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Original Article

Do Remittances Influence Capital Market Development? Evidence from the Nepal Stock Exchange

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Abstract

Remittances are a significant source of income for many developing countries, including Nepal, where they contribute significantly to GDP. These inflows influence household consumption, savings, and further they may impact capital market activities. This study explores how remittances affect stock market performance, focusing on the stock market performance. The aim is to assess both short- and long-run effects of remittances on market growth, liquidity, and investor behavior. Using monthly time series data from June 2010 to July 2024, the study employs a quantitative approach with econometric models, including "co-integration tests, Vector Autoregression (VAR), Wald tests, and Granger causality analysis". Data were collected from secondary sources such as "the Nepal Stock Exchange, Nepal Rastra Bank, World Bank, and listed companies' financial reports". The analysis was conducted using EViews 10. The findings reveal that the optimal lag length is 1. Co-integration tests show no long-term relationship between remittances and the stock market. The VAR model results indicate that remittances have no significant short-run impact on the Nepse index, which is largely influenced by its own previous values. The Wald test approves that remittance lags do not jointly affect the index. Granger causality tests reveal no causal link from remittances to the stock index, though the index may slightly influence remittance flows. This study adds new understandings to existing literature and provides policy implications for enhancing the role of remittances in Nepalese capital market development.

Keywords: *Nepal Stock Market Dynamics, Johanson Cointegration, Vector Autoregression, Remittance.*

JEL Classification: *G11, G12, G14, G41*

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Introduction

Remittances have become a significance source of income for many developing countries. They provide a steady flow of foreign exchange and significantly contribute to national revenue. In Nepal, remittance inflows make up a large part of the national' GDP. These inflows not only support household consumption but also affect macroeconomic activities, including the capital

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market.

According to the Life-Cycle Hypothesis (Friedman, 1957), publics plan their consumption and savings based on expected future income. In this context, remittances received by households' goods can lead to increased savings, which may be invested in the stock market. In a country like Nepal, remittances can encourage more households to participate in the stock market.

The stock market plays a key role in a national economic growth by helping to mobilize capital and offering investment opportunities. A healthy and liquid stock market supports long run growth by channeling funds into productive sectors. However, in emerging markets, stock market often suffers from limited liquidity, high volatility, and low investor participation. Remittance inflows support to address these challenges by boosting savings, increasing investment, and improving participation in financial markets.

Thapa (2023a) studied that remittances in Nepal lead to bigger household savings and increased investment in stocks. This enhancements liquidity, influences trading volume, and affects investor confidence. Similarly, Issahaku et al. (2017) found the link between remittances, banking sector growth, and stock market development. The study findings show that in low-remittance countries, remittances can hinder equity market development, while in countries that depend heavily on remittances, they support market growth. In developing countries, remittances and stock markets may influence each other.

Although remittance inflows are rising, their exact influences on stock market performance is still unclear, especially in developing nations like Nepal. Most research so far has focused on the wider economic impact of remittances, not on specific stock market consequences like growth, liquidity, or volatility. This study aims to fill that gap by examining how remittance inflows affect the Nepal Stock Exchange (NEPSE), with a focus on their role in stock market growth and investor behavior. The key research questions include: Do remittance inflows significantly influence the growth of the NEPSE index? and, Is there a causal link between remittances and stock market returns? The purpose of this study is to explore how remittances impact stock market performance and whether they can be considered a major factor in determining stock market trends in Nepal. The research uses monthly time series data to examine long- and short-term relationships, applying econometric models including Granger causality, co-integration tests, the Johansen approach, and the Wald test methods not commonly used in earlier studies. By doing so, this research aims to deepen the understanding of remittance impacts on capital markets in emerging economies and provide useful insights for policy makers. The structure of the paper is as follows: Section 1: Introduction, Section 2: Literature Review, Section 3: Data and Methodology, Section 4: Empirical Results, Section 5: Conclusion and Policy Recommendations

Review of Literatures

Past studies have shown that remittances support to improve stock market performance in developing countries. Remittances do so by reducing market volatility, increasing liquidity, and encouraging more people to invest. According to Portfolio Theory (Gunzberg, 2008), investors diversify their assets to reduce risk. In developing countries, remittance recipients choose to invest part of their money in the stock market, increasing market liquidity and depth. In Nepal, rising remittance inflows may encourage households to invest in stocks, helping to expand the capital market. Economic Growth Theory, introduced by (Solow, 1956), highlights the role of financial markets in driving economic development. In this context, remittances enhancement savings, which increases the funds available for stock market investment.

Thapa (2025) examined in the Nepalese context, remittances are a major source of capital that supports such investment and positive long-term link between remittances and stock market growth in Nepal, mainly through increased savings and investment. Azizi (2020), using data from 124 countries, showed that higher remittances lead to more bank deposits, domestic credit, and financial development. Ho (2019) observed that in African countries, remittances enhance market liquidity, though the impact depends on the country's financial infrastructure. Billmeier and Massa (2007) found that remittances reduce stock market volatility during downturns. Shrestha and Bhatta (2018) agreed, noting a stabilizing role of remittances in Nepal. Hosseini et al. (2011) showed that remittances improve liquidity in countries like India, Nepal, and Pakistan.

Hsing (2014) sightsaw macro-economic determinants affecting stock market. The study reveals a positive association between Hungarian and Estonian stock markets with real GDP, debt/GDP ratio, and the German stock index, while adverse correlations were found with interest rates, expected inflation, and euro area government bond yields. Thapa (2023b) found that while remittances affect Nepal's stock market, the index is mostly influenced by its own past values and exchange rates. Anh (2015) concluded that remittances help stock market development, showing a two-way causal relationship. Lingaraja et al. (2020) found short-term links between Asian and developed stock markets, supporting diversification for global investors. Shrestha and Bhatta (2018) emphasized that remittances increase available capital for stock investments. Thapa (2019) found that remittances reduce market volatility in Nepal, especially during economic crises. Aremo et al. (2020) showed that in emerging Asian countries, remittances boost stock market liquidity and attract more investors.

Research Materials and Methods

This study adopts a quantitative research approach, integrating longitudinal and time series analysis to examine the relationship between remittances and the stock market index in Nepal. The key objective is to explore how the remittance interacts with market over time. The analysis depends on secondary data sourced from reputable institutions, including "the Nepal Stock Exchange, Nepal Rastra Bank, Securities Board of Nepal, World Bank publications, and financial statements of listed companies". These data sources span the period from June 2010 to July 2024, capturing approximately 170 monthly observations. Where necessary, field visits were conducted to supplement the data collection process. The data analysis was performed using Microsoft Excel and EViews 10. The study applies various econometric techniques, such as stationarity testing, lag length determination, cointegration analysis, Vector Autoregression (VAR) modeling, Wald tests, Granger causality tests, and variance decomposition. These tools facilitate the identification of causal and dynamic interrelationships among the selected macroeconomic indicators. The methodological process begins with checking whether the variables are integrated of order one (I(1)), followed by selecting the optimal lag length. It then assesses the existence of cointegration among the variables before employing the VAR model to capture short-run dynamics. By utilizing the VAR framework, the study provides a detailed analysis of the temporal linkages between remittance inflows and stock market movements in the Nepalese context.

Results and Discussions

Researchers have long discussed how changes in remittance inflows affect the economy. Several studies have found a link between remittances and movements in stock prices. Table 1 shows the results of lag order selection based on three criteria: SC, AIC, and HQ. All three suggest that the best lag length for the model is 1, as shown by the asterisks. While the Log L values improve as the number of lags increases, the L R test indicates that adding more lags beyond 1 does not significantly improve the model.

Table 1:

Lag-Order-Selection-Criteria for Remit to Index

Lag	Log L	LR	FPE	AIC	SC	HQ
0	-4573	NA	2.02e+17	46	47	46
1	-3675	1769.2	2.77e+13	37*	37*	37*
2	-3669	10.7	2.73e+13	37	37	37
3	-3664	9.4	2.70e+13	37	37	37

Source: Author Calculation by using Eviews-10

The FPE values become slightly smaller with more lags, which suggests a better fit. However, AIC, SC, and HQ confirm that using lag 1 gives the most efficient model.

Table 2 presents outcome from a co-integration test assuming a linear trend. The analysis focuses on two variables remit and index and uses their first differences with lag intervals from 1 to 3. The Johansen Trace and Max-Eigenvalue tests were used to determine if there is a long-term relationship between them. The null hypothesis (no

co-integrating relationship) is tested, and the results show weak evidence of co-integration.

Table 2:

Trace and Max-Eigen Value Tests of Remit to Index

Lags interval (in first differences): 1 to 3				
Hypothesized No. of CE(s)	Trace values		Max-eigen values	
	None	At Most 1	None	At Most 1
Eigen value	0.03	0.02	0.04	0.01
Trace Statistic	9.32	2.52	6.82	2.52
0.05 Critical Value	15.4	3.84	14.3	3.84
Prob.**	0.33	0.12	0.53	0.11

The eigenvalues are small (0.03 and 0.01), and the trace statistics (9.32 and 2.52) are under the critical values at the 5% level (15.49 and 3.84). Since the test fails to reject the null hypothesis, the result suggests there is no long-term equilibrium between remittance and the stock index. Therefore, a VAR model is suitable for analyzing the short-term relationship.

Table 3 displays the results of the Vector Auto-Regression (VAR) model analyzing the impact between remittances and the Nepalese stock index. The results exhibits that remittances do not have a short-term impact on the stock index. The t-values for the lagged remittance variables are not statistically substantial, which means they do not explain changes in the index in the short-term. On the other hand, the past values of the stock index (Lindex) have a stronger influence on its current value. Specifically, the t-value for Lindex (-1) is high (15.95), showing a strong and significant effect.

Table 3:

Results of VAR Estimation of Index and Remit

Variables	L index	L remittance
Lindex (-1)	1.124	0.18
	(0.07)	(0.21)
	[15.95]	[1.32]
Lindex (-2)	-0.058	-0.48
	(0.11)	(0.19)
	[-0.55]	[-2.39]
Lindex (-3)	-0.083	0.307
	(0.07)	(0.13)
	[-1.17]	[2.32]
Lremit (-1)	0.058	0.68
	(0.03)	(0.07)
	[1.68]	[10.5]
Lremit (-2)	-0.061	-0.084
	(0.04)	(0.08)
	[-1.43]	[-1.03]
Lremit (-3)	0.011	0.368
	(0.03)	(0.07)
	[0.34]	[5.65]
C	0.033	0.33
	(0.07)	(0.14)
	[0.45]	[2.39]

Source: Author Calculation by using Eviews-10

While L remit (-1) and L remit (-3) show relatively high t-values in the remittance equation, their impact on the

stock index equation is limited. This means remittances may follow their own trend but do not significantly affect the stock market index. The constant terms are 0.033 for the index and 0.33 for remittances. These numbers indicate the base level of each variable in the absence of other influences. The R-squared values are 0.98 for Lindex and 0.96 for L remit. This means the model explains 98% of the variation in the stock index and 96% in remittances, indicating a good fit. The short-term effect of remittances on the Nepalese stock index is not statistically significant. The stock index is more influenced by its own past movements than by remittance inflows. Table 5 presents the results of the Pairwise Granger Causality Test, which observes whether one variable can help predict the other. The test is used to examine if remittances have a causal effect on the Nepalese stock index and vice versa. The two hypotheses are: H_0: "Remittances do not cause changes in the stock index" and H_1: "The stock index causes changes in remittances".

Table 5:

Pairwise Granger Causality Tests of Remit on the Stock Market Performance

Null Hypothesis:	Obs	F-Statistic	Prob.
L remit Does Not Granger Cause L index	207	1.21	0.31
Lindex Does Not Granger Basis L remit		2.13	0.09

Source: Author calculation by using Eviews-10

According to the table, both prob. - values are higher than the standard significance level of 0.05. The p-value for "L remit does not Granger cause Lindex" is 0.31, which means that cannot reject the null hypothesis. This indicates "that remittances do not have a significant effect" on the stock index. For the reverse direction, the pro-value is 0.09. Although it is greater than 0.05, it is still close. If the researcher uses a 10% significance level (alpha = 0.10), then the result may recommend that the stock index does influence remittances. In nutshell, remittances do not origin changes in the Nepalese stock index. However, the stock index may have a weak influence on remittance flows, depending on the significance level chosen.

The lag length model, the optimal lag, based on AIC, SC, and HQ criteria, is found to be 1. Adding more lags does not significantly improve the model's performance. Second, the co-integration analysis displays no evidence of a long-term relationship between remittances and the Nepalese stock index. The test fails to reject the null hypothesis of no co-integration. Third, the results from the VAR model show that remittances do not have any short-term effect on the stock index. Instead, the index is mainly influenced by its own previous values. Fourth, the Wald test results show that the lagged remittance values do not mutually affect the stock market at the 5% significance level, confirming the lack of short-term impact. Finally, the Granger causality test suggests that remittances do not changes in the stock index. However, the stock index may have a marginal effect on remittances, depending on the chosen significance level.

Previous research has revealed mixed results on how remittances affect stock market performance. This study adds to that discussion by showing that, in Nepalese case, remittance inflows do not have a significant short-term impact on the stock market. This finding challenges some former studies that reported a stronger connection between the two variables. While some historical studies suggest that remittances help increase market liquidity and reduce volatility especially in developing countries this study sightings limited short-term influence. For example, Thapa (2025) reported a positive long-term association between remittances and the stock market. Similarly, Azizi (2020) found that remittances enhancement domestic credit and market depth, while Ho (2019) highlighted their role in improving liquidity. These studies recommend the idea that remittances can stabilize markets, especially during economic downturns. Billmeier and Massa (2007), as well as Shrestha and Bhatta (2018), also pointed out the calming effect of remittances on stock markets. This view brings into line with the current study's suggestion that remittances may help reduce market volatility, even if their immediate statistical effect is limited. However, this study's co-integration test did not find a long- run relationship between remittances and the stock index. The weak eigenvalues and high pro-values in the Trace and Max-Eigen Value tests suggest that remittances do not lead to long-term stock market growth. Additionally, while some former studies, such as those by Anh (2015) and Thapa (2023b), found two-way causality between remittances and the stock market, this

study's Granger causality test does not align that. Instead, it suggests that the stock market may slightly influence remittance flows, which is the opposite of what many past studies concluded.

Conclusions

This study examined how remittance inflows affect the Nepalese stock market. The study aims to fill a key gap in the existing research. It used the various econometric tools such as VAR models, co-integration tests, and Granger causality tests. The study investigated both short-term and long-term relationships between remittances and stock market performance. The findings show remittances do not have a significant short-term impact on the Nepalese stock market. The analysis revealed that the stock market is mostly influenced by its own previous values, with remittances having only a minor role in its fluctuations. Additionally, the co-integration test did not find any long run equilibrium relationship between remittances and the stock market. This result challenges earlier claims that remittances enhancement long-term market growth through increased household savings and investments. Granger causality tests also established that remittances do not cause changes in the stock market index. On the contrary, there is minor evidence suggesting that the stock index may influence remittance flows. This opposes previous research that anticipated a two-way relationship between remittances and stock market development. These findings suggest that while remittances may encourage general economic stability but it does not significantly contribute to stock market growth in Nepal. Therefore, policymakers should focus on strengthening financial systems, enhancing investor trust, and deepening equity markets to make better use of remittance inflows for economic development. In nutshell, this study offers new insights into the limited role remittances play in influencing stock markets in developing countries like Nepal. This study suggests that policymakers should prioritize improving investor confidence, financial infrastructure, and market depth to attach the potential of remittances for capital market development. The study is limited with the remittance and equity market. The researcher suggest to incorporate other important macroeconomic variables, company specific variables, and investors' perception on the stock market performance.

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