Volume 4, Issue 1, 2026

INTERNATIONAL JOURNAL OF BUSINESS INSIGHTS

# INVESTIGATING THE NONLINEAR IMPACT OF TRADE LIBERALIZATION ON ECONOMIC GROWTH IN PAKISTAN

**Muhammad Aqeel Aslam[*1], Waheed Ur Rehman[2], Faisal Bin Ubaid[3]**

[*1,2,3]*Department of Economics, Univeristy of Faisalabad, Pakistan*

[*1]aqeelaslam@yahoo.com, [2]waheedkhan56@gmail.com

**Keywords**
*Economic globalization; Economic growth; Development; Free trade; Foreign investment; Sustainable development goals; Machine learning model*

**Article History**
Received on 01 January 2026
Accepted on 15 March 2026
Published on 31 March 2026


**Corresponding Author: ***
**Muhammad Aqeel Aslam**

**Abstract**
*The role of trade liberalization in promoting economic growth is well acknowledged, though its effects vary across different economies. This study investigates the impact of trade liberalization on Pakistan's economic growth from 2001 to 2024, incorporating key control variables such as foreign direct investment (FDI), remittances, gender development, and governance effectiveness. Employing a Kernel-based Regularized Least Squares machine learning approach, the analysis captures non-linear and complex relationships that traditional linear econometric methods often overlook. Findings indicate that trade liberalization, alongside FDI, remittances, gender development, and governance effectiveness, exerts a significant positive influence on economic growth. Notably, the results reveal a non-linear relationship, suggesting that excessive liberalization may become counterproductive. The study underscores that while enhancing trade liberalization can boost economic performance, it must be implemented judiciously to ensure sustainable and long-term economic stability for Pakistan.*

## INTRODUCTION

Trade liberalization and consequent trade openness emerged as a new paradigm in development economics. It is prominently established as a pivotal factor affecting globalization, structural change, and economic growth (Raghutla, 2020). There has been a question of debate, especially for developing economies like Pakistan, whether extended openness to global trade promotes or inhibits economic growth (Ahmad et al., 2017; Nosheen et al., 2024). Having a complex relationship between trade liberalization and economic growth, it is imperative to comprehend the interplay between trade liberalization policies and long-term economic progress for effective and productive decision-making. Like other developing countries, Pakistan has also followed several trade liberalization policies focusing on lowering tariff barriers, improving the competitiveness of exports, and attracting FDI. Despite such policies, the gap between the imports and exports of goods and services into the Pakistani economy has been increasing over the years.

The Pakistani economy has been suffering from chronic trade deficits, a limited export base with low-value-added products, and unstable GDP growth rates (Zeshan, 2025). Such conditions put the role of trade liberalization in the economic growth trajectory in question. The relevance of the current study is based on its ability to provide guidelines for policy choices having implications for the sustainable economic growth of Pakistan. Though the theoretical

literature trade liberalization and economic growth affirm a positive connection between the two but empirical evidence may be country-dependent (Ali et al., 2024). The review of literature in the next section reveals that the empirical evidence on the impact of trade liberalization on economic growth is inconclusive, especially in developing economies like Pakistan. However, it is also notable that the existing studies primality focused on the linear relationship between trade liberalization and economic growth. It is also important to examine this relationship beyond the boundaries of the linear relationship between trade liberalization and economic growth.

The objective of the study is to explore the impact of trade liberalization on economic growth in Pakistan from 2001 to 2024. The study examines how trade liberalization impacts economic growth while considering the FDI, remittances, gender development, and governance effectiveness. The study goes beyond the traditional econometric models by using Kernel-based Regularized Least Squares (KRLS) Machine Learning Modeling (MLM) approach for the analysis. It allows for analysis of whether there is a potential non-linear relationship between trade liberalization and economic growth. Since the study incorporates FDI, remittances, gender development, and governance effectiveness as key control variables, the research represents the multidimensional understanding of the conditions under which trade liberalization contributes to the sustainable economic growth of Pakistan. The findings of the study provide valuable insights for the trade policy, warranted governance reforms, and inclusive and sustainable development strategies in Pakistan.

## 1. Literature Review

Trade liberalization has made it possible to extend the levels of trade openness globally. Over the years, trade policies transformed from protective import substitution to liberalized industrialization. It is also aligned with the global standards and unprecedentedly enhanced competitiveness (URCAP, 2025; WTO, 1995; Malik, 2022). In the era of economic globalization and trade liberalization, international trade enhances the prospects for higher growth trajectories. In this regard, trade liberalization has the potential to stimulate economic growth in two ways. Firstly, it makes possible the technology transfer through imports of modern machinery and knowledge (Lall, 2019; Cieślik, & Zamojska, 2024; Lemaallem, & Saadi, 2025). Secondly, it creates competition in the economy as the strategies of export promotion are pursued in the economy (Liu et al., 2024; Makala et al., 2025).

Multiple studies have focused on the analysis of the complex association between trade liberalization, economic growth in development. For instance, Monyela and Saba (2024) examined how trade liberalization impacted economic growth in South Africa before and pre-BRICS and post-BRICS periods. The study unveiled a substantial impact of trade openness on economic growth in the post-BRICS period. Furthermore, the study underscored the importance of trade openness as the driving force for growth and development in emerging economies such as South Africa. Rehman et al. (2021) also found positive and significant effects of trade openness on economic growth in 23 emerging economies. Despite the extensive range of benefits from trade liberalization, issues such as protectionism and structural inefficiencies impede the economies, especially the developing ones, from benefiting from trade liberalization (WTO, 1995; BiBi, 2014).

Exploring the impact of trade openness on economic development in the Association of Southeast Asian Nations, Nam and Ryu (2024) pointed out that trade openness has low levels of barriers to trade and high volumes of trade. The study also concluded that high trade barriers were good for enhancing economic growth. It implies that trade openness may have a harmful impact on economic growth. However, Ali et al. (2024) revealed that the impact of trade liberalization on economic growth differs in different economies depending on their level of industrial development. Examining the association between trade openness and economic growth in the Nigerian economy while considering the moderating impact of exchange rate volatility, Gimba et al. (2025) concluded that exports positively and significantly contributed to economic growth. In contrast, imports showed a negative impact on economic growth. According to Nosheen et al. (2024), the

relationship between trade liberalization and economic growth is complex.

It is pertinent to note that liberalization could be a key to the Pakistan economy as it acts as a catalyst for FDI and opens the avenues for other opportunities, which may be productive in contributing to the economic growth of the country. Furthermore, studies also show the positive role of outward trade and economic growth. Whereas, some studies show two-way causality between liberalization and other macroeconomic indicators, including FDI, inflation, and foreign exchange rate (Malik, 2022; BiBi, 2014). BiBi (2014) empirically analyzed the role of trade openness, inflation, imports, exports, real exchange rate, and FDI in promoting economic growth in Pakistan. In this study, the co-integration estimates revealed the long-run relationship between these variables. The study also stressed that the adverse impact of trade openness could be handled by adopting import substitution policies. The authors regarded FDI and trade as pivotal factors to enhance economic growth.

Some studies point out the effectiveness of government policies critical for the productive benefits of trade liberalization and openness for economic growth. However, such issues have caused some controversies in the Pakistani economy, such as a preference to protect existing industries over the cost of new ones, which in turn are detrimental to innovation and competition. Similarly, the impact of trade openness on agriculture also created some controversies (Khan et al., 2020). Reviewing the trade liberalization in Pakistan, Rehman (2024) points out that domestic macroeconomic policies such as compensatory devaluation of the currency are productive. Furthermore, the authors asserted that capital accumulation was reduced significantly due to an overvaluation of the currency. Similarly, the consumption-driven trade liberalization adds to premature deindustrialization, which lowers economic growth. In another study, Khokhar et al. (2025) examined the impact of FDI and trade openness in Pakistan and concluded that neither FDI nor trade openness statistically contributed to economic growth.

## 2. Overview of the international trade and economic growth of the Pakistani economy

### 3.1 Trends in Export and Imports of Goods and Services

The trends in exports and imports of goods and services of the Pakistani economy are portrayed in Figure 1. The orange line in the figure indicates the trends of imports of goods and services, and the blue line shows the trend in exports of goods and services. The gap between the two lines shows that imports have been consistently higher than exports over the 24 years from 2001 to 2024. It reveals the persistence of higher levels of trade deficit in the Pakistani economy. A gradual upward slope of the blue line unveils that there has been a steady growth in exports of goods and services in Pakistan during the 2001-2008 period. During the 2009-2016 period, there have been mild fluctuations and periods of stagnation (Mahmood & Ahmed, 2017). However, during 2017-2024, exports of goods and services showed a slight recovery and growth, especially around 2018, but a steady increase thereafter. However, the growth in exports during the 2001-2024 period has been modest but inconsistent, especially when compared to imports of goods and services in Pakistan.

When it comes to imports of goods and services, the trends of the blue line show that imports in Pakistan's economy were steady and showed strong growth from 2001 to 2005. Furthermore, during 2006-2015, the imports rose significantly and then fluctuated. The imports showed a sharp increase from 2016 to 2019. The imports showed a slight dip in 2020, possibly due to the COVID-19 pandemic and consequent global trade disruptions (Zaidi, 2023). However, imports increased continuously from 2021 to 2014, though at a slower rate than that in the 2016-2019 period. Overall, the imports showed an increasing trend during the 2001-2014 period.

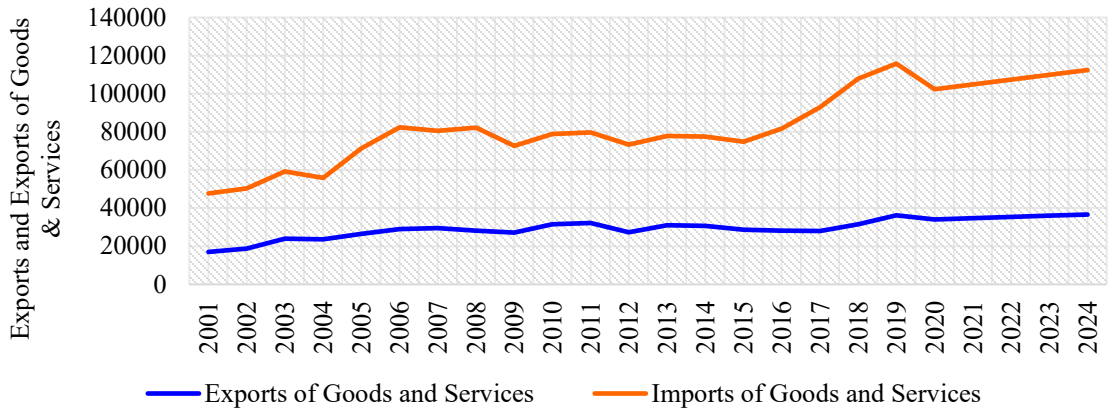


**Figure 1: Trends of Imports and Exports of the Pakistani economy (Data Source: World Bank, 2025)**

### 3.2 Trends in GDP Per Capita of the Pakistan Economy

The building blocks in Figure 2 show the GDP per capita of the Pakistani economy from 2001 to 2024. The figure shows that the GDP per capita of the Pakistani economy grew steadily over the said period. However, the pace of the GDP per capita varied in different years. The periods of growth in GDP per capita were interrupted by external shocks such global financial crisis (Haq et al., 2014) and COVID-19 pandemic (Zaidi, 2023) along with the international shocks such as energy crisis (Usman et al., 2024; Khan et al., 2024) and governance challenges due to political instability in the country (Hussain & Zaman, 2024). Despite the multiple fluctuations, GDP per capita showed a positive trend, though the GDP per capita growth was not very high. Notably, sustainable economic growth remains in question due to multiple factors such as extensive import dependence, limited export diversification, low-value-added exports, and increasing external debt issues.

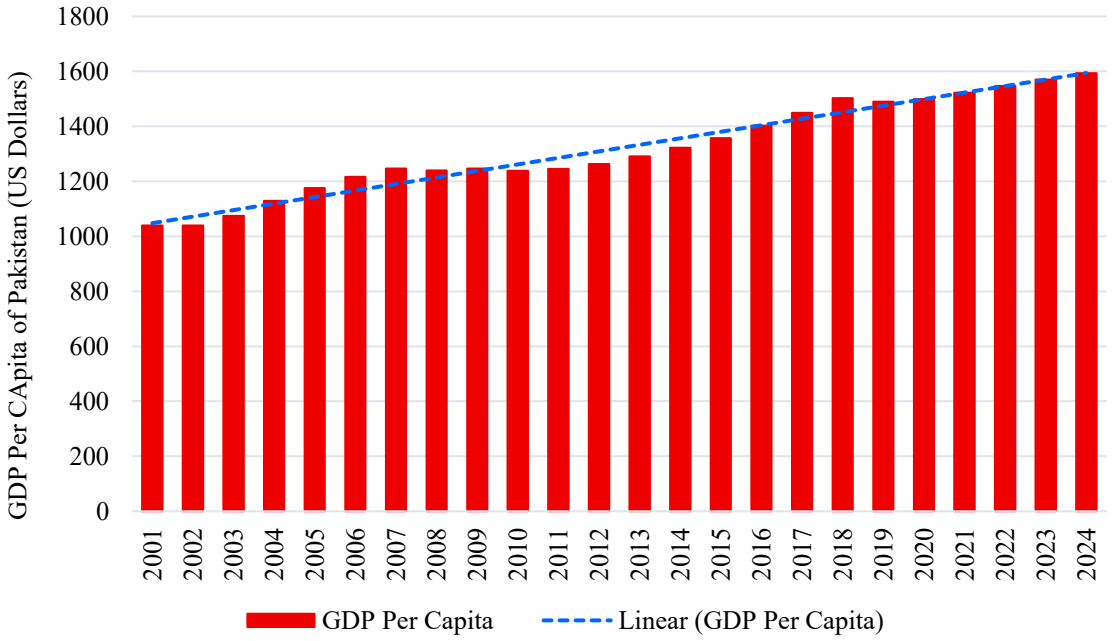


**Figure 2: Trends in GDP Per Capita of Pakistan Economy (Data Source: World Bank, 2025)**

## 3. Methodology

### 4.1 Model

The objective of the study is to examine how TOP influences the economic growth in Pakistan. For this purpose, the following model has been estimated:

$$GDPC_t = a_1 TOP_t + a_2 FDI_t + a_3 RMT_t + a_4 GDI_t + a_5 GEE_t + \varepsilon_t \quad (1)$$

In model (1), GDPC is the GDP per capita, and TOP is trade openness. Trade openness is measured as the ratio of the sum of exports and imports of goods and services divided by the GDP. FDI is foreign direct investment, RMT is remittances from abroad, GDI is the gender development index, and GEE is the governance effectiveness estimate. The data from 2001 to 2024 for these variables was sourced from the World Bank (2025).

### 4.2 Econometric Methodology

The study employed Kernel-based Regularized Least Squares (KRLS) (Hainmueller and Hazlett, 2017; Ferwerda et al., 2017) Machine Learning Model for the estimation of model (1). KRSL is a non-parametric MLM in econometrics and applied social sciences. This machine learning-based model is for flexible estimation of non-linear relationships between the dependent and independent variable(s). One of the pivotal features of the KRLS is that it does not assume that the impacts of the independent variables on the dependent variable are constant or linear across observations. Furthermore, it also enables heterogeneous marginal effects and complex variable interactions, which permit it to be most applicable when dealing with economic data.

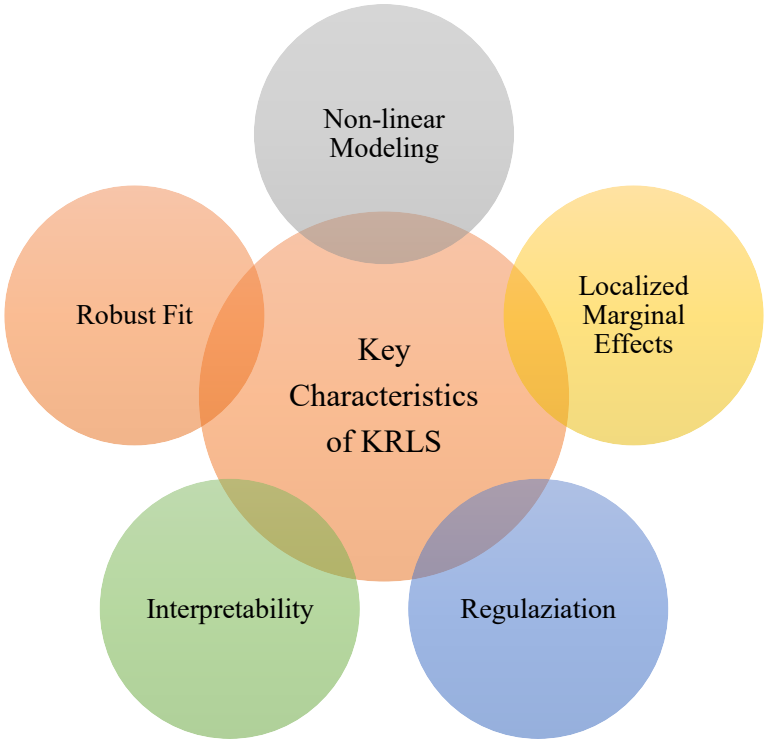


**Figure 3: Key Characteristics of KRLS**

The KRLS method has multiple key characteristics (see Figure 3). It enables the analysts to identify non-linear relationships in the data, especially when the actual functional form of the variables is unknown, which is not possible with the traditional linear regression models (Hainmueller and Hazlett, 2017; Ferwerda et al., 2017). It is also notable that KRLS regression also produces pointwise average marginal effects. Which, in our case, is pivotal to know how the effects of trade openness, FDI, remittances, gender development, and governance can vary in different economic conditions and policy settings. KRLS also includes regularization to avoid overfitting and increases the generalization, especially when the data is noisy (Hainmueller & Hazlett 2014). One of the prominent features of the KRLS is

that it permits statistical inference, including standard errors, t-statistics, and significance levels. KRLS attains the high explanatory power as it escapes the risk of misspecification associated with strict parametric models (Hainmueller and Hazlett, 2017; Ferwerda et al., 2017).

## 4. Results

The KRLS estimates of Model (1), summarized in Table 1, show that the average marginal effect of TOP on GDPC is 0.071, which is positive and significant at the 0.05 level. This positive and significant impact of TOP on economic growth implies that trade liberalization consequent upon enhanced economic globalization has contributed to the economic growth of the Pakistani economy. However, the positive impact of TOP is moderate as compared to other variables included in the model. The positive impact of TOP supports the argument that trade liberalization improves resource allocation, enhances competition, and produces efficiency. Nevertheless, the comparatively lower value of the TOP coefficient points to some structural problems with the trade structure in Pakistan. It might be due to over-reliance on exports of low-value-added products (Hussain, 2010; Sadiq, 2023) and long-lasting trade deficits, constraining to reaping of the full dividends of openness. It points out that the focus should be on enhancing the production and exports of high-value-added products (Hussain et al., 2025).

**Table 1: Results of the model estimates**

| Dependent Variable: GDPC | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Avg. | SE | t-value | P>t | P25 | P50 | P75 |
| TOP | 0.0709** | 0.0329 | 2.1530 | 0.0440 | -0.0060 | 0.0867 | 0.1449 |
| FDI | 0.0276*** | 0.0058 | 4.7990 | 0.0000 | 0.0102 | 0.0285 | 0.0445 |
| RMT | 0.0477*** | 0.0033 | 14.2560 | 0.0000 | 0.0244 | 0.0506 | 0.0777 |
| GDI | 0.3749*** | 0.0240 | 15.6080 | 0.0000 | 0.2143 | 0.4258 | 0.5622 |
| GEE | 0.1004*** | 0.0214 | 4.7010 | 0.0000 | 0.0071 | 0.1005 | 0.1872 |
| Lambda | 0.2000 | | | | | | |
| Sigma | 3.000 | | | | | | |
| Eff. df | 13.3900 | | | | | | |
| $R^2$ | 0.9848 | | | | | | |
| Looloss | 0.3817 | | | | | | |

Note: ***, **, and * indicate significance at 0.01, 0.05, and 0.10 levels.

Since FDI and remittance from abroad are also major features of economic globalization. Results in Table 1 indicate that FDI and remittance both significantly and positively contribute to the economic growth of Pakistan. It is due to the prominent feature of FDI that it not only contributes to the capital but also enables the transfer of advanced technology, managerial skills, and expertise, and opens the avenues for access to world markets. Such contributions of FDI increase the productivity and output levels (Obeng-Amponsah & Owusu, 2025). Pakistan's economy has attracted foreign investments in industries such as energy, manufacturing, and telecommunication, and added to the growth of the economy (Iqbal, 2025). When it comes to remittances, such financial flows enhance the living standards of the household, increase consumption, and are used for education, housing, and healthcare. Which adds to the human capital. Increased quantity and quality of human capital stimulate economic growth in the economy. Better levels of education, housing, and healthcare are also in line with the Sustainable Development Goals Agenda 2030.

As far as gender development is concerned, it also showed a positive and significant impact on economic growth in Pakistan. It underlines that health, education, and income inequality between the genders are critical motivators to growth. Notably, gender equality paves the way for a more representative labor force, enhances decision-making, and improves productivity across industries. The

results of the current estimations underscore that it is imperative to invest in the empowerment of women and remove the hurdles for their integration into active economic life (Ullah et al., 2025; Hamid et al., 2025). Good governance is the key to paving the way to growth and development. Governance effectiveness positively and significantly contributes to economic growth in the Pakistani economy. This result is supported by the findings of existing studies (Solaymani & Montes, 2024). Governance effectiveness increases confidence of the investors, reduces corruption, enhances service delivery, and promotes a stable economic environment, which is fundamental for a sustainable development trajectory. Enhanced governance also drives FDI inflows, remittances, and ensures gender equality.

Since the KRLS also produces the point-wise marginal impact analysis, the current study also used this option to assess the marginal impact of TOP, FDI, RMT, GDI, and GEE on economic growth. Plot of GDPC and derivative of TOP (d_TOP) shows that when $d\_TOP < 0$ (decreasing TOP), GDPC is slightly decreasing or relatively flat. When $d\_TOP \approx 0$ to 0.2, the GDPC increases notably. This implies that initial increases in trade openness are positively associated with economic growth, likely due to better access to international markets, technology spillovers, and export-driven productivity gains. When $d\_TOP > 0.2$ to 0.3, the graph of GDPC reaches its peak, indicating an optimal level of trade openness beyond which the positive impact on GDP per capita diminishes. When $d\_TOP > 0.2$ to 0.3, it means that further increases in trade openness correspond to a decline in GDP per capita. This could reflect negative marginal effects of excessive openness, such as trade imbalances and overreliance on imports, deindustrialization, or loss of competitiveness in domestic industries, vulnerability to external shocks. The KRLS graph reveals a non-linear, inverted-U relationship between trade openness and GDP per capita in Pakistan. Moderate trade openness supports growth, likely due to gains from trade and export-led expansion. However, excessive openness may harm GDP per capita, possibly due to increased import dependency, weak local industrial base, or lack of diversification. These results imply that the policy makers in Pakistan should pursue the policy to optimize trade openness rather than maximize it. Furthermore, policymakers should focus on strategic trade policies, enhance export competitiveness, and limit import vulnerabilities to ensure sustainable per capita income growth.

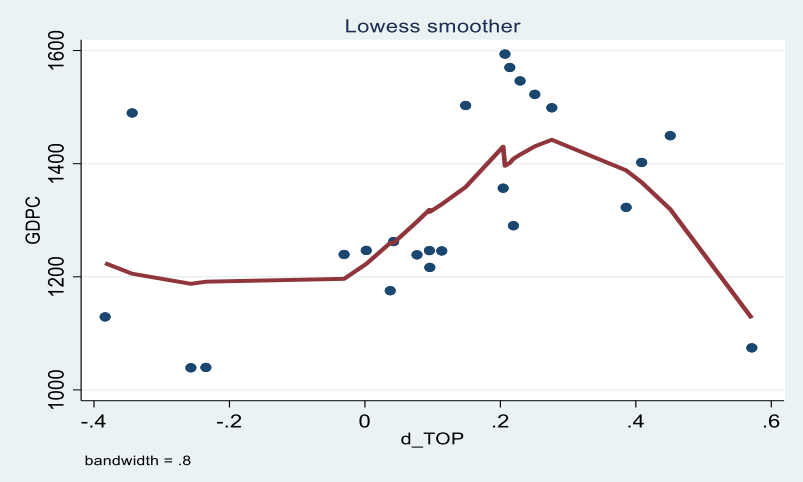


**Figure 4: Pointwise marginal effect of TOP on the level of GDPC**

## 5. Conclusion

The current study aimed to analyze the impact of trade liberalization on economic growth in Pakistan. For this purpose, the GDP per capita was taken as a dependent variable to examine the impact of trade liberalization measured by trade openness while controlling for the FDI, remittances, gender development, and governance effectiveness. The

KRLS estimation method was used for the model estimations using the data from 2001 to 2024. The empirical estimations confirm that trade openness positively and significantly influences economic growth, which affirms that enhanced integration of Pakistan's economy with the global economy can be beneficial for the economic growth and development of the economy. However, the size of the positive effect of trade liberalization is small, which may not be enough to adequately induce long-term growth unless accompanied by necessary complementary structural changes and reforms.

More significantly, the study reveals that FDI and remittance play have positive and significant role to play in the economic growth of Pakistan. These findings indicate the importance of foreign capital flows, which are contributory to vital income sources and development funding warranted for a capital-starved economy like Pakistan. It warrants the encouragement of an investment environment and increases in the remittance channels as policy priorities. Furthermore, narrowing the gender gap is equally important as investing in productive projects. Narrowing the gender gap not only paves the way towards growth but also towards sustainable development. Encouraging gender equality in health, education, and employment is not just related to ethical obligation but an incredibly effective economic approach that needs to be adopted. Furthermore, increasing governance is the area that also needs special attention. Good working institutions and inclusive public policy can be productive for economic resilience and progress.

## REFERENCES

Ahmad, R., Raza, K., & Saher, S. (2017). Impact of trade openness on economic growth: A case study of Pakistan. Review of Economics and Development Studies, 3(1), 57-68.

Ali, B., Nazari, F., Mustafa, K., Yaqub, K. Q., & Alyani, M. A. (2024). Impact of Trade Liberalization on Economic Growth in Developing Countries. Bulletin of Business and Economics (BBE), 13(2), 1128-1133.

Bibi, S., Ahmad, S. T., & Rashid, H. (2014). Impact of trade openness, FDI, exchange rate and inflation on economic growth: A case study of Pakistan. International Journal of Accounting and Financial Reporting, 4(2), 236.

Cieślik, E., & Zamojska, A. (2024). What determines technology transfer in Africa? Factors influencing technology imports from China to African economies. African Review of Economics and Finance, 16(2): 1-26.

Ferwerda, J., Hainmueller, J., & Hazlett, C. J. (2017). Kernel-based regularized least squares in R (KRLS) and Stata (krls). Journal of Statistical Software, 79, 1-26.

Gimba, J. T., Omale, D., & Anaba, M. I. (2025). Exploring the relationship between trade openness and economic growth in Nigeria: The moderating effect of exchange rate volatility. Development and Sustainability in Economics and Finance, 6, 100041.

Hainmueller J, Hazlett C (2017). KRLS: Kernel-Based Regularized Least Squares. R package version 1.0-0, URL https://CRAN.R-project.org/package=KRLS.

Hainmueller, J., Hazlett, C. (2014). Kernel Regularized Least Squares: Reducing Misspecification Bias with a Flexible and Interpretable Machine Learning Approach. Political Analysis, 22(2), 143–168.

Hamid, A., & Akram, N. (2025). Socio-economic consequences of horizontal gender inequalities in education and health: Incidence from Pakistan. Journal of Asian Development Studies, 14(1), 296-308.

Haq, M., Khan, K., & Parveen, A. (2014). The growth and employment impacts of the 2008 global financial crisis on Pakistan. The Lahore Journal of Economics, 19(2), 129-154.

Hussain, F. (2010). Pakistan's exports demand: A disaggregated analysis. SPB Research Bulletin, 6(2), 1-11.

Hussain, S. I., Hussain, A., & Ul Hassan, I. (2025). Export-led growth in Pakistan: a sectoral analysis. International Review of Applied Economics, 1-25.

Hussain, S., & Zaman, M. (2024). Political Instability and Its Impacts on Economic Development of Pakistan (2018-2022). Social Science Review Archives, 2(2), 540-548.

Igbal, S. (2025). The FDI Regime in Pakistan. Business Law International, 26(1), 49-64A.

Khan, G. Y., Anwar, M. M., & Anwar, A. (2020). Trade openness and economic growth nexus in Pakistan. Global Economics Review, 4, 24-33.

Khan, S., Ali, M., Hussain, M., Ali, S., & Ali, F. (2024). Energy Crisis and Economic Growth; A Study of Pakistan's Economic Landscape. International Journal of Contemporary Issues in Social Sciences, 3(1), 2319-2325.

Khokhar, M. Y., Shah, A. Q., & Khushik, A. G. (2025). Comparative Impact of Foreign Direct Investment and Trade Openness on Economic Growth in Pakistan: A Time Series Analysis (2000–2023). Journal of Media Horizons, 6(2), 472-478.

Lall, S. (2019). Technological learning in the Third World: some implications of technology exports. In The economics of new technology in developing countries (pp. 157-179). Routledge.

Lemaallem, H., & Saadi, A. (2025). Productivity and Trade Openness: A Sectoral Analysis of Morocco's Economy. Economics-Innovative and Economics Research Journal, 13(2), 529-551.

Liu, H., Xiao, Y., & Li, S. (2024). How Does Trade Liberalization in Imports Affect China's Export Growth Pattern? Asian Economic Papers, 23(2), 174-198.

Mahmood, A., Ahmed, W. (2017). Export Performance of Pakistan: Role of Structural Factors. SBP Staff Notes 02/17. State Bank of Pakistan, Karachi. https://www.sbp.org.pk/publications/staff-notes/SN-2-17-Export-Prefor-Pak.pdf

Makala, Z., Makhetha-Kosi, P., Shambare, R., & Ninana, A. (2025). Comparative Analysis of Trade Policies for BRICS and Developed Economies. In Analyzing the Impact of BRICS+ Nations' Trade Policies on Global Economies (pp. 93-122). IGI Global Scientific Publishing.

Malik, A. (2022). How special interest groups capture trade policy in Pakistan. https://www.qeh.ox.ac.uk/blog/how-special-interest-groups-capture-trade-policy-pakistan

Monyela, M. N., & Saba, C. S. (2024). Trade openness, economic growth and economic development nexus in South Africa: a pre- and post-BRICS analysis. Humanities and Social Sciences Communications, 11(1), 1-18.

Nam, H. J., & Ryu, D. (2024). Does trade openness promote economic growth in developing countries? Journal of International Financial Markets, Institutions and Money, 93, 101985.

Nazir, S., Sohag, K., & Mariev, O. (2025). Geopolitical Risk and Trade Reorientation Dynamics: A Comparative Study. Emerging Markets Finance and Trade, 1-22.

Nosheen, M., Abbasi, M. A., & Iqbal, J. (2024). Asymmetric effects of trade openness, financial development, and human capital on economic growth in South Asia. The International Trade Journal, 1-28.

Obeng-Amponsah, W., & Owusu, E. (2025). Foreign direct investment, technological transfer, employment generation and economic growth: new evidence from Ghana. International Journal of Emerging Markets, 20(5), 2088-2109.

Raghutla, C. (2020). The effect of trade openness on economic growth: Some empirical evidence from emerging market economies. Journal of Public Affairs, 20(3), e2081.

Rehman, F. (2024). Trade Liberalization in Pakistan: An Alternative Perspective. Lahore Journal of Economics, 29(1), 99-122.

Rehman, M. A. ur, Shaheen, R., & Munir, F. (2021). Impact of Trade Openness on Economic Growth in Emerging Economies: A Panel Data Analysis. Pakistan Journal of Humanities and Social Sciences, 9(2), 210–216.

Sadiq, A. B. (2023). Exploring Product Diversification Opportunities in Pakistan for Export Growth. Forman Journal of Economic Studies, 19(1), 47-75.

Solaymani, S., & Montes, O. (2024). The role of financial development and good governance in economic growth and environmental sustainability. Energy Nexus, 13, 100268.

Ullah, S., Gul, A., Shah, S. M., Uzair, M., Khan, K., Ismail, M., & Amjad, M. J. (2025). Impact of female education on the economic growth: a case study of Pakistan. Journal of Asian Development Studies, 14(1), 205-217.

URCAP (2025). Trade Policies and Tariffs in Pakistan: A Comprehensive Overview. https://urcapk.com/economy-policy/trade-policies-and-tariffs-in-pakistan-a-comprehensive-overview/

Usman, M., Raza, K., Shahbaz, P., Ahmad, I., & Naveed, R. T. (2024). Effects of electrical crisis in Pakistan sustainable policies in the electricity sector: the case of Pakistan. Innovative Research: Uniting Multidisciplinary Insights, 2, 201-210.

World Bank (2025). World Development Indicators. The World Bank: Washington, DC.

WTO (1995). Trade Policy Reviews. https://www.wto.org/english/tratop_e/tpr_e/tp1_e.htm

Zaidi, S. M. S. (2023). COVID-19: exacerbating Pakistan's economic problems–a critical analysis using the dependency paradigm. Asian Journal of Comparative Politics, 8(4), 811-824.

Zeshan, M. (2025). Balancing Trade and Competition in Pakistan. The Pakistan Development Review, 64(1), 25-52.