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The Macroeconomic Push-Pull Conditions Affecting Remittance Flows between Latin American Economies

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The Macroeconomic Push-Pull Conditions Affecting Remittance Flows between Latin American Economies*

Abstract

This paper analyzes the macroeconomic push-pull determinants of bilateral remittance flows among 33 pairs of Latin American countries using quarterly data between 2005 and 2023. We apply a panel Autoregressive Distributed Lag (ARDL) framework combined with a Poisson Pseudo Maximum Likelihood (PPML) gravity model specification, distinguishing between short-run dynamics and long-run equilibrium relationships. The results show strong evidence of long-run cointegration between remittance flows and macroeconomic fundamentals. Among the determinants, GDP at origin emerges as the most important driver: stronger economic performance in the origin country is associated with significantly higher remittance flows, suggesting that remittance-sending capacity increases during periods of economic expansion. GDP in the destination, or remittance-receiving, country is a critical driver of short-run remittance flows between countries. Inflation at origin leads to lower remittance flows in the long-run, but has no short-run impact. Furthermore, exchange rate movements and interest rates also influence remittance flows. Wider gaps in nominal effective exchange rates between origin and destination are linked to higher remittance flows while higher interest rates increase flows between countries, consistent with investment-motivated transfers toward higher-yield destinations. Overall, macroeconomic push-pull factors shape remittance corridors primarily through long-run structural channels rather than short-term cyclical fluctuations.

JEL classification

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Keywords

remittances, emerging markets, international flows

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1 Introduction

Remittance flows have become a significant and stable source of external finance for Latin American economies, often exceeding foreign direct investment and official development assistance. While a large body of literature examines remittances from advanced host economies to developing home countries, particularly from the United States into Latin America, far less attention has been paid to intra-Latin American remittance corridors. Yet migration within the region has been on the rise over the past two decades, driven by economic integration, labor mobility agreements, political instability, and asymmetric macroeconomic performance. Understanding the macroeconomic forces shaping these bilateral remittance flows is therefore critical for assessing regional financial integration, external vulnerability, and monetary policy spillovers.

This paper examines the macroeconomic push-pull determinants of bilateral remittance flows across 33 pairs of Latin American countries using quarterly data from 2005 through 2023. Our analysis utilizes both the panel Autoregressive Distributed Lag (ARDL) framework embedded within a gravity model structure along with the Poisson Pseudo Maximum Likelihood (PPML) gravity model. By distinguishing between short-run dynamics and long-run equilibrium relationships, the analysis provides a more nuanced understanding of how macroeconomic fundamentals shape remittance flows over time in the region.

A key contribution of this study is the use of quarterly bilateral remittance data sourced directly from central banks across the region. Unlike aggregate remittance inflows commonly used in the literature, bilateral data allow us to identify corridor-specific dynamics and to explicitly model origin and destination macroeconomic conditions. This approach reduces aggregation bias, captures heterogeneity across country pairs, and allows for a gravity-based specification consistent with international flow modeling. The results provide strong evidence of long-run cointegration between remittance flows and macroeconomic fundamentals (both in levels and differences), while short-run dynamics are generally limited. Across all model specifications, GDP at the origin (remittance-sending) country emerges as consistently the most robust and economically significant determinant of bilateral remittances in the long run. Stronger economic performance in the origin country consistently leads to higher remittance outflows, indicating that remittance-sending capacity increases during periods of expansion. By contrast, GDP at the destination (remittance-receiving) country plays a less consistent role, with some evidence of procyclical behavior, such that economic expansion in the destination country also attracts remittance flows to take advantage of investment opportunities. This effect is found in both the long and short run results. Inflation in the origin country corresponds to lower remittance flows between countries, while destination country inflation attracts more remittances.

Financial variables also play an important role in shaping remittance corridors. Exchange rate

movements significantly influence flows, both in terms of spot exchange rates and nominal effective exchange rates. Exchange rate depreciation in the remittance-receiving country is associated with increased bilateral remittance flows in the long run (pull factor), while appreciation of the nominal effective exchange rate at origin leads to an immediate increase in remittance outflows (push factor). Interest rate differentials further reinforce the importance of financial incentives: increasing interest rates driven by relatively higher returns in the destination country correspond to greater remittance flows, consistent with investment and portfolio allocation motives. Unemployment rates across origin and destination countries, in contrast, exhibit less consistent effects.

The analysis shows that macroeconomic push–pull forces operate primarily through long-run structural channels rather than short-run cyclical responses. With the exception of destination-country GDP and origin-country nominal effective exchange rates, most variables lack short-run significance. Together, these findings suggest that bilateral remittance flows within Latin America are shaped less by temporary shocks and more by sustained differences in growth performance, financial returns, and currency dynamics across countries.

The paper contributes to the macroeconomic determinants literature in several ways. First, it extends the push–pull framework to intra-regional remittance flows within developing economies, where relative growth performance, exchange rate movements, and financial return differentials may operate differently than in North–South corridors. By focusing on bilateral corridors within Latin America, we analyze the regional transmission of macroeconomic shocks and structural drivers that influence remittance flows across emerging economies. Second, by employing a panel ARDL and PPML gravity model using quarterly data, this analysis differentiates between short-run cyclical responses and long-run structural relationships. This is an important distinction which is often overlooked in cross-sectional or static panel studies and provides a deeper understanding of the transient versus persistent dynamics that affect remittance flows across countries. Third, we include financial indicators in the analysis, such as interest rate differentials and exchange rate dynamics, to capture the investment motives for remittance transfers, building on the assumption that remittance flows respond to both financial and macroeconomic factors in similar capacity as other international financial flows. This moves the rationale for remittance sending beyond the altruistic motives to more directly incorporate investment motives and financial channels as critical components of remittance flows. Our findings present remittances as not only household transfers but also macro-financial flows responsive to relative economic conditions across countries.

Finally, the focus on intra-Latin American flows may become increasingly important in a world of geo-economic fragmentation and regionalization. Such forces are already underway with more trade barriers, protectionist sentiment, and policies to limit migrant flows into the United States, which has historically been a central source of remittance outflows for Latin American economies. As global integration falters and policy uncertainty continues to rise in the U.S. in particular,

emerging markets may pursue greater decoupling from global economic powerhouses in favor of more regionalized economic ties. International financial flows in general, and remittance flows in particular, may follow suit. Therefore, our research contributes to the larger academic discussion on how deglobalization, regionalization, and geo-economic fragmentation may reshape capital flows between countries in the decades to come.

The remaining sections are structured as follows. Section 2 covers the recent literature on the push-pull factors affecting remittance flows, with a focus on South-South and emerging market remittance flows. Section 3 presents the data and empirical methodologies employed in the paper. Section 4 presents the empirical results and section 5 concludes.

2 Literature Review

Remittances have become one of the largest and most stable sources of external financing for many emerging markets and developing economies, often exceeding other sources of foreign capital flows and foreign aid. Early theoretical contributions framed remittances primarily as altruistic transfers (Lucas and Stark, 1985) or as part of implicit family contracts involving co-insurance and risk-sharing (Rosenzweig and Stark, 1989). Stark and Bloom (1985) further emphasized remittances as mechanisms for overcoming credit constraints and diversifying household risk in environments characterized by incomplete financial markets. However, overtime the literature has increasingly incorporated macroeconomic determinants, recognizing that remittances respond systematically to economic conditions in both origin and destination countries.

At the global level, empirical research shows that remittances are influenced by macroeconomic performance, institutional quality, and financial conditions. Chami, Fullenkamp and Jahjah (2005) argue that remittances behave differently from private capital flows, often displaying stability during downturns. Sirkeci, Cohen and Ratha (2023) highlights the countercyclical properties of remittances in developing economies, particularly during financial crises. Frankel (2011) finds that bilateral remittances tend to be countercyclical with respect to recipient-country GDP, suggesting that migrants increase transfers during downturns at home. Similarly, Sayan (2006) shows that remittance cyclicity varies across countries, underscoring the importance of modeling bilateral relationships rather than relying solely on aggregate inflows.

Remittances are closely correlated with migrant stocks and flows. Various push-pull factors of migration will also influence remittance flows. While traditional neoclassical models emphasize wage differentials and employment opportunities in destination economies for motivating migration (Harris and Todaro, 1970), a large empirical literature finds that conditions in the origin country often play an important role in determining migration outflows (push factors for remittances).

In particular, improvements in origin country income and economic conditions can relax liquidity constraints and enable migration, leading to a positive relationship between origin country GDP and emigration (Hatton and Williamson, 2005; Mayda, 2010). This challenges the view that migration is driven solely by poverty or adverse conditions at home.

Stark and Bloom (1985) further reinforce the importance of push factors by framing migration as a household-level strategy to overcome market imperfections in the origin country. Under this framework, migration decisions depend not only on expected wage gains abroad but also on the ability of households to finance migration costs and diversify income risk. As a result, rising income levels in the origin country may increase migration by easing credit constraints, generating a non-linear or even positive relationship between GDP and migration outflows. Empirical evidence supports this view: Clemens (2014) and Clemens and Postel (2018) document the “mobility transition,” whereby emigration rates initially rise with development before eventually declining at higher income levels.

Still, large cross-country empirical studies using gravity models generally find that macroeconomic conditions tend to be a bigger pull factor than a push factor for migrant flows. Research usually finds that per capita GDP in migrant-receiving countries matter more than conditions in migrant-sending countries (e.g., Mayda, 2010; Grogger and Hanson, 2011; Ortega and Peri, 2013b). Once potential migrants have enough resources and decide to move, they are more likely to move to a country with better economic conditions.

Recent empirical research explore whether remittance flows are strongly influenced by macroeconomic conditions in origin countries compared to pull factors in destination economies. While earlier studies emphasized altruistic or countercyclical motives tied to recipient-country conditions (e.g., Panda and Trevidi (2015)), more recent research highlights the role of migrants’ earning capacity, liquidity constraints, and financial incentives rooted in origin-country dynamics. In particular, origin-country GDP and income growth are increasingly found to be positively associated with remittance outflows, reflecting the ability of migrants to send funds rather than solely to meet the needs of recipients. These findings align with a broader shift toward viewing remittances as partially driven by income effects and financial capacity rather than purely compensatory transfers.

Using quarterly data between 1990 and 2019, Imam, Kpodar, Oloufade and Gammadigbe (2026) focus on the role of uncertainty and find an asymmetric response by remittances to uncertainty shocks, with origin-country uncertainty yielding a more significant and direct decline in remittance flows than destination-country shocks. In the destination country, uncertainty yields a more complex effect on remittance inflows, contingent on domestic investment and public spending ratios where remittance act as either an investment mechanism or serve as a social safety net.¹ Fagiolo and

¹The dataset used in Imam et al. (2026) is not bilateral, but is at the recipient country level.

Rughi (2023) find a U-shaped relationship between origin per capita GDP and annual remittance flows in a panel of 221 countries between 2010-2017. Bansak, Glebocki and Simpson (2025) use monthly data from the IMF to study how U.S. macroeconomic factors during the pandemic affected remittance flows into emerging markets, and find that the most sizable remittance response to U.S. macroeconomics shocks was in Latin America.

In the context of emerging markets and South–South migration corridors, these dynamics are even more pronounced. Lueth and Ruiz-Arranz (2008) and subsequent gravity-based extensions show that bilateral remittance flows are better explained when origin-country characteristics are explicitly modeled. A recent analysis by Sirkeci et al. (2023) emphasize that remittance resilience during global downturns is driven in part by stable or recovering economic conditions in migrant-hosting economies, underscoring the importance of push-side income stability. Within Latin America, where intraregional migration has increased, these findings suggest that remittance corridors are shaped primarily by relative growth performance and financial conditions at origin rather than solely by recipient-country needs.

In the Latin American context, Vacaflares (2018) studies a panel of 18 countries between 1995 and 2015, and shows that external conditions in migrants’ host countries are associated with annual remittance flows into the region. He also finds evidence that remittances are inversely related to the income level and interest rates in receiving countries. Cardozo Silva, Diaz Pavez, Martínez-Zarzoso and Nowak-Lehmann (2022) analyze quarterly remittances for 10 Latin American countries between 2019 and 2020 and find that GDP growth in sending countries, weak currencies in recipient countries, and pandemic restrictions were important in the recovery of remittance flows in the region.

Furthermore, inflation, exchange rate volatility, and sovereign risk can affect both the incentive and timing of remittance transfers. There is evidence that remittances are less volatile than other foreign currency flows and relatively stable even during episodes of sharp business cycle volatility (Ahmed and Martínez-Zarzoso, 2016; De, Islamaj, Kose and Reza Yousefi, 2019). Bettin, Presbitero and Spatafora (2017) demonstrate that macroeconomic vulnerability influences remittance behavior, particularly in financially fragile economies. Yang (2008) provides micro-level evidence that exchange rate shocks significantly alter remittance flows, reinforcing the importance of currency dynamics. More broadly, Ratha (2007) and Freund and Spatafora (2008) show that exchange rate regimes, transaction costs, and financial openness shape aggregate remittance flows, particularly in emerging markets characterized by currency volatility and limited financial depth.

In emerging markets, remittances are increasingly viewed not only as consumption-smoothing transfers but also as macro-financial flows responsive to relative returns. Giuliano and Ruiz-Arranz (2009) find that remittances can substitute for underdeveloped financial systems, promoting growth in financially constrained economies. Bettin and Zazzaro (2012) emphasize the interaction between remittances and financial development, suggesting that financial incentives influence allocation de-

cisions. Interest rate differentials, in particular, may create incentives for portfolio allocation across borders, especially in environments with segmented banking systems and heterogeneous monetary policies. These financial-return channels remain underexplored in bilateral frameworks but are highly relevant in emerging markets where monetary conditions vary substantially across countries.

Remittance and macroeconomic conditions in emerging markets are closely intertwined. Not only are remittance flows influenced by macroeconomic factors, but they also yield significant effects over them. Acosta, Lartey and Mandelman (2009) show that remittances influence real exchange rate dynamics and may generate Dutch disease-type effects. Amuedo-Dorantes and Pozo (2004) find that remittances appreciate the real exchange rate in Latin American economies, highlighting feedback effects between remittance inflows and macroeconomic variables. Fajnzylber and López (2008) document the stabilizing role of remittances in Latin American growth cycles. These findings reinforce the view that remittances are deeply intertwined with macroeconomic conditions in the region.

Much of the Latin American remittance literature focuses on aggregate inflows from the United States rather than intra-regional bilateral flows. As migration within Latin America has intensified, particularly in response to economic crises and asymmetric growth patterns and forces contributing to geoeconomic and geopolitical fragmentation, understanding push-pull dynamics within the region has become increasingly important. Bilateral approaches, grounded in gravity modeling, such as Anderson (2011) and Beine, Docquier and Özden (2011), identify corridor-specific determinants and explicitly model relative macroeconomic conditions between origin and destination countries. By focusing on cross-country differentials, bilateral frameworks capture the incentives shaping remittance allocation decisions more precisely than aggregate models.

Despite growing recognition of macroeconomic and financial determinants, few studies combine bilateral remittance data with dynamic panel techniques that distinguish short-run from long-run effects in emerging economies. In Latin America, where exchange rate volatility, inflation differentials, and heterogeneous monetary policies are common, financial incentives may operate alongside altruistic motives in shaping remittance corridors. By integrating bilateral central bank data with panel ARDL and PPML gravity models, this study contributes to the literature by identifying how macroeconomic push-pull factors operate through long-run structural channels while accounting for short-run dynamics across country pairs. In doing so, it positions remittances within a broader macro-financial framework and advances understanding of intra-regional integration in emerging markets.

3 Empirical Models and Methodology

To examine the macroeconomic push–pull determinants of bilateral remittance flows between Latin American economies, we estimate a panel Autoregressive Distributed Lag (ARDL) model embedded within a gravity-type framework with corridor-specific data between origin and destination countries. We then extend the model to assess the corridor-specific flows within the Poisson Psuedo Maximum Likelihood (PPML) gravity model, with up to four lags to analyze long-run versus short-run dynamics. We analyze both models in terms of levels of macroeconomic variables in origin and destination countries, as well as for differentials in the variables between origin and destination.

The analysis uses quarterly data for 33 origin–destination country pairs, constructed from official bilateral remittance statistics obtained from national central banks, along with macroeconomic indicators from the International Financial Statistics (IFS) database produced by the IMF. The quarterly frequency allows us to capture both short-run dynamics and long-run equilibrium relationships. The data in the panel include origin-country and destination-country variables for GDP, inflation, exchange rates, deposit rates, and unemployment from 2005 through 2023.² The origin-destination country pairs are presented in Table 1.

Table 1: Origin-Destination Country Pairs

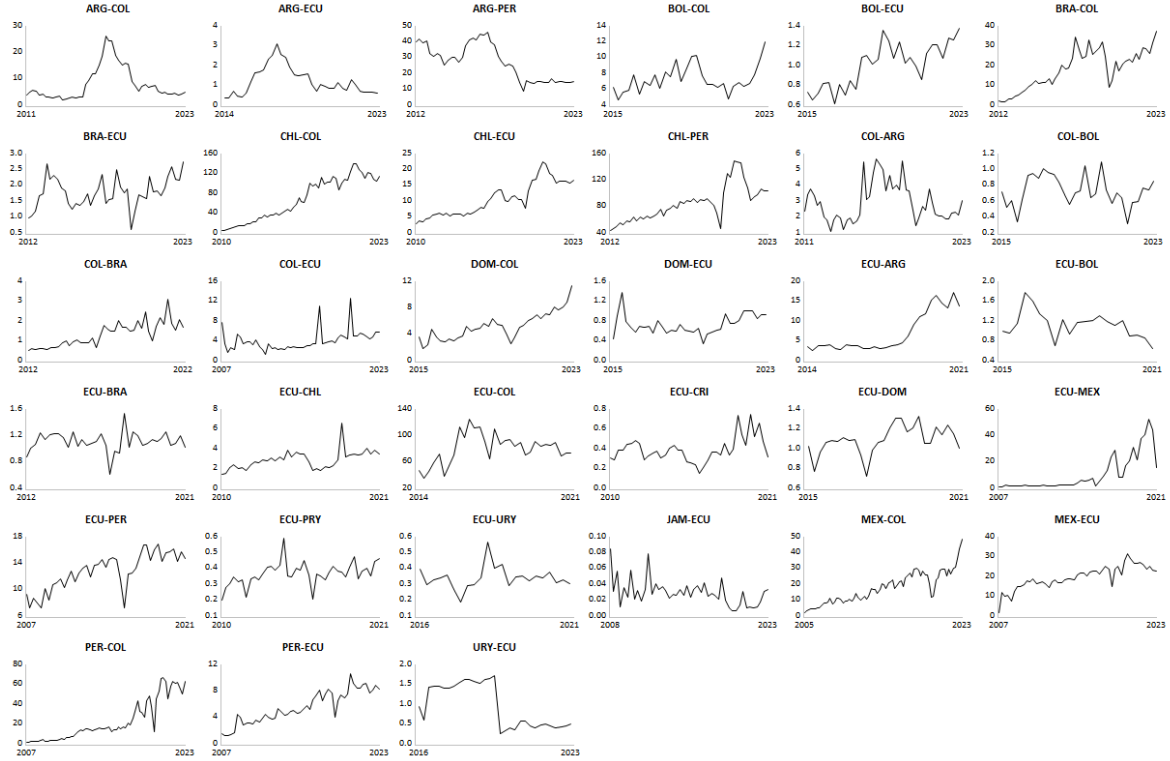
Origin	Destination	Origin	Destination	Origin	Destination
Argentina →	Colombia	Colombia →	Bolivia	Ecuador →	Dom. Rep.
Argentina →	Ecuador	Colombia →	Brazil	Ecuador →	Mexico
Argentina →	Peru	Colombia →	Ecuador	Ecuador →	Peru
Bolivia →	Colombia	Dom. Rep. →	Colombia	Ecuador →	Paraguay
Bolivia →	Ecuador	Dom. Rep. →	Ecuador	Ecuador →	Uruguay
Brazil →	Colombia	Ecuador →	Argentina	Jamaica →	Ecuador
Brazil →	Ecuador	Ecuador →	Bolivia	Mexico →	Colombia
Chile →	Colombia	Ecuador →	Brazil	Mexico →	Ecuador
Chile →	Ecuador	Ecuador →	Chile	Peru →	Colombia
Chile →	Peru	Ecuador →	Colombia	Peru →	Ecuador
Colombia →	Argentina	Ecuador →	Costa Rica	Uruguay →	Ecuador

Note: This table presents the origin-destination pairs of Latin American countries used in the panel estimations.

Table 2 presents the summary descriptive statistics of the variables used in the panel analysis. Figure 1 illustrates the quarterly bilateral remittance flows between each origin and destination country pair over the relevant time period of data availability. As can be seen, the bilateral flows vary notably across country pairs and in volume, with the highest flows between Mexico (origin) and

²GDP is in constant prices in US dollars and seasonally adjusted; spot exchange rates are domestic currency per US dollar, period average.

Figure 1: Bilateral Remittance Flows between Origin-Destination Pairs



Note: This figure depicts the bilateral remittance flows between Latin American country pairs in millions of US Dollars, as reported by central bank data on a quarterly basis. The first country in the pair is the origin, or remittance-sending, country. The second country in the pair is the destination, or remittance-receiving, country.

Ecuador (destination) while the lowest historical volume is between Dominican Republic (origin) and Colombia (destination).

Table 2: Descriptive Statistics

	Remittances (USD Mil)	GDP (log)	Inflation Rate (%)	Exchange Rate (log)	NEER (log)	Unemployment Rate (%)	Interest Rate (%)
Mean	14.62	14.00	5.43	4.65	4.52	6.98	6.17
Median	3.88	12.18	3.31	4.61	4.66	6.76	4.38
Maximum	148.89	19.37	100.35	8.55	5.40	19.23	122.94
Minimum	0.01	9.22	-1.15	2.09	-0.29	2.16	0.44
Std. Dev.	25.21	3.84	9.01	0.76	0.58	3.46	8.06
Skewness	2.74	0.34	4.58	0.11	-3.65	0.76	6.80
Kurtosis	10.55	1.38	29.55	11.07	20.83	3.10	68.75
Jarque-Bera	4,920	174.81	44,628	404	21,006	132	255,063
Observations	1,358	1,358	1,358	1,358	1,358	1,358	1,358

Note: This table presents the descriptive statistics for the data in the panel.

3.1 Empirical Model

We present the empirical framework used to analyze the macroeconomic determinants of bilateral remittance flows across Latin American country pairs. To capture both the dynamic adjustment process and the structural drivers of remittance behavior, we employ two complementary approaches. First, a panel ARDL model is used to analyze short-run dynamics and long-run equilibrium relationships between remittance flows and macroeconomic push-pull factors. This framework allows for heterogeneous short-run responses across country pairs while identifying common long-run effects. Second, we estimate a gravity model using PPML, which is well-suited for modeling bilateral flows and accounts for heteroskedasticity and the presence of zero observations. Together, these approaches provide a robust and comprehensive assessment of how macroeconomic conditions at both origin and destination shape remittance corridors within the region.

3.1.1 Panel ARDL

For the panel ARDL specification, $R_{ij,t}$ denotes bilateral remittance flows from origin country (i) to destination country (j) at time (t). The baseline long-run relationship is specified as:

$$R_{ij,t} = \alpha_{ij} + \beta_1 Y_{i,t}^O + \beta_2 Y_{j,t}^D + \beta_3 \pi_{i,t}^O + \beta_4 \pi_{j,t}^D + \beta_5 E_{i,t}^O + \beta_6 E_{j,t}^D + \beta_7 D_{i,t}^O + \beta_8 D_{j,t}^D + \beta_9 u_{i,t}^O + \beta_{10} u_{j,t}^D + \varepsilon_{ij,t} \quad (1)$$

where $Y_{i,t}^O$ and $Y_{j,t}^D$ represent real GDP in the origin and destination countries, $\pi_{i,t}^O$ and $\pi_{j,t}^D$ denote inflation rates, and $E_{i,t}^O$ and $E_{j,t}^D$ capture exchange rate movements. We assess separately exchange rate dynamics based on the spot exchange rate (local currency per US Dollar) and nominal effective exchange rates (NEER). $D_{i,t}^O$ and $D_{j,t}^D$ are the deposit interest rates in the origin and destination, $u_{i,t}^O$ and $u_{j,t}^D$ are the unemployment rates in the origin and destination, and α_{ij} captures time-invariant corridor-specific effects. All flow and macroeconomic variables (except rates and differentials) are expressed in natural logarithms to allow interpretation of coefficients as elasticities.

To distinguish between short-run and long-run effects, we estimate a panel ARDL(p,q) model in error-correction form:

$$\Delta R_{ij,t} = \phi_{ij} (R_{ij,t-1} - \theta' X_{ij,t-1}) + \sum_{k=1}^{p-1} \lambda_k \Delta R_{ij,t-k} + \sum_{k=0}^{q-1} \delta'_k \Delta X_{ij,t-k} + \mu_{ij} + \tau_t \quad (2)$$

where $X_{ij,t}$ is the vector of push-pull macroeconomic variables defined above, ϕ_{ij} is the error-correction coefficient measuring the speed of adjustment toward long-run equilibrium, μ_{ij} captures corridor-specific fixed effects, and τ_t controls for common time shocks. The error-correction term $R_{ij,t-1} - \theta' X_{ij,t-1}$ represents the long-run cointegrating relationship. A negative and statistically significant ϕ_{ij} confirms the existence of a stable long-run equilibrium between remittance flows and

macroeconomic fundamentals.

Given the heterogeneous nature of Latin American economies and remittance corridors, we employ the Pooled Mean Group (PMG) estimator, which allows short-run coefficients, adjustment speeds, and error variances to differ across country pairs while constraining long-run coefficients to be homogeneous. This approach is appropriate when economic theory suggests common long-run elasticities across corridors but permits short-run dynamics to vary due to institutional or structural differences. Prior to estimation, panel unit root tests (e.g., IPS and Levin–Lin–Chu) are conducted to verify that variables are integrated of order $I(0)$ or $I(1)$, but not $I(2)$, as required for ARDL modeling. Panel cointegration is assessed through the significance of the error-correction term and complementary cointegration tests.

The empirical strategy proceeds sequentially in order to isolate the contribution of different sets of macroeconomic push–pull variables to bilateral remittance flows. We begin with a baseline specification (Model 1) that includes only real GDP and inflation at both origin and destination, capturing core real economic activity and price stability conditions that traditionally underpin remittance behavior. This benchmark model establishes the fundamental growth and macro-stability relationship with remittance flows. In Model 2, we extend the specification by incorporating exchange rate variables for both origin and destination, allowing us to assess the role of currency movements and relative price competitiveness in shaping remittance incentives. Model 3 assesses exchange rate dynamics based on nominal effective exchange rates, rather than spot rates, including both GDP and inflation. Model 4 builds on the framework from Model 3 by adding the interest rates in origin and destination countries, thereby testing whether relative financial returns and investment incentives influence bilateral transfers. Finally, Model 5 replaces interest rates with the unemployment rate in each country pair, capturing relative labor market conditions and cyclical employment pressures across countries. Estimating these five nested panel ARDL models allows for a structured comparison of coefficient stability, long-run relationships, and short-run dynamics, while evaluating the incremental explanatory power of financial and labor market channels beyond standard macroeconomic controls.

We then estimate a model that examines differentials in the macroeconomic variables between origin and destination pairs as drivers of bilateral remittances flows so that:

$$R_{ij,t} = \alpha_{ij} + \beta_1^* \hat{Y}_{ij,t} + \beta_2^* \hat{\pi}_{ij,t} + \beta_3^* \hat{E}_{ij,t} + \beta_4^* \hat{D}_{ij,t} + \beta_5 \hat{u}_{ij,t} + \varepsilon_{ij,t} \quad (3)$$

where $\hat{Y}_{ij,t} = Y_{i,t}^O - Y_{j,t}^D$ represents the differences in log real GDP between origin and destination countries, $\hat{\pi}_{ij,t} = \pi_{i,t}^O - \pi_{j,t}^D$ represent the differences in inflation rates between origin and destination countries, and $\hat{E}_{ij,t} = E_{i,t}^O - E_{j,t}^D$ represent the difference in log exchange rates to the USD between origin and destination countries, and so forth. By explicitly modeling differences in macroeconomic

conditions between origin and destination countries, we are able to identify the dynamic push–pull mechanisms that shape bilateral remittance flows. Rather than focusing solely on domestic conditions in isolation, this approach captures the relative incentives facing migrants and households across country pairs—such as growth differentials, return differentials, currency movements, and labor market gaps—that influence both the capacity and motivation to remit. Examining these cross-country differentials allows us to assess how changes in relative economic performance alter remittance corridors over time, distinguishing structural long-run relationships from short-run adjustments. In doing so, the analysis provides a more robust understanding of how bilateral macroeconomic imbalances and convergence dynamics jointly determine the direction, magnitude, and persistence of remittance flows within Latin America.

The panel ARDL framework allows us to test whether macroeconomic conditions at origin (push factors) and destination (pull factors) exert statistically significant long-run and short-run effects on bilateral remittance flows. GDP, inflation, and exchange rates are included separately for origin and destination to isolate asymmetric responses. Interest rate and unemployment differentials capture relative financial returns and labor market conditions between countries, consistent with investment and risk-diversification motives. By combining bilateral central bank remittance data with a dynamic panel ARDL approach, the methodology captures corridor-specific heterogeneity, distinguishes between cyclical and structural effects, and provides robust evidence on the macroeconomic determinants of remittance flows within Latin America.

This methodological approach fills an important gap in the literature on push–pull determinants of remittances by moving beyond aggregate inflow analyses and static panel models to examine bilateral corridors within a dynamic framework. By combining central bank–reported bilateral remittance data with a panel ARDL specification, the analysis captures both origin and destination macroeconomic conditions while distinguishing short-run adjustments from long-run equilibrium relationships. The sequential modeling strategy further isolates the incremental role of exchange rates, financial return differentials, and labor market gaps—factors often omitted or treated asymmetrically in prior studies. In doing so, this approach provides corridor-specific evidence on how relative macroeconomic fundamentals jointly shape remittance flows across Latin American economies.

3.1.2 Gravity PPML Model

As a robustness check, we estimate a more traditional gravity model using Poisson Pseudo Maximum Likelihood (PPML) estimation. Similar to equation (1), we specify the gravity model as:

$$R_{ij,t} = \alpha_{ij} + \beta_1 Y_{i,t-L}^O + \beta_2 Y_{j,t-L}^D + \beta_3 \pi_{i,t}^O + \beta_4 \pi_{j,t}^D + \beta_5 E_{i,t}^O + \beta_6 E_{j,t}^D + \beta_7 D_{i,t}^O + \beta_8 D_{j,t}^D + \beta_9 u_{i,t}^O + \beta_{10} u_{j,t}^D + \varepsilon_{ij,t} \quad (4)$$

Again, $R_{ij,t}$ denotes bilateral remittance flows from origin country (i) to destination country (j) at time (t). $Y_{i,t-L}^O$ and $Y_{j,t-L}^D$ represent lagged real GDP in the origin and destination countries, where L denotes the number of lags. All of the independent variables are the same as defined above. Again, α_{ij} captures time-invariant corridor-specific effects (e.g., distance) consistent with gravity models. All macroeconomic variables (except rates and differentials) are expressed in natural logarithms to allow for the interpretation of coefficients as elasticities.

We use the PPML estimator which is common in gravity models of remittances (Fagiolo and Rughi, 2023). The PPML can handle zero values for the dependent variable and can account for heteroskedasticity (Santos Silva and Tenreyro, 2011). In remittance data, this approach is appropriate when larger countries have larger remittance flows, as it appropriately weights the observations. The PPLM uses a log-link function, so estimated coefficients can be interpreted as elasticities even when the dependent variable is in levels.

We also estimate a gravity model that examines differentials in macroeconomic variables between origin and destination pairs as drivers of bilateral remittance flows. That is, we re-estimate equation (3) using PPML and compare our results to those from the panel ARDL model. Once again, we control for corridor fixed effects and estimate the role of differentials in real GDP, inflation, exchange rates, interest rates and unemployment rates on bilateral remittance flows.

4 Empirical Results

We begin by estimating the long-run relationships using the macroeconomic variables in levels in order to directly assess the structural push-pull forces driving bilateral remittance flows between origin and destination countries in Latin America. This approach allows us to evaluate how underlying macroeconomic fundamentals shape remittance behavior across corridors, differentiating from short-run fluctuations. As reported in Table 3, GDP at origin consistently emerges as a key push factor across all five model specifications. Not only is the coefficient statistically significant at the 1% level, but it is also consistently larger in magnitude than most of the other explanatory variables. This finding indicates that economic expansion in the origin country plays a central role in increasing bilateral remittance flows, highlighting the importance of remittance-sending capacity and income effects in shaping cross-border transfers within Latin America.

In contrast, GDP at the destination country displays less consistent effects across specifications. It is positive and statistically significant in the long run in some models, where the controls are limited to GDP and inflation (Model 1), when controlling for nominal effective exchange rates (Model 3), and when controlling for all macroeconomic variables (Model 5). Therefore, remittance behavior may not be solely countercyclical, as often emphasized in the literature, but may also reflect

procyclical or opportunity-driven motives in certain contexts. Economic growth at destination may increase the attractiveness of remittances by improving investment opportunities, raising expected returns on household expenditures, or supporting entrepreneurial activity and asset accumulation. For example, migrants may be more likely to remit when recipient households are positioned to invest in housing, education, small businesses, or financial assets during periods of economic expansion. The significance in Model 3 may imply that destination-country growth effects remain relevant even after accounting for movements in nominal effective exchange rates, indicating that macroeconomic expansion and exchange rate incentives may jointly shape remittance decisions. However, the loss of statistical significance in subsequent models indicates that this relationship is sensitive to the inclusion of additional macro-financial controls, suggesting that destination-country growth effects may operate through broader financial channels rather than as a standalone determinant.

Inflation at the origin country is consistently negative and statistically significant, indicating that higher inflation in the remittance-sending economy is associated with lower bilateral remittance outflows. Rising prices in the origin country may erode migrants' real income and remittance-sending capacity, reducing the ability to transfer funds abroad. Inflationary pressures may also increase domestic financial uncertainty, redirect household resources toward local consumption and precautionary savings rather than outward transfers. In this sense, higher inflation at origin appears to constrain remittance behavior through a deterioration in real purchasing power and macroeconomic stability.

By contrast, inflation at the destination country exhibits a positive and statistically significant effect on bilateral remittance flows in the long run. Higher inflation in recipient economies corresponds to increased remittance inflows, consistent with remittances serving as a mechanism for household support and consumption smoothing. As inflation increases the cost of living and reduces real purchasing power in the destination country, migrants can respond by increasing transfers to help recipient households maintain consumption and absorb increasing economic pressures. This finding aligns with theories of altruistic and insurance-based remittance behavior, whereby migrants adjust transfers in response to economic vulnerabilities faced by family members in the receiving economy.

The inflation effects are observed only within the long-run equilibrium relationship, while short-run dynamics remain statistically insignificant across specifications. Therefore, remittance responses to inflationary conditions do not occur immediately but instead emerge gradually over time as persistent macroeconomic trends reshape household financial needs and sending capacity. Temporary inflation shocks appear insufficient to meaningfully alter remittance behavior in the short term, whereas sustained periods of price instability generate more durable adjustments in bilateral flows.

Exchange rate dynamics in both origin and destination countries emerge as critical macro-financial determinants of bilateral remittance flows within Latin America. Currency movements

alter the relative purchasing power of transfers and therefore shape both the incentive and timing of remittances. The results indicate that a depreciation of the destination country's currency against the U.S. dollar is associated with increased remittance flows to the destination country in the long-run.³ The same response occurs to a depreciation in the nominal effective exchange rate at the destination country in the long-run. This finding is consistent with remittances responding to shifts in relative purchasing power. When the destination currency weakens, remitted funds convert into a greater amount of local currency, potentially increasing the real value of transfers for recipient households and encouraging higher flows.

However, the short-run impact of an appreciation of the nominal effective exchange rate in the origin country and/or depreciation in the destination country leads to an immediate increase in remittance flows. Migrants respond relatively quickly to favorable currency movements in both economies, potentially adjusting both the timing and volume of transfers in response to changes in purchasing power and relative currency values. When the origin-country currency strengthens, migrants may experience an increase in real income or enhanced purchasing power in foreign currency terms, improving their capacity to remit. As a result, remittance outflows may rise as households take advantage of more favorable exchange rate conditions. Together, these findings highlight the importance of currency dynamics in shaping remittance corridors and underscore the role of exchange rate movements as a key transmission channel linking macroeconomic conditions across Latin American economies.

Finally, reinforcing the importance of financial channels in shaping bilateral remittance flows within Latin America, interest rates in both origin and destination countries exhibit a positive and statistically significant long-run effect. Higher interest rates are associated with increased remittance flows over time, indicating that migrants and recipient households may view remittances as vehicles for savings, investment, and portfolio allocation in addition to income support. At the origin country, higher interest rates may reflect stronger macroeconomic fundamentals, tighter monetary conditions, or increased returns to financial assets, all of which may coincide with greater income generation and enhanced remittance-sending capacity. Migrants operating in stronger economic environments may be better positioned to send larger transfers abroad. Alternatively, higher origin-country rates may increase the availability of financial resources or encourage cross-border allocation of savings as households diversify assets across countries.

At the destination, the positive effect of interest rates is consistent with an investment-motivated interpretation of remittances. Higher deposit or lending rates in recipient economies may increase the attractiveness of directing funds toward savings accounts, housing investments, small business financing, or other productive uses. In emerging markets, where formal financial systems are often

³Recall that exchange rates are domestic currency per US dollar so an depreciation of the domestic currency occurs when the exchange rate rises.

fragmented and capital access remains constrained, remittances may serve as an informal channel for household investment and financial intermediation. Migrants may therefore increase transfers when returns to savings or investment opportunities in the destination country become more favorable. These findings underscore that remittance flows within the region are responsive to cross-country return differentials and function, at least in part, as macro-financial flows influenced by relative monetary conditions rather than purely altruistic transfers.

It is important to emphasize that the influence of macroeconomic push-pull factors operates primarily through long-run structural relationships rather than short-run adjustments. The panel ARDL results indicate that most explanatory variables lack statistical significance in the short-run dynamics, while exhibiting meaningful and robust effects in levels within the long-run cointegrating equation. This suggests that bilateral remittance flows respond gradually to sustained changes in relative macroeconomic conditions, rather than reacting immediately to transitory shocks.

The exception in the short run is GDP in the destination country, which displays a positive and statistically significant effect. An immediate increase in real GDP in the remittance-receiving country is associated with higher remittance inflows. Economic expansion in the destination country attracts more remittance flows as migrants see the potential for higher investment opportunities during that period. The other exception is nominal effective exchange rates at origin and destination, corresponding to an immediate increase in remittance outflows during appreciationary periods in origin and depreciationary periods in destination countries, as noted above.

Moreover, the estimated error-correction term is negative and statistically significant across specifications, confirming the presence of a stable long-run equilibrium relationship between remittance flows and the included macroeconomic fundamentals. The magnitude of this coefficient indicates a meaningful speed of adjustment, whereby deviations from the long-run path are corrected over subsequent quarters. Together, these findings reinforce the conclusion that remittance corridors within Latin America are shaped predominantly by long-run macroeconomic convergence dynamics rather than short-term cyclical fluctuations.

Table 3: Panel ARDL Estimation with Levels

Long-Run	Model 1	Model 2	Model 3	Model 4	Model 5
GDP Origin	0.661*** (0.001)	0.796*** (0.000)	0.715*** (0.000)	1.899*** (0.000)	0.362** (0.023)
GDP Dest.	0.893*** (0.007)	0.381 (0.312)	0.841** (0.012)	-0.248 (0.526)	1.690*** (0.000)
Inflation Origin	-0.051*** (0.000)	-0.065*** (0.000)	-0.057*** (0.000)	-0.103*** (0.000)	-0.012 (0.210)
Inflation Dest.	0.065*** (0.000)	0.076*** (0.000)	0.069*** (0.000)	0.036** (0.011)	0.079*** (0.000)
FX Origin		0.185 (0.106)			
FX Dest.		0.268*** (0.008)			
NEER Origin			-0.274 (0.122)	-1.015*** (0.000)	0.112 (0.537)
NEER Dest.			-0.500*** (0.000)	-0.596*** (0.000)	-0.514*** (0.002)
Interest Rate Origin				0.048*** (0.000)	-0.019* (0.052)
Interest Rate Dest.				0.021* (0.088)	-0.005 (0.593)
Unemp. Origin					0.034** (0.025)
Unemp. Dest.					-0.027** (0.049)
Short-Run	Model 1	Model 2	Model 3	Model 4	Model 5
GDP Origin	-0.006 (0.983)	-0.067 (0.810)	-0.173 (0.569)	-0.430 (0.138)	-0.577* (0.096)
GDP Dest.	0.626*** (0.005)	0.598*** (0.006)	0.781*** (0.000)	0.926*** (0.000)	0.245 (0.247)
Inflation Origin	-0.013 (0.163)	-0.008 (0.363)	-0.017* (0.068)	-0.006 (0.537)	-0.015 (0.119)
Inflation Dest.	-0.005 (0.406)	-0.012 (0.113)	-0.007 (0.314)	0.0144 (0.169)	-0.007 (0.516)
FX Origin		-0.148 (0.662)			
FX Dest.		0.150 (0.727)			
NEER Origin			1.231*** (0.000)	1.334*** (0.000)	0.975** (0.014)
NEER Dest.			-0.633** (0.032)	-0.461* (0.062)	-0.664* (0.094)
Interest Rate Origin				-0.013 (0.460)	-0.019 (0.374)
Interest Rate Dest.				0.001 (0.952)	-0.016 (0.536)
Unemp. Origin					-0.011 (0.492)
Unemp. Dest.					0.010 (0.566)
Error Correction	-0.287*** (0.000)	-0.296*** (0.000)	-0.292*** (0.000)	-0.279*** (0.000)	-0.284*** (0.000)

Note: This table presents the panel ARDL results for the origin and destination macroeconomic variables that impact bilateral remittance flows. *, **, *** represent statistical significance at the 10%, 5% and 1% levels. p-values in parentheses.

Next, Table 4 reports the panel ARDL estimates using macroeconomic differentials between origin and destination countries as the key explanatory variables. By specifying the model in terms of cross-country differences, we directly capture the relative push–pull incentives that shape bilateral remittance corridors. Consistent with the level specifications, GDP differentials remain an important determinant of remittance flows, appearing positive and statistically significant across all models. The positive sign indicates that the difference in size between origin and destination countries impacts remittance flows, such that an increase in the origin country relative to the destination country corresponds to greater remittance flows between the countries, albeit small in magnitude compared to levels of GDP.

Inflation differentials emerge as a robust driver of bilateral flows in the long-run dynamics. It is not simply the absolute level of inflation in either country that matters, but rather the gap in inflation rates between origin and destination. Larger inflation differentials are associated with significant changes in remittance behavior, highlighting the importance of relative price stability and purchasing power considerations. Remittance decisions respond to macroeconomic imbalances across countries, with migrants adjusting transfers in response to divergences in inflationary pressures rather than domestic price dynamics in isolation.

In the short-run dynamics, bilateral remittance flows exhibit an immediate and statistically significant response to changes in GDP between countries, leading to a short-run decline in remittance flows when origin country economic expansion outpaces the destination country GDP. Additionally, increasing nominal effective exchange rate differentials between origin and destination countries correspond to greater remittance flows. Consistent with the results reported in Table 3, a widening gap in exchange rates in origin versus destination countries is associated with an increase in bilateral remittance flows, such that greater appreciation in origin or depreciation in destination lead to increases in remittance flows. Therefore, migrants and households adjust transfers quickly in response to shifts in relative purchasing power. When exchange rate differentials expand, the real value of remitted funds in the destination country changes, creating short-term incentives to increase transfers. The responsiveness of remittance flows to currency movements in the short run highlights the role of exchange rates as a key transmission mechanism, influencing not only long-run structural flows but also the timing and magnitude of cross-border transfers in response to immediate macro-financial shocks.

Table 4: Panel ARDL Estimation with Differences

Long-Run	Model 1	Model 2	Model 3	Model 4	Model 5
GDP Difference	0.441*** (0.024)	0.456** (0.021)	0.564*** (0.005)	0.681*** (0.001)	0.647*** (0.005)
Inflation Difference	-0.024*** (0.000)	-0.035*** (0.000)	-0.035*** (0.000)	-0.045*** (0.000)	-0.052*** (0.000)
FX Difference		0.028 (0.748)			
NEER Difference			0.011 (0.919)	0.046 (0.675)	0.054 (0.640)
Interest Rate Difference				-0.002 (0.772)	-0.004 (0.533)
Unemployment Difference					-0.005 (0.694)
Short-Run	Model 1	Model 2	Model 3	Model 4	Model 5
GDP Difference	-0.451*** (0.000)	-0.471*** (0.004)	-0.547*** (0.001)	-0.560*** (0.001)	-0.325** (0.043)
Inflation Difference	-0.004 (0.480)	0.002 (0.340)	-0.002 (0.881)	-0.002 (0.779)	-0.002 (0.803)
FX Difference		-0.576 (0.137)			
NEER Difference			0.506* (0.063)	0.543** (0.044)	0.596** (0.019)
Interest Rate Difference				0.004 (0.763)	0.006 (0.566)
Unemployment Difference					-0.003 (0.801)
Error Correction	-0.295*** (0.000)	-0.295*** (0.000)	-0.292*** (0.000)	-0.289*** (0.000)	-0.275*** (0.000)

Note: This table presents the panel ARDL results for the difference in origin and destination macroeconomic variables that impact bilateral remittance flows. Differentials are defined as Origin-Destination. *, **, *** represent statistical significance at the 10%, 5% and 1% levels. p-values are in parentheses.

As robustness checks, Table 5 presents estimates from the PPML gravity model when considering the role of macroeconomic conditions (in levels) for both origin and destination countries.⁴ Consistent with the panel ARDL results, real GDP at origin emerges as a strong and statistically significant determinant of bilateral remittance flows, with a positive coefficient indicating that stronger economic performance in the origin country increases remittance outflows. The dynamic specification further suggests that this effect is most significant in the first two lags (two quarters).

Real GDP at destination, the pull factor, also exhibits a statistically significant effect. This finding implies that stronger economic conditions or recessionary pressures in the destination country are associated with higher remittance inflows, consistent with procyclical transfer behavior. However, the magnitude of this effect is somewhat smaller than that of origin-country GDP, indicating that push factors related to income generation and financial capacity at origin dominate pull factors

⁴Note that with the lag structure in the PPML estimation, we lose some observations.

tied to recipient-country needs. Overall, the PPML gravity results support the central finding that bilateral remittance flows within Latin America are driven primarily by origin-country economic conditions, with destination-country factors playing a secondary, though still meaningful, role.

Within the PPML framework, the findings reinforce the central role of income dynamics and remittance-sending capacity identified in the panel ARDL results. The significance of lagged terms further suggests that remittance responses to macroeconomic conditions are not immediate, but evolve over time. This reflects persistence in economic conditions and transfer behavior across corridors.

In addition to output effects, there is some evidence that macroeconomic imbalances at the destination also influence remittance flows. Specifically, fluctuations in exchange rates, especially in the destination country, are associated with meaningful changes in remittance flows in this model. Different from the ARDL results, we do not observe robust effects of inflation on remittance flows in the gravity PPML model. Overall, the PPML results highlight that while origin-country income dynamics dominate, adverse macroeconomic conditions at destination can still trigger additional remittance flows along specific corridors.

Table 6 presents the PPML gravity estimates using cross-country differentials in GDP, inflation, exchange rates, interest rates, and unemployment as determinants of bilateral remittance flows, specified without lag structures. By focusing on contemporaneous differentials, this specification isolates the immediate effect of relative macroeconomic conditions across origin–destination pairs. The PPML results indicate that nearly all of the differences in macroeconomic fundamentals, with the exception of unemployment rate differentials, have significant effects on remittance flows. Nominal effective exchange rate differentials enter with positive and statistically significant coefficients. The negative sign on the exchange rate differential suggests that, as the origin country’s currency weakens relative to that of the destination country, bilateral remittance flows tend to decline. This may reflect reduced incentives to transfer funds when currency movements diminish the relative gains from conversion or alter expected returns in the destination economy. In addition, relatively higher inflation and interest rates in the origin have small but positive effects on remittance outflows.

Overall, these findings confirm the findings of the short-run ARDL model, that increases in contemporaneous GDP differentials between the origin and destination are correlated with declines in bilateral remittance flow. In addition, while short run movements in relative prices and currencies matter in shaping remittance behavior, their influence may be more nuanced and sensitive to model specification compared to the income (level) effects identified in the both the gravity PPML and panel ARDL frameworks.

Table 5: PPML Estimation with Levels

	Model 1	Model 2	Model 3	Model 4	Model 5
GDP Origin (1 lag)	1.210** (0.019)	1.129** (0.015)	1.178*** (0.010)	1.181** (0.015)	1.517*** (0.002)
GDP Origin (2 lag)	1.264** (0.024)	1.095** (0.035)	1.022** (0.039)	0.946** (0.025)	0.751** (0.044)
GDP Origin (3 lag)	-0.137 (0.672)	-0.304 (0.330)	-0.335 (0.267)	-0.118 (0.708)	-0.132 (0.603)
GDP Origin (4 lag)	-0.002 (0.983)	0.159 (0.298)	0.136 (0.378)	0.133 (0.336)	0.093 (0.555)
GDP Dest. (1 lag)	1.314*** (0.002)	0.867** (0.044)	0.951** (0.017)	0.780** (0.029)	0.677* (0.062)
GDP Dest. (2 lag)	-0.002 (0.996)	-0.263 (0.628)	-0.053 (0.910)	0.023 (0.955)	0.216 (0.556)
GDP Dest. (3 lag)	0.438* (0.077)	0.364 (0.196)	0.521* (0.052)	0.386 (0.162)	0.373 (0.116)
GDP Dest. (4 lag)	0.761** (0.013)	0.436 (0.235)	0.665** (0.025)	0.795*** (0.007)	0.648** (0.031)
Inflation Origin	-0.025*** (0.000)	-0.011 (0.203)	-0.007 (0.416)	-0.014 (0.427)	-0.009 (0.564)
Inflation Dest.	-0.001 (0.931)	-0.035* (0.056)	-0.035* (0.072)	-0.003 (0.882)	-0.011 (0.572)
FX Origin		-0.210 (0.178)			
FX Dest.		1.055*** (0.010)			
NEER Origin			0.242 (0.125)	0.224 (0.208)	0.223 (0.197)
NEER Dest.			-1.047** (0.012)	-0.996** (0.011)	-1.126*** (0.007)
Interest Rate Origin				0.003 (0.862)	0.001 (0.965)
Interest Rate Dest.				-0.031** (0.047)	-0.033** (0.018)
Unemp. Rate Origin					0.077*** (0.004)
Unemp. Rate Dest.					-0.058*** (0.003)
Observations	1,014	1,014	1,014	1,014	1,014

Note: This table presents the PPML results for the origin and destination macroeconomic variables that impact bilateral remittance flows. All specifications include corridor fixed effects and clustered standard errors. *, **, *** represent statistical significance at the 10%, 5% and 1% levels. p-values are in parentheses.

Table 6: PPML Estimation with Differences

	Model 1	Model 2	Model 3	Model 4	Model 5
GDP Difference	-1.745*** (0.000)	-2.609*** (0.000)	-2.626*** (0.000)	-2.540*** (0.000)	-2.514*** (0.000)
Inflation Difference	-0.020*** (0.000)	0.011*** (0.005)	0.016*** (0.000)	0.010** (0.020)	0.010** (0.015)
FX Difference		-0.676*** (0.000)			
NEER Difference			0.763*** (0.000)	0.854*** (0.000)	0.868*** (0.000)
Interest Rate Difference				0.012*** (0.003)	0.013*** (0.001)
Unemp. Rate Difference					0.012 (0.323)
Observations	1,362	1,362	1,362	1,362	1,362

Note: This table presents the PPML results for the difference in origin and destination macroeconomic variables that impact bilateral remittance flows. Differentials are defined as Origin-Destination. All specifications include corridor fixed effects and clustered standard errors. *, **, *** represent statistical significance at the 10%, 5% and 1% levels. p-values are in parentheses.

5 Conclusion

We examine the macroeconomic push-pull determinants of bilateral remittance flows across 33 Latin American country pairs using a complementary empirical framework that combines a panel ARDL and a PPML gravity model. The results provide consistent and robust evidence that remittance flows within the region are significantly driven by both origin-country and destination-country macroeconomic conditions. In particular, GDP at origin emerges as an important and statistically significant determinant across all specifications, highlighting the central role of income generation and remittance-sending capacity. Origin-country inflation corresponds with lower remittance outflows in the long-run. While destination-country conditions also matter, the impact of GDP at destination is less consistent than for origin-country GDP. Higher inflation rates in the destination country pull more remittances into the economy. Financial variables, including exchange rates and interest rates, also play a meaningful role, indicating that remittances respond not only to household needs but also to relative returns and currency movements. Importantly, the panel ARDL results show that these relationships operate primarily through long-run equilibrium dynamics rather than short-run fluctuations, underscoring the structural nature of remittance behavior across Latin American corridors.

With this research, we contribute to the literature in several important ways. First, the research advances the empirical analysis of remittances by utilizing quarterly bilateral remittance data sourced from central banks, allowing for a more precise identification of origin-destination dynamics

compared to aggregate inflow measures. Second, by combining a panel ARDL framework with a PPML gravity model, the paper bridges two strands of the literature in dynamic macroeconomic modeling and bilateral flow analysis, and therefore provides a more comprehensive understanding of the dynamics of remittance behavior. Third, the focus on macroeconomic differentials and financial variables extends the push–pull framework to incorporate investment incentives and currency effects, offering new evidence on the role of remittances as macro-financial flows rather than purely altruistic transfers. Finally, by concentrating on intra–Latin American remittance corridors, this research addresses a notable gap in the literature, which has traditionally focused on North–South flows, particularly those originating in the United States.

As global trade and financial systems become more regionally segmented, intra-regional migration and remittance flows are likely to play an increasingly important role in sustaining economic linkages across Latin America. In this environment, remittances can serve as a stabilizing force, facilitating risk-sharing and supporting household income across borders. However, the results of this paper suggest that the strength of these flows depends critically on economic performance in both countries. This implies that regional resilience will be closely tied to synchronized growth and macroeconomic stability across Latin American economies, rather than reliance on external demand from advanced economies.

From a policy perspective, these findings carry several important implications. First, policies that support economic growth in the origin countries will have direct spillover effects on remittance flows within the region. Stronger macroeconomic performance yields greater remittance flows, increasing the positive regional transmission of the economic expansion. Second, maintaining macroeconomic stability, particularly with respect to inflation and exchange rate volatility, is critical for sustaining predictable and stable remittance corridors. Since remittance flows are no longer only altruistic transactions on a micro-level, but rather sizable financial flows across borders, the propensity of these flows to respond significantly to financial conditions may increase. Third, the responsiveness to inflation, interest rates and exchange rate dynamics points to the importance of financial sector development and credible monetary policy frameworks in attracting remittance-related financial flows. Governments may benefit from policies that facilitate the integration of remittances into formal financial systems, including improving access to banking services and reducing transaction costs. Finally, given the evidence that remittances respond to relative macroeconomic conditions, regional policy coordination, particularly in monetary and financial domains, may enhance the stabilizing role of remittances across countries. By understanding the dominance of key push and pull factors, as well as the importance of long-run structural relationships, the analysis provides new insights into the role of remittances in an increasingly fragmented global economy, underscoring their potential as a mechanism for regional economic integration and resilience.

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