RESEARCH PAPER

Debt Led Economic Growth versus Trade Led Economic Growth in Selected South Asian States

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PAPER INFO	ABSTRACT
	The central idea of the paper is to explore whether the public de and international trade foster the economic growth or otherwi: This study is categorized into two separate models, Model ponders the elements of Debt Led economic growth whereas Moc 2 considers the components of Trade Led economic growt Findings of Model 1 using GMM indicate that domestic debt gross domestic product ratio is positively but insignificant impacts economic growth whereas external debt to gross domes product ratio affects the economic growth adversely. Model findings explicate that exports to gross domestic product ratio hol positive as well as significant connection with economic grow while imports to gross domestic product is undesirably ar significantly correlated with economic growth. To end with, th study proposes to formulate a prudent trade policy which w further benefit economies to have stable exchange rate and le dependence on public debt.

Introduction

Several theories evolved with lapse of time and focused on the accelerating the economic growth. Classical version argue that to achieve the sustainable economic growth, the nation may approach the international and regional financial institution to cover the domestic saving gaps. Foreign loans will assist the economies to foster the economic growth. On the other side, new growth models based on the focus on political economy emphasize the importance on international economics. Indulging in the international trade, will provide the economy a strong footing to experience a stable economic growth over the time (Akram 2017). Therefore, economic integration at the global level received an unprecedented wave. Modern trade theories strongly believe that a prudent trade policies help the nations to witness less dependence on foreign aid. Tough there are many opponents of the public debt, and come up with the view that debt is proved to be curse for the developing nation. Till the time of 1960, the volume of debt of developed nation was more the volume of developing nations. After this time, there was a paradigm shift, and developing nation started to experience a trap in this ordeal. The proponents reject the stance of the opponents and justify the success stories of East Asian countries. All the East Asian countries utilized and managed the debt adequately and it resulted a stable economic growth. Likewise some of the trade theorists believe that

international trade integration foster the economic growth. Some critics explain the dark side of the international trade for the developing nations. They comment that developing countries have huge human capital deficit to compete internationally whereas their competitors are much stronger. All the developing nations are involved in exports of agricultural products which has less income and price elasticity and they imports capital good from developed nations which are highly elastic. Resultantly, developing nations are exposed to high intensity of deteriorations in terms of trade and face huge trade deficits (Todaro, 1982). Some of the South Asian economies are exposed to both of the issue and challenges. They have accumulated a huge public debt and experiencing the substantial trade deficit which further halted the economic growth. Eventually, it creates a perpetual deadlock to get rid of fiscal deficit and to witness a sustainable macroeconmic stability. The current situations provide food for thought to explore the fact which economic channel is more reliable which can help economy to have stable economic growth. Intrestingly, there is another paradigm which was excersiced by the some Asian economies which asserts that initially they relied on the debt and utilized it efficiently and simultaneously empahsised on the importance of international trade marketability. It further strehgntened their economies to witness sustainable economic growth trajectory. To examine either aid or trade stabilize the economic growth of the selected South Asian economies is the core purpose of this paper. Secondly this study also wxplore the long relation among the policy variables. These South Asian economies include Banglades, India, Pakistan and Sri Lanka.

Literature Review

A number of studies has been conducted to examine the impact of trade and aid on economic growth separately. Both channels have contributed in the economic growth but left multifarious aftermaths which vary country to country. Latin American and African countries were exposed to serious consequences of aid and international trade whereas East Asian countries had a successful experience and have been successful achieving the stable economic growth.

Schclarek (2004) asserts that gross public debt has not been a factorable element to mount the per capita income of selected developing nations. He did not find a profound association been public debt and economic growth for developing nations.

Ashfaq and Padda (2020) concluded that public debt utilization foster the economic growth but after reaching the optimal point it becomes mpediment for the macroeconomic stability. They asserts that management of the public debt issue is a complex and tricky task for the policy maker.

Maana et al (2008) found that crowding out in public sector of Kenya is not due to the domestic debt during the time of profound financial reforms. Concerning the analogy between domestic debt and economic growth, research inferred positive and insignificant impact on economic growth. Oh (2005) elaborated that trade comelimented with international tourism assist the economies to cope the issue of deficit and have a good score in interlanational resvers.

Sing (2010) explained that the impact of international trade on economic growth has been controversial over the time. He concluded that free trade has positive and significant effects on level of output in the sampled countries.

Makun (2017) described that trade openness played a vital role in accelerating the economic growth in Malaysia which further helped economy to sustain its economic growth in the long run. The similar result in case in Indian economy, and found a substantial impact of international trade in fostering the economic development (Sehrawat & Giri 2017).

Zahonogo (2017) commuted several thresholds for free trade and concluded that below the level of certain thresholds free trade is beneficial for the economy whereas above the set threshold it may retard the economic growth and may pose a potential threat in future f or the selected 42 Sub Saharan economies.

Gnangnon (2019) concluded that trade openniness intensity, export product diversification and export oriented ouptut in total level of exports exerts a positive effects on economic growth. These components pust the economies toward sustenenace of economic growth in the long run path.

Ahlborn and Schweickert (2016) elucidate that public impact the economic growth in both directions positively and negatively. They also indicated the appearance of nonlinear relation amongst the policy indicator.

Didia and Ayokunle (2020) unwrapped the fact that Nigerian economy experienced that backlash of external debt whereas domestic debt contributed positively to attain sustainable economic growth. It further describes that external debt has been less significant comparing with the domestic debt.

Gries and Redlin (2012) underscored the fact that engaging with the international trade is considered to be sound trajectory to soar economic growth in the long run. He found appositive and significant connection between trade and GDP.

Liu and Lyu (2021) found that a nonlinear connectivity between the public debt and economic growth and also discussed that this relationship exists in developing, emerging markets and developed nations. They concluded that public debt threshold varies country to country as per the level of low investment, trade openness, gross savings and crises.

Ali *et al*, (2021) investigated the monetary and fiscal shocks to debt in south Asian countries and explored that monetary policy is less effected as compare to fiscal policy to handle the debt in this region and suggested an adequate formulation of debt to mount the economic growth.

Ahmed (2022) inquires the analogy between trade and economic growth. He found a positive and substantive connectivity between export and economic growth. He rather recommended that export oriented output lead to stable economic growth in the long run for the Ugandan economy.

To obtain the empirics, the research considers to separate models. Model 1, helps to investigate the role of public debt achieving the economic growth for South Asian states whereas Model 2 explains the effects of international trade components

on economic growth of the familiar states. The data for the analysis ranges from 1990 to 2021.

Material and Methods

The core purpose of this research to empirically examine the connection among the components of the public debt, elements of international trade and economic growth for the selected South Asian economies. This study utilize the cross sectional data in nature for selected economies as Bangladesh, India, Sri Lanka and Pakistan.

Model 1:   Debt led Growth Function

This model bifurcates the public debt into foreign and domestic debt, and examine their separate effects on economic growth. The econometric version of the above function is as follows:

$$GDP_t = \mu_0 + \mu_{i1}DD_t + \mu_2 ED_{it} + \epsilon_{it} \ldots\ldots\ldots\ldots Eq. \ (1)$$

Eq 1, indicates GDP is determined by the channels of public debt. Economic growth is presented by GDP, whereas DD indicate domestic debt and ED shows external debt. μ_0 is intercept in this model and μ_1 and μ_2 reflects the contribution of external debt and domestic debt in economic growth. Error term is reflected by ϵ_t in this econometric model and it covers the nuisance of the model. μ_1 and μ_2 holds the non-zero values. Equation 1, establishes the relationship between the components of public debt and its impact on economic growth. All the components of public debt has been taken as ratio as economic growth for instance ED/GDP and DD/GDP. nusance

Model 2:   Trade led Growth Function

This function explains the impact of trade instruments on economic growth in the selected South Asian states. The econometric expression of this is model is mentioned beneath:

$$GDP_t = \varphi_0 + \varphi_1 X_{it} + \varphi_2 M_{it} + \varphi_3 ER_{it} + \varepsilon_{it} \ \ldots\ldots. Eq. \ (2)$$

GDP represents economic growth in Equation 2, X and M connote exports and imports of goods respectively. φ_0 Shows intercept while $\varphi_1, \varphi_2, \varphi_3$ imply the share of exports, imports and exchange rate in the economic growth of the selected states. ε_{it} represents the error term in this equation and take into consideration the nuisance of the model. All the coefficients are assumed to be non-zero. Equation 2, helps in determining the effects of the components of international trade on economic growth. This models assist to explore the impact of exports and imports in the economic growth sustenance. This models also captures the effects of exchange rate. As appreciation and depreciation of exchange rate leaves hybrid traits on economic growth. All the indicators of international trade will be considered as ratio of GDP except exchange rate.

To have empirical evidence of the objectives set in this research, Generalized Method of Moments (GMM) will be applied. Generalized Method of Moments is based on the idea of expected values and averages of the sample. Moment conditions are actually expected

values which characterizes the model parameters in the context of true moments. The sample moments conditions reflects the sample equivalence of the moment's conditions. Generalized Method of Moments get the parameter values estimated in a way which are closest to the moment's condition of the sample. Since the Generalized Method of Moments technique helps copping up the issue of endogenity therefore is more appropriate estimations technique when dealing with cross sectional data. Generalized Method of Moments estimation technique will be used in both above mentioned models. This estimation technique keeps the methods of moments genelarised and it allows the number of moments conditions to be exceeded to the number of paparmeters The

The underlying idea applying GMM estimation is to commute the value of unknown parameter ω. It possesses the assumption; the data in consideration is oraganized by the less stringent stochastic process. Moment conditions are indispensable for the GMM process, such that,

$$m(\omega) \equiv E\left[q\left(X_t, \omega\right)\right] = 0 \text{ .... Eq. (3)}$$

where the E denotes the expectation and X_t represents general observation. Furthermore, the value of m (ω) is supposed to be different from 0. The lynchpin of GMM is to obtain replaced expected value with the value of sample average such as:

$$\hat{m}(\omega) = \frac{1}{T}\sum_{t=1}^{T} q\left(X_t, \omega\right) \text{ .... Eq. (4)}$$

And then it dilutes the subject expression with respect to ω. The diluted value of ω is the estimated value of ω_0. The GMM parameters are expressed as follows:

$$\hat{\omega} = \underset{\omega \Sigma \Theta}{\text{argmin}} \; \frac{1}{2} \left(\frac{1}{T}\sum_{t=1}^{T} q\left(X_t, \omega\right)\right)^{T} \hat{w}^{-1} \left(\frac{1}{T}\sum_{t=1}^{T} q\left(X_t, \omega\right)\right) \text{ .... Eq. (5)}$$

Generalized Method of Moments estimators holds the characteristics of consistency, asymptotically normal and efficient.

Results and Discussion

The core purpose of this attempt to unfold the facts that weather public debt or international trade maintain the economic growth sustenance. Obtaining the empirical evidence of the constructed theory, GMM estimation technique is used here. The findings of the GMM of Model 1 are reflected in Table 1. The results imply that association of domestic debt to gross domestic product ratio with economic growth though positive but insignificant. It explains that domestic debt to gross domestic product ratio has not been impactful to experience economic growth. On the other side, external debt to gross domestic product ratio is reported to be significant but negative in line with the economic growth. It means that external debt to gross domestic ratio adversely impact the economic growth in case of sampled South Asian economies. The finding depicts that 1 percent rise in external debt to gross domestic ratio causes 15.4 percent reduction in economic growth. Therefore rise of external debt is not advantageous for these economies.

Table 1
Results of GMM Debt Led Growth (Model-1)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DD/GDP	1.20	0.23	1.38	0.18

ED/GDP	-1.54	0.14	-10.76	0.00
C	11.34	0.18	62.04	0.00

To investigate the long run connection among the policy variables of the Model 1, panel conintegration is estimated. Kao Panel co-integration test appropriately estimate the dynamics panel data in the extent of long run analysis. The results of panel conintegration of Kao residual conintegration test reveal conintegration among the domestic debt to groass domestic product ratio, and external debt to gross domestic product ratio and economic growth in the long run. It further explains, accrued public debt may threat prone for these south Asian economies. Table 2 depicts the results of the panel cointegrationas follows:

Table 2
Panel Co-integration Results (Model -1)
Kao Residual Co-integration Test
Series: LOGGDP DD/GDP ED/GDP

	t-Statistic	Prob.
ADF	-2.37	0.00
Residual variance	0.00	
HAC variance	0.00	

Table 3 portrays the outcome of GMM trade led growth. The results exhibit that export to gross domestic product ratio possesses significant and positive analogy with economic growth. It implies that rise in export to gross domestic product ratio by 1 percent result 11 present surge in economic growth. Therefore maintaining the exports to gross domestic product pushed the economic growth of South Asian economies, as expansion in the export oriented output upsurge the economic growth. On the contrary, imports to gross domestic product ratio is inversely and statistically significantly correlated with economic growth. Finding implies that 1 percent increase in , imports to gross domestic product ratio causes 14.4 percent decline in economic growth. It further describes the fact that rising trend in imports to gross domestic product will retard the economic growth of these states because all South Asian economies import capital goods which are highly elastic in terms of both price and income. This analysis regarding the exchange rate shows positive and profound impact on economic growth. Results indicates that appreciation in exchange rate pushes the economic growth upward, as it encourages the export oriented output to witness more foreign exchange earnings. It will ulitimately stablise the exchange rate in the long run.

Table 3
Results of GMM of Trade Led Growth (Model-2)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
EX/GDP	1.10	0.02	54.66	0.00
IM/GDP	-1.44	0.07	-19.99	0.00
LOGER	0.18	0.04	4.21	0.00
C	-0.22	0.21	-1.01	0.31

The panel co-integrations results exhibited in Table 4, confirms the long run relation amongst the all policy variables. Results explains that imports, exports and economic growth are integrated in the long run. Therefore, adequate actions regarding these policy variables have profound implication in future.

Table 4
Panel Co-integration Results (Model -2)
Kao Residual Co-integration Test
Series: LOGGDP EX/GDP IM/GDP ER

	t-Statistic	Prob.
ADF	-1.62	0.05
Residual variance	0.00	
HAC variance	0.00	

The probability value is 5 percent which assures the rejection of null hypothesis which states of no conintegration of vaiables.

Conclusion

The conclusion is drawn on the basis of findings of Model 1" Debt led Growth" that Domestic debt to gross domestic product ratio (DD/GDP) is positively but insignificantly influenced by the economic growth whereas external debt to gross domestic product (ED/GDP) is adversely associated to economic growth of the selected South Asian States and remains significant. The findings illustrates that 1 percent rise in ED/GDP will retard the economic growth by 15.4 percent. It means that extensive accrued public debt always pose a threat to economic growth. On the other side, results imply that long run association is established among the policy variables DD/GDP, ED/GDP and economic growth. The Model 2 findings explain that exports to gross domestic product (EX/GDP) holds positive as well as significant connection with economic growth. The results signify that 1 percent rise in EX/GDP pushes the economic growth forward by 11.0 percent. Regarding the imports to gross domestic product ratio (IM/GDP), it possesses a negative and significant connection with economic growth, 1 percent hike in IM/GDP deteriorate economic growth by 14.4 percent as per the findings. The findings indicate very interesting insight that appreciation in exchange rate speed up the economic growth. The implication of this aspect is that during the appreciation regime economies must increase the export oriented output to experience maximum gains form trade. Rather to borrow money to offset the appreciation of exchange rate, South Asian economies need to encourage their exports which will further assist the exchange rate to converge to steady state. Basically, South Asian countries are indulged in importing the capital goods which income and price elasticity is higher than their exports product and it further becomes impediment in the trajectory of sustainable economic growth. On the other hands, all the policy variables of model 2 are cointegrated in the long run in line with the finding of the Kao panel conintegration. The way forward for the South Asian economies postulates that a prudent trade policy necessitate to be designed for sustainable economic growth rather depending on the public debt which appears to be a potential threat for economic growth. During the appreciation regime of exchange rate, there is need to encourage the magnitude of the exports volume instead relying on the debt.

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