

Journal of Business and Economic Options



Dynamics of Export Demand Determinants in Pakistan: Exploring Exchange Rate Volatility and Economic Context

Mahmood Khalid^a

Abstract

The significance of understanding the dynamics of export demand determinants in Pakistan cannot be overstated, particularly in the context of the country's economic development and global trade landscape. By delving into the intricacies of exchange rate volatility and its interaction with other factors influencing export demand, this study aims to offer valuable insights that can inform policy formulation and strategic decision-making. In exploring the dynamic effects of exchange rate volatility on export demand, it is essential to consider the broader economic context within which Pakistan operates. As a country heavily reliant on exports to drive economic growth and development, understanding the factors that shape export demand dynamics is paramount. Exchange rate volatility, for instance, can have profound implications for the competitiveness of Pakistani exports in international markets. Fluctuations in exchange rates can impact export prices, making Pakistani goods more or less attractive to foreign buyers. Moreover, the study also delves into the role of other conventional determinants of export demand, such as economic growth, trade policies, and external market conditions. By examining the interplay between these factors and exchange rate volatility, the research aims to provide a comprehensive understanding of the dynamics driving Pakistan's export performance. Furthermore, the use of OLS and ARDL models allows for a nuanced analysis of the relationship between export demand and its determinants across different time horizons. By capturing both short-term fluctuations and long-term trends, the study offers valuable insights into the underlying dynamics of Pakistan's export sector. Overall, the findings of this study are expected to have implications for policymakers, industry stakeholders, and researchers alike. By shedding light on the complex relationship between exchange rate volatility and export demand, the research contributes to a deeper understanding of the factors driving Pakistan's trade dynamics and can inform strategies aimed at enhancing export competitiveness and promoting sustainable economic growth.

Keywords: Export Demand, Exchange Rate Volatility, Economic Growth, Trade Policies, International Market Conditions

JEL Codes: F14, F31, O24

1. INTRODUCTION

The persistent trade deficit experienced by Pakistan over several decades can be attributed to various factors, including the rapid growth of imports outpacing the relatively modest expansion of exports (Husain, 2009). One significant contributor to this imbalance is the surge in domestic demand driven by robust economic growth, which has heightened the nation's appetite for imports. As Pakistan's economy has expanded, propelled by increased investment activities, the demand for imported goods and services has surged. Investments in infrastructure, manufacturing, and other sectors have necessitated the importation of machinery, raw materials, and intermediate goods, contributing to the escalating import bill (Bigsten et al., 2010). Additionally, rising domestic consumption fueled by higher incomes and urbanization has further exacerbated the demand for imported consumer goods, including electronics, automobiles, and luxury items. This trend has been reinforced by changing consumer preferences and lifestyles, leading to a greater reliance on imported products. While imports have surged to meet the growing demands of the domestic market, Pakistan's export growth has been relatively sluggish in comparison. Challenges such as limited diversification of export products, insufficient value addition, infrastructure constraints, trade barriers, and global economic uncertainties have hampered the competitiveness of Pakistani exports in international markets (Husain, 2018). Addressing the trade deficit requires a multifaceted approach that focuses on enhancing export competitiveness, promoting import substitution industries, improving trade infrastructure, implementing trade facilitation measures, and fostering a conducive business environment. By rebalancing trade dynamics and promoting sustainable export-led growth, Pakistan can work towards narrowing its trade deficit and fostering long-term economic stability.

The imports of capital goods and machinery play a vital role in accelerating economic productivity and fostering long-term economic growth in Pakistan (Awan and Mustafa, 2013). These imports are essential for upgrading and modernizing the country's industrial base, improving infrastructure, and enhancing overall economic efficiency. By importing advanced technology and machinery, Pakistan can enhance its productive capacity, improve the quality of goods and services, and remain competitive in the global market. However, the effectiveness of Pakistan's international trade policy is contingent upon

^a Dr. Hasan Murad School of Management, University of Management and Technology, Lahore, Pakistan

various factors, including the magnitude of income and price shocks on both exports and imports, as well as exchange rate fluctuations and volatility. Income shocks, such as changes in domestic and global economic conditions, can impact the demand for Pakistani exports and imports (Chaudhry et al., 2013). For instance, during periods of economic downturns, both domestic and global demand for goods and services may decline, affecting Pakistan's export earnings and import demand. Similarly, price shocks, such as fluctuations in commodity prices or changes in international trade policies, can influence the competitiveness of Pakistani exports and the cost of imported goods. Sharp changes in commodity prices, especially for key export commodities like textiles, agricultural products, and minerals, can significantly affect Pakistan's export earnings and trade balance. Exchange rate fluctuations and volatility also play a crucial role in shaping Pakistan's trade dynamics. Fluctuations in the exchange rate can impact the competitiveness of exports and the affordability of imports (Chit et al., 2010). A depreciation of the Pakistani rupee relative to major trading currencies can make exports more competitive in international markets but may also increase the cost of imported goods, leading to higher import bills and potential inflationary pressures. On the other hand, exchange rate volatility can create uncertainty for exporters and importers, affecting their business decisions and trade activities. A stable and predictable exchange rate environment is generally favorable for trade, as it reduces transaction costs, minimizes risks, and fosters confidence among traders and investors. In navigating these challenges, Pakistan needs to adopt a comprehensive trade policy framework that addresses the complexities of international trade dynamics while promoting export diversification, import substitution, and sustainable economic growth (Wolf, 2020). This entails enhancing export competitiveness through value addition, improving trade infrastructure and logistics, facilitating trade finance, and implementing prudent exchange rate management policies to ensure stability and predictability in the currency market. By effectively managing these factors, Pakistan can harness the potential of international trade to drive economic development and prosperity. The empirical investigation of the factors influencing export and import demand in Pakistan holds significant importance for policymakers tasked with formulating effective trade policies. By understanding how various shocks impact export and import demand, policymakers can devise strategies to promote export growth, manage import levels, and ensure the stability of the country's external trade sector.

This study seeks to contribute to this understanding by measuring the effects of different shocks on export and import demand in Pakistan and forecasting the future variations in export and import demand based on changes in their determinants (Raza and Lin, 2021). By analyzing the dynamic variations of these determinants across different time horizons, the study aims to provide insights into the evolving dynamics of Pakistan's trade patterns and the factors driving them. The findings of this study can inform policymakers about the key drivers of export and import demand and help them anticipate and respond to changes in these factors. For example, if the study identifies that changes in exchange rates have a significant impact on export demand, policymakers may consider implementing measures to stabilize the currency or hedge against currency fluctuations to support export-oriented industries. Similarly, if fluctuations in global commodity prices emerge as a critical factor affecting import demand, policymakers may explore strategies to diversify import sources or invest in domestic production to reduce import dependence on volatile commodities. Moreover, by forecasting future variations in export and import demand, policymakers can proactively adjust trade policies to capitalize on emerging opportunities or mitigate potential risks (Tubiello et al., 2008). For instance, if the study predicts a surge in demand for Pakistani exports in certain markets due to changing consumer preferences or trade agreements, policymakers may prioritize market development efforts or negotiate favorable trade deals to maximize export gains. Conversely, if the study anticipates a decline in import demand for certain goods due to technological advancements or shifting consumption patterns, policymakers may incentivize domestic production or explore alternative sourcing options to maintain supply chain resilience.

2. THE MODEL

The export demand function proposed in this study encompasses several key determinants identified in the literature, reflecting the complex interplay of factors influencing a country's export performance. By incorporating variables such as real foreign income index, relative price of imports, real effective exchange rate, and real effective exchange rate volatility, the model aims to provide a comprehensive framework for analyzing and forecasting export demand dynamics. The inclusion of real foreign income index (RFI) acknowledges the significant impact of foreign income levels on a country's export demand. As external demand conditions evolve, changes in foreign income levels can exert considerable influence on the demand for a country's exports, reflecting shifts in global economic activity and consumer purchasing power. Similarly, the relative price of imports (RPI) captures the competitiveness of a country's exports in international markets. Changes in relative prices relative to competitor countries can affect the attractiveness of exports, influencing export demand dynamics over time. The real effective exchange rate (ERt) plays a crucial role in determining a country's export competitiveness by adjusting for both nominal exchange rate movements and relative price levels. A more competitive real exchange rate can enhance the competitiveness of a country's exports, potentially boosting export demand in foreign markets. Additionally, incorporating real effective exchange rate volatility (Vt) recognizes the importance of exchange rate stability in shaping export demand dynamics. Exchange rate volatility can introduce uncertainty for exporters, affecting their pricing decisions, investment plans, and overall export performance. By integrating these determinant factors into the export demand function, the study aims to provide a nuanced understanding of the drivers of export demand in Pakistan and forecast future variations in export demand based on changes in these determinants. By analyzing the relationships between these variables and export demand over time,

policymakers can gain insights into the factors shaping export performance and formulate targeted policy interventions to promote export-led growth and economic development.

3. RESULTS AND DISCUSSIONS

Table 1 presents descriptive statistics for the variables included in the export demand function. The variable lnX represents the natural logarithm of real exports, with a mean of 1.346681 and a standard deviation of 8.392837. The minimum value is -29.19, indicating variability in export levels, while the maximum value is 32.5, reflecting the range of export values observed in the dataset. lnRFI denotes the natural logarithm of the real foreign income index, with a mean of 0.4282747 and a standard deviation of 0.3408282. The minimum value is 0.042054, suggesting fluctuations in foreign income levels, while the maximum value is 6.025524, indicating variation in the external demand environment. The variable lnRP represents the natural logarithm of the relative price of imports, with a mean of 0.477965 and a standard deviation of 0.1817366. The minimum value is 0.0323548, indicating variability in import price levels relative to exports, while the maximum value is 1.538456, reflecting changes in the competitiveness of exports. lnER denotes the natural logarithm of the real effective exchange rate, with a mean of 14.27802 and a standard deviation of 1.261109. The minimum value is 7.990915, suggesting fluctuations in the real exchange rate, while the maximum value is 17.69842, reflecting changes in exchange rate competitiveness. Finally, lnV represents the natural logarithm of real effective exchange rate volatility, with a mean of 0.33344265 and a standard deviation of 0.5897949. The minimum value is 0.01, indicating variability in exchange rate volatility levels, while the maximum value is 7.17, reflecting fluctuations in exchange rate uncertainty. These descriptive statistics provide insights into the central tendency, variability, and range of values observed for each variable, laying the groundwork for further analysis of export demand dynamics.

Table 1: Descriptive Statistics

Variables	Mean	Std. Dev.	Min	Max
lnX	1.346681	8.392837	-29.19	32.5
lnRFI	.4282747	.3408282	.042054	6.025524
lnRP	.477965	.1817366	.0323548	1.538456
lnER	14.27802	1.261109	7.990915	17.69842
lnV	.33344265	.5897949	0.01	7.17

Table 2: Pearson's correlation coefficient matrix

	lnX	lnRFI	lnRP	lnER	lnV	VIF	1/VIF
lnX	1.0000					-	-
lnRFI	0.1442*	1.0000				1.50	0.665745
lnRP	-0.1725*	0.2143*	1.0000			1.17	0.857256
lnER	0.3907*	0.1519*	-0.0269	1.0000		1.02	0.977921
lnV	0.1430*	0.4717*	-0.1426*	0.0639***	1.0000	1.42	0.703968
					Total	1.28	

Table 3: Estimated Outcomes

		Dependent Variable: LnX			
		OLS		ARDL	
	Coefficients	P-Value	Coefficients	P-Value	
lnRFI	3.807348	.005	2.531885	0.015	
lnRP	-13.23896	.000	-8.02612	.000	
lnV	4.754533	.000	2.652068	.000	
lnRFI	1.684969	.060	.7886779	.194	
-Cons	-62.77177	.000	-33.71085	.000	

The correlation matrix offers valuable insights into the relationships among the variables under consideration, namely lnX (exports), lnRFI (Real Foreign Income Index), lnRP (Relative Price of Imports), lnER (Real Effective Exchange Rate), and lnV (Real Effective Exchange Rate Volatility).

Starting with $\ln RFI$, it exhibits a positive but weak correlation with $\ln X$. This suggests that an increase in real foreign income levels may lead to a slight increase in exports. It implies that higher foreign income levels could potentially stimulate export demand, albeit to a modest extent.

Moving to $\ln RP$, it shows a negative but weak correlation with $\ln X$. This implies that as the relative price of imports increases, exports tend to decrease slightly. This negative relationship suggests that higher import prices may deter export demand to some extent.

In contrast, $\ln ER$ demonstrates a positive and moderate correlation with $\ln X$. This indicates that an appreciation in the real effective exchange rate may lead to higher exports. A stronger exchange rate makes a country's exports relatively cheaper for foreign buyers, potentially boosting export demand.

Lastly, $\ln V$ exhibits a weak positive correlation with $\ln X$. This suggests that greater volatility in the real effective exchange rate may slightly increase export levels. However, the correlation is relatively weaker compared to other variables, indicating that exchange rate volatility may have a lesser impact on export demand compared to other factors.

Regarding multicollinearity, the variance inflation factor (VIF) values are relatively low, indicating that multicollinearity is not a significant issue among the variables. This implies that the variables can be included in regression models without substantial concerns about multicollinearity adversely affecting the estimation results.

4. CONCLUSIONS

In conclusion, this study underscores the critical importance of comprehending the intricacies of export demand determinants in Pakistan's economic landscape. By focusing on the dynamics of exchange rate volatility and its interaction with other factors influencing export demand, the research aims to provide valuable insights for policy formulation and strategic decision-making. Understanding the impact of exchange rate volatility on export demand is crucial within the broader economic context of Pakistan. As a nation heavily reliant on exports for economic growth, fluctuations in exchange rates can significantly affect the competitiveness of Pakistani goods in global markets. By analyzing how exchange rate volatility interacts with variables like economic growth, trade policies, and external market conditions, this study offers a holistic understanding of Pakistan's export performance. Through the use of OLS and ARDL models, the research captures both short-term fluctuations and long-term trends in the relationship between export demand and its determinants. This comprehensive approach provides insights into the underlying dynamics of Pakistan's export sector, offering valuable information for policymakers, industry stakeholders, and researchers. Overall, the findings of this study are expected to inform strategies aimed at enhancing Pakistan's export competitiveness and promoting sustainable economic growth. By shedding light on the complex interplay between exchange rate volatility and export demand, the research contributes to a deeper understanding of the factors shaping Pakistan's trade dynamics and lays the groundwork for future policy interventions and research initiatives in this area.

REFERENCES

- Awan, F., & Mustafa, U. (2013). Key factors contributing to agricultural growth in Pakistan: An application of time series analysis. *Journal of Agricultural Economics and Development*, 1(2), 6-13.
- Bigsten, A., Kimuyu, P., & Söderbom, M. (2010). The manufacturing sector. *Kenya: Policies for Prosperity*. Oxford. Oxford University Press and Central Bank of Kenya.

- Chaudhry, A., & Bukhari, S. K. H. (2013). A structural VAR analysis of the impact of macroeconomic shocks on Pakistan's textile exports. *Economic modelling*, 32, 302-315.
- Chit, M. M., Rizov, M., & Willenbockel, D. (2010). Exchange rate volatility and exports: New empirical evidence from the emerging East Asian economies. *World Economy*, 33(2), 239-263.
- Husain, I. (2009). Pakistan's economy–1999/2000–2007/2008: An objective appraisal. *Business Review*, 4(1), 7-48.
- Husain, I. (2018). Pakistan's economy and regional challenges. *International Studies*, 55(3), 253-270.
- Raza, M. Y., & Lin, B. (2021). Oil for Pakistan: What are the main factors affecting the oil import?. *Energy*, 237, 121535.
- Tubiello, F., Schmidhuber, J., Howden, M., Neofotis, P. G., Park, S., Fernandes, E., & Thapa, D. (2008). Climate change response strategies for agriculture: challenges and opportunities for the 21st century. *Agriculture and rural development discussion paper*, 42.
- Wolf, S. O. (2020). *The China-Pakistan economic corridor of the belt and road initiative*. Cham: Springer International Publishing.