	0.214409						
16	9/30/18	0.99517506	$0.74	2.41	48.68%	18.26											
17	12/31/18	0.88638372	$1.05	2.17	50.92%	12.5				Coefficients	tandard Erro	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
18	3/31/19	1.10173047	$0.62	2.23	51.29%	15.46			Intercept	0.962938	0.043611	22.08012	2.28E-18	0.873294	1.052582	0.873294	1.052582
19	6/30/19	1.13487259	$0.55	2.34	52.13%	16.39			0.58	0.017257	0.059808	0.288532	0.775227	-0.105681	0.140195	-0.105681	0.140195
20	9/30/19	1.07703821	$0.77	2.74	53.82%	18.43			1.03	-0.06461	0.041142	-1.570429	0.128407	-0.149179	0.019958	-0.149179	0.019958
21	12/31/19	1.10208266	$1.25	2.8	60.18%	22.69			0.3944	0.041661	0.111253	0.374468	0.711093	-0.187024	0.270345	-0.187024	0.270345
22	3/31/20	0.93244635	$0.64	3.09	64.49%	19.56			13.88	0.009146	0.004025	2.272478	0.031562	0.000873	0.017418	0.000873	0.017418
23	6/30/20	1.13487259	$0.65	3.39	70.66%	27.27											
24	9/30/20	0.89909170	$0.74	3.96	75.15%	34.99											
25	12/31/20	1.11649681	$1.68	4.35	90.59%	35.45											
26	3/31/21	1.00884486	$1.40	3.87	111.80%	27.09			RESIDUAL OUTPUT					PROBABILITY OUTPUT			
27	6/30/21	1.10097606	$1.30	4.13	131.01%	26.53											
28	9/30/21	0.93335952	$1.23	4.56	144.12%	24.96			*Observation*	0.97245108	Residuals	ndard Residuals		Percentile	0.972451		
29	12/31/21	1.07579645	$2.10	4.3	149.81%	29.18			1	1.032546	-0.065752	-0.878699		1.612903	0.879184		
30	3/31/22	1.05882080	$1.52	4.2	152.88%	28.18			2	0.996568	-0.013956	-0.18651		4.83871	0.880244		
31	6/30/22	0.91991982	$1.20	4.79	152.97%	22.46			3	1.004945	-0.111365	-1.488263		8.064516	0.886384		
32	9/30/22	0.88024388	$1.29	5.96	160.90%	22.55			4	1.003291	0.130036	1.737786		11.29032	0.89358		
33	12/31/22	0.87918353	$1.88	5.11	163.45%	22.03			5	0.987664	-0.024495	-0.327345		14.51613	0.899092		
34									6	1.003865	0.067411	0.900868		17.74194	0.91992		
35									7	1.013603	0.039733	0.530988		20.96774	0.932446		

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