Nexus Between Remittance and Economic Growth: Case of Top Remittance Recipient Countries

Sirjana Chhetri[1]

1. Mrs. Chhetri is an Assistant Director of Nepal Rastra Bank.
sirjanachhetri01@gmail.com

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Abstract

This paper aims to explore the nexus between remittance and economic growth in the top twenty remittance-recipient countries defined in terms of remittances to GDP ratio by using the panel cointegration approach. Panel data from 2009 to 2022 have been used for the Pedroni and Kao Cointegration test and panel ARDL approach to cointegration. Results showed that while there exists a long-run equilibrium relationship among the variables with a very high degree of adjustment in disequilibrium, remittance flows appear to affect economic growth adversely in the long run. Trade openness and gross fixed capital formation positively affected economic growth while inflation reduced growth in the long run. These results imply that the top remittance-recipient countries need to use remittances productively while addressing their structural problems hindering economic growth including high dependence on external sources and imports, low financial access, weak rule of law, and weak quality of institutions.

***Keywords*:** remittances, economic growth, panel cointegration

***JEL Classification*:** F24, C23

Introduction

Remittances are a vital component of international financial resources that play a crucial role in the economic dynamics of the recipient countries. In developing countries, remittances represent a substantial amount of foreign earnings, frequently surpassing inflow received foreign direct investment and development assistance. Furthermore, remittances have far-reaching implications for poverty alleviation, reducing inequality, boosting consumption and investment, and economic development of the nation as a whole (World Bank, 2006). Remittances support a country's foreign exchange reserves and creditworthiness, lubricate the development of an innovative financial system, increase access to capital and ultimately stimulate economic growth (Giuliano & Ruiz-Arranz, 2009).

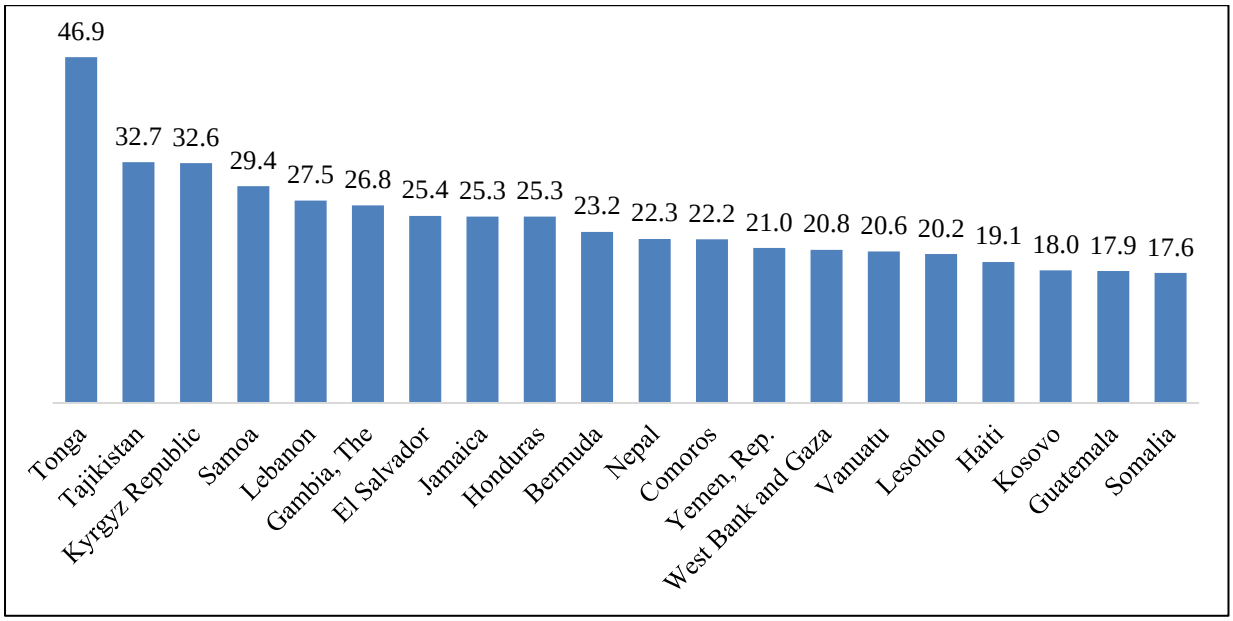
Remittance is considered as the main and stable source of income for households and as a key driver for eradicating poverty, and inequality and stimulating the economic development process in developing countries (Alferietal, 2005). Remittances improve credit availability for the poor, address capital constraints, support financial development, and thus boost economic growth (Guilano & Arranz, 2005). However, conventional thought holds that because remittances are used mostly for consumption, they have a nominal impact on long-term growth. Vargas-Silva et al. (2009) argued that international migration affects the development process of the home country as the educated, skilled, and working-age people

leave the nations, increasing inequality, brain and muscle drain, import inflation, and may have adverse effects on the macroeconomic indicators of the nations. Chami and Jahjah (2005) argued for a negative impact of remittances on per capita income as a significant portion is spent on consumption, a smaller part is allocated to saving or investment, and the saved portion is often used in unproductive sectors. In addition, Barajas et al. (2009) concluded that remittances do not promote long-run growth.

The empirical literature on the role of remittances is growing over time, however, most of the studies are limited to a single country using household data. A survey of such literature is available in Adams (2011). Another strand focuses on the macroeconomic impact of remittances in developing economies and small states. Some of such studies include Ahortor and Adenutsi (2008), Ghosh Dastidar (2017), Meyer and Shera (2017), and Eggoh et al. (2019). Empirical literature focusing on the macroeconomic impact of remittances in high-remittance-recipient countries is still lacking. This paper is an attempt to fill the gap by taking a case of the top twenty remittance-recipient countries. The selected countries are the countries having high remittance GDP ratio as published by the World Bank (2022). These countries include Tonga, Tajikistan, Kyrgyz Republic, Samoa, Lebanon, Gambia, EI Salvador, Jamaica, Honduras, Bermuda, Nepal, Comoros, Yemen, West Bank and Gaza, Vanuatu, Lesotho, Haiti, Kosovo, Guatemala and Somalia. The list of the countries along with the remittance GDP ratio is presented in Figure 1.

Figure 1

List of Sample Countries: Remittance/GDP in 2021



Note. World Bank (2022)

The findings from this paper have implications for the policymakers of the countries in formulating necessary policies to use their hard-earned remittances to boost economic growth in the long run.

The rest of the paper is organized as follows: section two reviews some of the important literature on the remittance-growth nexus, section three discusses data and

methodology, section four discusses the main findings and discussion and the last section concludes the paper with some policy implications.

Review of Literature

Macroeconomic impact of remittances has gained significant attention from policymakers, academics, and scholars in recent years. While many studies highlight the positive contributions of remittances to economic growth, some emphasize the potential for negative impacts, particularly in certain regions and under specific conditions.

Several studies have identified the positive impact of remittances on economic growth. For instance, Qayyum et al. (2008), Zaman and Shah (2011), Meyer and Shera (2017), Topxhiu and Krasniqi (2017), and Issahaku et al. (2018) supported the notion that remittances contributed positively to economic development. A comprehensive study covering data from 106 developing countries over 13 years (1996 to 2013) concluded that remittances stimulated economic growth, particularly in low-income and lower-middle-income countries (Issahaku et al., 2018).

Region-specific studies further support this argument. Remittances promoted economic growth in the Western Balkan countries, including Albania, Kosovo, Macedonia, Montenegro, Bosnia and Herzegovina, and Serbia (Topxhiu & Krasniqi, 2017). Similarly, Meyer and Shera (2017) found a positive impact in six high remittance-receiving countries: Albania, Bulgaria, Macedonia, Moldova, Romania, and Bosnia and Herzegovina. Olayungbo and Quadri (2019) observed similar findings in twenty sub-Saharan African countries, while Fayissa and Nsiah (2010) reported positive effects in thirty-six African countries. Positive impacts had also been identified in Latin American and Caribbean countries (Ramirez & Sharma, 2008) and in South Asia from 1970 to 2008 (Cooray, 2012).

Specific country studies include the positive impacts of remittances on economic growth in Pakistan (Zaman & Shah, 2011), India (Sutradhar, 2020), and China (Pradhan, 2016). Furthermore, remittances have been shown to play a crucial role in consumption and poverty reduction (Alferiet al., 2005; Jongwanich, 2007; Qayyum et al., 2008) and in boosting domestic investment in South Asia (Dash, 2020; Jongwanich, 2007). Additionally, remittances helped middle-income countries overcome income traps (Tu et al., 2019).

Conversely, another strand of literature has highlighted the negative impact of remittances on economic growth. Ferdaous (2016) found significant negative impacts across 33 developing countries. A non-linear relationship between remittances and economic growth was identified in six CEMAC countries (Tchekoumi & Nya, 2023). Similarly, Nyasha and Odhiambo (2022) identified negative impacts in South Africa over the period from 1970 to 2019. Kratou and Gazdar (2016) noted a short-term negative impact in the MENA region, while Karadag et al. (2019) observed negative effects in transition countries. Sutradhar (2020) found a negative impact of remittances in South Asian countries such as Bangladesh, Pakistan, and Sri Lanka from 1977 to 2016. Pradhan (2016) reported significant negative impacts in Brazil, the Russian Federation, and India.

Moreover, Issahakuetal. (2018) concluded that remittances do not foster growth in upper-middle and high-income countries. In a similar line, Karagoz (2009) identified negative effects in Turkey, Shakur and Hassan (2017) and Ahme et al. (2021) in Bangladesh, Tolcha and Rao (2016) in Ethiopia, and Shaikh et al. (2016) in Pakistan.

In the Nepalese case too, studies show mixed results. Dahal (2014) and Banjara et al. (2020) found that remittances positively contributed to human capital accumulation, entrepreneurship, and financial development but have an adverse impact on international trade and manufacturing. Uprety (2017) provided further insights by concluding that an increase in remittances deteriorates GDP growth in Nepal. Acharya and Paudel (2021) and Shakya and Gonpu (2021) argued that remittances did not significantly impact Nepal's economic growth. However, Kaphle (2018) and Dhungel (2018) identified a positive and long-run relationship between remittances and economic growth in Nepal.

Existing literature shows that the role of remittances in economic growth in top remittance recipient countries has not been explored much. This paper attempts to fill this gap by taking a case of high remittance-recipient countries in terms of GDP.

Data and Methodology

This paper utilized panel data of twenty countries having high remittances compared to the size of the economy namely Tonga, Tajikistan, Kyrgyz Republic, Samoa, Lebanon, Gambia, EI Salvador, Jamaica, Honduras, Bermuda, Nepal, Comoros, Yemen, West Bank and Gaza, Vanuatu, Lesotho, Haiti, Kosovo, Guatemala, and Somalia. It used economic growth, inflation, remittances, trade openness, and gross fixed capital formation to explore the interlinkages between remittances and growth, which were selected following Meyer and Shera (2017), Dhungel (2018), Gebbisa and Feyisa (2019), and Nazir (2020). Data ranging from 2009 to 2022 were extracted from the World Development Indicators published by the World Bank. In case of missing data, data were extracted from the respective country databases.

The list of variables along with the definitions has been presented in Table 1.

Table 1

List of Variables

Variable	Definition	Measurement	Source
Y	Growth of Real GDP	Percent	World Bank (2022)
GCF	Gross Capital Formation/GDP	Percent of GDP	World Bank (2022)
INF	Inflation	Percent	World Bank (2022)
RM	Remittance Inflow to GDP	Percent of GDP	World Bank (2022)
TO	Total Trade/GDP	Percent of GDP	World Bank (2022)

The paper used panel ARDL approach to investigate the linkage between remittances and economic growth. The first step involves determining whether the data is stationary or the order of integration. The Autoregressive Distributed Lag (ARDL) model requires the data to be either integrated of order zero or at most integrated of order one. ARDL model is preferred to other models as: i) it can be used whether the variables are $I(0)$ or $I(1)$, ii) it is robust when the sample size is finite or limited, iii) the Error Correction Model can be estimated to capture the short-run adjustment, and iv) it examines the long run relationship with a single cointegration equation.

For panel data analysis, several panel unit root tests have been recommended in empirical studies, such as Maddala and Wu (1999), and Hadri (2000), Breitung (2000), Levin, Lin and Chu (2002), Pesaran and Shin (2003). These tests are used to assess the presence of unit roots in panel datasets.

In the second stage, a panel cointegration test was carried out which analyzes the long-run relationship among the dependent and independent variables. Pedroni (1999, 2004) introduced a cointegration test that accommodate heterogeneous intercepts and trend coefficients across different groups. The fundamental equation of Pedroni (1999, 2004) and Kao (1999) can be presented as:

$$Y_{it} = \beta_0 + \delta t + \beta_{1i} X_{1i} + \beta_{2i} X_{2i} + \cdots . \beta_{mi} X_{mi} + \varepsilon_{it} \ldots\ldots\ldots (2)$$

where, 't' denotes the number of years, 'i' represents the number of variables, and 'm' indicates the number of cross-sections where variables are supposed to have the order of integration one *I*(1).This paper has used above panel co-integration model (equation 2) for investigating such long-run relationship.

The panel ARDL method was applied to analyze both long-term and short-term relationships between the variables after conducting unit root and co-integration test. Error Correction Model (ECM) was estimated to capture panel-specific dynamics in the short term. The ARDL model can be applied with different orders of integration, whether they are stationary (*I*(0)), integrated of order one (*I*(1)), or both (*I*(0) and *I*(1)).

Based on the mechanism proposed by Pesaran and Smith (1999, the equation for the panel ARDL can be specified as:

$$\mathrm{Y_{it}} = \alpha_{\mathrm{i}} + \sum_{\mathrm{j=1}}^{\mathrm{k}} \alpha_{\mathrm{1i,j}} \mathrm{Y_{i,t-j}} + \sum_{\mathrm{j=0}}^{\mathrm{k}} \alpha_{\mathrm{2i,j}} INF_{\mathrm{i,t-j}} + \sum_{\mathrm{j=0}}^{\mathrm{k}} \alpha_{\mathrm{3i,j}} \ln RM_{\mathrm{i,t-j}} + \sum_{\mathrm{j=0}}^{\mathrm{k}} \alpha_{\mathrm{4i,j}} \ln TO_{\mathrm{i,t-j}} + \sum_{\mathrm{j=0}}^{\mathrm{k}} \alpha_{\mathrm{5i,j}} \ln GFC_{i,t-j} + \epsilon_{\mathrm{it}} \ldots\ldots\ldots (3)$$

where i = 1,2,3,...,N and t = 1,2,3,...,T, α_i denotes the fixed effects to each entity in the panel and α_1 –α_5 represents the lagged coefficients of the independent variables, k indicates the lags applied to both the variable and the regressors, and ε_{it} denotes the error term, which is assumed to vary across countries and over time.

Panel error correction (ECM) equation is presented as below:

$$Y_{it} = \alpha_i + \sum_{j=1}^{k} \alpha_{1i,j} \Delta Y_{i,t-j} + \sum_{j=0}^{k} \alpha_{2i,j} \Delta INF_{i,t-j} + \sum_{j=0}^{k} \alpha_{2i,j} \Delta lnRM_{i,t-j} + \sum_{j=0}^{k} \alpha_{3i,j} \Delta lnTO_{i,t-j} + \sum_{j=0}^{k} \alpha_{4i,j} \Delta lnGFC_{i,t-j} + \beta_{1\,i,j} Y_{i,t-1} + \beta_{2\,i,j} INF_{i,t-1} + \beta_{3\,i,j} lnRM_{i,t-1} + \beta_{4\,i,j} lnTO_{i,t-1} + \beta_{5\,i,j} lnGFC_{i,t-1} + e_{it} \ldots\ldots (4)$$

In equation (3), Δ is the first difference of variables. Also, α_1,…..,α_5 are the short-run coefficients while β_1,……, β_5 are the long-run coefficients of GDP Growth, inflation, remittance, trade openness and gross fixed capital formation respectively.

ECM Model can be estimated as follows when co-integrating relation is found between dependent and independent variables:

$$Y_{it} = \alpha_i + \sum_{j=1}^{k} \alpha_{1i,j} \Delta Y_{i,t-j} + \sum_{j=0}^{k} \alpha_{2i,j} \Delta INF_{i,t-j} + \sum_{j=0}^{k} \alpha_{3i,j} ln\Delta RM_{i,t-j} + \sum_{j=0}^{k} \alpha_{4i,j} ln\Delta TO_{i,t-j} + \sum_{j=0}^{k} \alpha_{5i,j} ln\Delta GFC_{i,t-j} + \theta_i ECM_{i,t-1} + e_{it} \ldots\ldots (5)$$

Where θ_i is the ECM coefficient measures the adjustment rate toward equilibrium.

For estimating ARDL model, the pooled mean group (PMG) method introduced by Pesaran, Shin and Smith (1997, 1999) is most preferred method. PMG method allows to average and pool the coefficient and also permits intercepts, short-run coefficients and error variance. In contrast, Mean Group (MG) method doesn't consider the panel characteristic of the data where all parameters, intercepts, short-run coefficient and error variance are different. And the third method is the dynamic fixed effect (DFE) method, which also produces the

parameters that differ significantly across the groups, and it requires all slopes to be identical across groups.

PMG estimator is assumed to be efficient estimators which is consistent with homogeneity issues and the long-run coefficients are also indifferent across groups. Moreover, these estimator exhibits less sensitivity to outliers and address the problem of autocorrelation where a number of cross-sectional (N) is small. In this paper, the Hausman test has been employed to select the model from PMG, MG and DFE.

Results and Discussion

Table 2 presents the descriptive statistics of the variables included in the study. Results show that while the average growth of the twenty countries during 2009-2022 stands low at 2.16 percent, average inflation is 6.35 percent and has much volatility as shown by the higher standard deviation.

Table 2

Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Y	280	2.161	4.791	-27.995	12.534
GCF	280	23.74	9.215	1.402	54.282
INF	280	6.355	15.304	-16.86	171.205
RM	280	18.992	7.852	1.755	50.948
TO	280	75.312	27.008	31.638	158.895

Note. Author's estimates

To confirm the order of integration of the variables, Fisher Test, Levin-Lin-Chu test and Harris-Tzavalis test have been employed. The panel unit test results are presented in Table 3.

Table 3

Unit Root Test

Variable	Type of Test	Probability at Level/ First Difference		Order
		Level	1st diff.	
Y	Levin-Lin-Chu	0.0000	0.0000	I(0)
	Harris-Tzavalis	0.0769	0.0000	
	Fisher type	0.0000	0.0000	
ln*GCF*	Levin-Lin-Chu	0.0011	0.000	I(1)
	Harris-Tzavalis	0.7054	0.000	
	Fisher type	0.0446	0.000	
INF	Levin-Lin-Chu	0.9865	0.000	I(1)
	Harris-Tzavalis	0.9845	0.000	
	Fisher type	0.0971	0.000	
ln*RM*	Levin-Lin-Chu	0.9982	0.000	I(1)
	Harris-Tzavalis	0.9867	0.000	
	Fisher type	0.8715	0.000	
ln*TO*	Levin-Lin-Chu	0.0254	0.000	I(1)
	Harris-Tzavalis	0.6680	0.025	
	Fisher type	0.000	0.000	

Note. Author's estimates

The results from the panel unit root test show that while GDP growth is integrated of order zero and other remaining variables are stationery at the order of one. As all variables are integrated at order of zero and one and none of the variables are stationery at order two, use of ARDL technique is justified.

Table 4 and Table 5 show the results from the panel cointegration tests. The Pedroni and Kao residual-based co-integration tests are employed to test the evidence of co-integration with the hypothesis that no co-integration in the panel data. Both co-integration tests strongly reject the null hypothesis of no co-integration. Thus, there is evidence of a long-run relationship between the dependent and the explanatory variables.

Table 4

Kao Test for Co-integration

Ho: No cointegration			Number of panels	=	20
Ha: All panels are cointegrated			Number of periods	=	12
Cointegrating vector: Same					
Panel means:	Included	Kernel:	Bartlett		
Time trend:	Not included	Lags:	1.80 (Newey-West)		
AR parameter:	Same	Augmented lags:	1		

	Statistic	p-value
Modified Dickey-Fuller t	-2.6898	0.0036
Dickey-Fuller t	-8.0006	0.0000
Augmented Dickey-Fuller t	-2.2621	0.0118
Unadjusted modified Dickey-Fuller t	-14.0027	0.0000
Unadjusted Dickey-Fuller t	-13.1272	0.0000

Note. Author's Estimation

Table 5

Pedroni Test for Co-integration

Ho: No cointegration			Number of panels	=	20
Ha: All panels are cointegrated			Number of periods	=	13
Cointegrating vector: Panel specific					
Panel means:	Included	Kernel:	Bartlett		
Time trend:	Not included	Lags:	0.00 (Newey-West)		
AR parameter:	Panel specific	Augmented lags:	1		

	Statistic	**p-value**
Modified Phillips-Perron t	2.7621	0.0029
Phillips-Perron t	-8.4042	0.0000
Augmented Dickey-Fuller t	-10.9444	0.0000

Note. Author's estimates

After performing a stationarity and co-integration test of data, where data are integrated at the order of $I(0)$ and $I(1)$ with the evidence of having a long run relationship among the variables, ARDL model specified in equation (3) is estimated using three estimators (PMG, MG and DFE). The results from the estimation are presented in Table 6.

Table 6

Panel ARDL Estimation

Panel ARDL estimation	Pooled Mean Group Regression (PMG)		Mean Group Regression (MG)		Dynamic Fixed Effects Regression (DFE)	
	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value
Long run Coefficients						
ln*GCF*	.138	0.825	5.089	0.518	4.469	0.000
INF	-0.034	0.002	-0.093	0.707	-0.005	0.838
ln*RM*	-4.677	0.000	6.234	0.601	-0.579	0.451
ln*TO*	10.513	0.000	18.934	0.062	7.733	0.000
Short run Coefficients						
ECM	-1.016	0.000	-1.15	0.000	-1.99	0.000
D.ln*GCF*	3.526	0.058	5.897	0.276	2.767	0.060
D.*INF*	0.153	0.222	0.213	0.929	-0.090	0.036
D.ln*RM*	-0.450	0.911	-4.534	0.408	-1.886	0.290
D. ln*TO*	2.886	0.498	-2.812	0.578	5.498	0.041
Cons	-29.759	0.000	-87.914	0.036	-46.843	0.000

Note. Author's estimates

Hausman test has been used to select the efficient and consistent estimators of the model. Results from the test show that both PMG and DFE estimators are more consistent and efficient estimators than MG. However, since PMG estimators dominate the DFE estimators as they consider the heterogeneity in short-run coefficients, PMG Model has been selected as the better model.

Table 7

Hausman Test Results

	Chi	p-value	Conclusion
MG and PMG	3.12	0.538	PMG Estimator is a consistent and more efficient estimator than MG.
MG and DFE	2.01	0.733	DFE Estimator is a consistent and more efficient estimator than MG.

Note. Author's estimates

The results from the PMG model show that the long run elasticities of inflation and trade openness have expected signs as expected and are statistically significant. The elasticity of gross fixed capital formation has expected positive sign but not statistically significant. Interestingly, results show that remittance has an adverse effect on economic growth in the case of top remittance recipient countries. In particular, one percentage point increase in the remittance GDP ratio is likely to reduce economic growth in the long run by 0.046 percentage points. This result aligns with the findings of Ferdaous (2016), who studied 33 developing countries, as well as those of Gazdar and Kratou (2016), Issahaku et al. (2018), Karadag et al. (2019) Nyasha and Odhiambo (2022), Pradhan (2016), Sutradhar (2020), and Tchekoumi and Nya (2023) and Uprety (2017). These studies suggest that the impact of remittances on economic growth depends on the level of financial development, the structural characteristics of the country and the use of remittances.

First, remittances lead to migration of human resources on the one hand and reduce the supply of labor by the remittance recipient households which hinders economic growth (De Haas, 2010). Second, remittances could be used for financing import-based consumption rather than contributing to productive investment thereby discouraging economic growth (Brown &Ahlburg, 1999; Hasanand Shakur, 2017). Third, remittances, like capital flows,

have the potential to cause to appreciate the exchange rate and allocate the resource from the tradable to the non-tradable sector, resulting in the so-called 'Dutch Disease Effect' (Amuedo-Dorantes & Pozo, 2006).

The negative effect of remittances might have been a result of the institutional and structural constraints faced by the countries. These countries are import dependent as shown by the average import GDP ratio of 50 percent compared to the world average of 28 percent. Financial access is low compared to the world average, consumption expenditure is high at 103 percent of GDP on average, the normalized rule of law index stands at -0.71 compared to the world average of 0.63 and the normalized control of corruption index stands at -0.79 compared to the world average of 1.28 (World Bank, 2022). Such institutional and structural weaknesses might have been the cause of the poor use of remittances and lower growth.

The error correction term in the short-run model indicates the rate of adjustment to return equilibrium after a disturbance in the dynamic model. As expected by the long-term relationship among the variables, the error correction term in the model bears a negative sign and is statistically significant. This implies that any disturbance in the equilibrium is instantaneously corrected within a year to its long run equilibrium path. The error correction term being less than -1 shows that the adjustment process is dynamically stable rather than monotonically (Loayza & Ranciere, 2006; Narayan & Smyth, 2006). It also supports the long-term, and stable relationship between the dependent variable and the regressors. The short-run coefficients of the PMG model are not statistically significant despite being consistent in sign with the long-run coefficients except INF.

Conclusion and Policy Implications

This paper is an attempt to investigate the relationship between economic growth and remittance in top remittance-recipient countries. It uses panel data from the top twenty remittance-recipient countries measured by remittance as percent of GDP to investigate the dynamics between remittance and economic growth. Results from panel co-integration and panel ARDL showed that there existed a long-run relationship between GDP growth and other explanatory variables including remittance. The results from the panel ARDL model further demonstrated that remittance had adverse effects on economic growth in the long run in the high remittance-recipient countries. This calls for making a productive use of remittances in those economies and addressing the structural as well as institutional constraints such as corruption, rule of law, governance, political instability, poor infrastructure, financial access, high import dependency, which are creating barriers in boosting economic growth.

This study used a sample of twenty countries only as such the results from the study might not be generalized for all other countries. Many of these countries are affected by internal conflicts, political instability, and high corruption. These country-specific characteristics were not considered, potentially limiting the study's ability to examine how these factors influence the linkages between remittances and economic growth. Further human capital could not be included in the analysis due to a lack of sufficient data. Future studies can be conducted with a larger sample and include other aspects affecting the growth

dynamism such as human capital, rule of law, and quality of institutions. Also, the nexus of remittances with other variables such as poverty and inequality reduction could be explored.

Disclaimer: The opinions expressed in this research reflect the personal perspective of the researcher and do not represent the official stance of the associated institution.

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Appendix

Data Used for the Study

Year	Country	GDP growth	GCF	Inflation	Remit/GDP	Trade/GDP
2009	Bermuda	-5.6	13.0	3.4	20.2	74.6
2010	Bermuda	-2.5	13.0	3.4	19.0	74.6
2011	Bermuda	-3.7	12.6	3.4	18.6	76.3
2012	Bermuda	-5.3	11.0	3.4	18.7	73.8
2013	Bermuda	-0.3	10.9	3.4	18.9	76.3
2014	Bermuda	-3.7	12.1	3.4	20.8	76.5
2015	Bermuda	0.8	11.9	3.4	21.7	73.3
2016	Bermuda	-0.7	12.8	3.4	21.0	72.7
2017	Bermuda	3.6	13.8	3.4	21.1	72.4
2018	Bermuda	-0.4	13.4	3.4	20.0	77.6
2019	Bermuda	0.3	14.7	3.4	20.8	77.6
2020	Bermuda	-6.8	12.2	3.4	22.9	69.2
2021	Bermuda	3.0	13.3	3.4	23.2	74.1
2022	Bermuda	2.9	12.5	3.4	23.8	78.3
2009	Comoros	3.2	18.0	4.4	11.1	37.9
2010	Comoros	3.8	18.2	3.4	9.6	39.6
2011	Comoros	4.1	16.0	1.8	10.6	40.0
2012	Comoros	3.2	16.2	6.3	10.8	40.8
2013	Comoros	4.5	16.4	-4.3	0.0	39.2
2014	Comoros	2.1	15.2	-4.3	13.9	39.2
2015	Comoros	1.1	13.6	-4.3	13.7	37.8
2016	Comoros	3.3	12.6	-4.3	11.5	37.1
2017	Comoros	3.8	13.4	-4.3	12.2	40.2
2018	Comoros	3.6	14.9	-4.3	14.5	43.0
2019	Comoros	1.8	12.7	-4.3	14.1	42.3
2020	Comoros	-0.2	11.8	-4.3	18.5	33.7
2021	Comoros	2.1	13.5	-4.3	22.2	42.3
2022	Comoros	2.4	13.0	-4.3	22.7	47.8

Year	Country	GDP growth	GCF	Inflation	Remit/GDP	Trade/GDP
2009	El Salvador	-2.1	14.1	1.1	19.3	66.1
2010	El Salvador	2.2	16.7	1.2	18.8	73.5
2011	El Salvador	3.8	17.8	5.1	18.0	79.3
2012	El Salvador	2.9	17.7	1.7	18.3	77.6
2013	El Salvador	2.2	17.0	0.8	18.0	80.5
2014	El Salvador	1.7	16.4	1.1	18.4	78.1
2015	El Salvador	2.4	16.0	-0.7	18.2	76.6
2016	El Salvador	2.5	16.0	0.6	18.9	72.8
2017	El Salvador	2.3	16.7	1.0	20.0	74.3
2018	El Salvador	2.4	18.4	1.1	20.7	75.6
2019	El Salvador	2.4	18.3	0.1	21.0	76.0
2020	El Salvador	-7.8	17.1	-0.4	23.8	66.1
2021	El Salvador	11.2	20.6	3.5	25.4	80.8
2022	El Salvador	2.6	20.0	7.2	23.7	86.8
2009	Gambia, The	6.7	12.9	4.6	5.5	41.8
2010	Gambia, The	5.9	13.9	5.0	7.5	41.0
2011	Gambia, The	-8.1	12.9	4.8	6.5	42.6
2012	Gambia, The	5.2	20.9	4.3	7.5	47.7
2013	Gambia, The	2.9	14.7	5.7	8.0	45.5
2014	Gambia, The	-1.4	16.7	5.9	11.2	58.3
2015	Gambia, The	4.1	20.4	6.8	11.2	52.9
2016	Gambia, The	1.9	24.9	7.2	9.8	46.0
2017	Gambia, The	4.8	23.0	8.0	10.6	53.3
2018	Gambia, The	7.2	20.9	6.5	12.7	63.1
2019	Gambia, The	6.2	22.0	7.1	15.2	53.3
2020	Gambia, The	0.6	27.5	5.9	23.0	47.5
2021	Gambia, The	4.3	29.2	7.4	26.8	42.1
2022	Gambia, The	4.3	33.7	11.5	22.9	35.3
2009	Guatemala	0.5	13.3	1.9	10.8	58.0
2010	Guatemala	2.9	14.2	3.9	10.4	63.1
2011	Guatemala	4.2	15.5	6.2	9.7	65.0
2012	Guatemala	3.0	15.2	3.8	10.0	62.0
2013	Guatemala	3.7	15.8	4.3	10.0	56.7
2014	Guatemala	4.4	15.1	3.4	9.9	55.1
2015	Guatemala	4.1	14.8	2.4	10.4	49.9
2016	Guatemala	2.7	13.9	4.4	11.1	46.4
2017	Guatemala	3.1	13.6	4.4	11.7	46.1
2018	Guatemala	3.4	13.8	3.8	12.9	47.0
2019	Guatemala	4.0	14.3	3.7	13.8	45.5
2020	Guatemala	-1.8	13.5	3.2	14.7	41.1
2021	Guatemala	8.0	16.9	4.3	17.9	49.5
2022	Guatemala	4.1	16.7	6.9	19.2	54.7
2009	Haiti	5.9	12.6	0.4	11.9	33.1
2010	Haiti	-5.7	25.0	4.8	12.4	44.7
2011	Haiti	5.1	21.0	6.3	11.9	44.2
2012	Haiti	0.5	17.5	5.0	11.8	40.3
2013	Haiti	4.3	17.9	4.8	12.0	40.3
2014	Haiti	2.9	16.6	3.4	13.1	42.4
2015	Haiti	1.4	14.0	6.7	14.8	41.9
2016	Haiti	1.8	13.6	11.5	15.8	41.4
2017	Haiti	2.5	16.9	10.7	16.0	42.1
2018	Haiti	1.7	16.1	12.5	16.7	45.1
2019	Haiti	-1.7	18.5	18.7	17.9	44.6

Year	Country	GDP growth	GCF	Inflation	Remit/GDP	Trade/GDP
2020	Haiti	-3.3	22.8	22.8	22.5	34.5
2021	Haiti	-1.8	18.1	16.8	19.1	37.2
2022	Haiti	-1.7	15.9	34.0	18.8	36.5
2009	Honduras	-2.4	20.6	5.5	17.0	96.9
2010	Honduras	3.7	21.9	4.7	16.5	109.4
2011	Honduras	3.8	26.0	6.8	15.9	122.2
2012	Honduras	4.1	24.6	5.2	15.8	121.2
2013	Honduras	2.8	21.8	5.2	16.7	116.3
2014	Honduras	3.1	22.2	6.1	17.1	113.0
2015	Honduras	3.8	25.1	3.2	17.5	107.3
2016	Honduras	3.9	23.4	2.7	17.8	99.8
2017	Honduras	4.8	24.8	3.9	18.7	101.8
2018	Honduras	3.8	26.6	4.3	19.8	103.6
2019	Honduras	2.7	22.7	4.4	21.5	98.0
2020	Honduras	-9.0	18.8	3.5	23.5	85.6
2021	Honduras	12.5	24.3	4.5	25.3	101.6
2022	Honduras	4.0	25.9	9.1	26.8	111.1
2009	Jamaica	-4.3	21.1	9.6	15.6	86.9
2010	Jamaica	-1.5	20.2	12.6	15.3	80.9
2011	Jamaica	1.7	21.4	7.6	14.6	83.8
2012	Jamaica	-0.6	19.9	6.9	14.6	82.0
2013	Jamaica	0.5	21.3	9.3	15.2	83.3
2014	Jamaica	0.7	22.5	8.3	16.3	84.7
2015	Jamaica	0.9	21.4	3.7	16.6	76.1
2016	Jamaica	1.4	21.3	2.4	17.3	76.5
2017	Jamaica	1.0	22.5	4.4	16.6	83.5
2018	Jamaica	1.9	23.3	3.7	15.9	90.0
2019	Jamaica	0.9	24.3	3.9	16.2	90.1
2020	Jamaica	-9.9	24.3	5.2	22.2	90.1
2021	Jamaica	4.6	24.3	5.9	25.3	90.1
2022	Jamaica	5.2	24.3	10.3	21.6	90.1
2009	Kosovo	5.0	32.6	-2.4	21.1	77.8
2010	Kosovo	4.9	33.1	3.5	18.8	82.2
2011	Kosovo	6.3	36.1	7.3	15.7	86.2
2012	Kosovo	1.7	31.9	2.5	15.3	81.4
2013	Kosovo	5.3	30.0	1.8	15.7	75.1
2014	Kosovo	3.3	27.8	0.4	15.5	77.1
2015	Kosovo	5.9	30.4	-0.5	15.4	74.0
2016	Kosovo	5.6	33.5	0.3	14.8	75.0
2017	Kosovo	4.8	34.7	1.5	15.5	80.4
2018	Kosovo	3.4	36.3	1.1	15.7	86.3
2019	Kosovo	4.8	34.6	2.7	15.8	85.8
2020	Kosovo	-5.3	33.4	0.2	18.6	75.6
2021	Kosovo	10.7	36.0	3.4	18.0	98.6
2022	Kosovo	5.2	35.1	11.6	17.1	109.5
2009	Kyrgyz Republic	2.9	27.3	6.8	20.9	133.4
2010	Kyrgyz Republic	-0.5	27.4	8.0	26.4	133.2
2011	Kyrgyz Republic	6.0	25.5	16.6	27.6	136.2
2012	Kyrgyz Republic	-0.1	35.0	2.8	30.8	139.7
2013	Kyrgyz Republic	10.9	33.9	6.6	31.1	134.0
2014	Kyrgyz Republic	4.0	36.8	7.5	30.0	125.1
2015	Kyrgyz Republic	3.9	34.7	6.5	25.3	111.0
2016	Kyrgyz Republic	4.3	33.9	0.4	29.3	105.8

Year	Country	GDP growth	GCF	Inflation	Remit/GDP	Trade/GDP
2017	Kyrgyz Republic	4.7	32.9	3.2	32.3	100.6
2018	Kyrgyz Republic	3.8	36.0	1.5	32.5	98.9
2019	Kyrgyz Republic	4.6	36.0	1.1	28.8	98.9
2020	Kyrgyz Republic	-7.1	36.0	6.3	31.8	98.9
2021	Kyrgyz Republic	5.5	36.0	11.9	32.6	98.9
2022	Kyrgyz Republic	6.3	36.0	13.9	27.9	98.9
2009	Lebanon	10.2	26.9	1.2	21.4	90.4
2010	Lebanon	8.0	24.9	4.0	18.0	95.1
2011	Lebanon	0.9	26.8	5.0	17.2	102.1
2012	Lebanon	2.6	24.8	6.6	15.2	88.5
2013	Lebanon	3.8	27.6	4.8	16.1	86.2
2014	Lebanon	2.5	25.0	1.9	15.0	79.8
2015	Lebanon	0.5	22.2	-3.7	15.0	71.8
2016	Lebanon	1.6	23.1	-0.8	14.9	67.7
2017	Lebanon	0.9	21.8	4.3	13.3	68.5
2018	Lebanon	-1.9	22.5	6.1	12.7	68.3
2019	Lebanon	-6.9	12.3	3.0	14.3	63.0
2020	Lebanon	-21.4	8.1	84.9	20.8	50.1
2021	Lebanon	-7.0	5.4	154.8	27.5	78.8
2022	Lebanon	-7.0	5.4	171.2	27.5	78.8
2009	Lesotho	-1.3	30.5	-16.9	31.5	158.9
2010	Lesotho	5.3	31.3	-2.4	27.3	150.1
2011	Lesotho	4.6	25.3	5.0	25.2	149.8
2012	Lesotho	6.3	35.7	6.1	22.4	150.2
2013	Lesotho	1.8	32.7	4.9	19.6	133.4
2014	Lesotho	1.7	34.1	5.4	16.6	126.3
2015	Lesotho	3.1	30.4	3.2	14.7	129.7
2016	Lesotho	3.6	28.5	6.6	21.4	135.2
2017	Lesotho	-3.1	22.2	4.4	23.7	146.4
2018	Lesotho	-1.5	21.4	4.8	22.4	144.4
2019	Lesotho	-1.4	27.1	5.2	22.4	142.2
2020	Lesotho	-7.5	26.1	5.0	21.8	139.8
2021	Lesotho	1.9	29.2	6.0	20.2	142.0
2022	Lesotho	1.1	29.0	8.3	23.8	149.2
2009	Nepal	4.5	31.7	11.1	23.2	47.1
2010	Nepal	4.8	38.3	9.3	21.6	46.0
2011	Nepal	3.4	27.8	9.2	19.5	36.3
2012	Nepal	4.7	28.6	9.5	22.1	37.9
2013	Nepal	3.5	29.7	9.0	25.2	41.9
2014	Nepal	6.0	31.0	8.4	25.9	46.0
2015	Nepal	4.0	31.3	7.9	27.6	46.7
2016	Nepal	0.4	28.2	8.8	27.0	42.1
2017	Nepal	9.0	37.3	3.6	23.9	44.6
2018	Nepal	7.6	39.5	4.1	25.0	48.4
2019	Nepal	6.7	41.4	5.6	24.1	49.2
2020	Nepal	-2.4	30.4	5.1	24.3	40.9
2021	Nepal	4.8	35.2	4.1	22.3	43.1
2022	Nepal	5.6	37.4	7.7	22.8	49.4
2009	Samoa	-0.5	33.7	6.3	19.0	76.0
2010	Samoa	6.1	33.7	0.8	20.4	78.6
2011	Samoa	3.8	37.1	5.2	21.4	81.6
2012	Samoa	-3.7	40.3	2.0	23.0	82.7
2013	Samoa	0.1	36.4	0.6	20.6	77.9

Year	Country	GDP growth	GCF	Inflation	Remit/GDP	Trade/GDP
2014	Samoa	0.7	37.3	-0.4	17.6	80.5
2015	Samoa	3.9	35.9	0.7	15.9	74.6
2016	Samoa	8.0	35.5	1.3	15.5	75.2
2017	Samoa	1.4	32.2	1.7	15.3	74.0
2018	Samoa	-0.6	33.1	4.2	16.8	78.9
2019	Samoa	4.5	33.7	1.0	17.0	83.3
2020	Samoa	-3.1	33.2	-1.6	23.5	77.5
2021	Samoa	-7.1	34.9	3.1	29.4	60.9
2022	Samoa	-5.3	34.8	11.0	33.6	65.0
2009	Somalia	7.5	25.9	2.8	17.6	77.2
2010	Somalia	7.5	25.9	2.8	17.6	77.2
2011	Somalia	7.5	25.9	2.8	17.6	77.2
2012	Somalia	7.5	25.9	2.8	17.6	77.2
2013	Somalia	7.5	25.9	2.8	17.6	77.2
2014	Somalia	7.5	25.9	1.3	17.6	76.5
2015	Somalia	9.9	25.9	0.9	17.6	71.9
2016	Somalia	6.4	25.9	0.0	17.6	71.2
2017	Somalia	9.5	25.9	4.0	17.6	68.1
2018	Somalia	3.0	25.9	4.3	17.6	75.4
2019	Somalia	3.6	25.9	4.5	17.6	69.6
2020	Somalia	-2.6	25.9	4.3	17.6	76.0
2021	Somalia	3.3	25.9	4.6	17.6	82.1
2022	Somalia	2.4	25.9	6.8	16.7	95.8
2009	Tajikistan	3.9	24.8	6.4	31.4	86.0
2010	Tajikistan	6.5	23.8	6.4	35.8	73.5
2011	Tajikistan	7.4	29.2	12.4	41.7	79.8
2012	Tajikistan	7.5	23.3	5.8	42.2	83.2
2013	Tajikistan	7.4	24.9	5.0	43.8	71.7
2014	Tajikistan	6.7	26.5	6.1	37.1	54.6
2015	Tajikistan	6.0	44.7	5.7	27.3	49.9
2016	Tajikistan	6.9	40.5	6.0	26.7	55.7
2017	Tajikistan	7.1	29.9	6.0	29.7	53.8
2018	Tajikistan	7.6	37.3	6.0	28.1	55.8
2019	Tajikistan	7.4	35.4	6.0	28.0	56.0
2020	Tajikistan	4.4	33.5	6.0	26.9	55.7
2021	Tajikistan	9.4	34.9	6.0	32.7	71.8
2022	Tajikistan	8.0	34.9	6.0	50.9	71.8
2009	Tonga	-5.2	25.0	1.4	26.2	78.1
2010	Tonga	0.8	30.3	3.5	20.2	73.2
2011	Tonga	6.8	35.6	6.3	20.3	78.8
2012	Tonga	0.8	36.5	1.1	19.4	78.0
2013	Tonga	0.3	23.5	0.8	27.2	82.9
2014	Tonga	2.0	22.2	2.5	27.1	74.9
2015	Tonga	1.2	24.6	-1.1	29.6	81.5
2016	Tonga	6.6	24.2	2.6	25.5	84.9
2017	Tonga	3.3	27.0	7.5	33.1	88.0
2018	Tonga	0.2	24.0	5.0	29.2	87.6
2019	Tonga	0.7	25.4	1.2	34.7	87.2
2020	Tonga	0.5	24.5	-0.3	38.3	85.5
2021	Tonga	-2.7	22.0	5.6	46.9	73.4
2022	Tonga	-2.7	22.0	11.0	46.9	73.4
2009	Vanuatu	3.0	41.6	4.3	1.9	108.5
2010	Vanuatu	1.3	37.0	2.8	1.8	103.8

Year	Country	GDP growth	GCF	Inflation	Remit/GDP	Trade/GDP
2011	Vanuatu	3.1	28.7	0.9	2.8	97.0
2012	Vanuatu	1.0	24.1	1.3	2.9	104.5
2013	Vanuatu	0.5	27.4	1.5	3.1	106.4
2014	Vanuatu	3.1	24.3	0.8	5.4	105.4
2015	Vanuatu	0.4	32.9	2.5	5.4	113.0
2016	Vanuatu	4.7	23.7	0.8	6.3	109.5
2017	Vanuatu	6.3	27.9	3.1	9.8	105.5
2018	Vanuatu	2.9	26.8	2.3	12.6	98.3
2019	Vanuatu	3.2	24.4	2.8	16.2	99.4
2020	Vanuatu	-5.0	46.9	5.3	14.0	63.0
2021	Vanuatu	0.6	53.9	2.3	20.6	60.5
2022	Vanuatu	1.8	54.3	7.1	18.7	68.5
2009	West Bank and Gaza	8.6	18.6	2.8	9.3	75.2
2010	West Bank and Gaza	5.8	19.8	3.7	9.6	68.5
2011	West Bank and Gaza	9.6	16.7	2.9	10.2	67.2
2012	West Bank and Gaza	6.1	19.5	2.8	14.2	66.9
2013	West Bank and Gaza	4.7	22.7	1.7	11.0	66.3
2014	West Bank and Gaza	-0.2	22.5	1.7	12.9	67.7
2015	West Bank and Gaza	3.7	25.1	1.4	13.0	70.8
2016	West Bank and Gaza	8.9	25.3	-0.2	13.5	65.4
2017	West Bank and Gaza	1.4	27.6	0.2	14.8	68.4
2018	West Bank and Gaza	1.2	28.3	-0.2	17.4	71.4
2019	West Bank and Gaza	1.4	26.8	1.6	18.4	69.0
2020	West Bank and Gaza	-11.3	24.3	-0.7	16.5	67.3
2021	West Bank and Gaza	7.0	25.5	1.2	20.8	73.1
2022	West Bank and Gaza	3.9	26.5	3.7	21.2	85.9
2009	Yemen	3.9	11.7	5.4	4.6	68.1
2010	Yemen	7.7	11.7	11.2	4.9	64.4
2011	Yemen	-12.7	5.5	19.5	4.3	63.1
2012	Yemen	2.4	8.7	9.9	9.5	61.4
2013	Yemen	4.8	8.1	11.0	8.3	52.5
2014	Yemen	-0.2	6.2	8.1	7.8	49.8
2015	Yemen	-28.0	1.6	22.0	7.9	31.6
2016	Yemen	-9.4	1.4	21.3	12.0	32.6
2017	Yemen	-5.1	2.1	30.4	14.0	45.0
2018	Yemen	0.8	5.8	33.6	17.5	58.9
2019	Yemen	2.1	6.5	15.7	17.2	58.9
2020	Yemen	-8.5	5.6	21.7	20.2	58.9
2021	Yemen	-1.0	5.6	31.5	21.0	58.9
2022	Yemen	1.5	5.4	29.5	17.2	58.9

Note. World Bank (2022)