The Impact of Trade Facilitation on Pakistan's International Trade

El impacto de la facilitación del comercio en el comercio internacional de Pakistán

O impacto da facilitação do comércio no comércio internacional do Paquistão

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Abstract

The primary purpose of this study is to facilitate Pakistan in trade facilitation to improve trade efficiency and to promote the better development of foreign trade of Pakistan based on a comparative analysis with other nations. To better promote Pakistan's foreign trade and to understand the impact of trade facilitation and trade costs on Pakistan's foreign trade, this study uses the gravity model to analyze trade facilitation on Pakistan's foreign trade. It discusses the intermediary effect of trade cost. After the study, the main conclusions are as follows: (1) Pakistan's Trade Facilitation Index is low compared to the global scope. This requires Pakistan to improve its trade situation further and to increase its trade facilitation index. (2) There are some prominent problems in Pakistan's import and export trade, especially export commodities. In addition, Pakistan's import and export trade is unbalanced, and the trade deficit is large, which is not conducive to the sustainable development of trade. (3) Through the gravity model analysis, Pakistan's Trade Facilitation Index significantly impacts import trade and export trade. However, in terms of major import and export commodity categories, the impact of the Trade Facilitation Index on the import and export of related products is not significant. It is found that the trade cost has a negative effect on Pakistan's import and export trade and will also affect the promotion effect of trade facilitation on import and export trade. Finally, based on the above research results, this paper puts forward corresponding suggestions from the aspects of improving trade facilitation and reducing trade costs, such as strengthening the construction of power infrastructure, improving port construction, and taking measures to reduce the apparent and invisible costs in trade.

Keyword: Pakistan's Trade Facilitation Index; Trade Cost; Gravity Model; and Pakistan's Exports.

Resumen

El objetivo principal de este estudio es proveer a Pakistán la facilitación del comercio para mejorar la eficiencia comercial y promover el mejor desarrollo

del comercio exterior de Pakistán y el análisis comparativo con otras naciones. Para promover mejor el comercio exterior de Pakistán y comprender el impacto de la facilitación del comercio y los costes comerciales en el comercio exterior de Pakistán, este estudio utiliza el modelo de gravedad para analizar la facilitación del comercio en el comercio exterior de Pakistán. Se analiza el efecto intermediario de los costes comerciales. Tras el estudio, las principales conclusiones son las siguientes: (1) El índice de facilitación del comercio de Pakistán es bajo en comparación con el ámbito mundial. Esto requiere que Pakistán mejore aún más su situación comercial y aumente su índice de facilitación del comercio. (2) Existen algunos problemas destacados en el comercio de importación y exportación de Pakistán, especialmente en los productos básicos de exportación. Además, el comercio de importación y exportación de Pakistán está desequilibrado, y el déficit comercial es grande, lo que no favorece el desarrollo sostenible del comercio. (3) Mediante el análisis del modelo de gravedad, la facilitación del comercio de Pakistán influye significativamente en el comercio de importación y exportación. Sin embargo, en cuanto a las principales categorías de productos de importación y exportación, el impacto del índice de facilitación del comercio en la importación y la exportación de productos relacionados no es significativo. Se constata que el coste comercial tiene un efecto negativo en el comercio de importación y exportación de Pakistán y también afectará al efecto de promoción de la facilitación del comercio en el comercio de importación y exportación. Por último, basándose en los resultados de la investigación anterior, este documento presenta las correspondientes sugerencias desde el punto de vista de la mejora de la facilitación del comercio y la reducción de los costes comerciales, como el refuerzo de la construcción de infraestructuras eléctricas, la mejora de la construcción de puertos y la adopción de medidas para reducir los costes aparentes e invisibles en el comercio.

Palabras clave: Facilitación del Comercio de Pakistán; Coste del Comercio; Modelo de Gravedad; Exportaciones de Pakistán.

Resumo

O principal objetivo deste estudo é fornecer ao Paquistão a facilitação do comércio para melhorar a eficiência comercial e promover um melhor desenvolvimento do comércio exterior do Paquistão e uma análise comparativa com outras nações. Para melhor promover o comércio exterior do Paquistão e compreender o impacto da facilitação do comércio e dos custos comerciais no comércio exterior do Paquistão, este estudo usa o modelo de gravidade para analisar a facilitação do comércio no comércio exterior do Paquistão. O efeito intermediário dos custos comerciais é analisado. Após o estudo, as principais conclusões são as seguintes: (1) O índice de facilitação do comércio do Paquistão é baixo em comparação com o nível mundial. Isso exige que o Paquistão melhore ainda mais sua situação comercial e aumente seu índice de facilitação do comércio. (2) Existem alguns problemas destacados no comércio de importação e exportação do Paquistão, especialmente em productos de exportação. Além disso, o comércio de importação e exportação do Paquistão é desequilibrado e o déficit comercial é grande, o que não contribui para o desenvolvimento comercial sustentável. (3) Por meio da análise do modelo de gravidade, a facilitação do comércio do Paquistão influencia significativamente o comércio de

importação e exportação. No entanto, para as principais categorias de produtos de importação e exportação, o impacto do índice de facilitação do comércio na importação e exportação de produtos relacionados não é significativo. Constata-se que o custo comercial tem um efeito negativo sobre o comércio de importação e exportação do Paquistão e também afetará o efeito de promoção da facilitação do comércio no comércio de importação e exportação. Finalmente, com base nos resultados da pesquisa anterior, este

documento apresenta as sugestões correspondentes do ponto de vista de melhoria da facilitação do comércio e redução dos custos comerciais, tais como o reforço da construção de infraestruturas elétricas, a melhoria da construção de portos e a adoção de medidas para reduzir os custos aparentes e invisíveis no comércio.

Palavras-chave: facilitação do comércio no Paquistão, custo de comércio, modelo gravitacional, exportações do Paquistão.

1. Introduction

Under the background of deepening economic globalization, trade between countries is becoming more and more frequent. After nearly ten years of development, trade negotiations and trade agreements signed more and more. It is clear that the average tariff of global trade has been greatly reduced in the past decade or so, by playing an important role in promoting economic globalization (Irshad and Xin, 2014). However, it should be noted that due to the tendency of national policies and regulations, incomplete government supervision, long transportation time, complex customs clearance process, poor infrastructure construction, and many other factors, countries and regions have brought different degrees of negative impact on trade, and then can see the importance of trade facilitation. As a backward developing country, Pakistan has increased its foreign trade development in recent years around, by improving people's livelihood and economic development.

However, in the case of Pakistan, the problems faced by foreign trade remain prominent.

Pakistan also lags in the ranking of trade facilitation by international organizations (Zhongxie and Shahzad, 2020). Based on the analysis of the recommendations of international organizations on Pakistan's trade development, it is imperative to promote trade facilitation. However, how effective trade facilitation is in promoting Pakistan's foreign trade, there is no special discussion on this issue in the international community, and there is no corresponding basis. In implementing trade facilitation reform on a global scale, its trade costs have been significantly reduced. In this regard, this paper focuses on the contact of trade facilitation on Pakistan's foreign trade. It is not difficult to see that in the context of the continuous promotion of trade facilitation, the achievements of international trade in recent years are particularly remarkable; corresponding Pakistan's foreign trade has a relatively broad space for develop-

ment. Through the collection and collation of relevant literature, we understand that there is relatively little literature related to the influence of trade facilitation on Pakistan's foreign trade. Thus, the author expects to conduct in-depth research in this field. Based on the realistic needs of Pakistan's foreign business, this study uses the internationally accepted gravity model as a tool (Irshad and Xin, 2017b; Irshad et al., 2018a), takes trade facilitation as a variable in the model, and it explores whether trade facilitation can play a significant role in promoting Pakistan's foreign trade, thus providing a useful reference for improving Pakistan's foreign trade.

In terms of quantitative analysis, it is hoped that the impact of trade facilitation on Pakistan will be further studied, by constructing a system of evaluation indicators for trade facilitation. In terms of empirical evidence, this paper uses the stata15.0 software in order to carry out measurement testing, to study the impact of increased trade facilitation on Pakistan's foreign trade, and to optimize the relevant indicators in Pakistan's foreign trade, which will have any effect. On this basis, it is of strategic significance to dig deep into Pakistan's shortcomings in trade facilitation reform and to put forward corresponding suggestions and countermeasures.

Its remainder proceeds as follows, Section 2 briefly explains the literature related to our study and on gravity model theoretical to an empirical approach.

Explanation and comparative analysis on trade facilitation of Pakistan provided in Section 3. The model specification, data sources, and methodological aspects are introduced in Section 4. While Section 5 reports and discusses estimation results from regression models to gravity models, by using Random and Fixed effects estimation techniques. Finally, Section 5 winds up with conclusions with policy implications.

2. Literature Review

People's attention has been drawn to the notion of trade facilitation as trade hurdles, both tariff and nontariff, have been reduced in a globalized world. Trade facilitation is a multidimensional concept designed to create a better trading environment, by reducing trade costs, and, by promoting global trade. Trade facilitation has been of great help in maximizing the benefits offered by open trade, by contributing to economic growth and poverty reduction in developing and least developed countries. According to World Trade Organization (WTO), trade facilitation can be defined as "simplifying and harmonizing international trade procedures." In short, it refers to all the procedures and forms involved in collecting, presenting, processing, and communicating all the information needed to move intelligence. Wilson and Perez (2008) describe trade facility as efforts to enhance the "hard" and "soft" infrastructure of a nation in order to enable trade and overall commodity movement. The notion of

"hard" infrastructure relates to the total status of the transport system of a nation, i. e. trains, roads, and ports. On the other hand, the "soft" infrastructure relates to trade rules and regulations, institutional reform, and trade management, such as customs, border rules, and processes. The facilitation of commerce is, thus, complex, and it encompasses several interconnected factors, such as physical infrastructure, information technology, institutional effectiveness, regulatory efficiency, and customs. Commercial liberalization is fostered, by lowering hurdles to the flow of products, by lowering trade hurdles, such as improvements in general trade infrastructure, customs regulations, regulatory hurdles, and International Trade (IT) (Wilson et al., 2005). Buyonge and Kireeva (2008) discovered that in light of the various associated cost channels, the quality of infrastructure, business climate, and national legislation could impact a country's trading performance. Many trade facilitation advocates also refer to trade finance and payment procedures (e. g. through commercial banks) when defining the term. With the increasing importance of trade facilitation, scholars and experts have made more in-depth research on constructing the Trade Facilitation Assessment Index System. Bagai et al. (2004) explained that the Trade Facilitation Assessment Index System was constructed with primary and secondary indicators through the specific situation of trade facilitation analysis. Wilson and Otsuki

(2007) examined South Asian trade integration, by employing a trade facilitation index. They determined that the growth of trade in the South Asian area may be greatly advanced by specific action plans aimed to tackle impediments to trade facilitation in order to promote regional objectives. Njinkeu et al., (2008) paper examine the impact of trade facilitation on intra-African trade. They discovered that, by improving the infrastructure of ports and services, promises significantly greater increased in intra-African commerce than some other strategies. They also revealed that almost every regional trade agreement has a favorable impact on trade flows. Bhattacharyay (2010) investigates the efficacy of Asian connectivity institutions. He stresses that this impact relies on the nature of hard and soft connection infrastructure. Good governance is one of the biggest hurdles to Asia's connectedness. Ahmed and Ghulam (2011) emphasized the importance of trade facilitation in Pakistan for South Asia's economic corridors. The research emphasized the need of improving infrastructural arrangements to ease commerce in order to develop collaboration between Pakistan, Afghanistan, and India in South Asia. However, trade facilitation also entails integrating customs processes and legal frameworks of other border crossing bodies. Samad and Ahmed (2014) examined trade facilitation through economic corridors in South Asia from Pakistan's perspective. Their findings show that trade facilitation re-

quires harmonizing customs procedures and regulatory frameworks of the other authorities at border crossings. Hoekman and Shepherd's (2015) extensive research has demonstrated large potential welfare gains from measures to facilitate trade, and to reduce trade cost for African countries. Their findings implied that trade facilitation, across a variety of nations, even those mostly participating in value chains as suppliers, may be advantageous. Toševska-Trpčevska and Tevdovski (2016) analyses trade facilitation indicators for assessing relative economic and trade impact of specific trade facilitation measures for the countries of South-Eastern Europe, by employing gravity model of trade and twelve trade facilitation indicators. Their outcomes revealed that the improvement of the efficiency of certain customs and administrative procedures, and the undertaking of trade facilitation measures can facilitate trade and help to promote export growth and mutual trade. A working paper by Ramasamy et al. (2017) on facilitating commerce and commerce along the belt and highway initiatives, stated that both physical and soft infrastructures are important for increasing the export performance of the countries participating in the Belt and Road Initiative (BRI) project. Their study also implied that commercial advantages from modest improvements in trade facilitation would be largest for corridors. Bartley et al. (2018), in three different categories of information, discussed the relevance of trade facilitation reforms to

maximize the economic consequences of BRI connectivity investment: international trade eases performance indicators, notably Doing Business, Logistics Performance Index, Enabling Trade Index, and the Organization for Economic Co-operation and Development (OECD) Trade Facility. Their main conclusions were that trade facilitation across the BRI corridors was poor globally, and most corridors performed worse than the global average in most metrics. Another study by Ramasamy and Yeung (2019) published research on trade facilitation versus physical infrastructure on export under China's BRI. The analysis revealed overwhelming evidence that changes in border management had the greatest influence on corridor exports. While physical infrastructure was crucial for trade, the Chinese Government should prioritize trade facilitation upgrades in order to enable smooth trading channels across the numerous regions. Mustafa and Amjad (2020) investigated the function of trade facilitation in strengthening cross-border commerce and explored limitations on trade facilitation across China and Pakistan. The research also used the best worldwide practices to enhance trade facilitation processes in order to eliminate present and potential bottlenecks and to identify improvements in trade facilitation processes at the China-Pakistan border. The research by Qazi et al. (2021) covered 127 nations worldwide and utilized secondary data from the World Development Indicators (WDI) 2020. Results

demonstrated that OECD member nations performed extremely well, while the Southern African Development Community (SADC) member nations had unusually low performance on business and trade facilitation agenda.

3. Trade facilitation and international trade development in Pakistan

With the continuous development of global trade, trade facilitation has also been paid attention to by world organizations. The Trade Facilitation Index is an important tool to reflect trade facilitation. The World Bank divides trade facilitation into specific indicators, such as start-ups, construction permits, access to electricity, property registration, access to credit, protection of minority investors, taxation, cross-border trade, enforcement of contracts, insolvency, etc. Overall, Pakistan's

Trade Facilitation Index did not score well in multiple dimensions and lagged globally. This showed that there were still many unconscionable situations in Pakistan's trade. Especially in electricity, construction permits, taxes, property registration, and low score, the global ranking was very bashful. Because of Pakistan's low degree of trade facilitation, Pakistan's attractiveness to foreign investment had a direct impact on Pakistan's economic development. Given the authority of the World Bank's Business Environment Report, the study is no longer based on its Trade Facilitation Index, but on the results of the Trade Facilitation Index compiled by the World Bank. According to the World Bank's 2019 Business Environment Report, Pakistan's Trade Facilitation Index 2019 scores and rankings are shown in Table 3.1.

Table 3.1 Pakistan Trade Facilitation Score and Ranking for 2019

Dimension	Score	Rank	Dimension	Score	Dimension
Start a Business	81.89	130	*Construction Permit*	53.59	166
Get Electricity	44.75	167	*Registered Property*	45.61	161
Get Credit	45.00	112	*Protect Investors*	71.67	26
Pay Taxes	47.05	173	*Cross Border trade*	60.12	142
Contract Execution	43.49	156	*Bankruptcy*	59.86	53
Trade Facilitation	56.31	136			

Source: World Bank's Doing Business Report 2019

Pakistan's foreign trade showed an upward and then downward trend during the 2010-2019 selected period. Total imports fluctuated between $40 billion and $50 billion in 2011-16. It reached $57.44 billion in 2017. Pakistan's total imports

in 2019 increased by $12.528 billion, or about 33.37 per cent, over 2010. Total exports amounted to $21.413 billion in 2010. After peaking at $25.121 billion in 2013, it continued declining between 2014 and 2016. Pakistan's total exports

in 2019 amounted to $23.749 billion, an increase of $2,436 million, or about 13%, over 2010. Total exports from 2010 to 2019, although fluctuating from year to year, were essentially $20 billion to $25 billion. In terms of trade balance, Pakistan is a more typical trade deficit country. There is no trade surplus between 2010 and 2019. The year with the largest deficit was 2018, at $36.532 billion. The year with the smallest debt was 2010, at $16.124 billion. Overall, Pakistan's foreign trade fluctuated considerably between 2010 and 2019, and its trade deficit was large (Irshad and Xin, 2017a). This is mainly due to the uncertain global economic situation during the period. At the same time, international trade protectionism prevails. In addition, Pakistan, as a developed country, was less resilient to trade risks.

Figure 3.1: Represents the Pakistan's foreign trade performance (US$ Billions)
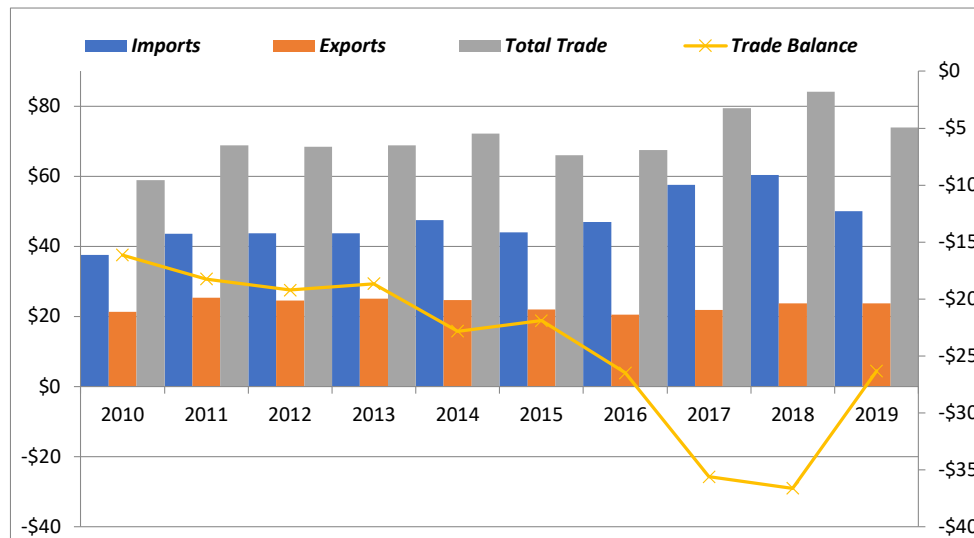
Source: Own Author compilation based on UN Comtrade database 2021.

Pakistan's foreign trade was very limited to similar countries over the decades, and currently, there are no efforts to find new healthy trade partners for Pakistan in the international market. Our analysis witnessed that Pakistan traded more than 80 per cent with just top 10 partners (See Table 3.2).

Table 3.2: Comparative analysis of geographical composition of Pakistan's foreign trade ($-B)

2010				2019			
Country	Imports	Country	Exports	Country	Imports	Country	Exports
UAE	5.2	USA	3.7	China	12.42	USA	4
China	5.2	UAE	1.8	UAE	6.3	China	2
Saudi Arabia	3.8	Afghanistan	1.7	USA	2.6	UK	1.7
Kuwait	2.6	China	1.4	Saudi Arabia	2.4	Germany	1.3
Malaysia	2.05	UK	1.1	Indonesia	2.2	Afghanistan	1.2
USA	1.6	Germany	1	Qatar	2.2	UAE	1.2
Japan	1.6	Turkey	0.64	Japan	1.4	Netherlands	1.1
India	1.5	Italy	0.64	Kuwait	1.25	Spain	1
Germany	1	Bangladesh	0.64	South Africa	1.2	Italy	0.81
Singapore	0.91	Belgium	0.52	Thailand	1.2	Bangladesh	0.8

Source: Author own compilation based on UN Comtrade database 2021.

4. Empirical analysis and methodology

4.1 Model creation

The gravity model has emerged as a simple and efficient approach for analyzing and forecasting economic variables related to bilateral trade flows. Tinbergen (1962) was the first one to use the model in an initial version formally. The bilateral trade from the origin country to the target country is explained by the nations' economic masses, represented by their income, and geographical distance between them. This proposition makes sense, in intuitive terms, since richer countries produce more and have more income. Therefore, import and export more, and a greater distance represents higher transport costs, which tends to reduce trade. Anderson (1979) derived the first theoretical foundations of economic gravity, later polished by Anderson and van Wincoop (2003). The basic gravity equation is as follows,

$$lnT_{ijt}=lnf(X_{ijt},\beta)+v_{ijt}-v_{ijt}>0$$

.... (4.1)

Where, lnT_{ijt} represents the volume of trade between country i and country j during the specific time t and ln natural logarithm value. X_{ijt} represents the effects of trade between country i and j, such as Gross Domestic Product (GDP), population, geographical distance, and political culture etc. β represents the parameter vector to be estimated. v_{ijt}, v_{ijt} represents random error terms and trade inefficiencies, respectively.

Current study follows the earlier studies, which excellently derived and explained gravity equation (Abafita and Tadesse, 2021; Yao et al. 2021; Vu et al. 2020; Irshad et al. 2021; Irshad and Anwar, 2019; Irshad et al. 2018a; Irshad et al. 2018b) as follows.

$$lnT_{ijt}=\delta_0+\delta_1\ lnD_{ijt}+\delta_2\ lnBlh_{it}+\delta_3\ lnBlh_{jt}+\delta_{4n\text{-}} lnP_{it}+\delta_5\ lnP_{it}+\delta_6\ lnGDP_{it}+\delta_7\ lnGDP_{jt}+\ CB_{ijt}+\varepsilon_{ijt}$$

.... (4.2)

Here T_{ijt} is the interpreted variable, which represents trade volume of country i to country j during the t period. Explanatory variables included in equation (4.2) are D_{ijt}, which represents the distance between the capitals of country i and j, whereas Blh_{it} and Blh_{jt} represent the facilitation indices of country i and j in specific time t period. To guarantee the accuracy of the model, the study also designed control variables based on reference to relevant literature, by including; P_{it} and P_{jt}, which represent the total pop-

ulation of the i and j countries, whereas GDP_{it} and GDP_{jt} represent GDP of country i and j. Similarly, in order to get trade impact on neighboring countries, this study involved dummy variable named common border CB_{ijt}, respectively.

4.2 Variable description and data source

From Pakistan's external situation, the top 20 major trading partners account for almost 80 per cent of the country's total import and export trade. Combined with the reality of Pakistan's international trade, the study selected only data from Pakistan's top 20 importers and exporters for analysis. The data were selected for the 2000-2019 period.

Table 4.1 Description of the relevant variables, expected results, and data sources

Variable Type	Variable Name	Notation	Expected results Imports	Expected results Exports	Data Source
Interpreted Variable	*Imports/exports from i to j in the t-period*	T_{ijt}	——	——	UN comtrade / Pakistan Bureau of Statistics
Explanatory Variables	*i country and j country capital distance*	D_{ijt}	(-)	(-)	CEPII
	t-period i-country facilitation index	Blh_{it}	(+)	(+)	World Bank
	t-period j-country facilitation index	Blh_{it}	(+)	(+)	World Bank
Control Variables	*Total population of i countries in the t-period*	P_{it}	(+)	(+)	World Bank
	The total population of the j-country during the t-period	P_{it}	(+)	(+)	World Bank
	t-period i-country GDP	GDP_{it}	(+)	(+)	World Bank
	t-period j-country GDP	GDP_{jt}	(+)	(+)	World Bank
	Whether i and j countries share a land border	CB_{ijt}	(+)	(+)	CEPII

5. Results and discussion

5.1 Import benchmark model

Because of the panel data used in this study, the regression model has a mixed regression model, fixed effect model, and random effect model. Therefore, model adaptability analysis is required before regression analysis can be carried out. This study was tested with LR and Hausman. Based on the LR test, it is shown that the random effect model is not suitable for this research panel data.

The Hausman test confirms that the fixed effect model is better suited to this study panel data than the random effect model (See Table 5.1). Therefore, at the theoretical level, the fixed-effect model should be chosen. However, by considering the variables in the model, which involves the distance of the capital, whether the border is bordered, etc., does not change over time. There are some shortcomings in using the fixed effect model.

Table 5.1 Import gravity model adaptability test results

Model	Inspection method	Test result	Conclusion
Mixed effect	LR test	P>F=0.0000	Refuse
Fixed effect			
Mixed effect	LR test	P>chi²=0.0000	Refuse
Random effect			
Random effect	Hausman Test	P>chi²=0.0.000	Refuse
Fixed effect			

Source: Calculated based on Stata 15.0.

Import benchmark model results (Table 5.2) show that trade facilitation index coefficients of both sides of the trade are positive and have passed the significance test. This indicates that trade facilitation has facilitated Pakistan's imports, which are aligned with the expected conclusions. Increased trade facilitation is conducive to improving trade efficiency and promoting trade. Based on the model results, a 1 per cent increase in Pakistan's trade facilitation index could increase the import size by 0.531 per cent (fixed effect model) or 0.475 per cent (random effect model). A 1 per cent increase in the trade

facilitation index of its major importing countries would boost Pakistan's imports by 0.327 per cent (fixed effect model) or 0.318 per cent (random effect model). On the Pakistani side, increased trade facilitation means easier access for foreign exporters to the Pakistani market.

Table 5.2: Regression results of trade facilitation on Pakistan's imports

Variable	Fixed effect model		Random effect model	
	Coefficient	Standard Deviation	Coefficient	Standard Deviation
Constant Term	35.742***	1.036	37.632***	1.178
D_{ijt}	-0.364**	0.126	-0.372**	0.158
Blh_{it}	0.531**	0.194	0.505**	0.186
Blh_{jt}	0.327**	0.156	0.318**	0.150
P_{it}	0.625**	0.248	0.659**	0.231
P_{jt}	0.174	0.176	0.195	0.162
GDP_{it}	0.563**	0.222	0.576**	0.219
GDP_{jt}	0.381**	0.137	0.352**	0.132
CB_{ijt}	0.684**	0.207	0.656**	0.214
$R^2=$	0.7854			0.7743
$F=$	276.53			389.55

Note: * $p<0.05$, ** $p<0.01$, *** $p<0.001$
Source: Calculated based on equation (4.2).

From the perspective of exporting countries, the improvement of the trade facilitation index of the countries concerned is also conducive to promoting the export of their goods. As a result, the increase in Pakistan's trade facilitation index and the increase in the trade facilitation index of trading partners have contributed to the expansion of Pakistan's imports. Results suggest that both Pakistan and its major exporters' GDP have positively impacted Pakistan's import trade. Pakistan's population growth will boost its imports, and the regression analysis results are the same as expected. Distance indicating that the farther away the two countries are, the less conducive they are to Pakistan's imports. This is in line with expectations. Common border boosts the trade between Pakistan and partner countries proved by Pa-

kistani neighbors Iran and Afghanistan, but India lacks political tensions.

5.2 Export benchmark model

As with imported gravity model regression, LR and Hausman have tested that the export gravity regression model should theoretically use a fixed effect model (See Table 5.3). However, because the model involves capital distance and border variables, export regression analysis also gives a fixed effect model and random effect model. The results of the specific regression are shown in Table (5.4).

Table 5.3: Test results of adaptability of the export gravity model

Model	Inspection method	Inspection result	Conclusion
Mixed effect	LR Test	P>F=0.0000	Refuse
Fixed effect			
Mixed effect	LR Test	P>chi²=0.0000	Refuse
Random effect			
Random effect	Hausman Test	P>chi²=0.0.000	Refuse
Fixed effect			

Source: Calculated based on Stata 15.0.

The trade facilitation index coefficients of both sides of the trade are positive and have passed the significance test. This indicates that trade facilitation has boosted Pakistan's exports, which is consistent with the expected conclusions. The increase in the trade facilitation index of the major export target countries has contributed to better promotion of Pakistan's exports than the Pakistan's Trade Facilitation Index. This is also in line with reality and theory. With all countries paying attention to exports, Pakistan needs to provide more convenient conditions for exports.

Table 5.4 Results of the return of trade facilitation to Pakistan's exports

Variable	Fixed effect model		Random effect model	
	Coefficient	Standard Deviation	Coefficient	Standard Deviation
Constant term	31.635***	1.828	35.864***	1.644
D_{ijt}	-0.246**	0.095	-0.284**	0.094
Blh_{it}	0.352*	0.183	0.306*	0.188
Blh_{jt}	0.444**	0.156	0.470**	0.168
P_{it}	0.197	0.169	0.183	0.170
P_{jt}	0.379**	0.128	0.362**	0.125
GDP_{it}	0.291	0.225	0.276	0.234
GDP_{jt}	0.554**	0.151	0.459**	0.148
CB_{ijt}	0.733**	0.264	0.781**	0.269
R^2=	0.7651			0.7528
F=	319.45			367.52

Source: Stata 15.0.

The regression coefficients of GDPs are positive. This suggests that both Pakistan and its major exporters' GDP have positively impacted Pakistan's export trade. This is consistent with the expected conclusion. Regarding the relationship between exports and GDP, it is now believed that exports will boost domestic GDP development. Domestic GDP growth will, in turn, boost exports. From the perspective of major exporters, with the rapid development of the GDP of

importing countries, their domestic consumption demand will also increase rapidly, by increasing in import demand. As a result, GDP growth in Pakistan's main export targets will significantly boost Pakistan's export trade. Regression coefficients of populations are positive. This shows that its main export targets' population growth and population growth can boost Pakistan's exports. In terms of the main export target, by expanding the population means more consumer groups and a larger market. As a result, Pakistan's exports could be promoted. The trade cost appeared as negative, which indicates that the farther away the two countries are, the less conducive they are to Pakistan's exports, and the fact of sharing a border, is always a privilege to expand trade. In our case, it is highly significant. The distance between the two capital cities and whether they share a border or not reflects the impact of geographical location on export trade. In Pakistan's case, it is close to China, the world's second-largest economy. China's broad economic prospects bordering China will undoubtedly help Pakistan to better exports.

6. Conclusions and policy recommendations

6.1 Policy recommendations

From the perspective of transaction cost theory, a sound infrastructure can help to reduce transaction costs. Regional cooperation also depends on good infrastructure in the countries of the region. From the situation of Pakistan, the imperfect domestic infrastructure is the main factor, which restricts economic development. Pakistan's chronic power shortage has seriously affected its growth and foreign trade. Pakistan must, therefore, strengthen its electricity infrastructure. By considering the lack of domestic capital in Pakistan, we should consider increasing the opening-up to the outside world and attracting international capital to participate in Pakistan's power construction. Pakistan is also needed to strengthen further development efforts to attract global funds to participate in the construction of Pakistani ports to provide better conditions for foreign trade. Pakistan also needs to make full use of the current opportunity of information development to strengthen the information construction. For example, in China, improve the relevant layout of information technology, enhance e-commerce construction, actively network with the international community, and improve domestic information development to improve Pakistan's trade facilitation level further. Pakistan needs to strengthen its domestic transport infrastructure. In addition to financial input, Pakistan can actively attract international investment and innovative investment methods.

6.2 Conclusions

Pakistan's trade facilitation index is low, with multiple dimensions scoring low and lagging globally. This requires Pa-

kistan further to improve its trade situation and its trade facilitation index. By analyzing the current status of Pakistan's import and export trade, it can be found that the country's import and export commodities are single, especially the export commodity is single. In addition, Pakistan's import and export trade is not balanced. The trade deficit is large, which is not conducive to the sustainable development of business. The intermediate effect verification of trade cost found that the trade cost negatively affects Pakistan's import and export trade. At the same time, the coefficient of trade facilitation is also lower than that obtained by the model without trade cost variables. This shows that trade costs will also affect trade facilitation in promoting import and export trade. Trade facilitation has an intermediary effect. The increase in the trade facilitation index of the major export target countries has contributed to better promotion of Pakistan's exports than the Pakistan's Trade Facilitation Index. This is also in line with reality and theory. With all countries paying attention to exports, Pakistan needs to provide more convenient conditions for exports. As a result, the increase in the trade facilitation index on the part of Pakistan has contributed to exports. However, the major importing countries lack sufficient facilities to take drastic measures against Pakistan's exports, which will be difficult to grow even if Pakistan has a strong willingness to export. Therefore, major importing countries are also required to facilitate Pakistan's exports. As things stand, governments and relevant global organizations actively promote trade facilitation in the face of globalization to improve trade efficiency and to reduce trade costs. Thereby, international trade development is better promoted or boosted.

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