



## Saving, Foreign Inflows and Economic Growth: Evidence from Selected Developing Countries

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### ABSTRACT

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*The current study seeks to investigate the impact of saving and foreign inflows on economic growth of selected developing economies such as Pakistan, India, Bangladesh, and Sri Lanka by utilizing yearly panel data for 1990-2020. Long run results of panel ARDL indicate that trade openness and capital investment have positive and significant effects on services sector whereas, government - household consumption expenditure, labor force and inflation have inverse relation with services growth. In order to enhance the economic growth, the Governments are required to improve the education sector along with the tax rebates for the business sector so that target of excelling economic growth be accomplished.*

## 1 Introduction

Saving is an important part of economic growth. Higher saving results in a high level of investment over time, allowing the economy to produce more goods and services. Thus, saving plays a significant role in financing development and growth. According to Solow (1956), savings increases the availability of funds for investment which helps a country to achieve faster economic growth. Unfortunately developing economies are continuously struggling to bring prosperity in their countries. Poverty, unemployment, low level of savings and investments, and high inflation rate are the common issues of such countries. To achieve economic growth investments in various sectors such as agriculture, industrial, services sector is very important, in order to tackle with all the problems prevailing in developing countries. Similarly, foreign inflows are very important for economic growth because they bring new capital in an economy and beyond this, also improve relationships with other countries. McKinnon and Shaw (1973) examined in their study that increase in investments through increased savings enabled high economic growth. When new business setup starts in a country that is connected with different markets, it increases the export opportunities as well as it brings improvement in the overall country's export performance. Foreign trade for any nation works as a growth engine because national income increases with the increase in exports. With good level of national income, a country can improve its production units which in result increases the employment opportunities for the people of the country. Keeping in view the available facts, the objective of the study is to locate the effects of savings and foreign capital inflows on economic growth of selected developing countries.

This paper is divided into five sections. Section I is on Introduction and Literature Review is given in Section II. Likewise, Section III and Section IV are deliberated for Methodology and Results and Discussion. In Section V, the Conclusion and Policy Recommendation are given.

## **2 Literature Review**

Anoruo and Ahmad (2001) investigated the presence of a long-term relationship among African countries' economic growth and domestic savings from 1960 to 1997. For this purpose, they used Johansen and Juselius technique. According to the study, there is a positive relationship between domestic savings and economic growth. They suggest that involvement of Government is very important in order to encourage domestic savings for growth of the economy.

Alfaro (2003) examined the relationship between foreign inflows and economic growth in developing countries from 1981 to 1999. According to the study, foreign inflows had a positive impact on the growth of the manufacturing sector, a negative impact on the growth of the agriculture sector, and a mixed impact on the growth of the services sector, which can be positive or negative depending on the government's policies.

Baharumshah and Thanoon (2006) used data from 1991 to 2001 to examine the relationship between capital inflows of the foreign countries and economic growth of East Asian countries. Study used Augmented Dickey-Fuller test, Phillips Perron unit root test and Dynamic Generalized least square test for analysis. According to the findings, FDI had a positive impact on economic growth both in the short and long run. Moreover, it was suggested that Government should take initiatives in order to improve FDI in a country.

Yasmeen (2005) investigated the association among foreign capital inflows and Pakistan's economic growth. She used data from 1970 to 2001. By using the simultaneous equation model study predicts that developing countries like Pakistan are heavily dependent on foreign capital inflows in order to bring improvement in the economy. Especially, FDI plays a significant role in economic growth.

Fatima (2013) and Jawad and Saleem (2017), studied the effect of foreign capital inflows on Pakistan's economic growth. For this purpose, she used time series data from 1972 to 2015. According to their analysis usually develop and underdeveloped countries are dependent on different kinds of foreign capital inflows for economic growth like FDI, Remittances, loans, etc. OLS and cointegration techniques respectively were used to see the impact of those FCIs on economic growth. The result shows that the impact of FDI was greater than the other foreign capital inflows on the economic growth of a country. The study suggests that effective Government policies can accelerate foreign capital inflows in a country. Tahir et al. (2020) also used the same variables but added some year's data and verifies the results of Fatima (2013) and Jawad and Saleem (2017) and suggested that government should encourage the liberalized trade policies to bring growth in a country.

Reza et al. (2014) observed the association between saving and total economic growth as well as the association between saving and non-oil economic growth in Iran. For analysis data from 1972 to 2010 was used with the Autoregressive distributed lag model. According to the results in the long run, savings had a positive and significant impact on total economic growth as well as on non-oil economic growth. The study also suggests that the Government of Iran should make good policies to increase savings for the economic growth of the country.

Ezeji and Promise (2015) have studied the impact of foreign investments on the growth of Nigeria, India, and Ghana from 1986 to 2012. Results showed after analysis that foreign inflows in form of investments and remittances had a positive effect on the growth of each country. According to the study developing countries should create a friendly environment with other countries to increase investments and remittances in their country.

Shafiq and Hafiz (2016) examined the relationship between foreign inflow and the economic development of 21 developing countries from 1990 to 2013. Using pool mean group estimation and

unit root test study predicts that external debts had a negative impact on economic growth while FDI and remittances had a positive impact on the economic growth of a country. The study also suggests that FDI should be used properly and efficiently.

Tahir and Asim (2019) studied the impact of foreign inflows on SAARC countries. Due to the unavailability of the data countries like Afghanistan, Bhutan and Maldives were ignored during the analysis. Panel data techniques were applied to data from 2008 to 2015. The results show that FDI and foreign aid had a positive impact on economic growth, while foreign debt was negatively associated with economic growth. Moreover, the study examines no relationship exists between economic growth and remittances. In the end, study suggests that SAARC countries should liberalize trade policies to increase foreign inflows from developed countries.

Developing countries need financial funds from other countries to enhance the level of investments to bring economic growth to a country Karahan (2019). He used data from Turkey from 2002 to 2018 to see the impact of capital inflows on the savings of a country. According to the study, the impact of capital inflows on total savings was not as much as it was expected. The study also suggests that policymakers should focus on the management of foreign inflow to bring prosperity to a country in a form of economic growth and financial stability.

Ribaj and Mexhuani (2021) measured the extent to which saving and economic growth are correlated with each other. Time series data from 2010 to 2017 was used for the measurement According to the results in Kosovo savings had a positive and significant impact on economic growth because investments, employment, and production are the results of savings. Moreover, it has been noticed that countries with high saving rates countries are less dependent on FDI.

The major objective of the study is to investigate the impact of savings and foreign inflows on the growth of developing countries. After introducing the research problem, the rest of the study is arranged as follows. The 2<sup>nd</sup> section comprises on literature review while the section 3<sup>rd</sup> consists of theoretical framework. Section 4<sup>th</sup> comprises methodology and data sources. Statistical properties of the data are discussed in section 5<sup>th</sup>. The 6<sup>th</sup> section of the study explains the econometrics results. In the last section, we have concluded the present research with a policy recommendation.

According to Classical economists saving is always equal to investment because the situation of full employment always exists in the economy. They believed that savings in a country increase with the increase in interest rate. But Keynes believed that equality in saving, and investment was possible due to changes in income, not due to changes in interest rates. According to their view saving is equal to investment below the full employment level. As far as growth is concerned, according to Robert Solow (1956), a country's growth depends essentially on the accumulation of capital, the growth of labour or population, and productivity increases largely stimulated by technological advances.

#### **4 Data and Methodology**

The current study is based on a secondary source of data which is taken from World development indicators (WDI). For analysis panel data is taken from 1995 to 2020. There are two ways to handle panel data: random and fixed effects models. Further, the Hausman test is used in the analysis. When the value of Chi-square in Hausman test is small, random effect will be applied while when its value is large, fixed effects will be applied.

The functional form of the model is given below:

$$Y = \alpha_0 + \beta_1 x_1 + \beta_2 x_2 + \dots + \mu_i$$

Where Y is dependent variable, X<sub>i</sub> represents the explanatory variables,  $\alpha_0$  is the intercept term and  $\beta_1, \beta_2$  are coefficients and  $\mu_i$  is the error term.

Based upon the above-suggested methodology the operational model for the study is given below:

$$\text{GDPG} = f(\text{LFG}, \text{GFCF}, \text{FDI}, \text{REM}, \text{TRA}, \text{GS}) \quad (1)$$

$$\text{GDPG}_{it} = \beta_0 + \beta_1(\text{LFG})_{it} + \beta_2(\text{GFCF})_{it} + \beta_3(\text{FDI})_{it} + \beta_4(\text{REM})_{it} + \beta_5(\text{TRA})_{it} + \beta_6(\text{GS})_{it} + \mu_{it} \quad (2)$$

Where,

GDPG = Gross Domestic Product Growth Percentage of GDP

LFG = Labor Force Growth Percentage of GDP

GFCG = Gross Fixed Capital Formation Percentage of GDP

FDI = Foreign Direct Investment Percentage of GDP

REM = Remittances Percentage of GDP

TRA = Trade Percentage of GDP

GS = Gross Saving Percentage of GDP

i & t is the country and timer period

## 5 Results and Discussions

The result of the descriptive statistics of the explanatory variables are shown in table below.

**Table 1**  
**Descriptive Statistics (1995 to 2020)**

	<b>GDPG</b>	<b>FDI</b>	<b>LFG</b>	<b>GFCF</b>	<b>REM</b>	<b>TRADE</b>	<b>GS</b>
<b>Mean</b>	4.85	4.70	10.96	23.30	5.63	41.64	19.12
<b>Median</b>	4.77	3.04	4.74	21.85	3.25	41.91	17.16
<b>Maximum</b>	34.48	89.48	57.44	145.75	31.75	321.63	83.29
<b>Minimum</b>	-30.59	-5.01	-16.94	1.10	0.00	-42.13	-34.03
<b>Std. Dev.</b>	4.65	7.00	12.01	9.96	6.14	42.32	15.22
<b>Skewness</b>	0.14	5.50	1.48	3.92	1.45	1.38	0.57
<b>Kurtosis</b>	15.89	49.53	4.62	39.44	4.70	7.86	4.13
<b>Jarque-Bera</b>	7913.68	108887.50	544.30	66166.99	535.60	1488.00	122.52
<b>Prob.</b>	0.00	0.00	0.00	0.00	0.00	0.00	0.00

According to Table 1, the average value of GFCF is 4.85 US dollars while a measure of dispersion is 4.65 US dollars. This indicates that there is an average of 4.65 US dollars distance exists between the individual and the data's central value. The mean value of LFG is 10.96 US dollars while the value of the standard deviation is 12.01 US dollars. It means that the actual value of LFG deviates from its mean value by 12.01 US dollars. Moreover, the average values of GFCF, FDI, REM, TRA, and GS are 23.30, 4.70, 5.63, 41.64, and 19.12 respectively.

The correlation matrix examines the strength between two variables. It means it tells the direction between variables and at the same time it tells the extent of the relationship between the variables. Correlation values always lies between -1 to 1. If the value is greater than zero, it means variables are positively correlated otherwise are negatively correlated.

**Table 2**  
**Correlation Matrix of Developing Countries (1995-2020)**

	GDPG	FDI	LFG	GFCF	REM	TRA	GS
GDPG	1						
FDI	0.1	1					
LFG	0.2	0.1	1				
GFCF	0.1	0.3	0.2	1			
REM	-0.1	0.1	-0.3	-0.1	1		
TRA	0.1	0.1	-0.1	-0.1	0.2	1	
GS	0.2	-0.1	0.5	0.4	-0.3	-0.2	1

From Table 2, it is visible that LFG and GDPG are positively and weakly correlated with each other while GFCF is positively and weakly correlated with GDPG and LFG. FDI is also positively and weakly correlated with GDPG and LFG but having a positive and moderate correlation with GFCF. REM is negatively and weakly correlated with GDPG and GFCF while the connection between REM and LFC is negative and moderate. On the other hand, REM is positively and weakly correlated with FDI.

TRA has a positive and weak correlation with GDPG, FDI, and REM while having a negative and moderate correlation with LFG and a negative and weak correlation with GFCF. GS is positively and weakly correlated with GDPG. LFG and GFCF are also positively correlated with GS but the extent to which they are correlated with each other is moderate. GS is negatively and weakly correlated with REM and TRA. The connection between REM and GS is negative and moderate.

**Table 3**  
**Hausman Test for Correlated Random Effects**

Models	Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.
Developing Countries	Random Cross-section	26.9*	7

Note: \* Shows the probability of coefficient is significant at 1 percent. \*\* shows the probability of coefficient is significant at 5 percent

Results of the Hausman Test (Random or Fixed Effect) are given in Table 3. The choice of methodology depends on the probability values. If the probability value is greater than five percent, the Random effect method is suitable while if the probability value is less than five percent then fixed effect is more appropriate. From above table it has been noticed that in all models probability value is less than 0.05. So fixed effect method is used for analysis purpose.

**Table 4**  
**Panel Estimates of GDPG Models in Developing Countries**

Variables	Coefficient
FDI	0.025*
LFG	0.067**
GFCF	0.022
REM	0.100**
TRA	0.040*
GS	0.131*

Note: \* shows the coefficient is significant at 1 percent. \*\* shows the coefficient is significant at 5 percent.

Table 4 shows the results of overall developing countries. It is found that coefficient value of labor force growth is 0.067. It means it has positive and significant impact on GDP growth as when employment rises, the income of the people of the country rises, as a result output rises. The coefficient of gross fixed capital formation is 0.022 at one percent level of significance. It has positive but insignificant impact on GDP growth. It means fixed capital formation it not an important factor to bring economic growth in developing countries.

It has been observed that coefficient value of FDI is not only positively related with gross domestic product growth but it is highly significant. With an increase in investment, productive capacity of the economy increases. As a result, standard of living of the people improves. Remittances are the one the major source of income in developing countries. We have noticed that the coefficient of Remittances is about 0.10 which means that one percent change in remittances will bring 0.10 percent increase in gross domestic product growth. Country with more capital has more to invest in business. As a result, output rises. When output rises, income of the people of the country rises. People with more income will save more.

Trade has positive and significant impact on Gross Domestic Product Growth. Mostly developing countries are agrarian economies, that's why are producing more than the domestic demand. The countries with excess output used to export those goods to other countries. In return countries earn income, which is responsible for savings and investment in a country. Gross saving is also the one of the most important factor that influences the GDP growth in developing economy. High rate of saving would result in high rate of investment associated with higher GDP growth. It has been noticed from results of table 4 that 1 percent change in gross savings would bring 0.13 percent rise in GDP growth.

## 6 Conclusion

The fundamental aim of the study is to investigate the relationship among saving, foreign inflows and GDP growth of the developing countries. Time series panel data from 1995 to 2020 for several variables are gathered from the WDI. GDP growth rate is taken as a dependent variable while, labor force growth, gross fix capital formation, foreign direct investment, remittances, trade, and gross saving are used as independent variables. The results state that in developing countries, foreign direct investment, the growth rate of the labour force, remittances, trade and gross savings are having positive relationship with GDP growth and their results are significant, but the result of gross fixed capital formation is insignificant even though positive relationship exists between gross fixed capital formation and GDP growth. Based on the findings, it is suggested that concerned Governments are required to take adequate measures like Tax cuts and rebates, provide education and employment opportunities in order to accelerate economic growth in developing countries. This is also suggested that there should be political stability to overcome the problems of policies of the different government of mismanagement in developing countries. This stability will increasing the foreign capital inflows which will attract the foreign direct investment in different sectors of economy. There should be separate authorities or department should be established to facilitate the foreign investors to invest in these countries.

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