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Trade Volume and Economic Growth in Uzbekistan

Murodil Isroiljonov Qosimjon o‘g‘li

Undergraduate Student, Faculty of Economics Tashkent State University of Economics

ORCID: <https://orcid.org/0009-0009-5149-1341>

Email: murodil.isroiljonov06@gmail.com

Abstract. This thesis examines the relationship between trade volume and economic growth in Uzbekistan during 2016Q1–2025Q4. The study applies the Autoregressive Distributed Lag (ARDL) approach using quarterly macroeconomic data to evaluate both long-run and short-run relationships between aggregate trade activity and real GDP. The estimation results indicate that trade volume has a positive and statistically significant effect on economic growth in Uzbekistan. The findings also confirm the existence of a stable long-run equilibrium relationship between the variables. The results highlight the importance of trade integration, external economic activity, and market expansion in supporting sustainable economic development in Uzbekistan.

Keywords: trade volume, economic growth, ARDL, international trade, macroeconomic development, Uzbekistan.

Introduction. International trade is widely considered an important factor supporting economic growth and macroeconomic development, particularly in developing and transition economies. Expanding trade activity may stimulate production efficiency, improve market integration, increase foreign exchange earnings, and support industrial modernization through access to imported technologies and intermediate goods. Therefore, trade integration is often associated with productivity growth, economic diversification, and long-run development.

In recent years, Uzbekistan has implemented economic reforms aimed at trade liberalization, export diversification, and stronger participation in international markets.



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These reforms have increased the role of foreign trade in the country’s economic development strategy and strengthened external economic relations. Under such conditions, evaluating the impact of aggregate trade activity on economic growth becomes increasingly important for understanding the macroeconomic effects of trade integration. Therefore, this thesis investigates the relationship between trade volume and economic growth in Uzbekistan using quarterly data for the period 2016Q1–2025Q4.

Data and Methodology. The study uses quarterly data obtained from the Statistics Agency under the President of the Republic of Uzbekistan for the period 2016Q1–2025Q4. Real GDP was used as the dependent variable, while trade volume was included as the explanatory variable. Trade volume was calculated as the sum of exports and imports. Since the official quarterly indicators were reported in cumulative form, the variables were converted into non-cumulative quarterly values before estimation. All variables were transformed into natural logarithmic form to improve model properties and obtain elasticity interpretations. The relationship between trade volume and economic growth was estimated using the ARDL framework:

$$\ln(RGDP_t) = \beta_0 + \beta_1 \ln(TR_VOL_t) + \varepsilon_t$$

The ARDL methodology allows estimation of both long-run and short-run relationships among the variables. Augmented Dickey–Fuller unit-root tests indicated that the variables were integrated of order one, I(1), confirming the suitability of the ARDL approach for estimation.

Results and Discussion. The estimation results demonstrate that trade volume has a positive and statistically significant long-run relationship with economic growth in Uzbekistan. The estimated long-run coefficient equals 0.734, indicating that a 1% increase in trade volume increases real GDP by approximately 0.73% in the long run. This finding suggests that expanding trade activity contributes positively to



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macroeconomic performance through stronger production capacity, improved market integration, and greater economic efficiency.

The estimated error-correction coefficient equals -0.141 and is statistically significant, confirming the existence of a stable long-run equilibrium relationship between trade volume and economic growth. The results indicate that approximately 14% of short-run disequilibrium adjusts toward long-run equilibrium each quarter, implying gradual macroeconomic adjustment following short-run shocks.

The findings support the trade-led growth hypothesis and indicate that increasing international trade activity contributes positively to economic development in Uzbekistan. Expanding trade integration may strengthen industrial modernization, technological adaptation, and long-run economic sustainability through broader participation in global markets.

Conclusion. This thesis examined the relationship between trade volume and economic growth in Uzbekistan during 2016Q1–2025Q4 using the ARDL econometric approach. The findings indicate that trade volume positively affects real GDP growth and maintains a stable long-run relationship with macroeconomic development. The results suggest that strengthening international trade integration, improving foreign trade infrastructure, and supporting external economic activity may contribute positively to sustainable economic growth in Uzbekistan.

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