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Impact of capital inflow on market reaction in Nepal

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Abstract
Examining the impact of Foreign Direct Investment (FDI) and Remittance (REM) on stock returns (Rt) within the framework of the Nepalese economy is the aim of this quantitative research. Based on a methodology that blends descriptive and analytical methods, reliable databases, government documents and scholarly publications are used to examine data from 1996 to 2023. FDI, REM and stock returns are significantly positively correlated, according to correlation analysis. Further explanation of these interactions is provided by regression analysis, which reveals that remittances have a large positive influence on stock returns whereas FDI has no statistically significant effect. Policymakers should give initiatives aimed at increasing remittance inflows top priority in light of these results, which highlight the significance of remittances as a major factor influencing NEPSE performance. The ramifications point to the need for favorable conditions to draw in remittances, well-informed investment choices based on remittance patterns and more research into the variables influencing the relationship between stock returns and remittances to maximize Nepal's economic growth and stock market dynamics.

Keywords: Foreign investment, remittance, stock return

Introduction

Listed firm management teams aim to increase shareholder value via better stock returns, which is the holy grail of every investor. If they want to make smart choices and come up with winning strategies, managers and investors need to know what factors affect stock returns. External shocks, industry trends, corporate performance and macroeconomic conditions might affect stock returns. Changes in interest rates, GDP growth, inflation, and other macroeconomic indicators can affect stock prices and returns and market and investor sentiment. Sector-specific changes like regulation, consumer preferences, and technology can also effect business and market success. Many company-specific factors affect stock returns. Based on factors including sales growth, EPS, profit margins, and dividend policies, investors assess a company's financial standing and future development potential. Thus, perceptions affect stock prices and returns. Changes in management effectiveness, strategic efforts, and corporate governance rules can affect investor confidence, risk perception and stock returns.

FDI happens when individuals, organizations or governments from one country invest in another's enterprises or assets. What distinguishes foreign direct investment (FDI) from portfolio investment, in which investors own stocks and bonds without managerial oversight, is investor authority over the foreign business?

Investment in foreign markets is a common strategy for companies looking to reach a wider audience, increase sales, or take advantage of growth prospects in their target markets. Companies looking to secure access to energy, raw materials, or other manufacturing inputs may invest in countries rich in natural resources. Countries attract foreign direct investment (FDI) is because they offer more favorable tax or regulatory environments, lower labor costs, or both relative to the home country. The adoption of best practices and innovation can be facilitated through FDI, which allows for the movement of technology, expertise and managerial techniques between countries. Gains in GDP, employment, productivity, technology transfer, infrastructure and human resources can all be attributed to foreign FDI. There are a number of possible issues associated with FDI, such as over-reliance on foreign investors, resource exploitation, domestic job losses, pollution and risks to economic stability and national sovereignty.

Most often, persons who transfer money home from overseas jobs do so to support family members or make investments. Call this method remittance. Nepal's economy relies on remittances (REM) for consumption, investment, family income, and growth. Many Nepalese seek better jobs abroad. These include the UAE, Saudi Arabia, Qatar, Malaysia, South Korea and India etc. These migrant labourers may send a large amount of their pay home to Nepal. Many families depend on remittances to overcome poverty, enhance their quality of life and pay for housing, healthcare and education. Remittances influence families and the economy. REM boost expenditure and aggregate demand, boosting economic growth and employment. REM consistently supply foreign currency reserves to central and commercial banks, making them vital to the financial system. In Nepal's financial environment, FDI and REM affect stock returns. REM from Nepali expatriates also influence economic activity, investment, and domestic consumption,

That is the question this study aims to answer. Does Nepal have a correlation between FDI, remittances, and stock returns? Can FDI and REM affect the return of Nepalese stocks?

The objectives of the study are as follows:

- To analyze the current status of FDI, remittance and stock return in Nepal.
- To examine the relationship between FDI, remittance and stock return in Nepal.
- To investigate the impact of FDI and REM on stock return in Nepal.

Review of literatue

Theoretical Review

Jack Treynor, Jan Mossin, John Lintner, and William Sharpe created the Capital Asset Pricing Model (CAPM), which Sharpe expanded upon in his 1970 book Portfolio Theory and Capital Markets. The idea is to anticipate asset returns by examining their association with conventional risk factors. Individual investments are linked to two types of risk. Under the heading Arbitrage Pricing Theory (APT), Stephen Ross published an asset pricing model in 1976 that estimates returns using a linear combination of independent macroeconomic factors. With this method, which considers many risk categories, this can forecast the returns of a portfolio in relation to the returns of individual assets. Separately in the 1960s, Paul, Samuelson, and Fama developed the Efficient Markets Hypothesis (EMH). Their theories of market efficiency cleared the path for further advancements in finance theory. EMH says it is hard to consistently beat the market since market prices take into account all available information. Hymer's 1976 [13] Internalization Theory holds that businesses invest abroad to take advantage of weaknesses in the market and gain control over resources and markets. John Dunning's Eclectic Paradigm Theory (1980) [12] has emphasized how companies utilize their unique advantages to justify foreign direct investment (FDI). There are benefits to this approach with regard to internalization, geography and ownership. Krugman's 1980 [15] Market Imperfections Theory states that differences in factor pricing and trade barriers are examples of market imperfections from which foreign direct investment (FDI) is supposed to stem. Vernon's Product Life Cycle Theory (1992) [35] has said that companies invest abroad to capitalize on the phases of a product's life cycle. Mature items are moved to countries with reduced costs for manufacture. Mengistu and Adams (2007) [18] have investigated multiplier effect theory because they saw that remittances might increase investment, consumption, and economic growth in the economies of the recipients. The Migration and Development Nexus theory, has developed by Taylor and Mora (2006) [30], highlights the ways that remittances and migration contribute to the advancement of society and the economy as well as the reduction of poverty. In 2004 Amuedo-Dorantes and Pozo put out the Household Behavior Theory to explain how remittances influence recipient families' decisions about investing, saving, and spending. As Mohapatra, Joseph, and Ratha (2009) note, financial intermediary theory emphasizes the need of official banking services and financial infrastructure in guiding remittances into development-oriented investments.

Empirical Review

FDI on Stock Return

FDI and stock returns have been studied in many countries and economies. Raza *et al*. (2012) [25] studies how foreign direct investment (FDI) affects stock market growth in Pakistan. In Pakistan's unstable political climate, the study highlights the impact of FDI, local savings, currency rates, and inflation on the stock market. FDI and other variables boost Pakistan's stock market, according to their Ordinary Least Square (OLS) regression research using 1988–2009 time series data. In the midst of political instability, their analysis suggests government policies to build infrastructure and attract foreign direct investment to stabilize the market. Li *et al* (2011) has examined, how significant foreign ownership affects 31 emerging market nations' stock return volatility. Large foreign ownership is negatively correlated with volatility, implying that foreign investment stabilizes markets, which is crucial in unstable times. This study shows that large foreign owners can monitor and stabilize rising nations. On the E7 countries, Topaloglu *et al*. (2019) has evaluated how FDI and foreign portfolio investments affected stock returns between 2005 and 2016. The panel data analysis reveals that FDI negatively correlates with stock market returns, whereas foreign portfolio investments positively and statistically significantly correlate. This shows that foreign investment affects developing market stock returns differently. Foreign institutional investors (FIIs) in India's stock market are important due to political uncertainty, according to Vohra (2013) [36]. Step-wise regression is used to evaluate foreign investment behavior and market volatility. FII inflows are strongly influenced by the BSE Sensex. Yousef (2023) [37] examines the Palestine Exchange (PEX) index and different foreign investments to explain stock market performance. Unlike foreign portfolio investments, which have a significant positive connection with the stock market index, foreign direct investments and deposits have less impact. FDI and FPI attenuate the link between macroeconomic variables, oil prices, and index returns, according to Usman and Siddiqui (2019) [34]. According to their panel regression analysis across eleven sectors, exchange rates and oil prices affect sector-wise price variations, whereas FDI exhibits complicated patterns.

Remittance on Stock Return

A large body of empirical research examines the link between remittances and stock performance across a variety of economic contexts. Qamruzzaman *et al*. (2021) [24] investigate this correlation in the context of the COVID-19 pandemic in Bangladesh using the Autoregressive Distributed Lagged (ARDL) estimate and Toda-Yamamoto Granger causality testing. They found that COVID-19 hurts the stock market, even if remittances are good for you in the long term. In addition, Osoro (2020) [23] has delved into the ways in which diaspora remittances affect the expansion of Kenya's stock market. The data demonstrate that remittances significantly and favorably affect stock market development in short and long run. These studies suggest that remittances benefit emerging economies financially and boost stock markets. Chowdhury, Dhar, and Gazi (2023) [10] have studied how remittances affect economic development in Bangladesh and other low-income Asian border nations. Pooled OLS, fixed effect, and random effect models show that remittances significantly slow Bangladesh's economic growth. This study illustrates that using remittances to fuel spending and investment in unproductive areas may worsen difficulties and hinder the economy.

Research Gap

Previous studies have focused on stock returns (Rt), remittances (REM) and foreign direct investment (FDI), but not sufficient studies has done about Nepal's position. On this, there have been contradictory studies. Remittances were found to benefit stock market dynamics by Qamruzzaman *et al*. (2021) [24], but to harm Bangladesh's economy by Chowdhury, Dhar, and Gazi (2023) [10]. Given this paradox, it is likely that country-specific factors, such as the state of the economy and policy, will determine the relationship between remittances and stock returns. This contradiction highlights the importance of understanding how remittances and foreign direct investment affect the Nepalese stock market. The purpose of the proposed study is to close this knowledge gap and address discrepancies so that Nepali officials and investors may better comprehend the intricate relationship between FDI, remittances, and stock returns.

Conceptual Framework

Targeted study questions of researcher, data collection and analysis are all guided by the conceptual framework (Thapa, 2023) [31]. It helps to generate logical conclusions from study data. The conceptual framework provides background to prior literature and contemporary theoretical notions, therefore explaining the importance and influence of the research.

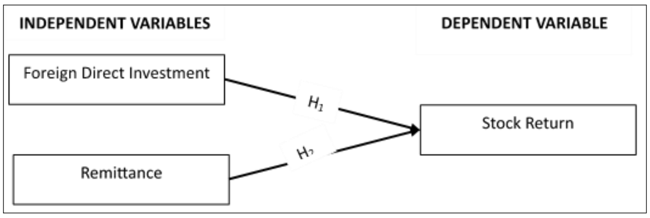

Fig 1: Conceptual Framework

Hypothesis

A hypothesis is an unproven assertion that proposes a link between variables or an explanation for an observed occurrence. Observations, preexisting theories, or previous research results serve as the basis for the formulation of hypotheses in scientific inquiry. Here are the research hypotheses:

- **H_1:** The influence of FDI on the rate of return of stocks in Nepal is substantial.
- **H_2:** The influence of REM on the rate of return of stocks in Nepal is substantial.

Methodology

This quantitative study used descriptive and analytical methodologies to examine how FDI and remittances have influenced the Nepalese stock market return. Secondary time series data for 1996–2023 comes from Ministry of Finance (FOM), Quarterly Economic Bulletin (QEB) of Nepal Rastra Bank (NRB) and scholarly publications. Foreign direct investment (FDI), remittances and stock return has taken as natural logarithms because of stationarity. Correlation analysis studies the interconnection between FDI, remittances, and stock returns, whereas descriptive statistics define data features. Multiple regression analysis accounts for relevant factors to assess their impact. The Augmented Dickey-Fuller (ADF) test assures data stationarity, while remainder diagnosis tests serial correlation LM test, Variance Influence Factor (VIF) test, heteroscedasticity test, Jarque-Bera normality test has verified the regression model assumptions. CUSUM charts has showed structural changes over time.

Result and discussion

Result Analysis

Table 1: Descriptive Analysis

Variables	Maximum	Mean	Minimum	Std. Dev.	Skewness	Kurtosis	N
Rt	2883.41	817.2704	163.35	700.8119	1.215272	3.86749	28
FDI	19512.72	5534.005	-469.7	6754.034	1.03333	2.642478	28
REM	1220560	362861	3710.5	382201.4	0.720246	2.131467	28

Three crucial factors are highlighted by the descriptive analysis done for the research on stock returns (Rt), Foreign Direct Investment (FDI) and Remittance REM. The data for Rt has a significant range, with a low of 163.35 and a high of 2883.41. The standard deviation of 700.81 indicates that there is a significant lot of variance around the mean, even if the mean is 817.27. Positive kurtosis (3.87) and positive skewness (1.22) both indicate a distribution with heavier tails and a tendency towards higher values. Furthermore, FDI is very variable, with a range of -469.7 to 19512.72; the average is 5534.005, and the standard deviation is 6754.034. The positive skewness (1.03) and positive kurtosis (2.64) repeatedly indicate a skew towards bigger values and heavier tails. Remittance data also exhibits significant fluctuations, with a peak of 12, 20560, a low of 3,710.5, and an average of 362861. With a standard deviation of 382201.4, there seems to be a lot of variance. Positive skewness (0.72) and positive kurtosis (2.13) both indicate a skew towards higher values and heavier tails. Each variable was calculated using a total of 28 observations, which establishes the foundation for further investigation into their impact on Nepalese stock returns.

Table 2: Correlation Analysis

Variables	LnNI	LnFDI	LnREM
LnRt	1.00		
LnFDI	0.66	1.00	
LnREM	0.87	0.79	1.00

The study links LnRt, LnFDI and LnREM. The correlation coefficients may reveal the type and direction of these linkages. First, LnRt and LnFDI have a positive linear correlation value of 0.66. While not necessarily proportionate, Stock returns grows with Foreign Direct Investment.

The correlation value of 0.87 shows a significant positive linear connection between LnRt and LnREM. It seems that Stock returns increases with remittances, indicating a link. Finally, the correlation value of 0.79 between LnFDI and LnREM indicates a significant positive linear association.

Table 3: Regression Analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LnFDI	-0.031	0.096	-0.317	0.754
LnREM	0.416	0.080	5.222	0.000
C	1.739	0.595	2.923	0.008
R-squared	0.756	F-statistic	32.502	P=00

Dependent Variable Stock Return (LnRt)

Equation, Rt = $\alpha + \beta_1 FDI + \beta_2 REM + \varepsilon_t$Rt =
$1.739 - 0.031FDI + 0.416REM + \varepsilon_t$

The research links between LnFDI, LnREM and stock return in Nepal. Regression analysis illuminates this link. A regression coefficient shows how each independent variable FDI and REM affects dependent variable stock return. We have a t-statistic of -0.317, a standard error of 0.096, and a p-value of 0.754 for the -0.031 LnFDI coefficient. The coefficient is close to 0 at conventional significance levels, showing that the natural logarithm of FDI does not significantly affect stock return. Alternative, LnREM has a p-value of .00, t-statistic of 5.22, standard error of 0.08, and coefficient of 0.416. Natural logarithm remittances and Nepalese stock returns are positively and statistically significant correlated. As the coefficient is positive and the p-value is below 0.05, remittances seem to positively correlate with stock returns. The coefficient of FDI on stock return (-0.031) suggests that for every 1% increase in foreign direct investment (FDI), stock returns decrease by 0.031%. Meanwhile, the coefficient of Remittance on stock return (0.416) indicates that for every 1% increase in remittances, stock returns rise by 0.416%.

	Statement	Outcome	Remarks
H1	FDI significantly affects Nepalese stock returns.	B=-0.031, p=0.75	Rejected
H2	REM significantly affects Nepalese stock returns.	B=0.416, p=.00	Accepted

The intercept term (C) coefficient is 1.739, the standard error is 0.595, and the t-statistic is 2.923, providing a p-value of 0.008. This intercept indicates the projected stock return when LnFDI and LnREM are zero. Even without FDI and remittances, a statistically significant intercept shows a positive projected stock return. The model fit given by the R-squared value of 0.756 shows that LnFDI and LnREM explain 75.6% of stock return variability. F-statistic 32.502 and p-value 0.00 indicate statistical significance of the overall model. Finally, regression analysis demonstrates that remittances positively and statistically significantly affect Nepalese stock returns, whereas FDI does not. All of this suggests that remittances drove Nepal's stock market performance.

The findings of our diagnostic testing were encouraging: A score of 0.68 on the Serial Correlation LM test indicates that there is no serial correlation. All variables' VIF values are less than 5, indicating the absence of multicollinearity. A result of 0.76 from the Jarque-Bera test suggests that data is distributed normally. With a heteroscedasticity score of 0.49, homogeneity is indicated. CUSUM test confirmed that the model is stable. Our statistical analysis is supported by these results, which strengthen the credibility of the study.

Discussion

The study examines the impact of FDI and REM on stock return in Nepal. For this, regression analysis was used. Remittances positively and statistically significantly affect stock return, whereas FDI does not. FDI negatively and statistically insignificant effects on stock return with the consistency result of Kapoor and Sachan (2015) [14], Odo, Anoke, Nwachukwu and E Agbi (2016) [22], Abdouli and Hammami (2017) [1]. However, Osoro (2020) [23], Billmeier & Massa (2009) [9], Shahzad, Adnan, Sajid & Naveed (2014) [27], and Ali (2011) all found that remittances positively and significantly affect stock returns, proving that FDI has little impact on Nepal's stock market. Remittances boost stock returns, thus investors and authorities in Nepal should monitor them as an important component in the stock market. If academics analyze the reasons behind these links, they should examine other variables affecting Nepal's stock returns.

Conclusion and implications

Conclusion

This research article uses regression and correlation analyses to explore the dynamics of the connection of FDI and REM with stock returns in Nepal. Correlation research revealed a strong positive linear relationship between FDI and stock return and connection between remittances and stock return. The regression study showed that remittances significantly affected stock return, whereas FDI did not. Remittances constitute a big factor in Nepalese stock market. Even though FDI and stock returns aren't substantially associated, investors and policymakers should design measures to boost stock market using remittances.

Implications

The importance of these results is considerable. With the major favorable effect on stock returns, governments must give top attention to fostering an environment that promotes and facilitates remittance inflows. Taking actions to improve the effectiveness, accessibility, and transparency of the remittance channels could be part of this strategy.

Second, information on remittances benefits financial advisors and investors. Remittance, a consistent indicator of Nepal's stock market success, may enable investors to increase stock returns by choosing more prudent investments. Research on the factors influencing stock returns and remittances in Nepal could be useful for next studies. The stock market in Nepal has to be boosted by better economic policies and investment strategies. Further background and modification of this relationship may come from other sources.

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