Empirical Evidence of Export-Led Growth Hypothesis for South Asia

Muhammad Farhan Riaz [iD][1], **Aamir Raza Shah** [iD][2], **Atif Khan Jadoon** [iD][3] **and Munawar Iqbal** [iD][4]

Keywords:	ABSTRACT
	Trade is considered an engine of economic growth (EG). Export-led growth (ELG) hypothesis narrates exports are a critical factor influencing EG. This study aims to test the relationship between exports and EG in South Asian countries using panel data from 1990 to 2020. Additionally, the study investigates whether the GDP growth of the countries acts as a proxy for the countries' development stage to see whether there is a causal relationship between these two macroeconomic variables. The present study has used EG as a dependent variable and exports of South Asian countries as an independent variable, along with fuel import, capital, labor force, and exchange rate. The study applied panel ARDL techniques to test the relationship between export and EG. According to empirical findings, for all South Asian countries, exports have a considerable positive impact on EG, whereas fuel imports have a significant and negative effect.

1   Introduction

Over the previous few decades, policymakers and researchers have engaged in several discussions about export's important role in promoting growth. There is a considerable positive correlation between export growth and EG. About 40 years ago, what is now known as export-led growth or export promotion techniques began to have a favorable influence on growth. Self-sufficiency and export-driven growth are strongly related. Countries are attempting to reduce their dependence on industrialized countries by becoming more self-sufficient. To compete with other countries that rely on exports, they achieve this by creating their industries. When trade-driven growth is achieved it is known as ELG. The ELG hypothesis describes that boosting exports is a major factor affecting growth. This hypothesis deal with that increasing

---

[1] Government Shalimar Graduate College, Lahore, Pakistan. ✉ m.farhan.scholar@gmail.com

[2] MPhil scholar, School of Economics, University of the Punjab, Lahore, Pakistan.

✉ amirrazashah786@gmail.com

[3] Assistant Professor, School of Economics, University of the Punjab, Lahore, Pakistan. (Corresponding Author)

✉ atifkhan.eco@pu.edu.pk

[4] College of Statistical Science (CSS), University of the Punjab, Lahore, Pakistan.

✉ munawar.stat@pu.edu.pk

both exports and the amount of labor and capital employed by governments will result in greater overall growth. Some studies have reported the negative effect of trade openness on EG (Qasim et al., 2021). No one analyzed EG with fuel imports in developing countries because these countries consume a large share of GDP Growth on Fuel imports. So, this study examined EG with export, fuel import, capital, labor force, and exchange rate in selected South Asian countries.

Trade-led growth (TLG) theory's fundamental evidence is that a country dependent on global trade can get goods, allocate its limited resources economically efficiently, and increase the productivity of its production inputs. It also underlines how trade promotes long-term EG by fostering the acceptance of new technologies and transferring information and skills (Islam, 2022). ELG helps producers take advantage of economies of scale, replace small home markets with vast global ones, and speed specialization, which is vital for developing countries with small domestic markets (Jadoon & Sarwar, 2020). Producers are continuously bound to increase productivity and pursue product and process innovation due to contact with international markets and global competition (de Souza Nonato & Carrasco-Gutierrez, 2023). Various studies have discussed the connection between exports and EG in current periods (Jadoon et al., 2015). The main point of debate is whether exports promote EG or whether the development of the real estate sector promotes exports. While the latter is more commonly referred to as the growth-led export (GLE) hypothesis, the previous is known as the ELG hypothesis. The ELG hypothesis opposes that, in addition to rising labor and capital inputs, real GDP growth also depends on rising exports via a multiplier effect (Raghutla & Chittedi, 2020).

The problem of the study is that South Asian countries consume a large share of GDP on fuel imports. The oil imports in April 2022 were $ 6,679 million (provisional) in US dollars, an increase of 4.25% from March 2022's $ 6,407 million and a 27.41% increase from April 2021's $ 5,242 million. Similar to other countries, India imports 45.3% of its natural gas and 82.8% of its crude oil. Bangladesh's imports of crude oil were $648 worth in 2021. United Arab Emirates ($648) was Bangladesh's top destination for crude oil exports. Bangladesh imported crude oil worth $19.7k in 2021, mostly from the United Arab Emirates ($19.7k). Sri Lanka imported $432 million in crude petroleum in 2021, primarily from the United Arab Emirates ($432 million), Singapore ($608 million), Germany ($136 million), the United States ($26 million), and Belgium ($14 million).

According to ELG, significant investment in exports can also contribute significantly to overall EG; therefore, boosting capital and labor productivity in an economy is only sometimes the only way to do so. These include promoting efficient and increased productivity through emphasizing specialization in industries with competitiveness and more efficient production methods (Adedoyin et al., 2022). The present study's goal is to experimentally assess whether exports and GDP growth have a significant relationship in South Asian economies. The correlation between exports and growth has been linked to potential positive externality for the internal economy caused by engagement with foreign trade, such as the reallocation of resources, economies of scale, and various benefits of labor training. When an economy chases economic progress by allowing for foreign trade, this is known as an export-led growth policy.

2   Literature Review

The relationship between export and EG has been widely examined in the literature through various international and development economics lenses. Previous research on the link between exports and EG has supported export-led growth (ELG) and growth-led export (GLE) strategies. The ELG approach is based on the idea that a nation should prioritize export promotion or import substitution. According to, reinvestigate the ELG hypothesis. The study

explained that countries which dependent upon exports to increase EG were exposed in case of a worldwide slowdown. We can see another study (Alkhateeb et al., 2016). More countries have become interested in developing connections with newly industrialized East Asian economies, and it has also given liberal economists a solid platform to discuss the connections between exports and growth.

Saudi Arabia is a country that depends heavily on the outside world. Similarly, in another study, Acaravci and Ozturk (2012) showed that real GDP, real exchange rate, and FDI do not have a singular long-term relationship. The most significant sign of the econometric findings of their study for the existing literature is to use of inward FDI as the primary engine of growth rather than exports. Another research provided evidence of a strong and significant relationship among EG, major exports, and manufactured exports in the UAE. For the period from 1972 to 1996, the GLE hypothesis was supported by the UAE. Exports of primary goods and services did not provide evidence of EG for the UAE in the SR and LR. There is a strong relationship between manufacturing exports and EG in the UAE (Kalaitzi & Cleeve, 2018). In the SR, FDI, and government expenditures negatively and insignificantly impacted GDP. Odhiambo (2022) tested ELG the hypothesis in developing countries. The exports of many countries' primary and low-priced goods did not lead to EG compared to manufactured goods, especially in low-income countries.

Acaravci and Ozturk (2012) conducted empirical research on the relationship among EG, FDI, and EG in European countries. Within the empirical research that encompasses both emerging and well-established nations, the goal of the research is to check the correlation between EG and FDI. To achieve this objective, the research employed a dataset spanning seven years, compiled from (WDI) data source, spanning from 1994 to 2010. Time series data for this study is collected from the source of IMF and IFS databases. This study utilizes variables such as GDP, FDI, and exports. The research used the ARDL method for estimation. Within the subset of ten nations under examination, a lasting relationship is identified in four of them. The results showed that growth in the Czech Republic and Slovak Republic was driven by FDI. For Latvia, there is evidence of FDI-driven growth. For Latvia and the Slovak Republic, there is a two-way causal connection between EG and export. In Latvia, export and FDI and correlated. In Bulgaria, Slovenia, Hungary, Romania, Lithuania, and Estonia, real GDP, real EX, and FDI do not have a long-term or equilibrium relationship. The noteworthy implication of the econometric results from this research for the current body of literature is the emphasis on utilizing inward FDI as the most important driver of EG, as opposed to exports. The study has a variety of policy ramifications. For instance, the findings imply that the nation's ability to advance in terms of EG will depend on its FDI promotion policies. Concentrating on strengthening domains like free trade zones, trade strategies, tax benefits, the host country's human capital reservoir, regulations in the financial market, the financial system, and the caliber of infrastructure emerges as the most efficacious approach to charm Foreign Direct Investment (FDI).

Kalaitzi and Cleeve (2018) examined the relationship between exports and growth in the UAE spanning the years 1981 to 2012. Their empirical study aimed to substantiate the (ELG) hypothesis specifically within the context of the UAE. The misplaced data was gathered from the source of the National obtained from Bureau of Statistics of UAE (UNBS) from 1999 to 2000. The latest data was obtained from the source of the World Bank (WB) from 2010 to 2012. The variable population was gathered from the source of the UAE National Bureau of Statistics (UNBS). In short, all variables of macroeconomics stated in physical expressions by using the GDP deflator collected the source of the World Development Indicators (WDI) and applied the WALD technique to estimate the model. Coefficients of the variables have been measured by Ordinary Least Squares (OLS). We can see that EG increased with manufacturing exports increasing which will promote total output. Imports of goods and services and Physical

capital affected manufacturing at a 1% level of significance and indicated that investments in imports in the form of inputs and modern technology took part in promoting exports of manufacturing goods and services. The study provided a positively significant relationship between manufactured exports, major exports, and economic development in the UAE from 1981 to 2012. For the period from 1972 to 1996, growth-led export (GLE) supported for UAE. Exports of primary goods and services did not provide evidence to EG for UAE in both long and SR. This research confirmed a strong relationship between manufacturing exports and economic progress in the UAE.

Adedoyin et al. (2022) researched the ELG approach for the Malaysian economy. The empirical investigation in this research aims to analyze how economic policy, geopolitical risks, and uncertainty influence the ELG approach for the Malaysian economy. The study also aims to create an association between exports and growth. To get this purpose, the research utilized yearly time series data for 39 years, a timeframe from 1980 to 2018 from the (WDI) and the (WB). The macroeconomic variables collected for the investigation were government expenditure, geopolitical risk indices, economic policy uncertainty indices, exports, and FDI. Economic progress is mediated by exports. EVIEWS software has been performed to find the model of this research. Both the Error correction Mechanism (ECM) and ARDL technique were used in the empirical investigation. ADF test for unit roots was used to evaluate the stationary of the variables. The research reveals a notable and meaningful correlation between output and government expenditures, wherein government spending rises alongside an increase in national output within Malaysia. In SR, both FDI and government expenditures exhibit a minor and statistically insignificant adverse effect. In SR, exports had a favorable and substantial effect on the real gross domestic product (RGDP). However, as time progressed, this impact transitioned into a more complex dynamic. The model conclusions indicated that Economic policy uncertainty (EPU) has adverse impacts on RGDP both in the SR and LR. The EPU result in the long run (LR) has a more suitable outcome on RGDP than the short-run (SR) impact. The study found an interesting thing that the variable Geopolitical Risk (GPR) has affected negatively real GDP this negative influence occurred itself.

According to Sharma (2022), an increase in real exports caused real GDP in the LR. Exports had a prime and positive influence on domestic production in the Global North and South. North is larger to world trade than the South. The South has profited more in the previous twentieth century regarding trade GDP and export GDP ratios. Exports and EG are causally related in Jordan in a single direction, with exports causing EG (Shihab et al., 2014). There was no evidence for ELG for a panel of 39 high-income countries, and the empirical results support the GLE hypothesis. Second, the largest group of countries involved 60 countries that supported ELG by economic and institutional quality. The third group, which involved 20 low-income economies panel concluded that their ELG and GLE hypotheses are supported. The empirical analysis finds no evidence for low-income countries that institutional quality plays a significant role in ELG (Sathyamoorthy & Tang, 2018). Agriculture, forestry, mining, quarrying, and manufacturing contribute to GDP growth. Casualty results provided positive and significant evidence for the ELG hypothesis for four fields in Turkey (Aslan & Topcu, 2018).

Using cointegration and Granger Causality tests, Romyen et al. (2019) tested the ELG hypothesis. There was unidirectional causation for Bangladesh and India from growth to exports. The contrary results for the SAARC economies show that despite the LR economic cooperation, there was no sufficient export influence on EG (Sampathkumar & Rajeshkumar, 2016). Agricultural and manufacturing exports positively affected Angola's EG when exports were added to GDP and affected negatively when exports were deducted from GDP growth. Oil returns positively affected the EG of Angola. This research showed that exporting non−oil fields positively influences EG, as discussed by Isaiah Zayone et al. (2020). The review of

previous studies showed that the ELG hypothesis is extensively tested for single and multiple-country cases. It is also evident in the literature that an important variable, i.e., energy prices, is ignored while validating the ELG hypothesis with the help of longitudinal data, especially for South Asian countries. The present study attempts to fill this gap by empirically testing the ELG hypothesis.

3   Research Methodology

3.1   Data

To empirically examine ELGH in four South Asian countries panel data has been taken. Data composed from 1980-2020 from the source of World Development Indicators.

3.2   Model

We will assess the effects of the variables exports, fuel import, capital, labor force, and exchange rate on the GDP Growth in South Asian countries using the well-defined form of the regression model that is described as:

GDP Growthit=$\beta 0$+ $\beta 1$ (EXPit) + $\beta 2$ (FMit) + $\beta 3$ (CAPit) +$\beta 4$ (LNTLFit) + $\beta 5$ (LNEXRit) + μit.

GDP Growth= GDP Growth
EXP=Exports of Goods and Services
FM=Fuel imports (% of merchandise imports)
CAP= capital (GFCF)
LNTLF=Natural log of Labor force, total
LNEXR= Official exchange rate
i = identity
t = Time

GDP Growth represents Gross Domestic Product Growth annually, FM stands for Fuel imports (% of merchandise imports), CAP represents Gross fixed capital formation (% of GDP), and LNEXR means the natural log of Official exchange rate, LNTLF denotes the Natural log of total Labor force, *i* represents Country in the Panel and t denotes period and β0 denotes Intercept term.

3.3   Panel Unit Root Test

Panel stationarity is more appealing than time series stationarity from the standpoint of test power. A non-stationary variable will produce invalid results when it is regressed on another non-stationary variable, hence it is crucial to form the stationary of the model before making any assumptions. Additionally, stationarity helps in selecting the appropriate estimating method. This study used the LLC test (Levin et al., 2002) and the IPS test (Im et al., 2003) to check the stationarity of the variables. Applying LLC is beneficial since it looks at the variability of different cross-sections. However, LLC has a weakness in that it ignores serial correlation and performs poorly when the size of the sample is small. The IPS test solves serial correlation issues does not have low power even with a small sample size, and is used to get around LLC's difficulties.

3.4   Panel ARDL Test

LR associations exist when all of the factors have the same order of integration. On the other hand, mean group (MG) estimation techniques and pooled MG estimators have been developed after maximum likelihood (MLE) estimation by Pesaran et al. (1999). These estimation methods perform better when the order of the variables' integration is mixed. As a result, the MG and PMG techniques do not require cointegration tests, allowing for the analysis of the ARDL for groups. Therefore, in this research PMG estimation will be applied to analyze the long-term study parameters. MG estimation and dynamic fixed effect (FE) estimation are two more generic estimation techniques that can be used to estimate the current study. The

model can alternatively be analyzed using mean group methodology. The long-term coefficients of the ARDL technique for all cross-sections are averaged to examine the LR. The same parameters will be provided by the MG estimator in all nations, and the sample's cross-sectional measures won't be tested. On the other hand, a dynamic FE estimator can be used to estimate results where the parameter slopes are constant but the intercepts vary among countries.

However, this type of pooling does not allow for differentiation of SR and LR dynamics. Additionally, even when the slopes are constant, FE estimators frequently give inconsistent parameter values, and increasing the sample size for both the time-series and cross-section units does not eliminate the inconsistent behavior. The major advantage of PMG modeling over dynamic FE estimators is that in the SR, PMG estimate offers various cross-section magnitudes across countries. Although the long-term parameters of MG estimation and PMG estimation are the same, the short-term parameters of PMG estimation can differ among countries. Another reason why PMG modeling is appropriate is that when creating a general ARDL model, endogeneity issues may arise in these indicators, and It is enough to retain the LR parameters of the normal distribution and to deal with the endogeneity issue in the ARDL model by properly adjusting the lag time frame for the variables (Pesaran et al., 1999).

4 Results and Discussion
4.1 Descriptive Statistics
Table 1 describes the mean, maximum, minimum, observations, and standard deviation.

Table 1
Descriptive Statistics

	GDP Growth	Exports	Fuel Imports	Capital	Labor Force	Exchange Rate
Mean	15.07436	18.05351	18.48189	23.57208	17.78859	4.123732
Median	15.2673	16.41913	19.03082	24.79653	17.74711	4.094293
Maximum	18.84576	39.0157	39.5181	35.81288	19.99491	5.223554
Minimum	3.403919	5.908316	0	12.52063	15.75014	2.862401
Std. Dev.	2.38472	7.940199	11.17461	5.857701	1.42302	0.487176
Skewness	-1.61887	0.966541	-0.05962	-0.18284	0.147138	0.034731
Kurtosis	7.90924	3.175422	1.909698	2.101238	1.969186	2.664126
Jarque Bera	178.682	19.46583	6.215387	4.864406	5.937414	0.607788
Probability	0	0.000059	0.044704	0.087843	0.05137	0.737939
Sum	1869.221	2238.635	2291.755	2922.938	2205.786	511.3428
SumSq. Dev.	699.4873	7754.751	15359.24	4220.457	249.0732	29.1929
Observations	124	124	124	124	124	124

Before inspecting the panel unit root and panel ARDL, a thorough inquiry is conducted. The study at hand involves Pakistan, India, Sri Lanka, and Bangladesh, which are all South Asian nations. As there are four participating countries and 31 individual observations per country, the study includes 124-panel observations.

The GDP Growth mean score is 15.07436, while the standard deviation is 2.38472. GDP Growth has the highest tally of 18.84576 and the smallest of 3.403919. Exports have a mean value of 18.05351 a minimum value of 5.908316 and a maximum value of 39.o157 a standard deviation of 7.940199respectively. Fuel Imports have a standard deviation of 39.5181 a mean of 18.48189, and a lowest value of 0. Capital (cap) has a mean value of 23.57208 and a standard deviation is 5.857701 the maximum value of cap is 35.81288 and minimum value

is 12.52063 as well and the total observations are 124. Similarly total labor force (lntlf) log of total labor force mean value is 17.78859, standard deviation, lowest and highest values are respectively 15.75014 and 19.99491. Similarly, the observations of EXR are 124, the average value is 4.123732, the standard deviation is 0.487176, the lowest value is 2.862401 and the highest value is 2.223554. GDP Growth has a Jarque-Bera value of 178.682. It denotes that GDP Growth is not normally distributed, i.e., H0: Normally distribution of residual the H0, and explains that residuals are not normally distributed, will not be accepted, and H1: residuals are not normal distributed yet the 0.05>P. It is generally expected in practices, that errors should be dispersed appropriately. Although errors are not normally distributed in this instance, we can still accept the model because residuals are not always expected to be distributed normally.

These effects may vary depending on the exports and output capacity of the related field." To sustain economic growth, it becomes crucial to highlight that when a country attains a specific stage of economic advancement, it should broaden its range of exports to encompass more diverse and intricate goods. It's imperative that governmental policies aimed at elevating the technological sophistication of products, thereby enhancing the competitiveness of the national economy, are formulated to establish a profitable business environment for emerging enterprises (Trošt & Bojnec, 2016).

4.2 Unit Root Tests
The results of the unit root tests are presented in Table 2.

Table 2
Unit Root Tests

Variable	LLC				IPS				Decision
	Level (I$_0$)		First Difference (I$_1$)		Level (I$_0$)		First Difference (I$_1$)		
	T value	P value	T value	P value	T value	P value	T value	P value	
GDP Growth	0.45274	0.6746	-7.8782	0.0000	-2.2981	0.0108	-9.5504	0.0000	I(0)
Exports	-0.4926	0.3111	-2.9223	0.0017	0.71600	0.7630	-3.9002	0.0000	I(1)
Capital	-2.1748	0.0148	-3.9563	0.0000	-1.4035	0.0802	-4.7572	0.0000	I(0)
Labor Force	-3.4344	0.0003	3.39042	0.9997	-1.3115	0.0948	-1.0267	0.1523	I(0)
Exchange Rate	-1.7306	0.0418	-4.8909	0.0000	0.63990	0.7389	-4.8776	0.0000	I(1)
Fuel Import	-1.5068	0.0659	-3.2442	0.0006	-1.3651	0.0861	-7.8033	0.0000	I(1)

GDP Growth is stationary at I0. The independent variables export, fuel import, and exchange rate are stationary at I1 while capital and labor force are of a mixed order (stationary at level and first difference).

4.3 Long Run Results of Selected ARDL Model Utilizing GDP Growth as Dependent Variable
Five independent variables were taken in the study to determine how they might affect the GDP growth of South Asian nations. The dependent variable in the current study is expressed as a percentage, and the total labor force and EXR are two independent variables that are expressed in logarithmic form. The rest of the independent variables are expressed in percentage form. As a result, while it may be challenging to comprehend the relative change, the coefficients will reveal the relative change in the model. The following table shows the model's LR results of ARDL.

Table 3
Long-Run Results

Variable	Coefficients	Standard Errors	T value	P value
Exports	0.540512	0.079450	6.803178	0.0000
Fuel import	-0.228807	0.039322	-5.818767	0.0000
Capital	-0.128530	0.083852	-1.532828	0.1300
Ln labor force	17.47986	2.488566	7.024069	0.0000
Ln exchange rate	-5.883754	0.764501	-7.696202	0.0000

Source: Author's estimation

The results revealed that exports of goods and services have a positive and significant effect on GDP Growth in the LR, which shows that in developing countries, exports promote growth in the LR. At the same time, fuel is negative and significant, indicating a negative impact of fuel import on GDP Growth in the LR because developing countries consume a large share of their GDP on fuel import. The labor force is positive and significant in the LR. EG is increased by a trained labor force (Duval & de la Maisonneuve, 2010). If the exchange rate increases, it affects EG negatively in the LR.

Table 4
Short-Run Results

Variable	Coefficients	Standard Errors	T value	P value
ECT 1	-0.672813	0.343131	-1.960804	0.0541
D(GDPGROWTH(-1))	-0.124053	0.156717	-0.791578	0.4314
D(EXP)	0.014701	0.455477	0.032277	0.9743
D(EXP(-1))	-0.314546	0.203165	-1.548227	0.1263
D(FM)	0.177636	0.087590	2.028037	0.0465
D(FM(-1))	0.091099	0.044510	2.046709	0.0446
D(CAP)	0.698855	0.188328	3.710848	0.0004
D(CAP(-1))	-0.161799	0.268387	-0.602858	0.5486
D(LNTLF)	67.80919	22.04495	3.075951	0.0030
D(LNTLF(-1))	27.73224	15.68682	1.767868	0.0816
D(LNEXR)	4.285121	3.487720	1.228631	0.2235
D(LNEXR(-1))	-7.005585	6.070689	-1.154002	0.2526
C	-196.3160	105.1661	-1.866723	0.0663

4.4 Short-Run Coefficients of the ARDL Model

Because of the positive sign and 0.014701 size of the coefficient, export has a short-term positive relationship with GDP Growth. A 1% increase in Exports will result in a 1.4701 % increase in EG. There is an insignificant relation between trade and EG as the p-value is greater than 0.05.

Moreover, as predicted, fuel imports have a favorable short-term influence on South Asia's GDP growth due to the positive fuel imports coefficient. As the p-value is statistically significant at 0.0465, this influence demonstrates the considerable relationship between GDP growth and fuel imports. When all independent variables are held constant, the fuel import sign and magnitude show that if fuel import increases by 1%, GDP growth will increase by 17.763. The study used Gross fixed capital formation (GFCF) to check its impact on GDP Growth. As predicted, GFCF has a positive short-term effect on South Asia's GDP growth due to the positive GFCF coefficient as the p-value is statistically highly significant i.e. 0.0004. When all independent variables are held constant, the Gross fixed capital formation sign and magnitude show that if GFCF increases by 1%, GDP growth will increase by 69.8855%.

The SR coefficient of the labor force variable for South Asia is 67.80919, representing a strong positive relationship between the labor force total and GDP growth. Assuming the other independent variables remain constant, a 1% increase in the total labor force will result

in a 67.80919% unit change in GDP growth. The independent variable is in logarithmic form and will demonstrate relative change in the model. However, the labor force is a highly significant variable, as indicated by the p-value of 0.00030. Therefore, H0: labor force is insignificant, and can be rejected, indicating that the labor force has a strong short-term impact on South Asia's GDP growth. The SR coefficient of the EXR variable for South Asia is 4.285121, demonstrating a positive relationship between the EXR and GDP growth. Assuming that the other independent variables remain constant, a 1% increase in the EXR will result in a 4.285121% increase in GDP growth and vice versa. The EXR is in log form and will show the relative change in the model. However, the EXR is not a significant variable, as indicated by the p-value of 0.22350, which is even greater than 0.10. Therefore, the null hypothesis (H0: EXR is insignificant) cannot be rejected, indicating that the EXR has an insignificant short-term impact on South Asia's GDP growth.

5   Conclusion & Policy Recommendations

The study aims to estimate the factors that influence the GDP growth of four selected South Asian countries. GFCF, exports, fuel imports, the labor force total, and the EXR are all considered independent variables. In contrast, GDP growth is used as the dependent variable. IPS (2003) and LLC (2002) tests are used to determine whether the variable is stationary. The present study used the Panel ARDL technique to obtain the model's SR and LR results due to the mixed order of integration of variables.

With panel data techniques, the primary goal of this study is to examine the ELG Hypothesis for the four South Asian countries, namely Bangladesh, India, Pakistan, and Sri Lanka. Panel data is more effective because it combines time series and cross-sectional data, is less collinear, has a higher degree of variability, and is, therefore, what we used in this study. We discover a strong link between exports and EG. The data were subjected to a unit root test, discovering mixed integration orders. GFCF had a positive and significant long-term impact on EG at a level of 1%. Because these studies imply rather than prove that export growth drives overall EG, they need more conviction in their support of the ELG theory. These studies deal with something other than whether export growth and GDP growth are causally related. They omitted any compelling data supporting ELG (Jim: 2005). GDP Growth is the dependent variable standard deviation measured to measure exports. Our results indicated that GDP growth increases with an increase in exports. So this study concluded that the ELG Hypothesis is valid for South Asian countries.

Our conclusions have significant policy implications. Government agencies of South Asian countries may start by pinpointing the precise growth advantages of exporting to advanced economies and applying those advantages to the entire economy. Second, governments may create policies that encourage more exports to advanced economies for even quicker EG, such as by establishing bilateral trade agreements with certain advanced economies to reduce export trade obstacles. More investment boosts a country's capacity for production, boosting export potential in the LR.

The fluctuation of the oil price has a significant impact on the nation's EG. Because of this, economic progress in developing nations like Pakistan is counterproductive and has a negative impact on it by driving up prices. Governments should encourage solar energy and other substitutes such as wind power in the agriculture sector, and industrial sector as well as in other fields where a large share of fuel energy is consumed to fulfill the lack of fuel import because the developing countries consume a great large of their returns on fuel import. The evidence reviewed above states that labor force participation and GFCF positively affect EG; as the labor force and capital increase, EG also increases. When developing countries focus on capital formation, it will increase the labor demand in the countries, increasing the income and

living standard of the people. Developing countries can export extra labor; as a result, remittance will also increase growth.

References

Acaravci, A., & Ozturk, I. (2012). Foreign direct investment, export and economic growth: Empirical evidence from new EU countries. *Romanian Journal of Economic Forecasting*, *2*(2), 52-67.

Adedoyin, F. F., Afolabi, J. O., Yalçiner, K., & Bekun, F. V. (2022). The export-led growth in Malaysia: Does economic policy uncertainty and geopolitical risks matter? *Journal of Public Affairs*, *22*(1), e2361.

Alkhateeb, T. T. Y., Mahmood, H., & Sultan, Z. A. (2016). The relationship between exports and economic growth in Saudi Arabia.

Aslan, A., & Topcu, E. (2018). The relationship between export and growth: Panel data evidence from Turkish sectors. *Economies*, *6*(2), 22.

de Souza Nonato, V. L., & Carrasco-Gutierrez, C. E. (2023). Trade-led growth hypothesis: evidence from Latin America countries. *Empirical Economics*, *64*(2), 727-745.

Duval, R., & de la Maisonneuve, C. (2010). Long-run growth scenarios for the world economy. *Journal of Policy Modeling*, *32*(1), 64-80.

Im, K. S., Pesaran, M. H., & Shin, Y. (2003). Testing for unit roots in heterogeneous panels. *Journal of Econometrics*, *115*(1), 53-74.

Isaiah Zayone, T., Henneberry, S. R., & Radmehr, R. (2020). Effects of agricultural, manufacturing, and mineral exports on Angola's economic growth. *Energies*, *13*(6), 1494.

Islam, M. S. (2022). Does the trade-led growth hypothesis exist for South Asia? A pooled mean group estimation. *Regional Science Policy & Practice*, *14*(2), 244-258.

Jadoon, A. K., & Sarwar, A. (2020). Is Trade Liberalisation Pro-Poor in Pakistan? Evidence from Large-Scale Manufacturing. *Australian Economic Review*, *53*(3), 360-394.

Jadoon, t. K., Rashid, H. A., & Azeem, A. (2015). Trade liberalization, human capital and economic growth: Empirical evidence from selected Asian countries. *Pakistan Economic and Social Review*, 113-132.

Kalaitzi, A. S., & Cleeve, E. (2018). Export-led growth in the UAE: multivariate causality between primary exports, manufactured exports and economic growth. *Eurasian Business Review*, *8*(3), 341-365.

Levin, A., Lin, C.-F., & Chu, C.-S. J. (2002). Unit root tests in panel data: asymptotic and finite-sample properties. *Journal of econometrics*, *108*(1), 1-24.

Odhiambo, N. M. (2022). Is export-led growth hypothesis still valid for sub-Saharan African countries? New evidence from panel data analysis. *European Journal of Management and Business Economics*, *31*(1), 77-93.

Pesaran, M. H., Shin, Y., & Smith, R. P. (1999). Pooled mean group estimation of dynamic heterogeneous panels. *Journal of the American statistical Association*, *94*(446), 621-634.

Qasim, H. M., Majid, A., & Jadoon, A. (2021). Institutional quality, trade openness and economic growth in South Asian Economies: Some new insights from a panel data analysis. *South Asian Studies*, *36*(01), 17-38.

Raghutla, C., & Chittedi, K. R. (2020). Is there an export-or import-led growth in emerging countries? A case of BRICS countries. *Journal of Public Affairs*, *20*(3), e2074.

Romyen, A., Liu, J., & Sriboonchitta, S. (2019). Export–output growth nexus using threshold VAR and VEC models: Empirical evidence from Thailand. *Economies*, *7*(2), 60.

Sampathkumar, T., & Rajeshkumar, S. (2016). Causal relationship between export and economic growth: evidence from SAARC countries. *IOSR Journal of Economics and Finance*, *7*(3), 32-39.

Sathyamoorthy, V., & Tang, T. C. (2018). Institutional quality and export-led growth: an empirical study. *Journal of Economic Studies*, *45*(1), 193-208.

Sharma, S. (2022). On exports and economic growth: Revisiting export-led growth hypothesis including North-South Divide. *SEISENSE Journal of Management*, *5*(1), 31-48.

Shihab, R. A., Soufan, T., & Abdul-Khaliq, S. (2014). The causal relationship between exports and economic growth in Jordan. *International Journal of Business and Social Science*, *5*(3), 302-308.

Tang, C. F., Lai, Y. W., & Ozturk, I. (2015). How stable is the export-led growth hypothesis? Evidence from Asia's Four Little Dragons. *Economic Modelling*, *44*, 229-235.

Trošt, M., & Bojnec, Š. (2016). Export-led growth: the case of the Slovenian and Estonian economies. *Post-Communist Economies*, *28*(3), 373-383.