THE LINKAGE BETWEEN TRADE LIBERALIZATION AND ECONOMIC GROWTH: EMPIRICAL EVIDENCE FROM PAKISTAN

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ABSTRACT

With globalization, the issue of trade liberalization and maintaining sustainable economic growth has captured worldwide attention and, therefore comes to be the principle in developing countries. This study aims to examine the impact of trade liberalization on the economic growth of Pakistan using annual time series data over a period of 1976-2022. Three trade-growth models, with three different trade proxies, are used for this purpose. ARDL-bound test and ECM are used for analyzing the long-term and short-term parameters of the models. ADF and PP tests are used for finding the unit root. Findings revealed that the impact of trade liberalization, in the first two models, was found homogeneous in terms of relationship with economic growth. However, its impact in the third model was found negative. A possible justification for this diversion was the sign of net exports, which remained negative over the sample period. Trade deficit was the main cause of sluggish economic growth in Pakistan. Along with various other policy initiatives like increasing energy supply to export-oriented sectors at competitive rates and strengthening trade relations with trading partners, out-of-the-box solutions like capitalizing on IT exports and online marketing are recommended to enhance the efficiency and earning of the export industry. Along with being competitive, it is also essential to align exports with market trends at internationally certified standards for increasing exports, curtailing trade deficits, and stimulating economic growth.

Keywords: *Trade Liberalization, Economic Growth, ARDL, Pakistan.*

INTRODUCTION

With globalization, the issue of trade liberalization has aroused worldwide concerns as it is believed that growth in the participation ratio in international trade leads the economy to accumulate the static and dynamic benefits of free trade (Caleb et al., 2014). International trade consists of two components, exports, and imports, which

are also known as trade openness or real trade. It is believed that the execution of a successful exports-led growth policy will cause a multiplier effect on the economy as it stimulates the employment ratio, attracts foreign direct investment, and causes a technology spillover effect (Lee & Haung, 2002; Ajmi et al., 2013). On the demand side, imports are considered as leakages and hindrances to economic growth, but on the supply side, they are considered a rich source of trade liberalization and economic efficiency (Kim et al., 2007; Mishra, 2012; Silajdzic & Mehic, 2018). Countries with ease in barriers to international trade grow faster than other countries. It is argued that favorable trade drives the economy to grow faster as it increases productivity through economic efficiency and improved specialization and external stimulus in the long run (Kim et al., 2007; Auer & Fischer, 2010).

In contrast, there is another strand of literature that argues that trade liberalization is harmful to economic growth. They believe that trade openness destructs the efficiency of infant & senile industries, and creates threats to the domestic economy in the form of dumping and environmental degradation (Bhagwati, 1993; Bhagwati & Srinivasan, 1995; Fouda, 2012). They believe that the imposition of trade restrictions will not only increase government revenues, improve efficiency, and stimulate the current account balances but will also protect the infant industries and cultural identity (Bulmer-Thomas, 2003; Harrison & Rodriguez-Clare, 2010). Similarly, they also believe that an increase in the participation ratio in international trade may cause inflation and drop the exchange rates (Cooke, 2010; Samimi et al., 2012).

Given the complexity in association between trade and GDP growth, the existence of externalities is a fundamental premise that denies the roots of trade neutrality. The developing economies have also made enormous strides over the past few decades to open up their trade to foreign investment by removing barriers and obstacles to free trade. Researchers have tried their best to analyze this relationship and reach a solid inference. However, we find inconsistencies in their research findings. One of the main reasons for this variation is the nature of growth as it depends greatly on the position of so many macroeconomic variables including innovative capacity, level of investment, institutional quality, foreign indebtedness, foreign trade, and financial deepening (Ud-Din, Azam & Tariq, 2020; Minhajuddin, Azam & Ibrahim, 2022). Effective utilization of growth indicators and economic policies also stands radical for accelerating economic growth (Minhajuddin, Azam & Tariq, 2021). The severity in complexity of the growth phenomenon have sparked a theoretical and empirical debate on the controversial position of trade openness that affects the growth process either directly or becomes a facilitator by influencing other growth-affecting indicators (Chen, 2009).

Like other developing countries, Pakistan is also experiencing an unstable growth pattern and it is believed that persistent trade deficit is the main cause of this sluggish economic growth (Klasra, 2011; Iqbal, Hameed & Devi, 2012). In literature we find that most of the studies have either used a trade-led growth model (Karras, 2003; Klasra, 2011; Mercan et al., 2013), or exports-led growth model (Quddus et al., 2005; Panas &Vamvoukas, 2002; Awokuse, 2008; Iqbal et al., 2010; Klasra, 2011), or imports-led growth model (Awokuse, 2008). However, we don't find any study that has explicitly examined the effect of net exports on the GDP growth of Pakistan. Thus, our point of

departure is to conduct a time series analysis by analyzing the effect of real trade, exports, and net exports on Pakistan's GDP. In addition, the role of financial development is also exerted in the picture as it affects the economic health of a nation in various dimensions (Godil et al., 2021). As a growth stimulator, developed financial institutions help stabilize the external balances, enhancing the inflow of FDI, transfer of green technology, and stabilizing the stock markets and banking industry (Wu, 2015). Fundamentally, this study is based on three objectives using three growth models, first, the ELG Model for analyzing the effect of exports on economic growth, second, the XLG Model for exploring the link between exports and GDP growth and, third, the NXG Model for evaluating the effect of net-exports on GDP growth. This study contributes to the existing literature, first, by incorporating the net-exports variable in the augmented growth model, and second, by using the ARDL-bound co-integration test for estimating the long-run and short-run coefficients of the model.

LITERATURE REVIEW

While investigating the effect of trade openness on the GDP growth of 59 developing and developed economies, Bahmani-Oskooee and Niroomand (1999) used the Johansen Co-integration test and found that free trade has a significant positive correlation with GDP growth in these economies. Panas and Vamvoukas (2002) also tried to explore this relationship for the Greek economy. They found that exports are causing a significant and favorable impact on the production of Greece's economy. Karras (2003) applied the fixed effects model on the panel data of 161 economies and ended with a positive relation between the two. Quddus et al. (2005) emphasized on the export-driven growth theory and ended with a uni-causal link running from exports to GDP. Awokuse (2008) included export and import variables in his study and applied the Granger causality test and impulse response function to explore the effect of free trade on the economic growth of Argentina, Colombia, and Peru. He found that exclusive reliance on the export-driven growth theory could be deceptive, and suggested the use of both exports-led and imports-led growth hypotheses for effective policy making.

Yucel (2009) focused on the role of trade and financial progress on the GDP growth in Turkey. The Johansen co-integration test confirmed the effectiveness of trade. The financial performance was found to be insignificant. In contrast, the findings of the Granger causality test supported the effectiveness of both variables. Shahbaz and Rahman (2012) also supported the results of the Granger causality test used by Yucel (2009) and concluded that growth in imports and financial development are crucial for achieving sustainable economic growth. Iqbal et al. (2010) used the VEC model and revealed bi-directional causality between free trade and GDP growth. Similarly, Klasra (2011) also supported the validity of exports-driven and openness- driven growth hypotheses for Pakistan and Turkey. On the contrary, Iqbal et al. (2012) refuted the validity of the exports-driven growth hypothesis and supported the presence of a reverse case for Pakistan, i.e. the growth-led exports hypothesis. Gries and Redlin (2012) used the GMM techniques on panel data from 158 countries and concluded that growth in trade is radical for growth in GDP. Yeboah et al. (2012) and Mercan et al. (2013) also revealed that growth in trade plays a vital role in enhancing the GDP

growth.

Zeren and Ari (2013) also investigated this link for G7 countries and confirmed bidirectional causality between the two. Pigka-Balanika (2013) used the fixed effects model and revealed similar results for 71 developing economies. Nasreen and Anwer (2014) and Tahir and Khan (2014) used panel estimation techniques to explore this link for Asian countries and found a stable relationship between the two. Jawaid (2014) used the ARDL, JJ cointegration, and OLS estimation techniques for conducting a comparative analysis of the matter for Pakistan. Findings revealed that growth is positively related to exports but negatively to imports and trade volume. The same results were also confirmed by the FMOLS. Unidirectional causality was found between free trade and growth in GDP, running from exports to GDP and from GDP to imports and trade volume. Hye et al. (2016) applied the ARDL model to an endogenous growth model and found a constructive link between the two for China. Keho (2017) also used the ARDL model and ended up with similar results for Cote d'Ivoire.

Chandrashekar et al. (2018) revealed that the degree of trade freedom is deterministic of productivity and capital accumulation. A higher degree of trade openness was considered to be a symbol of faster growth in per capita income. Malefane and Odhiambo (2018) used three proxy variables as measures of free trade; exports, imports, and real trade. Results of the ARDL bound test depicted that trade openness helps in fostering GDP growth. Huchet-Bourdon, Mouel, and Vijil (2018) incorporated the quality and variety of export commodities as measures of free trade in the endogenous growth model and concluded that countries engaged in exporting different varieties of high-quality products grow faster than others. As the reason for sluggish economic growth, exports of low-quality products were advised to be avoided. In contrast, Moyo and Khobai (2018) noted that free trade hampers the economic growth. Silajdzic and Mehic (2018) used the trade intensity indicator for the said purpose and concluded that the implementation of a passive trade policy could lead to misleading conclusions about the trade-growth nexus, especially in least-developed economies. Cevik, Atukeren, and Korkmaz (2019) used the time-varying Granger causality test and found a bidirectional causal link between the two. Raghutla (2020) also found similar results for a group of five emerging countries. Kong et al. (2021) used the ARDL model and portrayed a positive link between the two. Siregar and Widjanarko (2022) investigated this link for 72 agricultural economies by deploying the fixed-effects model and reported a positive relationship between trade and economic growth. Bunje, Abendin, and Wang (2022) used four different proxies for measuring the effect of trade liberalization on GDP growth of 52 African countries. They found mixed results for panel OLS, negative for the fixed-effects model, and positive for the system GMM. They also revealed that policymakers should focus on encouraging exports and curtailing imports as it hinders the growth process. Kumari et al. (2023) empirically analyzed the impact of trade openness on the economic growth of Indian economy using the VAR model and found no causal link between the two. In contrast, Aga and Hussein (2023) and Dragusha et al. (2023) revealed a positive association of trade liberalization with economic growth in Iraq and Albania, respectively.

The main messages that emerge from the literature review are, first, the scarcity

of literature on this issue for Pakistan, second, differences in using a common proxy for trade openness, and third, the controversies about the linkage of trade liberalization with economic growth. Apparently, we have not found a single study that has incorporated these three proxies (i.e. trade intensity, export, and net exports) and has analyzed their relationship with GDP in Pakistan. This is the first study that has incorporated the net-export variable as a measure of trade openness in the NXG model for investigating its impact on the economic growth of Pakistan.

RESEARCH METHODOLOGY

We are using both qualitative and quantitative techniques in this study. Data ranges from 1976-2022, whereas the data source for all variables is World Development Indicators (2023). ARDL bound testing approach is used for analyzing the long-term parameters of the model. Reasons for using this technique include its ability to avoid the endogeneity problem, estimate the short-term and long-term parameters simultaneously, more robust by giving more reliable estimates for a small sample size. The pretesting of unit root and checking of the order of cointegration are also not required for this tool of estimation (Minhajuddin et al. 2020). ECM is used to examine the short-term parameters of the model. Appropriate diagnostic tests are also used in this study.

Model Specification

As discussed earlier, we find several scientific researches that have examined this issue for different regions of the world. However, with the inconclusive research findings, and use of different proxy measures for trade openness, this study is aimed to fill in the research gap by incorporating three different trade-growth models for analyzing the exact link between the two. In Model 1, i.e. trade-led growth model (TLG Model), aggregates of exports and imports are used as a proxy variable for measuring trade openness. The proxy variables for the remaining two models, i.e. exports-led growth model (ELG Model) and the net exports-led growth model (NXLG Model), are exports and net exports, respectively.

In light of the above, the ARDL presentations for these models are: Model 1: Trade-Led Growth Model (TLG Model):

$$GDPpc_t = \varphi_0 + \sum_{l=1}^{n} \varphi_1 \Delta GDPpc_{t-1} + \sum_{l=0}^{n} \varphi_2 \Delta HK_{t-1} + \sum_{l=0}^{n} \varphi_3 \Delta LF_{t-1} + \sum_{l=0}^{n} \varphi_4 \Delta GFCF_{t-1} + \sum_{l=0}^{n} \varphi_5 \Delta FDI_{t-1} + \sum_{l=0}^{n} \varphi_6 \Delta ER_{t-1} + \sum_{l=0}^{n} \varphi_7 \Delta TO_{X+M(t-1)} + \gamma_1 GDPpc_{t-1} + \gamma_2 HK_{t-1} + \gamma_3 LF_{t-1} + \gamma_4 GFCF_{t-1} + \gamma_5 FDI_{t-1} + \gamma_6 ER_{t-1} + \gamma_7 TO_{t-1} + \epsilon_j \dots\dots (1st\ Model)$$

Model 2: Export-LedGrowth Model (XLGModel):

$$GDPpc_t = \beta_0 + \sum_{k=1}^{n} \beta_1 \Delta GDPpc_{t-1} + \sum_{k=0}^{n} \beta_2 \Delta HK_{t-1} + \sum_{k=0}^{n} \beta_3 \Delta LF_{t-1} + \sum_{k=0}^{n} \beta_4 \Delta GFCF_{t-1} + \sum_{k=0}^{n} \beta_5 \Delta FDI_{t-1} + \sum_{k=0}^{n} \beta_6 \Delta ER_{t-1} + \sum_{k=0}^{n} \beta_7 \Delta TO_{X(t-1)} + \vartheta_1 GDPpc_{t-1} + \vartheta_2 HK_{t-1} + \vartheta_3 LF_{t-1} + \vartheta_4 GFCF_{t-1} + \vartheta_5 FDI_{t-1} + \vartheta_6 ER_{t-1} + \vartheta_7 X_{t-1} + \epsilon_j \dots\dots (2nd\ Model)$$

Model 3: Net-Exports Growth Model (NXGModel):

$$GDPpc_t = \mu_0 + \sum_{j=1}^{n} \mu_1 \Delta GDPpc_{t-1} + \sum_{j=0}^{n} \mu_2 \Delta HK_{t-1} + \sum_{j=0}^{n} \mu_3 \Delta LF_{t-1} + \sum_{j=0}^{n} \mu_4 \Delta GFCF_{t-1} + \sum_{j=0}^{n} \mu_5 \Delta FDI_{t-1} + \sum_{j=0}^{n} \mu_6 \Delta ER_{t-1} + \sum_{j=0}^{n} \mu_7 \Delta TO_{X-M(t-1)} + \rho_1 GDPpc_{t-1} + \rho_2 HK_{t-1} + \rho_3 LF_{t-1} + \rho_4 GFCF_{t-1} + \rho_5 FDI_{t-1} + \rho_6 ER_{t-1} + \rho_7 M_{t-1} + \epsilon_j \dots\dots (3rd\ Model)$$

Where:
GDPpc = GDP per capita
HK = Human capital/literacy rate measured by primary school enrollment
LF = Labor force participation rate, secondary school enrollment
GFCF = GFCF, as % of GDP
FDI = FDI,as % of GDP
ER = Exchange rate
TOX+M = Real Trade/Trade Intensity, as % of GDP
TOX = Exports, as % of GDP
TOX-M = Net-Exports/Trade Balance, as % of GDP

Estimation Techniques

This study uses the ARDL-bound test and ECM for analyzing the short-term and long-term parameters of the model. ADF and PP tests are used for finding the unit root, although this tool does not require pre-testing of the unit root and checking the order of co-integration. BG-LM test and BPG tests are used to deal with the problem of serial correlation and heteroscedasticity, while CUSUM and CUSUM-SQ tests are used to explore the stability of our models.

RESULTS AND DISCUSSION

Unit Root Test

Table 1 depicts that the labor force participation rate, GFCF, ER, TO, exports,

and imports are stationarity at I(0), while GDPpc, HK, and FDI are stationary at I(1). It means that we can use the ARDL-bound test for analyzing the long-term estimates of the trade-growth model.

Table 1

Unit-Root Test

	ADF-Test			PP-Test
Var.	t-Stat.	Stationarity	t-Stat	Order of Integration
GDPpc	-4.5274*	First difference	-4.4970*	First difference
HK	-6.6689*	First difference	-6.4668*	First difference
LF	-5.4987*	Level	-5.5664*	Level
GFCF	-1.9338***	Level	-6.9677*	Level
		First difference	- 2.0466**	First difference
FDI	-3.0910**			
		Level	- 3.2175**	Level
ER	-3.3252**			
TO	-6.5140*	Level	-6.5195*	Level
X	-6.3264*	Level	-6.3360*	Level
NX	-6.5741*	Level	-6.5741*	Level

Note: *, **, & *** indicate the significance level

Co-integration Analysis

F-Bound Test

Before we proceed and deploy the ARDL-bound test, we first need to use the F-bound test and investigate the existence of long-term connections among the variables. Since the calculated F-statistics value was found to be greater than the upper bound values, it means that the variables are bound together in the long run. Table 2 confirms and provides substantial evidence for the presence of a long-term association among the variables.

Table 2

Co-integration analysis

C/F-Stat.	6.646118	
	LB value	UB value
10 %	2.12	3.23
5 %	2.45	3.61
2.5 %	2.75	3.99
1 %	3.15	4.43

Long Run Analysis

After verifying long-term co-integration, the ARDL-bound test was deployed for

estimating the long- run coefficients of the regression models. The estimated values of all three models are depicted in Table 3.

Table-3

Regression Coefficients (Long-Run Estimates)

Variable	TLG Model		XLG Model		NXG Model	
	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value
(HK)t	0.2519*	0.0000	0.1468*	0.0000	0.37223**	0.0304
	(5.1224)		(4.8501)		(2.6258)	
(LF)t	0.0979*	0.0000	0.1234*	0.0000	0.15169**	0.0199
	(5.8039)		(8.3351)		(2.9005)	
(GFCF)t	0.2752***	0.0948	0.3228*	0.0010	1.33051**	0.0359
	(1.7251)		(3.7137)		(2.5186)	
(FDI)t	0.8000*	0.0000	0.3043*	0.0000	2.89241**	0.0286
	(4.7923)		(5.7669)		(2.6638)	
(ER)t	0.2921*	0.0000	0.0879*	0.0000	0.55851*	0.0048
	(6.1725)		(5.5304)		(3.6562)	
(TO)t	0.25056*	0.0044	0.0929**	0.0304	-0.71307*	0.0092
	(3.1191)		(2.2715)		(-3.4131)	
C	0.0520	0.0980	6.5175	0.0003	12.8527	0.0005

Note: *, **, & *** indicate the significance level

Trade-Led Growth Model (TLG Model)

Table 3 tells us that all variables of this model are affecting the economic growth of Pakistan positively and significantly. Findings reveal that a1% increase in trade openness is associated with 0.25% growth in GDP per capita. These estimates are consistent with the findings of Karras (2003), Iqbal et al. (2010), Klasra (2011), Yeboah et al. (2012), Mercan et al. (2013), Nasreen and Anwer (2014), Keho (2017), Kong et al. (2021), Aga and Hussein (2023), and Dragusha et al. (2023) who also revealed similar results for trade liberalization on the aforementioned ground. However, these findings are in consistent with the findings of Moyo and Khobai (2018), and Sukhdzic and Mehic (2018) who found a negative effect of trade on economic growth. These findings are also in contrast with Bunje, Abendin, and Wang (2022)who found mixed results using different estimation tools.

Export-Led Growth Model (XLG Model)

In this model, real trade was replaced with exports variable and the model was then regressed using the ARDL model. Table 3 indicates that all variables of the model are the long-run forcing factors of economic growth. A 1% increase in exports was found to accelerate the GDP growth by 0.09%in the long run. The findings of this model were homogeneous with those of the TLG Model in terms of relationship, but heterogeneous in terms of estimated coefficients. A possible justification for this change seems to be the use of a different proxy for trade openness. It also enlightens that the net impact of exports is much less than the combined impact of exports and imports. It

means that the causal link between trade and GDP growth cannot be judged from the value of trade openness; rather it is the proxy that determines the value and tells us about the magnitude of the relationship between the two. Moreover, these estimates are similar to those of Panas and Vamvoukas (2002), Quddus et al. (2005), Klasra (2011), and Jawaid (2014) using exports as a proxy measure of trade openness.

Net Export-Growth Model (NXG Model)

In this model, the trade openness variable was measured with net export variable and the model was then regressed using the ARDL co-integration techniques. Findings indicate that all variables, except net exports, are the long-term forcing factors of economic growth. As hypothesized, the coefficient of net export was found negative and statistically significant. A 1% increase in net exports is expected to dampen economic growth by 0.71% in the long run. The possible reason for this diversion could be the sign of net exports, which have been negative for Pakistan over the sample size. Importantly, these findings cannot be compared with earlier studies as we find no study that has used this variable as a proxy for measuring trade openness.

It is worth mentioning that variation in the resulting values of trade openness was due to variation in its measurement technique. In the first model, trade openness was observed to accelerate GDP growth by 0.25%. However, when it was measured with exports, the net effect of trade openness reduced to 0.09%. Again, when it was replaced with net exports, this effect was further reduced and converted into a negative value, i.e. -0.71%. It means that variation in the resulting values of trade openness is mainly due to the use of different proxies for trade openness during the regression analysis. Therefore, the resulting values of trade openness should not be considered as a yardstick against the relationship between the two. Rather, they should be treated as tools for effective policy-making.

Short Run Analysis

The short-run estimates are depicted in Table 4. It indicates that the speed of adjustment is on average about 52% which means that any disturbance caused by an economic shock in a previous year will be settled in a period of about two years. Results of the diagnostic tests are summarized in Table 5, which indicates that there is no issue of serial correlation, no specification issue, no heteroscedasticity, and that residuals are normally distributed. The estimates of CUSUM and CUSUM-SQ tests are depicted in Figures 1 to 6.

Table 4

Regression Coefficients (Short Run Estimates)

	Model 1 (TIGM)		Model 2 (XLGM)		Model 3 (NXGM)	
Variable	Coefficient	P-value	Coefficient	P-value	Coefficient	P-value
Δ(HK)t	0.1794**	0.0220	0.1718**	0.0214	0.1689**	0.0317
	(2.3976)		(2.4086)		(2.2372)	
Δ(LFt)t	0.0190	0.6986	0.0155	0.7511	0.0195	0.6892
	(0.3904)		(0.3197)		(0.4033)	

Δ(GFCF)t	0.1350 (0.7102)	0.4823	0.20864 (1.0840)	0.2858	0.1317 (0.6725)	0.5057
Δ(FDI)t	-0.6444 (-1.2458)	0.2211	-0.5698 (-1.1827)	0.2449	-0.5930 (-1.1111)	0.2741
Δ(ER)t	-0.1319** (-2.6539)	0.0119	- 0.11672** (-2.3863)	0.0226	-0.1326** (-2.6199)	(-0.0129
Δ(TO)t	0.0658 (0.8210)	0.4171	0.17048 (1.0823)	0.2865	0.04181 (0.3808)	0.7057
Δ(ECM)t	-0.5225*	0.0000	-0.5223*	0.0000	-0.5219*	0.0000

Table-5

Estimates of Diagnostic Tests

Summary of the Diagnostic Tests							
		TLGModel		XLGModel		NXGModel	
Tests	H0	t- value	F-value	t- value	F-value	t-valu e	F-value
BG (Prob)	Serial correlation	----------	2.133 (0.119)	----------	1.958 (0.167)	----------	2.458 (0.160)
BPG (Prob)	Heteroscedasticity	----------	1.006 (0.467)	----------	0.691 (0.770)	----------	0.294 (0.993)
Ramsey (Prob)	Test Specification Error	0.467 (0.499)	0.683 (0.499)	0.022 (0.982)	0.0004 (0.982)	0.857 (0.419)	0.735 (0.419)
Jarque-Bera (Prob)	Normality Residuals	1.15of5 (0.561)	----------	2.079 (0.353)	----------	0.069 (0.966)	----------
CUSUM & CUSUM Sq	All estimates stay inside the 5% critical boundaries						

Figure 1: CUSUM Test (TLG Model)

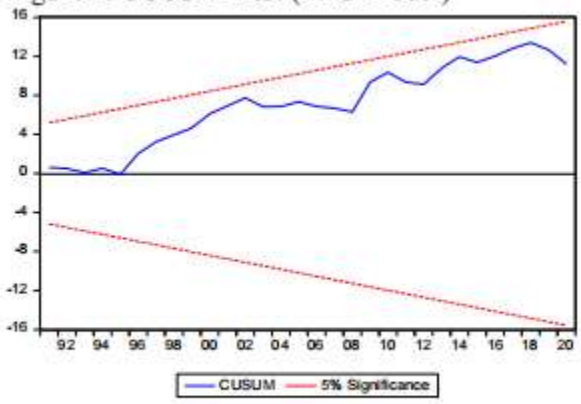


Figure 2: CUSUM SQ Test (TLG Model)

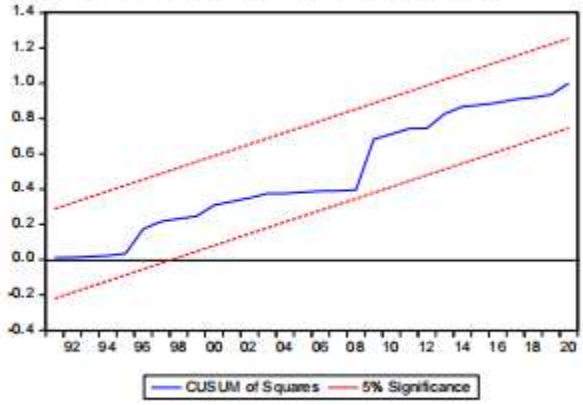


Figure 3: CUSUM Test (XLG Model)

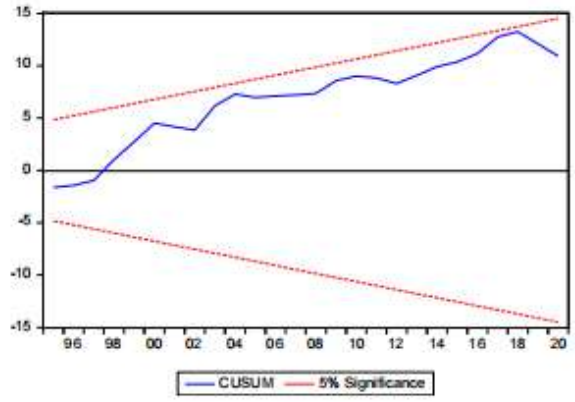


Figure 4: CUSUM SQ Test (XLG Model)

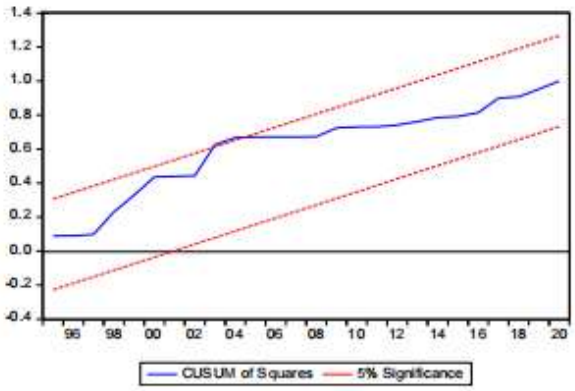


Figure 5: CUSUM Test (NXG Model)

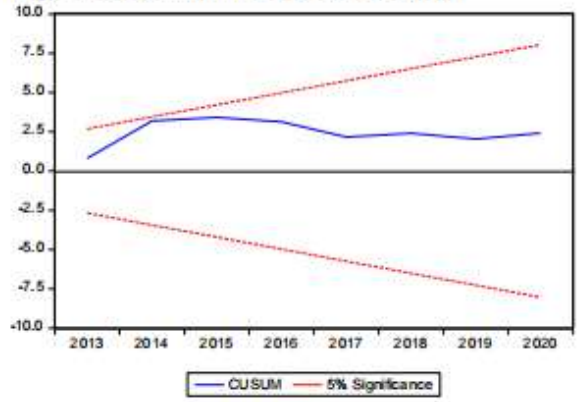
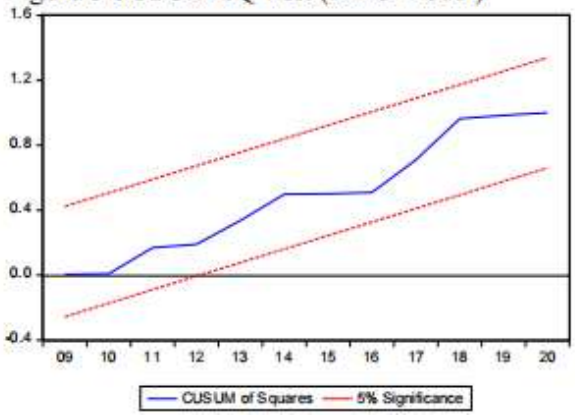


Figure 6 CUSUM SQ Test (NXG Model)



CONCLUSION AND POLICY RECOMMENDATIONS

Keeping in view the significance of trade liberalization, the developing economies have made enormous strides over the past few decades to open up their trade to foreign investment. Researchers have tried their best to analyze the trade-growth nexus and reach a solid inference. However, we find inconsistencies in their research findings

which are mainly due to the use of different proxies for measuring trade openness. In country-specific analysis, we find no study that has jointly investigated the effect of real trade, exports, and net exports on the economic growth of Pakistan. The purpose of this study was to fill this gap by regressing three trade-growth models, carrying three different trade proxies, using the ARDL-bound testing approach. The data period ranged from 1976 to 2022, whereas the data source was World Development Indicators (2023). Findings revealed that coefficients of trade openness in the first two models were homogeneous in terms of relationship. However, it was found to dampen the growth process in the third model. The coefficient of trade balance was found negative and statistically significant. One percent increase in net exports, i.e. trade deficit, was found to deteriorate the growth process by 0.71% in the long run. Meanwhile, sharp-eyed observers may also notice that trade openness, in model 1, accelerates the GDP growth by 0.25%. However, when it was measured with exports, the net effect of trade openness reduced to 0.09%. Similarly, when it was replaced with the net exports variable, this effect was further reduced and converted into a negative value, i.e. -0.71%. It means that variation in the resulting values of trade openness is mainly due to the use of different proxies for trade openness. The trade deficit was the only reason of sluggish economic growth in Pakistan. Therefore, the resulting values of trade openness should not be considered as a yardstick against the relationship between the two. Rather, they should be treated as tools for effective policy-making. To counter the trade deficit and enhance our exports, various policy initiatives and innovative thinking such as increasing supply to energy exports-oriented sectors at competitive rates and strengthening relations with trading partners, out-of-the-box solutions like investing in IT exports and online marketing stands radical for enhancing the growth of this sector. Managing growth through export-led growth strategies, rapid industrialization, and empowering of SMEs are also essential. Along with being competitive, this study also suggests aligning exports with market trends and internationally certified standards.

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