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Research paper

Short-Run Costs, Long-Run Gains? The Remittances and Economic Performance in Nepal

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Abstract

The study examines the role of remittances in determining Nepal's economic performance during the post-democratization era. Using annual time-series data from 1991 to 2022, the analysis applies the Autoregressive Distributed Lag (ARDL) bounds testing framework combined with an Error Correction Model (ECM) to capture both short-run and long-run relationships between remittance inflows and economic performance, proxied by real GDP per capita. The findings present mixed evidence: remittances exert a negative and statistically significant impact in the short run, whereas in the long run they exhibit a positive and statistically significant association with economic growth. This pattern reveals inefficiencies in remittance utilization and calls for policies to promote productive investment. Specifically, in the short run, remittances are largely directed toward household consumption rather than productive investment, which can limit their immediate contribution to economic performance. At the same time, remittance inflows may lead to real exchange rate appreciation, weaken export competitiveness through Dutch Disease effects, and reduce labor force participation by encouraging income complacency. These results underscore the need for policy interventions that strengthen institutional governance and promote financial literacy among remittance-receiving households to maximize the productive use of remittance inflows. In addition, fostering public-private partnerships can help channel remittances into productive sectors, thereby enhancing their developmental impact on Nepal's long-term economic performance.

Keywords: *ARDL Method; Economic Performance; Post-Democratization; Remittance; Nepal.*

1. Introduction

The role of remittances in driving financial expansion remains a central theme in contemporary economic discourse. In Nepal, the importance of remittances grew after 1993, driven by a sharp increase in labor migration to Gulf countries for employment opportunities. Today, remittances are widely recognized as a vital source of poverty alleviation in developing economies. For instance, evidence from a study reveals that a 10 percent increase in per capita remittances leads to a 1.3 percent reduction in deprivation levels, a 2 percent decline in deprivation severity, and a 3.12 percent decrease in poverty intensity (Garcia-Fuentes et al., 2025).

Many researchers investigated the nexus between remittance and economic performance, producing mixed findings. Research by Inoue (2024), Ojeyinka and Ibukun (2024), and Nahar (2025) highlights the positive impacts of remittances, including poverty alleviation, increased household consumption, and greater investments in education and healthcare. In contrast, studies by Nguyen et al. (2022) and Periola and Salami (2024) identify potential adverse effects, such as dependency, reduced labor force participation, and distortions in the real value of exchange. Further, Shakya and Gonpu (2021) found no significant contribution of remittance to economic performance. Hence, despite numerous empirical investigations, scholars have no common conclusion regarding the contribution of remittances in fostering economic performance. Therefore, this ongoing debate encourages further exploration of the topic from a fresh standpoint.

The Nepalese economy heavily relies on remittances, which have been a major funding source for its development activities in infrastructure, education, and health sectors. As of 2025, Nepal has been receiving formal remittances for 30 to 35 years, starting from the early 1990s, marking approximately USD 120 billion. Despite this sustained inflow of remittances, Nepal continues to rank among the least prosperous nations globally, accompanied by the lowest real GDP per capita income of 1,080 US dollars. Twenty-three percent of citizens are unable to read and write, more than 100,000 students move to different nations for quality education, and almost 3000 youth leave the country for job opportunities. Still, one fourth of Nepali people reside below the country's deprivation standard. Additionally, the Department of Foreign Employment of Nepal (DOFE, mid-July 2024 to mid-March 2025) reported that an average of 2,225 Nepalese leave the nation every day for overseas employment due to limited job opportunities domestically.

It reveals that remittance plays an essential part in Nepal's economic performance. Furthermore, as reported by the Nepal Rastra Bank's report from mid-July to mid-December 2024, remittance inflows increased by 4.4 percent to NPR 640.43 billion (approximately USD 4.73 billion) in contrast to the same timeframe. As Adhikari (2022) argues, persistent political instability in Nepal has weakened institutional capacity and limited the effectiveness of development planning, creating a situation where labor migration becomes an economic necessity

rather than a choice. Sharma and Paudel (2023) highlight that systemic corruption in Nepal's bureaucracy has discouraged entrepreneurship and foreign investment, pushing more workers abroad. This paper seeks to deliver recommendations to policymakers on prioritizing the formation of work opportunities and the proper utilization of remittance inflows to maximize economic outcomes.

This study aims to inspect the influence of remittance inflows on Nepal's economic performance using time-series data from 1991 to 2022, employing the ARDL model. The period from 1991 onwards is particularly significant, as democracy was re-established, and further it marks Nepal's economic liberalization and increased labor migration. This period captures the post-democratization era and provides a precise assessment of remittances' role in driving economic expansion in Nepal. This study is based on the Augmented Solow framework, which provides a robust empirical strategy for Nepal's heavy reliance on remittance inflows as a driver of investment, consumption, and productivity improvements. The ARDL model is performed, which is particularly suitable for small samples as it efficiently estimates both short-run and long-run nexus despite requiring all variables to be stationary at the same order. Moreover, ARDL mitigates issues of multi-collinearity and autocorrelation, reduces small-sample bias, and delivers robust and reliable results, making it highly effective for analyzing economic relationships in data-constrained contexts like Nepal.

2. Literature Review

The role of capital accumulation is considered a fundamental driver for economies. Remittance, in this regard, is often perceived as a catalyst for the economy and a mechanism to mitigate poverty and income inequality by supplying resources necessary for investment in education, health, and business sectors. Harrod (1939) and Domar (1946) emphasized that both domestic and external sources of capital accumulation serve as engines of economic expansion. Extending this line of thought, Solow's neoclassical growth model (1956) underscored the pivotal role of the savings rate and capital stock in determining long-term growth trajectories. Building on these perspectives, Chenery and Strout's "Two-Gap" model (1966) demonstrated how deficiencies in domestic savings and foreign exchange constrain development in low-income economies, thereby highlighting the significance of remittances in bridging these gaps. Moreover, subsequent contributions by Bacha (1990) and Taylor (1994) recognized a fiscal deficit, where governments in developing countries lack adequate resources to draw from the inflow of foreign currency. All these theoretical insights establish foreign aid as a critical instrument for alleviating structural constraints, closing resource gaps, and promoting sustainable economic growth in developing economies.

Remittances play a crucial role in financing small businesses, education, and healthcare, thereby fostering economic development (Salike et al., 2022; Shah and Subedi, 2025). Internal factors such as extreme unemployment, inadequate industrial capacity, and limited economic opportunities drive labor migration in Nepal (Shrestha, 2022; Tulachan and Shah, 2025). Ojeyinka and Ibukun (2024), using both static and dynamic panel data methods with observations from 1990 to 2021, confirm that remittances play a pivotal role in economic performance. Both external and internal economic factors, including several determinants, hold a key influence over the field of remittances. Outside determinants such as labor demand and wage levels in target nations directly impact the volume of remittances inflow. For many developing nations, remittances serve as a critical lifeline, often proving more stable than other forms of external capital flows. It contributes significantly to poverty reduction, domestic welfare, and macroeconomic stability (Garcia-Fuentes et al., 2025).

Chaudhary (2022) examined the effect of remittance on Nepal's economy by applying the ARDL approach. The results indicate a positive impact of remittances on GDP. Panthi and Devkota (2024) examined the influence of remittances in the Nepalese economy, noting Nepal's status as a highly remittance-dependent country. Their findings revealed a positive and significant impact on economic progress, even though the majority of remittance inflows are directed toward consumption rather than capital investment. Nahar (2025) found that remittance inflows contribute more to reducing the deprivation headcount than the deprivation gap, underscoring their strong poverty-alleviating effect in emerging economies.

However, on the other side, Banjara et al. (2020) found that remittance hurts the productive sector of the Nepalese economy. Shakya and Gonpu (2021) investigated the contribution of remittance in Nepal's economic performance since it serves as one of the major sources of foreign exchange and makes available funds for small-scale businesses. The study found no significant contribution towards economic progress.

Although theoretical perspectives suggest that remittances can influence economic performance through multiple channels, empirical evidence remains inconclusive, with studies reporting positive, negative, or insignificant effects. This lack of consensus has motivated further investigation. Addressing this gap, the present study advances the literature by explicitly distinguishing between short-run and long-run effects of remittances using post-democratization annual time-series data for Nepal covering the period 1991 - 2022. By integrating remittances into an augmented Solow performance framework and estimating the model using the ARDL bounds testing and error correction methodology, the analysis reconciles conflicting findings in the existing literature and provides updated, policy-relevant evidence on how remittances shape Nepal's economic performance across different time horizons. This study enriches the existing literature by providing updated empirical insights into the nexus between remittances and the economic performance of Nepal.

3. Research Methodology

This study employs an augmented Solow performance framework to examine the impact of remittances on Nepal's economic performance. The standard Solow model (Solow, 1956) expresses aggregate output as a function of physical capital, labor, and technological progress. To capture country-specific performance determinants, Mankiw et al. (1992) extended the model by incorporating human capital. Building on this approach, the present study further augments the model by explicitly including remittances as an additional input to production. Remittances are treated as an external source of productivity improvement, reflecting their crucial role in Nepal's economy (Singh and Pradhan, 2023).

The general production function is given as:

$$Y_t = A_t K_t^{\alpha} L_t^{\beta} \quad (1)$$

Where Y represents the aggregate output, K denotes the capital stock, and L indicates the total labor force. A capture the total factor productivity (TFP), reflecting technological progress and efficiency in resource utilization.

Remittances accelerated productivity through capital accumulation, investment in human capital, financial development, and knowledge transfer in Nepal. Therefore, TFP is expressed as a function of remittances:

$$A_t = f(Rem_t) \quad (2)$$

Substituting into the production function gives the remittance-augmented Solow performance model:

$$Y_t = f(Rem_t)\, K_t^{\alpha} L_t^{\beta} \quad (3)$$

Taking natural logarithms for empirical estimation:

$$\ln (RGDP)_t = \beta_0 + \beta_1 \ln (REM_t) + \beta_2 \ln (GCF_t) + \beta_3 \ln (TLF_t) + \mu_t \quad (4)$$

Where RGDP, Rem, GCF, and TLF are proxied by real GDP, workers' remittances, capital stock, and total labor force in Nepal, respectively. All variables are transformed into natural logarithms for empirical estimation. The model includes an error term (μ) and a time index (t), while β_0 denotes the constant term, and β_1, β_2, and β_3 are the estimated coefficients. Annual time-series data covering the period 1991 to 2022 are employed, corresponding to Nepal's post-democratization era. All data are sourced from the World Development Indicators (World Bank). A summary of variables, proxies, measurement units, and data sources is presented in Table 1.

Table 1: Summary of Variables

Factors	Proxy	Description	Source
Economic Performance	RGDP	GDP per capita (constant 2015 US$)	WDI, WB
Remittance	REMI	Individual remittances achieved	WDI, WB
Capital Stock	GCF	Gross capital formation (percent of GDP)	WDI, WB
Total labor force	TLF	Labor force, total	WDI, WB

Source: WDI, WB stands for World Development Indicators, World Bank (2025). The provided data is available for download at https://home.nrb.org.np/. https://databank.worldbank.org.

To examine both short-run and long-run dynamics, the study employs the Autoregressive Distributed Lag (ARDL) method developed by Pesaran et al. (2001). The ARDL framework is well-suited for small samples and allows for a mixture of I(0) and I(1) variables, provided none are integrated of order I(2). The unrestricted error correction model (UECM) is estimated to test for the existence of a long-run relationship among the variables using the bounds testing procedure, as specified in equation (5).
Once cointegration is confirmed, the corresponding Error Correction Model (ECM) is estimated through equation (6) to capture short-run dynamics while maintaining the long-run equilibrium relationship. The coefficient of the error correction term indicates the speed of adjustment toward the long-run equilibrium following short-run shocks.
The equation of the Bounds Test (UECM) is specified as:

$$\Delta \ln (RGDP_t) = \delta_0 + \sum_{i=1}^{p} \delta_{1i} \Delta \ln(RGDP_{t-i}) + \sum_{i=0}^{q} \delta_{2i} \Delta \ln(REM_{t-i}) + \sum_{i=0}^{r} \delta_{3i} \Delta \ln(GCF_{t-i}) + \sum_{i=0}^{s} \delta_{4i} \Delta \ln(TLF_{t-i}) + \theta_1 \ln(RGDP_{t-1}) + \theta_2 \ln(REM_{t-1}) + \theta_3 \ln (GCF_{t-1}) + \theta_4 \ln (TLF_{t-1}) + \varepsilon_t \quad (5)$$

The equation of the Error Correction Model is specified as:

$$\Delta \ln (RGDP_t) = \gamma_0 + \sum_{i=1}^{p} \gamma_{1i} \Delta \ln(RGDP_{t-i}) + \sum_{i=0}^{q} \gamma_{2i} \Delta \ln(REM_{t-i}) + \sum_{i=0}^{r} \gamma_{3i} \Delta \ln(GCF_{t-i}) + \sum_{i=0}^{s} \gamma_{4i} \Delta \ln(TLF_{t-i}) + \phi EC_{t-1} + \varepsilon_t \quad (6)$$

The coefficient ϕ measures the rate of this adjustment. Together, these equations provide a comprehensive approach to analyzing both the short-run and long-run effects of remittances on economic performance.
Standard diagnostic tests, including unit root tests, lag length selection criteria, serial correlation, heteroskedasticity, normality, and stability tests (CUSUM and CUSUMSQ), are conducted to ensure the robustness and stability of the estimated model.

Table 2: Descriptive Statistics

	RGDP	REM	GCF	TLF
Mean	722.60	15.08	28.35	6.77
Median	650.05	18.17	28.03	6.88
Maximum	1179.81	33.06	41.38	8.44
Minimum	438.16	0.98	20.25	4.88
Std. Dev.	232.60	10.57	5.85	1.05
Skewness	0.56	-0.25	0.52	-0.13
Kurtosis	1.97	1.52	2.49	1.93
Jarque-Bera	3.28	3.45	1.91	1.71
Probability	0.19	0.18	0.38	0.43
Observations	34.00	34.00	34.00	34.00

Note: The variables REMI, GCF, TRADE, and TLF are measured in US dollars (in Millions) for the sample year 1992~2022.

Table 2 summarizes the descriptive statistics of Nepal's key economic variables from 1991 to 2022, namely real GDP (RGDP), remittances (REM), gross capital formation (GCF), and total labor force (TLF). The results show steady performance in GDP and labor force with relatively low volatility, while remittances and capital formation exhibit higher fluctuations, reflecting Nepal's reliance on external factors such as migration and investment flows. GDP ranged between USD 438.16 and 1179.81, with a mean of 722.60. Remittances varied sharply from 0.98 to 33.06 million USD, highlighting their increasing importance over time. Capital formation averaged 28.35 percent of GDP, indicating moderate but uneven investment activity, and the labor force steadily expanded, averaging 6.77 million. Skewness and kurtosis values indicate that the data are fairly symmetric, and the Jarque-Bera test confirms approximate normality across variables, making them appropriate for further econometric analysis using the ARDL framework.

Table 3: Correlation Matrix

Variable	(1)	(2)	(3)	(4)
lnRGDP	1			
lnREM	0.86	1		
lnGCF	0.80	0.74	1	
lnTLF	0.95	0.93	0.78	1

Source: These descriptive statistics are calculated based on data taken over the period 1991–2020 from the World Bank.

Table 3 reports the correlation matrix among the study variables, real GDP (lnRGDP), remittances (lnREM), gross capital formation (lnGCF), and total labor force (lnTLF), to provide preliminary insights into their interrelationships. The results indicate strong and positive associations across all variables, with the highest correlation observed between GDP and labor force (0.95), followed closely by GDP and remittances (0.86), underscoring the critical role of both human resources and external capital inflows in Nepal's economic performance. Similarly, remittances exhibit a robust correlation with the labor force (0.93), reflecting the close link between outward migration and income transfers. Gross capital formation also shows significant positive correlations with GDP (0.80), remittances (0.74), and labor force (0.78), highlighting its complementary role in economic expansion. These high correlation coefficients suggest a strong degree of interdependence among the variables, though they also raise concerns about potential multicollinearity in regression analysis, justifying the choice of the ARDL approach, which is well-suited to handle such issues.

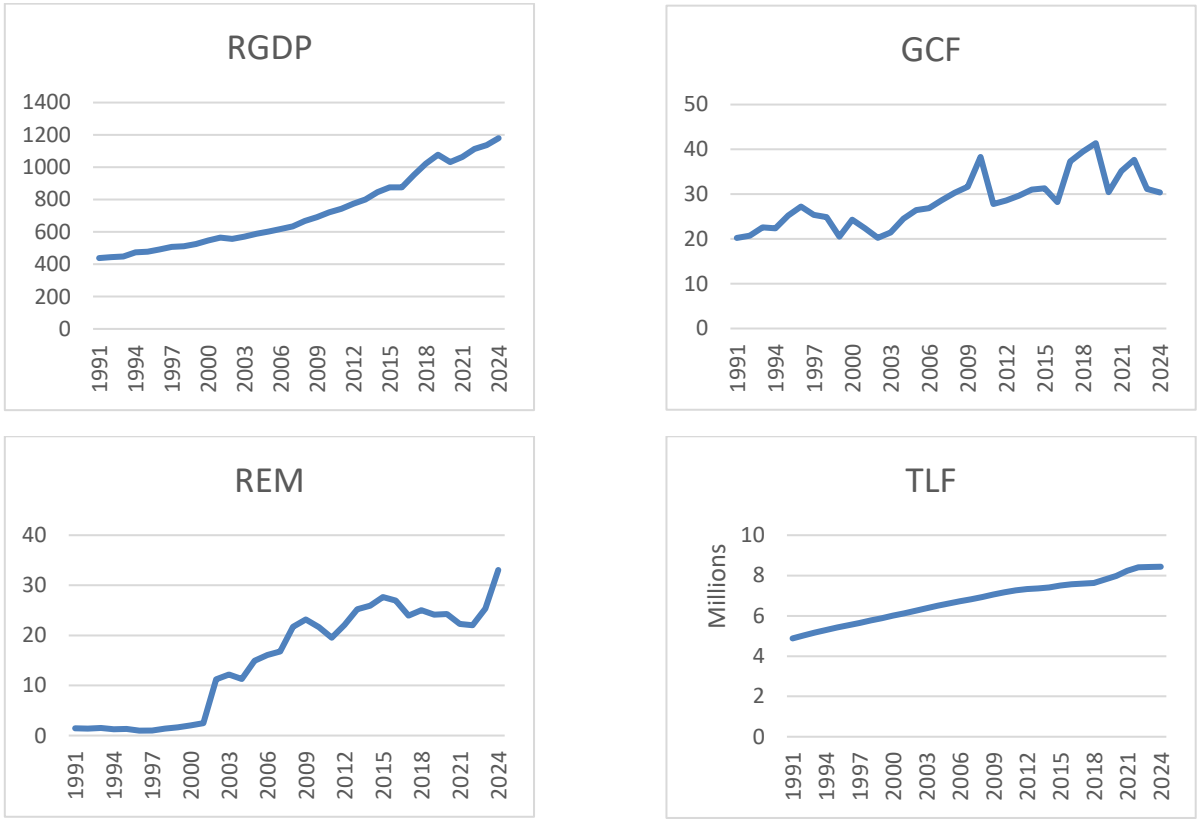

Fig. 1: Graphical Presentation of Variables (1991-2022).

Fig. 1 illustrates a graphic performance of the key variables: real GDP, remittances, gross capital formation, and total labor force, for the period 1991–2022, offering preliminary insights into their long-run trends and dynamics. The plots reveal a steady upward trajectory of real GDP and labor force, reflecting Nepal's gradual economic expansion and demographic performance over the past three decades. Remittances, in contrast, display a sharp rise beginning in the mid-1990s, coinciding with intensified labor migration to Gulf countries and Malaysia, and have since become a dominant feature of the economy. Gross capital formation exhibits moderate fluctuations, with noticeable increases during periods of political stability and external inflows, but shows less consistency compared to remittances and GDP. The visual evidence highlights the increasing dependence of Nepal's economy on remittance inflows, the steady role of labor supply, and the relatively uneven pattern of investment.

4. Results and Discussion

Table 4: Calculation of Unit Root Using the Augmented Dickey-Fuller

Variable	Intercept		Intercept and Trend		None	
	Level	1st Diff.	Level	1st Diff.	Level	1st Diff.
lnRGDP	0.88	-5.66	-2.12	-5.47	0.51	-0.46
	(0.99)	(0.00)	(0.52)	(0.00(	(1.00)	(0.51)
lnREM	-1.00	-4.92	-1.16	-4.91	1.06	-4.52
	(0.74)	(0.00)	(0.90)	(0.00)	(0.92)	(0.00)
lnGCF	-2.23	-4.68	-4.73	-4.40	2.87	-7.17
	(0.20)	(0.00)	(0.00)	(0.01)	(1.00)	(0.00)
lnTLF	-4.42	-2.81	-2.12	-4.02	2.29	-1.68
	(0.00)	(0.07)	(0.51)	(0.02)	(0.99)	(0.09)

Note: P-values are reported in parentheses. ***(1percent), **(5percent), and * (10percent) significance levels, in sequence.

Table 4 reports the Augmented Dickey-Fuller (ADF) unit root test results for the variables. The results indicate that most variables are non-stationary in levels but become stationary after first differencing, implying integration of order one, I(1), while the labor force is stationary at the level under the intercept specification. Overall, the presence of a mixed order of integration, I(0) and I(1), supports the use of the ARDL bounds testing approach, which accommodates such properties while excluding I(2) variables and ensuring the validity of the cointegration analysis.

Table 5: Lag Selection

Lag	LogL	LR	FPE	AIC	SC	HQ
0	62.51	NA	0.00	-3.78	-3.59	-3.71
1	249.32	30.76*	1.3e-11*	-13.76	-12.47*	-13.21*
2	227.64	276.99	0.00	-13.84*	-12.10	-13.09

Note: *indicates lag order selected by criterion.

Table 5 presents the results of lag length selection using several criteria, namely the Likelihood Ratio (LR), Final Prediction Error (FPE), Akaike Information Criterion (AIC), Schwarz Criterion (SC), and Hannan–Quinn (HQ). The results show that at lag 1, most of the criteria, including LR, FPE, SC, and HQ, suggest the optimal lag length, while the AIC favors lag 2. Since the majority of the selection criteria indicate lag 1, it is considered the most suitable lag order for the analysis.

Table 6: Bound Test

Statistic test	Value	Significance (percent)	I (0)	I (1)
f-stastics	11.62	10	2.37	3.20
k	3	5	2.79	3.67
		2.5	3.15	3.08
		1	3.65	4.66

Table 6 reports the ARDL bounds test results for cointegration among real GDP, remittances, gross capital formation, and the labor force. The computed F-statistic (11.62) exceeds the upper critical bound at the 1% significance level, leading to rejection of the null hypothesis of no cointegration. This result confirms the existence of a stable long-run relationship among the variables and justifies the estimation of long-run elasticities and short-run dynamics within the ARDL-ECM framework.

Table 7: ARDL Result

Variable	Short-term Dynamics	Long-term Dynamics
lnREM	-0.20**	0.12*
	(-2.15)	(1.80)
lnGCF	0.12***	0.80
	(5.66)	(1.04)
lnTLF	-1.18***	2.04***
	(-3.53)	(2.84)
CoinEq(-1)	-0.05	
	(-8.21)	
C		-27.09
		(-2.84)

Notes: The ARDL model is selected based on SIC with an HAC option. ***(1percent), **(5percent), and * (10percent) significance levels, in sequence.

Table 7 presents the short-run and long-run ARDL estimates for Nepal's economic performance. In the short run, remittances exert a negative and statistically significant effect (-0.20), indicating that remittance inflows are largely directed toward consumption rather than productive investment. Gross capital formation has a positive and significant short-run effect (0.12), highlighting the role of domestic investment, while the labor force exhibits a negative short-run coefficient (-1.18), reflecting underemployment and structural labor market inefficiencies. In the long run, remittances become positive (0.12), capital formation remains positive but statistically insignificant, and the labor force shows a strong and significant positive effect (2.04), underscoring its importance for sustained economic performance. The error correction term is negative and significant (-0.05), indicating a gradual adjustment toward the long-run equilibrium. Overall, the results reveal the dual nature of remittances, short-run constraints alongside long-run performance gains, while emphasizing the central role of labor force dynamics.

Table 8: Residual Test

Diagnostic analysis	Obs*R-squared	P-value
Serial correlation analysis (Breusch-Godfrey)	2.83	0.10
Heteroskedasticity analysis (Breusch-Pagan-Godfrey)	13.50	0.17
Histogram normality analysis (Jarque-Bera)	0.31 (Jarque-Bera)	0.85

Table 8 presents the results of the residual diagnostic tests assessing the robustness of the ARDL model. The Breusch-Godfrey LM test indicates no evidence of serial correlation, while the Breusch-Pagan-Godfrey test suggests the absence of heteroskedasticity at conventional significance levels. In addition, the Jarque-Bera test confirms that the residuals are normally distributed. Taken together, these diagnostics indicate that the model is free from major econometric problems, supporting the reliability of the estimated short-run and long-run relationships.

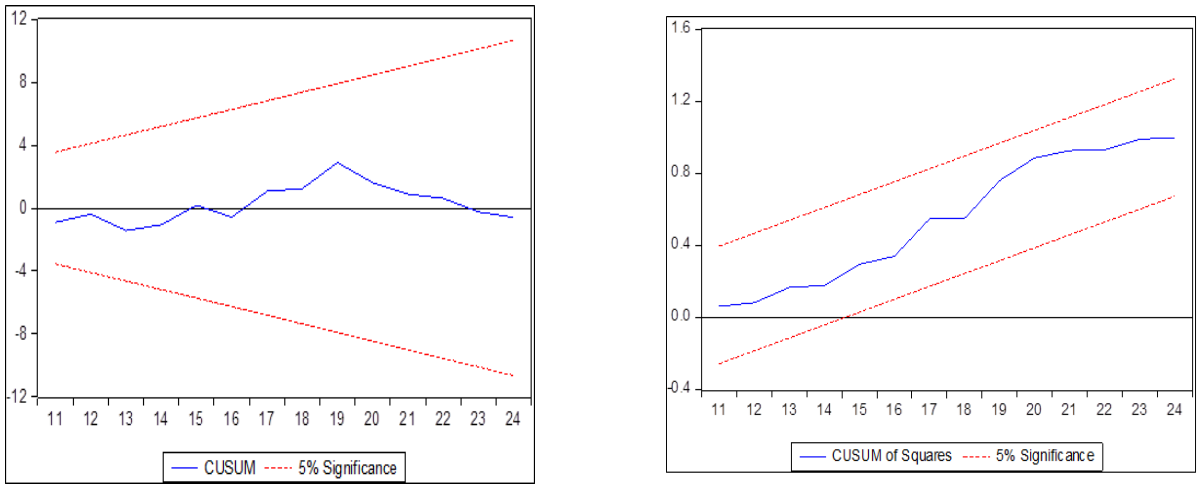

Fig. 2: Cusum and Cusum Square Analysis.

Note: Based on data from 1991 to 2022.

Figure 2 presents the CUSUM and CUSUM of Squares (CUSUMSQ) stability test results for the ARDL model. Both statistics remain within the 5% critical bounds throughout the sample period, indicating parameter stability and the absence of structural breaks. This confirms that the estimated short-run and long-run relationships are stable over time, thereby reinforcing the reliability of the ARDL-ECM results and the robustness of the derived policy implications.

The empirical findings reveal a clear asymmetry in the effects of remittances on Nepal's economic performance, with negative impacts in the short run and positive contributions in the long run. In the short run, remittance inflows are predominantly allocated to consumption rather than productive investment, raising household expenditure without expanding productive capacity. This pattern, combined with labor supply disincentives and potential real exchange rate pressures, constrains immediate performance outcomes. Similar short-run consumption biases have been documented for Nepal by Shakya and Gonpu (2021) and Acharya et al. (2019), who emphasize the limited productivity-enhancing role of remittances in the absence of supportive financial and institutional structures.

The negative short-run impact of remittances reflects structural and institutional weaknesses in Nepal, including limited financial intermediation, consumption-oriented use of remittance income, labor disincentives arising from income substitution effects, and exchange rate appreciation consistent with Dutch Disease dynamics. Recent evidence shows that large remittance inflows can generate real exchange rate appreciation, undermining the competitiveness of tradable sectors in economies with shallow financial systems and thereby constraining short-run economic performance (Carare et al., 2025). In addition, remittances may reduce labor force participation in the short run by easing income constraints, reinforcing labor market frictions, and limiting immediate productivity gains (Carare et al., 2024).

In contrast, the long-run results indicate that remittances contribute positively to economic performance by supporting capital accumulation, human capital development, and financial deepening. Over time, these channels enhance productivity and stabilize growth, consistent with earlier evidence for Nepal and comparable economies (Dhungel, 2018; Chaudhary, 2022; Shah et al., 2022). Together, these findings reconcile mixed results in the literature by highlighting the time-dependent nature of remittance effects: remittances function primarily as a consumption buffer in the short run but evolve into a performance-enhancing resource in the long run when structural constraints gradually ease.

Beyond remittances, gross capital formation and the labor force play important but differentiated roles. Domestic investment exerts a positive and significant effect in the short run, reflecting its immediate contribution to infrastructure and productive capacity. However, its weak long-run impact suggests persistent inefficiencies related to political instability, governance challenges, and limited industrial diversification (Sharma, 2024; Panthi & Devkota, 2023). The labor force exhibits a negative short-run effect, likely due to underemployment and skill mismatches, but a strong positive long-run influence, underscoring the centrality of human capital in sustaining economic performance. This pattern aligns with evidence that labor contributes most effectively to long-term performance when complemented by investment in skills and remittance-financed human capital accumulation (Singh & Pradhan, 2023).

The contrasting short-run and long-run effects of remittances underscore the importance of policy interventions that redirect remittance inflows toward productive use. International experience offers several relevant lessons. Matching-grant schemes, such as Mexico's 3×1 Program, demonstrate how collective remittances can be leveraged for local infrastructure and community development. Diaspora-targeted financial instruments, including Bangladesh's Wage Earners' Development Bond and Pakistan's Roshan Digital Account, show how remittances can be transformed into long-term investment capital. In addition, commitment-based remittance products, such as earmarked savings and direct-payment mechanisms, have been shown to increase the productive use of remittances in countries like the Philippines and El Salvador. South Korea's historical experience further illustrates how remittance inflows and overseas labor earnings can be strategically integrated into national development and industrial upgrading.

Overall, the findings suggest that Nepal should move beyond treating remittances solely as a household welfare mechanism and instead institutionalize them as a source of productive investment and long-term economic performance. Strengthening financial intermediation, expanding diaspora investment opportunities, and improving governance and policy coordination can transform remittances from a short-run consumption buffer into a durable engine of economic development.

5. Conclusion

This study examined the impact of remittances on Nepal's economic performance during the post-democratization era, covering the period 1991–2022. Using the ARDL bounds testing framework and an error correction model within an augmented Solow performance framework, the findings reveal a dual effect of remittances: negative in the short run and positive in the long run. In the short term, remittance inflows are predominantly directed toward consumption, luxury spending, and real estate, which limit their contribution to productive investment

and, in some cases, reduce labor force participation. These inefficiencies are consistent with prior evidence from Shakya and Gonpu (2021) and Acharya et al. (2019), who also highlight the challenges of channeling remittances into productive sectors.

In the long run, however, remittances emerge as an important driver of economic performance, supporting capital accumulation, human resource development, and financial deepening. This aligns with the findings of Dhungel (2018) and Chaudhary (2022), who demonstrate that remittances positively influence Nepal's GDP over extended horizons. Moreover, the study underscores the critical role of labor force participation as a long-term performance determinant, despite its short-run inefficiencies, and highlights the complementary though limited role of gross capital formation in sustaining economic expansion.

These results suggest that while remittances remain a lifeline for household welfare and macroeconomic stability, their developmental potential is constrained by weak institutional governance, structural inefficiencies, and limited absorptive capacity in productive sectors. To maximize their long-term benefits, Nepal must adopt policies that strengthen financial literacy, expand formal financial services, and create transparent mechanisms to channel remittances into infrastructure, education, healthcare, and small and medium enterprises. Lessons from international experiences, such as Mexico's 3×1 Program, Bangladesh's diaspora bonds, and South Korea's integration of overseas remittances into industrial development, indicate that remittances, if strategically mobilized, can serve as a cornerstone of sustainable performance and structural transformation.

This study is subject to several limitations. First, potential omitted variables such as governance quality and financial sector depth may influence the estimated relationships. Second, possible structural breaks arising from political instability and external shocks are not explicitly modeled. Third, informal remittance flows are excluded due to data constraints. These limitations provide important avenues for future research. Future research directions: Future studies may extend this analysis by (i) examining the sectoral allocation of remittances, (ii) exploring interaction effects between remittances, financial development, and institutional quality, and (iii) conducting comparative analyses across South Asian economies to assess the generalizability of the findings.

6. Declarations

Author Responsibility

The authors are solely responsible for the accuracy of the facts, opinions, and citations presented in this article.

Data Availability

This study did not generate new data. All analyses are based on secondary data, which are appropriately cited in the manuscript.

Ethics Statement

This article does not include any studies involving human participants conducted by the authors.

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