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THE EFFECTS OF FDI AND REMITTANCES ON THE ECONOMIC GROWTH OF SELECTED SAARC COUNTRIES*

DYY ve İşçi Havalelerinin Seçilmiş SAARC Ülkelerinin Ekonomik Büyümesi Üzerindeki Etkileri

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ASTRACT

Foreign direct investment (FDI) contributes to the economic development of a country via technology spillovers, the production of human capital, and the integration of international commerce. Remittances are a well-known useful source of revenue for developing nations, and they are growing in popularity. Increased GDP, funding of investments and the reduction of poverty are all advantages for economies. In this study, we examined the impact of FDI and remittances on the economies of the five selected SAARC countries, consisting of Afghanistan, Bangladesh, India, Sri Lanka, and Pakistan. The data was used for the period of 2008-2020. For the mentioned study, co-integrating regression was used to investigate the long-run association between these variables. In order to know the impact of the independent variables on the dependent variables, we used the Fully Modified Ordinary Least Square and Dynamic Ordinary Least Square regression tests which are used for co-integrating and non-stationary data. The results suggested that foreign direct investment (FDI) and remittances have positive effects on the economic growth of the panel nations. Furthermore, we conducted the Granger causality test, and the findings revealed that remittances and economic growth are both influenced by each other in a bidirectional way and no causality relationship between FDI and economic growth.

Keywords: *Remittances, FDI, Economic growth, FMOLS, DOLS*

ÖZET

Doğrudan yabancı yatırım (DYY), teknoloji yayılmaları, insan sermayesi üretimi ve uluslararası ticaretin entegrasyonu yoluyla bir ülkenin ekonomik kalkınmasına katkıda bulunur. Havaleler, gelişmekte olan ülkeler için iyi bilinen yararlı bir gelir kaynağıdır ve popülaritesi artmaktadır. Artan GSYİH, yatırımların finansmanı ve yoksulluğun azaltılması ekonomiler için avantajlardır. Bu çalışmada, Afganistan, Bangladeş, Hindistan, Sri Lanka ve Pakistan'dan oluşan seçilmiş beş SAARC ülkesinin ekonomileri üzerindeki DYY ve işçi dövizlerinin etkisini inceledik. Veriler 2008-2020 dönemi

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için kullanılmıştır. Bahsedilen çalışma için, bu değişkenler arasındaki uzun dönemli ilişkiyi araştırmak için eşbütünleşik regresyon kullanılmıştır. Bağımsız değişkenlerin bağımlı değişkenler üzerindeki etkisini bilmek için, eşbütünleşik ve durağan olmayan veriler için kullanılan Tam Değiştirilmiş Sıradan En Küçük Kare ve Dinamik Sıradan En Küçük Kare regresyon testleri kullanılmıştır. Sonuçlar, doğrudan yabancı yatırımın (DYY) ve işçi dövizlerinin panel ülkelerin ekonomik büyümesi üzerinde olumlu etkileri olduğunu ortaya koymuştur. Ayrıca, Granger nedensellik testi gerçekleştirilmiş ve bulgular, işçi dövizlerinin ve ekonomik büyümenin birbirlerinden çift yönlü bir şekilde etkilendiğini ve DYY ile ekonomik büyüme arasında hiçbir nedensellik ilişkisi olmadığını ortaya koymuştur.

Anahtar Kelimeler: *İşçi dövizleri, DYY, Ekonomik büyüme, FMOLS, DOLS*

GİRİŞ

Growth in developing countries mainly depends on foreign direct investment, official development aid, and remittances by diasporas (Alfieri & Havinga, 2006). Foreign direct investment (FDI) is a type of cross-border investment when a resident of one country invests in a company in another economy, and it includes investment in shares of a foreign firm, capital participation in a company, or property purchase. (OECD, 2020).

According to De Jager (J, 2014) , If FDI introduces new technology, which increases labor and capital productivity, this will lead to more sustained rates of return, and labor will grow exogenously. FDI is said to boost host countries' growth. Exogenous growth theory states that FDI may improve a country's economy by introducing new products and technologies (Mahembe, and Odhiambo, 2014). Through the transfer of skill and technologies, it could boost the knowledge of a host country (Elboiashi, 2011). Studies indicate that FDI promotes technological spillovers, human capital creation, international trade integration, a more competitive business environment, and firm growth when the host country's policies are suitable (OECD, 2002). All of this promotes economic development, the most powerful weapon for reducing poverty in emerging nations (OECD, 2002).

Another main indicator in our study is remittance. Remittances, which are often defined as money or commodities sent by migrants to family and friends in their home countries, are frequently the most direct and well-known relationship between migration and development (Migration Data, 2021). It is known good income source for developing countries' economies. As per the data of the World Bank, global remittances are 0.8% of global GDP, which is equal to more than 646 billion dollars (The World Bank Data, 2020). Low and middle income countries received 540 billion dollars in 2020, which surpassed the FDI inflow (256 billion dollars) in these countries (The World Bank Data, 2021). There are many benefits of remittances for recipient countries. It could increase the GDP and be a good source of financing for investments in the recipent nations, which in turn would help reduce poverty (Pradhan, Upadhyay, and, Kamal, 2008).

In this study we are going to examine the impact of FDI and personal remittances on the economic growth of the selected SAARC countries (Afghanistan, Bangladesh, India, Pakistan and Sri Lanka). Due to lack of data, we couldn’t include other SAARC nations in our study.

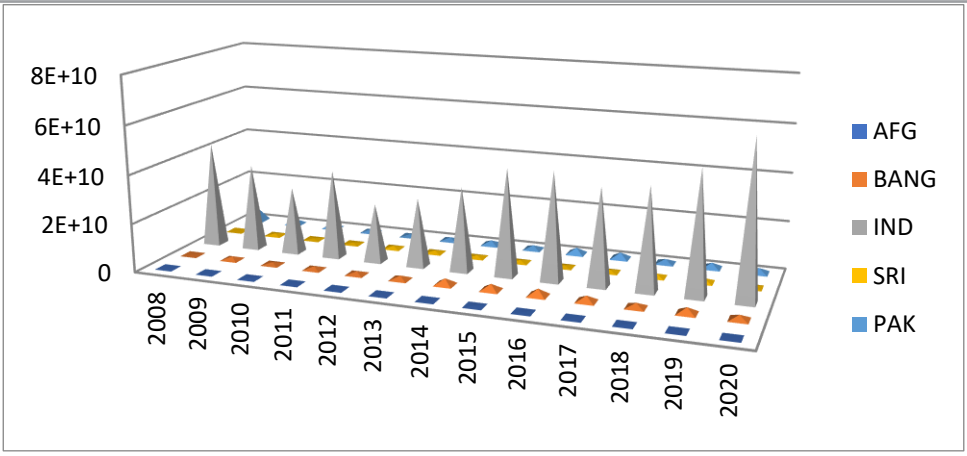
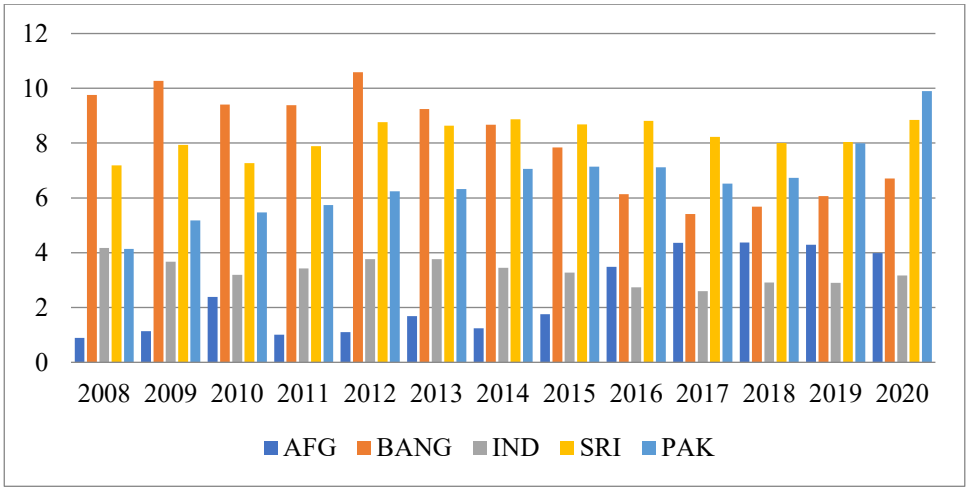


Figure 1: FDI inflows of the selected SAARC countries

Figure 1 shows the FDI inflows of the selected SAARC countries, and as per the figure, the largest amount belongs to India. Pakistan, Bangladesh, Sri Lanka, and Afghanistan are ranked second, third, fourth, and fifth, respectively.

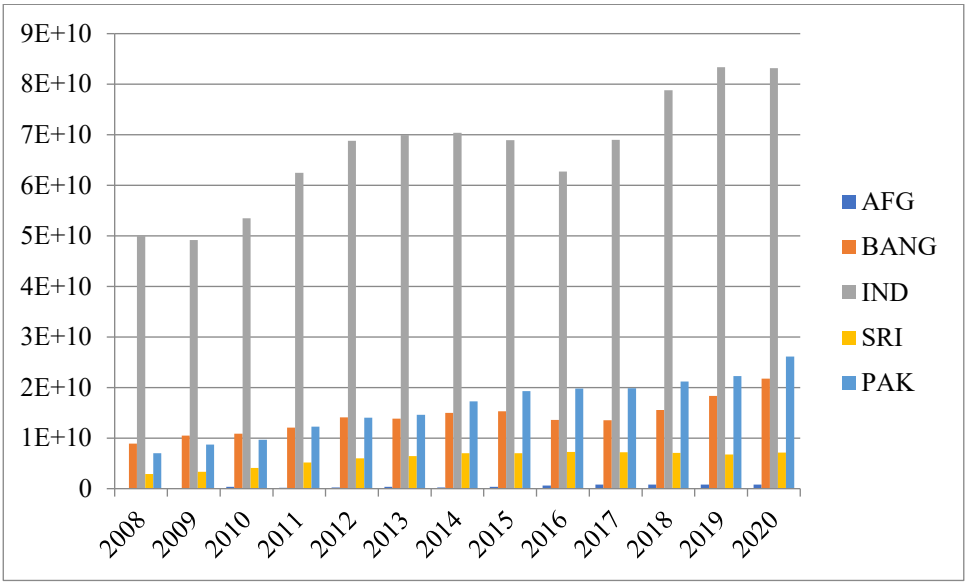
South Asian FDI increased by 20% to $71 billion, led primarily by a 27% increase in FDI to $64 billion in India, where, FDI inflows were boosted by substantial investment in ICT and construction. Cross-border mergers and acquisitions increased by 83% to $27 billion, with major deals in ICT, health, infrastructure, and energy (UNCTAD, 2021). Other economies in South Asia that rely on export-oriented garment manufacturing experienced a decline in FDI. Inflows into Bangladesh and Sri Lanka fell 11% and 43%, respectively. Pakistan had a 6% decline in FDI to $2.1 billion, helped by continued investment in the power generating and telecommunications industries. (UNCTAD, 2021).

Remittances are considerably more vital in South Asian economies. In 2019, India received over $80 billion in remittances, making it the world's highest recipient country (Mint, 2020). Remittances account for a considerable share of the South Asian economies' GDP (GDP), which forms 28% of Nepal GDP and 8% of Pakistan GDP (Mint, 2020).



Source: (The World Bank Data, 2020)

As per the Figure 1 country that has more share of remittances in GDP is Bangladesh in the beginning years, and in the last years is Pakistan.



Source: (The World Bank Data, 2020)

Figure 2 explains the amout of remittances received by the mentioned countries, and as per the figure India is the first country which has received the largest amount of remittances.

In our research, we split the findings into four categories. The first portion discusses the topic's introduction; the second section is devoted to a review of the literature; the third segment explains the methodology of the research; and the last section discusses the topic's results and conclusions.

1. LITERATURE REVIEW

Remittances is a debatable topic in the economics literature. Some believe it does not contribute to economic growth, and some believe it does, but it can contribute to household consumption.

According to Ferdaous (2016), those researchers who claim that remittances could have a negative impact on economic growth give two reasons: they say that remittances cause less intention to work and create Dutch diseases. The final reason for the negative impact of remittances on economic growth is currency rate appreciation, which reduces countries' competitiveness, reducing exports and increasing imports (Lopez, Molina, and Bussolo, 2007). Remittances may have a detrimental effect on economic growth by causing the currency rate to appreciate.

Remittances could have a positive impact on economic growth through consumption, saving, and investment channels (Mansoor and Quillin, 2007).

The shift in policymakers' attitudes about FDI from "hostility" to "conscious encouragement", especially among developing nations, has rekindled academic interest. (Ayanwale, 2007). Until recently, FDI was considered as “parasitic” and restricting national industry development. However, Bende-Nabende and Ford (1998) cited in Ayanwale (2007) contend that wide externalities in technology transfer, human capital development, and economic opening to foreign pressures have changed the earlier image. To add to the argument about FDI's worth, De Gregorio argues that FDI might bring in technology and expertise

that are not easily available to local investors, increasing overall economic productivity. (De Gregorio, 2003).

In the following we have the results of some studies regarding to impact of remittances and FDI on economic growth.

Fayissa & Nsiah (2010) used panel data for 36 African countries, and the time period was between 1980-2004, and they concluded that they could contribute to economic growth by offering an alternate method of financing investment and assisting in the resolution of liquidity problems.

Dahal, (2014), analysed the impact of remittances on financial development, productivity, international commerce, and human capital accumulation in Nepal. Increasing remittances to Nepal have a favorable relationship with financial growth and human capital accumulation, but a negative relationship with international commerce.

The influence of remittances and FDI on economic growth was studied using a panel of 33 developing nations from 2003 to 2014 by Ferdaous (2016), who used a static and dynamic approach. He discovered that FDI had a positive impact on economic growth while remittances did not, owing to the fact that remittances were not used productively.

Using a vector error correction model, this study examines the impact of remittances and FDI on economic growth, GFCF, and inflation in Albania. The results reveal that remittances from Granger generate positive short- and long-term economic growth and negative inflation, but there is no meaningful link between remittances and GFCF, and in terms of FDI, there is evidence that inflation reduces FDI, whereas FDI, economic growth, and capital creation tend to be unrelated (Golitsis, Avdiu, and Szamosi, 2018).

Study done by Comes, Bunduchi, Vasile, and Stefan,(2018), Both FDI and remittances have a beneficial impact on GDP, although FDI has a greater impact in all examined states. The mentioned study was done for the seven central European countries, where GDP per capita was around $25,000.

Another panel study used data for the period 1977-2016 and applied the ordinary least square, where results show a negative impact of remittances for three countries, consisting of Pakistan, Sri Lanka, and Bangladesh, and a positive impact in the case of India (Sutradhar, 2020). The effects of remittances in aggregate form have been negative on economic growth of the panel countries.

Both remittances and FDI have been positive factors for economic growth in the case of Fiji Island, and this study used the time series data for the time period 1980-2015 (Makun, 2018). For the mentioned study ARDL model has been applied by the author.

By utilizing annual data from 1980-2016 a panel study for developing countries suggested that remittances and FDI causes of income inequality while growth did not, and growth had unidirectional causality with income equality (Song, Ummalla, Zakari, & Kummitha, 2021). In the mentioned study it was suggested that both remittances and FDI should be used effectively to help the distribution of income.

By using GMM model it was found that remittances causes decrease in the household consumption volatility, which caused of economic growth, and the study for the emerging Central, Eastern and Southeastern European (CESEE) countries (Eftimoski, and Josheski, 2020).

2. DATA AND METHODOLOGY

In order to analyze our study empirically, we are going to use the data of selected five SAARC countries consisting of Afghanistan, Bangladesh, India, Sri Lanka, and Pakistan. For the mentioned study, data has been taken from the World Bank data site and the period is 2008-2020. We used the logarithmic form of the data, in order to avoid some of the econometric problems. Our model is as below.

$Log(Yit)=\alpha+\beta 1Log(FDIit)+\beta jlog(Remitj)+\varepsilon it$ For i=1, 2,…, N; t=1, 2…,T and j=1,2,3,4,5,

α_o: constant of model

β_1= coefficient of independent variable

FDI= independent variable, which stands for foreign direct investment of i_{th} country at the time T.

Rem= independent variable which stands for received remittances i_{th} country at the time T. .

Y= Dependent variable GDP per capita of i^{th} country at the time T.

ε = error term.

t= time

j= country

2.1.Correlation Analysis

First of all, we will check the correlation amongst the variables, then we will analyze their stationarity to identify whether they are stationary or non-stationary. If our variable becomes non-stationary, we may use the Johansen cointegration test to see if there is no cointegration between the variables. If the variables are cointegrated, we will use FMOLS and DOLS estimates, and, finally, we will examine causalities among the variables.

Table 1: Correlation Analysis

LOGGDPP	1		

LOGFDI	0.440465	1	
	0.0002	-----	
LOGREMIT	0.450894	0.708674	1
	0.0002	0	-----

Table 1 shows the correlation between the variables. The results show that there is a moderate correlation of foreign direct investment and remittances with GDP per capita, and remittaces have a strong correlation with FDI.

The unity root test is used to assess the stationarity and non-stationarity of data. The ADF-FC and IPS tests are used to apply the unite root test.

2.2. Unit Root Test

Table 2: Unit Root Test

	LEVEL	FD	LEVEL	FD	LEVEL	FD
ADF FC	14.4712	19.1093	9.438	19.8095	16.06	34.73
	(0.1526)	(0.0389)	(0.491)	(0.0311)	(0.11)	0.0001
IPS	-0.61185	-1.72777	9.438	-2.03013	-0.89700	-4.07
	(0.2703)	(.0420)	(0.490)	(0.0212)	(0.1849)	(0.0000)

Table 2 shows the results of the unit root test. As per the results, all our variables have a unit root in the level and do not have a unit root in the first difference. This means that data is non-stationary in the level and becomes stationary when it is converted to the first difference.

2.3.Co-integration

In order to know whether our variables have a long run relationship with each other, we performed the co-integration tests using both the Kao (Enger-Granger based), and Fisher (combined Johansen) tests.

Table 3: Kao (Enger-Granger based)

	t-Statistic	Prob.
ADF	-1.740224	0.0409
Residual variance	0.000647	
HAC variance	0.000733	

Table 3 explains the Kao test results, and as per the results, there is co-integration between the variables because the probability value is less than 5%.

Table 4: Fisher (combined Johansen) tests

No. of CE(s)	(from trace test)	Prob.	(from max-eigen test)	Prob.2
None	60.78	0	50.8	0
At most 1	24.3	0.0068	20.5	0.0249
At most 2	20	0.0292	20	0.0292

In the table we have the results of Fisher (combined Johansen) co-integration test and the results there is a long run relationship amongst the variable, as the P-value in all three cases is less than 5%.

When variables are co-integrated, the Fully Modified Least Square and Dynamic Ordinary Least Square regressions can be used to determine the impact of independent variables on dependent variables. In the following tables, we have the results of the mentioned regressions.

2.4.FMOLS and DOLS

Table 5: FMOLS and DOLS

Independent Variables	FMOLS	Column1	DOLS	Column2
	Coefficient	Prob.	Coefficient	Prob.
LOGFDI	0.221074	0.0006	0.351275	0.0223
LOGREMIT	0.21089	0.0009	0.138762	0.0703
R-squared	0.942217	3.646412	0.990083	3.650727
Adjusted R-squared	0.935676	0.259116	0.96262	0.257146
S.E. of regression	0.065718	0.228896	0.049716	0.032132
Long-run variance	0.006137		0.000865	

In table 5 we have the results of both FMOLS and DOLS. In both regressions FDI and remittances have positive impact on the gross domestic product per capita. As per the results of Fully Modified Ordinary Least squares one percent increase in the FDI causes 0.22% increase in the GDP per capita, and one percent increase in the remittances will increase the GDP 21%. Likewise, in Dynamic Ordinary Least Square the impacts of FDI and remittances are 35% and 13% respectively.

2.5.Granger Causality

Table 6: Granger Causality

Null Hypothesis:	Obs	F-Statistic	Prob.
DLOGFDI does not Granger Cause DLOGGDPP	50	1.73624	0.1878
DLOGGDPP does not Granger Cause DLOGFDI		0.89999	0.4138
REMITTANCESGDP does not Granger Cause DLOGGDPP	50	3.7459	0.0313
DLOGGDPP does not Granger Cause REMITTANCESGDP		3.27425	0.047
REMITTANCESGDP does not Granger Cause DLOGFDI	50	0.94036	0.398
DLOGFDI does not Granger Cause REMITTANCESGDP		0.31163	0.7338

The 6th table explains the granger causality test results and the results show that there is only one causal relationship between remittances and economic growth. Both have bidirectional causal relationships with each other. As per the table, there was no causal relationship between FDI and remittances. Furthermore, there is no causality between FDI and economic growth.

CONCLUSIONS

In this study we investigated the impact of remittances and FDI on the economic growth. As it is known that there are three external factors contribute to economic growth of developing countries, which are consisting of FDI, remittances and foreign aids. Due to lack of numerical data we ignored the impacts of official development aids.

In the introduction part of the study, it was discussed that FDI helps the economic growth of a country through technological spillovers, human capital creation, and international trade integration. Remittances are a well-known good income source for developing countries. It benefits economies by increasing GDP, financing investments, and reducing poverty.

We examined the impact of these two independent variables through co-integrating regression. Whether there is a co-integration between the variables in the long run, we can apply FMOLS and DOLS, and the results of both tests indicate that FDI and remittances have positive impacts on the economic growth of the panel countries. Furthermore, we applied the Granger causality test, and as per the results, remittances and economic growth have bidirectional causality with each other. Governments should encourage foreign direct investment (FDI) by providing financial incentives, establishing sound infrastructure, and creating an agreeable organizational and regulatory climate. They also stimulate educational investment and ensure political, economic, and legal stability. In the case of remittances, the government should try to maximize the amount of remittances, and then they should use these remittances in productive places to help increase GDP and decrease unemployment. Governments could increase remittances in many ways. They could increase it with anti-black market policies, a favorable exchange rate, and low inflation (O'Neill, 2001). Three sorts of policies are to be pursued: allowing migrant workers to import machinery and equipment at a reduced cost, offering business training, and incentivizing returning migrants to engage in entrepreneurial ventures (O'Neill, 2001). The mentioned policies should be strengthened.

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