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Effect of Remittance on Savings, Investment and Reserve: A Panel Data Analysis on South Asian Countries

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ABSTRACT

This study aims to investigate the effect of remittance on national savings, investment, and per capita reserve in South Asian countries. This study analyses a panel database of countries, including Bangladesh, India, Pakistan, Sri Lanka, Nepal, Bhutan, and the Maldives, for the timespan 1990-2021. Data were extracted from the World Development Indicators (WDI) and the World Economic Outlook (WEO). Before panel regression analysis, the Levin-Lin-Chu and Breitung unit root tests were performed simultaneously to examine whether the panels were stationary at the level or the first difference. After satisfying the conditions, Fixed and Random Effect regression models were executed to investigate whether remittance influences national savings, investment, and per capita reserve. The Hausman tests confirmed the appropriateness of Fixed Effect models. The results demonstrate that remittance positively and significantly affects the selected countries' investment, national savings, and per capita reserve. Remittance is the outcome of international migration; hence, the government should focus on sending more migrants to attractive international destinations that offer higher wages, a better work environment, and job security. The focus should be on lowering the cost of remittance transmission and providing incentives to motivate migrants to remit more using a formal channel.

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Introduction

Remittance is a vital resource transfer channel currently grabbing the policymaker's attention. Remittance contributes to the recipient country's micro and macroeconomic determinants, including reserve, savings, investment, education, health, etc. Evidence suggests that new labor migration practices are crucial in amplifying worldwide capitalism. Similarly, analyzing remittance effects on economic globalization gives birth to a new era of economic behavior (Buch & Kuckulenz, 2010; Orozco, 2002). Can remittance bring economic development? – in this debate, Blouchoutzi and Nikas (2010) argue that it depends on how and where the remitted money is utilized. Remittance will proliferate investment only under a well-organized institutional framework.

The New Economics of Labour Migration (NELM) theory and livelihood approach suggest that migration contributes to securing future household income through remittance (Stark, 1991; Stark & Bloom, 1985; Ellis, 1998; Nasrin et al., 2022, 2023). Following the household strategy, a country also adopts a similar policy to safeguard national income. At the household level, remittance is crucial in increasing the households' socio-economic capabilities. Likewise, it enhances the nation's financial capacity at the national level by augmenting nationwide savings, investment, foreign exchange reserves, and so on. Adams Jr (2006) argues that remitted money is less used for unproductive purposes. However, the effectiveness of remittance is highly associated with the government type and institutional quality (Catrinescu et al., 2009; Bettin & Zazzaro, 2011). Hence, the government should strengthen the banking sector of the recipient countries to get the long-term effect of remittances (Sobiech, 2019).

As an outcome of migration, remittance contributes to a country's economic development and well-being (Barajas et al., 2009; Nasrin et al., 2024). Moreover, personal remittance may have a positive influence on national savings. Through remitting money, the migrants enable their households back home to save more. The literature argues that in Bangladesh, the Philippines, and Pakistan, remittance plays a substantial role in the proliferation of nationwide savings (Chaudhry et al., 2010; Akter, 2018; Tchantchane et al., 2013). Similarly, in

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Albania, remittance played a pivotal role in economic recovery. During the economic transition period, when foreign aid failed to reconstruct the economy, remittance enhanced pyramid-shaped investment schemes (Korovilas, 1999). However, this argument is also contested in literature; for instance, Hossain (2014) has found that remittance significantly and negatively affects domestic savings. It is argued that the remitted money may be used for consumption instead of domestic savings. In addition, it is also argued that remittance has a significant role in enhancing investment, which fosters economic growth. Likewise, in the East European major migrant-sending countries, remittance is crucial in heightening national investment (Korovilas, 1999; Blouchoutzi & Nikas, 2010; Ojapinwa & Odekunle, 2013). Remittance inflow accelerates investment and economic growth (David et al., 2020; Bairamli & Kostoglou, 2010). However, the long-term effect of remittance on investment is still contested in the literature (Tchantchane et al., 2013). Evidence also suggests that remittance improves a country's per capita foreign exchange reserve (Khan et al., 2021; Chowdhury et al., 2014).

More evidence is available from the perspectives of African and East European countries; however, little evidence is found from the South Asian countries' perspective, where some countries have a handsome international migration stock and thus receive remittance. Besides, the effects of remittances on national savings, investment, and reserves are rarely examined from the perspective of South Asian countries. Considering the same context, a few studies, like Das (2020), investigated the effects of remittances on domestic investment using panel data. Also, Akter (2018) investigated the influence of remittances on savings and investments from Bangladesh, India, and the Philippines. Moreover, from the same countries' context, a few studies examined the effects of remittances on national savings, investment, and reserves. Against this backdrop, this study has gained interest in investigating the effect of remittance on national savings, investment, and per capita reserve from the perspective of the selected South Asian countries.

Materials and Method

Data

This paper extracted data from two sources to investigate the interplay among remittance, investment, national savings, and gross capital formation. The databases of the World Economic Outlook (WEO) of the International Monetary Fund (IMF) and the World Development Indicators (WDI) of the World Bank (WB) have been employed for analysis. The database contains information regarding savings, investment, inflation rate, capital formation, remittance, external debt, and net exports of seven South Asian countries, including Bangladesh, India, Pakistan, Sri Lanka, Nepal, Bhutan, and the Maldives. This study aims to investigate the effects of remittances on macroeconomic indicators; hence, data were extracted from 1990-2021. The data extraction was executed from 01-28 February 2022.

Description of variables

The dependent and explanatory variables used for analysis are explained in Table 1.

Table 1: Variables used for data analysis

Dependent variables	Description	Measurement unit	Data source	Citations
Investment rate	Percentage of GDP	Percentage (%)	WEO (2022)	Ncube & Brixiova (2013); Adams Jr & Cuecuecha (2013)
National savings	Percentage of GDP	Percentage (%)	WEO (2022)	Chaudhry et al. (2010); Hossain (2014)
Per capita reserve	Total reserve/total number of the population each year	In US$	WDI (2022)	Siddique et al. (2016)
Explanatory Variables				
Gross capital formation	Percentage of GDP	Percentage (%)	WDI (2022)	Chaudhry et al. (2010)
Personal remittance	Personal remittances received by the households in US$	Percentage (%)	WDI (2022)	Stratan & Chistruga (2012); Ncube & Brixiova (2013)
Real GDP growth rate	The annual percentage growth of GDP at market prices is based on constant local currency.	Percentage (%)	WEO (2022)	Hassan & Shakur (2017); Clemens & McKenzie (2014)
Inflation rate	The annual growth rate of inflation (average consumer prices)	Percentage (%)	WEO (2022)	Chaudhry et al. (2010); Hossain (2014)
Per capita external debt	Total debt stock/total population	In US$	WDI (2022)	Chaudhry et al. (2010)
Net export	Percentage of GDP	Percentage (%)	WDI (2022)	Author's contribution

Source: Authors' compilation, 2023

Analytical tools

Stationarity test

At first, stationarity tests as a prerequisite of panel regression analysis were executed to examine whether the variables were stationary at the level or first difference. In this respect, the Levin-Lin-Chu unit root and Breitung unit root tests were performed simultaneously. After satisfying the condition, the variables were considered eligible for analysis.

Levin-Lin-Chu (LLC) test

Among numerous unit root tests, the Levin-Lin-Chu (LLC) test is widely used in panel data analysis. The following hypothesis in the panel stationary test was initially devised by Levin et al. (2002). The test assumes that each cross-unique section's processes are independent, just as other unit root tests in the literature. The basic LLC equation is listed in the equation (1).

$$\Delta y_{i,t} = \alpha_i + \delta_{it} + \theta_t + p_i y_{i,t-1} + \zeta_{i,t} \dots\dots\dots (1)$$

Where i=1,2, 3,……,N and t=1,2,3,……T

This test might be used as a pooled Dickey-Fuller or augmented Dickey-Fuller test, potentially with various time lags across the panel units (Levin et al., 2002). The underlying hypothesis for the model is:

Null hypothesis *(H_0)*: Panels contain unit roots
Alternative hypothesis *(H_A):* Panels are stationary

Breitung test

The LLC test is based on regression t statistics that are later modified to reflect the fact under the null hypothesis; the *t* statistics have a nonzero mean because they take panel-specific averages or trends into account. To employ the usual *t* statistic, the Breitung (2000) test adopts an alternative strategy by altering the data before doing the regressions. The panels must be perfectly balanced to pass the Breitung test. A version of the *t* statistic that is robust to the cross-sectional correlation of the error components is presented when the robust option is used. When initially *T* approaches infinity, and *N* tends to infinity, this statistic has an asymptotically normal distribution. According to the Breitung test, each panel will share a single autoregressive parameter. However, the test is the best when all panels have the same autoregressive value. Breitung and Das (2005) note that the test still has power in the heterogeneous scenario when each panel is permitted to have its autoregressive parameter. For the small dataset (*N*=20; *T*=30), the Monte Carlo simulations indicate that this test is significantly more potent than the Levin-Lin-Chu panel unit-root test (Breitung, 2000). The hypothesis to be tested under Breitung is:

Null hypothesis *(H_0)*: Every series has a unit root
Alternative hypothesis *(H_A):* Every series is stationary

Empirical estimation for panel data

This study executed Random Effects (RE) and Fixed Effects (FE) models for panel data analysis. After analysis, the results were cross-examined with the Hausman specification test. The dependent and explanatory variables used for analysis are explained in Table 1. The general Fixed Effects model is given in equation 1 following Zulfikar and STp (2019):

$$y_{it} = \alpha_i + \beta' X_{it} + \varepsilon_{it} \dots\dots\dots\dots (2)$$

Where $i = 1, 2, 3 \dots\dots\dots N$; and $t = 1, 2, 3, \dots\dots\dots N$

i represents the number of cross-sections or individuals, and *N* indicates the number of periods. ε_{it} indicates residual, a combination of time series and cross-sections. Similarly, the general random effects model is given in equation (3) following Zulfikar and STp (2019):

$$y_{it} = \alpha + \beta' X_{it} + \mu_i + \varepsilon_{it} \dots\dots\dots\dots (3)$$

Where i=1,2,3……*N*; and *t*=1,2,3……...*N*; *i* represents the number of cross-sections or individuals, and N indicates the number of periods. Also, ε_{it} indicates residual, a combination of time series and cross-sections. Apart from that μ_i indicates individual residuals of random characteristics of unit observation.

Hausman specification test

Numerous methods are available to identify the most appropriate model for panel data analysis, such as the Chow, Lagrange multiplier, and the Hausman specification tests (Zulfikar & STp, 2019). This study applies the Hausman specification test to identify the appropriate regression model from the Random and Fixed Effects models. The hypothesis of the Hausman specification test is given below:

H_0: Random Effects model is appropriate (*P> 0.05*)
H_A: Fixed Effects model is appropriate (*P<0.05*)

Empirical Results

Descriptive statistics

The descriptive statistics are represented in Table 2, where the database is strongly balanced (observations: 224). The investment rates fluctuated over the period to a large extent (between 12% and 69%) of GDP, with a mean of 28% (standard deviation: 10.954). Similarly, the national savings range varies from almost (-)16% to 63% of GDP with a standard deviation of 10.95. Regarding gross capital formation, the maximum and minimum ranges from around 69% to -110% of GDP. The household also varies from 2% to 24% in terms of personal remittance received, which is expected. This may happen because of the differences in the international migrant sending patterns of the different countries. Countries with higher stock of migrants are more likely to get higher remittances and *vice versa*. Furthermore, per capita

reserve is presently grabbing the attention of policymakers, specifically in the context of South Asian countries. The maximum and minimum per capita reserves are almost US$ 2292 and US$ 6, respectively. However, there is a significant gap in the real GDP growth rate, where the average real GDP growth rate is 3.28%. Moreover, the maximum inflation rate is observed at around 30%, which is enormous; however, on average, the inflation rate remains at 7%. From the South Asian countries' perspective, external debt seems like a burden because the nation's average per capita external debt is around US$ 768. This per capita external debt indicates immense economic pressure for an overpopulated region. In addition, in South Asian countries, the net export remains negative on average -8.066%, which indicates that some countries may face a negative trade balance.

Unit root test

The unit root tests reported in Table 3 show that the variables used in this study are found satisfactory after integration of order 1 in both the Levin-Lin-Cu and Britung satisfactory tests. The conditions are satisfied at first difference.

Table 2: Descriptive statistics

Variables	Measurement unit	Observations	Mean	Standard deviation	Minimum	Maximum
Investment rate	Percentage (%)	224	28.175	10.954	12.039	69.418
National savings	In US$	224	23.550	10.951	-15.532	62.698
Gross capital formation	Percentage (%)	224	21.962	28.269	-109.012	69.484
Personal remittance	Percentage (%)	224	17.088	6.459	2.182	24.145
Per capita reserve	Percentage (%)	224	321.046	440.429	6.393	2291.867
Real GDP growth rate	Percentage (%)	224	3.284	4.767	-34.679	30.221
Inflation rate	Percentage (%)	224	7.058	5.061	-12.628	29.901
Per capita external debt	In US$	224	768.003	1118.327	86.043	7355.349
Net export	Percentage (%)	224	-8.066	9.413	-33.689	16.609

Source: Authors' calculation, 2023

Table 3: Levin-Lin-Chu and Breitung unit root tests

Variables	Levin-Lin-Chu		Breitung	
	t value **(Trend included)**	**Decision**	***t*** **value (Trend included)**	**Decision**
Migration stock (level)	-0.9030		6.2267	
Migration stock (difference)	-2.1141***	I (1)	-1.6714***	I (1)
Ln personal remittance received (level)	-0.2567		3.2883	
Ln personal remittance received (difference)	-2.7221***	I (1)	-5.9495***	I (1)
Per-capita reserve (level)	0.0302		2.8016	
Per-capita reserve (difference)	-4.9935***	I (1)	-3.2617***	I (1)
GDP growth rate (level)	-0.4686		0.7210	
GDP growth rate (difference)	-2.1976***	I (1)	1.2526***	I (1)
Inflation rate (level)	-2.7213		-3.7223	
Inflation rate (difference)	-10.3203***	I (1)	-8.2175***	I (1)
Investment percent of GDP (level)	-0.9420		-0.5683	
Investment percent of GDP (difference)	-3.9027***	I (1)	-5.3056***	I (1)
National savings percent of GDP (level)	-0.3063		-1.0528	
National savings percent of GDP (difference)	-4.9221***	I (1)	-6.1736***	I (1)
Per-capita external debt (level)	3.3039		7.1108	
Per-capita external debt (difference)	-0.9885***	I (1)	-2.6429***	I (1)
Net export percent of GDP (level)	-0.4791		-0.1318	
Net export percent of GDP (difference)	-6.7371***	I (1)	-5.2350***	I (1)
Gross capital formation (%) (level)	0.7390		2.4819	
Gross capital formation (%) (difference)	-2.7282***	I (1)	-5.8453***	I (1)

Source: Author's calculation, 2023

*N.B. Lag in the parenthesis; *** p<0.01, ** <0.05, * p<0.1*

Effects of remittance on investment rate

The Hausman specification test in Table 4 suggests that the appropriate model for estimating the effects of remittance on investment rate is the FE model ($\chi 2$ = 87.826; *p*-value = 0.000). The fixed effect model reported in Table 4 shows a positive association between personal remittance and investment rate, which is significant at a 1% level. If personal remittance increases by 1%, the investment rate increases by 0.008 units. It indicates that in South Asian countries, remittance positively enhances investment rates, which is expected. In addition, national savings, real GDP growth rate and per capita reserve have significant (1% and 5%) positive relationships with investment rates. In addition, if the national savings rate grows by 1%, the investment rate also improves by 0.42%. Likewise, an increase in per capita reserve by US$ 1 tends to stimulate the investment rate by 0.004%. The results also demonstrate that a 1% positive change in the real GDP growth rate contributes to a positive change of 0.14% in the investment rate, which is also expected. However, the Westerlund co-integration test accepts the null hypothesis (*p*= 0.145), which indicates that the panels are not cointegrated.

Table 4: Determinants of investment rate (Fixed Effect)

Variables	Coefficient	Standard error	*t*-value	*p*-value
National savings	0.422	0.05	8.45	0.00***
Inflation rate	0.049	0.062	0.78	0.433
Ln personal remittance	0.802	0.28	2.86	0.005***
Real GDP growth rate	0.136	0.061	2.23	0.027**
Per capita external debt	0	0.001	-0.15	0.879
Per capita reserve	0.004	0.002	2.06	0.041**
Constant	2.516	4.232	0.59	0.553
Mean dependent variable	28.175	SD dependent variable		10.954
R-squared (%)	42.6	Number of observations		224
Within R^2	0.4258			
Between R^2	0.1526			
F-test	26.077	Prob. > *F*		0.000
Akaike criteria (AIC)	1291.162	Bayesian criteria (BIC)		1315.044
Test: Hausman Test		χ^2 = 87.826		*p*-value = 0.000
Decision: The fixed effect model is appropriate				
Westerlund test for cointegration		*p*=0.145		
Null hypothesis: No cointegration				
Alternate hypothesis: Some panels are co-integrated				
VIF test		2.17		

*Source: Authors' Calculation, 2023, N.B. *** p<0.01, ** p<0.05, * p<0.1*

Effects of remittance on per-capita reserve

The Hausman specification test (Table 5) validates that the FE model is appropriate for estimating the effects of remittances on per capita reserve ($\chi 2$ = 200.815; p-value = 0.000). The results of the FE model reported in Table 5 suggest that personal remittance received has a positive and significant (at a 1% level) effect on per capita foreign reserve. The results indicate that a 1% positive change in remittance received contributes to increasing the per capita reserve by US$ 1.184. As remittance brings foreign currencies, per capita reserve is also expected to rise. Likewise, a 1% positive change in gross capital formation stimulates per capita foreign reserve by almost US$ 7, which is also expected. Interestingly, a negative association exists between the investment rate and per capita foreign reserve. Results demonstrate that a 1% rise in the investment rate leads to a decrease in the foreign reserves by US$ 11. The results of the Westerlund co-integration test suggest that the panels are not co-integrated.

Table 5: Determinants of per-capita foreign reserve (Fixed Effect)

Variables	Coefficient	Standard error	*t-value*	*p-value*
Net export	-3.279	2.476	-1.32	0.187
Remittance received	118.452	9.457	12.53	0.00***
Gross capital formation	7.056	0.626	11.27	0.00***
Investment rate	-10.933	2.636	-4.15	0.00***
Inflation rate	-2.976	2.547	-1.17	0.244
Constant	-1555.424	161.673	-9.62	0.00***
Mean dependent variable	321.046	SD dependent variable		440.429
R-squared (%)	65	Number of observations		224
Within R^2	0.649			
Between R^2	0.364			
F-test	78.625	Prob. > F		0.000
Akaike criteria (AIC)	2964.487	Bayesian criteria (BIC)		2984.957
Test: Hausman test		χ^2 = 200.815		*P*-value = 0.000
Decision: Fixed effect is appropriate				
Westerlund test for cointegration		*P*=0.195		
Null hypothesis: No cointegration				
Alternate hypothesis: Some panels are co-integrated				
VIF test		1.68		

*Source: Authors' Calculation, 2023, N.B. *** p<0.01, ** p<0.05, * p<0.1*

Effects of remittance on national savings

Like the previous estimations, the Housman specification test (Table 6) reveals that the FE model is appropriate for estimating the effects of remittances on national savings ($\chi2 = 12.503$; p-value = 0.014). The results of the FE model depict that personal remittance received has a positive and significant (at a 1% level) effect on national savings. A 1% positive change in personal remittance stimulates nationwide savings by 0.018 units, which is expected. Similarly, the real GDP growth rate has a positive and significant (at a 1% level) effect on the national savings rate. A 1% rise in the real GDP growth tends to heighten the national savings rate by 0.33%. Conversely, per capita, external debt, and inflation rate encounter national savings, and the results are significant at (at a 1% level). If per capita external debt increases by US$ 1, then the national savings rate drops by 0.006%, which is also expected. Similarly, if the inflation rate rises by 1%, it also helps shrink the national savings rate by 0.28%.

Table 6: Determinants of national savings (Fixed Effect)

Variables	Coefficient	Standard error	*t-value*	*p-value*
Real GDP growth rate	0.328	0.081	4.05	0.00***
Per capita external debt	-0.006	0.001	-10.66	0.00***
Inflation rate	-0.28	0.084	-3.33	0.001***
Personal remittance	1.771	0.32	5.53	0.00***
Constant	-1.4	5.367	-0.26	0.794
Mean dependent variable	23.550	SD dependent variable		10.952
R-squared (%)	41.6	Number of observations		224
Within R^2	0.4164			
Between R^2	0.241			
F-test	37.990	Prob. > *F*		0.000
Akaike criteria (AIC)	1435.750	Bayesian criteria (BIC)		1452.809
Test: Hausman Test		$\chi^2 = 12.503$		*p*-value = 0.014
Decision: Fixed Effect is appropriate				
Westerlund test for cointegration		*p*=0.325		
Null hypothesis: No cointegration				
Alternate hypothesis: Some panels are co-integrated				
VIF test		1.05		

*Source: Authors' Calculation, 2023, N.B. *** p<0.01, ** p<0.05, * p<0.1*

Discussion

Effect of remittance on investment rate

It is found that per capita remittance inflow significantly and positively influences investment as a percentage of GDP in South Asian countries. Similar findings are observed in Korovilas (1999) from different countries' contexts where a strong connection exists between received remittance and investment promoting economic growth. In East Europe, remittance is a stimulating factor for the proliferation of national investment (Blouchoutzi & Nikas, 2010; Ojapinwa & Odekunle, 2013). It is also observed that with a well-organized institutional framework, remittance contributes to augmenting a country's investment (Bjuggren & Dzansi, 2008). It can be easily understood that remittance inflow increases a country's economic capacity, which may lead to an increase in the investment rate as a percentage of GDP, which is also true for South Asian countries. In contrast, in the Philippines, Tchantchane et al. (2013) have found no long-term effect of remittance on investments. As expected, the savings rate positively impacts the investment rate because if savings increase, the economy may consider investing more and earning more from that investment. The literature supports this finding (David et al., 2020; Bairamli & Kostoglou, 2010). Likewise, the results also suggest that the GDP growth rate affects the investment rate positively. Usually, a higher real GDP growth rate indicates a higher income and higher savings in an economy; hence, it may also lead to higher investment. Similar findings are observed in the Sub-Saharan context (Fowowe, 2011). In addition, per capita reserve is a significant predictor of higher investment rates. Having a higher reserve, the government may be encouraged to invest more domestically and internationally in the productive sector. This investment may enhance foreign currencies as reserves through earning higher export income.

Effect of remittance on per-capita reserve

This study found that per capita personal remittance positively and significantly affects per capita reserve. Khan et al. (2021) and Chowdhury et al. (2014) support this argument. It is argued that a strong and positive connection exists between per capita reserve and per capita personal remittance received (Chowdhury et al., 2014). From different destinations, international migrants remit in different foreign currencies and kinds; therefore, these economic remittances may have a direct positive connection with the per capita reserve. It is also found that per capita reserve is positively and significantly determined by gross capital formation as a percentage of GDP. With an increase in the rate of gross capital formation, higher investment and a higher GDP growth rate can be achieved, which may also intensify export earnings, usually paid in foreign currencies. This argument is also supported by Adhikary (2011). On the contrary, it is also revealed that the per capita reserve tends to decline if the investment increases. This may happen because if the government invests more internally based on imported raw materials, paying bills for imported items requires foreign reserves. Conversely, if the country invests internationally, this investment may also cause a reduction in the total reserve.

Effect of remittance on national savings

This study found that remittance positively and significantly determines the national savings rate. This finding is supported by literature (Chaudhry et al., 2010; Akter, 2018); however, it contradicts Hossain (2014). Similarly, in Pakistan, workers' remittances positively and significantly determine national savings (Chaudhry et al., 2010). It can be understood that personal remittances such as cash or in kind received by households increase the financial capability to save more. Similarly, national savings are intensified by remittance inflow. The country can save more by investing in productive sectors with the inclusion of remitted money. Evidence suggests that in Bangladesh and the Philippines, remittance positively enhances gross national savings; however, the reverse is true for India (Akter, 2018). Research on 63 developing countries has found that remittance inflow negatively affects domestic savings (Hossain, 2014). Similarly, the real GDP growth rate positively and significantly influences the national savings rate. A similar finding is observed in the literature (Epaphra, 2014; Agrawal & Sahoo, 2009). It may happen because if the real GDP growth rate escalates, it indicates that real income and savings will also grow. On the contrary, like the households, if debt stock increases, it reflects that it will contribute to decreasing national savings. This finding is supported by Udeh et al. (2016). On the contrary, the inflation rate has a significant inverse relationship with national savings, which is quite understandable. With a higher inflation rate, fewer products can be purchased using the same amount of money; therefore, savings may be negatively affected. However, Abou El-Seoud (2014) and Mose and Thomi (2022) found a positive association between inflation and national savings rates.

Limitations and Strengths

The study fills the existing research gap by exploring the effects of remittance on national savings, investment, and reserve from the South Asian countries' perspective, which is a strength of this study. However, this study fails to examine the effects of international migrant stock and remittances on the real GDP growth rate due to the non-stationarity of data, which could have more policy-level implications. In addition, Afghanistan is not considered for analysis due to the unavailability of required data (almost 50% missing values) for all the variables. If Afghanistan could be added to the list of countries, then all the countries of the South Asian Association for Regional Co-operation (SAARC) could be analyzed.

Conclusion and policy recommendations

This study investigates the effects of remittance on different macroeconomic indicators, including national savings, foreign reserves, and investment. The results reveal that remittance significantly and positively predicts the national savings, investment, and reserve rates in South Asian countries. Due to overpopulation and lack of jobs in domestic markets, South Asian countries like Bangladesh, India, and Pakistan depend more on remittances to maintain their reserve, balancing capital flows to increase savings and investment. As South Asian countries rely more on remittance, policies should be undertaken to improve the international migrant stock. By sending more migrants to different lucrative migration destinations, the migrant-sending country will earn a higher amount of remittance. South Asian countries like Sri Lanka are currently facing reserve problems. Therefore, migrants, in this case, can step forward to safeguard national economic security by remitting more foreign currencies to their country of origin. In addition, the country needs to find new migration destinations that provide higher wages, job security, and a better working environment.

Ethical Consideration

The study was solely conducted using a secondary database; hence, no conversation was required with any individuals. Sensitivity throughout the research was well maintained.

Data Availability

The data for this study is available on the following websites:
World Development Indicators (WDI):
https://databank.worldbank.org/source/world-development-indicators#
Word Economic Outlook (WEO):
https://www.imf.org/en/publications/weo/weo-database/2022/april/download-entire-database

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Conflict of Interest

The authors declare no conflict of interest with anyone.

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