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Comparing the Effects of the Nasdaq and Hang Seng on the Stock Performance of New Oriental

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Abstract: By the end of 2021, New Oriental declared that it would discontinue offering K-9 curriculum tutoring available at all its learning centers nationally. It will refocus its efforts and allocate its resources to academic marketing strategies unrelated to K9 subject education. The goal of this article's research is to evaluate, using regression and CAPM models, the effects of the Nasdaq and Hang Seng on the returns on New Oriental stock. To determine their beta values and intercept terms, regression analysis of New Oriental stock returns, Nasdaq index returns, and Hang Seng index returns were performed. The CAPM model, which mainly investigates the correlation between projected returns and risky assets in the stock market, acts as the asset pricing model. Beta is a crucial variable. The beta coefficient is a risk indicator that measures how volatile an individual stock or stock fund's price is in comparison to the overall stock market. The result is Nasdaq has a higher risk-free rate of interest and lower Beta value. Hang Seng has a lower risk-free rate of interest and higher Beta value.

Keywords: linear regression, CAPM model, beta value

1. Introduction

Eugene F. Fama and Kenneth R. French found that The CAPM model was manlily used in this article [1-2]. Asset pricing theory was introduced with the creation of the capital asset pricing model (CAPM) by William Sharpe and John Lintner in 1964.

Roer G. IbbotsonPhDThomas M IdzorekCFAPaul D. KaplanCFAJames X. XiongCFA found an elegant and practical theory for describing investor anticipated returns in an equilibrium scenario is the CAPM [3]. Investors are thought-out and risk-averse, according to this presumption. Only quantitative market risk is valued in securities since they can diversify away from any non-market risk. More prospective returns are associated with securities that have lower relative prices and higher risk premiums [4-5].

This article's focus is on contrasting the effects of the Nasdaq Index and Hang Seng Index on the stock returns of New Oriental. Regression was used to examine the effects of the US stock market and Hong Kong stock market on stocks after organizing and comparing the data from the previous year. The beta value is the slope of the regression analysis result, which is typically accomplished using the excess return of the stock and the excess return of the market. As a result, Nasdaq has a lower Beta value and a higher risk-free rate of interest. The lower risk-free rate of interest and greater Beta value is found in Hang Seng.

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2. Firm Description

2.1. Background

Through "New Oriental unique" innovative teaching methods and heuristic guidance, the company is dedicated to educating and enlightening students of all ages to help them realize their full potential, develop self-confidence, and develop a global perspective. This will enable students to understand and appreciate both Chinese traditional culture and modern western culture. The firm can consistently seek innovation and heuristic teaching because of its culture of fostering innovation and ongoing excitement for education [6-8].

Foreign language education, primary and secondary education, preschool education, online education, international consultancy, book publishing, and other areas of business are all part of the company's operations [9-10].

In 2006, the business became the first institution of higher learning from mainland China to be classified on the New York Stock Exchange.

New Oriental Online Hong Kong Stock Exchange announced on October 25, 2021, that it would stop providing off-campus training programs for obligatory schooling in mainland China. By the end of 2021, New Oriental declared that it would discontinue offering K-9 subject tutoring in all its learning centers nationwide. This announcement was made on November 15, 2021. In the future, it will shift its attention and resources to educational services and goods that have nothing to do with K9 subject training, like teaching materials, test preparation programs, and adult language training programs.

2.2. Financial Indicator

The stock price for New Oriental Education & Technology Group Inc. (EDU) is at a close.

Figure 1: Close price.

Figure 1 is the EDU's close price trend in two different stock markets. The overall tendency is upward. From 2021–11 to 2022–6, it exhibits a clear falling trend; yet, from 2022–6 to the current, it steadily starts growing. The stock price clearly and persistently rebound after 2022-4, even though it had been declining before that date. 2022-3 was the low point for both stock prices while 2022-7 marked the high point (Fig 1).

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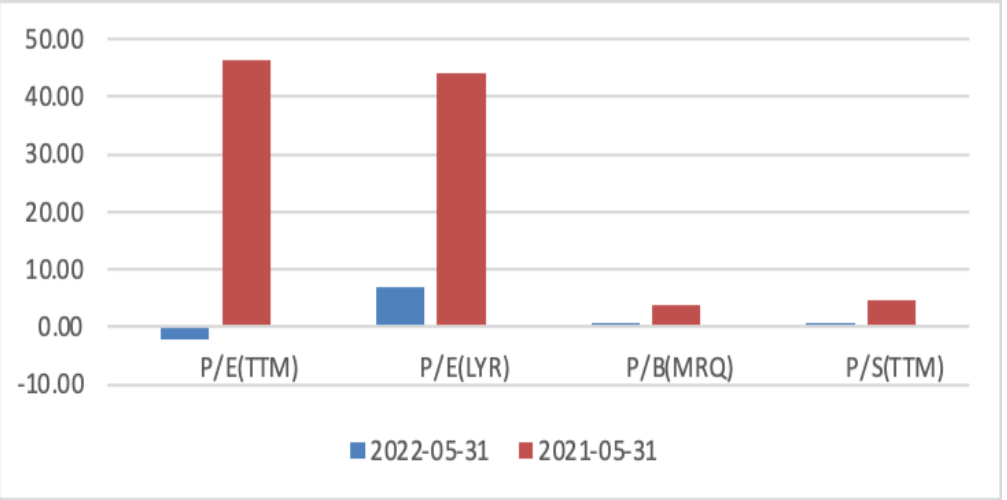

Figure 2: Financial indicator.

The P/E between 2021 and 2022 varies markedly. Both the P/E(TTM) and the P/E(LYR) indicate quite high levels in 2021, both of which are above 40. But in 2022, P/E(TTM) turns negative, and P/E(LYR) falls below 10. In a similar vein, P/B and P/S are also declining (Fig 2).

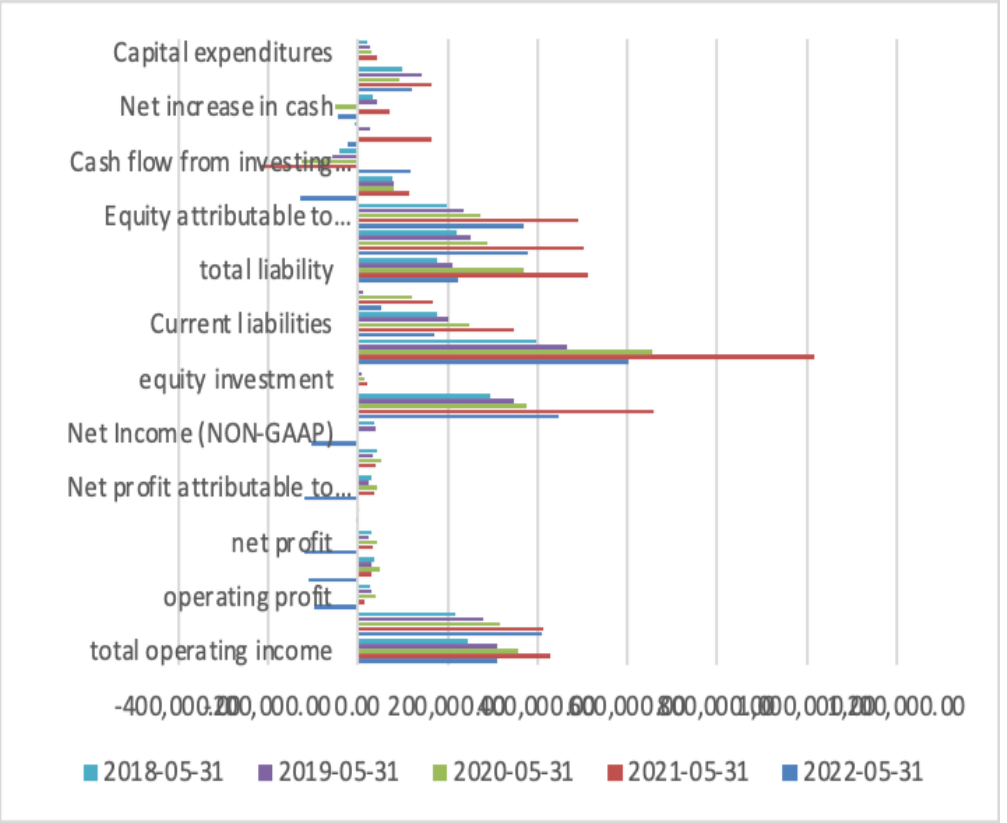

Figure 3: Financial indicator.

EBITDA is steady at about 40,000 and shows no clear growth or drop trend.

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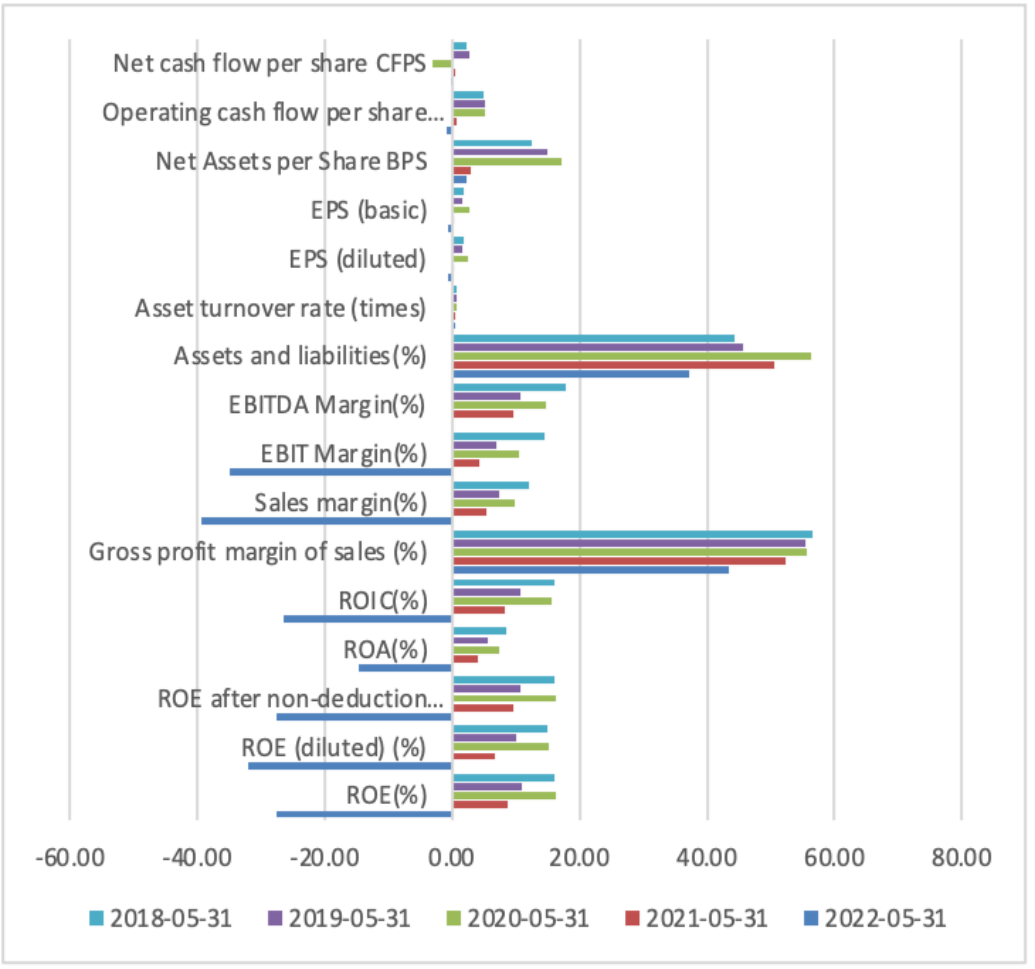

Figure 4: Financial indicator.

The gross profit margin of sales is still at a high level, but it is moving downward from 2018 to 2022. EBITDA margin and Asset turnover rate all have a downtrend as well (Fig 3-4).

The higher an organization's EPS, the more probable it is that it will be profitable. Higher or accelerating EPS growth provides an excellent indication of the company's effectiveness in its future business possibilities. Theoretically, a higher EPS would imply that a company is worth more. EDU's EPS shows a downward tendency overall and it reached the lowest point in 2022, which is -0.7. It may not be a sign of great earnings or high-profit expectations if investors are willing to pay a higher price for shares.

3. Regression Analysis

3.1. CAPM Model

The Capital Asset Pricing Model (CAPM) is a model that demonstrates how the expected return and risk of an investment in securities are related to one another [3]. It demonstrates that the expected return on a security is equal to the risk-free return plus a risk premium determined by the stock's beta. According to a study, while making riskier investments, investors would want a higher risk premium.

The formula for CAPM is as follows [4]:

$$E(Ri) = Rf + \beta i(E(Rm) - Rf \quad (1)$$

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E(Ri) = Expected return
Rf = "risk-free" rate of interest
βi = beta(aka volatility- this estimates risk)

The beta coefficient is a risk indicator that gauges the price volatility of a single company or stock fund in comparison to the overall stock market. When determining the volatility of a security or a portfolio of investment securities to the general market, the beta coefficient is a tool for evaluating the systematic risk of an asset.

E(Rm) = Expected return of the market

3.2. Linear Regression

By analyzing the return on the IXIC.GI index and the return on the EDU stock using linear regression, we can get

Table 1: Linear regression result of IXIC.GI.

Coefficients	Estimate	Std. Error	T value	Pr(>|t|)
intercept	0.00350	0.00335	1.045	0.297
Beta	1.28684	0.18683	6.888	4.6e-11***

The beta for IXIC.GI and EDU are 1.2868 and the intercept is 0.003500. The New Oriental stock's beta value in the Nasdaq index is 1.2868, which indicates that the stock is more volatile and will fluctuate by 1.2868% for every 1% change in the Nasdaq index's value (Table 1).

And then compare HSI.HI and EDU

Table 2: Linear regression result of HSI.HI.

Coefficients	Estimate	Std. Error	T value	Pr(>|t|)
intercept	0.003012	0.003402	0.885	0.377
Beta	1.320416	0.190304	6.938	3.55e-11***

The beta for HIS.HI and EDU is 1.3204 and the intercept is 0.003012. The New Oriental stock has a beta value of 1.3204 regarding the Hang Seng index, meaning that for every 1% fluctuation in the value of the Hang Seng index, the stock will vary by 1.3204% (Table 2).

IXIC.GI has a higher intercept, but a lower beta. The risk associated with each security increases with increasing beta value, as does the compensation received. The fact that both beta values are more than 1 indicates a higher risk for this stock. Between IXIC.GI and EDU, the stock price would move by 1.2868% for every 1% change in the index due to a beta value of 1.2868. Similarly, a 1% change in the index will cause a 1.3204% change in the stock price with a beta of 1.3204 between HIS.HI and EDU. If the stock's beta coefficient is greater than 1, it has a larger systematic risk than the market, meaning it is more susceptible to changes in the overall state of the economy. The systematic risk of investing in the stock increases with the beta, and investors want larger rates of return.

4. Discussion

4.1. Advantages of the CAPM Model

The main advantages of CAPM are its clarity and simplicity. It naturally mixes these three parameters after dividing the price of each risky investment into three components: Risk pricing, risk-free rate of interest, and risk measurement unit.

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The CAPM's intuitively attractive predictions about how to evaluate risk and about the relationship between expected return and risk are what attract people to it. It also has a strong but basic logic that fits best.

It is generally considered a significantly more effective method of determining the cost of equity than the model of dividend growth (DGM) because it explicitly takes into account a company's systematic risk level concerning the entire stock market [5].

4.2. Disadvantages of the CAPM Model

The CAPM has certain disadvantages and is not without fault. comes up in:

The risk-free rate, market return (also known as equity risk premium, or ERP), and equity beta must all be valued before using the CAPM. The rate of return on short-term government debt is one of those mentioned in the risk-free rate of return. This value is dynamic and shifts frequently in response to the state of the economy. Short-term averages might be utilized to smooth out this volatility.

It's challenging to create a market with perfect competition in real life. Additionally, it might be challenging to calculate the bets in CAPM. Due to a lack of historical data, it might be difficult to assess the beta value of some assets. The value of different securities will also alter in keeping with the economy's continuing development and changes. As a result, while directing the future, the value calculated based on prior data should also be discounted.

5. Conclusion

New Oriental said that it will stop providing K-9 subject tutoring in all of its learning centers throughout the country. It will refocus its efforts and allocate its resources to educational services and products unrelated to K9 topic instruction. The purpose of this article's research is to assess the impacts of the Nasdaq and Hang Seng on the returns of New Oriental stock using regression and CAPM models. Regression analysis of New Oriental stock returns, Nasdaq index returns, and Hang Seng index returns was conducted in order to determine their beta values and intercept terms.

Both Nasdaq and Hang Seng’s beta values are greater than 1 following calculation and analysis, with Hang Seng’s beta value being higher than Nasdaq's. Nasdaq is a little bit higher than Hang Seng in terms of risk-free rates, which indicates that Hang Seng has a lower risk of interest rate volatility than Nasdaq.

The influence of the two indexes on the stock returns of New Oriental is obvious after the computation and analysis of the two indexes. The Hang Seng Index has a greater beta value, however, when compared to other indexes. We can observe that the Nasdaq Index has a very weak impact on the returns of New Oriental stocks and that the Hang Seng Index has a larger influence.

The drawback is that just the beta value is utilized for comparison research, although in the actual stock market, a variety of factors influence stock returns.

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