

Determinants of Georgia's Foreign Trade With 3+3 Format Countries

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ABSTRACT

This study examines the economic dimension of the 3+3 initiative, which emerged in the South Caucasus after 2020, by analyzing Georgia's foreign trade relations. As part of broader regional cooperation and integration efforts, this framework has the potential to reshape Georgia's trade orientation and regional economic ties. Against this background, the study seeks to address a gap in the literature by identifying the determinants of Georgia's foreign trade flows using a panel gravity model.

The empirical findings indicate that the main determinants of Georgia's foreign trade are economic size and shared borders. In the export models, the distance variable is negative and statistically significant, confirming that greater geographical distance increases trade costs. In contrast, distance and partner-country GDP are statistically insignificant in the import models, suggesting that imports are driven primarily by Georgia's domestic demand. The common religion variable is negative and significant in most models, indicating that cultural proximity does not have the expected positive effect on trade. Likewise, free trade agreements exhibit limited or statistically insignificant effects. Overall, the results suggest that economic size and geographical proximity are the primary drivers of Georgia's foreign trade, while cultural and institutional factors play a more limited role. The findings highlight the importance of strengthening trade relations with neighboring countries and maximizing the benefits of economic growth. They also emphasize the need to support Georgia's trade policy through infrastructure investment, improved border-crossing procedures, and more effective implementation of free trade agreements.

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ინფორმაცია
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აბსტრაქტი

კვლევა განიხილავს 3+3 ინიციატივის ეკონომიკურ განზომილებას, რომელიც სამხრეთ კავკასიაში 2020 წლის შემდეგ ჩამოყალიბდა, და აანალიზებს საქართველოს საგარეო სავაჭრო ურთიერთობებს. რეგიონული თანამშრომლობისა და ინტეგრაციის უფრო ფართო პროცესის ფარგლებში, აღნიშნულ ინიციატივას შეუძლია გავლენა მოახდინოს საქართველოს სავაჭრო მიმართულებებსა და რეგიონულ ეკონომიკურ კავშირებზე. ამასთან დაკავშირებით, კვლევის მიზანია არსებული სამეცნიერო ლიტერატურის შევსება და პანელური გრავიტაციის მოდელის გამოყენებით საქართველოს საგარეო სავაჭრო ნაკადების განმსაზღვრელი ფაქტორების გამოვლენა.

შესრულებული ეკონომეტრული ანალიზის შედეგად მიღებული ემპირიული შედეგები აჩვენებს, რომ საქართველოს საგარეო ვაჭრობის ძირითად განმსაზღვრელ ფაქტორებს ქვეყნების ეკონომიკური ზომა და საერთო საზღვარი (მეზობლობა) წარმოადგენს. ექსპორტის მოდელებში მანძილის ცვლადი უარყოფითი და სტატისტიკურად მნიშვნელოვანია, რაც მიუთითებს, რომ ქვეყნებს შორის გეოგრაფიული მანძილის ზრდა სავაჭრო ხარჯების ზრდას იწვევს. იმპორტის მოდელებში კი მანძილისა და პარტნიორი ქვეყნის მშპ-ის ცვლადები სტატისტიკურად უმნიშვნელოა. ეს მიუთითებს, რომ იმპორტის მოცულობა ძირითადად საქართველოს შიდა მოთხოვნით არის განპირობებული. საერთო რელიგიის ცვლადი უმეტეს მოდელებში უარყოფითია მაგრამ სტატისტიკურად მნიშვნელოვანია, რაც მიუთითებს, რომ ქვეყნების კულტურული სიახლოვე ვაჭრობაზე მოსალოდნელ დადებით გავლენას ვერ ახდენს. ასევე, თავისუფალი ვაჭრობის შეთანხმებების გავლენა შეზღუდული ან სტატისტიკურად უმნიშვნელოა.

კვლევის შედეგები აჩვენებს, რომ საქართველოს საგარეო ვაჭრობის ძირითადი განმსაზღვრელი ფაქტორებია ეკონომიკური ზომა და გეოგრაფიული სიახლოვე, ხოლო კულტურული და ინსტიტუციური ფაქტორების გავლენა შედარებით შეზღუდულია. შედეგები ასევე მიუთითებს მეზობელ ქვეყნებთან სავაჭრო ურთიერთობების გაძლიერებისა და ეკონომიკური ზრდის შედეგად მიღებული სარგებლის მაქსიმალურად გამოყენების მნიშვნელობაზე. ამასთან, საქართველოს სავაჭრო პოლიტიკის ეფექტიანობის გასაზრდელად მნიშვნელოვანია ინფრასტრუქტურულ ინვესტიციებზე, საზღვრის გადაკვეთის პროცედურების გაუმჯობესებასა და თავისუფალი ვაჭრობის შეთანხმებების უფრო ეფექტიან განხორციელებაზე ყურადღების გამახვილება.

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Introduction

The South Caucasus has long been a region of competition among both regional and global powers due to its strategic transit routes and fragile political environment. Owing to its importance for energy transportation, communication networks, and trade, the region has remained at the center of unresolved political tensions, military conflicts, and diplomatic disputes. Therefore, establishing a sustainable framework for regional cooperation is essential not only for political security but also for long-term economic stability. In this context, the 3+3 Format, which emerged after 2020, has become one of the most significant initiatives aimed at reshaping regional relations in the South Caucasus.

The 3+3 initiative is a regional cooperation framework that brings together the three South Caucasus countries-Azerbaijan, Armenia, and Georgia - along with Turkey, Russia, and Iran. It was proposed to transform the new security environment that emerged after the 2020 Karabakh War into a permanent platform for dialogue and to promote the normalization of relations among regional states. Initially promoted by Turkey and Azerbaijan, the initiative gradually evolved into a broader framework with the support of Russia and Iran. In principle, the format has the potential to foster cooperation in areas such as regional security, energy projects, transport corridors, and trade integration. However, Georgia's decision not to participate, owing to its territorial disputes with Russia, has limited the institutional development of the platform. At the same time, ongoing peace initiatives, the emergence of new trade routes, and the expansion of strategic energy projects have increasingly emphasized the economic importance of the format.

Georgia's geopolitical location has made it one of the key transit countries in the South Caucasus. Situated along the major energy and trade routes connecting the Caspian region with Europe, Georgia plays a strategic role in regional trade through infrastructure projects such as the Baku – Tbilisi – Ceyhan oil pipeline, the Baku–Tbilisi–Erzurum natural gas pipeline, and the Baku –Tbilisi–Kars railway. Consequently, Georgia's trade relations with the countries participating in the 3+3 Format should be viewed not only as a reflection of economic cooperation but also as an important factor shaping the region's logistics network. Georgia's foreign trade is influenced by several key factors, including economic size, exchange rate movements, transportation costs, geographical proximity, and bilateral political relations. In the international trade literature, one of the most widely used methods for examining these relationships is the panel gravity model, which considers economic size as the main driver of trade while treating geographical distance as a barrier to trade. The use of panel data techniques further improves the analysis by capturing both changes over time and structural differences across countries.

Although numerous studies have examined Georgia's foreign trade, no study has specifically investigated the country's trade relations with the 3+3 Format countries using a panel gravity model. This gap highlights the need for a detailed analysis of the structural factors shaping these trade relations, including economic size, exchange rate movements, geographical distance, shared borders, and institutional proximity. Since 2020, changes in the regional political landscape, the emergence of new transport corridors, and increased political engagement among regional states have made it even more important to examine how Georgia's trade patterns have evolved. Against this background, this study aims to identify the main determinants of Georgia's trade flows with the 3+3 Format countries using a panel gravity model. In doing so, it seeks to fill an important gap in the existing literature and provide useful insights for Georgia's foreign trade policy and regional integration strategies.

1. New Regional Cooperation: The 3+3 Format – Political, Economic, and Commercial Dimensions

The 3+3 Format (South Caucasus 3+3 Platform) was proposed by Azerbaijani President Ilham Aliyev and Turkish President Recep Tayyip Erdoğan following the 2020 Karabakh War with the aim of promoting lasting peace and regional cooperation. The initiative seeks to establish dialogue and cooperation among the three South Caucasus countries-Azerbaijan, Armenia, and Georgia-and the three regional powers of Turkey, Russia, and Iran. The first meeting of the format was held in Moscow in December 2021, with Georgia being the only country that did not participate. The primary reason was Georgia's reluctance to engage with Russia because of the continued presence of Russian military forces in Abkhazia and South Ossetia (Topchubasashov Center, 2025; Daily Sabah, 2021).

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The second meeting was held in Tehran in 2022, followed by the third meeting in Istanbul in 2024 (MFA, 2024). Turkey and Azerbaijan have remained the strongest advocates of the platform, while Russia and Iran have also supported the initiative. However, Georgia has not participated in any meetings since the format was established. Officially, Tbilisi stated that “we are not considering participation in this format.” Although the organizers repeatedly invited Georgia and emphasized that participation remained open, the Georgian government maintained that “participation is not possible until preconditions, particularly the issue of territorial occupation, are resolved” (Topchubasashov Center, 2025).

The concept of the 3+3 Format predates the 2020 Karabakh War. Initially promoted by Turkey and Russia, the initiative was strongly supported by then Turkish President Recep Tayyip Erdoğan and Russian President Vladimir Putin. Iran also became an important participant, seeking to strengthen regional cooperation while expanding its role in regional energy and security despite international sanctions. The initial phase focused on identifying key areas of cooperation. Between 2015 and 2017, political and diplomatic dialogue mechanisms were introduced, followed by joint meetings and leaders’ summits that established the framework for future cooperation. During this period, progress was constrained by several challenges, including the lack of trust between Armenia and Azerbaijan, concerns among smaller states about preserving their independence in relations with larger powers, and the efforts of some Western actors to maintain their influence in the region. Nevertheless, the major regional powers continued to support the initiative in pursuit of their strategic and economic interests. Between 2018 and 2020, the political and economic dimensions of the format began to take shape through concrete initiatives. Politically, efforts focused on developing common approaches to regional and energy security. At the same time, energy corridors and transport infrastructure projects strengthened economic interdependence among the participating countries. Economic cooperation also expanded through measures aimed at increasing trade, harmonizing customs procedures, and creating joint investment opportunities. The commercial dimension included diversifying export and import routes, improving logistics infrastructure, and promoting trade agreements. Although the initiative originally emerged as a platform for political dialogue, it gradually evolved into a multidimensional framework encompassing political, economic, commercial, and security cooperation (Belkania, 2021).

By integrating political, economic, and commercial objectives, the 3+3 Format has the potential to become a comprehensive framework for regional cooperation. It offers smaller states an opportunity to maintain a strategic balance in their relations with larger powers while enabling larger states to strengthen their regional influence. For Georgia, in particular, the format could provide opportunities for economic growth and trade diversification. Regular leaders’ summits, ministerial meetings, and technical committees have helped maintain dialogue among participating countries and improve the prospects for implementing joint projects.

Today, the 3+3 Format continues to be viewed as a promising regional initiative, although its practical achievements remain limited. Georgia’s decision not to participate has reduced the platform’s overall representativeness. Nevertheless, developments such as the peace declaration signed between Armenia and Azerbaijan in August 2025 and new agreements on regional transit corridors suggest that regional relations are gradually evolving. Russia continues to support the continuation of the initiative, but its economic and commercial components have yet to become fully institutionalized. Although regular meetings and negotiations continue, expected progress in trade, investment, and infrastructure cooperation has been relatively modest. Looking ahead, confidence-building measures, accelerated infrastructure development, and the creation of a more inclusive institutional framework will be essential for the future success of the 3+3 Format.

2. Georgia’s Foreign Trade with 3+3 Format Countries

Georgia is widely recognized as a strategic bridge at the geopolitical crossroads of the Caucasus. This position constitutes one of the fundamental dynamics shaping trade flows between Europe and Asia and reinforces economic integration with neighboring countries. Within the framework of the new 3+3 Format (Azerbaijan, Armenia, Turkey, Russia, Iran), bilateral trade relations are significantly influenced by factors such as geographical proximity, economic size, transportation costs, historical ties, and shared borders. Russia, Turkey, Corresponding author: i.paksadze@bnu.edu.ge



and Azerbaijan stand out as Georgia's principal trade partners, with joint energy projects, logistics investments, and reciprocal capital flows contributing to a stable growth in both exports and imports.

An overview of Georgia's trade structure reveals that exports are composed of agricultural products, minerals, ferroalloys, and processed food items, while imports are concentrated in energy resources, machinery and equipment, transportation vehicles, and various consumer goods. The key indicators of Georgia's foreign trade relations with the 3+3 Format countries are summarized in the table below, covering exports, imports, and total trade volume.

Table 1. Key Indicators of Georgia's Foreign Trade with 3+3 Format Countries.

Year	Exports (USD)	Imports (USD)	Total Trade Volume (USD)
2020	1,286,083,324.78	3,277,009,379.72	4,563,092,704.50
2021	1,746,303,353.28	4,014,270,835.00	5,760,574,188.28
2022	2,363,650,818.45	5,695,287,200.40	8,058,938,018.85
2023	2,745,753,286.34	5,551,557,986.60	8,297,311,272.94
2024	2,518,843,553.00	5,731,080,170.80	8,249,923,723.80

Source: UN Comtrade Plus (<https://comtradeplus.un.org>)

Table 1 presents the basic indicators of Georgia's foreign trade with the 3+3 Format countries (Azerbaijan, Armenia, Turkey, Russia, Iran) during the period 2020–2024. A clear upward trend in total trade volume is seen throughout the period. While the volume stood at approximately USD 4.6 billion in 2020, it surpassed USD 8 billion by 2022 and maintained this high level in subsequent years. Export data reveal Georgia's increasing role in regional trade, with volumes nearly doubling between 2020 and 2023, and despite a slight decline in 2024, remaining above pre-pandemic levels. Conversely, imports consistently exceeded exports, reflecting the country's dependence on energy, intermediate goods, and capital goods. The post-2022 rise in imports can be linked to fluctuations in global commodity prices and regional economic conditions.

Although this pattern reinforces Georgia's structural trade deficit, the overall growth in trade volume points to the impact of infrastructure investments, free trade agreements, and integration initiatives. Differences in trade flows highlight the significance of determinants such as economic size (GDP), distance, border proximity, and the level of agreements. Accordingly, the panel gravity model stands for the most appropriate approach for econometric analysis of these dynamics.

3. Data Set and Econometric Method

3.1. Data Set

The dataset employed in this study covers the years 2000 to 2024 for Georgia and the group of countries included in the 3+3 Format. For the econometric analysis, key trade indicators such as exports, imports, and total trade volume were utilized to measure foreign trade relations among the countries. In addition, structural and economic factors that may influence trade flows were incorporated into the model. These include variables such as GDP, exchange rate, common border status, geographical distance, and similar determinants.

The data were compiled from reliable international and national sources, including UN Comtrade, the World Bank, and the National Statistics Office of Georgia. All variables were organized within a panel data framework by country and year, thereby making them suitable for application of the panel gravity model approach.

3.2. Econometric Method: Panel Gravity Model

One of the most often applied empirical approaches to explain international trade flows today is the gravity model. The conceptual foundation of this model originates from Newton's law of gravitation, which relates the force between two masses to their size and distance. In economic literature, this approach has been adapted under the assumption that the economic size of countries and the distance between them determine the volume of trade.

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The roots of the panel gravity model can be traced back to Ravenstein's (1889) observations on population movements, while its systematic application to international trade was pioneered by Tinbergen (1962) and Pöyhönen (1963). These studies conceptualized national income (GDP) levels as "economic mass" and geographical distance as a "resistance" factor, proposing that foreign trade is a function of these two variables. The basic form of the model is expressed as follows:

$$T_{ij} = A \frac{Y_i Y_j}{D_{ij}} \quad (1.1)$$

Here, T_{ij} represents the trade volume between two countries, Y_i and Y_j denote their economic sizes, and D_{ij} indicates geographical distance. When transformed into logarithmic form, the equation allows elasticity interpretation of coefficients, making it widely applicable in empirical studies:

$$\text{Log}T_{it} = \alpha + \beta_1 \text{Log}Y_i + \beta_2 \text{Log}Y_j + \beta_3 \text{Log}D_{ij} + U_{ij} \quad (1.2)$$

In this equation, α , β_1 , β_2 , and β_3 represent the model's fixed parameters, with the primary econometric objective being their accurate estimation. The error term U_{ij} captures shocks and unobservable factors that may influence bilateral trade but cannot be directly incorporated into the model.

As the scope of application expanded, the explanatory power of the basic gravity model proved limited, necessitating the inclusion of additional variables. In this context, the literature has incorporated factors such as GDP, per capita income, population, common borders, common language, religion, cultural similarities, trade agreements, customs union membership, political proximity, and foreign direct investment into extended models (Golovko, 2009). Baier and Bergstrand (2007) highlighted the decisive role of trade blocs and agreements in shaping exports and imports, while Carrere (2006) empirically examined the effects of integration on trade. Helble and Mann (2012) emphasized that political proximity and regional cooperation strengthen trade relations. This expanded framework is referred to in the literature as the "generalized panel gravity model."

Regional examples further demonstrate the importance of cultural and institutional ties alongside classical variables. Sandalcılar et al. (2022) analyzed Turkey's trade with the N11 countries by jointly considering economic, geographical, and cultural factors. Kazancı (2025) examined Turkey's export relations with the member states of the Organization of Turkic States using panel data and the gravity model, offering methodological contributions. Both studies underscore the role of cultural and institutional ties in shaping trade relations. Özcan and Öztürk (2019) emphasized economic size and distance, while Demir (2020) and Yılmaz (2021) proved that integration, cultural proximity, and historical ties strengthen trade.

Applications of the gravity model have been diversified through panel data and time series methods, successfully explaining heterogeneity in short- and long-term trade relations across different country groups and periods (Baier & Bergstrand, 2007; Carrere, 2006; Helble & Mann, 2012). Overall, the literature shows that while economic size and geographical proximity are primary determinants, cultural and institutional ties reinforce these relationships.

3.3. Determinants of Georgia's Foreign Trade with 3+3 Countries: Panel Gravity Model

Under this section, the determinants of Georgia's foreign trade relations with the 3+3 Format countries (Turkey, Iran, Russia, Azerbaijan, Armenia) are examined using the Panel Gravity Model approach. The dataset employed covers the period 2000–2024, consisting of a balanced panel structure with 125 observations, analyzed through the EViews software. The dataset was compiled from international databases such as UN Comtrade, the World Bank, and the IMF, while distance information between countries was obtained from the distance.to platform. Both fixed-effects and random-effects models were estimated, and the Hausman test was applied to select the appropriate specification.

The econometric analysis was conducted through a three-stage approach. In the first stage, exports were taken as the dependent variable; in the second stage, imports; and in the third stage, total trade volume. The rationale for adopting this tripartite structure lies in the necessity of examining trade dynamics both at the component level and in aggregate form. In this way, the model provides a comprehensive analysis by not only capturing the overall

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scale of economic relations but also disentangling trade directionality (asymmetries in inflows and outflows). Separate analyses of exports and imports focus on testing whether macroeconomic determinants (such as distance or trade agreements) exert asymmetric effects depending on trade direction. The third analysis, centered on total trade volume, synthesizes these effects to measure the overall level of economic integration between countries. In the first specification, export volume (EXS) was taken as the dependent variable, while the independent variables included Georgia's GDP (GDPGEO), partner country GDP (GDPPARTNER), geographical distance (LNDISTANCE), border adjacency (BORDER), common religion (DIN), and free trade agreement (FTA). The econometric equation for exports is specified as follows:

$$\ln(EXS_{jt}) = \beta_0 + \beta_1 \ln(GDPGEO_t) + \beta_2 \ln(GDPPARTNER_{jt}) + \beta_3 \ln(DISTANCE_j) + \beta_4 (BORDER_j + \beta_5 DIN_j + \beta_6 FTA_{jt}) + u_{jt} \quad (1.3)$$

- EXS_{jt} : Represents Georgia's total export volume with country j (or group of countries) in period t .

- $GDPGEO_t$: Denotes Georgia's GDP in period t .

- $GDPPARTNER_{jt}$: Refers to the GDP of the partner country in period t .

- $DISTANCE_j$: Geographical distance (in kilometers) between Georgia and country j .

- $BORDER_j$: Dummy variable indicating whether Georgia shares a land border with country j (1 = border exists, 0 = no border).

- DIN_j : Dummy variable indicating whether Georgia and country j share a common religion (1 = common religion, 0 = no common religion).

- FTA_{jt} : Dummy variable indicating whether a free trade agreement exists between Georgia and country j in period t (1 = FTA exists, 0 = no FTA).

- u_{jt} : Error term representing the impact of other factors not directly included in the model.

Table 2. Estimation Results for Exports (EXS)

VARIABLE	COEFFICIENT (B)	T-STATISTIC	P-VALUE	SIGNIFICANCE
C	-13.959	-7.2675	0.0000	***
GDPGEO	1.6911	4.9195	0.0000	***
GDPPARTNER	0.7858	2.0895	0.0388	**
DISTANCE	-1.7192	-2.1103	0.0369	**
BORDER	1.3811	8.1293	0.0000	***
DIN	-0.3813	-2.9455	0.0039	***
FTA	-0.411	-1.9683	0.0514	*

Note: *, **, *** denote significance levels at 10%, 5%, and 1%, respectively. “-” indicates insignificance.

Values in parentheses represent probability values.

The estimation results indicate that the most significant determinants of Georgia's exports are economic size (GDPGEO, GDPPARTNER), common religion (DIN), and border adjacency (BORDER). As Georgia's GDP increases, export volume rises significantly, while partner country GDP also exerts a positive and statistically significant effect. The distance variable is negative and significant, confirming the cost-increasing and restrictive impact of geographical remoteness on exports. The border adjacency variable is positive and significant, suggesting that exports are more intensive with countries sharing a land border. Interestingly, the common religion variable is negative and significant, implying that cultural proximity does not play the expected facilitating role in exports and may even generate adverse effects. Furthermore, the free trade agreement variable is negative and significant at the 10% level, indicating that the impact of such agreements on exports remains limited or insufficient in practice.

In the second analysis, import volume (IMP) was taken as the dependent variable, while the explanatory variables included Georgia's GDP (GDPGEO), partner country GDP (GDPPARTNER), geographical distance (LNDISTANCE), border adjacency (BORDER), common religion (DIN), and free trade agreement (FTA). The econometric equation for imports is specified as follows:

$$\ln(IMP_{jt}) = \beta_0 + \beta_1 \ln(GDPGEO_t) + \beta_2 \ln(GDPPARTNER_{jt}) + \beta_3 \ln(DISTANCE_j) + \beta_4(BORDER_j) + \beta_5DIN_j + \beta_6FTA_{jt} + u_{jt} \quad (1.4)$$

- IMP_{jt} : Represents Georgia's total import volume with country j (or group of countries) in period t .
- $GDPGEO_t$: Denotes Georgia's GDP in period t .
- $GDPPARTNER_{jt}$: Refers to the GDP of the partner country in period t .
- $DISTANCE_j$: Geographical distance (in kilometers) between Georgia and country j .
- $BORDER_j$: Dummy variable indicating whether Georgia shares a land border with country j (1 = border exists, 0 = no border).
- DIN_j : Dummy variable indicating whether Georgia and country j share a common religion (1 = common religion, 0 = no common religion).
- FTA_{jt} : Dummy variable indicating whether a free trade agreement exists between Georgia and country j in period t (1 = FTA exists, 0 = no FTA).
- u_{jt} : Error term representing the impact of other factors not directly included in the model.

Table 3. Estimation Results for Imports (IMP)

VARIABLE	COEFFICIENT (B)	T-STATISTIC	P-VALUE	SIGNIFICANCE
C	-19.0578	-15.4018	0.0000	***
GDPGEO	2.3586	10.6506	0.0000	***
GDPPARTNER	0.1546	0.6381	0.5247	" - "
DISTANCE	0.3971	0.7566	0.4508	" - "
BORDER	1.049	9.5844	0.0000	***
DIN	-0.3144	-3.7693	0.0003	***
FTA	0.028	0.2084	0.8353	" - "

Note: *, **, *** denote significance levels at 10%, 5%, and 1%, respectively. "-" indicates insignificance. Values in parentheses represent probability values.

The estimation results reveal that the most significant determinants of Georgia's imports are economic size (GDPGEO) and border adjacency (BORDER). As Georgia's GDP increases, import volume rises significantly, indicating that domestic demand growth and consumption capacity are key drivers of imports. Partner country GDP (GDPPARTNER) and geographical distance (DISTANCE) are statistically insignificant, suggesting that imports occur independently of the partner's economic size and geographical remoteness.

The border adjacency variable is positive and significant, confirming that imports are more intensive with countries sharing a land border. The common religion variable is negative and significant, implying that cultural proximity does not play the expected facilitating role in imports and may even generate adverse effects in certain contexts. Meanwhile, the free trade agreement variable is statistically insignificant, indicating that such agreements have limited or ineffective influence on Georgia's import flows.

In the third analysis, the dependent variable was defined as total foreign trade volume (DTH). The explanatory variables, as in the previous analyses, included Georgia's GDP (GDPGEO), partner countries' GDP (GDPPARTNER), geographical distance (DISTANCE), border adjacency (BORDER), common religion (DIN), and free trade agreement (FTA).

Econometric equation for DTH:

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$$\ln(DTH_{jt}) = \beta_0 + \beta_1 \ln(GDPGEO_t) + \beta_2 \ln(GDPPARTNER_{jt}) + \beta_3 \ln(DISTANCE_j) + \beta_4(BORDER_j) + \beta_5 DIN_j + \beta_6 FTA_{jt} + u_{jt} \quad (1.5)$$

- DTH_{jt} : Represents Georgia's total foreign trade volume (exports + imports) with country j (or group of countries) in period t .
- $GDPGEO_t$: Denotes Georgia's GDP in period t .
- $GDPPARTNER_{jt}$: Refers to the GDP of the partner country in period t .
- $DISTANCE_j$: Geographical distance (in kilometers) between Georgia and country j .
- $BORDER_j$: Dummy variable indicating whether Georgia shares a land border with country j (1 = border exists, 0 = no border).
- DIN_j : Dummy variable indicating whether Georgia and country j share a common religion (1 = common religion, 0 = no common religion).
- FTA_{jt} : Dummy variable indicating whether a free trade agreement exists between Georgia and country j in period t (1 = FTA exists, 0 = no FTA).
- u_{jt} : Error term representing the impact of other factors not directly included in the model.

Table 4. Estimation Results for DTH

VARIABLE	COEFFICIENT (B)	T-STATISTIC	P-VALUE	SIGNIFICANCE
C	-16.8005	-16.6789	0.0000	***
GDPGEO	2.0864	11.5736	0.0000	***
GDPPARTNER	0.4365	2.2129	0.0288	**
DISTANCE	-0.5041	-1.1799	0.2404	" - "
BORDER	1.1689	13.1198	0.0000	***
DIN	-0.318	-4.6828	0.0000	***
FTA	-0.1246	-1.1382	0.2573	" - "

Note: *, **, *** denote significance levels at 10%, 5%, and 1%, respectively. " - " indicates insignificance. Values in parentheses represent probability values.

The results of the econometric analysis indicate that the main determinants of Georgia's foreign trade with the 3+3 countries are economic size and shared borders. As the GDP of Georgia and its trading partners increases, trade volume grows significantly. Sharing a common border has a strong positive effect on trade. Although the distance variable has a negative coefficient, it is not statistically significant. This finding suggests that the effects of geographical distance may be outweighed by regional logistics infrastructure and political factors. In addition, the common religion variable is negative and statistically significant in the fixed-effects model, showing that cultural proximity does not have the expected positive impact on trade. The free trade agreement variable is statistically insignificant, suggesting that the effects of such agreements may not be fully captured by the model because of the study period or differences in their implementation. Overall, the findings show that economic size and shared borders are the primary determinants of Georgia's foreign trade, while geographical distance, cultural and religious factors, and free trade agreements have a more limited influence. These results highlight the importance of geographical proximity and the multiplier effect of economic growth in shaping Georgia's regional trade strategy.

Conclusion

This study examined Georgia's foreign trade relations with the countries of the 3+3 Format using a panel gravity model. The analysis, based on data covering the period from 2000 to 2024, shows that the primary determinants of trade flows are economic size and geographical proximity. An increase in Georgia's GDP

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significantly boosts both exports and imports, while the economic size of partner countries has a particularly strong impact on exports and overall foreign trade volume.

The findings indicate that sharing a common border has a positive effect on trade, highlighting the importance of regional integration and logistics infrastructure. By contrast, the statistically insignificant effect of the distance variable suggests that Georgia's transport corridors and transit advantages help offset the costs associated with geographical distance. The negative coefficient of the common religion variable indicates that cultural proximity does not necessarily promote trade, while the limited impact of free trade agreements suggests that their effectiveness remains constrained by their scope and implementation.

Based on these findings, three key priorities emerge for Georgia's foreign trade policy: (1) accelerating investments in transport and logistics infrastructure to strengthen trade with neighboring countries, (2) enhancing the effectiveness of free trade agreements by reducing technical and administrative barriers, and (3) strengthening political and institutional dialogue to ensure the long-term sustainability of trade. Furthermore, given Georgia's decision not to participate in the 3+3 Format and its territorial disputes with Russia involving Abkhazia and South Ossetia, the country must carefully balance political sensitivities while pursuing its foreign trade objectives. Therefore, Georgia should adopt a balanced and multidimensional approach that promotes political and economic cooperation without compromising its national security or territorial integrity.

Reference

- Baier, S. L., and J. H. Bergstrand. 2007. "Do Free Trade Agreements Actually Increase Members' International Trade?" *Journal of International Economics* 71, no. 1: 72–95.
- Belkaniya, B (2021), The Platform of the 3+3 Format: A Review. Georgian Foundation for Strategic And International Studies.
- Carrère, C. (2006) 'Revisiting the effects of regional trade agreements on trade flows with proper specification of the gravity model', *European Economic Review*, 50(2), pp. 223-247.
- CAUCASUS WATCH (2025), 3+3 Initiative as a New Order in the South Caucasus. (Erişim: <https://caucasuswatch.de/>)
- DAILY SABAH. (2021) Russia offers 3+3 format Caucasus regional platform. (Erişim: <https://www.dailysabah.com/>)
- Demir, M. A. (2020). Türkiye'nin İhracat Ve İthalat Kompozisyonunun Dış Ticaret Dengesi Üzerine Etkisi: AB-15 Ülkeleri İçin İki Yönlü Panel Analizi. *Balıkesir Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 23(44), 887-909.
- Golovko, A. (2009). Çekim Modeli: Avrasya Ülkelerinin Dış Ticareti, EconAnadolu 2009: *Anadolu Uluslararası İktisat Kongresi*, 17-19, Eskişehir.
- Helble, M. & Mann, C. Wilson, J. (2012): Aid-for-trade facilitation. *Review of World Economics*. 148 (2), 357–376. <https://doi.org/10.1007/s10290-011-0115-9>
- Kazancı, B. A. (2025). Türk Devletleri Teşkilatının Türkiye İhracatına Etkisinin Çekim Modeli ile Analizi. *Selçuk Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, (56), 232-246.
- MFA (2024), 3+3 Güney Kafkasya Bölgesel İşbirliği Platformunun Üçüncü Toplantısı. (Erişim: <https://www.mfa.gov.tr/>)
- Ozcan, B., & Ozturk, I. (2019). Renewable energy consumption-economic growth nexus in emerging countries: A bootstrap panel causality test. *Renewable and Sustainable Energy Reviews*, 104, 30-37.
- Pöyhönen, Pentti. (1963). A Tentative Model for the Volume of Trade Between Countries. *Weltwirtschaftliches Archiv*, 90, 23-40.
- Ravenstein, E. G. (1889). The Law Of Migration. *Journal of the Royal Statistical Society*, 52(2), 241-305

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- Sandalcılar, A. R., Ayran Cihan, K., & Çolak, Y. (2022). Türkiye'nin N11 Ülkeleriyle Olan Dış Ticaretinin Belirleyicileri: Çekim Modeli Yaklaşımı. *Uluslararası Ekonomi İşletme Ve Politika Dergisi*, 6(1), 59-78. <https://doi.org/10.29216/ueip.1078923>
- Tinbergen, J. (1962). *Economic Policy: Principles and Design*. Rotterdam: North Holland Press.
- TOPCHUBASASHOV CENTER (2025), Time for 3 in South Caucasus. (Erişim: <https://top-center.org/>)
- Yılmaz, U. M. (2021). International trade between Turkey and Latin American countries