

Analytical Report of GLENCORE Plc.

Executive Summary

Overview: This report presents a detailed evaluation and assessment of the performance of GLENCORE Plc. for the period 2019 – 2021. Utilising two aspects analysis: The Stock Market Analysis and Fundamental Financial Analysis. Adequate techniques such as the Exponential Moving Averages, Competitor Analysis (Capital Asset Pricing Model – CAPM) and key Financial Ratio were employed.

Result: From the analysis, an upward trend was observed in the share prices of GLENCORE Plc. for the period under study. The exponential moving average techniques showed that the test data set accurately models the training set. A low level of volatility was indicated by the analysis on the share prices, implying a low level of investment risk in the shares of GLENCORE Plc. A positive relationship between the Case study's shares prices and that of a major competitor. The cross over trading strategy also indicated key period of buy and sell decision using the exponential moving average plots. The stock market performance was sound in 2021 compare to 2020 and 2019. This finding was also indicated by the fundamental financial analysis which indicated better level of financial performance and position in 2021 as indicated by the ratios compared to the earlier years. The strategic analysis indicated GLENCORE's strong inclination for Green issues, community engagement, expansion and responsible portfolio management. The company is however highly geared.

Conclusion: It was concluded that a stronger level of stock market and financial performance were observed by GLENCORE in 2021, compared to 2020 and 2019, when the firm's income statement actually indicated net loss. This contributed to the less pronounced stock market performance in the earlier period. It was suggested to management that the level of its gearing should be checked while investors were advised in light of the Company's promising prospect and strategies to hold long the company's shares.

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INTRODUCTION

Glencore Plc. is a multinational commodity trading and mining business based in Baar, Switzerland, with its oil and gas headquarters in London and its registered office in Saint Helier, Jersey. The current corporation was formed on May 2, 2013, when Glencore and Xstrata merged. In this report, stock market and fundamental analysis was carried out to examine the market and financial health of the company respectively. The following techniques were used for the stock market analysis: descriptive statistics, moving average cross over strategy. Single, double, and Holt winters exponential smoothing techniques were used for forecasting the stock prices while Profitability Measures, Turnover Ratios, Efficiency Ratios, Liquidity Ratios, Gearing Ratios and Investors' Ratios were used for the fundamental analysis. The both analysis carried clearly indicates that Glencore PLC is a healthy ground for investment.

In this report, BHP Billiton's (BHP Group) stock market performance was used to compare the stock performance of Glencore plc so as have a proper evaluation of the case study's performance in the stock so as to guide investors so as to guide interested investors in making healthy stock investment decisions.

Technical Analysis of Stock Market

Descriptive Analysis

Table 1: Summary Statistics of stock prices and returns for GLENCORE PLC

STATS	High	Low	Open	Close	Returns
mean	6.972583	6.828864	6.902107	6.908616	0.002382
std	2.448469	2.428888	2.436721	2.444122	0.031019

Author's Computation using Jupyter 2022

Table 2: Summary Statistics of stock prices and returns for BHP Group

	High	Low	Open	Close	Returns
mean	60.21074	59.08324	59.66043	59.69056	1.40E-03
std	12.09321	11.98956	12.03804	12.08479	2.62E-02

Author's Computation using Jupyter 2022

Figure 1: Summary Statistics of stock prices for BHP using BOXPLOT

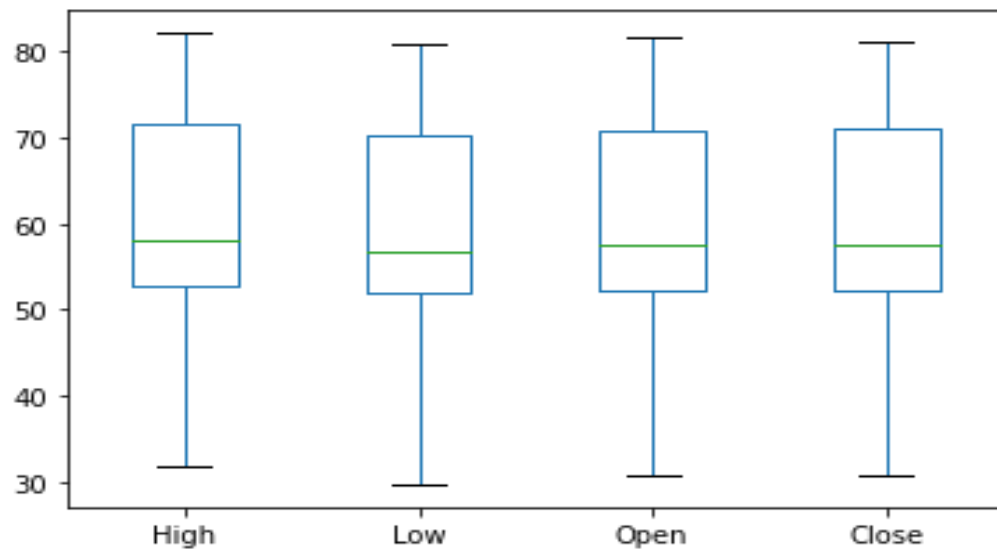


Figure 2: Summary Statistics of stock prices for Glencore plc using BOXPLOT

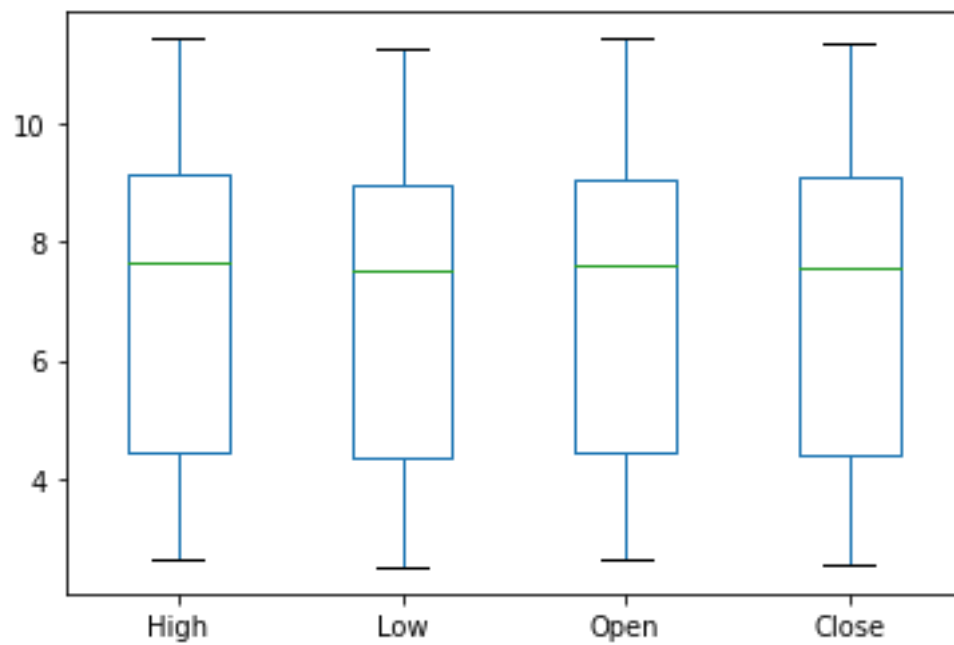


Figure 3: Summary Statistics of stock returns for Glencore plc using HISTOGRAM

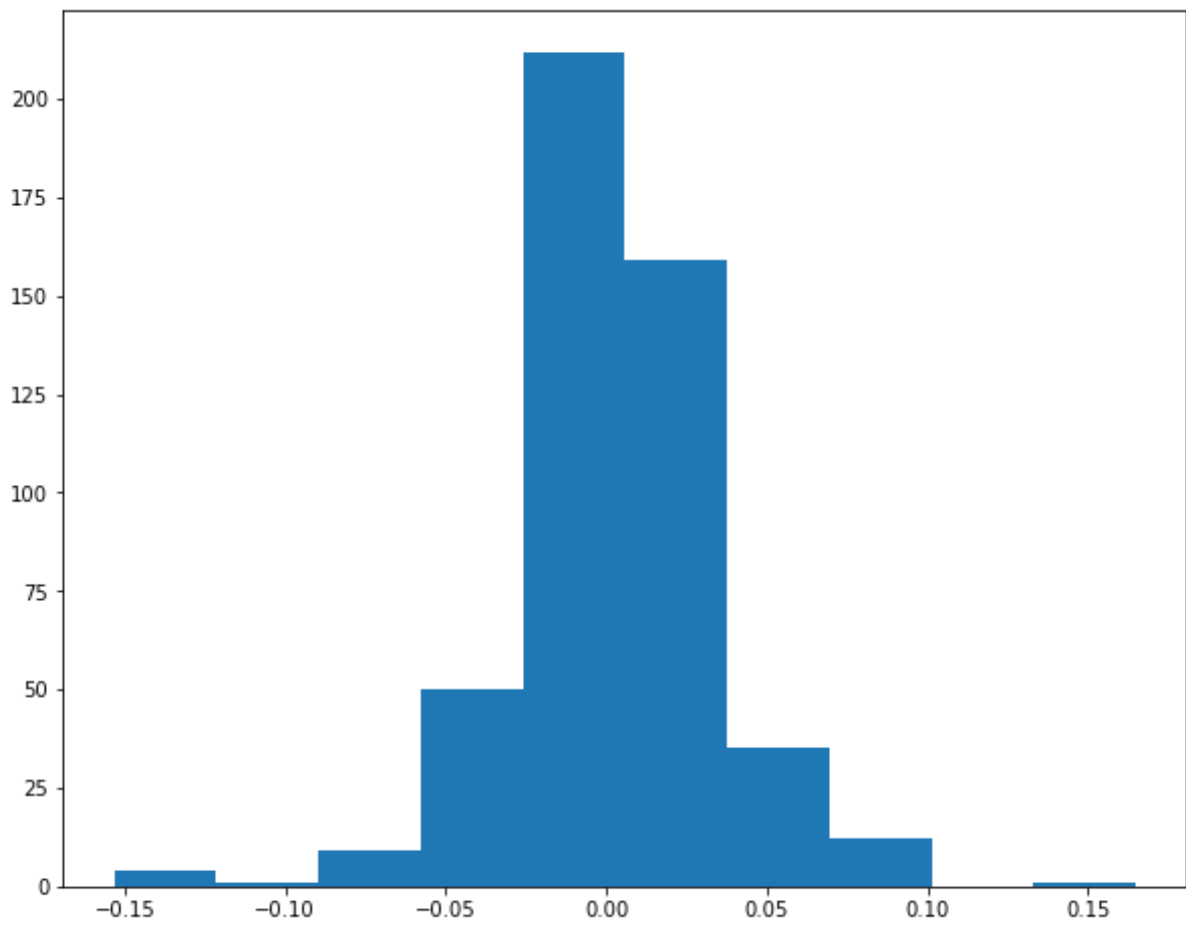
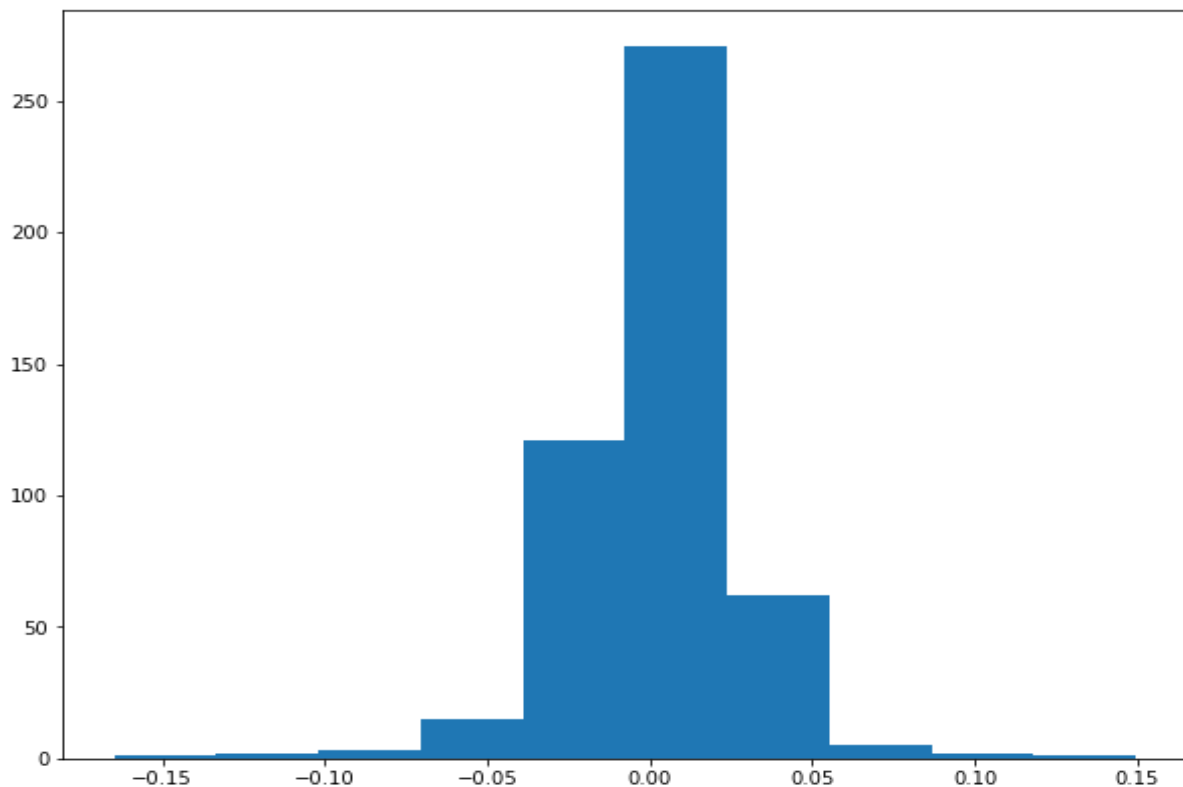


Figure 4: Summary Statistics of stock returns for BHP Group using HISTOGRAM



The table 1 and 2 above is the summary statistics of GLENCORE's and BHP Group stock prices and returns namely High price, Low price, Open price, Close price and then returns of stocks which was obtained using the adjusted closing price. This section was carried out in order to evaluate risk and trend.

The risk of the holding GLENCORE plc a and BHP Group was measured from the table above using the standard deviation of their stock prices while the trend was measured by average mean obtained in the above summary results. It can be seen from both tables that the standard deviations of the stock prices of BHP Group exceeded that of GLENCORE plc. Implying that BHP Group's stock has more investment risk than the GLENCORE plc making the latter company more investment friendly.

In relation to the returns, 0.24 percent average returns was made by GLENCORE compared to that of BHP Group which had an average returns of 0.14 percent making the returns for GLENCORE more attractive for investors relative to BHP Group.

Figure 1 and 2 above are boxplots of the stock prices of BHP Group and Glencore plc. The boxplots of both companies clearly indicates that interquartile range (indicating the degree of spread) for BHP is greater than that of Glencore PLC. This indicates that BHP group's stock

prices has a higher spread than BHP Group's. Implying that the former company's stock has more investment risk than the latter company.

Figure 3 and 4 above are histogram of the stock returns of BHP Group and Glencore plc. The bars representing Glencore plc returns seem to bigger relative to that of BHP Group and this confirms the results in table 1 and 2 which showed that GLENCORE's return on stocks quite more attractive.

Competitor Analysis

This section was carried out so as to examine the relationship between GLENCORE stock closing price and that of its competitor BHP group.

Correlation and Regression Analysis

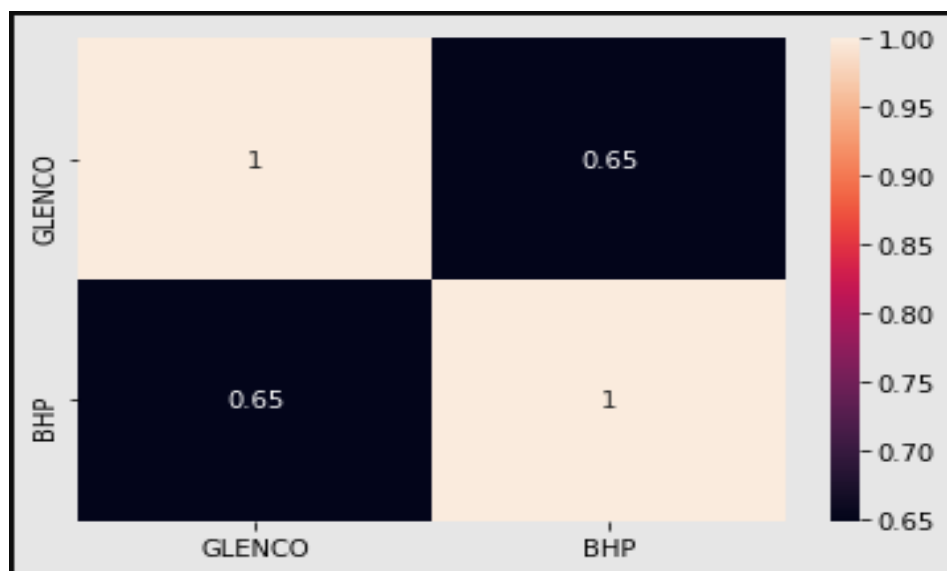
Dependent Variable: GLENCO

Method: Least Squares

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-19.83442	15.22053	-1.303136	0.1931
BHP	4.721338	0.249290	18.93917	0.0000

R-squared 0.421152 Mean dependent var 262.8339
Adjusted R-squared 0.419978 S.D. dependent var 87.18590

Figure 5: Correlation Heat Map (GLENCO & BHP)



The results in the table 3 above and the figure 5 was used to show the relationship between GLENCORE's closing stock price and that of a top competitor BHP. With CAPM coefficient of 4.72, it is of all indication that BHP Group's stock price positively and significantly affects

the stock price of GLENCORE. This further implies that 1 unit change in BHP's stock price would increase GLENCORE's stock price by 4.72 units. This further implies the presence of the competitor BHP does not pose a threat to the stock market of GLENCORE.

The regression results is also confirmed by the correlation heat map that was obtained. The correlation coefficient of 0.65 is a good one. The value implies that there exists a strong and positive relationship between GLENCORE's stock price and that of BHP GROUP.

Time Series Analysis

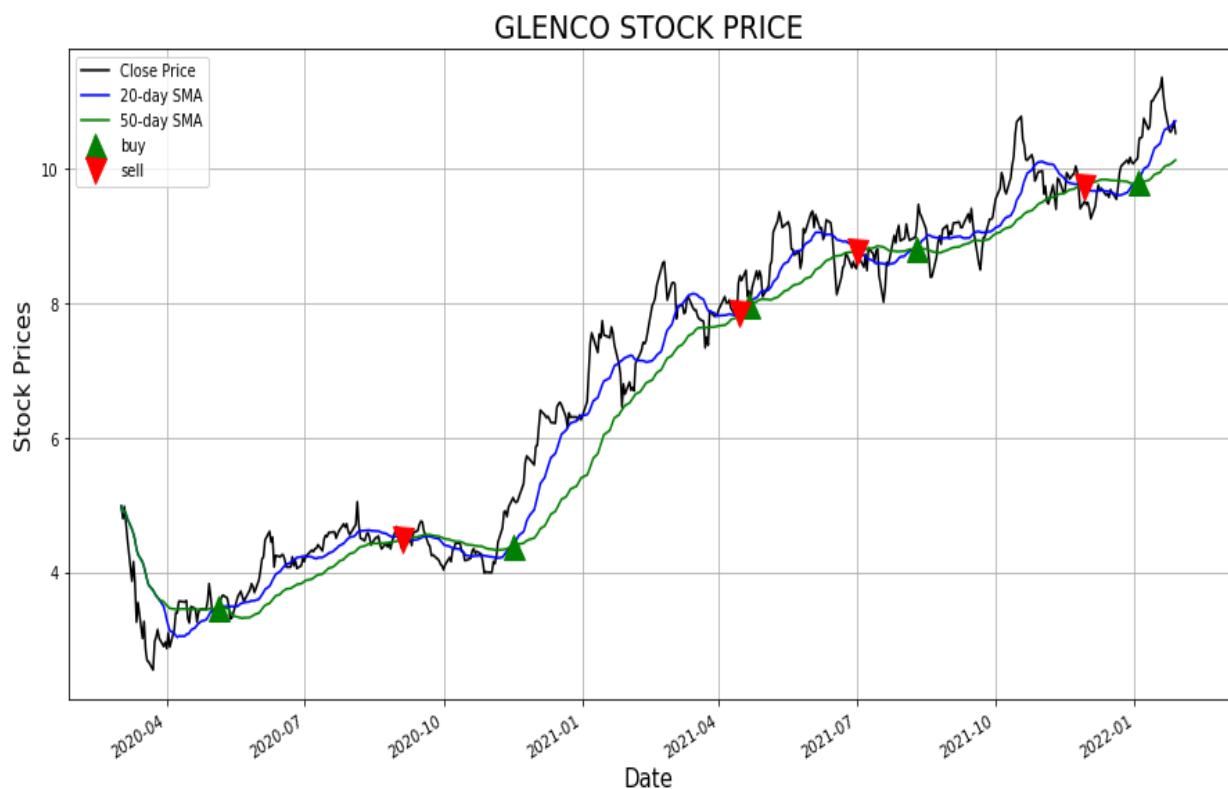
To examine the trend of the company's stock price, average mean was used. By using mean, we mean the direction of the stock prices over the period under study. The mean of the stock's High price, Low price, Open price, Close price, returns which are 2.45, 2.43, 2.44, 2.44 and 0.002 respectively are all positive and this indicates that the stock prices and stock returns have averagely and largely been increasing over the period under study and this is a good sign for investors to consider. The diagram below (figure 5A) is the trend plot of the stock prices over the period under study. Two major things can be deduced from the four stock prices from the diagram below: (a) First, the diagram indicates the stock prices has been generally tending upwards with a minimal spread indicating a general increase overtime. (b) Another thing here is that the four prices seem to have a very striking resemblance. Meaning that the stock High price, Low price, Open price, Close price for every trading day has virtually hovered around the same value and this implies some measure of stability of the daily stock prices and this is a very good sign for investors to consider about the investing in the company's stock.

Figure 5a: A Trend Analysis of the Stock Prices of Glencore Plc.



Moving Average

Figure 5b: The Vizzes of the Stock Market Prices (Moving Average Cross-Over Strategy).



The graphical illustration (figure 5B) above represents the moving average plot of Glenco PLC's closing stock price. The figure 1B above is a graphical sketch of three major plots

namely: Glenco's closing stock price (which is represented with a black colour), the 20-day moving average curve (which is represented with a blue colour), 50-day moving average curve (which is represented with a green colour). A buying signal which is profitable for investors (those who are interested in holding stocks) is identified when the 20-day moving average crosses the 50-day moving average and a selling signal is identified when 50-day moving average crosses the 20-day moving average and this is not a good signal of investment for investors. The diagram above shows that as at May 2020, GLENCORE plc's stock market was investment friendly and so the market was a profitable for investment down to August 2020 (at that region, the blue curve which represents the 20-day moving average is above the green curve 50-day moving average). Approaching October 2020 the table turned. The green curve crossed the blue curve which is bad signal for investors to hold stocks for buying at such period would run them into huge investment losses making it a very best period for them to sell available held stocks. This fall in the market did continue so long because as at the November 2020, the market picked up again and became investment friendly for investors and the condition of the market continued like even to May 2021 (at that region, the blue curve which represents the 20-day moving average is above the green curve 50-day moving average) where there was a very small shake in the market. For instance, the figure 1B showed that bad signal was immediately followed by a good signal thereby making the whole period of May 2021 even to July 2021 very investment friendly. The period of August 2021 was not an investment friendly period for investors and so investors are not advised to buy at that period. The period from September 2021 to November 2021, the market experienced a high level of stock market performance for GLENCORE plc seeing that the blue curve is above the green curve. December 2021 was not investment friendly for stock buyers in that the green curve crossed the blue curve. GLENCORE plc stock market picked up a again at the beginning of the year ie January 2022.

Returns on the Cross-Over Trading Strategy

To illustrate the returns of this strategy, for instance an individual can buy this share at 'Buy Signal 1' as shown in figure 1B and ride the trend up until point 2. Point 2 has both Buy and sell signal. The price of the shares at point 1 is \$3 and the price at Point 2 is \$4.5. If the individual buys \$10,000 worth of shares at point 1 ($\$10,000/\$3 = 3333$ pieces). He can sell at point 2 at a total value of \$14998.5 ($3333 \text{ pieces} \times \$4.5 = \$14998.5$). Returns $[(\$14.9985k - \$10k)/\$10k] \times 100 = 49.985\%$ returns.

EXPONENTIAL SMOOTHING

Single Exponential Smoothing

Figure 6: Plot of the forecasts of the train data and test data using Simple Exponential Smoothing



RMSE = 59.3688

Difference between moving average and SES

The simple exponential smoothing (SES) forecast is slightly superior to the simple moving average (SMA) forecast for a given average age (i.e., amount of lag) because it places relatively more weight on the most recent observation, i.e., it is slightly more "responsive" to changes occurring in the recent past.

Double Exponential Smoothing

Figure 7: Plot of the forecasts of the train data and test data using Double's Exponential Smoothing



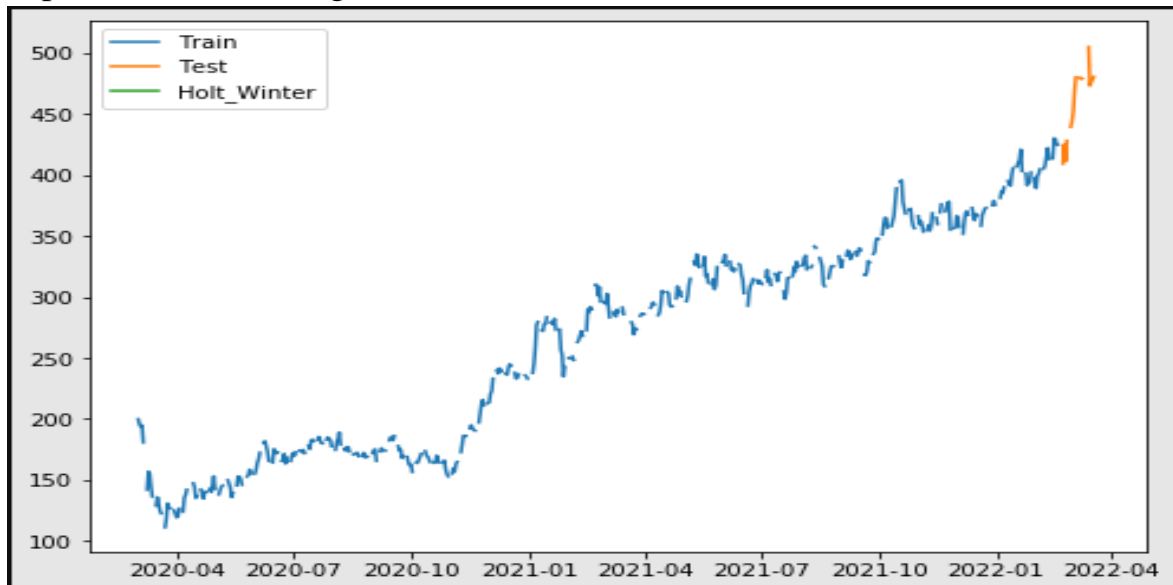
RMSE=33.57

Difference between SES and DES methods

Single exponential smoothing is a time series forecasting approach for univariate data without a trend or seasonality, whereas Double exponential smoothing uses a level and a trend component at each period. To update the components at each period, double exponential smoothing employs two weights.

Holt's Winters Method (TES)

Figure 8: Plot of the forecasts of the train data and test using Holt winter's exponential smoothing



RMSE=23.89

Difference between DES and TES methods

The difference between the two methods is that double exponential smoothing uses two weights to update the components at each period, whereas the Holt-Winters method uses exponential smoothing to encode a large number of past values and use them to predict "typical" values for the present and future.

Summary

The diagrams in figure 6, 7 and 8 represents the forecasts of the test and train data using the three techniques single, double and Holt winter's method respectively. The root mean square error values 59.388, 33.57, and 23.89 were obtained for the three techniques respectively and this indicates that the holt winter's method has the highest level of precision because it has the lowest root mean square error hence it gives the forecasts of the test data that closely reflects the forecasts of the train data and this makes it the best forecasting method for the chosen industry.

Fundamental Analysis

This section presents a detailed report on the financial performance and position of GLENCORE from 2019 to 2021, utilising fundamental financial ratios including Profitability, Efficiency, Liquidity, Gearing and Investors ratio. The audited financial statements (2019 to 2021) of GLENCORE were utilised for this purpose.

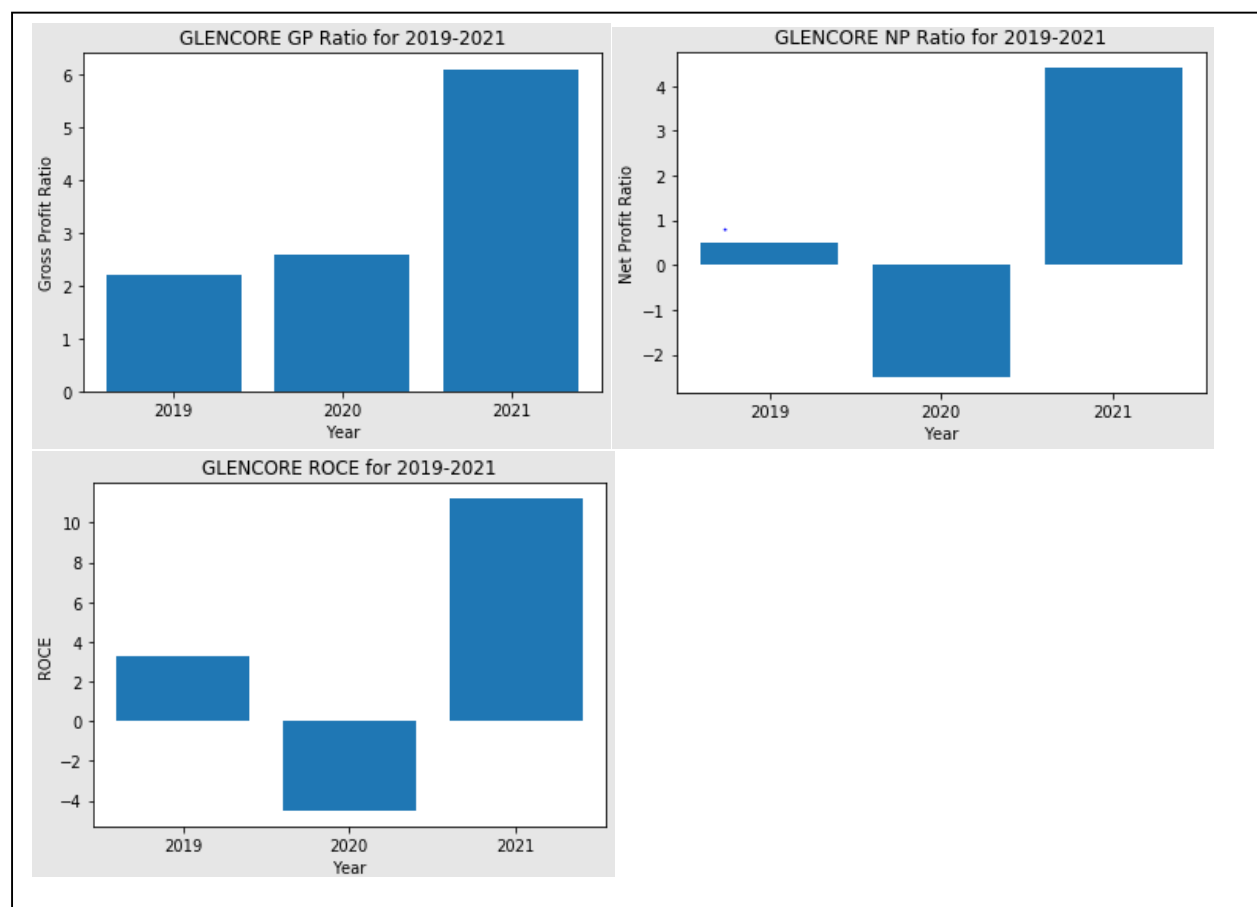
Profitability

Profitability measures the ability of a company to generate suitable returns on its operations. From the analysis, the Return on capital employed (ROCE) of Glencore was 3.3% in 2019, deteriorating to -4.5% in 2020. This reflected the over 33% decline in total Revenue in 2020 much of which can be adduced to the Covid-19 pandemic. The ROCE saw a significant rise in 2021 to 11.2%. The ROA and ROE was -1.2% and -1% in 2019, and -3.3% and -5.5% in 2020. In 2021, both ratios rose significantly to 3.4% and 13.5%. The Gross Profit Margin was 2.2% in 2019, it improved to 2.6% in 2020 which was still drastically low. It rose significantly to 6.1% in 2021. Lastly the Net Profit Ratio was a mere 0.5% in 2019 and deteriorating to -2.5% in 2020 due to the 33.8% decline in total revenue in 2020. It improved to 4.4% in 2021. In sum, the profitability analysis shows that with a weak financial standing in 2019, Glencore's position was further deteriorated by the pandemic in 2020 and a significant recovery was observed in 2021. The table below and plots below gives the summarised info.

Table 3: Profitability Ratios for Glencore (2019 – 2021)

Financial Indicators	2019	2020	Change (%)	2021	Change (%)
Revenue ('000)	\$215,111,000	\$142,338,000	-33.83%	\$203,751,000	43.13%
ROCE	3.3%	-4.5%	-236.4%	11.2%	348.9%
ROA	-1.2%	-3.3%	-175%	3.4%	197%
ROE	-1%	-5.5%	-450%	13.5%	345%
Gross Profit Ratio	2.2%	2.6%	18.18%	6.1%	135%
Net Profit Ratio	0.5%	-2.5%	-120%	4.4%	276%

Figure 8a: Charts of ROCE, Gross Profit Ratio and Net Profit Ratio for Glencore (2019-2021)



Liquidity, Financial Position (Gearing) and Investors

Liquidity measures the ability of a company to generate sufficient cash flows to meet its daily obligations as they fall due. The current and acid test ratios were employed for this study. In 2019, the current ratio was 1.06:1, indicating a mere 6% coverage over liabilities. This improved only marginally to 1.07:1 in 2020. This improved by over 8% in 2021 to 1.16:1. However, this was still way lower than the generally accepted 2:1 level. The acid test show a value of 0.55:1, 0.49:1 and 0.58:1, in 2019, 2020 and 2021, respectively. This indicates a slight improvement, but still very low however.

The Leverage ratio is a very important tool for assessing the capital structure of an entity. In 2019, the debt to equity ratio was 72.17%, rising to 77.65% in 2020 declining slightly to 72.63% in 2021. This indicates that Glencore is highly geared and might fail to cover its debt costs as observed in 2019 and 2020 when the interest cover ratio were -0.5 and -2.5, respectively, due to declining earnings and negative earnings combined with rising debt cost. It was 6.7 Times in 2021 following increased revenue and a 6.7% decrease in debt level. The

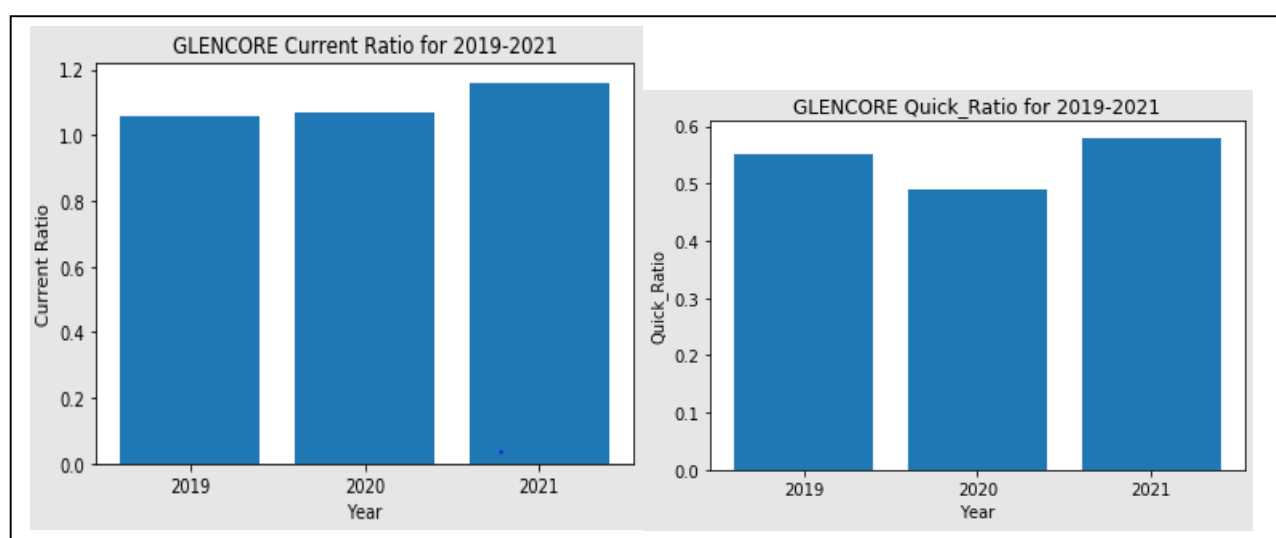
gearing level was 42.56% in 2019, rising to 45.93 in 2020. The gearing ratio showed a value of 42.07% in 2021, representing a decrease of over 8%.

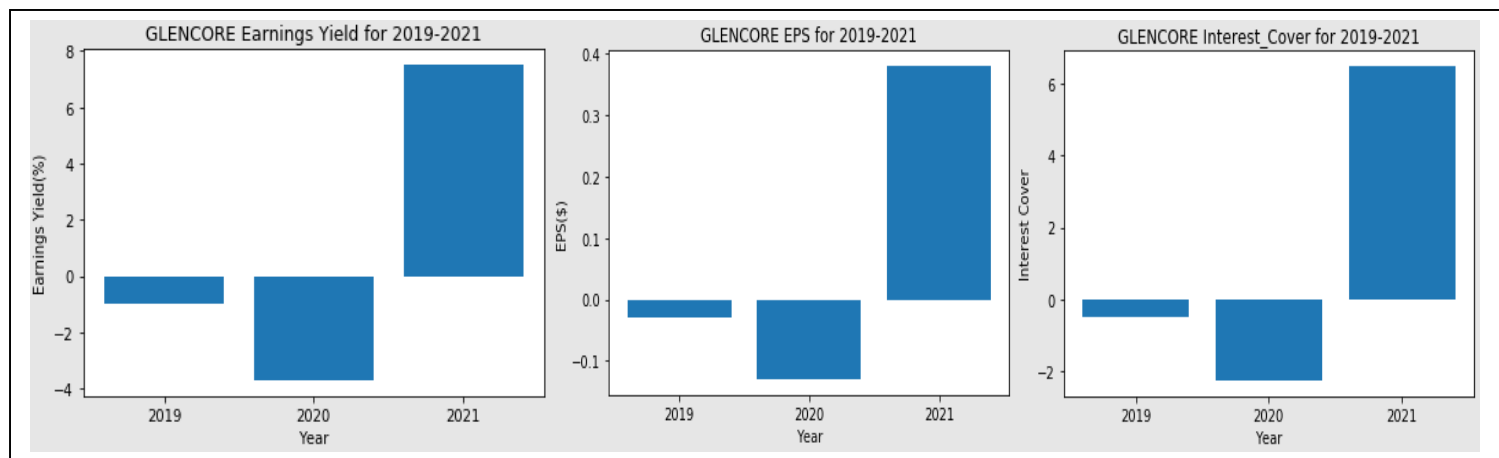
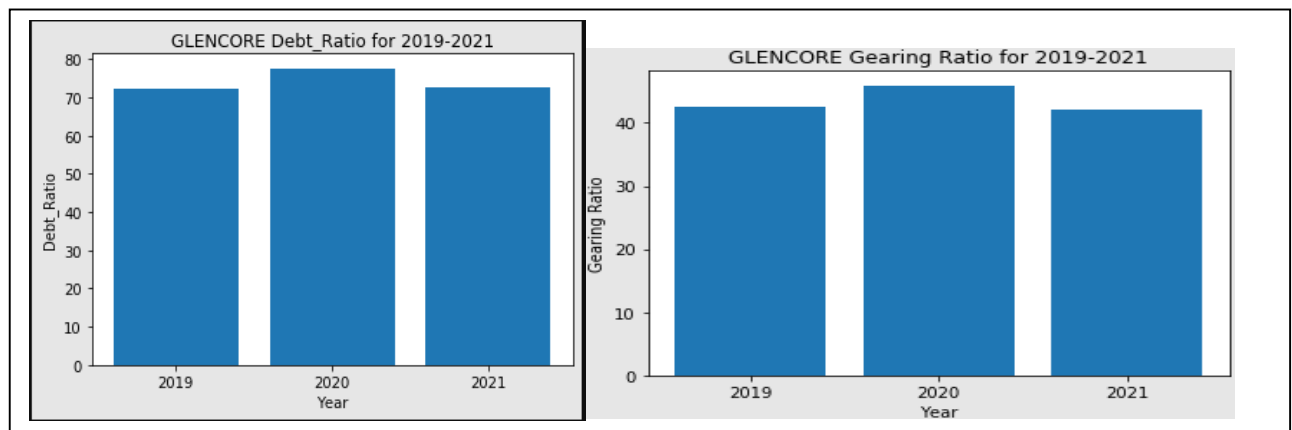
The Earnings per Share (EPS) and the diluted EPS for Glencore were both negative in 2019 and 2020, -\$0.03/share and -\$0.14 for both years. This was as a result of the poor earnings position of Glencore in 2019, further affected by the pandemic in 2020. In 2021, both ratios improved to \$0.38 and \$0.37 for EPS and DEPS, respectively. The same behaviour was also observed for the Earnings Yield and PE Ratio for the period of 2019 to 2021. This information is summarised in the tables and charts below.

Table 4: Liquidity, Leverage and Investors Ratio for Glencore (2019–2021).

Liquidity					
Current Ratio	1.06:1	1.07:1	0.94%	1.16:1	8.41%
Quick Ratio	0.55:1	0.49:1	-10.91%	0.58:1	18.37%
Leverage					
Debt Ratio	72.17%	77.65%	7.59%	72.63%	-6.46%
Leverage Ratio	42.56%	45.93%	7.92%	42.07%	-8.40%
Investors					
EPS	(0.03)	(0.14)	-367%	0.38	343%
DEPS	(0.03)	(0.14)	-367%	0.37	364%
Earnings Yield	-0.96%	-3.7%	285%	7.5%	303%
P/E Ratio	-104	-27	74.38%	13.33	149.37%
Interest Cover	-0.54 Times	-2.25 Times	-317%	6.47 Times	388%

Figure 8b: Charts of Liquidity, Leverage and Investors Ratio for Glencore (2019 – 2021)





Strategic Analysis

GLENCORE Plc., a natural resource based company, pays significant attention on its environmental impact as of its strong strategic outlook. It focuses on operational safety, climate change as it targets a 40% drop in emission by 2035 and a net zero total emission by 2050; water management and community engagement by spending \$90 and \$95 million 2019 & 2020 as Covid-19 relief fund. GLENCORE also focuses on responsible portfolio management, conservative investments, low risk bonds, re-investment. Lastly, another strategic outlook of GLENCORE Plc. Is its responsible product use emphasising marketing 'Green Metals' and responsible sourcing. The strong strategic blocks indicates a sound a futuristic view of the company as it is environmentally conscious in such an important time while paying adequate attention to investors relation.

Conclusion

This report presents a comprehensive and detailed analysis of the performance of GLENCORE Plc. In order to achieve this, the Stock Market Analysis and the Fundamental Financial were employed. The Application of robust analytical tools such as the exponential moving average (Singles, Holt's Linear and Holt Winter's) techniques showed that the share price of GLENCORE Plc. enjoyed an upward trend during the period under study (2019 – 2021). As observed from the plot of the training set and test set, a less pronounced growth was achieved in 2020 due to the Global Pandemic. The share prices indicated a low level of volatility (low risk) and the returns on the crossover strategy was also demonstrated and key decision periods identified (May 2020, May 2021, September 2020 and September 2022).

The competitor analysis showed a positive relationship between GLENCORE Plc. share prices and that of BHP Group. Confirming the above, the fundamental analysis indicated a good financial performance in 2021, this was however weaker in 2020 and in 2019 when the firm made net losses in its statement of profit or loss. A sound strategic outlook was deciphered from GLENCORE's operations as it promotes Green Policies and responsible portfolio management. The Company is however highly geared.

In line with the above, it is suggested that GLENCORE Plc. can improve its current negative credit rating (Baa1, Moody's) by reducing its gearing levels. Notwithstanding, the stock market and financial prospects of the company seems sound. Hence, investors can adequately take or maintain a long position on the company's stock.

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<https://www.glencore.com/publications>

<https://finance.yahoo.com/>

APPENDICES

Fundamental Financial Analysis.

Financial Indicators	2019	2020	Change (%)	2021	Change (%)
Profitability					
Revenue	\$215,111,000,000	\$142,338,000,000	-33.83%	\$203,751,000,000	43.13%
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Gross Profit Ratio	2.2%	2.6%	18.18%	6.1%	135%
Net Profit Ratio	0.5%	-2.5%	-120%	4.4%	276%
Cost of Sales Ratio	97.8%	97%	0.82%	93.9%	-3.20%
Efficiency					
Asset Turn Over	1.7 Times	1.2 Times	-29.41%	2.6 Times	117%
Inventory Turnover	10.5 Times	6.5 Times	-38.10%	7.5 Times	15.38%
Receivables Turnover	13.0 Times	9.4 Times	-27.69%	10.5 Times	11.70%
Payables Turnover	8.3 Times	5.8 Times	-30.12%	6.5 Times	12.07%
Working Capital					
Inventory Period	34.8 Days	56.2 Days	61.50%	48.7 Days	-13.35%
Receivables Period	28.1 Days	38.8 Days	38.08%	37.8 Days	-2.57%
Payables Period	44.0 Days	63.0 Days	43.18%	56.2 Days	-10.79%
Liquidity					
Current Ratio	1.06:1	1.07:1	0.94%	1.16:1	8.41%
Quick Ratio	0.55:1	0.49:1	-10.91%	0.58:1	18.37%
Leverage					
Debt Ratio	72.17%	77.65%	7.59%	72.63%	-6.46%
Leverage Ratio	42.56%	45.93%	7.92%	42.07%	-8.40%
Investors					
EPS	(0.03)	(0.14)	-367%	0.38	343%
DEPS	(0.03)	(0.14)	-367%	0.37	364%
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