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‘Why Is Iran’s Share in Global Trade Low?’ A Case Study of Iran with Emphasis on Institutional Quality

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ABSTRACT

This study aims to analyze the factors underlying Iran’s limited share in global trade, with particular emphasis on the role of institutional quality. According to statistics, Iran’s share of world trade has fallen to less than 0.5 percent. Employing a gravity model of trade and bilateral trade data with 80 partner countries over the period 1996–2020, the impact of institutional quality on Iran’s trade volume was examined. The model was estimated using the Poisson Pseudo Maximum Likelihood (PPML) method, which is suitable for trade data containing zero values. Contrary to theoretical expectations, which view institutional quality as a driver of trade expansion, the findings revealed that Iran’s institutional quality had a significant negative effect on the country’s trade volume. The analysis suggests that this unexpected outcome reflects Iran’s specific circumstances rather than the irrelevance of institutions. International sanctions and external pressures have steered Iran toward partners less sensitive to institutional indicators, thereby reducing trade with industrialized countries with strong institutions (such as Germany and Japan) and increasing trade with countries such as China and Turkey. In addition, chronic inflation and constraints imposed by informal institutions (e.g., ideological orientations in foreign policy) have also negatively affected foreign trade. Ultimately, the results highlight the inefficiency of Iran’s institutional framework as one of the main barriers to trade development. Accordingly, improving the quality of both formal and informal institutions, along with moving toward the production of goods with higher economic complexity, is essential for enhancing Iran’s position in global trade.

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1. Introduction

In today's complex global economy, success in foreign trade depends not only on countries' production capacity and competitiveness but also on the strength of their institutional infrastructure. International evidence shows that effective institutions, by reducing transaction costs and fostering mutual trust, contribute significantly to the expansion of cross-border trade relations (Wu et al., 2012). Despite this reality, Iran remains economically marginalized, with a negligible share of less than 0.5 percent of total global trade (Islamic Parliament Research Center of Iran (2022). Even in trade with its main partner, China, Iran's share accounts for only 0.24 percent of total exchanges, highlighting the severity of its challenges (Haddad, 2023). This situation cannot be attributed solely to sanctions; it also reflects domestic weaknesses and the quality of Iran's institutions. As North (1990) points out, institutions are the "rules of the game," and if poorly designed, they increase economic costs and hinder development. In foreign trade—an activity inherently accompanied by uncertainty and risk—such institutional weaknesses exert an even more detrimental impact. Although several studies have addressed the role of institutions in Iran's economic growth, the direct effect of institutional quality on foreign trade has received relatively little attention. This study seeks to fill this gap by investigating the role of institutions in Iran's foreign trade. Our main focus is to demonstrate how inefficient institutions, coupled with inappropriate policies and informal constraints, act as major obstacles to the development of the country's trade relations. Accordingly, the study aims to assess the role of institutions in shaping Iran's trade performance and to identify potential pathways for improvement. To achieve this objective, we employ a gravity model of trade and bilateral trade data between Iran and 80 trading partners over the period 1996–2020. Institutional quality indicators from the World Bank are incorporated into the model, which is estimated using the Poisson Pseudo Maximum Likelihood (PPML) method—a technique particularly suitable for trade data with zero values (Silva & Tenreyro, 2006). This analytical approach provides more precise insights into

the effect of institutions on Iran's foreign trade. In addition, a second model examines the determinants of Iran's institutional quality within the context of foreign trade. Finally, it is important to note that this research constitutes an extended and significantly refined version of an earlier study focusing on the same dataset. Compared to the foundational work, this article substantially expands the theoretical framework, integrates a deeper analysis of the role of informal institutions and geopolitical constraints, and includes a second, independent empirical model to further examine the determinants of institutional quality within Iran's foreign trade environment. This expansion ensures the current article provides a comprehensive and globally relevant contribution to the literature.

The remainder of the paper is organized as follows: Section 2 outlines the theoretical foundations; Section 3 reviews empirical studies; Section 4 presents the methodology and model specification; Section 5 reports the findings; and Section 6 provides the discussion and concluding remarks.

2. Theoretical Framework

2.1. Definition of Institutions and Their Role in Foreign Trade

In economic literature, institutions are regarded as the "rules of the game" in society, playing a fundamental role in shaping economic interactions. According to Douglass North (1990), institutions consist of formal rules (such as constitutions, laws, and regulations) as well as informal rules (such as social norms, customs, and ethics), complemented by enforcement and guarantee mechanisms. Institutions form the motivational framework of societies, through which patterns of economic interaction, including foreign trade, emerge. Accordingly, institutional quality determines the level of transaction costs: the more efficient the institutions, the lower the costs of exchange, thus facilitating the expansion of economic interactions (North et al., 2004). This is particularly crucial for international trade, which inherently requires trust and contract enforcement over long distances.

2.2. Causal Relationship Between Institutions and Foreign Trade

The relationship between institutions and foreign trade is complex and multifaceted, and it has received extensive scholarly attention in recent decades. This relationship can be explained through several key mechanisms:

- **Reducing transaction costs:** High-quality institutions, by ensuring contract enforcement, protecting property rights, and reducing corruption, significantly lower the costs of international exchange. This decreases business risks for firms and facilitates trade flows (Samadi, 2019). Anderson and Marcouiller (2002) strongly confirm this hypothesis, demonstrating that institutional inefficiency can be as restrictive to trade as high tariff barriers. This finding underscores the importance of institutions as a major determinant of foreign trade, alongside traditional factors such as tariffs and distance.
- **Attracting investment and enhancing productivity:** Effective institutions build the confidence of domestic and foreign investors, leading to increased foreign direct investment (FDI) and higher productivity. Such investments are often accompanied by trade expansion, particularly in exports, since multinational firms rely on their global networks for supply and distribution (Acemoglu & Robinson, 2012).
- **Increasing export complexity:** Institutions affect not only the volume but also the structure of trade. Luo (2008) and Rodrik (2007) argue that countries with stronger institutions are more capable of producing and exporting complex, high–value-added goods, as such products require a reliable legal environment and the ability to enforce complex contracts. The **Economic Complexity Index (ECI)** has thus been introduced as a measure of the knowledge and capabilities embedded in production (Bahar et al., 2014). The greater the diversity of a country's production, the deeper the knowledge stock within that society. Consequently, countries that prioritize the production and export of complex, knowledge-intensive products—rather than low-complexity primary goods—advance more rapidly in their path toward economic development (World Economic Forum, 2018).

Overall, existing evidence indicates that strong institutions are a prerequisite for fully benefiting from trade liberalization, enabling sustainable economic growth and global competitiveness (Acemoglu et al., 2005). Despite the widespread acceptance of North's definition of institutions, measuring institutional quality remains challenging, as many dimensions of institutional structure are not directly observable. Empirical studies have attempted to overcome this problem by using proxies for certain aspects of institutional quality. Since no single indicator can fully capture all dimensions of institutions, this study employs the **Worldwide Governance Indicators (WGI)** of the World Bank as the most suitable measure. Consistent with previous research that has applied composite governance indicators as proxies for institutional quality (Karam & Zaki, 2016; Abero et al., 2021; Berden et al., 2014; Lio & Hu, 2009; Lio & Liu, 2008; Méon & Weill, 2005), this study uses these indicators both for institutional quality in Iran (as the exporting country) and for the institutional quality of its trading partners (as importing countries). The six composite governance indicators are defined as follows:

- **Control of Corruption:** The extent to which public power is exercised for private gain, including petty and grand corruption and state capture by elites.
- **Government Effectiveness:** Quality of public services, independence of civil service, and the quality of policy formulation and implementation.
- **Political Stability and Absence of Violence/Terrorism:** Likelihood of political instability or politically motivated violence.
- **Regulatory Quality:** The government's ability to formulate and implement sound policies and regulations that promote private sector development.
- **Rule of Law:** Confidence in the legal system, contract enforcement, protection of property rights, and performance of judicial and law enforcement institutions.
- **Voice and Accountability:** The extent of citizens' participation in selecting governments, as well as freedom of expression, media, and association.

In the context of foreign trade, trade agreements—examples of formal institutions—can facilitate trade, but their effective implementation requires

adequate infrastructure, economic stability, and a transparent monetary system. In Iran, these prerequisites have often been disrupted by economic sanctions and chronic inflation. Particularly, high inflation undermines the feasibility of long-term contracts and prevents exporters from offering products at fixed prices over specified periods (Seyedi, 2022). Consequently, Iran's foreign trade has remained minimal even under preferential or free trade agreements—less than three percent according to available data (ibid.). These agreements have had limited impact due to weak implementation. Moreover, a large portion of Iran's agreements have been concentrated in oil and energy sectors, such as ECO and OPEC, where Iran's relatively stable membership during the study period has prevented significant variation. For this reason, instead of trade agreements, this study incorporates **sanctions and inflation** as the main determinants influencing Iran's institutional quality. In addition, the ideological orientation of foreign policy is considered a reflection of informal institutions within the framework of foreign trade—that is, whether the government prioritizes ideological objectives over economic growth. This aspect will be discussed further in the following sections.

2.3. The Role of the State and Foreign Policy as Informal Institutions

In this study, government foreign policy is conceptualized as an informal institution that shapes the motivational framework of the economy and, consequently, affects foreign trade. Approaches such as the **developmental state theory** (Romer, 1990) and the structural realist perspective in political economy (Strange, 1994) suggest that the government's overarching foreign policy strategy plays a crucial role in shaping the business environment and a country's ability to integrate into the global economy.

- **Developmental state approach:** A developmental state designs its foreign policy around cooperation, attracting foreign investment, and facilitating technology transfer in order to achieve economic growth and productivity gains. Bureaucratic and ideological considerations are subordinated to national economic interests (Leftwich, 2006). By contrast, a

state that bases its foreign policy primarily on ideological or confrontational priorities faces a heightened risk of isolation and institutional weakening. This reduces economic interaction, severs access to global markets, and undermines the credibility of domestic institutions, thereby exerting a damaging effect on foreign trade.

Thus, foreign policy is an informal institutional variable that operates in the background of economic decision-making but directly influences both institutional quality and the performance of foreign trade.

2.4. A Brief Review of Foreign Policy in Iran

One of the key variables affecting Iran's institutional quality in this study is the imposition of economic sanctions. Sanctions, mainly imposed by the United States and at times by other countries, have gradually expanded, with their intensity and scope varying alongside shifts in the foreign policies of different Iranian administrations (Farzanegan & Batmanghelidj, 2023).

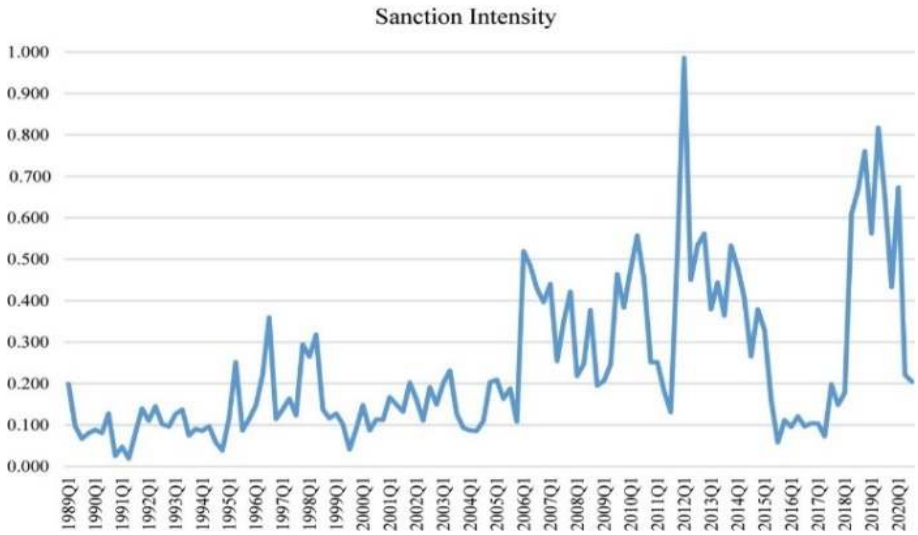

Figure 1. Intensity of Sanctions Against Iran.

Source: Farzanegan & Batmanghelidj (2023)

The **Reformist government (President Khatami's administration)** pursued a policy of détente and global engagement, epitomized by the "Dialogue Among Civilizations," which sought closer cooperation particularly with European countries (Dabirzadeh, 2023). By contrast, the **Ninth and Tenth Administrations (Ahmadinejad era)**—sometimes referred to as the "Kindness Government" or "Justice-Oriented Government"—adopted an ideological and confrontational foreign policy. This approach led to the imposition of more severe sanctions that further isolated Iran from the global economy (Bolouki, 2023). The **Eleventh and Twelfth Administrations (Rouhani era, 'Government of Prudence and Hope')** initially achieved a significant breakthrough through the Joint Comprehensive Plan of Action (JCPOA). However, the U.S. withdrawal under the Trump administration reversed these gains, reinstating sanctions and undermining the short-lived improvements (Sazmand & Goudarzi, 2022). As a result, major European firms ceased importing Iranian oil, and financial transactions faced widespread disruption (Bajoghli et al., 2024, p. 116).

3. Literature Review

In recent decades, the positive effects of high institutional quality on international trade have attracted widespread attention from researchers. This body of literature supports the idea that effective institutions and governments can strengthen international trade flows (Bilgin et al., 2018). Anderson and Marcouiller (2002) strongly confirmed this hypothesis, stating that bilateral trade is positively influenced by the institutional quality of each country. Likewise, Chang et al. (2022) examined the impact of institutional quality on participation in global value chains and found that high-quality institutions can enhance firms' value by improving total factor productivity, with political institutional quality exerting the greatest positive effect on firm value and technological progress. Similarly, Alvarez et al. (2018) argued that institutional quality increases bilateral trade and that this effect strengthens over time. Yu et al. (2015) also claimed that efficient formal and informal

institutions facilitate trade processes. In the same vein, Chowdhury and Audretsch (2014) asserted that high institutional quality and good governance reduce trade costs and the risk of default. Li and Samsell (2009) further demonstrated that countries recognized for good governance enjoy higher volumes of trade. Martincus and Gallo (2009) reached similar conclusions, showing that countries with better institutional quality can facilitate long-term contracts and agreements at different stages of the value chain, thereby boosting exports of more technologically sophisticated products. Jalilian et al. (2007) emphasized that institutional development reduces asymmetric information, increases economic incentives, and lowers transaction costs. Linders et al. (2005) likewise concluded that the level of institutional quality in both exporting and importing countries enhances the volume of bilateral trade. Bhat et al. (2025), in a study on India’s bilateral trade with 33 partners, revealed that higher institutional quality and positive institutional differences between countries strengthen trade flows, whereas weak institutions can hinder trade. Their findings, validated through various econometric methods, underscore the importance of governance quality and institutions in promoting foreign trade. Overall, the reviewed evidence suggests that there is a significant positive relationship between institutions and international trade. Several studies have also confirmed that weak institutions can constrain international trade and have a negative effect comparable to tariffs (Alvarez et al., 2018; Anderson and Marcouiller, 2002). Moreover, low institutional quality can act as a barrier to trade and lead to weak performance in industrial exports (Sekkat and Meon, 2004). Francois and Manchin (2013) emphasized that the impact of institutions on trade is more pronounced in low-income countries, arguing that institutional reforms should be a key factor in governments’ trade policies, especially in developing nations. Page and Gelder (2001) further argued that the problem for Middle Eastern and North African countries lies not only in inefficient institutional structures but also in the absence of an enabling environment for private sector activity. Such weak institutions, often associated with corruption, undermine competition and

hinder trade liberalization. Some studies have also addressed how the impact of institutional quality may vary depending on the value-added of goods. Lin et al. (2019), for example, examined the effect of institutional quality—based on three World Bank governance indicators—on bilateral trade in coconuts and related products, including coconut oil, with varying degrees of value-added among exporting and importing countries. Their results indicate differentiated effects of institutional quality across coconut products with different levels of value-added, showing that improvements in institutional quality have stronger effects on exports of high value-added products compared to low value-added ones. Similarly, Karam and Zaki (2016), using a gravity model, analyzed bilateral trade in goods and services separately for 21 MENA countries over the period 1995–2014. Their findings suggested that weak institutions act as fixed export costs. They emphasized that institutions remain an influential factor for trade even after controlling for endogeneity between institutions and trade, though their effects vary depending on the value-added of products.

There are also studies focused on Iran that inform the analysis of this research. Shahmoradi et al. (2022), investigating the complexity of Iran's petrochemical products, found that none of Iran's 35 competitive export products fall into the category of highly complex products. Ahmadian Divkoti et al. (2018) likewise demonstrated that Iran's position in terms of economic complexity is lower compared to its trading partners, highlighting the need for policymakers' attention. Omidi and Ghalamkari (2019) analyzed Iran's foreign policy and its impact on economic development, concluding that different administrations (Khatami, Ahmadinejad, Rouhani) have had varying effects on indicators such as economic growth and non-oil exports. Imani (2017), by examining developmental foreign policy, concluded that without adopting an economic approach in foreign policy and engaging with advanced economies, development cannot be achieved. Sajjadpour and Nourian (2010) also argued that economic development is linked to environmental security and the state's capacity to build domestic and international trust. From their

perspective, a developmental foreign policy requires constructive interaction with the international environment and an active role in producing security, since development cannot be realized in an unstable context.

4. Research Methodology and Model Specification

This study employs the gravity model to examine the impact of institutional quality on Iran's bilateral trade. The gravity model has been widely used as a successful approach for analyzing the performance of bilateral trade flows, based on variables such as distance, economic size, and other factors that may either facilitate or restrict trade. The gravity model of trade was first introduced by Tinbergen (1962) and Poyhonen (1963). Inspired by Newton's law of universal gravitation, this approach suggests that economic forces can explain bilateral trade flows between origin and destination, with a set of variables playing significant roles in increasing or decreasing trade flows among countries (Bergstrand, 1985). According to Anderson and Van Wincoop (2003), the gravity equation is modeled as follows:

$$X_{ijt} = \alpha_0 Y_i^{\alpha 1} Y_j^{\alpha 2} D_{ij}^{\alpha 3} Z_{ij}^{\alpha 4} n_{ij}$$

Where

X_{ijt} denotes the volume of bilateral trade between countries *i* and *j* in year *t*; $Y_i^{\alpha 1} Y_j^{\alpha 2}$ represent the income or GDP of the countries; $D_{ij}^{\alpha 3}$ is the distance (between capitals); and $Z_{ij}^{\alpha 4}$ captures other factors. This empirical study investigates Iran's bilateral trade with 80 trading partners. The analysis begins in 1996, the first year governance indicators became available from the World Bank database, and ends in 2020, to avoid the distortions caused by the COVID-19 pandemic. The explanatory variables include the GDP of Iran's trade partners, their population, the distance between capitals, and Iran's institutional quality index, which is constructed as the average of six governance indicators over the sample period. Notably, Iran's GDP is excluded to avoid potential multicollinearity with its institutional quality

index. To better capture the role of institutional components, in addition to the aggregate institutional index (Instexp), the model is also estimated separately for each of the six governance indicators. Following Gani and Scrimgeour (2016), institutional variables are included with a one-year lag to account for delayed effects of institutional changes on trade. The baseline gravity equation is estimated using the Poisson Pseudo-Maximum Likelihood (PPML) estimator:

$$X_{ijt} = \beta_0 + \beta_2 \, Ln\, GDP_{jt} + \beta_3 \, Ln\, Dist_{ij} + \beta_4 \, LnPopulat_{jt} + + \beta_7 \, Instexp_{it} + \varepsilon_{ijt} \quad (1)$$

Where

X_{ijt} = bilateral trade between country *i* and *j* in year *t*,

$Ln\, GDP_{jt}$ = real GDP of country *j*,

$Ln\, Dist_{ij}$ = bilateral distance between capitals,

$LnPopulat_{jt}$ = population of Iran's partner countries in year *t*, which is expected to positively influence trade since larger populations are associated with greater demand. The PPML estimator has been widely adopted in recent studies due to its robustness. Silva and Tenreyro (2006) strongly advocate using PPML instead of Ordinary Least Squares (OLS) in gravity models, as it naturally incorporates trade flows with zero values (which cannot be logged in OLS). Moreover, PPML allows straightforward interpretation of coefficients, following the same logic as OLS. It also addresses econometric challenges such as endogeneity, heteroskedasticity bias, serial correlation of errors, and multicollinearity (Alvarez et al., 2018). Additionally, the following OLS equation is estimated to explore the determinants of Iran's institutional quality:

$$Instexp_{it} = \beta_0 + \beta_1 \, Instimp_{it} + \beta_2 \, Sanc_{it} + \beta_3 \, Gov_{it} + \beta_4 \, \frac{Oilrent}{GDP}_{it} + \beta_5 \, INF_{it} + \varepsilon_{it} \quad (2)$$

where:

- $Instexp_{it}$ = estimated institutional index measuring institutional quality in country *i* (Iran),

- $Instimp_{it}$= institutional quality of the importing country, based on the idea that exporters may attempt to improve their institutions to meet the standards of their trading partners,
- INF_{it} = inflation rate,
- $\frac{Oilrent}{GDP}_{it}$ = oil rents as a percentage of GDP (World Bank data), based on rentier state theory which posits that resource abundance fosters weak and extractive state institutions,
- $Sanc_{it}$ = sanctions dummy, coded 1 for the years 2005–2013 and 2018 onward (comprehensive sanctions periods), and 0 otherwise. Although Iran has been under continuous U.S. sanctions, their severity varied over time, hence this variable captures periods of full-scale sanctions,
- Gov_{it} = government dummy, coded 0 for conservative administrations (Ahmadinejad) and 1 for reformist administrations (Khatami, Rouhani), reflecting different foreign policy orientations and their potential impact on institutional quality.

Trade data are collected from Iran's Customs Administration, while other variables are obtained from the World Development Indicators (WDI) database of the World Bank. Bilateral distances (capitals) are retrieved from Google Maps. While the core structure of the gravity model and the trade data (1996–2020) are consistent with our prior study [Khorrami Moghadam et al (2025), In Press], the analysis here is advanced through the introduction of interaction terms between institutional quality and international sanctions. Furthermore, the results are cross-validated by estimating a basic Ordinary Least Squares (OLS) model to ensure the robustness of the key coefficients.

5. Results

To examine the effect of institutional quality on Iran's bilateral trade, the gravity model was employed. The institutional quality variable was included both as a composite index (Instexpi, the average of six governance dimensions) and individually (each component entered into the model

separately) to assess their distinct impacts. According to the findings, the variables of geographical distance, population of trading partners, and the GDP of the destination country are statistically significant at the 1% level across all models. Geographical distance has a negative and significant effect on trade, consistent with the hypothesis of its adverse impact on trade volume, while the population and GDP of partner countries show positive and significant effects. Regarding institutional variables, the composite index of institutional quality (Instexpi), rule of law, and voice and accountability exert a negative and significant effect on Iran's bilateral trade at the 1% level. Other components, such as political stability and regulatory quality, also have negative effects but at lower levels of significance. This negative relationship implies that improvements in Iran's institutional quality are associated with a decline in the country's foreign trade, and vice versa. Although this finding initially seems to contradict the theoretical expectation of a positive link between institutions and trade, it can be interpreted within the specific context of Iran's economy—particularly the role of sanctions, structural shifts in trade, and the reorientation of trading partners.

Table 1. Estimation Results of the Gravity Model

Variables	Instexpi (t-1)	Control of Corruption (t-1)	Government Effectiveness (t-1)	Political Stability (t-1)	Regulatory Quality (t-1)	Rule of Law (t-1)	Voice and Accountability (t-1)
Institutional Indexi (t-1)	-0.024 *** (0.0048)	-0.005 (0.1245)	-0.003 (0.5570)	-0.012 ** (0.0172)	-0.024 * (0.1011)	-0.017 *** (0.0073)	-0.032 *** (0.0002)
LnDist ij	-1.615 *** (0.0000)	-1.629 *** (0.0000)	-1.649 *** (0.0000)	-1.620 *** (0.0000)	-1.643 *** (0.0000)	-1.630 *** (0.0000)	-1.611 *** (0.0000)
LnGDPj	0.860 *** (0.0000)	0.870 *** (0.0000)	0.883 *** (0.0000)	0.863 *** (0.0000)	0.880 *** (0.0000)	0.870 *** (0.0000)	0.856 *** (0.0000)
LnPopulat j	0.924 *** (0.0000)	0.931 *** (0.0000)	0.941 *** (0.0000)	0.926 *** (0.0000)	0.940 *** (0.0000)	0.934 *** (0.0000)	0.925 *** (0.0000)
Constant	9.869	9.462	9.279	9.564	9.324	9.622	9.727

Variables	Instexpi (t-1)	Control of Corruption (t-1)	Government Effectiveness (t-1)	Political Stability (t-1)	Regulatory Quality (t-1)	Rule of Law (t-1)	Voice and Accountability (t-1)
	*** (0.0000)	*** (0.0000)	*** (0.0000)	*** (0.0000)	*** (0.0000)	*** (0.0000)	*** (0.0000)
Observations	1589	1589	1589	1589	1589	1589	1589
R-squared	0.36	0.35	0.35	0.35	0.35	0.35	0.35

Source: Authors' calculations (This study)

***P<0.01; **p<0.05; *p<0.1

The analysis of importing countries indicates that Iran's import composition is highly concentrated and limited.

Table 2. Share of Iran's main import countries (percent)

	2000	2010	2019	2021
China	4%	9%	26%	24%
Japan	5%	2%	0	0
Germany	10%	7%	5%	4%
UAE	8%	33%	20%	31%
Italy	6%	3%	2%	1%
Turkey	2%	6%	11%	10%
South Korea	5%	6%	2%	1%
France	4%	3%	1%	0
Switzerland	2%	6%	3%	3%

Source: Calculations of this study based on data from the Iran Customs Administration, 2023.

The majority of Iran's imports are concentrated in China, Turkey, and the United Arab Emirates, whereas the share of industrial countries with high-quality institutions, such as Germany, Italy, France, and Japan, has sharply declined or even fallen to zero. This pattern not only reduces technology transfer but also reflects the negative impact of sanctions on the structure of Iran's foreign trade. According to customs data, among Iran's ten main trading partners, seven are neighboring countries and only one is from Europe, collectively accounting for 84% of the total value of Iran's trade (Iran Customs Administration, 2023). In fact, the negative coefficient observed in the

model—or, in other words, the inverse relationship between institutional quality and Iran's foreign trade—indicates that under sanctions and political isolation, the effect of domestic institutions on foreign trade is overshadowed by external factors. Consequently, as a direct result of sanctions, Iran has shifted its trade toward partners that prioritize political and economic considerations over institutional quality. This finding carries significant policy implications, highlighting that both the removal of sanctions and institutional reforms are essential for the development of Iran's foreign trade. More precisely, sanctions have led Iran to concentrate its commercial relations on specific countries such as China, Turkey, and the UAE, rather than engaging with industrialized and advanced countries that have high-quality institutions.

The results from the analysis of the second model clearly illustrate the impact of various factors on Iran's institutional quality. In this model, where the Iranian institutional quality index is treated as the dependent variable, the findings indicate that inflation and international sanctions are two primary and highly significant factors undermining this index. Specifically, a one-percent increase in the inflation rate leads to a 34% decrease in Iran's institutional quality index, while international sanctions result in a 66% reduction. These findings are consistent with institutional economics theories, which suggest that chronic inflation and sanctions, by raising transaction costs, creating rent-seeking opportunities, and pushing economic activities toward the informal sector, contribute to corruption and institutional weakness. Sanctions increase rent-seeking opportunities (Lektzian & Souva, 2007), weaken formal economic activities, and reinforce monopolistic structures, thereby fostering greater corruption (Drezner, 2011). Similarly, inflation, by raising transaction costs and reducing purchasing power, can drive individuals and firms toward informal or illegal economic activities (Paldam, 2002; Getz & Volkema, 2001; Akca et al., 2012). In this model, the effects of other variables, such as the type of government (reformist/conservative) and oil rents, on Iran's institutional quality were not statistically significant. This lack of significance reflects the limited discretion of governments within the country's governance

and ideological framework. In other words, even if reformist governments made efforts to improve institutional conditions, their effectiveness has been constrained by ideological considerations in foreign policy and the enduring impact of sanctions. This finding underscores that the root causes of Iran's institutional challenges lie not only in government policies but also in deeper structures and informal institutions. As Salehi (2020) notes, foreign policy in the Islamic Republic has always been influenced by ideological considerations, limiting governmental autonomy. Consequently, the government variable (reformist or conservative) in the model does not explain variations in institutional quality. The dominance of ideological discourse over foreign policy has hindered Iran from benefiting from economic diplomacy and integrating into the global economy, whereas developmental state theory (Leftwich, 2006) emphasizes that countries that successfully develop pursue political independence and economic growth simultaneously. Additionally, sanctions, by limiting oil revenues and making them dependent on global prices as well as constraining the ability to circumvent restrictions, have further clouded the country's economic growth prospects (World Bank Group, 2024).

Ultimately, the results of this model indicate that inflation and sanctions, as serious structural barriers, not only affect Iran's trade relations but also directly erode the country's institutional foundation, severely reducing Iran's capacity to compete in the global economy.

The estimation results of the second equation, in which Iran's institutional quality is modeled as the dependent variable, are presented in the table below:

Table 3. Estimation Results of the Second Equation

	Instexp
Oil rents (of GDP) Iran	0.445
	(0.75)
INF	0.008*
	(-0.335)
GOV= 1,0	0.290

	(0.134)
INST impt	0.8828
	(0.022)
Sanc= 1,0	0.00*
	(-0.664)
Constant	(0.016)
	23.65
R-square	0.88

p<0.05*

Source: Calculations from this study.

One of the most important findings of this study, which helps explain Iran's limited share in global trade, is the narrow composition of the country's export basket, largely confined to low economic complexity goods. As the findings of this study indicate, the institutional quality of Iran is not a fixed or static variable; rather, it is highly vulnerable to fundamental shocks. The results of the complementary regression model (Model 2) explicitly reveal this mechanism: chronic inflation and international sanctions have directly and severely undermined Iran's institutional quality. Consequently, institutional capacity has lost its ability to effectively support economic development. This institutional weakness has exerted a profound impact on the structure of Iran's exports. According to the trade and growth literature, the transfer of technical knowledge and the production of complex goods require a strong institutional framework. Based on the theory of Hausmann and Hidalgo (2009), effective institutions play a vital role in shaping countries' productive capacity. Likewise, Lou (2008) and Rodrik (2007) emphasize that the export of high value–added goods depends on a reliable legal environment, the ability to enforce complex contracts, and the protection of intellectual property rights. Moreover, Martincus and Gallo (2009) demonstrate that higher-quality institutions facilitate the conclusion of long-term contracts across different stages of the value chain and thereby strengthen the export of technologically sophisticated products. In line with Rauch (1999), low value–added goods can be traded mainly on the basis of price, whereas differentiated goods (such as

machinery or advanced equipment) require market information, institutional trust, and transparent contracts. Domestic evidence and previous studies confirm that Iran’s non-oil exports are predominantly composed of low-complexity products (e.g., World Bank, 2024), which, unlike advanced goods, rely less on transparent and robust institutions. This situation has been further aggravated by sanctions, which have severed Iran’s access to industrial partners with strong institutional quality—traditionally the main sources of technology and knowledge transfer—and compelled the country to focus on trade with partners that do not demand highly complex goods.

These findings confirm that institutional weakness, by obstructing the path toward the development of advanced industries and altering the structure of exports, has trapped the country in a low-complexity export pattern. Therefore, the negative coefficient of institutions in the gravity model should not be interpreted as the irrelevance of institutions, but rather as a reflection of this profound structural constraint in Iran’s foreign trade.

6. Conclusion

Our analysis indicates that traditional factors in the gravity model, such as GDP and the population of trading partners, have a positive effect on Iran’s trade volume, while geographic distance, as expected, has a negative impact. These results highlight Iran’s trade potential with large and populous economies. The most significant and unexpected finding of this study is the negative and significant impact of institutional quality on Iran’s foreign trade. The inverse relationship between Iran’s institutional quality and its foreign trade implies that as institutional quality decreases, foreign trade increases, and vice versa. This result contradicts the classical predictions of the gravity model and reflects Iran’s unique circumstances, particularly international sanctions, which have reversed the usual positive relationship. Sanctions have directed Iran toward partners less sensitive to high-quality institutions, while trade with developed countries with strong institutions has sharply declined. Further analysis reveals that chronic inflation and international sanctions

directly undermine Iran's institutional quality. Specifically, a one percent increase in inflation reduces the institutional quality index by 34 percent, while sanctions decrease it by 66 percent. These findings align with the view that sanctions and inflation exacerbate rent-seeking and corruption, thereby weakening institutions. The study also shows that the structure of Iran's foreign trade has shifted due to sanctions, becoming concentrated in countries such as China, Turkey, and the United Arab Emirates. This concentration not only reduces the share of industrial partners but also impedes technology transfer and the development of complex industries. Moreover, our analysis confirms that the bulk of Iran's non-oil exports consists of low-complexity goods with limited value added. This finding is consistent with the idea that institutional weakness hinders the development of complex and diversified industries, since the trade of sophisticated goods requires transparent regulations and institutional trust. This highlights the vital role of institutions in shaping the country's production and export structure. Finally, the study indicates that Iran's foreign policy, influenced by ideological considerations, has constrained government autonomy. This finding suggests that external pressures and ideological factors have neutralized the effect of government type (reformist or conservative) on trade. This situation deprives Iran of the benefits of economic diplomacy and contradicts the "developmental state" model, which emphasizes pursuing economic growth alongside political autonomy. In conclusion, by integrating quantitative and qualitative findings, this research demonstrates that Iran's limited share in global trade is a complex phenomenon resulting from the interaction of economic factors, weak institutions, chronic inflation, and external pressures. This picture underscores that global trade is a complex network, where each node (country) is influenced by multiple interrelated factors.

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Authors' contributions

All authors had contribution in preparing this paper

Conflicts of interest

The authors declare no conflict of interest

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