An Analysis of Foreign Capital Inflows, Institutional Quality and Economic Performance in SAARC Countries

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Abstract

This paper is interested in seeing and exploring the relationship between foreign capital inflows, the quality of domestic institutions, and economic performance. The paper focuses on SAARC economies and utilizes data from 1996-2020. Our results show that foreign aid and economic growth of SAARC countries were positive results from all four techniques we used in our study. For imports, we got positive results in pooled least squares, whereas we got a negative impact of imports on the economic growth of SAARC countries in the other three techniques. We got the negative and insignificant impact of FDI in pooled least squares and generalized least squares, whereas we got the positive and significant impact of FDI in two stages of least squares. We learned about the negative and significant effects of debt on the economic growth of SAARC countries through all four techniques we have used. Regarding remittances, we got mixed results. Regarding institutions, we got institutions' negative and considerable impact on the economic development of SAARC countries in all specifications. Our results have important policy implications for SAARC economies.

Keywords: Foreign Capital Inflows, Institutional Quality, Economic Performance, SAARC.

Introduction

Foreign capital inflow is not considered the export or import of goods and services among the different countries or the payments for the traded goods and services. It is the movement of capital from one country to another country. It does not matter when, where and from whom it takes place, i.e., either through private segments or through government institutions or international agencies/organizations (Nkoro & Furo, 2012).

It is interesting to note that the role of capital inflow is prominent in transforming the world into a global village or integrating domestic economies into the world economy. As it is observed from the statistics of the developing countries, their degree of deficiency of financial resources is very high, and due to this, they cannot finance their long-run projects, which are necessary for achieving their long-run growth. This has compelled them to rely on external financial resources. External and internal financial resources are a subset of developing countries' universal financial resources. This universal set becomes the backbone of developing countries (Chorn & Seik, 2017).

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It is observed in the current literature on foreign direct investment (FDI) that the transfer of new technology, scientific knowledge, technological skills, and innovation is only possible from the developed world to the underdeveloped world if developing countries have enough FDI. Consequently, it will increase emerging and developing countries' development and economic growth (Chorn & Seik 2017). Morris (2011) stated that FDI not only accelerates the spillovers of technology but also promotes the business environment, develops human capital, grows international trade, and creates an atmosphere of modern knowledge which will accelerate human skills and expertise. Borensztein et al. (1998) emphasized after reviewing the literature on the impact of FDI that FDI significantly affects economic growth and development more than domestic financial resources. Li and Liu (2005) after estimating the impact of FDI on the growth and development of developing countries expressed that some primary conditions of these economies are required; some other studies also discussed the influential factor which accelerates the impact of FDI for example, basic developed infrastructure and financial structure of the economy (Hermes & Lensink 2013), developed physical capital, human capital (Borensztein et al. 1998), social capital, and system of the government, policies of the government, firm base for international trade, stable functions of institutions (Makki & Somwaru 2004), economic and political freedom (Bengoa & Sanchez-Robles 2003).

SAARC is a regional association based in South Asian countries, i.e., Pakistan, Bangladesh, Nepal, Sri Lanka, Maldives, India, and Bhutan, founded in 1985. However, as mentioned above, seven countries were originally members of this association. Currently, Afghanistan also became a member of SAARC. It is worth noting that all these countries do not have many similarities; for example, land area is different, the population is not similar, and economic indicators vary among the members. However, their economic development and human habits are identical. It is worth noting that this region has plenty of natural resources, and there is a lot of opportunity for growth in these countries. Arefin (2018) stated that the institutions are poor and highly inefficient, which is the main hurdle in development and growth. If their political, social, and economic institutions become efficient, then their growth will not be questioned.

Jude and Levieuge (2013), Sabir et al. (2019), Ferrini (2012) and Rodrik (2000) discussed the role of institutions in the process of economic development and growth. They all agree that institutions are the primary source for shaping economic and social behaviour; these are the significant endogenous variables in determining the path of development and growth, and wealthy institutions are the necessary condition for capital inflow, which is the sufficient condition for sustainable development. This study analyses the impact of interactions of foreign capital inflows and institutions. In this study, our primary aim is to focus on the economy of South Asian Association for Regional Cooperation (SAARC) countries and determine the possible contribution of different inflows to the economy's growth process. Secondly, this study is also interesting in finding out whether the role of capital inflows on economic growth depends on the quality of institutions. The SAARC member countries have plenty of foreign capital inflow regarding FDI, home remittances (because several of their workforce is working worldwide, especially in the GCC countries and the UK), and foreign aid from international and donor agencies. As it is observed from the existing literature, foreign capital inflow has a significant impact on the process of growth and development. Keeping the above in view, the SAARC member countries are selected for this current study. Therefore, this study would provide a comprehensive understanding of the role of foreign capital inflows and their dependence on institutional factors in promoting economic growth.

This remaining part is divided into several sections. Section two discusses the model, and section three includes modelling and estimation methods. The fourth section contains the results. The final section comprises concluding remarks and implications.

Literature Review

Many researchers have studied the FDI-growth nexus, and the results show significant and positive links between the two. For example, Tahir et al. (2018) employed panel data techniques to evaluate the effect of foreign capital inflows on the economic growth of SAARC member nations between 2008 and 2015. The findings indicated that foreign direct investment and foreign aid had a beneficial influence on economic growth. Conversely, commerce and foreign debt have a negative relationship with economic expansion. Additionally, they noted no correlation between "economic growth" and the "flow of remittances" among SAARC member nations. Chorn and Siek (2017) selected seventy-seven developing countries from all the world's regions, and the period from 1997 to 2012 was selected. The relationship between capital inflows (economic growth FDI and official development aid) and economic growth was estimated. They applied a fixed effect model for their estimation. Their results depicted a significant positive relationship, i.e., both ingredients of capital inflow positively impact the economic growth of these developing countries.

However, FDI has a more substantial effect than remittances. Ahmad et al. (2019) selected the two regions for their analysis, i.e., the Association of Southeast Asian Nations (ASEAN) and SAARC members; their study period was from 1990 to 2014. They tried to estimate the relationship between the FDI and welfare (state of poverty). They found that FDI positively impacts the welfare of both regions. However, the effect was more substantial in the SAARC member countries than in the ASEAN member countries. A critical study on the FDI-growth nexus by Jude and Levieuge (2013) studied the behaviour of 94 developing countries in the period from 1984 to 2009; they estimated the impact of FDI on economic growth, and their mediating variable was the quality of institutions of these developing countries. By employing Panel Smooth Transition Regression (PSTR), they concluded that FDI can accelerate growth if institutions are significantly wealthy with their efficient policies.

The relationship between foreign aid and growth has also remained in debate. Some found positive and some found negative association between foreign aid and economic growth results, for example, In the six poorest African nations—the Central African Republic (1977–2004), Malawi (1965–2005), Mali (1965–2005), Niger (1965–2005), Sierra Leone (1970–2005), and Togo (1980–2004)—Malik (2008) investigated the effectiveness of foreign aid for economic growth. He discovered that, except for Togo, the long-term effects of foreign help on the economic progress of all six of these nations were adverse. The per capita GDP of Togo saw a beneficial benefit from foreign assistance. The impact of foreign aid on economic growth in thirty-one South and East Asian countries—Bangladesh, India, Pakistan, China, Sri Lanka, Indonesia, Malaysia, Philippines, Thailand, Vietnam, and numerous African countries—was studied by Siddique et al. (2017). Using dynamic panel regression approaches, they examined data from 1995 to 2013. As a result of its positive effects on growth, the study found that foreign aid can help poor nations to promote economic development. However, it was discovered that there was mixed evidence about the influence of FDI on economic growth, especially in developing nations.

Ekanayake and Chatrna (2014) examined the impact of FDI on the economic growth of these developing countries. They examined the panel data and considered the regional differences of the 83 aid-receiving developing countries of different continents, for example, Asian, African, Latin American and Caribbean countries. They also considered their income level by covering the period from 1980-2007. Their findings about the relationship between foreign aid and the economic expansion of the countries under study were inconclusive.

Trade openness, the "ratio of trade to GDP", is an essential indicator of economic growth, and enough studies have been conducted on this topic. For example, Tahir and Khan (2014) conducted a survey of 22 Asian developing countries over the time 1990-2009 and, by employing pooled least squares techniques, found that "trade openness has contributed" tremendously in accelerating the economic growth of the Asian region. Similarly, Dinet. al. (2003) examined the association between trade openness and growth from 1960-2001, applying the VAR framework Granger causality. They observed that "bidirectional causality" between the abovementioned two variables is present "in the long run", and it was an astonishing finding that both variables give strength to each other from the perspective of the long run. Sothan (2018) analyzed the behaviour of the two mentioned variables by taking the period from 1980 to 2014 by employing the "ARDL bounds testing approach". The findings indicated a long-term and short-term positive association for Cambodia but a damaging relationship with Pakistan. The "impact of trade openness on the economic growth" of Pakistan was evaluated in both the short and long term for the years 1980–2010 by Ali and Abdullah (2015). Using VECM and the Johansen multivariate approach, they found that while trade openness has a positive short-term effect on growth in Pakistan, it has a negative long-term impact since, like other least developing nations, Pakistan exports raw materials and lacks high-quality, efficient institutions. Sultanuzzaman et al. (2017) studied the long-run and short-run association between "exports and economic growth" 1980–2016 was taken as the sample period, and the sample country was Sri Lanka. They found a negative significant association between these two variables. The results of the study of Tahir and Imran (2014) indicated that trade openness and domestic investment complement each other and strengthen the economic growth process in most developing countries.

Many studies examined the impact of the ratio of public debt to GDP on economic growth and found its significant impact on economic growth. However, other studies examined the same relationship and found mixed results. The influence of governmental debt, both domestic and foreign, on economic development was investigated by Akram (2011) in his study of Pakistan, covering the years 1972 to 2009. Following the use of the "Autoregressive Distributive Lag (ARDL) technique," he concluded that "both the public's external and the national debt have an adverse effect on GDP per capita and investment in Pakistan". Using data from 1980 to 2015, Favour et al. (2017) investigated the Nigerian instance. Through the use of the "Vector Error Correction Model," they were able to determine that debt—both domestic and external—had a substantial detrimental effect on Nigeria's growth over the studied period.

For the Tanzanian economy from 1970 to 2015, Yusuf and Said (2018) investigated this behaviour. They used the vector error correction mechanism (VECM) and co-integration as their two methods. Economic growth and public debt were negatively correlated; however, the Granger Causality Test revealed no causal link.

There is a lot of research on the relationship between economic growth and international remittances in the literature nowadays. Kumar (2019) calculated the effect of remittances on the decline in the poverty rate in Bangladesh. He used primary data collected from 216 households from March to June 2018. His findings showed that households receiving remittances are better off than those not. So, remittances are positively related to poverty reduction. Adams and Clobodu (2016) investigated this relationship in the case of 33 "sub-Saharan African countries", and the sample period was 1970-2012. They used GMM for empirical estimations. They concluded that the quality of the institution (political stability, cultural environment, etc.) Is highly significant in determining the impact of remittances on economic growth. Kumar (2013) used the "augmented Solow framework and ARDL bounds testing approach" to empirically estimate Guyana's case. Remittances and Guyana's economic performance were shown to be positively and significantly correlated by him.

Extensive literature is available on the relationship between FDI and institutional quality. FDI is more attractive for countries with better quality institutions. It is confirmed that most of the FDI originated from the developed world. Therefore, it is natural that transnational companies are trying to reduce the gap between the institutions of the home country and the host country. The big issue is related to property rights, which are easily solvable if the host country's institutions are efficient and have better quality (Ali et al., 2010).

The behaviour of the institutions of SAARC countries is examined by Chong and Calderon (2000). They explained the institutions in terms of "norms attaching the component", "the actions of the economic parties", and "the economic production of the nation." They concluded that economic and political institutions are significant in attracting FDI. However, Engerman and Sokoloff (2002) added that without cultural support, other legal and political institutions could not perform the role they should. They said they can have robust, sound production foundations if efficient and healthy cultural, social, economic, legal, and political institutions.

Econometric Model and Methodology

Model Derivation

The main goal is to investigate how institutional quality affects the link between inflows and growth for the economies of the SAARC. It implies that foreign inflows which are of several types are the key independent variables. Similarly, institutional quality is the conditional independent variable while economic growth is the main dependent variable. The following model is therefore specified for empirical purposes.

$$Growth_{it} = \beta_0+\beta_1 lnoda_{i,t}+\beta_2 lnoda_{i,t}*lninst_{i,t}+lnimp_{i,t}+\beta\_4\ \ [\![lnimp]\!]\_(i,t) * \ [\![lninst]\!]\_(i,t)+\beta_5 lnfdi_{i,t}+\beta_6 lnfdi_{i,t}*lninst_{i,t}+\beta_7 lnremit_{i,t}+\beta_8 lnremit_{i,t}*\ [\![inst]\!]\_(i,t)+\beta\_9\ [\![lndebt]\!]\_(i,t)+\beta_{10} lndebt_{i,t} * lninst_{i,t}+\beta\_11\ [\![lninst]\!]\_(i,t) + U\_(i,t) \quad (1)$$

Model 1 is specified for the analysis purpose. The real GDP per capita growth rate is the dependent variable. It serves as an analogy for economic expansion. On the other hand, the independent variables include several inflows selected for the study. These inflows include aid, imports, FDI, remittances and foreign debt. Similarly, institutional quality is also included as one of the independent variables to assess its direct influence on economic growth. A detailed explanation on variables and data is presented in Table 1, appendix section.

Estimating Methodologies

The balanced panel data from the year 1996 to 2020 is obtained for this study to determine the influence of foreign capital inflows on economic growth and their dependence on institutional

quality. If there are many observations over the period, then panel data can be applied. Panel data has both types of observations, i.e. cross-sectional observations, and time-series observations. In this study this type of observation is used. It is also expressed in the literature of econometrics that panel data is the most "efficient analytical method" in the research/field of social sciences because in most of the cases if model is not mis-specified it gives the accurate result. For research purposes, generally two types of panel data are applied. To find the relationship among variables we have used pooled least squares, fixed effects model, generalized least squares and two stages least squares in our study.

Results and Analysis

Descriptives Analysis

In this current section, both analysis is presented, i.e. "descriptive statistics" and "correlation analysis". Both analyses provide the understanding to the researcher about the nature and direction of the variables. The following Table 1 presents the "descriptive statistics" of the major variables which are understudy in this current research, i.e. "foreign direct investment", "official development assistance", "imports", "gross domestic product", "remittances", "foreign debt", and "institutions". This table presents the descriptive statistics, i.e. measurement of central tendency (mean and extreme values of the distribution). As it is known, mean is the representative of the sample distribution whereas extreme values are given to the outliers.

Table 1: Descriptive Statistics of Key Variables (1996-2020)

	PCGDP	ODA	IMP	INST	FDI	REMIT	DEBT
Mean	2419.109	3.147	33.276	12.504	1.844	5.936	41.354
Median	1322.721	1.686	28.545	12.896	1.011	3.765	34.638
Maximum	10207.49	21.286	83.737	18.518	16.946	27.626	130.741
Minimum	507.853	-0.289	11.544	7.930	-0.675	0.078	14.880
Std. Dev.	2482.721	3.727	17.351	2.618	2.758	6.330	23.612
Observations	175	175	175	175	175	175	175

Source: The researcher's own calculations using E-Views

The mean value of mean of per capita gross domestic product is estimated as 2419.109. Whereas it ranges from maximum value (10207, 49) and minimum value is (507.583). Among all the variables which are given in Table 6.1, this variable has the maximum value comparative to the other variables of the model of this current research.

ODA has the mean, maximum and minimum values of 3.147, 21.286 and -0.289 respectively. The next variable in this table is Imports and they have the mean value of 33.276 it has the maximum value of 83.737 and minimum value of 11.544, in all these values imports has the highest value of maximum. The next variable in this table is Institutions. It has the mean value of 12.504, the maximum value of 18.518 and minimum value of 7.930. Among these values the value of maximum is the highest value. The next variable in this table is FDI (foreign direct investment which has the mean value of 1.844 and maximum value of 16.946 and minimum value of -0.675. Similarly, the next variable Remittances has the mean value of 5.936, maximum value of 27.626 and minimum value of 0.078. The last variable in this table is Debt and it has the mean value of 41.354 which is the second highest mean value after PCGDP which has the highest mean value of 2419.109. The maximum and minimum values of Debt are 130.741 and 14.880 respectively. Like

mean value debt has the second highest values of maximum and minimum as well. The first highest values of maximum and minimum are of PCGDP. Other descriptive statistics which are used by the researchers is the measurement of dispersion, i.e. variance and standard deviation.

Table 2: Variables and Data Sources

Variables	Description	Source
"Growth"	"The growth of GDP per capita"	"WDI"
"ODA"	"Official development assistance as % of GDP"	"WDI"
"FDI"	"Foreign direct investment (net inflows % of GDP)"	"WDI"
"IMP"	"Imports of Goods and Services % of GDP"	"WDI"
"REMIT"	"Personal remittances received % of GDP"	"WDI"
"DEBT"	"External debt stock as % of GDP"	"WDI"
"INST"	"Index based on six components of WGI data"	"WGI"

Source: Researcher's own creation

A common way to quantify how data are scattered or distributed around the mean is to use the standard deviation. This aids in measuring the inherent fluctuations or chances present in a dataset, also known as "noise." The standard deviation shows how far out from the mean the data points are. The data points are more widely distributed when the standard deviation number is larger. A normal distribution thumb rule states that around 68% of the data falls within one standard deviation of the mean, 95% within two standard deviations, and almost 99.7% within three. This data makes it easier to comprehend how data are distributed and how variable they are in relation to the mean. The variables in table 1 the standard deviation of PCGDP is 2482.721, IMP (imports) is 17.351, and the standard deviation of debt is 23.612. These numbers indicate that the variables have a greater degree of data dispersion than other variables. The lowest standard deviation values for institutions and foreign direct investment are 2.618 and 2.758, respectively, indicating a low degree of data dispersion. The standard deviation of imports is 17.351, the standard deviation of remittances is 6.330, and the standard deviation of official development assistance is 3.727.

Regression Results

In the table 2 given below are the results of pooled least squares technique and fixed effects. Economic growth (GDP) is the dependent variable. The first variable in this table is LNODA and its coefficient is 1.154 which is positive and significant at 10% level of significance. It means that Official Development Assistance has a positive impact on the economic growth of SAARC countries like the studies of Siddique et al (2017), Moreira (2005), Kim (2011), Randhawa (2012). If foreign countries increase the flow of ODA, it will promote development and growth in SAARC countries. The next entity in this table is the interaction of LNODA and LNINST which has a negative and significant impact on economic growth of SAARC countries. Its coefficient is -0.542 which means that when institutions and ODA interact, they influence economic growth negatively. The next variable is LNIMP its coefficient is 1.194 which is positive but insignificant like the study of Siddiqui and Iqbal (2005). It means that an increase in imports can increase the economic growth of SAARC countries as we saw in the studies of Tahir and Khan (2014), Din et al. (2003) and Sothan (2018). The economic growth of the SAARC countries is negatively and negligibly impacted by the interplay between LNIMP and LNINST.

Table 3: Regression Results

Variable	Coefficient	Std. Error
	Pooled Least Squares	Fixed Effects
LNODA	1.154*	0.863**
	(0.634)	(0.372)
LNODA*LNINST	-0.542**	-0.444***
	(0.244)	(0.147)
LNIMP	1.194	-1.809**
	(1.297)	(0.720)
LNIMP*LNINST	-0.125	0.768***
	(0.520)	(0.283)
LNFDI	-0.422	0.050
	(0.393)	(0.141)
LNFDI*LNINST	0.213	0.001
	(0.155)	(0.056)
LNDEBT	-4.136***	-2.344***
	(1.002)	(0.588)
LNDEBT*LNINST	1.833***	0.800***
	(0.392)	(0.230)
LNREMIT	-2.029***	0.573***
	(0.483)	(0.154)
LNREMIT*LNINST	0.793***	-0.171***
	(0.191)	(0.062)
LNINST	-7.734***	-3.856***
	(2.029)	(1.046)
C	22.193	17.545
	(5.246)	(2.764)
R-Squared:	0.830	0.946
R-Squared-Adj:	0.816	0.938
S.E.R:	0.287	0.165
F-Test:	56.685	125.954
Prob(F-Test):	0.000	0.000

The next variable is LNFDI, the value of its coefficient is -0.422 which is negative but insignificant. The value of its coefficient shows that increase in foreign direct investment decreases economic growth of SAARC countries. Siddiqui and Iqbal (2010) also suggested a negative relationship between FDI and growth. The interactive term of LNFDI and LNINST has a positive but insignificant coefficient it means that institutional quality impacts FDI positively like the study of Jude and Levieuge (2013) but the result is not significant. The next variable is LNDEBT, its coefficient is -4.136 which is negative and significant. It means that when foreign debt increases it causes a decrease in the economic growth of SAARC countries, this result is consistent with the studies of Akram (2011), Favour et al (2017), Yusuf and Said (2018), Kharusi and Ada (2018). Next is the interactive term of LNDEBT and LNINST it has a positive and significant coefficient of 1.833. It means that institutional quality impacts debt and economic growth positively. If a country has a good institutional structure, it can attract other countries to give them debt and because of good institutions this debt will lead to economic growth. The next variable is LNREMIT its coefficient is -2.029 which is negative and significant. It shows that foreign remittances has a

negative impact on the economic growth of SAARC countries. Our result is consistent with the study of Sutradhar (2020). The interactive terms of LNREMIT and LNINST have a coefficient of 0.793 which is positive and significant. It shows that good institutions in SAARC countries will promote foreign remittances which in turn will increase economic growth in these countries, as suggested in the study of Adams and Clobodu (2016). The last variable is LNINST its coefficient is -7.734 which shows a negative and significant relationship between institutions and economic growth in SAARC countries.

The coefficients of fixed effects are displayed on the right side of the table 3 above. We once more employed fixed effects since several of the coefficient signs in pooled regression did not match the signs we had predicted. "Regression model with fixed effects allows the intercept to change freely between individuals or groups in statistics. Controlling for individual-specific qualities that remain constant throughout time is a common use for panel data." The right side of the table shows fixed effects results. The first variable in fixed effects is LNODA. Its coefficient is 0.863 which is positive and significant. It is according to our expected result. Increase in official development assistance will lead to growth activities in SAARC countries, and it will increase their economic growth as suggested in the studies of Minoiu and Reddy (2010), Siddique et al. (2017), Basnet (2013). The interactive term LNODA AND LNINST have a negative and significant coefficient of -0.444 it means that if SAARC countries have a good institutional quality, they will need less assistance from other countries. The next variable is LNIMP. Its coefficient is -1.809 which is negative and significant. It shows that increase in imports will decrease the economic growth in SAARC countries like the study of Foster (2008), Baliamoune-Lutz and Ndikumana (2007). Because increased imports will not encourage production of new things in these countries, that's why their exports will decrease, and so economic growth will decrease. The interaction of LNIMP and LNINST has a positive and significant value that is 0.768. It shows that good institutional quality in SAARC countries will encourage domestic production and eventually will decrease the need of imports. The next variable is LNFDI its coefficient is 0.050 which is positive but insignificant like the study of Tsai (1994). Because an increase in foreign direct investment will increase economic growth in SAARC countries. The interactive term of LNFDI and LNINST also has a positive but insignificant value that is 0.001. The next variable LNDEBT has a negative and significant value -2.344 it shows that increase in foreign debt will decrease economic growth in SAARC countries just like in the studies of Akram (2011), Favour et al. (2017), Kharusi and Ada (2018). The interaction term LNDEBT and LNINST has a positive and significant value 0.800 it means that to gain foreign debt good institutional quality is important. The next variable is LNREMIT it has a positive and significant value 0.573, it means that increase in foreign remittances will increase economic growth in SAARC countries like the findings of Kumar (2019), Qayyum et al. (2008), Kumar (2013). But the interaction term LNREMIT*LNINST has a negative and significant value -0.171. In the last LNINST has a negative and significant value -3.856. It demonstrates that institutional quality has a negative impact on the SAARC countries' economic performance.

Robustness Testing

"Robustness check" is commonly applied in the studies based on the empirical analysis. It is for the researcher to see the behavior of regression coefficients if the regressors are added or removed from the equation by changing the specification of the model. The evidence of structural validity is interpreted if the coefficients are robust. In this study the robustness is tested through the two

techniques, i.e. generalized least squares and two stage least squares. Results are provided in table 4.

However, when there is a connection between the residuals (or mistakes) in the model, Generalized Least Squares (GLS) is a technique used to estimate unknown parameters in a linear regression model. When the assumption of independent and identically distributed errors is broken, this method helps and enables more precise parameter estimate in certain situations. Whereas a statistical method for analyzing structural equations is called Two Stage Least Squares (2SLS) regression analysis. This approach is an expansion of the OLS methodology. When there is a correlation between the independent and dependent variables' error terms, it is employed.

In the table 3 given below the results of generalized least squares and two stage least squares are given. On the right-hand side, the results of the two stage least square is shown. The first variable LNODA has a positive and significant value of 0.551 which shows that a 1% increase in ODA will increase the economic growth by 0.551% in SAARC countries.

Table 4: Robustness Findings

Variable	Coefficient	Std. Error
	Generalized Least Squares	Two Stages Least Squares
LNODA	0.715***	0.551***
	(0.264)	(0.209)
LNODA*LNINST	-0.378***	-0.216***
	(0.106)	(0.081)
LNIMP	-1.683***	-2.901
	(0.469)	(3.243)
LNIMP*LNINST	0.740***	1.161
	(0.186)	(1.268)
LNFDI	-0.015	0.394**
	(0.124)	(0.177)
LNFDI*LNINST	0.021	-0.145**
	(0.049)	(0.071)
LNDEBT	-1.701***	-1.082
	(0.390)	(1.272)
LNDEBT*LNINST	0.586***	0.398
	(0.157)	(0.456)
LNREMIT	0.449***	-1.983***
	(0.132)	(0.261)
LNREMIT*LNINST	-0.120**	0.725***
	(0.052)	(0.097)
LNINST	-3.296***	-6.146
	(0.800)	(5.494)
C	15.568	23.146
	(1.994)	(14.392)
R-Squared:	0.955	0.990
R-Squared-Adj:	0.949	0.986
S.E.R:	0.159	0.076
F-Test:	154.521	692.780
Prob(F-Test):	0.000	0.000

Source: Researcher's own calculation using E- views

The interaction term LNODA*LNINST has a negative and significant value -0.216. It shows that good institutional quality can increase the resources of the country and in turn its dependence on foreign aid will decrease. The next variable LNIMP has a negative coefficient -2.901 it means that a 1% increase in imports will decrease the economic growth of SAARC countries by 2.901%. it is because increase in imports will decrease domestic production. The interaction term LNIMP*LNINST has a positive value of 1.161. It means that institutional quality impact imports and economic growth positively. The next variable LNFDI has a positive and significant value 0.394. It shows that a 1% increase in foreign direct investment will increase the economic growth of SAARC countries by 0.394%. The interaction term LNFDI*LNINST has a negative and significant value of -0.145. The next variable is LNDEBT it has a negative value of -1.082 which shows that a 1% increase in foreign debt will decrease the economic growth of SAARC countries by 1.082%. The interaction term LNDEBT*LNINST has a positive value of 0.398. The last variable is LNREMIT which has a negative and significant value of -1.983. It means that a 1% increase in foreign remittances decreases economic growth of SAARC countries by 1.983%. It can be because if more workers work abroad, it will decrease labor force in domestic country so their production will decrease. Remittances has mixed effects on economic growth sometimes positive and sometimes negative, it depends on the conditions of the recipient country. The interaction term LNREMIT*LNINST has a positive and significant impact of value 0.725.

The middle part of the table shows results of generalized least square. The first variable LNODA has a positive and significant impact on economic growth. It shows that a 1% increase in ODA increases economic growth of SAARC countries by 0.715%. But the interaction term LNODA*LNINST has a negative and significant value of -0.378. The next variable is LNIMP which has a negative and significant impact of -1.683. It means that a 1% increase in imports of SAARC countries decreases economic growth of these countries by 1.683%. It is because the increase in imports will decrease and discourage domestic production so economic growth will decrease. The interactive term LNIMP*LNINST has a positive and significant impact of 0.740. The next variable is LNFDI it has a negative and insignificant impact of value 0.015 whereas the interactive term LNFDI*LNINST has a positive and insignificant impact on economic growth of value 0.021. LNDEBT has a negative and significant impact on economic growth of SAARC countries of value -1.701. It shows that a 1% increase in foreign debt will decrease economic growth of SAARC countries by 1.701%. Whereas the interactive term LNDEBT*LNINST has a positive and significant impact of value 0.586. It shows that good institutional quality is important to gain foreign debt. The SAARC countries' economic growth is positively and significantly impacted by the next variable, LNREMIT. According to its value, the SAARC nations' economic development will improve by 0.449% for every 1% increase in international remittances. The interactive term LNREMIT*LNINST has a negative and significant value of -0.120. The last variable LNINST has a negative and significant value of-3.296. This result shows that a 1% increase in institutional quality will decrease economic growth of SAARC countries by 3.296%.

Conclusion

In this chapter first we discussed descriptive statics of our variables, in this section we examined mean, median, maximum, minimum etc. of our variables. In the next section we discussed the correlation matrix of our variables, which variable is correlated with other variables and what is the sign of correlation. In the next section we discussed our main regression results in which we employed pooled regression analysis and fixed effects estimates. In the next section we checked for robustness of our estimates by employing generalized least squares and two stage least squares.

For ODA and economic growth of SAARC countries we got positive results from all the four techniques that we have used in our analysis. For imports we got positive results in pooled least squares, whereas we got a negative impact of imports on economic growth of SAARC countries in the other three techniques. We got negative and insignificant impact of FDI in pooled least squares and generalized least squares whereas we got positive and significant impact of FDI in two stages least squares. We got negative and significant impact of debt on economic growth of SAARC countries in all the four techniques that we have used. Regarding remittances, we got mixed results. We got negative and significant impact of remittances on economic growth in pooled and two stage least squares techniques. We got positive and significant impact of remittances on economic growth in fixed effects and generalized least squares. Regarding institutions, we got negative and significant impact of institutions on economic growth of SAARC countries in all the four techniques.

Implications

One of the main objectives of applied research studies is to provide certain implications of policymakers and future researchers. Therefore, based on the comprehensive and robust analysis, we suggest the following recommendation for the SAARC economies in general and for the Pakistan economy in particular. These points would help the SAARC economies enormously in policy formulation.

- The first and important step for the policymakers of the SAARC region is to pay attention to enhancing the quality of institutions. The results demonstrated that current institutional quality is poor as it has decelerated the pace of "economic growth" in the SAARC economies. Therefore, targeted efforts are required on the part of all SAARC member countries to enhance the quality of institutions. Improvement in institutional quality may enhance "economic growth" enormously.
- Foreign direct investment has positively but insignificantly influenced "economic growth". The possible reasons would be the SAARC region is relatively receiving less "FDI inflows". Therefore, the policymakers must introduce some policy initiatives including tax holidays to attract more "FDI inflows". The Pakistan economy is also suggested to bring some reforms in existing policies along with paying attention to law-and-order situation and political stability. Improved law and order situation and political stability is bound to increase the "inflow of FDI", and hence "economic growth" would be positively impacted.
- The inflow of imports has not improved "economic growth" in the absence of good quality institutions. However, the interaction term of imports with good quality institutions entered positively and significantly to estimated models showing the importance of institutional factors. Therefore, the quality of institutions must be enhanced to obtain the full benefits of imports.
- Remittances appeared to be detrimental for "growth". However, the implications could be that remittances must be channelized through proper channels and could be utilized for saving and investment purposes. These changes could be helpful in promoting "economic growth" with the help of remittances.
- "Foreign debt" also showed a positive relationship with "growth" when interacted with institutional factors. The "debt" received from external sources could be used for productive and development projects. Similarly, the use of aid received must also be transparent. Quality institutions are needed to ensure transparency and avoid corruption in aid and debt received from external sources. These policy changes would enhance "economic growth".

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