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Comparative Risk Return Analysis of Nepal Stock Market with Selected Banking Stocks in Nepal

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Abstract

The Nepalese stock market, specifically concentrating on three commercial banks listed on the Nepal Stock Exchange Limited. The paper aims to analyze the risk and return associated with investing in common stocks in the Nepalese stock market, focusing on three commercial banks. Secondary data is gathered from various sources, including the NEPSE website, prior studies, publications by the NRB (Nepal Rastra Bank), commercial banks' websites, and the SEBON (Securities Board of Nepal) website. The paper employs scientific analysis techniques on quantitative data. Different methods, such as correlation, regression, and descriptive statistics, are used to test hypotheses and investigate the risk-return trade-off in the Nepalese stock markets. The analysis is based on the results of the sample banks' risk and return analysis, utilizing historical data from their most recent five fiscal years, spanning from FY-2017/18 to FY-2021/22. The abstract concludes that the three commercial banks examined in the study are characterized by high risk and variable rates of return.

Key words: Beta, Common stock, Expected returns, Risk, Required rate of return, Standard deviation

1. Introduction

The stock markets are essential in the era of growing liberalization, privatization, and globalization in emerging economies because they act as leading indicators of how well a nation's economy is performing. The stock market acts as a marketplace for the purchase and sale of financial instruments. Stock prices are highly volatile and are influenced by the supply and demand of stocks at any given time. To achieve their financial goals through investments,

buyers and sellers trade a variety of financial securities on the stock market. All investors must assume the risk for potential returns because investing in the stock market entails inherent uncertainties. Investments made on the stock market therefore include both risks and returns. In an effort to generate greater returns, investors show a keen interest in the stock market. Researchers are currently paying close attention to the stock market by using effective methodologies that will aid investors in their market analysis.

Risk is the unpredictability of the future or the departure from projected profits or results. Risk measures the level of uncertainty that investor is willing to accept in exchange for a potential return on their investment. In the context of financial returns on investment, risk is the likelihood that a result will differ from what is anticipated. Zareen Zafar and Danish Ahmed Siddiqui (2020) from Pakistan mentioned that Volatility is defined as the degree of risk or uncertainty regarding how much a stock's value will fluctuate. A high variance indicates that a safety's value may be distributed over a greater range of values. As a result, the security's price could change dramatically in either way in a short amount of time. Volatility in the stock market is a result of numerous factors. The same is true of monetary policy, inflation, interest rates, corporate profits, financial stability, dividend practices, bond prices, as well as a number of other macroeconomic, social, and political factors. Risk is described by another researcher, Abhinandan & Nayak (2020) as the possibility that the actual return on an investment would differ from what was anticipated. The prospect of losing some or all of the initial investment falls under this category. Investors typically anticipate high returns with low risk. However, in real life, high degrees of uncertainty (high risk) go hand in hand with large potential profits. In their study, Srinivasa Rao et. al, (2020) employed a variety of statistical methods, including return, average return, standard deviation, variance, and beta. Understanding the connection between the risk and return of two time periods for banking stocks is done through coefficient of variation analysis.

Similarly in the context of Nepal Laxman Raj Kandel (2018) discovered that choosing an investment depended on two aspects, namely risk and return. They resemble the two sides of a single coin. In the world of investing, risk is the possibility that the actual return on an investment will be lower or higher than anticipated. Technically speaking, the standard deviation in statistics is used to measure it. Risk is a byproduct of uncertainty, the size of which depends on the degree of variability in uncertain cash flow. Narayan Prasad Poudel (2002) in the topic of "Investing in shares in Commercial Banks in Nepal mentioned that a number of factors may contribute to investment uncertainty. The factors usually mentioned with respect to marketable securities are business risk, financial risk, liquidity risk, default risk, interest rate risk, management risk and purchasing power risk. Risk is a difficult concept to grasp.

1.1 Objectives

- To examine the relationship between risk & returns of market index (NEPSE) and Banking stocks.

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- To find the risk of NABIL, NICA and EBL Bank.
- To find the beta coefficient of Nabil, NICA and EBL Bank.

1.2 Research Questions

1. What is the relationship between risk and return of market index and banking stocks.
2. What is the systematic risk in NABIL, NICA, and EBL bank.

2. Review of literature

Several researchers have significantly contributed to the area of risk and return analysis. A gist of some of the scholarly publications published in this field is discussed in this section. In a study conducted by Joghee (2021), an analysis of the risk-return relationship in the banking sector was performed. The study included the calculation of various metrics such as mean, standard deviation, covariance, variance, correlation, and beta. The findings of the study revealed that among the seven banks examined, Kotak Mahindra Bank stood out as having achieved the highest return while maintaining low levels of risk.

The study conducted by Moolbharathi and Sugandi (2021), focused on the collection of daily data, such as the closing price of stock for the last five years from 2017 to 2021, from the stock market. The daily return of the stock is calculated, and the standard deviation is measured for mainly three broad categories of sectors, such as automobile, banking, finance, FMCG, and IT, which directly represent the economic condition of the country. Kavya et al. (2018), analyzed the results of NSE nationalized banks with return, risk, and beta from 1 January to 31 January 2017. This study used the Nifty Bank Index as a reference. Risk and return of bank stocks and the wrapping of the data. The analysis method is used to analyze banks' efficiency. The conclusions of the study showed that the banks of the National Bank of India and Punjab have great risks and returns, and the Axis banking portfolio is less risky. Patel and Bhawana (2018) studied the return of 10 pharmaceutical organizations in the Indian exchange of securities for the period from 2013 to 2018. The investigation has deducted from among selected care Sun Pharmaceutical Industries Ltd. provides outstanding performance, but the danger of the offer market is very high. So, the value offers from Divi's Laboratories Ltd. are better for speculative potential because they provide outstanding performance and are not related to danger. Savsani & Rathod (2018) discussed the risk-return analysis of the Bombay Stock Exchange in comparison to chosen Indian banking equities. Researchers have adopted paired t-test and regression techniques. It was revealed through the study that Sensex has provided high returns as compared to all other selected stocks. Also, the Sensex was positively correlated with all the bank's returns and charted high correlation with ICICI Bank returns.

Chandran (2016) conducted a study on instability and Return of Indian Banking sector index, this study also planned to analyze risk and return of 12 banks listed in Bank Nifty. The study was limited to a period of one year starting from first April 2015 to 31 March 2016. Tool used for analysis are daily returns, Beta and standard deviation as measure of volatility and

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correlation. And the study suggests that except HDFC bank all other highly volatile than the market because the Beta appearing more than 1 for all other stocks.

Although some previous research has conducted their thesis on a topic similar to the one chosen by the current researcher, there are significant differences between those and this one. Previous researchers concentrated solely on the risk and return aspects of selected commercial banks from the perspective of investors. This research has also attempted to identify the correlation between the returns of the commercial banks under study, which plays an important role in risk reduction through portfolio construction, and systematic and unsystematic risk has been identified for each bank, which has not been done previously.

3. Research Methodology

3.1. Research Design

Both the descriptive and analytical research designs have been used in this study. The annual reports and financial statements of related commercial banks are gathered for analytical purposes.

3.2. Population and Sample

All twenty-one commercial banks that are currently active in Nepal are the study's population. Three banks were chosen to represent the sample on the basis of highest price listed in Nepal stock Exchange. The following sample banks were chosen for the analysis:

- NABIL Bank Ltd
- NIC Asia Bank Ltd
- EBL bank

3.3. Nature and Sources of Data

Secondary data are the main source for this study. The additional information and data are gathered from official bank documents that have not yet been published, as well as books, journals, articles, and related websites. Additionally, financial secondary data from commercial banks is gathered.

3.4. Data Analysis Tools.

In this study, descriptive tools are employed in order to interpret the data collected and achieve the study's goal. Rajesh **(2019)** used the mean, standard deviation, beta and correlation as analysis tools.

MEAN

It is employed to calculate the tendency's zenith value. The return series' mean value is represented by the word "mean." It is obtained by adding up the return series' values and dividing the result by the number of return series' elements.

$$\overline{X} = \frac{\Sigma X}{n}$$

Here, ∑X= Sum of all the individual values and n= Total number of items

STANDARD DEVIATION

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The return series dispersion is measured using this statistic, which has the broadest application. Ro=ot-Mean-Square Deviation is another name for standard deviation. It is primarily used to calculate each value's deviation from the mean.

$$s = \sqrt{\frac{\sum(X - \bar{x})^2}{n-1}}$$

Here,
X=The value in the data distribution
$\bar{X}$ = The sample mean, and N is the total number of observations.

BETA

A stock's volatility or systematic risk is measured by a stock's beta coefficient in relation to the unsystematic risk of the entire market. If the beta value is 1, the security's price fluctuates with the market. If the beta value is less than 1, the security should theoretically be less volatile than the market. If the beta value is greater than 1, then the security's price should theoretically be more volatile than the market.

$$\text{Beta } (\beta) = \textbf{Covariance } (\textbf{Ri}, \textbf{Rm}) \,/ \textbf{Variance } (\textbf{Rm})$$

Here: Covariance = Measure of a stock's return relative to that of the market
Variance = Measure of how the market moves relative to its mean
R_m = Stock return and Rm = market return

CORRELATION

The degree of relationship between the two variables is determined by correlation. As a result, it is employed to determine whether there is any correlation between the Nepal stock Exchange (NEPSE) index returns and the returns on each individual bank stock.

$$\text{Correlation(r)} = \frac{(Rm - Rm)(Ri - Ri)}{6m.6i}$$

Rm=market rate of return
Rm=Average market rate of return
$6m$= market risk
$6i$= individual stock risk

4. Results & Analysis

The data gathered from various sources was presented and analyzed using a variety of financial and statistical tools.

4.1 Comparison of closing price and rate of return

Table -1 shows the closing price and rate of return of each selected commercial bank from fiscal year 2017/18 to 2021/22 and the rate of return has been calculated on the basis of closing price of each fiscal year.

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Table-1

	NABIL BANK		NICASIA BANK		EBL Bank		Market index	
Year	Closing price	Rate of return(R)	Closing price	Rate of return(R)	Closing price	Rate of return(R)	Closing index	Rate of return
2016/17	1523	0	445	0	1353	0	1583	0
2017/18	920	-38.14	316	-29.1	663	-49.52	1212	-23.44
2018/19	800	-10.65	448	45.41	677	5.13	1274	5.12
2019/20	765	-4.35	553	23.66	693	3.15	1339	5.10
2020/21	1359	78.22	994	79.7	738	7.12	2883	115.31
2021/22	817	-39.03	696	-29.97	439	-39.47	2009	-30.32

Source: Annul Report 2017/18 to 2021/22

Table 1 shows that the prices of all three banks are highly volatile, resulting in their rates of return being volatile as well. The rate of return for NABIL Bank has been negative over the five-years period, except for 2020/21. Similarly, the rate of return for EBL Bank has been slightly positive over three out of the five years. However, NICASIA Bank has the highest rate of return, which has been positive for three out of the five years.

4.2 Comparison of average return, Risk and C.V.

A comparison of return, total risk, and risk per unit is carried out here in accordance with the findings of the analysis part. Selecting reputed and reliable banks for investment is the main goal of such return and risk analyses. For each bank, the expected return, standard deviation of return, and coefficient of variation are provided for the years 2017/2018 to 202/202.

Table -2: Expected Returns, SD. and C.V of each Bank

Bank	Expected Return (ER)	Standard Deviation (б)	Coefficient of Variation (CV)	Return	Risk
NABIL	-2.79	47.93	-17.17	Negative	High
NICA	17.9495	47.73	2.659	Highest	Low
EBL	-14.72%	24.55	-1.67	Negative	Lowest
Market index	14.36	52.51	3.69	Positive(low)	Highest

Based on the revised information provided in Table 2, let's analyze the overall returns, risks, and risk per unit of return for each bank:

NICA Bank:

The expected return from NICA Bank is 17.9495 percent, which is the highest among the three banks. This indicates that investors can expect a relatively higher return by investing in NICASIA Bank.

The standard deviation of NICA Bank is mentioned as 47.73 percent, which represents the risk associated with the bank's returns. Compared to the market's

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maximum standard deviation of 53 percent, NICA Bank's risk is relatively high but still lower than NABIL Bank's risk.

The coefficient of variation (CV) for NICA Bank is mentioned as 2.65, which is the lowest among the banks mentioned. A lower CV indicates a better risk-adjusted return, making NICA Bank a potentially attractive option for investors.

NABIL Bank:

The expected return from NABIL Bank is -2.79 percent, indicating a negative return. Investing in NABIL Bank during the specified period would result in a loss.

The standard deviation of NABIL Bank is mentioned as 47.93 percent, which is relatively high. It indicates a higher risk compared to NICA Bank and suggests that NABIL Bank's returns are more volatile.

The CV for NABIL Bank is mentioned as -17.17, which is negative. A negative CV suggests an inverse relationship between risk and return, implying that the bank's risk is high compared to its return.

EBL Bank:

The expected return from EBL Bank is -14.72 percent, indicating a negative return. Investing in EBL Bank during the specified period would result in a loss.

The standard deviation of EBL Bank is mentioned as 24.55 percent, which is the lowest among the banks mentioned. It indicates that EBL Bank has the lowest risk among the three banks.

The CV for EBL Bank is mentioned as -1.67, indicating a negative risk-adjusted return. However, it's important to note that negative CV values can sometimes be misleading when assessing risk.

4.3 Beta Coefficient (β) of each Bank

Table -3: Beta Coefficient of each Bank

Bank	Beta coefficient	Remarks	Correlation coefficient
NABIL	0.813	Least Aggressive i.e. 1>0.81	0.89
NICASIA	0.7120	Least Aggressive i.e. 1 > 0.71	0.785
EBL	0.38	Least Aggressive i.e. 1 > 0.38	0.82

Here, as shown in Table3, all the three commercial banks NABIL and NICA have lower beta coefficients than the market's beta coefficient. The market beta is always 1. As a result, all the three banks' stocks are safe. The EBL Bank stock has a lowest systematic risk than NABIL's stock and NICA bank, as shown in the above table, because its beta coefficient slightly lower i.e. (038<0.71<0.813). The correlation coefficient between three banks and Market is less than +1, which denotes that they are positively correlated. So, there is no possibility of diversifying risk by making portfolio.

5. Conclusions

It is mentioned that investing in the overall market is riskier, as indicated by the market's higher standard deviation compared to the individual banks. Based on the provided information, NICA Bank has the highest expected return and the lowest CV among the mentioned banks, making

it potentially favorable for investment. EBL Bank has the lowest risk based on its standard deviation value. However, it's essential to consider additional factors and conduct a more comprehensive analysis before making any investment decisions. The study also demonstrates that the chosen commercial banks are overvalued because both of their required rates of return, NABIL, NICA and EBL bank are higher than anticipated rates of return. Investors would therefore be better off choosing to short sell.

In summary, while the lower beta coefficients of the banks suggest potentially lower systematic risk, it's important to consider other factors, such as unsystematic risk and company-specific risks, when assessing the safety and performance of stocks. Additionally, diversification can still provide risk reduction benefits, even if assets are positively correlated. This study also shows that beta coefficient of all three banks has less than 1 which means there is low systematic risk than market and market is more volatile than individua bank.

Discussion

Based on the major findings, the researcher believes it is appropriate to recommend the concerned institutions to individual authorities as well as others in order to consider the following suggestions. Proper analysis of individual stocks, industries, and markets is required before making an investment decision. A general understanding of the general economic situation, government tax policy, national peace and political situation, and other factors that influence share price is required. Individual potential investors currently hesitate to invest in common stock due to a lack of education, awareness, and confidence; as a result, relevant information should be provided to increase their education, awareness, and confidence. In order to protect the rights of individual investors, the government must periodically amend the rules and regulations governing the stock market. The investors who require good returns with low risk can make investment in NICASIA Bank Ltd. shares. Comparing the individual risks, NABIL bank Ltd. is high risky stocks compared to the NICA Bank and EBL bank Ltd. It is suggested that the investors should be careful while investing in high-risk securities. In that regard, the Nepal government must keep an eye on the market and properly set it up.

The businesses and financial institutions should deliver accurate financial statements. In some instances, NEPSE's data and the company's data are different. Potential investors become perplexed about the company's true financial situation as a result. The value of the company's assets and liabilities should not be altered to exaggerate or minimize profitability.

References

Abhinandan, H, K. P., & Nayak, S. L. (2020). Risk and return Analysis of Equity shares with Special reference to companies. *researchgate*, 1-9.

Dr.PremaChandran. (2016). A Study on the Volatility and Returns of the Indian Banking Sector Index with Reference to NSE Nifty". *International Journal of Advance Research in Computer Science and management study, 4*(4), 92-98.

Joghee, M. V. (2021). A Study on Risk and Return Analysis of Selected Banking Securities. *Turkish Journal of Computer and Mathematics Education (TURCOMAT)*, 12(11), 122–127.

Kandel, L. R. (2018). Risk and Return Analysis of Commercial Banks. *A Journal of Management*, 109-110.

Kavya, V. M., Bhavya, V. D., & C, M. M. (2018). A study on risk and return analysis and data Envelopment Analysis of Public and Private Sector Banks. *Srusti Management Review, Vol -XII,*, 10-18.

Moolbharathi, M. R., & Sugandi, M. (2021). A Comparison Study on Risk and Return Analysis ofselected companies with Benchmark Index in NSE. *International Journal of Business and Management Invention (IJBMI)* , 4-11.

PAUDEL, N. P. (2002). INVESTING IN SHARES OF COMMERCIAL BANKS IN NEPAL. *Economic Review: Occasional Paper*, 1-16.

RAJESH, D. E. (2019). NSE NIFTY BANK STOCKS: Risk and Return Analysis. *Journal of Emerging Technologies and Innovative Research (, 5*(6), 252-255.

Rao, D. M., Venkateswararao.Podile, D., & Navvula, D. (2020). RISK AND RETURN ANALYSIS OFSELECTED NIFTY BANKING STOCKS. *European Journal of Molecular & Clinical Medicine*, 1010.

Rohit, P., & Bhavna, V. (2018). The effect of risk return analysis of pharmaceutical companies onIndian Stock market. *International Journal of Engineering and Management Research (IJEMR)*, 130-134.

Savsani, M., & Rathod, U. (2018). Comparative Risk Return Analysis of Bombay Stock Marketwith Selected Banking Stocks in India. *International Journal of Scientific Research in Science and Technology*, 4(5), 908-916.

Zafar, Z., & Siddiqui, D. A. (2020). The Effect of Uncertainty on Stock Returns and Risk-returns (Volatility) Relationship Across Military and Democratic Regimes in Pakistan. *CIKD Publishing*, 24-46.