EXPORT-LED GROWTH: TRADE POLICY PROSPECTIVE OF PAKISTAN

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Abstract

This study examines the proposition that exports cause growth in gross domestic product GDP in the economy of Pakistan from 1973 to 2022. The study intends to analyze the export promotion strategy that was adopted by Pakistan's economy in the 1990s. Cointegration test reveals there is a long-run relationship between these two variables. However, causality is proved in both short and long-run from GDP to exports. The Trade openness and export growth both are prolonged association but in case of Pakistan persistent depreciation of PKR could not achieve desired level of export earning which implies that J-Curve theory does not exist in Pakistan. This implies that growth in the domestic production base is vital to expansion in exports. The government or policymakers should give importance to and incentivize various production sectors of an economy so that they can contribute to the expansion of export markets.

Keywords: Trade openness, exports, causality, economic growth, foreign trade, Pakistan

Introduction

Foreign trade has increased the economic growth of economies around the world, by expanding production bases and exploration of new trade markets. Pakistan is a county in the south Asian region with having population annual growth of 2.5 per cent, foreign trade of the country is in a poor state since its inception on 14th August 1947; owing to a narrow production base and lack of developmental capabilities of a newly established country. The exports were primary and low value-added mainly agricultural products; the country has negligible manufacturing capacity. The manufacturing sector got developed but its pace of growth is still not up to the mark. To serve the needs of the economy, it relied on the import of such manufacturing items which is a costly business. Pakistan's economy adopted the import substitution industrialization (ISI) policy during the 1960s.

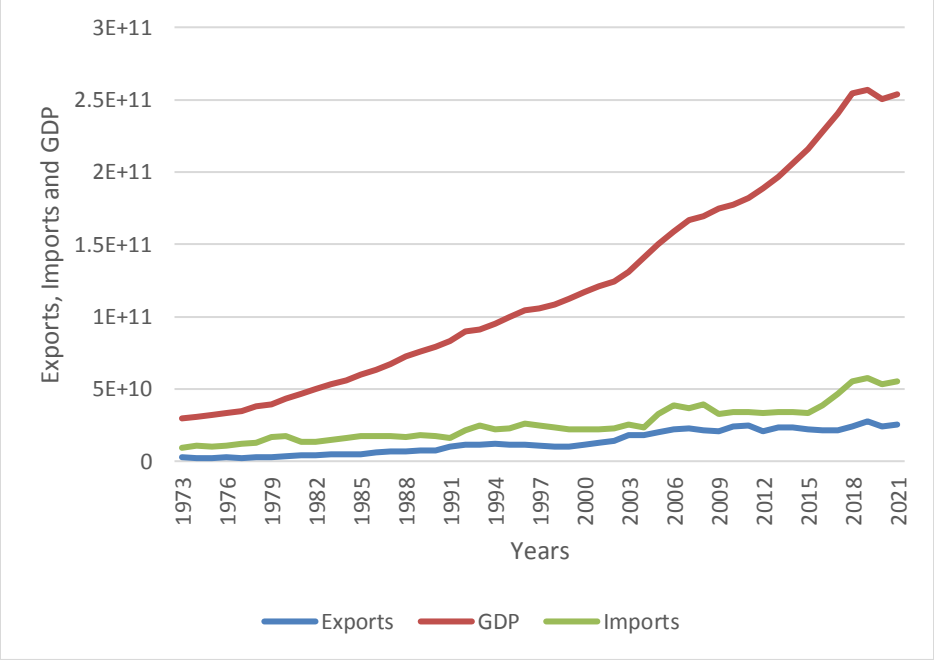
There were several industries were established to cater to the needs of the economy and prevent it from foreign competition. The demand for foreign products was shifted somewhat to domestically produced goods like textile manufacturing, auto spare parts, and tertiary industrial units. In this connection, several manufacturing units were

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established and many heavy industrial units were promised to start working in the due time, these were the immediate results of adopting such a policy of import substitution. Such inward-oriented trade policies produced desired results and the foundation for industrialization in the country were laid.

Several developing countries in the region, adopted similar policies but faced a slow pace and could not get desired results by the adoption of export promotion policies. Some of them remained successful and achieved significant performance that contributed positively to their economic growth. Pakistan was also inspired by such export promotion policies and the phenomenal growth it had achieved over time, agreeing to liberalize its economy due to the structural adjustment program late in 1978. However, the adoption of liberalization does not prevent preventive policies till the 1990s, such actions destroy the competitiveness of domestically produced goods like textile production and food items among others. The historical position of exports, imports and GDP is depicted graphically in the figure No. 1.

Figure No. – 1
Exports, Imports and GDP of Pakistan



Source: Author's estimation

In 1995 the establishment of the world trade organization (WTO), and its subsequent recognition by the nations of the world changed the scenario of world trade. In the 2000s, Pakistan followed an export-led growth policy and without achieving the competitiveness of its products, it opened the economy to foreign competition. In this context, Pakistan suffered a major trade deficit and it remained increasing day by day. The effectiveness of an export-led growth strategy lies in the specialization of the commodity of its

comparative advantage. Only those economies were successful and had established their strong production base in the areas of their comparative advantage. The protective nature of the policies destroyed the international competitiveness of the products, which failed trade policy in the post-liberalization era.

There are many studies in Pakistan which gave weightage to the economic growth for successful export performance, endorsed by the export-led growth hypothesis. Its investigation is necessary and this paper intends to revisit this problem already explored with the last effort in 2010 by (Abbas, 2012).

Rest of the paper is organized as follows. Section 2 elaborates on theoretical as well as empirical literature; section 3 refers to the methodological framework along with data description, section 4 refers to the results and finally, section 5 concludes the study with policy recommendations.

Research Question

1) Does export-led growth model exist in case of Pakistan economy or not?
2) Why exports are not growing even if there is a persistent of depreciation of PKR?

Literature Review

Exports are considered an important driver for economic growth and it contributes to the trade base by finding new markets for products globally for a developing country. The export-led growth hypothesis has been used by many studies and it is analyzed with the help of various econometric modelling techniques. Such as the export and GDP growth are analyzed (Balassa, 1978), (Bhagwati, 1993), (Fatemah & Qayyum, 2018), and the same scenario is analyzed for the Pakistan economy (Abbas, 2012). A theoretical review article (Sarin et al., 2022) elaborated on the various aspects of export to the economic growth of a country. The assessment of the trade deficit between the United States and China relies on a unique empirical model that takes globalization-related factors into account. It utilizes the Johansen-Juselius cointegration method to derive long-term estimations and their corresponding short-term dynamics. The research indicates that the influence of the actual exchange rate between the Chinese yuan and the U.S. dollar is consistent with established economic theory.

The main objective of this inquiry is to evaluate the impact of fluctuations in income and prices on trade between China and Turkey. Examination of long-term coefficients reveals that Turkey's exports to China are significantly influenced by income, aligning with economic expectations. Similarly, both price and income factors exert a substantial impact on Turkey's imports from China.

This paper meticulously examines the well-known Marshall-Lerner (M-L) condition for a set of countries within the OECD (excluding Asian nations) and Asian countries over the period spanning from 2000 to 2017. To address the limitations associated with other methodologies, such as the autoregressive distributed lag (ARDL) approach, this study employs a pooled mean group (PMG) estimator. Unlike the ARDL method, which produces statistically significant but economically implausible coefficients due to

country-specific variables, the PMG estimator suggests that currency devaluation is effective for Asian countries but not for OECD countries.

In August 2019, the United States designated China as a Currency Manipulator, citing China's substantial trade surplus as the rationale. The association between the exchange rate of the Chinese Renminbi (RMB) and China's trade balance has attracted worldwide attention. According to the traditional Marshall-Lerner Condition, when the absolute value of the price elasticity of demand for exports and imports exceeds 1, the trade balance adjusts through fluctuations in the exchange rate.

This research, based on time-series data spanning from 1990 to 2020, investigates the impact of inflation, nominal exchange rates, foreign direct investment, and unforeseen events on Bangladesh's economic growth. The findings indicate that currency rates and foreign direct investment significantly and positively impact the country's economic growth. Conversely, factors such as inflation and unexpected events, such as the Covid-19 pandemic and natural disasters, have a detrimental effect on Bangladesh's economic progress.

To foster economic growth and development, policymakers in Bangladesh should concentrate on crafting and fine-tuning policies. Substantial inflows of foreign direct investment contribute to investments, job creation, and increased output. However, unforeseen events like pandemics exhibit a negative correlation with economic growth.

The primary goal of this study is to grasp the repercussions of fluctuations in exchange rates on economic growth in Bangladesh. It establishes an empirical model employing a Keynesian analytical framework, constructs a series for the real exchange rate, and utilizes cointegration techniques to gauge the output response to depreciation of the Bangladeshi Taka. The results indicate that a 10% depreciation of the real exchange rate correlates with a 3.2% increase in aggregate output in the long term. Nevertheless, in the short term, there is an observed contractionary effect, with the same level of real depreciation leading to a half-percentage point decline in GDP. Although the long-term expansionary effect of real depreciation might prompt policymakers to contemplate exchange rate policy as a development strategy, it is imperative for Bangladesh to uphold its international competitiveness. Achieving this may necessitate adjustments in nominal exchange rates and effective management of inflation, especially when faced with unsustainable external imbalances.

The Role of Exchange Rate in Trade Openness

Both in the short term and in the long term, the Real Effective Exchange Rate (REER) has a substantial and positive impact on Bangladesh's trade balance. Bangladesh's capacity for exporting goods is closely linked to its status as a smaller nation. Whenever there is a devaluation or depreciation of the currency, it results in an increased demand for intermediate inputs.\

This study unambiguously demonstrates that real currency depreciation is positively correlated with an improvement in the trade balance. Consequently, the devaluation or depreciation of the currency as a whole appears to be advantageous for enhancing

Bangladeshi exports. For this research, we established the Nominal Effective Exchange Rate (NEER) and Real Effective Exchange Rate (REER) for Bangladesh. Subsequently, we applied both the Engle-Granger and Johansen techniques to explore the long-term cointegration relationship between the 'trade balance' and REER. Additionally, we employed the Error Correction Mechanism (ECM) to examine the short-term connections. Our findings consistently indicate that REER significantly and positively influences Bangladesh's trade balance in both the short and long run. Furthermore, the Granger Causality test provides evidence that REER indeed has a causal effect on the trade balance.

Regarding the J-curve behavior concerning Bangladesh's trade balance, it's crucial to recognize that Bangladesh's export capacity, as a smaller nation, is the primary determinant of its export supply. Consequently, following a devaluation or depreciation, the increased demand for exports also leads to an increased demand for intermediate inputs used by export-oriented industries. However, the limitation here lies in the constrained production capacity. This study underscores the consistent positive relationship between real devaluation or depreciation of exchange rates and improvements in the trade balance. Therefore, an overall depreciation or devaluation of the currency seems to be beneficial for boosting Bangladeshi exports.

Bangladesh has actively pursued various exchange rate strategies aimed at enhancing its trade balance. Since gaining independence in 1971, Bangladesh has implemented a range of exchange rate regimes. Exports play a pivotal role in generating foreign currency for the country and are expected to have a positive impact on GDP growth. This research aims to investigate whether the Marshall-Lerner condition holds true for Bangladesh, specifically examining whether domestic currency devaluation leads to increased export earnings.

Since May 31, 2003, Bangladesh has maintained a floating currency exchange rate as part of its policy reforms. Managing currency exchange rates can be intricate, particularly in countries like Bangladesh. As GDP expands, exports play a vital role in driving this growth trajectory. In this study, we utilize export data and the nominal exchange rate (BDT per USD). The export value (free on board USD) serves as the dependent variable, while the nominal exchange rate (BDT per USD) is considered the independent variable.

The variance decomposition analysis of exports shows that innovations in exports are the sole driver of export changes. This finding aligns with the results of the DGDP variance decomposition study. Over ten periods, exports do exert an impact, although it does not surpass 2.9 percent in the tenth period. Overall, currency depreciation or devaluation appears to favor Bangladeshi exports as a whole, in line with the conditions of the Marshall-Lerner principle. Nonetheless, it's imperative to note that economists caution against continuous depreciation, as it can lead to exchange rate volatility, thereby affecting macroeconomic factors such as inflation, interest rates, and the stability of money supply.

With the exception of Japan, UAE, Germany, and Kuwait, the Marshall Lerner condition focuses on the relationship between exchange rates and the trade balance. Some economists have explored whether Pakistan's ten major trading partners adhere to the

Marshall Lerner condition, and they have uncovered a long-term cointegration connection between exchange rates and the trade balance. In the long run, currency depreciation or devaluation positively impacts the trade balance when the import elasticity and export elasticity of the exchange rate both exceed 1, as tested by economists for 10 key trading partners, including the UK, US, Kuwait, Saudi Arabia, Japan, France, Germany, China, France, and the United Arab Emirates.

Empirical research suggests that the Marshall–Lerner (ML) condition is not met, and import and export demand elasticities are relatively low. Despite evidence contrary to the ML requirement, the consensus among most economists is that real devaluations improve the trade balance. This study aims to utilize structural cointegration vector autoregressive distributed lag (VARDL) models for domestic and foreign output, the trade balance, and the real exchange rate to assess the effects of the real exchange rate on the balance of payments. J-effects can be seen in these.

Many economists do research with the primary goal of determining the real exchange rate's long-term influence on trade. The responsiveness of trade flows to actual exchange rates is an important consideration in trade and exchange rate policy. All G-7 countries' openness, as assessed by the trade GDP ratio, has grown, according to Hooper et al. (1998). (Canada, France, Germany, Italy, Japan, the United Kingdom, and the United States) Economists have long understood that there are no theoretical reasons why devaluations should improve the trade balance, as this is contingent on whether trade elasticities satisfy the ML condition. Despite a substantial amount of empirical research on the subject, the extent of these elasticities has remained a point of contention.

A fundamental tenet of international economics is the Marshall-Lerner (M-L) condition, which states that a devaluation or depreciation of a country's currency will improve its trade balance only if the sum of the absolute values of the country's import and export price elasticities is greater than one. The goal of this research is to review the literature on the M-L condition, with a focus on whether prior studies' findings are statistically significant.

Exchange rate fluctuations have posed a danger to the global financial system's stability and sparked unnecessary currency wars. South Asia has had a massive trade deficit for many years, according to research. The study reveals that for South Asian nations, the total of import and export demand elasticity is less than one, the M-L condition is not met, and hence no improvement in trade balance has been observed in response to exchange rate depreciation. Furthermore, the findings imply that several important strategies, such as export promotion and industrialization of import substitution, should be considered in order to improve the trade balance. Some research is being done to see how exchange rate depreciation affects the exports and imports of a few South Asian nations. A recent tendency has been to investigate the influence of exchange rate variations on import and exports of South Asian nations using panel data studies. Increased domestic income would result in increased exports. More global income would result in increased exports. This is based to Keynes' 1936 consumption behavior theory, which finds that exchange rates have direct and indirect effects on imports and exports. Depreciation of the currency hinders exports while encouraging imports. As a consequence, the analysis indicates that currency

depreciation will improve the South Asian region's trade balance only if the total of import and export trade elasticity is larger than 1.

Cointegration, generalized impulse response analysis, and stability tests were applied in the case of Turkey to investigate the outcomes. The empirical findings indicate that the J-curve effect does not manifest, whether at disaggregate or aggregate levels. Nevertheless, the Marshall-Lerner condition is verified for aggregate data as well as for select trade partners of Turkey. The stability assessments of trade balance equations yield diverse results. The practical implications of these discoveries bear relevance for government policymakers and practitioners involved in international trade. The empirical findings derived from Turkish data do not support the existence of the J-curve effect. However, the Marshall-Lerner condition appears to hold for aggregate data, encompassing Germany, Holland, Italy, Switzerland, and the United States, aligning with various bilateral negotiation outcomes.

The Marshall-Lerner (ML) condition describes a phenomenon in which a depreciation of the domestic currency leads to an increase in net exports. This condition asserts that if the combined elasticities of export and import exceed unity, currency depreciation can alleviate a trade balance deficit. The findings of this study confirm the applicability of the ML condition to Turkey. Notably, the quickest and most effective approach to enhance net exports is through the depreciation or devaluation of the domestic currency. However, if changes in export and import prices fail to influence demand, no improvement is observed. Additionally, the study supports the contention that the price elasticity of trade between Turkey and Germany is sufficiently high.

Given the transition to a floating exchange rate system in 2001, the analysis period spans from 2003 to 2016, allowing for the use of monthly data for the relevant variables. The estimations from the Vector Error Correction Model (VECM) reveal that, following unit-root and cointegration tests, the Marshall-Lerner condition is upheld in the context of Turkey. Conversely, the computed VECM generates impulse-response functions that indicate the persistent presence of the J-curve effect in the Turkish economy. In this study, the estimation of the Marshall-Lerner condition and the investigation of the J-curve phenomenon in Turkey are conducted. Employing monthly data spanning from 2003 to 2016, the research examines the short- and long-term effects of real exchange rate fluctuations on the trade balance. Empirical findings confirm the adherence of the Marshall-Lerner condition in the long run during the study period in Turkey. The impulse-response functions of the model illustrate that a depreciation of the local currency initially deteriorates the trade balance in the very short term but eventually improves it during the transition from the short to the long run. Consequently, the Turkish data provide consistent evidence supporting the existence of the J-curve phenomenon.

Another study employs unit root tests and cointegration methods with multiple structural breaks to analyze the relationship between Turkey's real exchange rate and its external trade balance. The analysis encompasses intermediate goods, capital goods, consumption goods, and total external trade data within the extended Marshall-Lerner Condition framework, spanning from 1989Q1 to 2012Q2. The investigation evaluates series stationarity through unit root testing and incorporates several structural breakdowns,

drawing from Carrion-i-Silvestre (2009). Multiple structural breakdowns are utilized to explore the cointegration relationship among these series (2012). Cointegration coefficients are derived using the dynamic ordinary least square approach. The results affirm the validity of the extended Marshall-Lerner Condition for all production categories in Turkey.

The persistent trade imbalance in the Turkish economy has been a subject of substantial concern. In order to offer empirical insights to policymakers regarding the effectiveness of real depreciation or devaluation of the Turkish Lira in mitigating the trade deficit, a study was conducted. The dataset utilized in the study comprises quarterly data spanning from 1987:1 to 2013:3. The authors apply a Bounds test to cointegration, grounded in the Auto Regressive Distributed Lag Model (ARDL) and Error Correction of the ARDL model. According to Bounds testing, there is evidence of a long-run relationship among the variables encompassing trade balance, domestic income, foreign income, and real exchange rate at a 10% significance level. The validity of the Marshall-Lerner condition in the Turkish economy is further affirmed by the long-run ARDL model. Lastly, the short-term dynamics derived from the error correction model estimate reveal that there is no J-Curve impact within the Turkish context.

(Odhiambo, 2022), studied the association of exports with growth in GDP for Sub-Saharan African countries from 1980 to 2017 for the search for the causal relationship between both variables. He used panel cointegration and granger causality techniques along with external debt and concluded that the export-led growth hypothesis does not hold despite the long-run relationship among variables for middle-income and low-income countries. Albeit it has found evidence of bidirectional causality in middle-income countries and neutrality for low-income countries. They concluded that the results endorse for condition of GDP growth due to increase in exports for low income countries.

(Bahramian & Saliminezhad, 2020), re-examined the economic growth and export relationship for Turkish economy for 1960-2018. They used causality with the quantile technique and concluded that the absence of causality is attributed to misspecification error in a linear framework. The adoption of causality in quantile showed economic growth positively cause exports in both high and low range quantiles. In this connection, conditional distribution is likely to affect misleading results regarding causality analysis in the nonlinear modelling behavior.

(Jawaid et al., 2019), analyzed the GDP growth with respect to exports of the fishing industry from 1972 to 2013, with the help of ARDL model and Johansen cointegration tests both confirm the growth of GDP with export of fishing for the economy of Pakistan in the long-run. (Mahmood & Munir, 2018), also analyzed the same proposition of exports growth to with respect to the perspective of agricultural exports and economic growth for Pakistan from 1970 to 2014 with the help of Engle Granger causality tests. The study confirms that export of the agricultural sector affects economic growth positively but insignificantly. This is due to the primary nature of Pakistan's agricultural exports which do not compete in the international market and hence it slightly contributes for the expansion in GDP.

(Ali et al., 2018), studied the impact of both imports and exports on GDP growth. They applied time series data from 1970 to 1991 for Somalia econometric techniques for causality in exports and GDP growth. The results of pairwise granger causality was applied, it confirmed unidirectional causality from export to economic growth. The bidirectional causality is also seen between exports and imports. Hence, the export led growth is true for Somalia.

(Alkhateeb et al., 2016), explored the dilemma of an export expansion strategy for the Kingdom of Saudi Arabian (KSA) from 1980 to 2013 by using VECM for causality. The long-run relationship between economic growth and export is proved and a feedback effect is also seen in the favor of export-led growth in Saudi Arabia which is a catalyst agent for the economic growth of the KSA.

(Nguyen, 2016) analyzed the growth of GDP with respect to exports in Vietnam. The author too data from 1990 to 2015 annually. There is positive and significant relationship of exports on GDP, the Vietnamese economy got the benefits of exports in the developing sufficient industrial base that boosted the economic performance. Hence it recommended that exports are necessary to get economic growth and it is conducive to sustainable development too.

(Ajmi et al., 2015), studies export and GDP growth of South Africa; the analysis is carried out for 1911- 2011, the linear and nonlinear causality tests were used and the results did not show causality in the linear causality techniques. However, the nonlinear causality test endorsed by (Hiemstra & Jones, 1994) finds unidirectional causality from economic growth to exports; whereas (Diks & Panchenko, 2006) showed bidirectional causality with significance. They concluded that linear causality showed misleading results.

(Pistoresi & Rinaldi, 2012) studied the interaction of imports, GDP growth and exports for the period of 1863-2004, in case of the Italian economy. They used cointegration and causality tests to verify a long-run relationship, for the said variables. The results validate cointegration in the variables albeit causality varies over time, import growth led economic growth before the Second World War and GDP led growth in exports afterwards; a bidirectional causality is seen after the Second World War period.

(Safdari et al., 2011), analyzed the causality between exports and GDP growth from 1988 to 2008 for a panel of 13 developing economies. They used the panel VECM model and concluded reverse causality is seen from economic growth to exports for countries under analysis but it is unidirectional.

(Shirazi et al., 2004) analyzed the contribution of exports in the economic growth from 1960 to 2003 for Pakistan's economy. They used a multivariate granger causality test and concluded that the exports cause economic growth. In this connection, Pakistan's economy started radical measures to improve the industrial base in the country which will boost the economy.

The synthesis of the above studies whether country-specific or panel of countries relied on the export-led growth, and it is proven however Pakistan has undergone major economic and social problems which can have detrimental effects on the economic

performance. Earlier the export and economic growth causality for Pakistan also supported the general results in a study conducted by (Abbas, 2012). It is intended to revisit this hypothesis after more than a decade and this study will reveal new results.

Methodological Framework

The intention is to access the interaction of GDP and exports of goods and services from 1973 to 2021, in the long run. The source of data is popular database of the World Bank is world development indicators (WDI), World Bank. The data collected is measured in constant 2010 US dollars. The basic model to estimate the validity of export-led growth is specified in equation 1.

$$\ln\mathrm{GDP}_t = \beta_1 + \beta_2 \ln\mathrm{Export}_t + \mu_t \qquad (1)$$

Where β_1 and β_2 are intercept and coefficients respectively; GDP and exports are taken in the logarithmic form and μ_t refers to the white noise error term.

The time series literature suggests that the series under observation should be integrated in order one to proceed with the cointegration techniques. Hence for stationarity of the data Augmented Dickey-Fuller (ADF), (Dickey & Fuller, 1979), and Phillips Perron (PP), (Phillips & Perron, 1988), tests will be used. The cointegration of the data will be checked with Johansen Juselius (JJ), cointegration technique will be used for the long run association of the variables (Johansen & Juselius, 1990). The detailed description of ADF, PP, and JJ tests and their equation's specifications see (Ahmed et al., 2021).

The direction of causality will be tested with the Granger Causality test developed by Clive Granger in the 1960s in the time series literature (Granger, 1969). The equations are given below:

$$\Delta\ln\mathrm{GDP}_t = \sum_{j=1}^{n} \beta_{11} \ln\mathrm{GDP}_{t-1} + \sum_{j=1}^{n} \beta_{12} \ln\mathrm{Export}_{t-J} + \mu_{1t} \qquad (2)$$

$$\Delta\ln\mathrm{Export}_t = \sum_{j=1}^{n} \beta_{21} \ln\mathrm{Export}_{t-1} + \sum_{j=1}^{n} \beta_{22} \ln\mathrm{GDP}_{t-J} + \mu_{2t} \qquad (3)$$

In both these equations 2 and 3 I and j refer to lag length. The granger causality test suggests that after establishing the long-run relationship. We can run causality; that is based on the ECM model, and for that VECM is employed for causality in both short and long-run analysis. The specification of equations under the VAR framework is given in equations 4 and 5 below:

$$\mathrm{GDP}_t = \sum_{j=1}^{n} \gamma_i \mathrm{GDP}_{t-i} + \sum_{j=1}^{n} \beta_i \Delta\mathrm{Export}_{t-i}\, \delta_1 \varepsilon_{t-1} + \mu_t \qquad (4)$$

$$\mathrm{Export}_t = \sum_{j=1}^{n} \gamma_j \mathrm{Export}_{t-j} + \sum_{j=1}^{p} \beta_j \Delta\mathrm{GDP}_{t-1}\, \delta_2 \varepsilon_{t-1} + \mu_t \qquad (5)$$

In equations 4 and 5 terms ε_{t-1} and ε_{t-2} are error-correcting terms respectively, these show the magnitudes of past disequilibrium values, and the δ shows deviation from long-run equilibrium. The Wald F test for granger causality shows the joint significance of the coefficients if nonzero coefficient values occur then there is short-run causality and if

there is a negative and significant coefficient of error term then it means long-run causality exists.

Results and discussion

To see the stationary properties of the time series, ADF and PP tests were performed and the results are reported in table 1, the results confirm that the variable is integrated of order one and it will set forth the ground for further estimation and the long-run relationship will be checked with the JJ test for cointegration. Table 2 reports two cointegrating vectors, these can be seen in the table.

Table - 1
Unit Root Test Results

Variables	ADF				PP			
	Level		First Difference		level		First Difference	
	C	C&T	C	C&T	C	C&T	C	C&T
Exports	-0.3671	-2.93567	-7.5731	-7.4934	-0.3148	-2.9579	-7.5731	-7.4934
GDP	2.5613	-0.7420	-3.7369	-4.9238	2.9823	-1.5106	-4.767	-4.9410

Source: Author's estimation

Table - 2
Johansen Cointegration Test

Hypothesized No. of CE(s)	Trace statistic	0.05 % Critical Value	Max-Eigen	0.05 % Critical Value
None *		42.91525		25.82321
At most 1		25.87211		19.38704

Source: Author's estimation

Table – 3
Long run Causality

Causality	ECM_{t-1}	t statistics	Prob. Value
Export to GDP	-0.076	-1.79	0.061
GDP to export	-0.313	2.91	0.016
LM test 0.21, F-stat 0.79 ARCH, F stat. 0.33, Prob. (0.49)			

Source: Author's estimation

Table – 4
Short-run Causality

Causality	Coefficients	χ^2 statistics	Prob. Value
D(LnGDP(-1))	0.431	5.14	0.021
D(LnExport(-1))	0.049	0.30	0.051
LM test 0.21, F-stat 0.80 ARCH, F stat. 0.34, Prob. (0.58)			

Source: Author's estimation

The Granger causality reveals in the long-run that magnitudes of the selected coefficients are inversely related as expected by the theoretical underpinnings. However, the export because economic growth poses insignificant with a prob. value greater than 5 per cent; but economic growth significantly causes exports and its probability value is less than 5 per cent. The results reveal the fact that economic growth would be contributing to the external sector of the country in the long run. The short-run causality analysis shows that export has not any effect on economic growth. However, according to analysis the economic growth considerably impacts exports. Diagnostic tests like the LM test for serial correlations and ARCH for heteroscedasticity show the robustness of the results.

Conclusion

In the post-liberalization era, the adoption of an export promotion policy proved the deteriorating nature of international trade for Pakistan's economy. The trade deficit widened and the exports were primarily concentrated in a few commodities and were low value-added, this situation created ambiguity on the international front. The current study intended to analyze the importance of export earnings on the growth rate of GDP in Pakistan since 1973. Particularly asking whether export-led or economic growth-led policies are suitable in the long and short run; and economic growth is caused by expansion of exports is strongly favored in the earlier empirical studies suggesting full support in favour of export promotion policies to achieve considerable growth in the country.

The export oriented growth despite the persistent sluggishness of exports compels us to reinvestigate the dilemma of framing better economic policy for international trade. In this connection, it is found to have a long-run relationship of GDP growth and exports from 1973 to 2021. The unidirectional causality reports from economic growth to exports in the short run as well as long run. This result suggests that Pakistan should develop export-oriented industries and high valued-added production base so that high export earnings can compete in the world markets. The development of a strong industrial base, stability in political and economic policies, and provision of incentives to the manufacturing sector by the government will help attract more foreign investment and it will ultimately help in boosting the domestic production base.

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