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Openness, Financial Development and Economic Growth in South Asia

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Abstract
The objective of this paper is to assess the impact of openness and financial development on six South Asian economies for 1985-2017. It considers the achievements of an economy in terms of important indicators such as economic growth, openness, domestic credit to the private sector, population growth, capital and labor. The paper uses fixed effects, random effect model and Panel Ordinary Least Square (OLS) techniques. The analysis clearly specified that economic growth, increased following to openness and financial development. The quantitative examination also proposed that greater financial development and openness has an encouraging effect on economic growth. The findings of this research can be a motivating example of the increasing interest in openness for other countries.

Keywords: Openness, Economic Growth, Financial development
JEL Codes: E41, F43

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I. Introduction

Growth of the economy means an outer shift in its PPC curve owing to a confident enhance in production. Economic growth is calculated by the expansion in a state's GDP whole production. The GDP of a state is the entire cost of all last final merchandise goods and services created within a state over a segment of time, approximately 1 year. Graphically growth is represented by shifting the production possibility curve to the right side. The contact between growth and openness is a common debited topic of the modern era. A package of good literature had in attendance, according to this subject. Many authors had discussed the rapport between openness (trade) and economic growth such as Manni and Afzal, (2012), Anwer and Sampath (1997), Awokuse, (2008) and Yucel, (2009). Trade is a crucial economic idea linking the buying and selling of goods and services. The most universal medium of exchange for these dealings is money in the modern era. International trade is also the exchange of goods and services amid countries. This kind of trade gives climb to economies. Trading globally offers consumers and countries the chance to be uncovered to goods and services not accessible in their own states. Trade allows for a country to produce something efficiently and export it to other countries to raise its level of economic growth by enhancing its national revenues. Growth doesn't happen in separation. Events in one state and area can have important effects on the growth of other state and area e.g. If there's a ban on outsourcing jobs in the United States, this could have a huge shock on India's GDP, which has a healthy IT part reliant on outsourcing. Most successful economies practice slower growth as compared to rising countries. The uplift of an economy depends upon many factors, for example, technology, resources, labor, industrial development, trade, etc.

Many writings have discussed that the openness had a positive influence on growth. Shaheen et al. (2013) investigated that Gross Fixed Capital Formation (GFCF) and trade has a positive influence on growth while as the Negative long run connection between trade and GDP in Pakistan was assessed by Siddiqui and Iqbal (2005). Financial development is a complete economic instrument for improving the production level of a state. Financial sector development refers to the condition when financial instruments, markets, and intermediaries work together to reduce the costs of information, enforcement and transactions. A firm and good functioning financial sector are a strong engine behind growth of an economy. It causes local savings, which in turn produce investments in local business. Also, effective banks can channel international streams of private remittances. The financial sector therefore provides the fundamental roots for income raising and more job establishment. A large body of evidence from past researches suggested that financial sector development plays a massive role in economic growth. It promotes economic growth through capital accumulation and technological progress by increasing the savings rate, mobilizing and pooling savings, producing information about investment, facilitating and encouraging the inflows of foreign capital, as well as optimizing the allocation of capita. The relationship with growth and financial development is an old and important matter for more than a decade. A collection of excellent studies is presented relevant to the topic. Akinsola and Odhiambo (2017) analyzed the effect of financial liberalization on growth in SSA countries. To estimate the model, this study employed the panel data of 30 selected countries in SSA depend on data of the time period 1980-2015. The financial liberalization dummy sign changed to negative for low-income countries, even though it was statistically insignificant, negative relationship between a banking crisis and economic growth was also seen. Chang and Caudill (2005) explored the interrelationship of growth and financial development in Taiwan over the phase ranging from 1962 to 1998. Granger causality tests based on vector error-correction models (VECM) were opted as suitable techniques. They initiated that financial development has a positive relation to GDP and there was an occurrence of unidirectional causality from FD to GDP. These results showed that in the last decade, Taiwan has increased its GDP with the help of FD. The sharp purpose of our research is to empirically estimate the affiliation among openness, financial development and growth in the context of 6 South Asian economies over the time phase of 1985–2017.

II. Literature Review

Manni and Afzal (2012) worked and researched on the association of growth and trade. The intention of the study was to evaluate the behavior of trade with growth in the case of Bangladesh for the era of 1980 -2010. The study took growth, exports, imports, inflation and trade as a set of the main factors. The result of evaluation declared that the openness of trade improved import and exports, this improvement in exports lead to high growth in the country after 1990. Anwer and Sampath (1997) attempted to check the linkage between exports and growth for 96 countries. ADF Unit root test and co- integration were experimenting in the work for 1960-1992. The authors explored that from 96 countries only 8 have causality from exports to GDP with positive contact between the 2 variables. Causality from GDP to Exports with positive interrelationship between the 2 variables is found in only 9 countries. Opposing to the frequent thinking that exports, encourage economic

growth they established that majority of the countries did not reveal any association amid exports and economic growth. Rousseau and Wachtel (2007) found the contact of growth and financial deepening. The study followed 2SLS technique. Their study includes a panel and cross-sectional data on financial and macroeconomic indicators for 84 states for the period of 1960 to 2003. They explored absence of direct relation in liberalization and growth. Ang and McKibbin (2007) explored that either the financial liberalization leads to growth or not in the small industrial economy of Malaysia. This work dealt with annual time series data set of 41 years over the time duration of 1960-2001 and used co-integration and Granger causality tests. The conclusion proposed that both financial repressions plans and real interest rates had a touch to financial deepening negatively. Their results supported that growth leads to the higher financial development, but not vice versa.

Awokuse (2008) assessed the linkage of trade and its impact on growth. He considered that we have 2 kinds of growth in the scenario of international trade, the first type of growth is export-led growth and the other one is imports-led growth. Granger causality and impulse response functions were used in the scenario of three Latin American countries (Argentina, Columbia and Peru). The examination focused on the dynamic causal bond between real GDP growth, real exports, real imports, gross capital formation (proxied for capital) and the labor force. He found in his results that only exports were not the reason to enhance economic growth, but imports were also a factor of increasing growth. Yucel (2009) tested the relationship between Financial Development, openness and growth for the Turkish economy. Granger Causality, Johansen and cointegration and ADF unit root were applied to analyze the contact amid the factors of the study. The results of the study showed that, trade openness had a positive and financial development had a negative touch with the growth. Empirical results also revealed that there is a bidirectional relationship between trade, growth and financial development. The trade has a statistical strong impact on the growth. Jebran et al. (2018) estimated the rapport of trade and growth in the scenario of Pakistan by taking annual time series dataset ranging from 1980 to 2013 with the help of using ARDL technique. The analysis showed significant negative long and short-run special effects of trade on growth. The results also expressed significant positive long time and short time influences of labor on growth. Further, the capital stock is affecting positive growth in the long run only. They suggest that economic policies might be implemented to weaken trade, which will further increase the growth of Pakistan.

Menyah et al. (2013) inspected the causal relationship between growth, financial openness and trade for 21 African countries by applying the Causality (Panel) technique. The empirical results of their writing are quite an unusual form majority. The empirical outcomes illustrated the limited support for the finance-led growth and the trade-led growth hypotheses. The consequences implied that fresh efforts at financial development and trade liberalization did not appear to make a significant link with growth. Huchet et al. (2013) debated on the link of growth and trade for annual data over the period 1995 to 2009 in the case of an unbalanced panel of 157 countries. The study applied Standard growth, regression and developed GMM estimators for dynamic panel data models. Their empirical analysis explored that those countries which had great quality goods, grow rapidly as compared to the economies which had low quality goods. Shaheen et al. (2013) Investigated the link in growth and trade of Pakistan for the time period of 35 years over the time duration of 1975 to 2010.They carried out a practical assessment by taking growth and trade as the main variables of the study. GDP was employed as dependent variable and explanatory variables were trade openness, foreign direct investment, gross capital formation and inflation. The consequences make us known that Gross Fixed Capital Formation (GFCF) and trade has a positive influence on growth. Inflation and FDI had a negative impact on growth. Siddiqui and Iqbal (2005) in an attempt tried to check the relationship of trade and growth of economic output for Pakistan over the time period 1972-2002. The basic factors of the study were GDP growth, trade growth (proxy for openness), Investment growth, PG to population growth. They tried the cointegration and the Engle Granger Causality test and explored the presence of negative long run connection between trade and GDP in Pakistan. The Causality assessment demonstrated insignificant relationship between trade growth and GDP growth, while significant relationship with GDP growth was found with investment growth.

Lopes and Jesus (2015) worked for checking the influence of FL (Financial liberalization) on growth over 1990 and 2010 for a set of countries. The author used pooled OLS, panel data with set effects and generalized method of moments. They used two samples of the dataset; firstly, they took the sample of 70 countries and observed that capital account openness positively affected growth. Secondly, by using 50 countries as sample this work revealed that growth was negatively affected by capital account openness. Khan (2008) explored the effect of financial development on growth by using the ARDL Co integrated approach in the case of Pakistan with the help of annual data over the time period of 1961 - 2005. The results investigated that in the long and short time the financial development and investment promoted growth. Chang and Caudill (2005) explored the

interrelationship of growth and financial development in Taiwan over the phase ranging from 1962 to 1998. Granger causality tests based on vector error-correction models (VECM) were opted as suitable techniques. They initiated that financial development has a positive relation to GDP and there was an occurrence of unidirectional causality from FD to GDP. These results showed that in the last decade, Taiwan has increased its GDP with the help of FD. Siddique and Majeed (2015) scanned the nexus of energy consumption, trade and financial development on growth over 1980-2010 for five South Asian countries. The Panel co-integration approach, PMG estimation and Granger Causality tests were implied by the authors. The research stated that financial development, energy and trade were positively affected the growth.

Siddique et al. (2018) empirically estimated the attachment of growth and financial development for Pakistan`s economy over 1980-2006. Johansen co-integration and granger causality approach were the best fitted techniques for assessing the linkage of the variables. Causality exists for economic growth in energy and financial development in one way. Co integrations suggested the presence of the long run relationship between growth, financial development and energy. Qayyum et al. (2018) analyzed the influence of trade on growth of Pakistan over 1972 to 2014. Gross fixed capital formations (GFCF), Trade, Labor force participation, growth, inflation, interest rate were inner variables used in the model specification. The study adopted Johensen co-integration approach, stated that trade liberalization and gross fixed capital had significant and positive contact with the growth. Chimobi (2010) proposed a study the highlight the exact sort of linkage between trade, growth and financial development over 1970-2005 for Nigeria. Co-integration and Granger Causality test were the empirical tests of the study. He found co integrating relations between Growth, trade openness and financial development. Solaiman et al. (2012) conducted a study to know the interrelation of financial liberalization and growth of Nigeria and developing countries. Annual time series data for 1987 to 2007 was taken. Johansen co-integration and Error Correction Model (ECM) were used for empirical investigation. The study described that the financial liberalization had a stimulating impact on the growth of the Nigeria`s economy.

III. Theoretical Model and Methodology

Countries do trade because they do not have the resources, or capacity to please their own desires and wants. By developing and exploiting their domestic scarce resources, states can make a surplus, and trade this for the assets they want. The trade is considered to be a crucial tool and central aspect of an economy`s growth. The association among trade and growth has become an extremely sizzling issue since the last decade. Many scholars and researchers debated that trade is an essential tool for the economy. Following the methodologies of Ali, (2011), Ali (2015), Ali (2018), Ali and Bibi (2017), Ali and Ahmad (2014), Ali and Audi (2016), Ali and Audi (2018), Ali and Rehman (2015), Ali and Zulfiqar (2018), Haider and Ali (2015) and Ali et al., (2016), the functional form of the model becomes as:

$$Y = f(K, L, OP, F, P) \qquad 1$$

We have used GDP per capita per capita as the proxy for economic growth by following Awokuse, (2008). GDP per Capita is the measure of a country`s progress through which we can estimate any progress made by trade and other factors.

$$Y = f(K, L, OP, F, P) \qquad 2$$

Trade openness is included as an independent variable by following Greenaway et al. (2002). Some other control variables which are financial development and population growth are also included for better estimation. Financial development (Proxied by domestic credit to private sector) has applied by following Siddique and Majeed (2015) and Siddique et al. (2018). We have employed Population growth in our model by following Greenaway et al. (2002). By applying natural log on Y and K in equation 2

$$lnY = lnK + L + OP + F + lnP + \varepsilon \qquad 3$$

So, we have an empirical model as follows

$$y = \beta_1 k + \beta_2 l + \beta_3 op + \beta_4 f + \beta_5 p + \varepsilon \qquad 4$$

Here,

$\ln Y = y$,

$lnK = k$

Y= economic growth,

K= capital,

L= labor Force,

Op= openness,

F= financial development,

P = Population Growth,

ε = Error term,

βs are showing the coefficients of variables

With the objective of checking the rapport amid financial development, trade openness and economic growth, we used data for 33 years. We apply the FE model, RE model and Panel OLS technique as the main methodology. Complete data were collected from World Development Indicator 2019 over 1985-2017. To test the influence of trade on the growth of Pakistan for the time period of 1985-2017, annual time series data has been taken from World Bank Indicator (WDI) 2019. Economic growth is our dependent variable and it is measured by GDP per capita, which is also used by Siddique el al. (2018). Openness is measured by the total trade of goods and services as a share of GDP, which is used by Shaheen et al. (2013), and Greenaway et al. (2002). Domestic credit to the private sector is used as a proxy variable of financial development, and total labor force participation rate is used for labor by following Siddique and Majeed (2015). Capital, labor, openness, financial development and population growth are used as explanatory variables. Gross capital formation is used as capital, which is used in the literature. An increment rate in the amount of people in a state referred as population growth. Population growth is used by Greenaway et al. (2002) and it is measured by adding immigration into birth rate and subtracting the death rate and emigration.

Table 1: Variables Description

Variables	Sources
GDP Per Capita (constant 2010 US$)	World Development Indicators 2019
Gross capital formation (constant 2010 US$)	
Labor force participation rate, male ages 15+ (national estimate)	
Trade (% of GDP)	
Domestic credit to private sector (% of GDP)	
Population growth (annual %)	

IV. Empirical Results

Our complete dataset is about 33 years over 1985-2017. In table 2, statistical analysis shows that GDP has a mean of 1058.732 with standard deviation 760.4711. The highest value of GDP is 3849.45 5and minimum is 283.0523. Capital is having 85157378224.71 as mean value and 185736140667.72 as the standard deviation. 898310330546.52 is the Maximum value of capital and 3332692622.36 is the minimum value of capital. Labor contains 49.67796, 113.5973, 12.35209, 24.55669 as the mean, maximum, minimum and standard deviation respectively. The mean of Trade is 49.67796, maximum is 113.5973, minimum is 12.35209and standard deviation is 14.89842. Financial development and Population growth have an average value of 25.66899 and 1.811773 while these two variables have a standard deviation of 14.89842 and 0.825588. Maximum value of F and PG is 80.84532 and3. 556445 while the minimum value of F is 2.508195 and-1.594508is of PG`s minimum figures.

Table 2: Descriptive Statistics

Variables	Y	K	L	OP	F	P
Mean	1058.732	85157378224.71	56.39348	49.67796	25.66899	1.811773
Median	826.7530	14302602991.67	53.81000	46.29730	24.14904	1.962642
Max	3849.455	898310330546.52	93.00000	113.5973	80.84532	3.556445
Min	283.0523	3332692622.36	32.20000	12.35209	2.508195	-1.594508
S.D	760.4711	185736140667.72	9.820762	24.55669	14.89842	0.825588
Obs.	198	157	84	198	194	198

Table 3 holds end results of correlation which subsists amid all the variables over the time period of 1985 to 2016. Table 2 contains correlation when we have per capita GDP as the dependent variable. The table is demonstrating that GDP is positively correlated with Trade, Financial development and population growth while as negatively correlated with capital and labor.

The research is an effort to empirically scrutinize the liaison in openness, financial development and economic growth in six selected countries of South Asia. Various techniques are applied to uncover the nexus among the

factors of the study. We applied Panel OLS, fixed effects models and random effects models over 1985-2017 for the better estimation.

Table 3: Correlation Matrix

Variables	Y	K	L	OP	F	P
Y	1.0000					
K	-0.0769	1.0000				
L	-0.0021	-0.0557	1.0000			
OP	0.5550	-0.14073	0.24651	1.0000		
F	0.5000	0.3535	0.3196	0.38333	1.0000	
P	-0.6771	-0.04830	-0.19341	-0.51355	-0.39576	1.0000

Table number 4 is depicting the outcomes of panel, ordinary least squares. OLS has practiced to verify the impact of Openness and FDI on economic growth for the span of 19850 -2017 for six South Asian countries (Pakistan, India, Nepal, Bhutan, Bangladesh and Sri Lanka). Our model contains Economic growth as dependent variable capital, labor, openness, financial development and population growth are control variables. The coefficient of capital is negative and insignificant, labor and population growth are showing negative, but significant contact with GDP per capita while there is a positive and significant relationship of openness and financial development with GDP per capita. The positive coefficient of openness is 0.0091, which is revealed that 1% increase in trade causes 0.91% increment in growth of south Asian countries. Financial development is having 0.0153 coefficients which means 1% change of financial development in positive direction changes economic growth 1.53%. Siddique and Majeed (2015) also found the positive impact of trade and financial development on economic growth. On the other side the coefficient of capital is -0.01 indicating that a 1% increase in capital negatively influences growth about -0.01%. -0.02 is the coefficient of labor, which means 1% enlargement in labor creates 2% decrement in growth. Population growth has -0.36 coefficient, which shows that 1% increase in Population growth decreases economic growth 36%.

Table 4 displays the empirical results of fixed effects (FE) and Random effect (RE) model in 6 South Asian countries for 1985-2017. The coefficients of openness are 0.0091, 0.0152 which show a 1% change in openness causes and 0.91% and 1.52% variation in economic growth. Financial development is also positively correlated with growth it has 0.0153 and 0.0031 coefficients, the empirics state that a one percent increase in financial development is a reason to increase growth about 1.53%. Siddique and Majeed (2015) also found the positive impact of trade and financial development on economic growth. Manni and Afzal (2012) also discovered positive impact of trade on growth for Bangladesh. Chang and Caudill (2005) described the positive link between financial development and growth of Taiwan. Population growth has -0.36 and -0.4213 coefficients which show that 1% increase in Population growth decreases economic growth 36 % and 42%. Labor and population growth are inversely related to economic growth in both the models, but capital is indicating a positive relationship in the random effect model but negatively correlated with economic growth in fixed effect model.

Table 4: Panel Results

Dependent Variable: Economic Growth						
	Panel OLS		Random Effect Model		Fixed Effect Model	
Variables	Coef.	Prob.	Coef.	Prob.	Coef.	Prob.
K	-0.0161	0.7037	-0.0161	0.5383	0.1036	0.1019
L	-0.0228	0.0000	-0.0228	0.0000	-0.0056	0.1616
T	0.0091	0.0006	0.0091	0.0000	0.0152	0.0000
F	0.0153	0.0007	0.0153	0.0000	0.0031	0.2832
P	-0.3681	0.0000	-0.3681	0.0000	-0.4213	0.0000
Constant	8.4311	0.0000	8.4311	0.0000	4.7923	0.0060
Obs.	79		79		79	
R-Square	0.7609		0.7609		0.9150	

V. Conclusions

This paper empirically investigated the linkage of openness, financial development and growth in the scenario of South Asia (Pakistan, India, Bangladesh, Bhutan, Sri Lanka and Nepal) over 1985-2017 on panel data. The pooled OLS, RE and FE methods are adopted to find the results for 6 counters over 1985-2016. The study is helpful to estimate the nexus between openness, financial development and economic growth. A positive contact of openness with the growth of the economy has been analyzed through this study. The model shows positive and significant bond in trade and growth by applying pooled OLS, Random Effect model and Fixed Effect model. Also, positive liaison has verified in financial development and growth. Overall results highlighted that openness and financial development are very functional factors to enhance growth of the economy. Population growth, Capital and labor are unhelpful for growth. High rate of Population Growth, uneducated and untrained labor is dangerous to the well-being of any state.

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