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The Role of Cultural and Institutional Distances in International Trade

Nguyen Tien Long [1], Nguyen Thi Gam [2], Vu Hong Van [3], Bui Hoang Ngoc [4*]

[1] *Faculty of Economics, Thai Nguyen University (TNU) - University of Economics and Business Administration, Thai Nguyen, Vietnam.*

[2] *Faculty of Marketing, Commerce and Tourism, Thai Nguyen University (TNU) - University of Economics and Business Administration, Thai Nguyen, Vietnam.*

[3] *Faculty of Business Administration, University of Finance - Marketing, Vietnam.*

[4] *Ho Chi Minh City Open University, Vietnam.*

Abstract

Despite the effectiveness of the observed barriers such as taxes and quotas to adjust bilateral trade, they are still not well supported by governments in general and the World Trade Organization in particular. Therefore, in recent years, unobserved barriers have been critical tools to modify the trade flows between nations worldwide. China's exports account for a massive proportion of global trade. However, the role of cultural and institutional distance in China's trade flow has not been much explored. This study analyzes the impact of cultural and institutional differences on China's exports between 2006-2017 by adopting a system-GMM estimator. The main findings are, first, that cultural and institutional differences between China and its trading partners reduce China's exports. Second, cultural and institutional distances have the strongest influence on China's exports to high-income countries, followed by low-income countries, and finally middle-income countries. Third, manufactured products are the most sensitive to cultural and institutional distances. Based on these findings, several policies for China, as well as for emerging economies in general, are suggested for reducing cultural and institutional distances and boosting their exports.

Keywords:
Cultural Distance;
Institutional Distance;
Trade Flow;
System-GMM Approach.

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1- Introduction

In recent years, economists have gradually shifted their attention from observable trade barriers to unobserved ones [1–3]. Among the latter, cultural and institutional distances are believed to significantly influence trade because they are related to asymmetric information and uncertainty in international transactions [4, 5]. According to North [6], institutions are the humanly devised constraints that structure political, economic, and social interaction. Therefore, culture influences people's behaviour, while institutions ensure a healthy business environment. Liu et al. [7] clarified the concept of cultural and institutional distances. Accordingly, cultural distance reflects differences between two countries in (*i*) languages, (*ii*) family structures, (*iii*) religions, (*iv*) wealth and lifestyles, and (*v*) values, while institutional distance refers to the level of compatibility between the quality of the institutions of the two nations.

Up to this point, there have been few studies on the effect on trade of institutional similarity. An early study by Kogut & Singh [4] found that national culture influences multinational enterprises' decisions to invest in a particular country. The influence of cultural and institutional differences on bilateral trade flows between 92 countries has been investigated by de Groot et al. [8]. They showed that cultural distance positively affects bilateral trade. A possible explanation is that

* **CONTACT**: ngoc.bh@ou.edu.vn

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firms prefer to invest in production in a culturally distant host country. In contrast, institutional distance negatively affects bilateral trade, presumably because of the higher transaction costs of trade between partners with different institutions. Another reason is that institutional distance incurs more risks for multinational enterprises because they may not recognize the differences in regulations and rules between the host country and the home country.

Later, White & Tadesse [3] investigated the impact of cultural distance on bilateral trade flows using bilateral trade data covering 9 OECD countries and 58 other countries (for which the cultural distance can be calculated) for the period 1996–2001. Their study showed the negative effect of cultural distance on aggregate trade and trade by commodity groups. Also, the magnitude of the impact is different in their cohort of OECD reference countries. This finding is also in line with White & Tadesse [3], who found that cultural differences decrease the United States' exports to a trading partner. However, the magnitudes of the impacts are heterogeneous across sectors, including cultural and noncultural products. Likewise, Cyrus [10] explored the influence of cultural proximity on bilateral trade flows. The distinguishing feature of this study is that it considers cultural distance as a time-varying variable. The cultural distance is measured based on the *World Values Survey* (WVS, 2022) [9] questions regarding trust, respect, control, and obedience. The empirical results showed that culturally distant countries trade less. Using a non-linear framework, Lankhuizen & de Groot [2] examined the impact of cultural distance on trade, showing that cultural differences have a non-linear effect on trade. More precisely, international trade tends to decrease with cultural distance, but this trend is valid when cultural differences surpass a certain threshold. The possible explanation is that cultural distance leads to differences in comparative advantages for a lower level of cultural distance. Therefore, the substitution of FDI by trade leads to a positive effect of cultural distance on trade.

Liu et al. [7] assessed the roles of cultural and institutional distance in China's trade with the Belt and Road countries and found that cultural and institutional distances hinder China's bilateral trade. In addition, cultural distance exhibits stronger effects on China's bilateral trade with the Belt and Road nations than institutional distance does. Finally, compared to Asian countries on the Belt and Road, bilateral trade flows between China and European countries are less sensitive to cultural distance, except for China's imports from its trading partners. Recently, Doanh et al. [11] employed the system generalized method of moments (system-GMM) approach to analyze the influence of institutional and cultural distances and trade barriers on trade efficiency in ASEAN countries from 2006 to 2017. They found that an increase in institutional and cultural distances leads to decreased trade efficiency in the Association of South East Asian Nations (ASEAN) countries. Likewise, Van et al. [12] also applied the system-GMM approach to study whether institutional similarity may increase bilateral trade in 106 countries from 2006 to 2017. Their empirical results showed that institutional similarity has a trade-boosting effect. However, this conclusion is not significant when one or both countries have low institutional quality.

This topic is essential for China due to the following reasons: First, starting in 2001, China intensified its integration into the international economy by joining the World Trade Organization (WTO), strengthening cooperation with other countries, and signing free trade agreements with economic blocs. In parallel with that process, China accelerated economic reform with the goal of transforming itself into an innovative service-based economy. At the same time, China's government has concentrated on thrusting domestic affairs and putting the power out. This is clearly reflected through a series of official visits and demonstrations of strength in multilateral forums. In addition, China is assuming more international responsibilities, so as to become more influential, and intervene more decisively in some global affairs. Second, China has become the world's second-largest economic superpower. In 2019, China's GDP was 14,279.9 billion USD, ranking second globally after the United States. According to statistics from WITS [13], China's total exports are 2498.6 billion USD. Third, in recent years, China has substantially improved the quality of its institutions, especially those that regulate trade. At the same time, China has a diverse culture and a long tradition. These characteristics might explain China's spectacular achievements in foreign trade. Due to the above reasons, this study tries to answer the following questions:

- *Do cultural and institutional distances affect China's exports?*
- *Which Chinese exports are most sensitive to cultural and institutional differences?*
- *To which group of countries do cultural and institutional differences have the most impact on China's exports?*

We believe that the findings of this study provide a comprehensive and in-depth understanding of the role of cultural and institutional distances in trade flows. Based on this evidence, the study also suggests several helpful policy implications for China and emerging economies in reducing cultural and institutional distances and boosting their exports.

2- Literature Review

2-1- Impact of Cultural Distance on Trade

A large volume of published studies describes the role of cultural distance in international trade [14–16]. However, there is no consensus on the impact of cultural distance on international trade. On the one hand, several studies have

revealed that cultural distance inhibits trade flows [3, 11]. The reason is that significant cultural differences make it challenging to understand and predict the behaviour of others [17], which complicates interactions [18], thus impeding international trade. Several studies have demonstrated that trading partners with similar cultures communicate and share information easily [19]. In addition, cultural distance means that perceptions are different. Having different perceptions complicates interactions and constitutes an information asymmetry [3], obstructing the development of bilateral trust. Since trust reduces transaction costs [9], it promotes trade flows [20, 21]. According to this line of argument, the cultural distance between countries reduces the bilateral trade between them.

On the other hand, another line of argument is that in the context of cultural dissimilarities, firms would choose to export to culturally distant markets rather than invest in them [20, 22]. Therefore, cultural distance is associated with more significant bilateral trade. An early study in this area was conducted by Larimo [21], who developed a composite index of cultural distance proposed by Kogut & Singh [4], finding that more significant cultural differences between countries are associated with greater differences in firms' organizational and management practices. In this case, firms might find it costly to transfer practices from their home country to subsidiaries in culturally different locales. Another seminal study in this area is by de Groot et al. [8], who used four dimensions of national culture and bilateral trade data between 92 countries for 1999, finding that greater cultural distance corresponds with higher volumes of trade. It seems possible that these results are due to a firm's preference to serve culturally distant markets through exporting rather than investing in production in such countries.

Cultural distance not only affects trade flows but also influences the efficiency of trade. In an application to the ASEAN economic community, Doanh et al. [11] investigated the impact of cultural differences and trade barriers on the trade efficiency of ASEAN countries. By adopting the system-GMM approach, they found that cultural distances and trade barriers negatively affected the trade efficiency of these countries in the period 2006–2017. This conclusion was also confirmed by Liu et al. [7], who found that cultural distance hinders exports for both China and the United States through trade costs and preference channels.

2-2- Impact of Institutional Distance on Trade

In international trade, exporters have to go through several basic stages to enter the importing country's market. First of all, the exporter must study the foreign markets carefully to decide whether to export or not. Next, the exporter must find a partner in the importing country to carry out distribution. After that, the exporter and its partner sign an international commercial contract. Finally, the contracting parties fulfill the signed contract. However, unlike domestic trade, international trade is a very complex activity because the economic actors are located in countries with different legal frameworks, economic conditions, cultural practices, and political systems [4, 23–25]. These differences impede the flows of goods and services, increase the risks of trading abroad, and raise trade costs through the following mechanisms:

First, two countries with different institutional frameworks probably have different economic, cultural, and legal backgrounds. This means that the exporter is completely unfamiliar with the importing country's trading environment [9]. Therefore, the exporter finds it more difficult to conduct market research, search for a trade opportunity, and find a good partner because some partners may behave opportunistically [4]. In addition, the exporter must make substantial adjustments (of, for example, the products, specifications, and processes) to comply with the regulations and tastes of the importing country. All of these factors increase the search and adjustment costs [9, 26].

Second, having incompatible institutional environments increases uncertainty [27, 28], reducing the feasibility and profitability of bilateral trade. That two countries have a great institutional distance from each other means that their legal systems governing international trade are also different, leading to imperfect contract enforcement [29]. This issue becomes even more critical if a costly enforcement system characterizes the importing country. In the event of a dispute, the unfamiliarity with the importing country's institutional system makes it difficult for the exporter to find alternative solutions.

Third, institutional distances make it difficult to build the bilateral trust between parties that is needed for international transactions. According to de Groot et al. [8], comparable levels of institutional quality result in the development of trust, thus reducing search and adjustment costs. In practice, the exporter tends to trade with an importer it can trust. The reason is that the exporter believes that the importer will protect the exporter's interests in spite of the importer's capacity to behave opportunistically [30]. This argument is confirmed by Xing & Zhou [18], who explained that when a business leader trusts a business partner, the leader would be willing to sign contracts through a simple negotiation process. Guiso et al. [14] were the first to study the impact of bilateral trust on trade using data on bilateral trust between European countries. Their empirical results for the period 1970–1996 showed that lower bilateral trust led to less bilateral trade. Recently, Xing & Zhou [18] found that bilateral trust positively affects bilateral trade at the provincial level. The possible explanation is that trust can reduce the transaction costs and enforcement costs of business contracts.

In terms of empirical studies, Álvarez et al. [25] used the Poisson Pseudo-Maximum Likelihood estimation methods to analyse the impact of national institutional quality on bilateral sectoral trade flows in 186 countries during the period 1996-2012. They showed that the institutional distance between exporting and importing countries is a significant factor for bilateral trade, and the effect associated with institutional conditions at destination moderately increases over time. More specifically, all 6 components of institutional quality, including: control of corruption, government effectiveness, political stability, rule of law, regulatory quality, and voice and accountability, have a positive impact on bilateral trade, which implies that an increase in institutional quality leads to an increase in bilateral trade. Institutional quality not only promotes bilateral trade but also encourages innovation spillover. By adopting GMM estimators, Canh et al. [26] found that higher inward foreign direct investment (FDI) flows positively drive the number of patents, while trade openness might have the opposite influence. Recently, Abaidoo [27] examined how economic policy uncertainty from the United States, China, and the European Union affects international trade. Their empirical results showed that the institutional uncertainty and economic policy uncertainty conditions in the United States and China tend to have significant negative or constraining impacts on key components of international trade. However, Avom et al. [28] showed that institutional quality mitigates the negative effect of terms-of-trade volatility, when they examined the influence of terms-of-trade volatility on growth volatility in 45 African countries from 1997 to 2017.

Lastly, Peiró-Palomino et al. [29] applied a gravity model to determine whether institutional quality affects trade composition and fosters a transition towards cleaner products. With a sample of 140 nations, the outcomes obtained from the Pseudo-Poisson Maximum Likelihood approach showed that there is a negative link between institutional quality and trade in products classified as dirty, and a part of the effect of institutional quality is channeled through higher environmental stringency. Of course, the above literature review cannot report all the conclusions of previous studies. However, it shows the vital role of institutional and cultural distances in trade flows. China has a developed national culture and an enormous labour force, which raises concerns for emerging economies in bilateral trade with China. This study is conducted to answer these concerns and provide a comprehensive and in-depth understanding of the role of institutional and cultural distance in bilateral trade.

3- Methodology

3-1- Research Model

The panel data model for analysing the impact of cultural and institutional distances on China's exports is:

$$lnEX_{ij,t} = \alpha + \gamma lnEX_{ij,t-1} + \beta_1 lnGDP_{i,t} + \beta_2 lnGDP_{j,t} + \beta_3 lnDIST_{ij} + \beta_4 LANDLOCKED_j + \beta_5 BORDER_{ij} + \beta_6 LANG_{ij} + \beta_7 ID_{ij,t} + \beta_8 CD_{ij} + \varepsilon_{ij,t} \quad (1)$$

where *i* and *j* denote country *i* (China) and country *j* (China's trading partner), respectively; and *t* indicates the year. $EX_{ij,t}$ denotes China's exports to country *j* in year *t* (in $ thousand); GDP_{it} and GDP_{jt} denote the gross domestic product of country *i* and country *j* in year *t*, respectively (in $ billion); $DIST_{ij}$ is the geographical distance between country *i* and country *j* (in km); $LANG_{ij}$ is a probability (0-1) that a pair of people at random from China and country *j* understand one another in some language; $LANDLOCKED_{ij}$ is a dummy variable which equals 1 if country *j* is landlocked and 0 otherwise. Three variables, namely EX, GDP, and DIST are transformed into logarithms.

CDij is the cultural distance between country *i* and country *j*. It is computed as follows:

$$CD_{ij} = \frac{1}{4}\sum_{k=1}^{4}\left(C_{ki} - C_{kj}\right)^2 / V_k \quad (2)$$

where, Ck_i and Ck_j represent the kth cultural dimension of country *i* and country *j*, respectively. *Vk* is the variance of the k^{th} dimension across countries. There are four dimensions of a national culture, whose scores are constructed by Hofstede [30].

IDij,t is the institutional distances between country *i* and country *j* in year *t*. It is calculated as follows:

$$ID_{ij,t} = \frac{1}{7}\sum_{k=1}^{7}\left(I_{ki,t} - I_{kj,t}\right)^2 / V_{k,t} \quad (3)$$

where, *Iki,t* and *Ikj,t* denote the k^{th} institutional dimension of country *i* and country *j* in year *t*, respectively. *Vk,t* is the variance of the k^{th} institutional dimension across countries in year *t*. There are 7 institutional dimensions, with the score for each dimension ranging from 1 (worst) to 7 (best).

In this study, several approaches are applied to explore China's trade flows with various partners. More precisely, to estimate the differential effects of cultural and institutional distance on China's exports across product groups, we have divided China's total exports (*EXij,t*) into two categories: primary and manufactured exports. Similarly, we have divided the importing countries into low-income, middle-income, and high-income countries to estimate the differential impacts of cultural and institutional distance on China's exports across country groups.

3-2- Econometric Strategy

Figure 1 presents the econometric strategy to achieve the research objectives. Accordingly, the Fisher-type unit-root test is employed to check the stationarity of the variables in the first step. The next step examines the potential for an endogeneity problem due to the fact that we cannot include all explanatory variables in the model. Thus, there might be important variables that are omitted from our study. If an endogeneity problem is found, the system-GMM approach introduced by Arellano & Bover [31] will be used. We also use the Hansen test to confirm that the estimated coefficients are unbiased and consistent.

Figure 1. Econometric strategy

3-3- Data Source

The data set used in this study is a panel of China and 95 countries' trading partners for the period 2006–2017 (the list of countries in the sample is given in Appendix I (Table A-1)). Data on *EXij,t* are sourced from the World Integrated Trade Solution [13]. Data on $GDP_{i,t}$ and $GDP_{j,t}$, are taken from the IMF *World Economic Outlook* database. Data on $DIST_{ij}$, $BORDER_{ij}$, $LANG_{ij}$, and $LANDLOCKED_j$ are collected from the C*entre d'Études Prospectives et d'Informations Internationales* (CEPII). For income level dummy variables, we adapted the World Bank's classification of economies based on income levels. Specifically, the World Bank divides the world's economies into four income groups: low, middle, upper-middle, and high-income countries. For empirical purposes, the present paper combines the lower middle and upper middle groups into a group of middle-income countries. Therefore, China's trading partners belong to one of the following income groups: low-income, middle-income, and high-income countries.

4- Empirical Findings and Discussion

Before estimating the system-GMM estimator, it is important to check the stationarity of the panel data. If the data is nonstationary, one might obtain statistically significant results from unrelated data, which is termed a spurious regression [32]. Therefore, we perform a Fisher-type unit-root test, whose results are presented in Table 1.

Table 1. Unit-root test

Variable	Inverse χ^2	Inverse normal	Inverse logit	Modified inv. χ^2
$lnEX_{ij,t}$	240.910**	-2.155*	-2.590**	2.612**
$lnExPri_{ij,t}$	278.220**	-2.741**	-3.057**	4.526**
$lnExMan_{ij,t}$	238.286*	-2.050*	-2.488**	2.477**
$lnGDP_{i,t}$	427.003**	-12.182**	-11.489**	12.158**
$lnGDP_{j,t}$	442.688**	-6.744**	-8.571**	12.963**
$ID_{ij,t}$	1354.663**	-25.332**	-37.247**	59.746**
Property rights	1219.697**	-23.715**	-33.695**	52.822**
Ethics and corruption	712.270**	-13.271**	-17.289**	26.792**
Undue influence	438.779**	-6.091**	-7.946**	12.762**
Government efficiency	750.944**	-13.537**	-18.537**	28.776**
Security	1152.736**	-20.648**	-31.347**	49.387**
Corporate ethics	690.297**	-13.508**	-17.368**	25.665**
Accountability	1029.348**	-21.222**	-28.123**	43.058**

Note: * denotes p-value < 0.05, and ** denotes p-value < 0.01.

As shown in Table 1, the null hypothesis of unit roots is rejected at the 1% significance level. By rejecting the null hypothesis, it is possible to conclude that there are no unit roots in the important variables used in this study. Therefore, it is safe to implement the system-GMM estimator (see Appendix I (Table A-2)).

Table 2 displays the regression results regarding the impact of cultural and institutional distances on China's trade with the rest of the world. As can be seen from Table 2, both the *Sargan*, and *AR(2)* tests are statistically insignificant. This implies that our instrument variables are valid, and there is no second-order serial correlation in the first-differenced residuals.

Table 2. Impact of cultural and institutional distances on China's exports

Variables	Total Exports	Primary Exports	Manufactures Exports
$lnEX_{ij,t-1}$	0.239*		
	(0.113)		
$lnExPri_{ij,t-1}$		0.264*	
		(0.133)	
$lnExMan_{ij,t-1}$			0.167*
			(0.073)
$lnGDP_{i,t}$	0.314**	0.273**	0.445**
	(0.080)	(0.095)	(0.073)
$lnGDP_{j,t}$	0.672**	0.651**	0.740**
	(0.100)	(0.118)	(0.072)
$lnDIST_{ij}$	-0.345**	-0.310**	-0.807**
	(0.065)	(0.063)	(0.122)
$LANDLOCKED_j$	-0.382**	-0.370**	-1.519**
	(0.073)	(0.079)	(0.230)
$BORDER_{ij}$	0.273**	0.282**	0.297
	(0.076)	(0.069)	(0.358)
$LANG_{ij}$	0.022**	0.021**	0.018**
	(0.004)	(0.004)	(0.004)
$ID_{ij,t}$	-0.158**	-0.173**	-0.348**
	(0.041)	(0.045)	(0.106)
CD_{ij}	-0.072**	-0.071**	-0.201**
	(0.015)	(0.016)	(0.055)
Intercept	8.843**	8.595**	9.958**
	(1.133)	(1.186)	(1.290)
No of Obs	1045	1045	1045
Arellano-Bond test z	-1.40	-1.42	0.45
Pr > z	0.162	0.155	0.653
Hansen test Chi2	5.08	8.08	12.89
Prob > Chi2	0.651	0.152	0.168

Note: Standard errors in parentheses, * denotes p-value < 0.05, and ** denotes p-value < 0.01, respectively.

Overall, the data fits the model very well. All coefficients are statistically significant at the 5% level. The basic gravity variables behave as well as expected. Specifically, the coefficients of $GDP_{i,t}$ (the GDP of China), $GDP_{j,t}$ (the GDP of the trading partner), and common language are positive. In contrast, $DIST_{ij}$ (the geographical distance between China and its trading partner) and $LANDLOCKED_j$ are negative. Our findings align with recent studies [18, 33–40], indicating that China exports more to countries with a higher GDP and countries sharing a common language. In contrast, China exports less to countries that are geographically distant and landlocked.

On average, cultural and institutional distances have a negative effect on China's trade. This study indicates that China trades less with countries whose cultures and institutions are different from those of China. Our finding is in line with previous studies, which presented similar findings [11, 41, 42]. A possible explanation for this might be that institutional distance makes Chinese exporters unfamiliar with the business environment of the importing country. In addition, uncertainty in trade transactions and contract enforcement restricts China's exports to these countries. Similarly, cultural distance makes it difficult for Chinese exporters to communicate and build bilateral trust with their trading partners, something that is essential for international transactions.

Further analysis indicates that the above results also hold for primary and manufactured goods. As shown in Table 2, the coefficients of CD_{ij} and $ID_{ij,t}$ are negative and statistically significant. This means that China exports less primary and manufactured goods to countries with a high level of cultural and institutional differences from China. Our findings support those of Tadesse & White [42], Méon and Sekkat [43], and Singh [44].

The most interesting finding is that there is a significant difference between the coefficients of $ID_{ij,t}$ for primary and manufactured products. Specifically, the coefficient of $ID_{ij,t}$ for trade in manufactured goods is higher than that for that

in primary goods. This implies that institutional distance has more influence on manufactured trade than on primary trade. Similarly, the coefficient of CD_{ij} for the manufactured trade is higher than that for the primary trade. This means that cultural distance affects processed goods more than primary products. Taken together, these results suggest that manufactured products are more sensitive to cultural and institutional distances. This result may be explained by the fact that manufactured products include a lot of intermediate goods, which are more sensitive to institutional distance [45]. Indeed, intermediate products might have to cross borders many times, receiving added value before developing into final goods. Each time a border is crossed, trade costs should increase. This evidence suggests that cultural and institutional distance exerts more influence on China's manufactured trade.

Table 3 provides the regression results regarding the impact of the institutional distance on China's exports to countries grouped by income levels. Similarly, the impact of cultural and institutional distances on China's commodity exports to countries grouped by income levels is presented in Table 4.

Table 3. Impact of cultural and institutional distances on China's exports to countries grouped by income levels

Variables	Total Exports		
	Low income	Medium income	High income
$ID_{ij,t}$	-0.315*	-0.540**	-0.895**
	(0.137)	(0.171)	(0.170)
CD_{ij}	-0.702*	-0.791*	-0.813**
	(0.266)	(0.334)	(0.188)

Note: Standard errors in parentheses, * denotes p-value < 0.05, and ** denotes p-value < 0.01, respectively.

Table 4. Impact of cultural and institutional distances on China's commodity exports to countries grouped by income levels

Variables	Primary Exports			Manufactures Exports		
	Low income	*Medium income*	*High income*	*Low income*	*Medium income*	*High income*
$ID_{ij,t}$	-0.142*	-0.270**	-0.445**	-0.470**	-0.324**	-0.911**
	(0.056)	(0.073)	(0.116)	(0.110)	(0.097)	(0.274)
CD_{ij}	-0.038*	-0.307*	-0.614*	-0.284	-0.059*	-0.466**
	(0.016)	(0.138)	(0.251)	(0.176)	(0.028)	(0.062)

Note: Standard errors in parentheses, * denotes p-value < 0.05, and ** denotes p-value < 0.01, respectively

As can be seen from Table 3, all cultural and institutional distance variables are negative and statistically significant (at least at the 5% level). In other words, China's exports to all country groups are affected by institutional and cultural distances. The most interesting result in this table is that the magnitude of the coefficient of the institutional distance variable ($ID_{ij,t}$) is highest in the case of China's exports to high-income countries, followed by low- and middle-income countries. Our results are consistent for two reasons. First, high-income countries are China's main trading partners. Second, these countries have very high institutional quality compared to China. To penetrate these markets, Chinese goods need to meet the strict requirements of these countries. Similarly, the coefficient of the cultural distance variable (CD_{ij}) is also largest in the case of China's exports to high-income countries and smallest in the case of China's exports to middle-income countries. However, the difference in magnitude of the cultural distance variable (0.702–0.813) is smaller than that of the institutional distance variable (0.315–0.895). This analysis implies that institutional distance affects China's exports more than cultural distance.

Table 5 provides the regression results regarding the impact of the cultural distance on China's exports, focusing on four cultural dimensions. As shown in Table 5, differences in all cultural dimensions negatively affect China's exports. Similar results hold for primary and manufactured exports. Among the four cultural dimensions, differences in Power Distance have the strongest effect on China's total and manufactured exports, whereas differences in Masculinity versus Femininity have the highest influence on China's primary exports. The above results are reasonable. The characteristic of processed goods is that the production process goes through several stages (for example, in the assembly lines). Every step of production requires quick decision-making. For example, in the event that one stage in a production line fails, all the remaining stages must stop working. In such a situation, the manager must make a decision to fix the problem immediately. However, in countries with a high-power distance index, decisions can only be made by top leaders, causing the entire production line to stall. In our sample, China mainly exports to high-income countries. Compared with these countries, China has a higher Power Distance index. Therefore, such differences have a great influence on China's total and manufactured exports.

Table 5. Impact of differences in cultural dimensions on China's exports

Variables	Total Exports	Primary Exports	Manufactured Exports
Power Distance	-0.176**	-0.108**	-0.220**
	(0.038)	(0.041)	(0.061)
Individualism versus Collectivism	-0.073**	-0.028	-0.0220
	(0.016)	(0.021)	(0.021)
Masculinity versus Femininity	-0.095*	-0.116*	-0.218*
	(0.048)	(0.052)	(0.100)
Uncertainty Avoidance	-0.072**	-0.068	-0.079**
	(0.015)	(0.036)	(0.021)

Table 6 provides the regression results regarding the impact of the institutional distance on China's exports focusing on seven institutional dimensions.

Table 6. Impact of differences in institutional dimensions on China's exports

Variables	Total Exports	Primary Exports	Manufactures Exports
Property rights	-0.228**	-0.260*	-0.383**
	(0.085)	(0.112)	(0.126)
Ethics and corruption	-0.105**	-0.239*	-0.314**
	(0.036)	(0.094)	(0.104)
Undue influence	-0.108**	-0.081*	-0.238*
	(0.036)	(0.038)	(0.104)
Government efficiency	-0.103**	-0.072*	-0.234*
	(0.035)	(0.034)	(0.103)
Security	-0.115**	-0.165*	-0.212
	(0.034)	(0.066)	(0.114)
Corporate ethics	-0.093**	-0.101	-0.240**
	(0.034)	(0.072)	(0.075)
Accountability	-0.103**	-0.323	-0.203
	(0.026)	(0.169)	(0.274)

As shown in Table 6, differences in all institutional dimensions negatively affect China's exports. Similar results hold for primary and manufactured exports. Among the seven institutional pillars, differences in property rights have the most significant effect on China's total, primary, and manufactured exports. Our findings are in agreement with those of [46], who reported that countries with stable domestic property rights tend to trade products requiring relation-specific inputs. Indeed, the protection of property rights promotes a trade-based economy [23]. By securing property rights, reducing corruption, and clarifying labor market regulations, efficient institutions can significantly reduce contract costs [47].

5- Conclusion

This study has analyzed the impact of cultural and institutional distances on China's trade. Our dynamic panel data includes China's trade with 95 countries for the period 2006–2017. By adopting the system-GMM approach, we found several impressive results. First, cultural and institutional differences between China and its trading partners reduce China's exports. Second, cultural and institutional distances have their strongest effect on China's exports to high-income countries, followed by low-income countries and middle-income countries. Differences in power distance have their strongest effect on China's total and manufactured exports, whereas differences in masculinity versus femininity have their strongest effect on China's primary exports. Differences in property rights have their most significant effect on China's total, primary, and manufactured exports. Lastly, manufactured products are the most sensitive to cultural and institutional distances.

Based on the above findings, the contributions of this study are summarized as: First, it compared the differential impact of cultural and institutional distances on China's trade. Second, it analyzed the heterogeneous impact of cultural and institutional distances on China's trade with countries grouped by their income levels, including low-income, middle-income, and high-income countries. Lastly, to determine the sensitivity of each commodity group to cultural and institutional distances, we divided China's exports into primary and manufactured products.

These findings suggest several courses of action for boosting China's exports. As can be observed, China's main trading partners are high-income countries. These are all countries with good institutional quality. Therefore, to reduce the institutional distance, China needs to gradually improve the quality of its institutions, especially those that regulate international trade. Doing so would require improvements in human capital [48], the attraction of foreign direct investment [49], a deepening of openness [50], and an improvement in economic policy [51]. China is a country with a long and diverse cultural tradition. This is important because cultural diversity implies diverse consumer demands, increasing China's opportunities to diversify trade with the rest of the world. To limit the negative effect of cultural differences, China needs to strengthen cultural exchange and actively introduce its culture to other countries worldwide.

Finally, even though significant empirical evidence has been explored in this study, we agree that it still has some limits. In general, many macro-economic variables can affect trade flow. Thus, some further related economic variables should be considered, such as foreign direct investment, globalization, and tax policies. Additionally, future research might apply our model to other developing countries to help policy-makers systematically understand the role of cultural and institutional distance in bilateral trade. We also suggest that several novel econometric techniques, such as cross-sectional autoregressive distributed lag, and spatial approaches, should be applied to support policy-makers with a comprehensive policy guideline.

6- Declarations

6-1- Author Contributions

Conceptualization, L.N.T. and G.N.T.; methodology, L.N.T. and N.B.H.; software, N.B.H.; validation, L.N.T., G.N.T. and V.V.H.; formal analysis, L.N.T.; investigation, V.V.H.; resources, V.V.H.; data curation, V.V.H.; writing—original draft preparation, L.N.T. and G.N.T.; writing—review and editing, L.N.T. and N.B.H.; visualization, G.N.T.; supervision, L.N.T.; project administration, N.B.H.; funding acquisition, L.N.T. All authors have read and agreed to the published version of the manuscript.

6-2- Data Availability Statement

The data presented in this study are available in the article.

6-3- Funding

The authors received no financial support for the research, authorship, and/or publication of this article.

6-4- Institutional Review Board Statement

Not applicable.

6-5- Informed Consent Statement

Not applicable.

6-6- Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this manuscript. In addition, the ethical issues, including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, and redundancies have been completely observed by the authors.

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Appendix I

Table A-1. The list of countries

Order	Countries	Order	Countries	Order	Countries
1	Albania	33	Honduras	65	Nigeria
2	Angola	34	Hong Kong SAR	66	Pakistan
3	Argentina	35	Hungary	67	Panama
4	Australia	36	Iceland	68	Peru
5	Austria	37	India	69	Philippines
6	Bangladesh	38	Indonesia	70	Poland
7	Belgium	39	Iraq	71	Portugal
8	Brazil	40	Ireland	72	Russia
9	Bulgaria	41	Islamic Republic of Iran	73	Saudi Arabia
10	Burkina Faso	42	Israel	74	Senegal
11	Canada	43	Italy	75	Sierra Leone
12	Cape Verde	44	Jamaica	76	Singapore
13	Chile	45	Japan	77	Slovak Republic
14	China	46	Jordan	78	Slovenia
15	Colombia	47	Kazakhstan	79	South Africa
16	Costa Rica	48	Korea	80	Spain
17	Croatia	49	Kuwait	81	Sri Lanka
18	Czech Republic	50	Latvia	82	Suriname
19	Denmark	51	Lebanon	83	Sweden
20	Dominican Republic	52	Libya	84	Switzerland
21	Ecuador	53	Lithuania	85	Tanzania
22	Egypt	54	Luxembourg	86	Thailand
23	El Salvador	55	Malawi	87	Trinidad and Tobago
24	Estonia	56	Malaysia	88	Turkey
25	Ethiopia	57	Malta	89	Ukraine
26	Fiji	58	Mexico	90	United Arab Emirates
27	Finland	59	Morocco	91	United Kingdom
28	France	60	Mozambique	92	United States
29	Germany	61	Namibia	93	Uruguay
30	Ghana	62	Nepal	94	Venezuela
31	Greece	63	Netherlands	95	Vietnam
32	Guatemala	64	New Zealand	96	Zambia

Table A-2. The summary of statistics

Order	Countries	Order	Countries	Order	Countries
$lnEX_{ij,t}$	1140	15.131	1.891	9.220	19.880
$lnExPri_{ij,t}$	1140	11.228	2.257	2.198	15.924
$lnExMan_{ij,t}$	1140	15.073	1.889	9.192	19.848
$lnGDP_{i,t}$	1140	8.855	0.471	7.928	9.398
$lnGDP_{j,t}$	1140	4.883	1.823	0.213	9.879
$lnDIST_{ij}$	1140	8.983	0.535	6.862	9.868
$LANDLOCKED_{j}$	1140	0.126	0.332	0.000	1.000
$BORDER_{ij}$	1140	0.074	0.261	0.000	1.000
$LANG_{ij}$	1140	0.021	0.110	0.000	0.837
$ID_{ij,t}$	1140	0.778	0.513	0.001	2.500
CD_{ij}	1140	0.915	0.606	0.000	2.936
Property rights	1140	1.068	0.629	0.000	3.203
Ethics and corruption	1140	0.953	0.620	0.001	3.183
Undue influence	1140	0.756	0.485	0.001	2.752
Government efficiency	1140	0.802	0.551	0.001	2.758
Security	1140	0.811	0.660	0.002	2.918
Corporate ethics	1140	0.639	0.535	0.000	2.659
Accountability	1140	2.219	1.416	0.155	5.564
Power Distance	1140	1.455	2.162	0.000	10.361
Individualism	1140	2.320	3.126	0.000	12.269
Masculinity	1140	1.005	1.506	0.000	8.451
Uncertainty Avoidance	1140	1.562	1.706	0.000	5.883