The Economic Impact of Remittances on Developing Countries: A Global Data Analysis

Evidence from Remittance Flows, Economic Growth, External Finance, and Remittance Dependence

Research Paper

Prepared for empirical research and academic discussion

Study period: 2000–2024

Analytical population: Low-, lower-middle-, and upper-middle-income economies under the World Bank FY2026 classification, subject to data availability

Primary data lineage: World Bank World Development Indicators and KNOMAD/World Bank remittance datasets

Empirical sample: 122 developing economies with observed 2024 remittance and GDP data; 2,742 country-year observations in the baseline regression

Important status note: This is an empirical research paper based on public international datasets. It has not been peer reviewed. The econometric results should be interpreted as associations rather than definitive causal effects.

August 2026

Abstract

International remittances have become a major cross-border financial flow linking migrant workers with households and economies in their countries of origin. This study examines the economic role of remittances in developing economies using a global panel covering 2000–2024. The analysis combines World Bank World Development Indicators, KNOMAD/World Bank remittance information, and World Bank income classifications. The study distinguishes between the absolute volume of remittances, remittances as a share of GDP, and remittances per capita, because these measures capture different dimensions of economic importance. The empirical analysis documents global and regional trends, country rankings, remittance dependence, comparisons with foreign direct investment (FDI) and official development assistance (ODA), and the behavior of remittances around the COVID-19 shock. A country and year fixed-effects regression is also estimated to examine the conditional association between remittances and annual GDP growth while controlling for initial income and FDI intensity. The descriptive evidence shows that the developing-economy sample's recorded remittance inflows increased from approximately $68.7B in 2000 to $680.5B in 2024, equivalent to an approximate nominal compound annual growth rate of 10.0%. In 2024, remittances represented about 1.8% of aggregate GDP in the analytical sample, although dependence varied sharply across countries. The COVID-era data show remarkable resilience: aggregate remittance inflows continued to increase in 2020 and accelerated strongly in 2021. In the baseline fixed-effects model, the coefficient on remittances as a share of GDP is small and statistically insignificant ($\beta=0.016$, $p=0.568$); the one-year-lag specification is also statistically insignificant. These findings do not imply that remittances lack economic value. Rather, they indicate that the aggregate growth effect is difficult to identify using broad cross-country annual data, consistent with a literature that emphasizes household welfare, investment channels, financial development, measurement, and endogeneity. The paper concludes that remittances should be understood as an important component of external finance and household economic resilience, while claims about their causal effect on aggregate growth require more targeted identification strategies.

Keywords: remittances; international migration; developing economies; economic growth; FDI; ODA; external finance; remittance dependence; migrant transfers; development economics

Executive Summary

The central question of this paper is not whether migrants send money home—this is well established—but how economically significant those transfers are for developing economies and whether that significance can be observed in macroeconomic outcomes.

The analysis produces four major distinctions. First, the largest remittance recipient is not necessarily the most remittance-dependent country. India and Mexico, for example, receive very large absolute flows, but their remittance-to-GDP ratios are much lower than those of highly dependent economies such as Tajikistan, Nicaragua, Nepal, and Honduras. Second, remittances per capita provide a third perspective, identifying countries where the transfer value is large relative to population even when absolute flows are comparatively small. Third, remittances have become a major source of external finance. In the 2023 analytical sample, recorded remittance inflows were larger than FDI and substantially larger than ODA. Fourth, the macroeconomic growth relationship is not straightforward. The baseline fixed-effects regression does not find a statistically significant contemporaneous association between remittances/GDP and annual GDP growth after controlling for country and year effects, log GDP per capita, and FDI/GDP.

The results should not be interpreted as evidence that remittances are economically unproductive. A large literature identifies poverty reduction, consumption smoothing, education, health, housing, investment, entrepreneurship, insurance, and liquidity-constraint channels. The macroeconomic growth coefficient may also be difficult to estimate because remittances are endogenous to migration and economic conditions, because country-year data are noisy, and because the economic effects of household transfers may operate through channels not captured by annual GDP growth.

The policy implication is therefore not to treat remittances as a substitute for domestic development policy. Governments can instead reduce transaction costs, improve financial inclusion, strengthen formal payment channels, facilitate savings and investment, and protect migrant workers' ability to earn and transfer income. The appropriate policy objective is to make remittance flows safer, cheaper, more transparent, and more economically productive without assuming that households must use private transfers for public development goals.

1. Introduction

International migration creates an economic connection that is unusual in conventional national accounting: workers earn income in one economy while households, communities, and financial systems in another economy receive part of that income. The resulting transfers—commonly referred to as remittances—are private flows, but their aggregate scale can be large enough to matter for national external financing, foreign exchange availability, household consumption, investment, and economic resilience. The World Bank describes remittances as a crucial source of external finance for low- and middle-income countries, and its recent migration reporting shows that recorded remittances have surpassed both FDI and ODA in recent years [1–3].

The economic significance of remittances is especially visible when the size of the transfer is normalized by the size of the receiving economy. A country receiving US$20 billion may appear more important than a country receiving US$5 billion, but if the first country's GDP is US$1 trillion and the second country's GDP is US$20 billion, remittances represent 2% and 25% of GDP respectively. The second economy therefore has a much higher degree of remittance dependence even though its absolute inflow is smaller.

This distinction motivates the present study. Much public discussion about migration focuses on the number of migrants or the total amount of money transferred. Both are useful, but neither alone measures the macroeconomic role of remittances. This paper therefore treats remittances as a multidimensional economic variable: absolute inflow, share of GDP, and per-capita inflow. It then connects these measures with economic growth and other external financial flows.

The study also addresses a long-standing empirical puzzle. The theoretical channels through which remittances may support development are plausible: households can use transfers to smooth consumption, finance education and health, purchase housing, save, repay debt, invest in small businesses, or overcome credit constraints. Yet macroeconomic studies have often produced mixed results on whether remittances raise aggregate GDP growth. Giuliano and Ruiz-Arranz [7] find that financial development conditions the growth effect, while Chami, Fullenkamp, and Jahjah [8] report a negative correlation in an earlier panel framework. Clemens and McKenzie [9] later argue that measurement changes, limited statistical power, and endogeneity make the macroeconomic growth effect particularly difficult to detect.

Against this background, the purpose of this paper is deliberately empirical. It does not begin by assuming that remittances are either beneficial or harmful. Instead, it asks how large the flows are, where they matter most, how they compare with other external financial flows, how they behaved during the COVID-19 shock, and what can and cannot be inferred from a global panel regression.

2. Definition and Measurement of Remittances

The World Bank's World Development Indicators define personal remittances as comprising personal transfers and compensation of employees. Personal transfers cover current transfers in cash or in kind between resident and nonresident households, while compensation of employees covers income earned by certain short-term or nonresident workers. The World Bank indicator therefore reflects a balance-of-payments concept rather than a simple count of money transfers by migrant workers [4].

This definition matters because the term 'remittance' is often used loosely. A research paper must specify whether it uses workers' remittances, personal transfers, compensation of employees, or a broader external-finance measure. The present study uses the World Bank indicator 'Personal remittances, received (current US$)' as the primary flow measure and constructs two derived indicators: remittances as a percentage of GDP and remittances per capita.

Remittances/GDP is used as the main measure of macroeconomic dependence. It is calculated as total personal remittances received divided by GDP in current US dollars. **Remittances per capita** is calculated by dividing remittances by population; where population is not directly used, population is recovered consistently from current-dollar GDP divided by current-dollar GDP per capita. These measures should not be treated as interchangeable.

The study uses formally recorded flows. Informal transfers may be omitted from official statistics, meaning the true economic value of remittances may be higher than recorded totals. The World Bank has repeatedly noted this limitation when discussing remittance measurement [1, 2].

3. Literature Review

3.1 Theoretical motivations for remitting

The economics of remittances does not reduce to a single motive. Rapoport and Docquier [6] review models in which migrants remit because of altruism, exchange, insurance, investment, family arrangements, inheritance expectations, or combinations of these motives. This matters for macroeconomic interpretation: a transfer designed primarily to support household consumption during a shock may be welfare-enhancing even if it does not immediately increase measured productive investment.

3.2 Remittances and poverty

The poverty literature generally provides stronger evidence of household-level benefits than the macro-growth literature provides for aggregate GDP growth. Adams and Page [5] use data from 71 developing countries and find that migration and remittances are associated with lower poverty after addressing endogeneity. Their results suggest that remittances can have a direct welfare effect even when their contribution to aggregate growth is difficult to observe.

3.3 Remittances and economic growth

The macro-growth literature is mixed. Chami, Fullenkamp, and Jahjah [8] developed a family-based model in which remittances can behave differently from profit-driven capital flows and found a robust negative correlation with GDP growth in their sample. Giuliano and Ruiz-Arranz [7], by contrast, find that remittances can boost growth where financial systems are less developed, suggesting that remittances may substitute for missing credit markets. These findings imply that the effect may be conditional rather than universal.

More recent work continues to debate the identification problem. Clemens and McKenzie [9] argue that the apparent rise in measured remittances is partly related to changes in measurement and that emigration itself creates endogeneity because the opportunity cost of migration can affect domestic output. A 2025 study using external instruments and panel GMM-IV methods reports positive growth effects [10], while a 2026 study finds that the relationship can vary with governance and financial crises [11]. The literature therefore does not support a simple one-directional claim.

3.4 Remittances and financial development

A recurring theme is that domestic financial institutions affect what happens after remittances arrive. If households face severe credit constraints, remittances can provide liquidity for business activity or investment. If financial systems are already deep and accessible, the marginal growth effect may differ. This literature suggests that the institutional environment is not a background detail; it can determine how private transfers translate into broader economic outcomes.

3.5 External finance and resilience

World Bank research has increasingly emphasized the size and resilience of remittances relative to FDI and ODA. Ratha [12] highlighted their stability as an external financing source more than two decades ago. Recent World Bank reporting shows that remittances continued to exceed FDI and ODA in low- and middle-income countries during 2023 and were expected to reach approximately US$685 billion in 2024 [1, 2].

4. Research Gap

The existing literature is extensive, but several analytical needs remain. First, many studies focus on a single mechanism—growth, poverty, investment, or financial development—rather than combining the scale of remittance flows with their relative importance to the receiving economy. Second, country rankings often emphasize absolute flows, which can obscure dependence in small economies. Third, the comparison between remittances, FDI, and ODA is often presented as a descriptive fact rather than integrated into a longer-term cross-country framework.

This study addresses these gaps through a unified global descriptive framework and a deliberately cautious macroeconomic regression. The contribution is not a new causal identification strategy. Instead, it is a transparent synthesis of a long panel, consistent measures of remittance importance, regional comparisons, external-finance comparisons, shock analysis, and a fixed-effects model that tests whether a basic growth association remains after accounting for country and year effects.

5. Research Questions and Hypotheses

The study addresses nine questions: (1) How have remittances evolved from 2000 to 2024? (2) Which developing economies receive the largest absolute inflows? (3) Which are most dependent on remittances relative to GDP? (4) What is the association between remittances and GDP growth? (5) What is the association with income per capita? (6) How do

remittances compare with FDI and ODA? (7) How do patterns vary by region and income group? (8) How resilient were remittances during COVID-19? and (9) Where data permit, how large are remittances relative to the migrant-origin economy's population and income base?

The pre-registered-style hypotheses for the analysis are: **H1**, higher remittances/GDP are positively associated with GDP growth; **H2**, remittance dependence differs substantially across developing economies; **H3**, remittances are a major external-finance flow relative to FDI and ODA; **H4**, remittance flows show resilience during major economic shocks; and **H5**, the relationship between remittances and growth varies across economic contexts.

6. Data and Sample Construction

The primary quantitative data lineage is the World Bank World Development Indicators. The main remittance indicator is 'Personal remittances, received (current US$)', whose source is IMF balance-of-payments data and World Bank staff estimates [4]. The corresponding remittance-to-GDP indicator is also published by the World Bank [4]. KNOMAD provides a dedicated inward-remittance dataset covering 2000–2024, updated in September 2025 [13].

The study period is 2000–2024. Developing economies are operationalized using the World Bank FY2026 classification: low-income, lower-middle-income, and upper-middle-income economies are included, while high-income economies are excluded. The World Bank updates income classifications annually using GNI per capita under the Atlas method [14]. Because classifications can change over time, this paper uses one documented classification for sample definition rather than changing the sample every year.

After merging the country classification with the remittance and macroeconomic datasets, 122 developing economies have observed remittance and GDP data in 2024. The baseline regression contains 2,742 country-year observations across 122 economies. The number of usable observations is lower than the theoretical maximum because some countries have missing observations for one or more variables.

For the primary analysis, current-dollar remittance values are used for external-flow comparisons, while remittances/GDP is the main normalized measure. GDP growth is the dependent variable in the baseline panel regression. Log GDP per capita and FDI/GDP are included as controls. The use of annual data means that short-lived household effects and longer-term development effects may not be fully captured.

Variable	Indicator / construction	Primary source	Period
Remittances	Personal remittances received, current US$	World Bank WDI / IMF BOP lineage	2000–2024
Remittance dependence	Remittances ÷ GDP × 100	Calculated from WDI	2000–2024
Remittance per capita	Remittances ÷ population	Calculated; population derived consistently	2000–2024
GDP growth	GDP growth, annual %	World Bank WDI	2000–2024
GDP per capita	GDP per capita, current US$	World Bank WDI	2000–2024
FDI	FDI net inflows, current US$	World Bank WDI	2000–2024
ODA	Net ODA received, current US$	World Bank WDI	2000–2023 usable
Income group	World Bank income classification	World Bank Country & Lending Groups	FY2026

Table 1. Data sources and analytical definitions. Source lineage is World Bank WDI/KNOMAD; derived measures are the author's calculations from the downloaded data.

7. Methodology

7.1 Descriptive analysis

The first stage is descriptive. For each year, the paper aggregates remittance inflows across developing economies with available data. Country rankings are then constructed for 2024 using three metrics: total remittance inflows, remittances as a percentage of GDP, and remittances per capita. Regional aggregates use the World Bank region attached to the classification dataset.

7.2 External-finance comparison

Remittances are compared with FDI and ODA using current US dollars. Because ODA coverage ends earlier than the remittance series, the direct three-way comparison is restricted to years where ODA observations are available, with 2023

used as the latest common comparison year in the analytical sample.

7.3 Panel regression

The baseline specification is a two-way fixed-effects model:

$$\mathbf{GDPGrowth}_{it} = \alpha_i + \lambda_t + \beta\ \mathbf{RemittanceGDP}_{it} + \gamma\ \mathbf{X}_{it} + \varepsilon_{it}$$

where α■ captures time-invariant country characteristics, λ■ captures common year shocks, and X contains log GDP per capita and FDI/GDP. Standard errors are clustered by country. The coefficient β should be interpreted as a conditional within-country association, not as a causal treatment effect.

7.4 Lagged specification and endogeneity

To test whether the timing of the association changes when the remittance variable is lagged, a one-year lag of remittances/GDP is also estimated. This does not solve endogeneity, but it provides a useful robustness check. A proper causal design would require stronger instruments or quasi-experimental variation. The literature demonstrates why this is difficult [9, 10].

8. Results: Global Remittance Trends

The developing-economy sample records a substantial increase in remittance inflows over the study period. Aggregate recorded inflows rise from approximately $68.7B in 2000 to $680.5B in 2024. This corresponds to an estimated nominal CAGR of approximately 10.0%. The increase is not linear: there are periods of rapid expansion, slower growth, and substantial regional divergence.

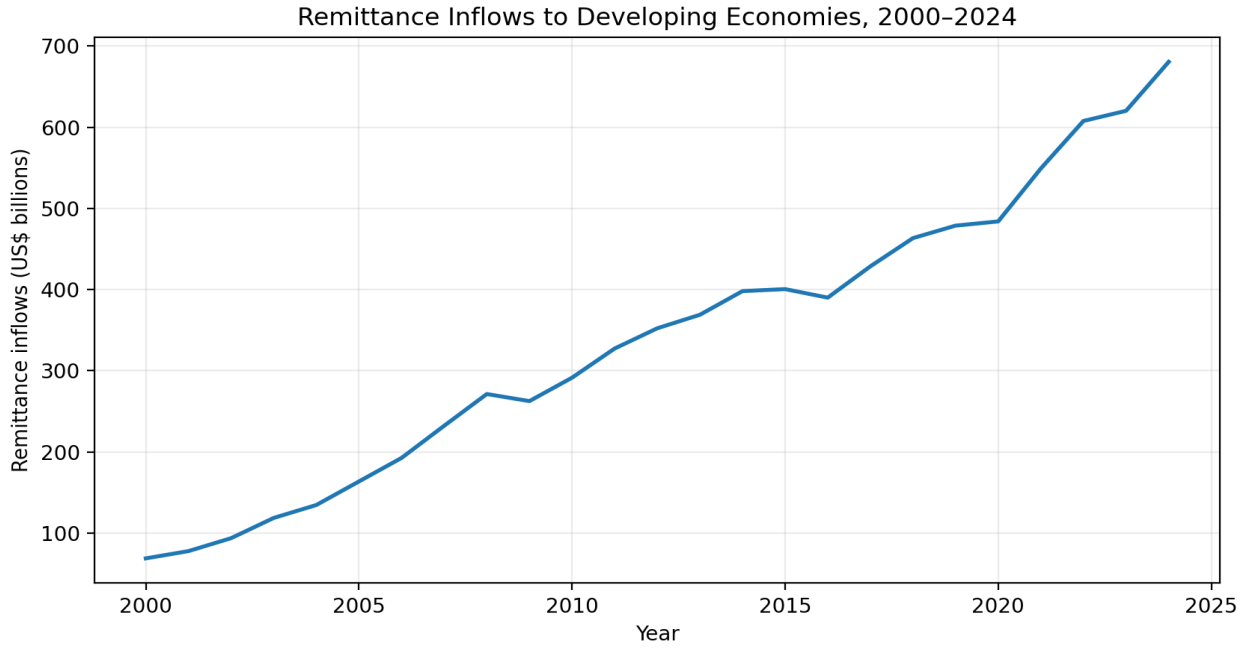

Figure 1. Recorded remittance inflows to the developing-economy analytical sample, 2000–2024. Source: World Bank WDI/KNOMAD data; author's calculations.

Remittances as a share of aggregate GDP also increased in the sample. The ratio was about 1.29% in 2000 and approximately 1.83% in 2024. This does not mean that every country became more dependent. Aggregate ratios can move because both the numerator and denominator change and because the composition of the developing-economy sample changes with classification.

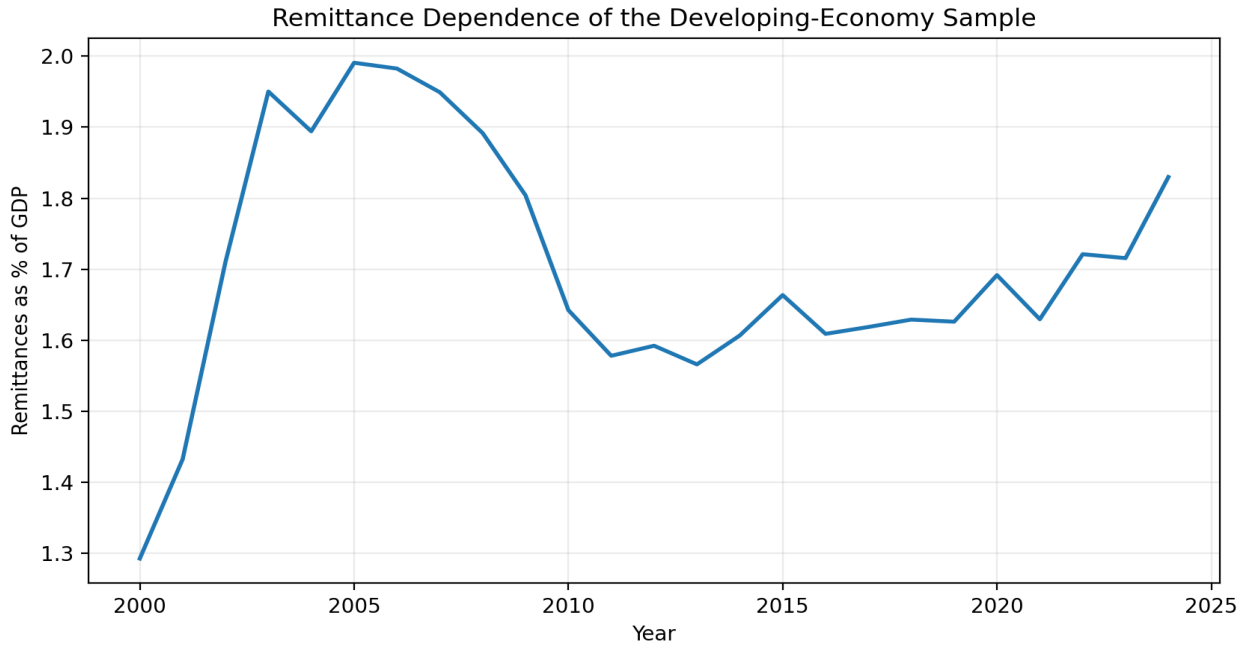

Figure 2. Remittances as a percentage of aggregate GDP in the developing-economy sample. Source: World Bank WDI/KNOMAD; author's calculations.

9. Country-Level Results: Volume, Dependence, and Per Capita Flows

The 2024 rankings demonstrate why a single remittance measure is insufficient. India is the largest recipient in absolute terms in the analytical sample, followed by Mexico, the Philippines, Pakistan, China, Egypt, Bangladesh, Guatemala, Nigeria, and Uzbekistan. Yet several countries with much smaller absolute inflows have far higher remittance-to-GDP ratios.

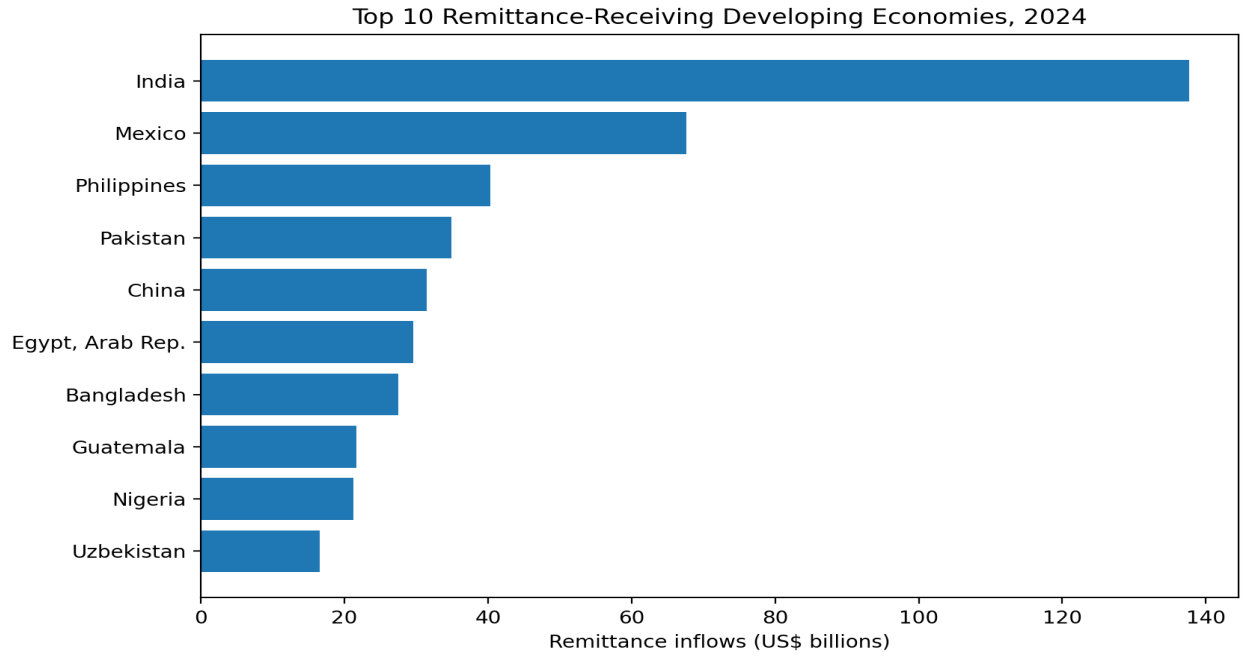

Figure 3. Top ten developing-economy recipients of recorded remittances in 2024. Source: World Bank WDI; author's calculations.

Rank	Country	Remittances	Remittances/GDP	Per capita
1	India	$137.7B	3.5%	$95
2	Mexico	$67.6B	3.6%	$517
3	Philippines	$40.3B	8.7%	$348
4	Pakistan	$34.9B	9.4%	$139

Rank	Country	Remittances	Remittances/GDP	Per capita
5	China	$31.4B	0.2%	$22
6	Egypt, Arab Rep.	$29.6B	7.6%	$254
7	Bangladesh	$27.5B	6.1%	$159
8	Guatemala	$21.6B	19.1%	$1,176
9	Nigeria	$21.3B	8.4%	$92
10	Uzbekistan	$16.6B	14.4%	$456

Table 2. Top 10 developing-economy recipients by absolute remittance inflows, 2024.

The dependence ranking is more revealing for development analysis. Tajikistan has the highest remittance-to-GDP ratio in the analytical sample at approximately 47.9%, followed by Nicaragua, Nepal, Honduras, Samoa, El Salvador, The Gambia, Liberia, Lesotho, and Comoros. These figures indicate that remittances can constitute a structural component of national income and external finance in smaller economies.

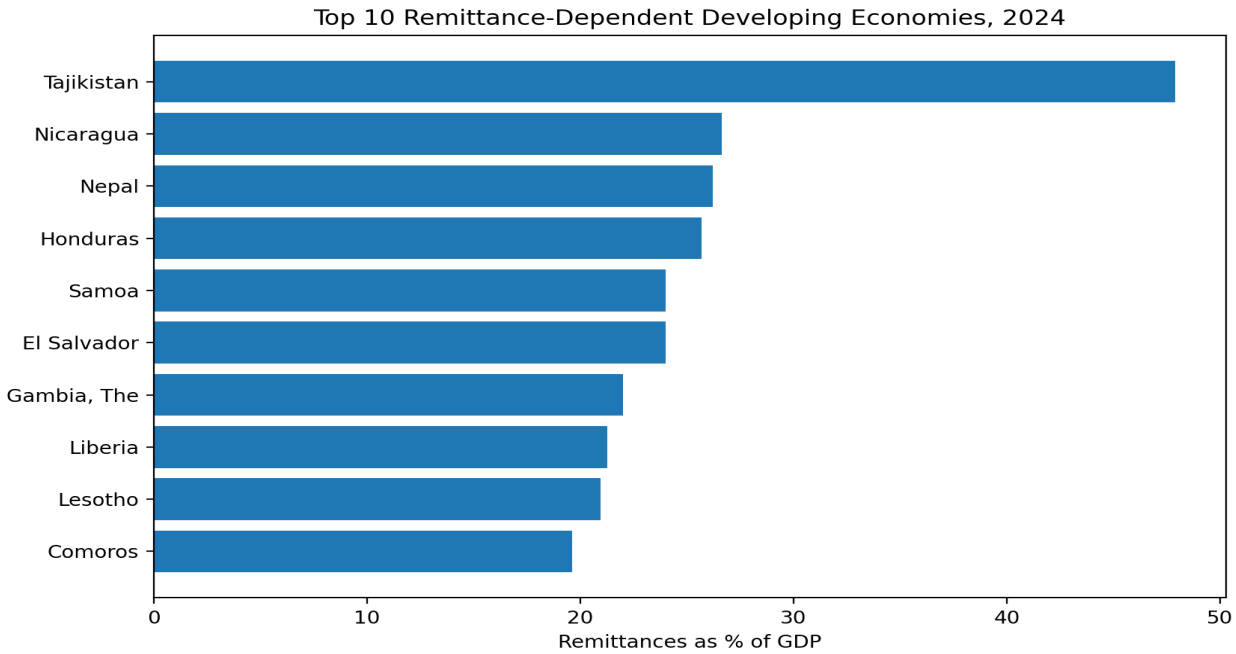

Figure 4. Top ten developing economies by remittances as a share of GDP, 2024. Source: World Bank WDI; author's calculations.

Rank	Country	Remittances	Remittances/GDP	Per capita
1	Tajikistan	$6.8B	47.9%	$642
2	Nicaragua	$5.2B	26.6%	$758
3	Nepal	$11.3B	26.2%	$380
4	Honduras	$9.5B	25.7%	$881
5	Samoa	$0.3B	24.0%	$1,295
6	El Salvador	$8.5B	24.0%	$1,339
7	Gambia, The	$0.5B	22.0%	$192
8	Liberia	$1.0B	21.3%	$181
9	Lesotho	$0.5B	20.9%	$204
10	Comoros	$0.3B	19.6%	$326

Table 3. Top 10 developing economies by remittance dependence, 2024.

Per-capita rankings tell another story. Montenegro, El Salvador, Samoa, Jamaica, Kosovo, Guatemala, Georgia, Bosnia and Herzegovina, the Dominican Republic, and Albania are among the highest in the sample. Per-capita values should not be interpreted as household income because they are calculated from national aggregates and include recipients who may not be evenly distributed across the population.

10. Regional Analysis

Regional differences are substantial. In 2024, South Asia recorded the largest aggregate remittance inflow in the analytical sample at roughly US$183.2 billion, followed by Latin America and the Caribbean at approximately US$163.7 billion and East Asia and the Pacific at about US$120.6 billion. The Middle East, North Africa, Afghanistan and Pakistan region recorded roughly US$88.0 billion, while Europe and Central Asia and Sub-Saharan Africa each recorded about US$63 billion.

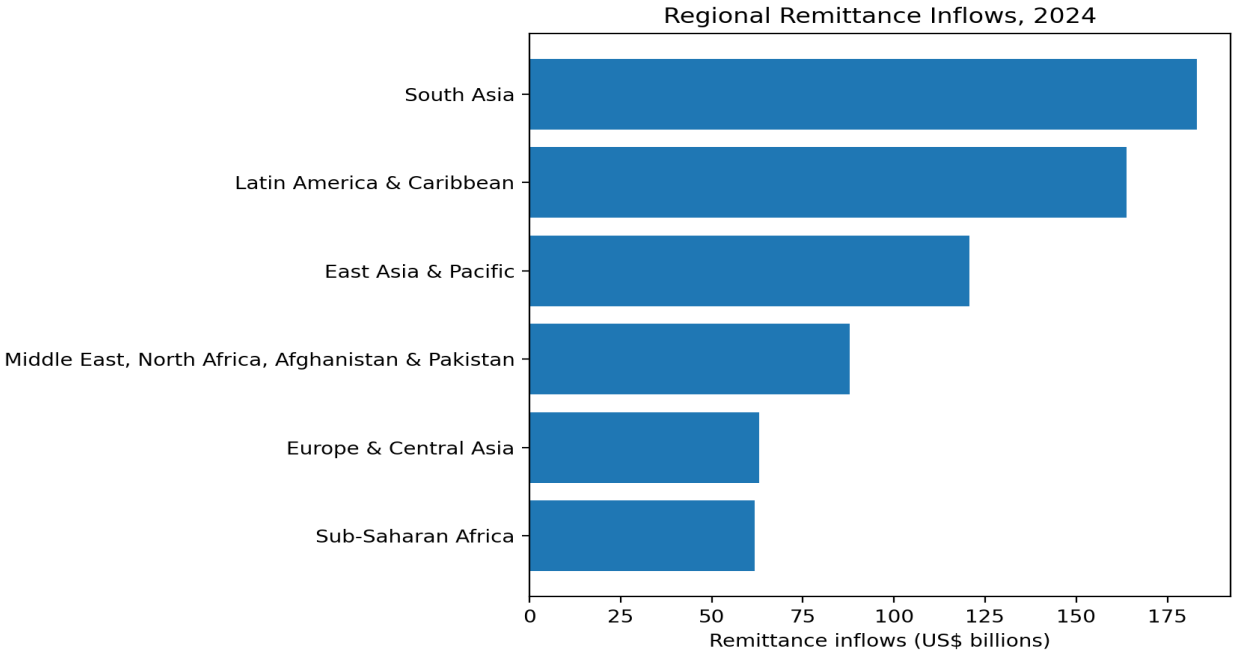

Figure 5. Regional remittance inflows among developing economies, 2024. Source: World Bank WDI; author's calculations.

Region	Remittances	GDP	Remittances/GDP	Countries
South Asia	$183.2B	$4,509.0B	4.1%	5
Latin America & Caribbean	$163.7B	$6,002.9B	2.7%	21
East Asia & Pacific	$120.6B	$22,231.0B	0.5%	18
Middle East, North Africa, Afghanistan & Pakistan	$88.0B	$1,592.8B	5.5%	9
Europe & Central Asia	$63.1B	$1,040.7B	6.1%	16
Sub-Saharan Africa	$61.9B	$1,812.2B	3.4%	38

Table 4. Regional remittance aggregates for 2024. Regions follow the World Bank classification; countries are those with observed remittance and GDP data.

The regional GDP ratios show why absolute size should not be confused with dependence. The Middle East, North Africa, Afghanistan and Pakistan group has a relatively high sample-wide remittance/GDP ratio, while South Asia combines very large absolute inflows with a moderate aggregate ratio. East Asia and the Pacific has a lower ratio largely because the denominator includes large economies such as China. These differences are precisely why normalized measures are essential.

11. Remittances Compared with FDI and ODA

In the latest common comparison year, 2023, the analytical sample records approximately $620.2B in remittances, $388.7B in FDI, and $143.9B in ODA. Remittances were therefore about 1.60 times the size of FDI and about 4.31 times the size of ODA in the same analytical sample.

This result is consistent with the World Bank's broader conclusion that remittances surpassed FDI and ODA for low- and middle-income countries in 2023 [2]. The important qualification is that these flows have different economic meanings. FDI represents cross-border investment associated with ownership or significant influence over firms; ODA consists of official concessional flows and grants to eligible recipients; remittances are private household-linked transfers. Comparing their size is informative, but it does not imply that they are substitutes.

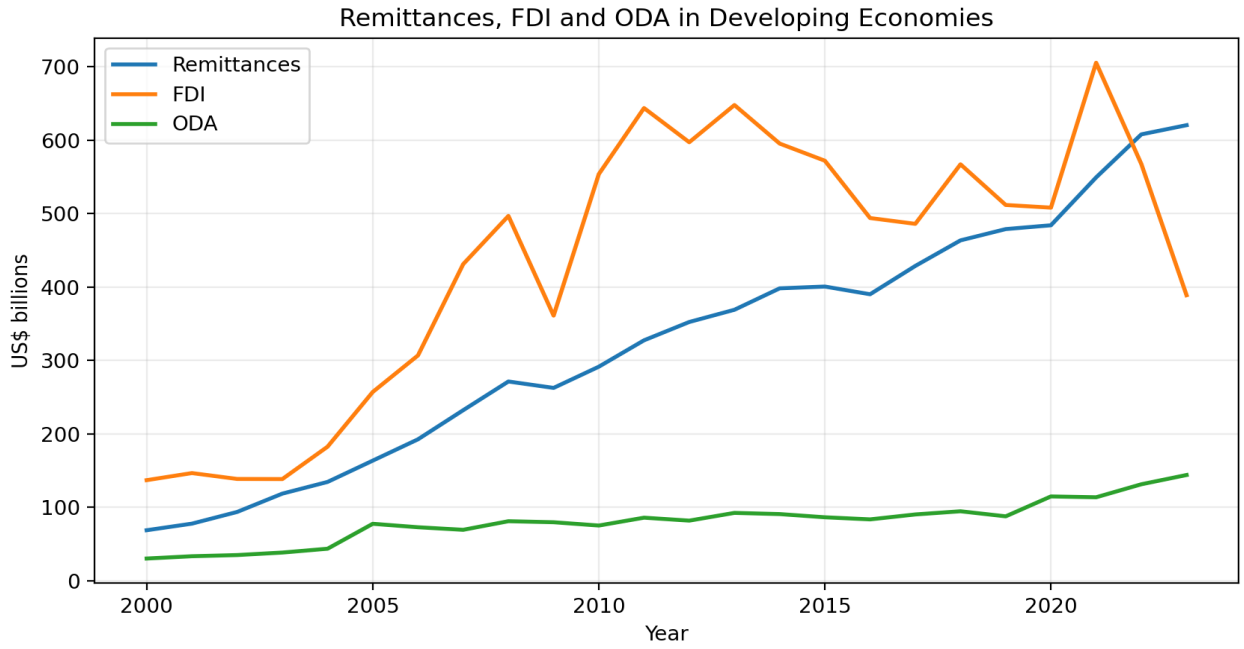

Figure 6. Remittances, FDI and ODA in the developing-economy analytical sample, 2000–2023. Source: World Bank WDI; author's calculations. ODA coverage is the limiting series.

The comparison also shows why migration can be economically important even when migrants themselves are not counted as a national investment category. A migrant's earnings abroad can become a recurring external inflow to the origin economy without being recorded as FDI. The transfer can finance household needs, education, health, housing, savings, debt repayment, or business activity. The macroeconomic channel is therefore mediated by household decisions rather than controlled directly by governments.

12. Remittance Resilience During the COVID-19 Shock

The 2020–2021 period provides a useful stress test. In the analytical sample, remittance inflows increased by about 1.1% in 2020 compared with 2019, despite the severe disruption to international labor markets. In 2021, the annual increase accelerated to approximately 13.5%. The data therefore do not show the collapse that might have been expected from the initial pandemic shock.

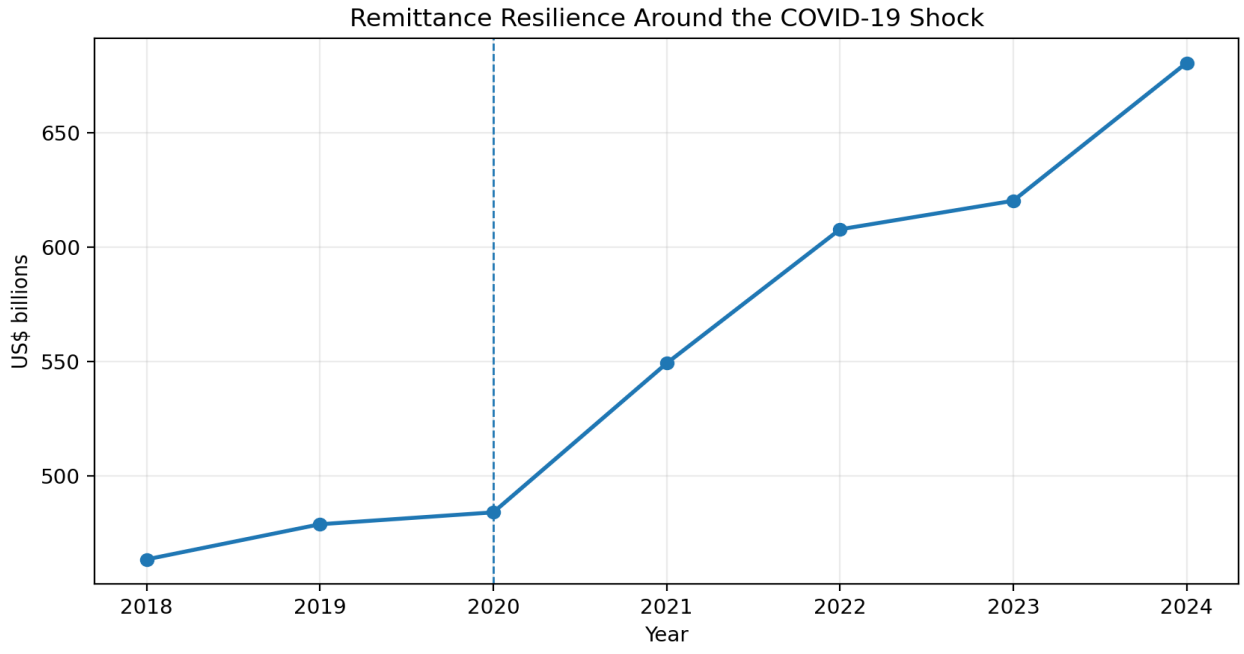

Figure 7. Remittance resilience around the COVID-19 shock, 2018–2024. Source: World Bank WDI/KNOMAD; author's calculations.

This resilience is consistent with the World Bank's interpretation that remittance flows were supported by the recovery of migrant employment in major destination economies and by migrants' continued support for households at home [1, 3]. It also supports a broader interpretation of remittances as a household insurance mechanism. However, resilience at the aggregate level does not mean that every migrant or receiving household experienced stable income. The global aggregate can hide severe corridor-level and household-level disruptions.

13. Remittances and Economic Growth

The descriptive relationship between remittances/GDP and annual GDP growth is weakly negative in the pooled country-year data: the simple correlation in the regression sample is approximately -0.067. This is not evidence of a causal negative effect. Countries can receive more remittances precisely when domestic economic conditions are weak, because migrants may increase transfers in response to household need.

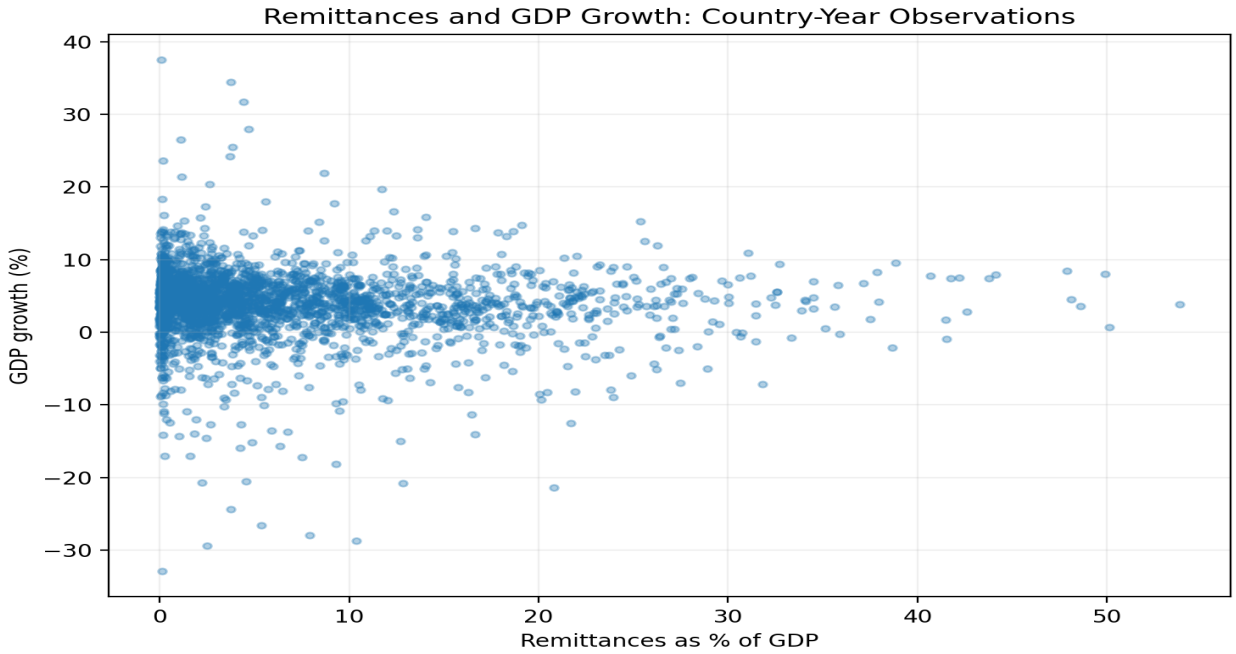

Figure 8. Remittances/GDP and annual GDP growth across country-year observations. Source: World Bank WDI; author's calculations. The scatter is descriptive and does not identify causality.

13.1 Baseline fixed-effects model

The two-way fixed-effects regression includes country effects, year effects, log GDP per capita, and FDI/GDP. The estimated coefficient on remittances/GDP is β=0.016 with a clustered p-value of 0.568. The coefficient is therefore statistically insignificant at conventional levels. The model explains approximately 32.6% of the total variation in annual GDP growth in the estimation sample, although the overall R^2 should not be interpreted as a measure of causal explanatory power.

The one-year-lag specification produces a coefficient of β=0.035 with p=0.337. Again, the association is statistically insignificant. The lagged coefficient is positive, but the confidence implied by the statistical test is insufficient to conclude that higher remittance dependence causes higher subsequent GDP growth.

Variable	Coefficient	Clustered p-value	Interpretation
Remittances/GDP	0.016	0.568	Not statistically significant
Log GDP per capita	1.117	0.070	Positive; weak evidence
FDI/GDP	0.072	0.027	Positive; statistically significant
Country FE	Yes		
Year FE	Yes		
Observations	2,742		
Countries	122		

Variable	Coefficient	Clustered p-value	Interpretation
R^2	0.326		Overall R^2

Table 5. Baseline two-way fixed-effects regression of annual GDP growth. Standard errors are clustered by country.

14. Interpretation of the Growth Result

The statistically insignificant remittance coefficient is one of the most important findings of the paper because it prevents an overly simple conclusion. The absence of a detectable aggregate growth effect in this model does not mean that remittances are economically irrelevant. Instead, it means that the annual cross-country relationship between remittances/GDP and GDP growth is not sufficiently stable to identify a statistically significant coefficient after country and year effects and basic controls are included.

There are several plausible reasons. First, remittances may primarily stabilize household consumption rather than increase measured production immediately. Second, transfers may be invested in education and health, generating human-capital effects that materialize over longer horizons. Third, remittances can finance imports, housing, or debt repayment, producing welfare gains without a direct short-run increase in GDP growth. Fourth, remittances are endogenous to migration decisions and economic shocks. Fifth, measurement differences across countries can create noise.

The result is consistent with the caution expressed by Clemens and McKenzie [9], who argue that macroeconomic growth effects are difficult to detect in cross-country data. It is also consistent with the conditional findings of Giuliano and Ruiz-Arranz [7], who show that the effect can depend on financial development. In other words, the correct conclusion is not 'remittances do not contribute to development,' but rather 'aggregate growth effects cannot be inferred from the baseline cross-country coefficient alone.'

15. Economic Channels Beyond GDP Growth

15.1 Household consumption and income smoothing

Remittances can stabilize household income when domestic employment or agricultural income is volatile. This insurance function is particularly relevant during economic shocks. A household receiving transfers can maintain food consumption, education spending, medical care, and housing expenditure even when local income falls. These welfare effects may be large without producing a proportional change in national GDP growth.

15.2 Education and health

Private transfers can finance school fees, educational migration, medical treatment, and preventive health spending. These uses can raise human capital, but their macroeconomic effect may appear with a substantial lag. A one-year GDP growth regression is therefore poorly suited to capture all of the potential returns.

15.3 Investment and entrepreneurship

Remittances can relax liquidity constraints. Giuliano and Ruiz-Arranz [7] provide evidence that the investment channel can be stronger where domestic financial systems are less developed. This suggests that the same nominal remittance inflow can have different effects depending on credit access, financial inclusion, property rights, and the availability of investment opportunities.

15.4 External balance and foreign exchange

At the macro level, remittances provide foreign currency or foreign-currency-linked income to receiving economies. They can support the current account and increase the ability of households and firms to pay for imported goods and services. For economies with large external financing needs, the stability of these inflows can be particularly valuable.

15.5 Possible macroeconomic costs

The economic effects are not universally positive. Large inflows can contribute to currency appreciation pressures, raise demand for non-tradable goods, or reduce labor-market participation in particular settings. The literature also discusses financial and institutional channels through which high remittance dependence can produce unintended effects [15]. The appropriate empirical question is therefore conditional: what happens under what institutional and financial conditions?

16. Illustrative Country Cases

The global rankings reveal different types of remittance economies. India represents a high-volume model: the country receives a very large absolute amount, but the remittance-to-GDP ratio remains much lower than in the most dependent small economies. Guatemala combines large absolute inflows with a high GDP share and high per-capita transfers. Tajikistan illustrates extreme macroeconomic dependence, with remittances approaching half of GDP. Nepal and Honduras combine large GDP shares with substantial absolute inflows.

These cases demonstrate that policy needs differ. A large economy may focus on lowering transfer costs and improving financial inclusion without treating remittances as a central macroeconomic dependency. A small highly dependent economy may need a broader strategy for diversification because a labor-market shock in destination countries can quickly become a national external-financing shock.

Country	2024 remittances	Remittances/GDP	Per capita	Interpretive type
India	$137.7B	3.5%	$95	High-volume recipient
Mexico	$67.6B	3.6%	$517	High-volume recipient
Philippines	$40.3B	8.7%	$348	High-volume recipient
Pakistan	$34.9B	9.4%	$139	High-volume recipient
Guatemala	$21.6B	19.1%	$1,176	High-volume + high dependence
Nepal	$11.3B	26.2%	$380	High-dependence economy
Honduras	$9.5B	25.7%	$881	High-dependence economy
Tajikistan	$6.8B	47.9%	$642	High-dependence economy

Table 6. Selected 2024 country cases illustrating different remittance profiles.

17. Discussion

The empirical picture is more nuanced than the common narrative that remittances simply 'drive growth.' They clearly represent a large and growing financial connection between migrant-origin countries and destination labor markets. They are also economically important at the household level and, in many economies, at the national level. However, the macroeconomic growth relationship is heterogeneous and difficult to identify.

The strongest evidence in this study concerns scale and dependence rather than causality. Recorded remittance flows have increased dramatically over the 2000–2024 period. In 2024, the analytical sample received approximately US$680.5 billion. In the same year, remittances represented nearly 1.8% of aggregate GDP across the sample, while individual-country dependence ranged from negligible levels to nearly half of GDP.

The second strong result concerns external finance. By 2023, remittances in the analytical sample were approximately 1.6 times FDI and more than four times ODA. This does not make remittances equivalent to investment or aid, but it demonstrates that migrant-origin transfers have become too large to treat as a peripheral financial flow.

The third result concerns resilience. The aggregate flow continued to rise during 2020 and accelerated in 2021. This is consistent with the idea that migrants often adjust transfers in response to family needs and that remittance flows can behave differently from profit-sensitive capital flows. The result also highlights the role of migrant labor markets in destination countries: remittances depend on migrants' ability to remain employed and transfer earnings.

The fourth result is cautionary. The fixed-effects regression does not identify a significant direct growth association. This suggests that policymakers should not justify migration or remittance policies solely by claiming that every additional dollar of remittance automatically increases GDP growth. The stronger policy argument is broader: remittances provide private financial resources that can improve household resilience and, under the right conditions, support investment and development.

18. Policy Implications

18.1 Reduce remittance transaction costs

The first policy priority is to make transfers cheaper and more accessible. High transaction costs reduce the amount that reaches households. The World Bank's Remittance Prices Worldwide database tracks the cost of sending money across

corridors and has repeatedly shown that costs remain above the international Sustainable Development Goal target in many corridors [16].

18.2 Improve financial inclusion

Recipients should have access to safe bank accounts, mobile money, savings products, insurance, and credit. Financial inclusion can increase the ability of households to transform private transfers into longer-term financial assets without imposing a government-directed use of funds.

18.3 Support productive investment without coercion

Governments can offer voluntary savings products, diaspora bonds, investment facilitation, business services, and financial literacy. However, remittances are private household resources. Public policy should not assume that families have an obligation to invest transfers rather than spend them on immediate welfare needs.

18.4 Protect migrant workers

Because remittances depend on migrant earnings, labor-market protection in destination countries is indirectly relevant to origin-country financial stability. Fair recruitment, legal mobility, wage protection, and access to formal payment systems can strengthen the remittance channel.

18.5 Diversify remittance-dependent economies

Countries where remittances exceed 20% of GDP face a distinct macroeconomic vulnerability. A sudden labor-market shock in destination countries can affect household income, foreign exchange, and domestic demand simultaneously. Such economies should therefore pursue diversification rather than treating remittances as a permanent substitute for domestic productive capacity.

19. Limitations

Several limitations should guide interpretation. First, the study relies on officially recorded remittance flows. Informal transfers are not fully captured. Second, country data availability is uneven. Third, World Bank income classifications change over time; using a single classification improves comparability but may differ from historical classifications. Fourth, remittances and growth are jointly influenced by migration, labor markets, exchange rates, and economic shocks, creating endogeneity.

Fifth, the baseline regression uses annual GDP growth, which may not capture long-run human-capital or investment effects. Sixth, the comparison with FDI and ODA is descriptive and does not imply that the three flows are economically interchangeable. Seventh, the study does not estimate household-level welfare effects or poverty elasticity directly because consistent global household data would require a different research design. Eighth, the fixed-effects model controls for time-invariant country characteristics and common annual shocks but does not establish causality.

Finally, some World Bank indicators are revised over time. Revisions can change historical values, particularly for national accounts and balance-of-payments series. The cleaned dataset accompanying this paper should therefore be treated as a dated research dataset rather than a permanent immutable database.

20. Conclusion

This study examined the economic role of remittances in developing economies using global data for 2000–2024. The evidence demonstrates that remittances have become a major international financial flow. In the analytical sample, recorded inflows rose from roughly US$68.7 billion in 2000 to US$680.5 billion in 2024, a nominal CAGR of approximately 10.0%. The scale of the flow is matched by large differences in country-level dependence: some economies receive remittances equivalent to less than 1% of GDP, while others receive more than one-fifth and, in the case of Tajikistan, nearly half of GDP.

The paper's central empirical conclusion is that the economic importance of remittances is clear, but their aggregate growth effect is not simple. The baseline two-way fixed-effects model finds no statistically significant association between remittances/GDP and annual GDP growth after controlling for country and year effects, income, and FDI intensity. A lagged specification produces the same qualitative conclusion. This result should not be interpreted as evidence that remittances have no development impact. Rather, it shows that a broad annual macroeconomic regression is insufficient to capture the full range of household, financial, investment, and human-capital channels.

The evidence is strongest when remittances are viewed as a form of private external finance and household economic insurance. Their scale relative to FDI and ODA, their resilience during COVID-19, and their large GDP shares in many small economies make them an important part of the development architecture of migrant-origin countries. The policy challenge is therefore to reduce the cost and risk of transferring money, strengthen financial inclusion, protect migrants' earnings, and create an environment in which households can use transfers according to their own priorities.

Future research should move beyond the global descriptive framework used here. The next generation of studies could use bilateral remittance corridors, migrant stocks, destination-country labor-market shocks, financial-development indicators, household survey data, or instrumental-variable designs to identify causal effects. Such research would help distinguish whether remittances primarily operate through consumption smoothing, investment, human capital, financial inclusion, or macroeconomic stabilization. The present paper establishes the global scale and provides a cautious empirical baseline for that deeper work.

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22. Data Dictionary and Reproducibility Notes

Variable	Definition	Unit	Use
remittances_usd	Personal remittances received	Current US$	Primary flow
remit_gdp	Remittances ÷ GDP × 100	Percent	Main dependence measure
remit_pc	Remittances ÷ population	Current US$ per person	Per-capita comparison
gdp_usd	Gross domestic product	Current US$	Denominator / scale
gdp_growth	Annual GDP growth	Percent	Regression outcome

Variable	Definition	Unit	Use
gdp_pc	GDP per capita	Current US$	Control / development scale
fdi_usd	FDI net inflows	Current US$	External finance comparison
fdi_gdp	FDI ÷ GDP × 100	Percent	Regression control
oda_usd	Net ODA received	Current US$	External finance comparison
Income group	World Bank FY2026 income group	Category	Sample definition
Region	World Bank geographic region	Category	Regional analysis

Table 7. Analytical variables used in the cleaned research dataset.

The accompanying CSV file contains the country-year observations used for the empirical analysis. The dataset preserves the source values and derived variables rather than only the final rankings. This makes it possible to reproduce the principal calculations and update the analysis when World Bank revisions become available.

Reproducibility rule: no values in the results section were manually typed into the analytical dataset. Rankings, regional totals, descriptive statistics, and regression coefficients were generated programmatically from the cleaned country-year data.

Appendix A. Additional Statistical Information

Variable	Remittances/GDP	GDP growth	Log GDP pc	FDI/GDP
Remittances/GDP	1.000	-0.067	-0.033	0.060
GDP growth	-0.067	1.000	-0.145	0.108
Log GDP per capita	-0.033	-0.145	1.000	0.040
FDI/GDP	0.060	0.108	0.040	1.000

Table A1. Pearson correlation matrix in the baseline regression sample. Correlations are descriptive and do not establish causality.

Variable	N	Mean	Std. Dev.	Median	Min	Max
Remittances/GDP	2,742	6.46	7.64	3.56	0.00	53.83
GDP growth	2,742	3.88	4.78	4.18	-32.91	37.51
GDP per capita	2,742	3309.03	2909.59	2395.69	109.59	14532.50
FDI/GDP	2,742	3.84	5.68	2.59	-37.17	103.34

Table A2. Descriptive statistics for the baseline regression variables.

Appendix B. Methodological cautions

1. The term 'developing economies' is operational rather than universal. The paper uses the World Bank FY2026 low-, lower-middle-, and upper-middle-income groups because they provide a transparent and reproducible country classification. The term should not be interpreted as a judgment about a country's development status.

2. Remittance figures are recorded flows. Informal transfers may not be captured. Country coverage and measurement quality vary.

3. The fixed-effects regression is an association model. It does not prove that remittances cause GDP growth. Causal inference would require stronger identification.

4. Current-dollar comparisons are appropriate for external-flow scale, but they are affected by exchange rates and nominal price changes. The study therefore avoids interpreting the nominal CAGR as a real growth rate.

5. The 2024 estimates in the paper are based on the World Bank WDI values available in the downloaded data. World Bank and KNOMAD publications may report slightly different figures because of revisions, coverage, estimation dates, and definitions. This is a normal feature of international macroeconomic datasets and is explicitly acknowledged.

End of Research Paper