Advance Journal of Econometrics and Finance
Vol-4, Issue-2, 2026

Advance Journal of Econometrics and Finance

Online ISSN
2959-8990
Print ISSN
2959-8982
https://ajeaf.com/index.php/Journal/About

Name of Publisher: SCHOLAR CRAFT EDUCATION & RESEARCH HUB

Review Type: Double Blind Peer Review

Journal Frequency: Quarterly Research Journal (4- Issue)

Do Remittances Promote or Constrain Growth? Evidence from South Asian Economies

[1]Aroosa Andleeb, [2]Dr. Abdul Manan Tauqeer

Aroosa Andleeb
Research Scholar, Department of Economics, Gomal University, Pakistan. Email: aroosaandleeb507@gmail.com
Dr. Abdul Manan Tauqeer
Senior Lecturer, Department of Economics, Gomal University, Pakistan. Email: amtauqeer@yahoo.com

Abstract

This study examines the remittance–growth nexus in Pakistan, India, Bangladesh, and Sri Lanka over 1980–2015 using a panel ARDL model with Pooled Mean Group (PMG) estimation. The approach captures both short-run dynamics and long-run relationships while allowing for cross-country heterogeneity. Results indicate that a 1% increase in remittances is associated with a 1.38% decline in long-run GDP growth. Dumitrescu–Hurlin tests show no bidirectional Granger causality, suggesting remittances operate largely outside the productive economy. In contrast, foreign direct investment and exports have positive and significant long-run effects. Short-run impacts are heterogeneous—positive in Pakistan, negative in Bangladesh, and insignificant in India and Sri Lanka. Overall, the findings support dependency and Dutch disease perspectives, highlighting the need to channel remittances toward productive investment through financial and institutional reforms.

Keywords: Remittances; Economic Growth; South Asia; Panel ARDL; Pooled Mean Group; Dutch Disease

Introduction

South Asia presents an economic paradox. The region's four largest economies , Pakistan, India, Bangladesh, and Sri Lanka , collectively receive hundreds of billions of dollars in remittance inflows annually, making them among the most remittance-dependent economies in the world (World Bank, 2023a). Yet despite this sustained inflow of external income, these economies continue to face persistent structural challenges: limited industrial diversification, weak export competitiveness, high informality, and sluggish productivity growth (IMF, 2022). If remittances are as developmentally transformative as conventional wisdom suggests, why do the economies most dependent on them remain structurally constrained?

This question lies at the heart of one of development economics' most contested debates. The optimistic view holds that remittances relax liquidity constraints, finance human capital investment, and stabilize household consumption in economies where formal credit markets are underdeveloped , functioning, in effect, as a privately intermediated development finance mechanism (Ratha, 2003; Giuliano & Ruiz-Arranz, 2009). From this perspective, remittances are not merely compensatory income transfers but potential engines of growth. The more skeptical view, however, argues that remittances predominantly finance consumption rather than investment, reduce labor supply by increasing non-labor income, and generate Dutch disease effects that appreciate the real exchange rate and erode the competitiveness of tradable sectors (Chami et al., 2005; Barajas et al., 2009; Acosta et al., 2009). Under this view, remittance dependence may quietly hollow out the productive foundations of an economy even as it improves household welfare in the short run.

Resolving this debate empirically is not straightforward, and existing evidence remains inconclusive. Cross-country studies have produced contradictory findings, in part because the growth effects of remittances are likely conditional on country-specific factors such as financial development, institutional quality, and economic structure (Catrinescu et al., 2009). More fundamentally, a central methodological weakness runs through much of the literature: the failure to distinguish between short-run stabilization effects and long-run structural outcomes. Remittances may simultaneously support consumption in the short run while undermining productive capacity over longer horizons , a dynamic that static or cross-sectional approaches have failedto detect (Pesaran et al., 1999). Studies focused on South Asia are particularly limited in this regard, having largely concentrated on micro-level welfare outcomes while leaving the macroeconomic growth implications underexplored (Adams & Page, 2005; Barajas et al., 2009).

This paper addresses these gaps directly. Using annual panel data for Pakistan, India, Bangladesh, and Sri Lanka over the period 1980–2015, it estimates a panel autoregressive distributed lag (ARDL) model with pooled mean group (PMG) estimation , a framework specifically designed to separate short-run dynamics from long-run equilibrium relationships while accommodating the structural heterogeneity that characterizes these economies (Pesaran et al., 1999). Foreign direct investment and exports are included as comparator variables, allowing for an assessment of whether remittances function as a complement to or substitute for more productive forms of external finance. The findings challenge the optimistic narrative. While remittances display heterogeneous and context-dependent effects in the short run, their long-run association with economic growth is negative and statistically significant across the sample. Causality analysis further reveals no evidence of a Granger-causal relationship between remittances and growth in either direction, suggesting they operate largely outside the productive economic system. By contrast, exports and foreign direct investment emerge as consistent contributors to long-run growth. Taken together, these results suggest that remittance-dependent economies in South Asia may face a structural trap: relying on income flows that sustain consumption but do not build the productive capacity needed for sustained development.

These findings carry implications that extend beyond the South Asian context. As remittances continue to grow globally and attract attention as a development finance tool, understanding the conditions under which they promote versus constrain growth becomes increasingly important. This study contributes to that understanding by providing dynamic, region-specific evidence on the remittance–growth nexus, evidence that points toward the need for policies that actively redirect remittance inflows from consumption toward investment, rather than treating remittances as a development solution in themselves.

Literature Review

The relationship between remittances and economic growth has been one of the most actively debated questions in development economics over the past two decades, yet it remains stubbornly unresolved. This lack of resolution is not simply a matter of insufficient evidence, it reflects a genuine theoretical ambiguity in which the same income flows can, depending on context, promote growth, retard it, or leave it largely unaffected. Understanding why the literature has not converged on a clear answer is as important as cataloguing what it has found, and it is precisely this understanding that motivates the analytical approach taken in this study.

The Optimistic View: Remittances as Development Finance

The dominant early view in the literature positioned remittances as a form of privately intermediated development finance with significant growth potential. The core argument rested on financial constraint relaxation: in economies where formal credit markets are shallow and access to capital is limited, remittances provide households and small enterprises with liquidity that the financial system fails to supply (Ratha, 2003; Giuliano & Ruiz-Arranz, 2009). This liquidity, the argument goes, can be directed toward education, healthcare, and entrepreneurial investment ,activities that build human capital and productive capacity over time (Adams & Page, 2005).

Proponents of this view further highlighted the macroeconomic stabilization properties of remittances. Unlike foreign direct investment, which tends to be procyclical and sensitive to host-country conditions, remittances exhibit countercyclical behavior ,rising when origin economies face downturns as migrants respond to deteriorating household conditions at home (World Bank, 2023a). This countercyclicality stabilizes aggregate demand and reduces output volatility, providing a buffer that supports sustained growth even during periods of external stress (IMF, 2022). Cross-country empirical work broadly consistent with this view found positive associations between remittances and growth, particularly in financially underdeveloped economies where the substitution for missing credit markets is most valuable (Giuliano & Ruiz-Arranz, 2009). However, Giuliano and Ruiz-Arranz (2009) found that remittances promote growth most effectively where financial development is weakest, suggesting a substitution effect rather than a complementarity, remittances fill gaps left by underdeveloped financial institutions rather than amplifying their capacity.

This conditionality would prove significant as the literature evolved, ultimately undermining the case for treating remittances as universally growth-enhancing.

The Critical View: Dependency, Moral Hazard, and Structural Distortion

A parallel and increasingly influential strand of the literature challenged the optimistic view by identifying mechanisms through which remittances could harm rather than help long-run growth. The most direct challenge came from the moral hazard and dependency perspective advanced by Chami et al. (2005), who argued that remittances reduce labor supply by augmenting non-labor income, thereby weakening recipients' incentives to participate in productive economic activity. Compounding this, empirical evidence consistently showed that remittances in developing economies are predominantly allocated toward consumption and housing rather than productive investment (Barajas et al., 2009). While consumption expenditure improves household welfare, it does not generate the capital accumulation or productivity spillovers needed for sustained economic expansion. Barajas et al. (2009), in one of the most comprehensive cross-country assessments of the remittance–growth relationship, found no robust evidence that remittances promote growth and identified several contexts in which their effect was negative , a finding directly at odds with the earlier optimistic literature. A further structural concern involves the real exchange rate. For developing economies where manufacturing and agricultural exports are central to structural transformation, this appreciation can be particularly damaging, redirecting resources away from tradable sectors that generate productivity spillovers and learning-by-doing toward non-tradable activities with limited growth potential (Barajas et al., 2009). In this way, remittances may simultaneously improve household consumption while quietly undermining the structural foundations of long-run growth.

The Conditional View: Context, Institutions, and Non-Linearity

Confronted with these conflicting findings, a third strand of the literature advanced a more nuanced position: that the growth effects of remittances are not fixed but conditional on country-specific structural characteristics, particularly institutional quality and financial development (Catrinescu et al., 2009). This conditional perspective helped reconcile some of the contradictory findings in the literature but also complicated the policy implications considerably. If the growth impact of remittances depends on institutional and financial preconditions, then the same inflows that stimulate growth in one context may retard it in another ,making cross-country generalizations unreliable and region-specific analysis essential (Catrinescu et al., 2009). Some studies further suggested non-linear threshold effects, whereby remittances promote growth only up to a certain level of financial development or governance quality, beyond which their marginal contribution diminishes or turns negative (Cazachevici et al., 2020; Islam, 2022).

Methodological Limitations and the South Asian Gap

Beyond the substantive disagreements, the literature is characterized by a set of methodological limitations that have prevented definitive conclusions. Much of the early empirical work relied on static cross-sectional or fixed-effects panel regressions that treat the remittance–growth relationship as contemporaneous and time-invariant, an assumption that is difficult to defend given the dynamic nature of macroeconomic adjustment (Pesaran et al., 1999). These approaches cannot distinguish between short-run stabilization effects and long-run structural outcomes, a distinction that is theoretically critical given that the competing channels operate over different time horizons. A study capturing only short-run dynamics may find positive growth effects from consumption smoothing while entirely missing the longer-run costs of dependency and structural distortion. Within the South Asian context specifically, the empirical literature is surprisingly thin given the region's exceptional remittance dependence. Existing studies have largely focused on micro-level outcomes, poverty reduction, household consumption smoothing, and welfare improvements, rather than macroeconomic growth dynamics

(Adams & Page, 2005). The few studies that have examined macroeconomic implications have generally relied on single-country time series or static panel methods that cannot adequately capture cross-country heterogeneity or long-run equilibrium relationships (Barajas et al., 2009). This is a significant gap, because South Asian economies, while sharing a common remittance dependence, differ substantially in economic structure, financial development, and institutional quality in ways that are likely to shape how remittance inflows affect growth.

This study addresses these gaps by applying a panel ARDL framework with PMG estimation to South Asian data, an approach that simultaneously captures short-run adjustment dynamics and long-run equilibrium relationships while accommodating the structural heterogeneity across countries that static methods ignore (Pesaran et al., 1999). In doing so, it aims to provide the kind of dynamic, region-specific evidence that the literature has so far lacked, and to shed light on whether remittances in South Asia operate as a development resource or a structural constraint.

Theoretical Underpinning

Understanding how remittances affect economic growth requires engaging with a fundamental tension in development economics: the same income flows that improve household welfare at the micro level may, in aggregate, generate macroeconomic dynamics that constrain long-run growth. This tension arises because remittances operate through multiple and often competing theoretical channels, making their net effect on growth inherently ambiguous (Chami et al., 2005; Barajas et al., 2009). The point of departure for understanding remittance behavior is the New Economics of Labor Migration (NELM), which reframes migration not as an individual decision but as a household-level strategy to overcome market failures , particularly in credit and insurance markets (Stark & Bloom, 1985).

The NELM framework generates an optimistic baseline prediction, that remittances should relax liquidity constraints and facilitate productive investment. However, it also implicitly contains the seeds of a more critical view. If remittances effectively substitute for missing markets, they may reduce the pressure on households and governments alike to develop domestic financial institutions and productive capacities. Whether the micro-level logic of NELM translates into macroeconomic growth therefore depends critically on the broader structural and institutional context in which remittances are received , a point that motivates the channel-by-channel analysis that follows.

Channel 1: Remittances and investment Facilitation

The most direct pathway through which remittances may promote growth operates through financial constraint relaxation and investment facilitation. In economies where formal credit markets are underdeveloped, a characterization that applies broadly to South Asia, remittances provide households and small enterprises with access to capital that the financial system fails to supply (Giuliano & Ruiz-Arranz, 2009). This additional liquidity can be directed toward education, healthcare, and entrepreneurial activities, fostering human capital accumulation and productivity growth over time (Adams & Page, 2005; Ratha, 2003).

This countercyclicality stabilizes aggregate demand and reduces output volatility, providing a macroeconomic buffer that can support sustained growth (IMF, 2022). Under conditions where these mechanisms operate effectively, remittances are expected to exert a positive long-run influence on economic growth.

Hypothesis 1 (H1): Remittances have a positive impact on economic growth in the long run.

Channel 2: Dependency and Moral Hazard

A substantial body of evidence suggests that remittances in developing economies are predominantly allocated toward consumption, housing, and social expenditures rather than productive investment (Barajas et al., 2009). More fundamentally, remittances introduce a moral hazard problem at the household level. By augmenting non-labor income, they reduce the financial necessity of labor market participation, weakening incentives for productive economic activity (Chami et al., 2005). At the aggregate level, this manifests as reduced labor force participation and declining productivity, particularly in economies where remittance dependence is high and a significant share of working-age adults have migrated.

Hypothesis 2 (H2): Remittances negatively influence economic growth in the long run by inducing dependency and reducing incentives for productive investment.

Channel 3: Dutch Disease and Structural Transformation

A third mechanism operates at the macroeconomic level through the real exchange rate. Large and sustained inflows of foreign currency, whether from natural resource exports, aid, or remittances, tend to appreciate the real exchange rate by increasing domestic demand for non-tradable goods and services relative to tradables (Acosta et al., 2009). This appreciation reduces the price competitiveness of export-oriented sectors, particularly manufacturing and agriculture, and redirects resources toward non-tradable activities such as construction and retail, a process classically described as Dutch disease (Barajas et al., 2009). For South Asian economies, where export diversification and industrial development remain central policy priorities, this mechanism carries particular significance. If remittance inflows systematically appreciate the real exchange rate, they may

inadvertently undermine the structural transformation required for sustained growth, crowding out tradable sectors that generate productivity spillovers, learning-by-doing, and technological upgrading (Dani Rodrik, 2008; Pablo Acosta et al., 2009). In this sense, remittances may impose a structural cost on the economy that is not immediately visible at the household level but accumulates over time through weakened export competitiveness and delayed industrialization (Thorvaldur Gylfason, 2001; Raghuram G. Rajan & Arvind Subramanian, 2011).

Hypothesis 3 (H3): Remittances negatively affect economic growth by reducing export competitiveness and hindering structural transformation.

Channel 4: FDI, Exports, and Comparative External Finances

Situating remittances within the broader landscape of external finance requires considering how they compare to other inflows, particularly foreign direct investment and exports. FDI contributes to growth through mechanisms that are structurally distinct from remittances: technology transfer, managerial knowledge spillovers, capital accumulation, and the deepening of productive capacity (Borensztein et al., 1998). Exports, meanwhile, drive growth by expanding market access, exposing domestic firms to international competition, and generating efficiency gains through scale and learning effects (Grossman & Helpman, 1991).

Hypothesis 4 (H4): Foreign direct investment and exports have a positive and significant impact on economic growth.

Channel 5: The Short-Run versus Long-Run Effects

A final and methodologically critical consideration concerns the time horizon over which remittances exert their effects. The channels described above do not operate at the same speed. Consumption smoothing and aggregate demand stabilization are primarily short-run phenomena, as remittances can immediately support household expenditure and buffer output fluctuations (Richard H. Adams Jr. & John Page, 2005; Caglar Ozden et al., 2011). In contrast, dependency, moral hazard, and Dutch disease effects tend to emerge gradually over time, reflecting sustained behavioral responses and structural adjustments in relative prices and resource allocation (Pablo Acosta et al., 2009; Frederic S. Mishkin, 2007). This temporal distinction implies that studies relying on short panels or static methodologies may capture short-run stabilizing effects while overlooking longer-term structural costs, leading to potentially biased or overly optimistic estimates of the remittance–growth relationship (Giovanni Giuliano & Marta Ruiz-Arranz, 2009). The panel ARDL framework employed in this study directly addresses this issue by jointly estimating short-run dynamics and long-run equilibrium relationships, thereby allowing for heterogeneous adjustment processes across countries (M. Hashem Pesaran, Yongcheol Shin, & Ron P. Smith, 1999).

Hypothesis 5 (H5): Remittances exert heterogeneous effects on economic growth across time horizons, with stabilizing effects in the short run and potentially adverse structural effects in the long run.

Scope and Methodology

Data Description

This study employs annual panel data for selected South Asian economies, Pakistan, India, Bangladesh, and Sri Lanka, over the period 1980–2015. These countries are among the largest recipients of remittances globally and exhibit significant variation in economic structure and external sector dependence (World Bank, 2023b). The sample period was selected to capture the most significant phase of remittance expansion in South Asia while maintaining data consistency and completeness across all four economies. The period 1980–2015 also precedes the structural disruptions introduced by digital financial services and mobile remittance platforms, which began reshaping remittance dynamics substantially after 2015 and would warrant a separate analytical treatment (World Bank, 2023a). This boundary is acknowledged as a limitation and is discussed further in the concluding section. The dependent variable is specified as the annual real GDP growth rate (rather than the log level of GDP) because the research question focuses explicitly on growth impacts. This specification allows coefficients to be interpreted directly as percentage-point changes in the growth rate, which is standard in many panel growth regressions examining external flows (e.g., remittances, FDI). Given that the growth rate is stationary (I(0)) while the explanatory variables are mixed I(0)/I(1), the panel ARDL-PMG framework remains fully appropriate and avoids spurious regression concerns (Pesaran et al., 1999). Remittances are measured as personal remittance inflows, expressed as a percentage of GDP to ensure comparability across countries. In addition to remittances, the model incorporates foreign direct investment (FDI) and exports as key control variables representing alternative channels of external finance and trade-driven growth. Data for all variables are obtained from the World Development Indicators database compiled by the World Bank.

The control variables (remittances, FDI, and exports) are expressed as percentages of GDP, consistent with standard practice in panel growth studies. The dependent variable, real GDP growth rate, is used in its natural form as it is already a ratio measure. This approach avoids spurious regression concerns associated with non-stationary level variables and ensures coefficient estimates reflect meaningful economic relationships.

Model Specification

To examine the long-run and short-run dynamics between remittances and economic growth, this study specifies the following baseline relationship:

$$GDP_{\{it\}} = \alpha_i + \beta_1 REM_{\{it\}} + \beta_2 FDI_{\{it\}} + \beta_3 EXP_{\{it\}} + \varepsilon_{\{it\}}$$

where i denotes country and t denotes time. GDP represents the annual real GDP growth rate (%), REM denotes remittances as a percentage of GDP, FDI captures foreign direct investment as a percentage of GDP, and EXP represents exports as a percentage of GDP.

To account for dynamic adjustments and potential non-stationarity in the data, the model is estimated using a panel autoregressive distributed lag (ARDL) framework. The ARDL(p, q, q, q) specification can be expressed in its error correction form as:

$$\Delta GDP_{\{it\}} = \phi_i\left(GDP_{\{it-1\}} - \theta_1 REM_{\{it-1\}} - \theta_2 FDI_{\{it-1\}} - \theta_3 EXP_{\{it-1\}}\right) + \sum_{\{j=1\}}^{\{q\}\lambda}{}_{\{ij\}}\Delta X_{\{it-j\}} + \mu_i + \epsilon_{\{it\}}$$

where $\phi_i$is the error correction term capturing the speed of adjustment toward long-run equilibrium, and X it represents the vector of explanatory variables.

Estimation Technique: Pooled Mean Group (PMG)

The model is estimated using the Pooled Mean Group (PMG) estimator developed by Pesaran et al. (1999), which is appropriate for panels characterized by heterogeneous short-run dynamics and homogeneous long-run relationships. The PMG estimator allows short-run coefficients, intercepts, and error variances to vary across countries, while constraining long-run coefficients to be identical. This feature is particularly relevant for South Asian economies, which exhibit diverse short-run responses due to differences in economic structure and policy environments, but share similar long-run characteristics such as remittance dependence and external sector constraints. Compared to alternative estimators, the Mean Group (MG) estimator allows full heterogeneity but may be inefficient in small samples, while the Dynamic Fixed Effects (DFE) estimator imposes restrictive homogeneity assumptions. The PMG estimator provides a balanced approach, combining flexibility and efficiency, and is therefore well-suited for the present analysis (Pesaran et al., 1999).

Panel Unit Root and Integration Properties

Prior to estimation, the stationarity properties of the variables are examined using the Levin–Lin–Chu (LLC) and Im–Pesaran–Shin (IPS) panel unit root tests (Levin et al., 2002; Im et al., 2003). These tests allow for heterogeneity across cross-sectional units and provide reliable inference in macro-panel settings. The results indicate a mixed order of integration, with variables integrated at I(0) and I(1). Since none of the variables are integrated of order two, the ARDL framework is appropriate, as it accommodates variables with different integration orders (Pesaran et al., 1999).

Long-Run Relationship and Error Correction Mechanism

The existence of a long-run equilibrium relationship among the variables is assessed through the significance of the error correction term in the ARDL framework. A negative and statistically significant error correction coefficient indicates convergence toward long-run equilibrium following short-run deviations. This approach provides an implicit test of cointegration and allows for the estimation of both long-run coefficients and short-run adjustment dynamics within a unified framework.

Cross-Country Heterogeneity

To capture structural differences across economies, the PMG framework allows for heterogeneous short-run dynamics. In addition, country-specific short-run effects are examined to assess whether the impact of remittances varies across individual countries. This approach enables a more nuanced understanding of the remittance–growth relationship, particularly in a region characterized by diverse economic structures such as South Asia.

Cross-Section Dependence Test

A rich literature has established that economic models based on panel data can experience extensive cross-sectional dependence of errors, arising from common external shocks, spatially correlated omitted variables, and unobserved global factors that enter the error term (Robertson & Symons, 2000; Moon & Perron, 2004). Dynamic panel data, which combine both cross-sectional and time series dimensions, are particularly susceptible to this problem. The presence of cross-sectional dependence ,defined as the interdependence of uncontrollable factors and latent group-level influences across residuals ,can produce inconsistent and inefficient estimates if left unaddressed (Baltagi & Pesaran, 2007). In macro-panel settings, one common source of such dependence is financial integration across countries, which induces co-movement in macroeconomic aggregates beyond what observable variables can capture (Pesaran, 2004). It is therefore essential to test for cross-section dependence prior to estimation to ensure the validity of the panel model. Four complementary tests are employed to examine cross-section dependence across the panel: the Breusch–Pagan (1980) LM test, the Pesaran (2004) Scaled LM test, the Baltagi et al.

(2012) Bias-Corrected Scaled LM test, and the Pesaran (2004) CD test. The joint null hypothesis for all four tests is that no cross-sectional dependence exists in the error terms, against the alternative of significant cross-sectional dependence.

H_0: Cross-section dependence does not exist in the error terms

H_1: Cross-section dependence exists in the error terms

Table 1: ***Cross-Section Dependence Test Results***

Test	t-ratio	d.f.	p-value
Breusch–Pagan LM	12.095	6	0.077
Pesaran Scaled LM	1.615	6	0.106
Bias-Corrected Scaled LM	1.556	6	0.109
Pesaran CD	1.455	6	0.146

Note: p-values greater than 0.05 indicate failure to reject the null hypothesis of no cross-section dependence. Source: EViews 9.

The results of all four cross-section dependence tests, reported in Table 6, indicate that cross-sectional dependence is absent from the panel data. All p-values exceed the 5% significance threshold, confirming failure to reject the null hypothesis of no cross-section dependence. This finding validates the use of the standard PMG estimator without cross-sectionally augmented corrections, and provides confidence that the estimated long-run and short-run coefficients are not contaminated by correlated error terms across countries. The absence of cross-section dependence is consistent with the relatively limited degree of financial integration among the selected South Asian economies during the study period, and supports the reliability of the subsequent estimation results (Pesaran, 2004; Baltagi & Pesaran, 2007).

Model Validation: Wald Test

To assess the overall validity of the model, a Wald test is conducted to examine the joint significance of the explanatory variables. The test evaluates whether the regressors collectively contribute to explaining economic growth, thereby providing additional evidence on the robustness of the estimated model.

Panel Causality Analysis

To investigate the direction of relationships among the variables, the Dumitrescu–Hurlin (2012) panel causality test is employed. This test is suitable for heterogeneous panel data and allows causal relationships to differ across cross-sectional units.

The inclusion of causality analysis enables the study to move beyond simple associations and assess whether remittances act as a driver of economic growth or operate independently of growth dynamics.

Results and Discussion

The empirical results presented in this study offer a coherent and theoretically interpretable picture of how remittances affect economic growth in South Asia, one that challenges the optimistic narrative while providing nuanced insight into the conditions under which remittances do and do not contribute to development. This section interprets the findings in depth, situates them within broader literature, and draws out their implications for understanding the structural role of remittances in remittance-dependent economies.

Descriptive Statistics

Table 2 presents the descriptive statistics of the variables used in the analysis for the selected South Asian economies over the study period.

Table 2: ***Descriptive Statistics (Panel Data)***

Variable	Mean	Std. Dev.	Min	Max
GDP	5.36	1.90	-1.546	10.260
Remittances (REM)	4.86	2.07	0.731	10.246
FDI	6.45	9.85	-0.092	43.462

Exports (EXP)	17.17	8.73	3.397	39.016

These averages reflect the 1980–2015 period, during which remittance dependence was already significant but lower than the levels observed in more recent years The descriptive statistics indicate moderate average economic growth across the sample, with noticeable variation among countries and over time. Remittances constitute a significant share of GDP, highlighting their importance as a source of external finance in South Asia (World Bank, 2023a). The relatively high standard deviations of foreign direct investment and exports suggest substantial heterogeneity in external sector dynamics across the selected economies. This variation justifies the use of panel estimation techniques that allow for cross-country differences.

Panel Unit Root Tests

To avoid spurious regression results, the stationarity properties of the variables were examined using the Levin-Lin-Chu (LLC) and Im-Pesaran-Shin (IPS) panel unit root tests. The results are summarized in Table 3.

Table 3: ***Panel Unit Root Test Results (LLC and IPS)***

Variable	LLC (Level)	LLC (1st Diff.)	IPS (Level)	IPS (1st Diff.)	Order of Integration
GDP	-6.466***	-7.422***	-5.987***	-10.401***	I(0)
FDI	0.735	-3.370***	-2.911**	-6.936***	I(0)/I(1)
REM	0.012	-7.963***	-0.206	-9.707***	I(1)
EXP	-1.988	-2.089**	2.093	-3.675***	I(1)

Notes:***, ** denote significance at 1% and 5% levels, respectively. LLC refers to Levin-Lin-Chu test; IPS refers to Im-Pesaran-Shin test.

The results indicate a mixed order of integration among the variables. Economic growth is stationary at level, while remittances and exports become stationary after first differencing. Foreign direct investment exhibits mixed stationarity properties across tests. Since none of the variables are integrated of order two, the conditions for applying the panel autoregressive distributed lag (ARDL) model are satisfied (Pesaran et al., 1999).

Long-Run Estimation Results

The main empirical findings are presented in Table 4, which reports the long-run and short-run estimates obtained using the pooled mean group (PMG) estimator.

Table 4: ***PMG Estimation Results: Long-Run and Short-Run Dynamics***

Variables	Coefficient	Std. Error	t-Statistic
Long-Run Estimates			
Remittances (REM)	-1.381*	(0.281)	-4.913
Exports (EXP)	0.394*	(0.052)	7.559
Foreign Direct Investment (FDI)	0.381*	(0.065)	5.864
Short-Run Dynamics			
Error Correction Term (ECT)	-1.010*	(0.322)	-2.924

Notes: * denotes significance at the 1% level. Estimation is based on the Pooled Mean Group (PMG) estimator (Pesaran et al., 1999).

Findings

The central finding of this study, that remittances are negatively associated with long-run economic growth across the selected South Asian economies, is striking precisely because it contradicts the intuitive appeal of remittances as a development resource. A one percent increase in remittance inflows is associated with a 1.38 percent decline in long-run GDP growth, a magnitude that is not only statistically significant but economically substantial. The error correction term (ECT) of -1.010 indicates rapid adjustment toward long-run equilibrium following short-run deviations. While a value close to or slightly exceeding unity can in some cases suggest overshooting, it is consistent with the

high degree of economic openness and external dependence characterizing these small, remittance-reliant economies, where macroeconomic adjustments tend to occur quickly in response to external income shocks. This finding should nonetheless be interpreted with appropriate caution and is noted as a limitation of the current analysis. The most straightforward explanation lies in the consumption-investment allocation of remittance inflows. Across South Asia, household survey evidence consistently shows that remittances are predominantly directed toward consumption expenditures, food, housing, healthcare, and social obligations, rather than productive investment in physical or human capital (Barajas et al., 2009; Sutradhar, 2020; Cazachevici et al., 2020). While this allocation is entirely rational from the perspective of individual households facing immediate welfare needs, it means that remittances largely function as income transfers rather than investment capital at the aggregate level. The result is an economy that consumes more without producing more, a pattern that cannot sustain long-run growth and may, over time, crowd out the development of domestic productive capacity. This interpretation is reinforced by the moral hazard channel identified by Chami et al. (2005). In economies where a significant share of households receives regular remittance income, the financial necessity of labor market participation is reduced. The resulting decline in labor supply and labor force attachment weakens the economy's productive base gradually but cumulatively, an effect that would not be visible in short-run analyses but accumulates into a measurable drag on long-run growth. The South Asian context makes this channel particularly plausible: in Pakistan and Bangladesh especially, remittance dependence is structurally embedded at the household level, with entire communities organized around the migration-remittance cycle in ways that fundamentally alter labor market behavior (Sutradhar, 2020; Uddin et al., 2020). A further contributing mechanism is the Dutch disease effect. South Asia's remittance-receiving economies have experienced periods of real exchange rate pressure associated with large inflow surges, which compress the competitiveness of export-oriented manufacturing and agricultural sectors (Acosta et al., 2009). Given that structural transformation through export-led industrialization remains the primary pathway to sustained growth in developing economies (Grossman & Helpman, 1991; Sutradhar, 2020), any systematic erosion of tradable sector competitiveness carries long-run growth costs that may far outweigh the short-run consumption benefits of remittance inflows. The positive and significant coefficient on exports in the long-run estimates, discussed further below, provides indirect evidence that trade-oriented growth remains the more reliable engine of economic expansion in this region.

Comparative effects of FDI and Exports

The positive and statistically significant long-run coefficients on both foreign direct investment and exports provide an important comparative baseline that sharpens the interpretation of the remittance results. The relatively high average FDI ratio in the sample underscores the panel's sensitivity to periods of strong inflows, reinforcing the finding that productive external finance of this type supports long-run growth. These findings are not merely confirmatory of well-established results in the growth literature, they illuminate what remittances lack by revealing what productive external flows provide. FDI contributes to long-run growth through channels that are structurally different from remittances: technology transfer, managerial knowledge spillovers, capital deepening, and the integration of recipient economies into global production networks (Borensztein et al., 1998). These contributions expand the economy's productive frontier rather than simply redistributing income within it. Exports similarly drive growth through mechanisms, scale economies, learning-by-doing, competitive discipline, and market diversification, that build productive capacity over time (Grossman & Helpman, 1991). The unidirectional causality from FDI to exports identified in the causality analysis further suggests that FDI plays a catalytic role in South Asian trade performance, reinforcing the case for prioritizing productive external inflows. The contrast with remittances is therefore not simply quantitative but qualitative. Remittances are income flows; FDI and exports are productivity flows. The former improves welfare without necessarily expanding productive capacity, while the latter expand productive capacity as a precondition for the welfare improvements they generate. This distinction has direct implications for how policymakers should evaluate and prioritize different forms of external engagement, a point developed further in the policy implications section.

Cross-Country Heterogeneity in the Short Run

The heterogeneous short-run results across individual countries add an important layer of nuance to the overall picture. Results are presented in following table 5.

Table 5: ***Country-Level Short-Run Remittance Effects (Contemporaneous Coefficient)***

Country	REM Short-Run Effect	Significance	ECT
Pakistan	Positive (1.018)	Significant (5%)	-0.486
Bangladesh	Negative (-1.459)	Significant (5%)	-0.358

India	Positive (2.677)	Insignificant	-1.605
Sri Lanka	Negative (0.155)	Insignificant	-1.670

Note: REM coefficient shown is the contemporaneous short-run effect D(REM) from country-level PMG estimation. ECT = Error Correction Term. Significance assessed at the 5% level.

The heterogeneous short-run results across individual countries add an important layer of nuance to the overall picture. Pakistan's positive short-run effect suggests that remittances provide meaningful economic stimulus in the near term, likely through their role in supporting consumption and aggregate demand in an economy where remittance flows constitute a particularly large share of GDP. Bangladesh's negative short-run effect, by contrast, may reflect specific structural inefficiencies in how remittances are received and allocated ,including high transfer costs, limited financial intermediation, and a concentration of inflows in rural areas with limited investment opportunities (Uddin et al., 2020; Islam, 2022). The insignificance of remittances in the short run for India and Sri Lanka is consistent with the relatively larger and more diversified nature of these economies, where remittances represent a smaller share of aggregate economic activity and are therefore less capable of moving macroeconomic aggregates in the short term. This heterogeneity underscores a critical point: the impact of remittances is not uniform even within a region as geographically and culturally proximate as South Asia. Country-specific structural factors, financial development, labor market conditions, institutional quality, and the sectoral composition of the economy, mediate the relationship between remittance inflows and economic outcomes in ways that aggregate analysis cannot capture.

Wald Test

Significance of all explanatory variables are checked through Wald test and results are given below in table 6.

Table 6: ***Wald Test for Joint Significance***

Test Statistic	**Value**	**p-value**
F-statistic	6.094	0.0002
Chi-square	24.378	0.0001

The Wald test results confirm the joint significance of the explanatory variables. Both the F-statistic and chi-square statistic are statistically significant at the 1% level, indicating that the regressors collectively contribute to explaining variations in economic growth. This provides additional support for the validity and overall robustness of the estimated model.

Panel Causality Results

Table 7: ***Dumitrescu–Hurlin Panel Causality Test (Selected Results)***

Null Hypothesis	**p-value**	**Conclusion**
REM does not cause GDP	0.2206	No causality
GDP does not cause REM	0.2324	No causality
FDI does not cause EXP	0.0218	Causality exists

Equally important as the sign and magnitude of the long-run coefficient is the causality result: the Dumitrescu–Hurlin tests find no evidence of a causal relationship between remittances and economic growth in either direction. This finding deserves emphasis because it fundamentally reframes how remittances should be understood in the South Asian context. The absence of causality from remittances to growth is consistent with the interpretation that remittances operate largely outside the productive economic system, they flow into households, support consumption, and cycle through the economy as expenditure without generating the investment, productivity, or structural change needed to drive growth. But the absence of causality from growth to remittances is equally revealing. It suggests that remittance flows are not systematically responsive to domestic economic conditions, they are driven primarily by migrant decisions and destination-country labor market conditions rather than by the economic performance of origin economies. This decoupling means that remittances cannot be relied upon as a countercyclical stabilizer in any systematic policy sense, even if they provide some informal insurance at the household level. Together, these causality findings paint a picture of remittances as financially significant but economically passive, large enough to appear prominently in macroeconomic aggregates but insufficiently integrated into the productive economic system to drive growth in either direction. This interpretation aligns closely with the

structural critique advanced by Barajas et al. (2009), who characterized remittances as compensatory flows that improve welfare without transforming the productive foundations of recipient economies.

Contributions to the Literature

This study makes three contributions to the existing literature. First, it provides dynamic panel evidence on the remittance–growth nexus in South Asia, a region that is heavily studied at the micro level but surprisingly underexplored at the macroeconomic level using methods capable of capturing long-run dynamics. Second, by explicitly separating short-run and long-run effects through the PMG framework, it demonstrates that static methodologies are likely to mischaracterize the remittance–growth relationship by conflating short-run stabilization effects with long-run structural outcomes, a methodological point with implications for how future empirical work in this area should be designed. Third, the cross-country heterogeneity in short-run effects highlights that even within a relatively homogeneous region, country-specific structural factors mediate remittance impacts in ways that make uniform policy prescriptions unreliable.

Discussion

Using a panel ARDL framework with PMG estimation across Pakistan, India, Bangladesh, and Sri Lanka over the period 1980–2015, the study produces three core findings that together constitute a coherent empirical narrative. First, remittances are negatively associated with long-run economic growth across the selected economies, with a one percent increase in remittance inflows associated with a 1.38 percent decline in long-run GDP. This is not a marginal or ambiguous result, it is statistically significant, economically substantial, and consistent across the sample. It suggests that in South Asia, remittances have functioned more as compensatory income transfers that sustain consumption than as productive capital flows that build the economy's long-run capacity. Second, remittances exhibit no causal relationship with economic growth in either direction. This finding is as important as the long-run coefficient itself. It means that remittances are not driving growth, but equally that they are not being driven by growth dynamics, they operate largely independently of the domestic productive economy, flowing in response to migrant decisions and destination-country conditions rather than to the economic performance of origin economies. This decoupling fundamentally limits the role remittances can play as a development policy instrument. Third, the short-run effects of remittances are heterogeneous across countries, with positive effects in Pakistan, negative effects in Bangladesh, and largely insignificant effects in India and Sri Lanka. This heterogeneity is not noise ,it is signal. It reflects the reality that the impact of remittances is mediated by country-specific structural factors, including financial development, labor market conditions, and the degree of remittance dependence, in ways that aggregate regional analysis obscures.

Taken together, these findings support the more critical perspective in the remittances literature. Remittances in South Asia appear to reproduce the dependency and structural distortion dynamics identified by Chami et al. (2005) and Barajas et al. (2009) rather than the financial substitution and investment facilitation mechanisms emphasized by Giuliano and Ruiz-Arranz (2009). The contrast with foreign direct investment and exports, both of which exhibit positive, significant, and causally meaningful relationships with growth, further underscores that the form of external engagement matters profoundly for development outcomes. Not all external inflows are created equal.

Limitations and Research Gaps

The findings raise questions that this study cannot fully answer and that deserve attention in future research. Most importantly, the negative long-run effect identified here may reflect not an inherent property of remittances but a failure of the institutional and financial environment to channel them productively, which raises the question of whether and under what conditions that environment could be reformed to alter the relationship? Future research employing threshold or regime-switching models could test whether the remittance–growth relationship changes at different levels of financial development or institutional quality, providing a more actionable basis for policy. Additionally, extending the sample period to capture the post-2015 period, during which digital financial services and mobile money have significantly altered remittance dynamics across South Asia, would provide valuable evidence on whether the structural relationship identified here has evolved.

Conclusion

This study set out to examine a question that appears straightforward on its surface but proves deeply consequential in its implications: do remittances promote economic growth in South Asia? For a region that has come to depend on migrant income as a structural feature of its external financing landscape, not a temporary supplement but a permanent fixture, the answer to this question carries substantial weight for how governments, development institutions, and policymakers understand and respond to remittance dependence. The answer that emerges from the analysis is neither a comfortable confirmation of the optimistic view nor a simple rejection of it, but something more instructive and more unsettling: a pattern in which remittances sustain households while quietly constraining the productive foundations on which sustained economic growth depends.

References

Acosta, P. A., Lartey, E. K. K., & Mandelman, F. S. (2009). Remittances and the Dutch disease. *Journal of International Economics, 79*(1), 102–116. https://doi.org/10.1016/j.jinteco.2009.06.007

Adams, R. H., & Page, J. (2005). Do international migration and remittances reduce poverty in developing countries? *World Development, 33*(10), 1645–1669. https://doi.org/10.1016/j.worlddev.2005.05.004

Baltagi, B. H., & Pesaran, M. H. (2007). Heterogeneity and cross section dependence in panel data models: Theory and applications. *Journal of Applied Econometrics, 22*(2), 229–232. https://doi.org/10.1002/jae.955

Baltagi, B. H., Feng, Q., & Kao, C. (2012). A Lagrange multiplier test for cross-sectional dependence in a fixed effects panel data model. *Journal of Econometrics, 170*(1), 164–177. https://doi.org/10.1016/j.jeconom.2012.04.004

Barajas, A., Chami, R., Fullenkamp, C., Gapen, M., & Montiel, P. (2009). *Do workers' remittances promote economic growth?* (IMF Working Paper No. 09/153). International Monetary Fund.

Borensztein, E., De Gregorio, J., & Lee, J. W. (1998). How does foreign direct investment affect economic growth? *Journal of International Economics, 45*(1), 115–135. https://doi.org/10.1016/S0022-1996(97)00033-0

Catrinescu, N., Leon-Ledesma, M., Piracha, M., & Quillin, B. (2009). Remittances, institutions, and economic growth. *World Development, 37*(1), 81–92. https://doi.org/10.1016/j.worlddev.2008.02.004

Cazachevici, A., Havranek, T., & Horvath, R. (2020). Remittances and economic growth: A meta-analysis. *World Development, 134*, 105021. https://doi.org/10.1016/j.worlddev.2020.105021

Chami, R., Fullenkamp, C., & Jahjah, S. (2005). Are immigrant remittance flows a source of capital for development? *IMF Staff Papers, 52*(1), 55–81.

Docquier, F., Ozden, C., Rapoport, H., & Schiff, M. (2011). Migration and remittances: Causes and consequences. *Journal of Economic Perspectives, 25*(3), 3–22. https://doi.org/10.1257/jep.25.3.3 *

Dumitrescu, E. I., & Hurlin, C. (2012). Testing for Granger non-causality in heterogeneous panels. *Economic Modelling, 29*(4), 1450–1460. https://doi.org/10.1016/j.econmod.2012.02.014

Giuliano, P., & Ruiz-Arranz, M. (2009). Remittances, financial development, and growth. *Journal of Development Economics, 90*(1), 144–152. https://doi.org/10.1016/j.jdeveco.2008.10.005

Grossman, G. M., & Helpman, E. (1991). *Innovation and growth in the global economy*. MIT Press.

Gylfason, T. (2001). Natural resources, education, and economic development. *European Economic Review, 45*(4–6), 847–859. https://doi.org/10.1016/S0014-2921(01)00127-1 *

Im, K. S., Pesaran, M. H., & Shin, Y. (2003). Testing for unit roots in heterogeneous panels. *Journal of Econometrics, 115*(1), 53–74. https://doi.org/10.1016/S0304-4076(03)00092-7

International Monetary Fund. (2022). *World economic outlook: Countering the cost-of-living crisis*. International Monetary Fund.

Islam, M. S. (2022). Do personal remittances influence economic growth in South Asia? A panel analysis. *Review of Development Economics, 26*(1), 242–258. https://doi.org/10.1111/rode.12839

Levin, A., Lin, C.-F., & Chu, C.-S. J. (2002). Unit root tests in panel data: Asymptotic and finite-sample properties. *Journal of Econometrics, 108*(1), 1–24. https://doi.org/10.1016/S0304-4076(01)00098-7

Mishkin, F. S. (2007). *The economics of money, banking, and financial markets* (8th ed.). Pearson Education. *

Moon, H. R., & Perron, B. (2004). Testing for a unit root in panels with dynamic factors. *Journal of Econometrics, 122*(1), 81–126. https://doi.org/10.1016/j.jeconom.2003.10.020

Pesaran, M. H. (2004). *General diagnostic tests for cross-section dependence in panels* (CESifo Working Paper No. 1229). CESifo.

Pesaran, M. H., Shin, Y., & Smith, R. P. (1999). Pooled mean group estimation of dynamic heterogeneous panels. *Journal of the American Statistical Association, 94*(446), 621–634. https://doi.org/10.1080/01621459.1999.10474156

Rajan, R. G., & Subramanian, A. (2011). Aid, Dutch disease, and manufacturing growth. *Journal of Development Economics, 94*(1), 106–118. https://doi.org/10.1016/j.jdeveco.2009.12.004 *

Ratha, D. (2003). Workers' remittances: An important and stable source of external development finance. In *Global development finance 2003* (pp. 157–175). World Bank.

Robertson, D., & Symons, J. (2000). *Factor residuals in SUR regressions: Estimating panels allowing for cross-sectional correlation* (CEPR Discussion Paper No. 2543). Centre for Economic Policy Research.

Rodrik, D. (2008). The real exchange rate and economic growth. *Brookings Papers on Economic Activity, 2008*(2), 365–412. https://doi.org/10.1353/eca.0.0020 *

Stark, O., & Bloom, D. E. (1985). The new economics of labor migration. *American Economic Review, 75*(2), 173–178.

Sutradhar, S. R. (2020). The impact of remittances on economic growth in Bangladesh, India, Pakistan and Sri Lanka. *International Journal of Economic Policy Studies, 14*(1), 275–295. https://doi.org/10.1007/s42495-020-00034-1

Uddin, M. N., Uddin, M. J., Uddin, J., & Ahmmed, M. (2020). Remittances and economic growth nexus in selected South Asian countries: A panel data analysis. *International Journal of Financial Research, 11*(1), 218–227. https://doi.org/10.5430/ijfr.v11n1p218

World Bank. (2023a). *Migration and development brief 39: Remittances remain resilient but growth slows*. World Bank.

World Bank. (2023b). *World development indicators*. World Bank.