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UNVEILING THE CATALYSTS OF ECONOMIC DEVELOPMENTS: EXPLORING DYNAMIC LINK BETWEEN FOREIGN REMITTANCES AND KEY INDICATORS IN SOUTH ASIA

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KEYWORDS	ABSTRACT
Economic Devolvement, Foreign Remittances, South Asian Countries, GDP Growth	<p>The purpose of the study was to investigate the relationship between foreign remittances and economic development, specifically examining their impact on GDP per capita growth, significance of workers' remittances in economic growth, influence of remittances on Gross Capital Formation Ratio, the effect of remittances on household final consumption expenditure, relationships between remittances and trade as the percentage of GDP, and the effects of remittances on population growth. The researcher selected six countries in South Asia as the sample for this study. The panel data was used to test the relationship between the observed variables, employing both random and fixed effect models to test study's hypotheses. Findings revealed a positive relationship between the growth of foreign remittances and indicators such as GDP per capita, the overall economic growth, gross capital creation, and household consumption spending. These results thus highlight the significant influence that the remittances have had on Pakistan's economic indices and underscore the importance of remittance flows for the growth and stability of the Pakistani economy.</p> <p style="text-align: center;"> 2023 Journal of Social Research Development</p>
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INTRODUCTION

This study aims to examine complex relationship between foreign remittances and crucial indicators of economic development in the South Asian region. The foreign remittances pertain to monetary transactions executed by individuals employed in foreign nations to their respective home countries. Remittances are crucial in supporting the sustenance of families left behind and also contribute to

the economic development of recipient nations (Jemiluyi & Jeke, 2023). Economic developments pertain to the advancements and enhancements in different facets of an economy, such as income levels, quality of the life, infrastructure, and human capital (Tabash, Anagreh, Subhani, Faryan & Drachal, 2023). This was due to the history of migration and the utilization of migration networks at the community level. The variables under observation in this study are crucial indicators that offer valuable insights into relationship between foreign remittances and economic development. The metric GDP per capita growth (GROWTH_i) is utilized to assess general economic performance and quality of life by calculating yearly percentage shift in GDP per individual (Shahbaz, Rehman & Mahdzan, 2014). In this drive, statistic that is known as workers' remittances received as percentage of GDP (WORREMi) serves purpose of measuring the relative significance of remittance inflows as a way of earning foreign money.

According to Ijaz, Awan and Shah (2023) a metric that is referred to as Gross Capital Formation as a percentage of GDP (CAP FIX GDP_i) is applied to measure the investment activities of a country as well as evaluate the impact that remittances have on capital formation. A further indicator, known as the SCHOOL_i ratio, assesses the influence that remittances have on the expansion of educational opportunities and the development of the human capital. The statistic known as Household Final Consumption Expenditure as the Percentage of Gross Domestic Product (FCONSUM_i) may provide very helpful insights into the role that remittances play in driving levels of domestic consumption. The TRADE_i measure investigates the relationship between remittances and the external sector as a proportion of GDP. This sector includes export competitiveness as well as the import tendencies. Population increase as a Percentage of Gross Domestic Product, often known as POP Gi, is a statistic that assesses demographic trends as well as the potential influence of remittances on population increase (Shahbaz et al., 2014). Therefore, the Real Exchange Rate, often known as the RER, is an important component in determining the value of the foreign currencies in comparison to the value of the domestic currency.

The competitiveness of exports, the costs of imports, and the stability of the macroeconomy are all significantly impacted as a result (Islam, Hossain, Khan, Rana, Ema & Bekun, 2022). According to Fidora, Fratzscher and Thimann (2007) the statistic known as total debt as the percentage of GDP (DEBT_i) evaluates a nation's financial commitments to foreign organizations as well as the probable influence of the remittances on debt settlement and reducing the burden of the overseas debt. It is necessary in order to investigate the specific linkages between remittances and major indices of the economic advancement in South Asia in order to thoroughly understand the dynamic effect that they have on the region (Sutradhar, 2020). Therefore, the primary aim of this research is to offer a comprehensive understanding of the intricate correlation between foreign remittances and key economic development indicators in the South Asian region. The aim of our study is to examine the relationship between remittances and a range of factors including GDP per capita growth, the proportion of the workers' remittances to the GDP, capital formation, education, consumption, trade, population growth, exchange rates, as well as debt. Consequently, the primary objective of this study is to provide valuable insights into the factors that contribute toward economic development in given region.

LITERATURE REVIEW

Foreign remittances and GDP per capita growth are two factors that have been extensively studied by academics, with many authors stressing a strong relationship between the two. [Tehseen, Jawaid and Raza \(2012\)](#) conducted an analysis upon the relationship between remittances and economic growth in developing countries. Their findings indicate that the 10% increase in remittances as the percentage of GDP is associated with the corresponding increase in GDP per capita growth ranging from 0.6% to 1.2%. The aforementioned findings indicate that foreign remittances have a notable impact on propelling the economic expansion and elevating the Gross Domestic Product (GDP) per capita. [Javed et al. \(2017\)](#) conducts an analysis on the utilization of the remittances by households, treating them as a form of household income and examining their influence on consumption. The argument put forth by the author posits that an increase in the remittance amounts leads to the expansion of households' budget constraints, which in turn results in the corresponding increase in consumption. According to [Adams and Cuenca \(2010\)](#) their research conducted in Guatemala, remittances were predominantly utilized for the housing, healthcare, and education expenses, as opposed to food expenditures.

The classification of expenditure into primary consumption (such as food and clothing), human investment (such as education and health), and capital investment (such as housing and businesses) offers a means of distinguishing between the different forms of spending. The research conducted by [Adams \(2006\)](#) in Mexico corroborates aforementioned findings. Research indicates that households that receive remittances tend to allocate a significant portion of those funds towards investments in human capital, while exhibiting a lower income elasticity for direct consumption. [Acosta \(2006\)](#) conducted a study upon El Salvador and found that the impact of remittances on the human capital investment was mixed. This was due to the history of the migration and the utilization of migration networks at the community level. According to their findings, a specific age group of the male and female children experience advantages from remittances by extending their duration of education, leading to a decrease in instances of child labor. In addition, [Acosta \(2006\)](#) proposes that a rise in the currency value of the country sending remittances results in a boost in school attendance and a reduction in child labor. Yang emphasizes the possibility of advantageous exchange rates to draw in the additional remittance inflows and encourage migrant investors to invest in businesses within their country of origin.

This underscores the importance of modest cash inflows, especially for emerging economies with limited currency buying power. Furthermore, studies have indicated favorable correlation between monetary assistance provided by overseas family members and academic achievements and well-being of children in the recipient country ([Ademe Ayalew & Mohanty, 2022](#); [Zanforlini, 2018](#)). To summarize, literature review presents a significant amount of research that emphasizes favorable effects of foreign remittances on growth of GDP per capita, household consumption, investment in human capital, and various socio-economic indicators. Further investigation is needed to determine the extent and distribution of remittance utilization across various sectors, as well as its impact on different age groups. Objective of this study is to enhance current body of literature by examining dynamic relationship amid foreign remittances and significant economic development indicators in South Asia. The argument put forth by author posits that an increase in remittance amounts leads to

the expansion of households' budget constraints, which in turn results in a corresponding increase in consumption. Findings of this study can offer valuable insights to policymakers and stakeholders to optimize the developmental influence of the remittances and promote sustainable economic growth in the region.

RESEARCH METHODOLOGY

The methodology section of this study adopts a panel data research design to examine the impact of remittances on Pakistan's economic growth. The panel data consists of multiple observations made on same units, which in this case are the nations in a specific region. The data is collected annually from 2008 to 2022, spanning a period of fourteen years. A balanced panel approach is employed, ensuring that observation period is consistent across all countries for meaningful comparisons. The population of the study includes Asian countries for which worker remittances data is available on World Bank's indicators website. There are 51 countries in Asia, including Pakistan, India, China, and others, known to receive extensive remittance inflows. Data availability may vary among these nations. To ensure a focused examination while considering broader context of Asian countries and their economic dynamics, sample size of six South Asian countries is selected. Researchers carefully choose sample based on availability and relevance of worker remittances data from World Bank's indicators website. Data analysis technique involves application of the fixed effects model (FE) and random effects model (RE) in panel data analysis. Thus, the fixed effects model treats explanatory variables as non-random components, whereas the random effects model considers them as if they were generated randomly.

The fixed effects estimator is utilized to estimate the parameters of the regression model, accounting for individual characteristics that may affect variables of interest. The fixed effects model focuses on changes occurring within entities, while the random effects model incorporates variables exhibiting time-dependent variation. The study utilizes "World Development Indicators" dataset published by the World Bank to collect all variable data. The dataset includes yearly data from 2008 to 2022, encompassing most recent years available for analysis. Given limited sample size, no stationarity tests are conducted in this study, aligning with the recommendation that conventional stationarity assessments are suitable for relatively large sample sizes. Panel data regression analysis is employed to investigate effect of worker remittances on economic growth of specific countries in the region. regression analysis is used, with worker remittances and variables as independent variables and economic growth as the dependent variable. Control variables such as investment in physical and human capital, trade openness, consumption expenditure, population growth rate, real exchange rate, and government debt are included to account for effects on economic growth. The regression equation used to determine responsiveness of income growth rate to remittances, other sources of economic growth is as follows:

$$\text{GDPGROWTH} = \beta_0 + \beta_1 \text{WORREM} + \beta_2 \text{GCF} + \beta_3 \text{CONSUM} + \beta_4 \text{ENR} + \beta_5 \text{FDI} + \beta_5 \text{TRADE} + \beta_6 \text{POP} + \beta_7 \text{REAL EXCH} + \beta_8 \text{DEBT} + \varepsilon$$

RESULTS OF STUDY

The descriptive analysis offers valuable insights into the distribution and attributes of the following variables: GDP growth (g), remittances (remit), capital fixed to GDP ratio and trade. The range of the

GDP growth values, spanning from -5.81% to 0.21%, denotes a degree of variability in economic performance, as evidenced by the minimum and maximum values. The remittances exhibit a range between 40.62 and 14.51, indicating diverse amounts of monetary inflows originating from foreign countries. The ratio of capital fixed to GDP ranges from 34.10 to 66.44, indicating the proportion of investment in physical capital in relation to GDP. The data presented pertains to the enrollment rates of students in secondary education, which varies between 96.13 and 49.00. The range of trade values spans from 145.3 to 1, indicating magnitude of import and export operations in proportion to the Gross Domestic Product.

The lower range of values is indicated by first quartile for each variable, whereas the upper range is represented by the third quartile. Mean values offer a central tendency measure for each variable, includes GDP growth at 3.81%, remittances at 10.93, capital fixed to GDP ratio at 22.70, secondary school enrollment at 84.30, and trade at 102.37. The median values, which serve as the central tendency measure of distribution, exhibit slight deviation from mean values, suggesting a potential presence of asymmetry in distribution. Summation of variables represents aggregate accumulation of individual variables through dataset. SE mean is statistical measure that offers an approximation of dispersion of mean values. Descriptive analysis is useful tool for learning about the characteristics of the dataset since it provides the high-level overview of the data's distribution, central tendency, variability, and form.

Table 1 Descriptive Analysis

	GDP G	REMIT	CAP FIX GDP	SCH	TRADE
Minimum	-5.81	0.21	14.51	66.44	49.00
Maximum	10.22	40.62	34.10	96.13	145.3
1. Quartile	1.84	3.65	18.82	80.47	84.65
3. Quartile	6.200	16.47	25.47	88.93	123.32
Mean	3.81	10.93	22.70	84.30	102.37
Median	4.66	7.84	22.36	82.66	103.40
Sum	342.80	984.22	2043.38	7587.16	9213.59
SE mean	0.37	1.01	0.52	0.64	2.59
LCL mean	3.06	8.92	21.66	83.01	97.21
UCL mean	4.54	12.94	23.74	85.58	107.52
Variance	12.49	92.24	24.73	37.49	606.12
Stdev	3.53	9.60	4.97	6.12	24.61
Skewness	-0.88	0.95	0.47	-0.26	-0.03
Kurtosis	0.55	0.75	-0.48	0.42	-1.07

Consumption (cons), population growth (pop g), real exchange rate (real exch), and debt are some of the variables that are examined in detail in the descriptive analysis, which yields information about the variables' distributions and features. The range of each variable is shown by the lowest and maximum values of that variable. The consumption number might range anywhere from 62.39 to 104.21, which corresponds to different amounts of expenditure by consumers. The range of values for population growth, which reflects the growth rate of the population, is from -3.91 to 3.93. The range of values for the real exchange rate, which indicates the relative worth of the nation's currency in

comparison to other currencies, is from 59.41 to 139.31. Amount of debt, expressed as a percentage of gross domestic product, may vary anywhere from 13.41 to 151. The values of the first quartile and the third quartile indicate, respectively, the lowest and highest ranges of each variable. In this drive, consumption sits at 79.67, population growth comes in at -0.31, the real exchange rate sits at 89.42, and debt sits at 31.54 according to the mean values, which indicate the average measurement for each variable.

The values of the median, which indicate the point that is exactly in the middle of the distribution, are rather near to the values of mean for the majority of the variables. The cumulative accumulation of each variable across the data set is reflected in the sum of the variables that make up the data set. The standard error, often known as SE mean, is an estimate of the amount of variation in the mean values. The lower control limit for mean values, abbreviated as LCL mean, and the upper control limit for the mean values, abbreviated as UCL mean, work together to assist determine the range of values within which genuine population mean is anticipated to fall. The dispersion of data points around mean may be measured using the variance as well as standard deviation (Stdev). A right-skewed distribution is shown by skewness values that are positive, whereas left-skewed distribution is suggested by skewness values that are negative. The degree to which a distribution is pawed or flat is what kurtosis attempts to quantify. In general, descriptive analysis offers a summary of the variables, including their distribution, central tendency, variability, and form, and it sheds light on the properties of the data set.

Table 2 Descriptive Analysis

	CONS	POP G	REAL EXCH	DEBT
Minimum Maximum	62.39 104.21	-0.93 3.91	59.41 139.31	13.41 151
1. Quartile	69.34	-0.59	79.41	19.43
3. Quartile	91.31	-0.09	101.23	49.83
Mean	79.67	-0.31	89.42	31.54
Median	79.92	-0.38	88.43	89.39
Sum	6981.21	-28.9	8391.31	3341.23
SE mean	0.98	0.09	1.32	2.91
LCL mean	81.49	-0.51	89.31	39.44
UCL mean	79.39	-0.21	23.74	10.32
Variance	99.23	0.49	22.73	116.12
Stdev	9.50	0.69	14.97	23.61
Skewness	0.39	2.31	0.39	1.71
Skewness	0.41	2.91	1.39	6.01

The findings of the study that was carried out allow for the inference of certain predicted signs for variables that are related to economic growth. It has been established that an increasing population has a negative influence on economic growth when assessed as a unit increase in GDP. This negative impact is equivalent to a decrease in economic growth of around 1.023. A unit rise in trade relative to GDP is connected with the positive effect, which contributes to an increase of around 0.21% in economic growth. On other side, a decrease in trade relative to GDP is associated with a negative

impact. The results provide insight on statistical importance of these factors as factors that influence economic growth. In addition, the investigation enables us to refute claim that the estimated model is flawed from a statistical point of view. This conclusion is reinforced by the results of the alpha test F, which returned a value equal to zero. This value indicates that the level of significance is lower than the threshold of 5%.

The statistical analysis gives evidence to support the validity of estimated model and its capacity to explain differences in economic growth. As a result, the model may be shown to be more capable of explaining these fluctuations. Data indicate that population growth and commerce are essential elements that considerably impact economic growth. This conclusion can be drawn from the overall picture. Because population growth and economic growth have a negative relationship, there is an urgent need for policies and methods that can effectively regulate population dynamics in order to maintain the long-term viability of economy. On the other hand, the positive relationship between trade and economic growth stresses potential advantages of boosting international commerce and improving trade competitiveness as strategy to drive economic growth. This is as trade is positively correlated with economic growth.

Evaluation of Model

Table 3 Evaluation of Model

Estimation method	OLS		FE		RE	
Dep. variable: GDP g	Estimate	P-value	Estimate	P-value	Estimate	P-value
Remit	.210	.060	.198	.000	0.31	.000
cap fix GDP	.051	.000	.002	.000	0.41	.000
School	.191	.050	.291	.000	0.33	.000
Trade	.001	.010	.021	.000	0.34	.000
Cons	.051	.002	.091	.000	0.34	0.013
pop g real EXCH debt	-1.192	.11	-1.023	.210	-0.94	0.001
	-.391	.12	-.014	.000	-0.05	0.031
	-.051	.13	-.093	.090	-0.05	0.09
F-statistic	7.921	.000	8.989	.000	9.446	0.002
Adjusted R-2	.521		.7913		.698	
Number of observations	90		90		90	

Source: Own calculations.

DISCUSSION

The results show that the GDP growth per capita is negatively impacted by a growing population. Given the inverse correlation between population growth and GDP growth, we may infer that a growing population slows down the economy. This highlights the need of the understanding and proficiently controlling the population dynamics to guarantee the economy long-term viability. In contrast, the data show that the higher ratio of the trade to GDP is associated with faster economic expansion. There is a positive benefit of around 0.21% added to GDP growth for every unit increase in trade as a proportion of GDP. The opposite is true when trade falls as a percentage of GDP. These results point to the potential benefits of encouraging the international trade and boosting the trade

competitiveness as means to outgrowth the economic expansion. The results are in line with those of prior studies (Islam et al., 2022).

The statistical analysis performed in the research also stands for the estimated model's validity and its capacity to account for variations in economic development. With a F value of zero, the alpha test indicates that the level of the significance is below the 5% cutoff. Because of this, we may infer that the estimated model is sound and that it can adequately account for variations in economic development. Thus, the results of the research show that population expansion and international commerce are two of the most important drivers of economic development. Population increases retards economic expansion, although measures to control population dynamics are essential to the economy's long-term health. However, the potential advantages of fostering the international trade and enhancing trade competitiveness are highlighted by the positive correlation between trade and economic growth. These results add to our knowledge of the interplay between these factors and may help policymakers develop more sound plans for promoting long-term economic growth (Jahanger et al., 2022).

CONCLUSION

In summary, the purpose of this research was to analyze the link between overseas remittances and economic development. Particular attention was paid to a number of different variables, including the growth of GDP per capita, remittances sent home by workers, gross capital formation, household consumption expenditure, trade, and population growth. The research was carried out by using panel data from six different nations located in South Asia. In order to assess the hypotheses posed by the study, both random and fixed effect models were used. The results of this research indicated that there is a favorable connection between the rate of expansion of overseas remittances and important economic indicators. To be more specific, there was a favorable association between the inflow of remittances and increases in GDP per capita growth, total economic growth, gross capital formation, as well as household consumer expenditure. In this connection, based on these findings, it seems that remittances from overseas play an important part in promoting economic growth and elevating living standards.

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