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# IMPACT OF REMITTANCES ON POVERTY: AN EMPIRICAL ANALYSIS OF SOUTH ASIA

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**ABSTRACT**

Remittances constitute a significant source of foreign capital inflows that enhance income levels and contribute to economic growth, thereby playing an important role in poverty reduction. This study examines the impact of remittances on poverty while accounting for government spending, employment, and trade openness in South Asian countries over the period 1990–2022. The analysis employs several econometric techniques, including Ordinary Least Squares (OLS), Fixed Effects (FE), Random Effects (RE), and Fully Modified Ordinary Least Squares (FMOLS). The empirical results indicate that remittances, government expenditure, employment, and trade openness have a poverty-reducing effect. The findings from the FE, RE, and FMOLS models consistently confirm that remittances significantly alleviate poverty. Furthermore, Granger causality tests reveal bidirectional causal relationships between remittances and poverty, as well as between remittances and trade openness. Based on these findings, the study recommends that policymakers in South Asian countries design effective strategies to ensure the productive utilization of remittance inflows for sustainable economic development and poverty alleviation.

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## INTRODUCTION

Remittances are the products and cash that migrant workers who live outside of their home communities or overseas transfer to their homes. These resource transfers were one of the major concerns in economic development at the beginning of the twenty-first century. Economic growth and income disparity are both necessary for economic progress. Unfortunately, after 1990, there was a rise in poverty, and instead of adopting the necessary steps to enhance the distribution of income, attention was placed entirely on policies that helped lower the percentage of people who live in poverty. Yang and Martinez (2006) stated that the inflow of remittances helped emerging nations in reducing the poverty rate and also improved household spending on health and education. Simultaneously, remittances may facilitate small business investments and increase access to official financial services.

Remittances serve as a significant source of additional revenue for the subsistence of homes that receive them, as well as capital for small and medium-sized businesses (SMEs) at a micro level. Remittances, in contrast to aid, go straight to specific homes and organizations; also, unlike loans, they have no direct interest charges or repayment requirements. Remittances can support long-term development through investments in SMEs, land, housing, education, and vocational training, in addition to boosting expenditure in the short term by enabling recipients to pay for basic needs. Macroeconomic instability of low-income nations is facilitated by international remittances, which are a vital source of foreign cash due to their ability to increase international reserves and reduce severe issues related to the balance of payments. The inflow of remittances is beneficial since it rises during recessions; as a result, it greatly aids labor-exporting nations in absorbing a variety of detrimental macroeconomic and natural shocks.

Remittances from outside can have a greater influence on developing nations because they give families a vital source of income to pay for necessities like food, healthcare, and education. This can raise living standards and lower poverty. By expanding household incomes, these funds can stabilize economies. This is particularly crucial in regions with a deficiency of employment prospects or unstable economic conditions. Furthermore, remittances frequently result in investments in health and education, which may improve social and economic outcomes as well as long-term economic prospects. They can also be used as funding for new projects or small enterprises, boosting regional economies and generating employment. Remittances are occasionally utilized to upgrade regional infrastructure, like housing and transport, which can be beneficial for the economy as a whole. Azizi (2021) investigated how worker remittances affect poverty in 103 developing nations and found that remittances lessen poverty. The number of people living in poverty falls by 1%, and the poverty gap shrinks by 1.8%.

Pradhan and Mahesh (2016) also observed how poverty is impacted by remittances from abroad in 25 of the world's emerging economies. Additionally, an investigation was conducted into how these developing economies' overall remittance receipts affected the decrease in poverty. The findings clarified the inverse correlations between foreign remittances and poverty; in other words, a greater GDP per capita indicates a smaller population living in poverty. Ultimately, it was determined that a country may view foreign remittances as a boon in catching the poverty bird in less developed nations. The purpose of this research is to determine whether remittance inflows have a beneficial impact on reducing poverty in South Asia. The study is organized as follows: Section 2 covers an overview of prior selected research, and Section 3 presents the theoretical structure

to support the analysis. The details regarding data and a brief variable description are provided in Section 4. The outcomes of the study are discussed in section 5, and lastly, the conclusion and policy recommendations are provided.

This research makes a significant contribution to the existing literature by empirically analyzing the impact of remittances on poverty in South Asia, providing new insights into the role of economic factors such as government expenditure, employment, and trade openness. Unlike previous studies that primarily focus on the direct link between remittances and poverty, this study adopts a comprehensive approach by integrating multiple economic variables, thereby offering a more nuanced understanding of poverty alleviation mechanisms. The application of diverse econometric models, including OLS, RE, FE, and FMOLS, enhances the robustness of the findings, confirming that remittances and complementary economic policies significantly reduce poverty. The research also highlights bidirectional causality between remittances and poverty, shedding light on dynamic interactions that have policy implications for sustainable economic development in the region. This study addresses gaps in regional analysis by focusing specifically on South Asia, contributing valuable empirical evidence to the discourse on remittance utilization for economic growth and poverty reduction.

**Literature Review**

Ellyne and Mahlalela (2017) researched to find the effect of remittances on poverty in 32 nations of Africa. Poverty is proven to be statistically unaffected by exports and official development assistance (ODA). Azam and Raza (2016) studied the impact of remittances on poverty, using panel data from 39 countries, and concluded strong evidence that remittances help developing nations to overcome poverty. Furthermore, Inoue (2024) emphasizes that remittances received by inhabitants of countries with weak financial systems are more likely to have the effect of reducing poverty in those nations. Majeed and Tariq (2015) studied the link between the inflow of remittances and cross-country poverty from 1970-2008. Remittances appear to have an adverse influence on economies with lower levels of financial development, but they have no negative consequences on economies with somewhat advanced financial systems. Butkus et al. (2020) investigated the effects of remittances on poverty between 2006 and 2015. Estimates of pooled OLS, fixed effects, random effects, and 3-SLS demonstrated that remittances significantly affect three of the four indicators of poverty. An average decrease of 5.5 in % population living in poverty, 3.7% in the gap between the levels of poverty and the likelihood of falling into poverty, and 0.6% in the risk of being poor will result from a 10% increase in the remittances to GDP ratio.

Hatemi and Uddin (2014) looked into the relationship between remittances and poverty from 1976-2010. Bangladesh's economy was still in its infancy, so this matter was crucial. According to the estimation results, there was a two-way causality between poverty and remittances. They also discovered that remittances are more strongly impacted by poverty than by the opposite effect. De Haas (2007) examined how remittances affect poverty in Nigeria. They estimated the impact of remittances on poverty using the propensity score matching (PSM) method and a multinomial logit model with instrumental variables. There were two justifications for using these techniques. The first step is to account for the endogeneity and selectivity issues. The second is that the counterfactual group's estimated expenditures are based on an implicit supposition. The findings discovered that remittances lessen the prevalence, intensity, and severity of poverty.

Irfan (2011) studied the connection between poverty and remittances in Pakistan, 50% of all remittances received in South Asia came into Pakistan 1980. However, the remittances fell from $1,467 million to $1,086 million between 1991 and 2000. But in September 2008, the remittances rose once more. This study outlined the substantial relationships between migration, poverty, and remittances. Anyanwu and Erhijakpor (2010) used data of 33 countries from 1990 to 2005 to investigate the influence of foreign remittances on poverty in African nations. It was concluded that remittances from overseas had a substantial impact on lowering poverty in Africa.

Banga and Sahu (2010) talked about the two levels of remittance impact on poverty in emerging nations. Firstly, from 1980 to 2008, it calculates the effect of remittances on poverty in 77 developing nations; Secondly, distinct examinations are carried out for 29 developing nations in Asia that have remittances making up at least 5% of their GDP. The study's findings repeatedly demonstrate that remittances considerably reduce poverty. However, the findings are more trustworthy for nations where remittances account for more than 5% of GDP.

Shroff (2009) looked into the long-term effects of remittances on poverty in Mexico. They evaluated the marginal effect of remittances on each of the three Foster-Greer-Thornback indices of poverty to achieve this. The information used was gathered from two polls conducted in 2005, in addition to biennial ones conducted from 1992 to 2004. Remittances' effect on poverty in a given year is contingent upon the quantity of remittances received by impoverished households as well as their total amount. The research was conducted separately for households receiving remittances in an attempt to isolate the two components. It was exposed that internal remittances frequently affect poverty than remittances from overseas.

Vargas-Silva et al. (2009) employed the data for 20 countries from 1988 to 2007 to study the possible impact of remittances on reducing poverty and promoting economic development in Asia. The results showed that while remittances reduce the poverty gap, they have very little effect on the overall rate of poverty. The substantial and favorable impact of remittance inflows on Armenian and Azerbaijani GDP growth between 1995 and 2010. Fayissa and Nsiah (2008) revealed that remittances, which offer an alternative source of funding for investments and aid in overcoming liquidity limitations, contributed to economic growth in 42 African nations between 1995 and 2004 despite having weak banking institutions.

Catrinescu et al. (2009) conducted a study of 163 nations from 1970 to 2003. According to empirical research, institutions are crucial in determining how remittances affect growth. It is said that well-run institutions facilitate the efficient channeling of remittances, hence accelerating the process of growth. Therefore, the governments of the recipient nations ought to endeavor to raise the standard of their institutions. Fajnzylber and Lopez (2008) investigate the connection between remittances and poverty and inequality between 1970 and 2000. The sample consisted of 85 observations on inequality and 221 observations on growth. Remittances are seen to increase growth, lower inequality, and alleviate poverty. Additionally, the analysis was performed at the household level, which demonstrates that remittances have the effect of reducing poverty and inequality.

Adams (2009) discovered that sending highly skilled (educated) migrants abroad can help reduce poverty in 76 emerging nations, including high- and low-income. The value of the remittances provided by migrants is largely determined by their level of proficiency, which eventually lowers the poverty rate. In terms of

remittances, it was discovered that a nation that exports a greater quantity of low-skilled individuals sends fewer per capita remittances than a nation that exports highly skilled (educated) workers.

Acosta et al. (2008) discovered a negative correlation between remittances and poverty in Latin American and Caribbean (LAC) countries. Poverty decreases with increasing remittance levels. Semyonov and Gorodzeisky (2008) used data between 1990 and 2000 to investigate the relationship between the income and living standard of foreign workers' households in the Philippines and the remittances they send to their homes. This analysis also indicates that households with and without abroad workers have a difference in standard of living and total income due to international remittance flows, which may contribute to rising economic inequality in the Philippines.

Owiafe (2008) used time series data covering the years 1980–2002 to explore the consequences of worker remittances on poverty in Ghana. The study produced interesting results by using contemporary time series econometric approaches such as unit root testing, cointegration, and error correction techniques inside an ARDL framework, which has been found to provide more robust estimates. The findings imply that by raising income, balancing consumption, and reducing the capital limitations faced by the poor, remittances significantly contribute to the alleviation of poverty. Adams (1991) examines the impact of remittances on poverty and income distribution based on a survey of 1000 places in rural Egypt. The findings show that remittances have a significant role in reducing poverty. Nevertheless, foreign remittances had a direct impact on reducing poverty; they also had an indirect influence on increasing income disparity.

Jongwanich (2007) uses panel data covering the years 1993–2003 to examine how worker remittances impact poverty and growth in emerging Asia-Pacific countries. Empirical research indicates that remittances significantly reduce poverty while having little effect on growth. Adams and Page (2005) investigated the relationship between global migration and poverty in 71 developing nations. After adjusting for income level and income disparity, it was discovered that remittances from overseas have a substantial and robust detrimental effect on poverty. A 10% rise in remittances as a percentage of GDP results in a 1.6% decrease in the number of impoverished individuals.

**Theoretical Framework**

The theory of remittances put forward by Taylor et al. (2008) is used as a basis for this research. As people relocate from poor nations to comparatively high-income foreign economies in the desire for better prospects, it is believed that remittances are crucial to the eradication of poverty. These migrants' income remittances considerably boost the income of households in their host countries, which in turn lowers poverty. Furthermore, some proponents of the optimistic perspective consider remittances as a crucial element of economic growth and a practical means of reducing poverty in nations that are struggling (De Haas, 2007). In addition to financial contributions, it is predicted that migrants will return with ideas, entrepreneurial abilities, and mindsets that will contribute to national growth (De Haas, 2010). Conversely, various studies have observed that government expenditure, the increasing rate of employment, and trade openness played a vital role in the elimination of poverty (Ojeyinka and Ibukun, 2024; Maluleke and Vacu-Nqila, 2024; Alamanda, 2020). The basic model can be written as:

$$POV = f(REM, GOV, EMP, TO) \quad (1)$$

Where,

POV = Poverty

REM = Remittances

GOV = Government Expenditure

EMP = Employment

To = Trade Openness

Equation (1) can be modified into the Cobb-Douglas form,

$$POV = REM^{\alpha_1} GOV^{\alpha_2} EMP^{\alpha 3} TO^{\alpha 4} \ldots\ldots \quad (2)$$

$$\ln POV = \alpha_1 \ln REM + \alpha_2 \ln GOV + \alpha_3 \ln EMP + \alpha_4 \ln TO \ldots\ldots \quad (3)$$

The econometric model is described in equation (4) as:

$$\ln POV_{it} = \alpha_0 + \alpha_1 \ln REM_{it} + \alpha_2 \ln GOV_{it} + \alpha_3 \ln EMP_{it} + \alpha_4 \ln TO_{it} + \eta_{it} \quad (4)$$

Where the natural logarithm of poverty is expressed by *lnPOV*. Government expenditure, employment, and trade openness have been transmuted into the natural logarithm form as *lnGOV*, *lnEMP,* and *lnTO.* However, the error terms are represented by η, and the terms *t* and *i* signify the period and five economies of South Asia. $\alpha_0$ designates the intercept term, and $\alpha_1$, $\alpha_2$, …, $\alpha_4$ are the elasticities of REM, GOV, EMP, and TO.

**METHODOLOGY**

This study tries to determine how much foreign remittances help reduce poverty. To determine the effect of foreign remittances on the poverty level, panel OLS, RE & FE, and FMOLS models are applied. Panel data using the OLS technique does not take individual impact into account. The intercept and parameter remain constant across time and space, disregarding variations within the two dimensions. The Random Effects (RE) approach considers the different intercepts of every cross-section. The RE assumes various error terms due to constants in each cross-section that are treated as random parameters. The relationship in the panel dataset is ascertained by the FE technique using the same intercept for every cross-section. Phillips and Hansen (1990) proposed the FMOLS approach, in which least squares are modified to interpret serial correlation qualities and endogeneity in regression.

Furthermore, for the long-term and causative association, Pedroni Co-integration and Granger causality tests are utilized. The Pedroni test (Pedroni, 1999) is deployed to inspect whether poverty, remittances, government expenditure, employment, and trade openness are co-integrated over the long term in South Asia, as these implicated series are integrated at first difference. The Granger (1969) test is performed to look into the path of connections. The following model specifications are included in this testing process.

$$X_{it} = \theta_i + \sum_{j=1}^{p} \theta_i^{(j)} X_{i,t-j} + \sum_{j=1}^{p} \psi_i^{(j)} Y_{i,t-j} + \varepsilon_{it} \quad (5)$$

$$Y_{it} = \theta_i + \sum_{k=1}^{q} \theta_i^{(k)} X_{i,t-k} + \sum_{k=1}^{q} \psi_i^{(k)} X_{i,t-k} + \varepsilon_{it} \quad (6)$$

In equations (5) and (6), $\theta_i^{(k)}$ and $\varphi_i^{(k)}$ indicates the lag and slope parameters. $H_0$ ($\psi j = \psi k = 0$) of this causality testing is compared to $H_1$ ($\psi j \neq \psi k \neq 0$).

**Data**

The data of the study have been acquired from World Development Indicators (WDI), which covers the various periods (1990-2022) for South Asia. The five countries in this region are: Bangladesh, Pakistan, Sri Lanka, India, and Nepal. The dependent variable is poverty, and its proxy is household expenditure as a portion of GDP, while income received (current US$) as an indicator of foreign remittances, is considered the main independent variable; the description of the rest variables is expressed in Table 1. The panel data is derived for the particular countries of South Asia so that more effective and valid outcomes would be generated.

Table 1. Data description.

| Variables | Symbol | Measuring Unit | Source |
|---|---|---|---|
| Poverty | POV | % of GDP | WDI |
| Remittances | REM | Remittances, received (current US Dollars) | |
| Government Expenditure | GOV | % of GDP | |
| Employment | EMP | % of the total population | |
| Trade Openness | TO | % of GDP | |

The final household consumption spending is an indicator of poverty level that incorporates the market price of each product and service, which also includes durable items (automobiles, home appliances) that households buy. Rent that is credited to owner-occupied properties is included; however, purchases of homes are not included. It also involves paying fees and taxes to the government to acquire licenses and permits. Even though the country reports these costs separately, household consumption expenditure from this perspective includes the costs of non-profit businesses that provide services to households. Ojeyinka and Ibukun (2024) also measured the poverty level by this variable.

Personal remittances include worker compensation as well as household payments. As a result, all current transactions among non-residents and residents are considered personal. The income of temporary, seasonal, and border workers working in a non-resident economy, as well as that of residents working for non-resident companies, is referred to as compensation of employees. The data is taken in terms of dollars, and the same unit of measurement is employed by Sumaira and Siddique (2022).

All that the government currently spends on goods and services purchases (also encompassing workers' salaries) is included in general government expenditure. Except for government military spending, which involves the creation of capital, it also comprises the majority of spending on national safety. Public spending inversely affects poverty (Fan et al., 2000).

The percentage of people between the ages of 15 and 64 who are financially solvent is regarded as the rate of labor force participation. All the laborers who contribute to the making of goods & services within a time frame are incorporated into this group. The increasing rate of employment dampens poverty (Yameogo and Omojolaibi, 2021).

Trade openness is the summation of all imported and exported products and services expressed as a share of GDP. Presently, not a single country has advanced without engaging in international trade, but the increasing level of trade also alleviates poverty (Ali et al., 2023).

## RESULTS AND DISCUSSION

### Descriptive Statistics

In Table 2, the summary of statistical information is provided. Poverty has an average value of 72.537, and it ranges from 54.725 to 88.431. Remittances and government expenditure have the mean values of 13015 and 9.3599; these range from 44.160 to 111221 and 4.0533 to 17.611, respectively. The mean value of employment is 53.649, whereas its maximum & minimum values are 62.937 and 41.785. Trade openness also ranges from 15.506 to 88.636; its mean value is 42.675. Notably, POV, GOV, and EMP exhibit negative skewness, while REM and TO are negatively skewed. Furthermore, POV, EMP, and 2.93 exhibit platykurtic distributions, with kurtosis values below 3, indicating a deviation from normal distribution.

### Correlation Matrix

Table 3 illustrates the conclusions of the correlation matrix. Accordingly, the upshots, REM and GOV, are negatively related to poverty as both have values of -0.4966 and -0.3087, respectively. There is a negative correlation (-0.4761) between EMP and POV, hence these are 47% associated. The correlation coefficient between trade and POV is also negative, i.e., -0.2173; trade and poverty are 12% related to one another.

### Unit Root Test

Table 4 depicts the values of the ADF and LLC tests and concludes that poverty, remittances, GOV, employment, and trade openness are not stationary at the level. The next step follows the first difference, and the subsequent values indicate that POV, REM, GOV, EMP, and TO become stationary at I(1).

Table 2. Results of descriptive statistics.

| Variables | POV | REM | GOV | EMP | TO |
|---|---|---|---|---|---|
| Mean | 72.537 | 13015 | 9.3599 | 53.649 | 42.675 |
| Median | 72.848 | 5521.8 | 9.8024 | 55.881 | 40.093 |
| Max. | 88.431 | 111221 | 17.611 | 62.937 | 88.6364 |
| Mini. | 54.725 | 44.160 | 4.0533 | 41.785 | 15.506 |
| Std. Dev. | 8.2170 | 20672 | 2.6344 | 6.3291 | 15.506 |
| Skewness | -0.3504 | 2.5474 | -0.0950 | -0.8546 | 16.936 |
| Kurtosis | 2.1776 | 9.1404 | 3.0350 | 2.3683 | 2.9342 |

Table 3. Results of Correlation Matrix.

| Correlation | POV | REM | GOV | EMP | TO |
|---|---|---|---|---|---|
| POV | 1 | | | | |
| REM | -0.4966 | 1 | | | |
| GOV | -0.3087 | 0.0884 | 1 | | |
| EMP | -0.4761 | 0.3206 | -0.1746 | 1 | |
| TO | -0.1273 | -0.2364 | 0.2890 | -0.0603 | s1 |

Table 4. Results of Unit Root Test.

| Variables | ADF- Fisher Chi-square | | | | Levin, Lin & Chu (LLC) | | | |
|---|---|---|---|---|---|---|---|---|
| | I(0) | | I(1) | | I(0) | | I(1) | |
| | T-value | Prob. | T-value | p-value | T-value | Prob. | T-value | p-value |
| LnPOV | 6.388 | 0.781 | 44.21[a] | 0.000 | -0.841 | 0.200 | -3.701[a] | 0.000 |
| LREM | 0.611 | 1.000 | 28.01[a] | 0.000 | 1.811 | 0.965 | -3.781[a] | 0.000 |
| LnGOV | 14.39 | 0.155 | 36.34[a] | 0.000 | -1.082 | 0.139 | -4.477[a] | 0.000 |
| LnEMP | 4.011 | 0.946 | 22.00[b] | 0.015 | 2.076 | 0.969 | -1.313[c] | 0.095 |
| LnTO | 8.515 | 0.578 | 34.28[a] | 0.000 | -0.277 | 0.391 | -4.489[a] | 0.000 |

Note: [c]p<0.10, [b]p<0.05, [a]p<0.01.

**Empirical Results of OLS, RE, FE, and FMOLS**

Table 5 describes the empirics of panel OLS, RE, FE, and FMOLS models. The results of OLS specify that increasing trends in remittances, GOV, employment, and trade openness adversely affect the poverty level. The coefficients of remittances and government expenditure are -0.023 and -0.108, which indicate a 1% change in REM and GOV eliminates poverty by 0.023% and 0.108%, correspondingly and these outcomes are consistent with Ojeyinka and Ibukun (2024). The coefficient of employment indicates a rise in employment and impedes poverty by 0.398%, while trade is proven as a reducing factor of poverty by 0.049%, and these verdicts are in line with Maluleke and Vacu-Nqila (2024). The coefficient of constant is 6.803, and the value of $R^2$ is 0.59, demonstrating that 78% variation in poverty is elucidated by RAM, GOV, EMP, and TO in South Asia.

Accordingly, the findings of the RE model, remittances, and GOV have their negative coefficients of -0.023 and -0.112, which point out that a 1% growth in REM and GOV leads to 0.023% and 0.112% deterioration in the poverty rate, and this work is the same as the findings of Azizi (2021). The coefficients of EMP and TO are -0.402 and -0.043, which signify that EMP and TO alleviate poverty by 0.402% and 0.043%, respectively, and these findings are relevant to Alamanda (2020). The score of R-squared is also specified in Table 5.

In Table 5, the consequences of the FE model disclose that all the elements, including remittances, GOV, employment, and foreign trade, are contributing to impeding the poverty rate. Any 1% percent growth in REM, GOV, and TO may lead to a 0.036%, 0.09%, and 0.05% reduction in the rate of poverty. EMP has a significantly negative effect on poverty; it designates the growth in the rate of labor participation to reduce poverty by 0.325% because more employment opportunities are beneficial in curbing the prevalence of poverty. These conclusions are alike (Inoue, 2024; Ali et al., 2022). The value of the Hausman test supports the RE model. Since the p-value is not more than a 10% level of significance. It means that the RE model is not applicable, but the Fixed-Effects model is more suitable.

It is evident from the FMOLS model that the increasing trend in foreign remittances leads to alleviating the level of poverty by 0.074%. Remittances to developing nations may have a larger effect on reducing poverty than remittances to rich countries. If the government expenditure and labor force are increasing, then these elements also have the inverse impact on the poverty rate by 0.49% and 0.25%, respectively, while trade openness is also a reducing element of poverty. Imtiaz et al. (2023) provide evidence that the increasing trends in employment rates also alleviate the poverty rate.

**Results of Pedronic Co-integration**

Table 6 exhibits the empirical outcomes of the co-integration test, which postulates that poverty, remittances, employment, government expenditure, and foreign trade are co-integrated in the long-term for South Asian economies, as six values of statistics do not accept the $H_0$ of no co-integration.

Table 5. Empirical results (Dependent Variable: Poverty)

| | Results of Panel OLS | | Results of RE Model | | Results of FE Model | | Results of FMOLS | |
|---|---|---|---|---|---|---|---|---|
| Variable | Coeff. | Prob. | Coeff. | Prob. | Coeff. | Prob. | Coeff. | Prob. |
| REM | -0.023*** | 0.000 | -0.023*** | 0.000 | -0.036*** | 0.000 | -0.074* | 0.059 |
| GOV | -0.108*** | 0.000 | -0.112*** | 0.000 | -0.096*** | 0.000 | -0.494*** | 0.000 |
| EMP | -0.398*** | 0.000 | -0.402*** | 0.000 | -0.325*** | 0.000 | -0.253*** | 0.000 |
| TO | -0.049** | 0.012 | -0.043** | 0.045 | -0.051** | 0.031 | -0.134*** | 0.000 |
| C | 6.803*** | 0.000 | 6.776*** | 0.000 | 6.779*** | 0.000 | | |
| $R^2$ | 0.78 | | 0.77 | | 0.85 | | 0.88 | |
| Obs. | 148 | | 148 | | 148 | | 148 | |
| Hausman Test | | | | | | | | |
| Test | | | Chi-Sq. Statistic | | Chi-Sq. d.f. | | Prob. | |
| Cross-section random | | | 14.47 | | 4 | | 0.005 | |

Note: *p<0.10, **p<0.05, ***p<0.01.

Table 6. Results of Co-integration.

| Alternative hypothesis: common AR coefs. (within-dimension) | | | | |
|---|---|---|---|---|
| Weighted | | | | |
| | Stat. | P-Value | Stat. | P-Value |
| P* v-Stat | 0.877 | 0.190 | -2.321 | 0.989 |
| P* rho-Stat | 0.629 | 0.735 | 0.752 | 0.774 |
| P* PP-Stat | -1.867** | 0.031 | -2.872* | 0.002 |
| P* ADF-Stat | -1.841** | 0.033 | -2.982* | 0.001 |
| Alternative hypothesis: individual AR coefs. (between-dimensions) | | | | |
| | Statistics | | Prob. | |
| G* rho-Stat | 1.438 | | 0.925 | |
| G* PP-Stat | -2.635* | | 0.004 | |
| G* ADF-Stat | -1.674** | | 0.047 | |
| P* stands for Panel, G* stands for Group | | | | |

Table 7. Results of the Causality Test.

| Dependents | Δ(POV) | Δ(REM) | Δ(EMP) | Δ(GOV) | Δ(TO) |
|---|---|---|---|---|---|
| Δ(POV) | - | 2.583* | 1.244 | -0.684 | 2.455* |
| Prob. | - | 0.009 | 0.214 | 0.494 | 0.013 |
| Δ(REM) | 23.83* | - | 39.90* | 0.652 | 4.168* |
| Prob. | 0.000 | - | 0.000 | 0.514 | 0.000 |
| Δ(EMP) | 4.759* | 33.40 | - | 0.409 | 8.008* |
| Prob. | 0.000 | 0.000 | - | 0.683 | 0.000 |
| Δ(GOV) | 0.535 | -0.017 | 2.262** | - | -0.146 |
| Prob. | 0.593 | 0.986 | 0.024 | - | 0.884 |
| Δ(TO) | 2.455* | 0.728 | 0.845 | 0.058 | - |
| Prob. | 0.014 | 0.467 | 0.398 | 0.954 | - |

Note: ***p<0.10, **p<0.05, *p<0.01.

The final causality test discoveries are detailed in Table 7 and determine the causality amongst POV, REM, GOV, EMP, and TO. The findings validate bidirectional causalities amongst remittances and poverty level, foreign trade and level of poverty, as well as employed labour and remittances. This approach indicates the one-way direction from POV to EMP and from TO to REM. The unidirectional causalities also exist from EMP to GOV and from trade openness to EMP.

**Results of the Causality Test**

According to Table 7, the statistics found the causality among the used variables. The findings validate bidirectional causalities among remittances and poverty level, foreign trade and poverty, as well as employed labour and remittances. This approach indicates a one-way relationship exists from POV to EMP, and from TO to REM. The unidirectional causalities also exist from EMP to GOV, and from trade openness to EMP.

**CONCLUSION AND POLICY IMPLICATIONS**

Due to detrimental effects on human well-being, the issue of severe poverty, which persists in many developing countries, must be tackled immediately. Its symptoms include inadequate accessibility to clean water to drink, appropriate food, low rates of literacy, high unemployment rates, and a sense of helplessness. The World Bank states that South Asia has the greatest rates of poverty, and these regions' mild economic growth and rapid population growth are the main causes of this trend. Remittances are considered one of the important components of capital inflow that raise income and play an essential part in economic growth, leading to the alleviation of poverty. The goal of the study is to examine how remittances affect poverty (POV) by integrating the contribution of different economic indicators in five South Asian regions. The panel data for this region covers the period from 1990 to 2022, which has been extracted from the website of WDI. To find out such a relationship, we have deployed various approaches, which include OLS, RE, FE models, and FMOLS. But before incorporating these approaches, we have also employed stationary tests, which reveal that POV, REM, EMP, GOV, and TO become stationary at I(1).

The outcomes of OLS point out that increasing trends in remittances, GOV, employment, and trade openness are alleviating poverty by 0.023% 0.108%, 0.398%, and 0.049%, respectively. According to the empirics of RE and FE models, the negative coefficients of REM, GOV, EMP, and TO industrialization indicate that these factors are beneficial in reducing poverty levels and improving the living standards in these economies. It is evident from the FMOLS model that the increasing trend in foreign remittances leads to alleviating the level of poverty by 0.074%, and other factors also reduce poverty. If the labor force and government expenditure are increasing, then these elements also reduce the poverty rate by 0.49% and 0.25%, respectively, while trade openness is also a reducing element of poverty. The co-integration test postulates that poverty, remittances, employment, government expenditure, and foreign trade are co-integrated in the long term. The causality test validates the bidirectional causalities between remittances and poverty level, foreign trade, and the level of poverty.

The study recommends reducing poverty can be accomplished by improving economic growth to raise earnings and extend job

possibilities for the needy people; carrying out the reforms in economy to improve proficiency and effective utilization of resources; prioritizing the poor' basic needs in policies of national development; promoting the microfinance strategies to eliminate obstacles to small-scale businesses; creating and purifying marketing mechanisms to boost productivity; providing motivations to the private sector; and establishing the programs that include specific financial transfers, to make sure that the economic and social advantages of poverty alleviation efforts spread the needy people.

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