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LAHORE SCHOOL OF ECONOMICS
INNOVATION AND TECHNOLOGY CENTER POLICY NOTE No. 2/25

Factors that Impact Pakistan's Exports: An Empirical Analysis

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Executive Summary and Key Findings:

Pakistan's exports have remained stagnant despite multiple exchange-rate depreciations. Empirical evidence from product-level data between 2003 and 2024 indicates that changes in the real effective exchange rate and energy tariffs have had limited effects on exports, whereas export diversification and foreign demand are key drivers of export growth. Lower import tariffs primarily boost non-textile and ICT exports and should be phased in carefully—focusing on capital and inputs used in export sectors—to prevent balance of payments issues. To promote sustainable export growth, Pakistan needs to shift from price-driven policies to a capability-oriented approach that emphasizes innovation and diversification into higher-value, more complex products.

Key Lessons from an Analysis of Export Determinants:

Figures 1 and 2 show that from 1992 to 2024, Pakistan's exports, both in USD and as a share of GDP, have remained largely flat. Despite multiple rounds of depreciation and changes in energy tariffs, there has been no consistent upward trend in exports—overall or by sector.

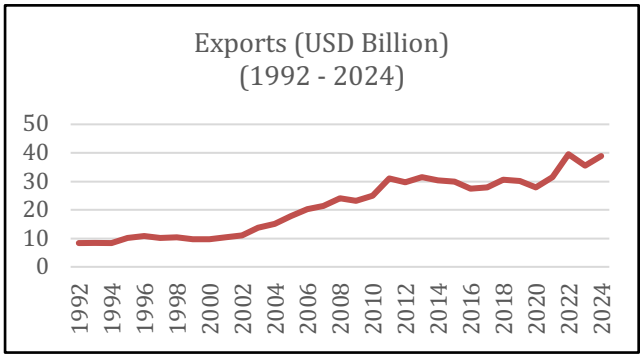

Figure 1: Pakistan's Exports (1992 – 2024)

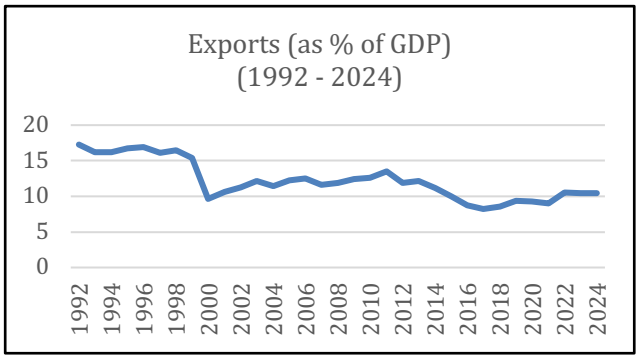

Figure 2: Pakistan's Exports as % of GDP (1992 – 2024)

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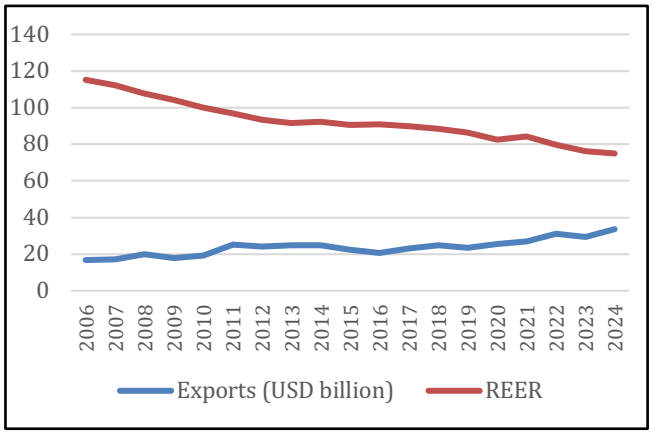

Figure 3: Pakistan's Exports and REER

LESSON 1: EXCHANGE RATE DEPRECIATION HAS NOT INCREASED EXPORTS

- Figure 3 suggests that exports and the real effective exchange rate (REER) exhibit a weak relationship.
- Despite multiple episodes of REER depreciation, exports haven't increase significantly.
- The empirical analysis reinforces the result that REER depreciations are not associated with any significant export growth in the textile sector.
- We find the same result for non-textile and services exports.

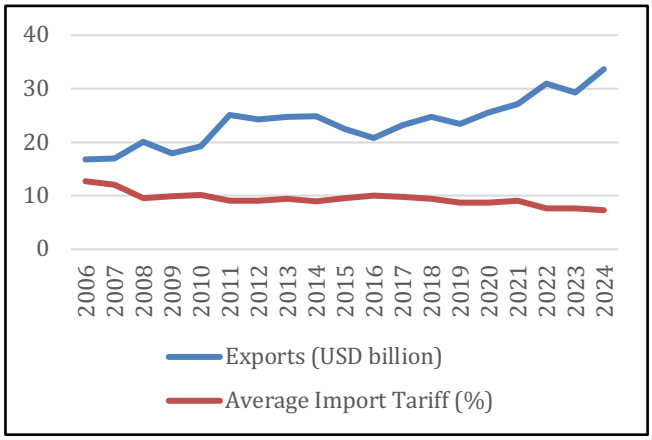

Figure 4: Pakistan's Exports and Average Import Tariff

LESSON 2: LOWER IMPORT TARIFFS ONLY INCREASE NON-TEXTILE AND ICT EXPORTS

- Figure 4 suggests that lower average import tariffs are associated with stronger exports.
- The empirical analysis shows that textile exports have not increased in response to lower import tariffs.
- But the analysis does find that lower import tariffs are associated with higher non-textile and ICT exports.
- A 1% reduction in tariff rate leads to an increase of USD 0.07 billion and USD 0.27 billion in non-textile and ICT exports, respectively.

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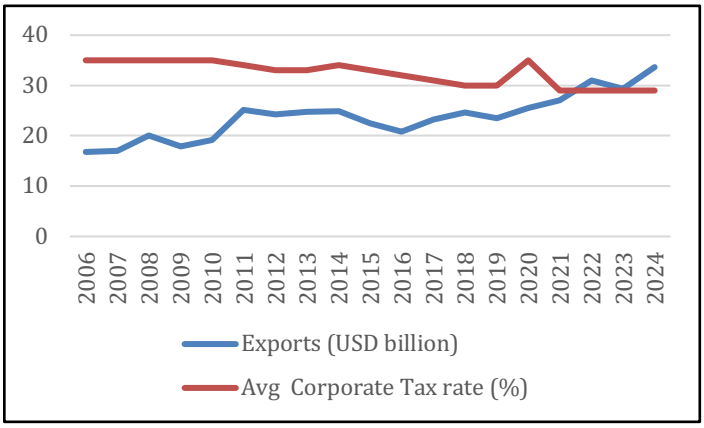

Figure 5: Pakistan's Exports and Average Corporate Tax

LESSON 3: HIGHER CORPORATE TAXES REDUCE TEXTILE EXPORTS

- Figure 5 illustrates a slightly negative correlation between corporate tax rates and exports over time.
- The empirical analysis shows that lower corporate tax rates are correlated with higher textile exports.
- The empirical analysis does not find any significant relationships between the corporate tax rate and non-textile and services exports.

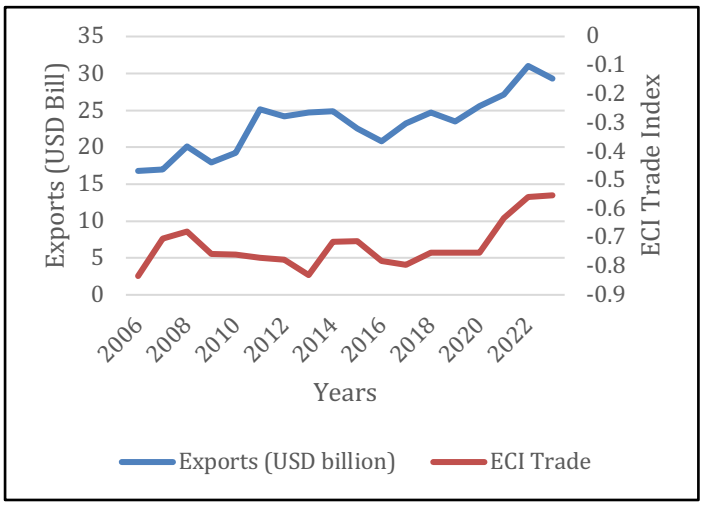

Figure 6: Pakistan's Exports and ECI

LESSON 4: GREATER EXPORT DIVERSIFICATION AND HIGHER EXPORT COMPLEXITY ARE ASSOCIATED WITH GREATER TEXTILE EXPORTS AND SERVICES EXPORTS

- Figure 6 suggests that export complexity is linked to exports.
- The empirical analysis shows that the export diversification (EDI) is positively associated with textile exports.
- The empirical analysis also finds that the economic complexity of goods exported by Pakistan (ECI) is positively associated with services exports.

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LESSON 5: HIGHER GAS TARIFFS ARE NEGATIVELY CORRELATED WITH EXPORTS

- The empirical analysis finds that overall exports are negatively correlated to gas tariffs though the impact is low.
- The empirical analysis does not find a significant relationship between exports and electricity tariffs.
- The results imply that up to 2024, energy prices have not been a binding constraint in the export sector.

LESSON 6: GREATER FOREIGN DEMAND IS A CRITICAL FACTOR FOR EXPORT GROWTH

- The empirical analysis finds that foreign income growth is a key factor in export growth.
- Foreign income growth is positively associated with higher textile, non-textile and services sector exports.
- This implies that new markets, especially high-income markets, are critical for export growth.

POLICY IMPLICATIONS:

- Exchange rate depreciations to increase exports have proven to be ineffective.
- Lower import tariffs are only associated with higher exports in the non-textile sectors and the ICT sector, while the textile sector has remained unaffected. But reducing tariffs can have a negative impact on the current account, so reductions should be gradual and focus on capital and intermediate inputs needed by the export sector.
- Greater export diversity correlates with higher commodity exports, highlighting the importance of expanding the export base to boost textile and non-textile exports.
- Pakistan's export basket has continued to be focused around low-complexity, low-value-added goods. Evidence indicates that expansion into related but higher-complexity products could greatly boost exports.
- Innovation studies of Pakistani firms have shown that productivity and export upgrading mainly stem from firm-level innovations, and although country-level productivity has stagnated, exporters that innovate (produce new products or adopt new processes) tend to be more productive.
- Foreign demand acts as a major positive factor in driving export growth. However, simply accessing foreign markets does not lead to higher profitability unless firms move into higher-value segments and export those kinds of products to new markets.
- Macro-level policies, such as depreciation and energy tariff changes, will eventually hit their limits because firms lack the innovation capacity, technological depth, and product diversity needed to adapt to new market opportunities.
- An export-led growth model requires a shift from reactive exchange rate management to proactive industrial strategy—targeting new sectors, developing human capital aimed at export sector, facilitating technological learning and improving logistics.

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Table 1: Export Determinants in Pakistan (2003-2024)-Panel Data Analysis using a PPML High-Dimensional Fixed Effect Model

Dependent Variable:	Commodity Exports (USD Billion)	Textile Sector Exports – (USD Billion)	Commodity Exports excluding Textile Sector (USD Billion)	Services Exports (USD Billion)	ICT Exports (USD Billion)	Services Exports excluding ICT (USD Billion)
	(1)	(2)	(3)	(4)	(5)	(6)
Real Effective Exchange Rate	0.00193	0.000409	0.00173	0.00986	0.0143	0.0110
	(0.00256)	(0.00267)	(0.00379)	(0.00989)	(0.00983)	(0.0112)
Foreign Trade Weighted GDP (USD Billion)	0.000192***	0.00009***	0.000197***	-6.23e-05	0.000381***	-0.000188**
	(4.20e-05)	(2.89e-05)	(6.90e-05)	(7.55e-05)	(9.36e-05)	(7.61e-05)
Economic Complexity Index (ECI)	-0.163	0.0982	-0.0921	0.785**	-1.706	1.045***
	(0.246)	(0.215)	(0.383)	(0.363)	(1.472)	(0.248)
Export Diversification Index (EDI)	5.070***		8.159***			
	(1.437)		(2.164)			
Export Diversification Index (EDI) of Textile Sector	-1.117	-3.955*				
	(1.106)	(2.064)				
Average Corporate Tax Rate (%)	-0.00844	-0.0134*	-0.00972	-0.0374	-0.00375	-0.0506
	(0.00738)	(0.00716)	(0.0135)	(0.0282)	(0.0327)	(0.0347)
Average Electricity Tariff (Industry – PKR/kWh)	-0.000771	0.00115	-0.00237	-0.00523	0.00190	-0.00721
	(0.00347)	(0.00542)	(0.00363)	(0.00603)	(0.0197)	(0.00735)
Average Gas Tariff (Industry – PKR/MMbtu)	-0.000205*	-0.000232	-0.000124	0.000299	0.000172	0.000417*
	(0.000121)	(0.000188)	(0.000136)	(0.000259)	(0.00110)	(0.000247)
Weighted Average Applied Import Tariff Rate (%)	-0.0412**	-0.0213	-0.0713***	-0.115	-0.268***	-0.0891
	(0.0202)	(0.0261)	(0.0240)	(0.0735)	(0.0516)	(0.0826)
Constant	-5.910***	0.709	-8.972***	0.903	-3.983*	1.858
	(1.873)	(1.341)	(2.464)	(1.589)	(2.136)	(1.845)
Observations	113,001	18,564	94,437	912	209	703

Note: Robust standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1. Data Sources: UN Comtrade Website, State Bank of Pakistan Easy Data Portal, World Development Indicators, Observatory of Economic Complexity Website, Pakistan Economic Survey (2003 - 2024), and World Integrated Trade System. Results estimated via PPML-HDFE estimator.