

Original Paper

Research on China-Pakistan Trade Potential under the Construction of “China-Pakistan Economic Corridor”

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Abstract

Pakistan and China's trade relation have always been good and growing. The trade volume has always been increasing dramatically every year and has come to a point where Pakistan is dependent on the imports from China. Although many researchers have chosen this topic and written, and this topic is also especially important. This research covers the aspect of the relation between China and Pakistan for example Industrial trade, Raw material etc. This research states the problems occurred between trade. Moreover, this thesis will be including empirical analysis and statistical data analysis of both the countries. Also, the study will include the policies and the trading the agreements. The micro and macroeconomics will be discussed and the effect of large imports from China. Trade deficit of Pakistan and the current account deficit will also be discussed. Demand and Supply and favorable government policies are discussed.

Keywords

trade relationship, macroeconomics, favorable government policies

1. Introduction

1.1 Background

China is one of the main trading countries of Pakistan and also its largest trading partner. Both countries are each other's main exchange participants. Pakistan's considerable imports of China include things like machinery, chemical products, mineral ores, plastic scrap, and transport machines. Basically, nearly everything is having been imported from China. The trade between China and Pakistan has increases dramatically. But despite huge import from China bilateral trade becomes weak. As mainly everything is being imported from China, but Pakistan exports become less, and we could call that negligible. Bilateral trade in 2019 was reported that imports of China to Pakistan is \$12.7 billion US

Dollars while in contrast Exports from Pakistan to China is \$1.85 US Dollars. Such a huge difference does not support stable bilateral trade. To solve this problem, in this report we will discuss the most important ones which have an exceptionally long term and important effect on both the countries.

1.2 Statement of the Problem

Every country has its own economic policy but the lower income countries such as Pakistan which is usually called a developing country. The economic policy of Pakistan is not so long term the economic policy is short term and very unstable. Even though Pakistan need China to import good to fulfill its demand. The outcome of that are very swear to the Pakistan economy. Due to the large import volume and small export volume Pakistan is facing a crisis.

The main drawback to the economy is that the Pakistan currency which is Pakistani Rupee (PKR) is losing its value in the international market which is very harmful for the country. When Pakistan need dollar, it needs to go to the loan option which in mean the country has to take loan from International Monetary Fund, World Bank or other countries with very good relation which are a few. In the current situation the national debt of Pakistan is 111047 USD Million which is extremely hard or impossible to pay for a country like Pakistan in current conditions.

Moreover, every year the debt is increasing because of the massive imports of Pakistan including the government expenditure. Talking about the internal problem is that all out of factories and industries have been shut down due to the cheap good imported from foreign countries. Before those manufacturers has an edge because the imported goods were less in volume but now the competition is extremely hard and the and the manufactures failed to survive in the markets and many people have lost their jobs. Now the whole economy is dependent on Chinese goods. So, it appears that Pakistan's economy is very artificial and in the hands of foreign investors and under crisis because all the earning of these come is drained to the home country of the foreign investors.

1.3 Objectives of the Study

The main objective of this study is to explore how Chinese trade ties with Pakistan affects the country economic growth and what can be done to make it better in the future. The study will also include how the solution to the problems can be implement and current hoe the situation can be made better.

1.4 Significance of the Study

The significance of the study is really import, a lot of studies have been conducted on this topic but the uniqueness and the specialty of this topic is that this report includes the policies and the implication of that which on the governances of the government. The framework of data and analysis which make it clear and can be understood by reader easily. The bases of all the information is very realistic, reliable and authentic.

1.5 Methodology

Qualitative, Quantitative, Empirical Analysis

2. China-Pakistan Trade Status

2.1 Investment

State Bank of Pakistan has stated in its Annual Report of 2018 that the total imports of Pakistan are \$2.3537 US Dollars while in that China import is \$1.591 billion US dollars over half of the imports of Pakistan from China. It becomes 63% of total imports of Pakistan. Moreover, with the starting of CPEC (China Pakistan Economic Corridor) there has been a further increase in the expenditure trend into Pakistan especially in infrastructure and energy sectors. CPEC was initiated by a Committee which was called JCC this committee not only consisted of chairmen of Pakistan which further was supported by 8 Joint Working groups. This committee covered mainly all the aspects of cooperation for example Security, Planning and Finance, Industrial Cooperation, Gwadar, Transport Infrastructure, Energy, Social and Economic Development and International Cooperation. Many other committees have been made for this CPEC such as JWG JCC and much more.

2.2 Energy Cooperation

By September 2019 twelve power projects were either completed or were under construction and were nearly to be completed. The total capacity of these projects was 7240 MW and total investment was \$12.4 US Billion Dollars. In addition to these 9 more projects were pushed under construction with a total capacity of 6390 MW. CPEC has collected \$250 million tax revenue for only Pakistan and even have provided 10,000 jobs to Pakistani people. Moreover, it has accounted for 14.5% of available energy in the National Transmission and Dispatch Company Grid. The JCC has helped solved many of the problems occurring in Pakistan related to the delayed tariffs payments and not only this but also agreed to encourage Advanced Meeting Infrastructure Technology in Pakistan. It was also in accorded that they would continue discussing and concluding the development plans for oil and gas sector which is named Pakistan China Development Plan. These projects were not proposed by Pakistan not China. Let's discuss which type of projects were disused but Pakistan South North Gas pipeline was finalized and the feasibility of this pipeline. Pakistan's Refinery limited in Karachi was also Up Graded. In Thar Sindh a Thar Coal programmed was initiated which helped conversion of coal solid into liquid. Moreover, in thar again a Coal gasification program was set up which initiated Fertilizer projects.

2.3 Transport and Infrastructure Cooperation

China helped Pakistan complete the Multan to Sukkur part of Peshawar Karachi motorway which was reported to be three ninety-two kilometers long. This was completed before time which is such a good thing for Pakistan. This was inaugurated at JCC as well. After China entered into Pakistan affairs all the projects started to be completing either on time or before time., for examples Havelian Mansera section. Work on reconstructing the Eastbay Expressway and the New Gawadar International Airport was proceeded in the timelines. Many issues were solved related to the Orange Line Mass Transit project in Lahore, but this project is not yet operational, and it is said that it would be operational until March 2020. Both countries China and Pakistan agreed that they would speed up the process of main line of Peshawar Karachi railway project and would also work on the feasibility of the project and also

assented to constitute the finance committee. Moreover, the possibility of RMB financing would also be explored. China agreed to Pakistan that it would give in the request of Karachi Circular Railway for more consciousness. Gwadar is believed to be the spot in which all the goods of Afghanistan is being entered in Pakistan. JCC also started a Master Plan on Gwadar Smart Port City which is called Gwadar Smart Port City. The 300MW coal fired power plant was launched and the preparation work was also pushed to make it of fast. China also agreed to dispatch its expert teams in order to implement a 1.2 million gallons of water from the desalination plant this happened early then decided. Gwadar; s free zone had already been granted a lot of concessions already but still it was said that there would a detailed planning's for the port. At Gwadar it was decided that they would make a nursing and medical school at phase 1 of the Gwadar and called the hospital project.

2.4 Industrial Cooperation

The JCC then reviewed the process of three named Rashakai, Dhabeji, and Allama Iqbal. In this the faculty of one window was confirmed and the importance for supporting infrastructure was agreed upon. Diagnosis for Pakistan textile company were made so industrial productivity could be enhanced and the competitiveness of that sector was represented. For not only textile sector but other sectors too it was said that they would deepen the diagnosis mechanism of other sub industrial sectors. It was said that they would initiate Pakistan China business council so that the private sectors of both China and Pakistan could be looked upon. The council could only compromise of senior siccative's only. It also agreed to support the recovery of Pakistan Steel Mills.

2.5 Social Economic Development and Agriculture

Out of 17 only 12 fast track social economic development projects were ready for commencement while the remaining 5 projects were also accelerated Pakistan China Agricultural Technology laboratory was also said to be initiated and was given a really special emphasis. It was agreed that both the sides would also enhance cooperation in agricultural areas including deep processing technology and fisheries. It was said that the procedure for Balochistan Solar Power Lighting Equipment would also be launched early and fast. Drinking Water equipment Supply Would also be facilitated to people. Smart Classroom projects would also be assigned but only on the higher education. Medical equipment would also be improving, and Pakistan's school system would also be made efficient and better. Chinese Ambassador to Pakistan has also announced China is setting up 19 factories in Gwadar, saying that the measure will help create job opportunities for Balochistan's youth. China seeks to contribute to the development of Balochistan's mining, agriculture, fisheries and water sectors while the Chinese consulate is easing visa procedure for the provincial business community. He rebuffed speculations regarding the Chinese government's lack of interest in progress of development projects in Balochistan, saying that the Pakistani government should address the issues of some key departments which were causing hurdles in the implementation of the China-Pakistan Economic Corridors will provide economic fortune not only to Balochistan but Afghanistan and Central Asian countries as well, though Balochistan doesn't link with China but all our projects will lead through Pakistan," said the envoy,

expressing optimism regarding development and prosperity of Balochistan. The provincial fisheries, agriculture, mineral and livestock sectors had room for development which would help end poverty in the province. The Chinese companies have been working on the provincial irrigation sector in order to help Balochistan which is marred by water crisis while 50 vocational centers are being established to polish skills of the provincial youth.

2.6 Trade Routs

Pakistan is located in central in the south of Asia and is blessed with the “hot waters”. The word hot waters mean that it has a hot temperature and no frozen rivers and oceans so its waters can be used for transportation the whole year very easily. The occurrence of thunderstorms and bad weather is also very less so this makes Pakistan one of the best trade rout in the world. Sea ports are very important factor of transporting good from one place to another. Pakistan dry ports but the three main seaports. Pakistan has three big seaports named as Karachi Port, Muhammad Bin Qasim port, and Gwadar port. Port of Muhammad Bin Qasim is the oldest port while the Karachi port is the busiest one. Gwadar port is very special because this port is mainly used by the Chinese government to import raw material and commodities to People Republic of China. This port is very special because it is the deeps seaport in the world. The port features prominently in the China–Pakistan Economic Corridor (CPEC) plan and is considered to be a link between the Belt and Road Initiative and the Maritime Silk Road projects.

2.7 China Pakistan Economic Corridor (CPEC)

This the most important Project among everything which been done till now is China Pakistan Economic Corridor. The total investment of CPEC was valued \$46 billion but it increased to \$62 billion till 2017. This is the largest investment in monitory terms in Pakistan by China. The biggest beneficiary is China because they have some plans due to which they did this investment. China. This investment is done by China to import raw material from other countries. As China being the largest manufacturer in the world it needs a lot of raw material. The biggest resource which will be imported is crude oil from the gulf countries and if we need big quantities, we need big ships so big ships need deep ports. Also mentioning that China’s Exports are very large and they need to make the routs to deliver the goods to the customers country through the economic corridor it has become much more faster and convent to deliver good to other countries and on the other hand to imports good is also very easy. Cutting the cost is also very big fact in China success their transportation cost has lower which lead them to produce cheaper products and capture the larger share of the world markets. On the other hand, the benefit to Pakistan is that Pakistan has come into the limelight because of this investment and many countries has started give importance to Pakistan. On the other hand, such a large investment has brought stability to the country. Construction industry has boosted up the investment has brought betterment to the Pakistan transportation industry. Employment has gone up which means unemployment has decreased. This has attracted a lot of foreign companies to invest in Pakistan and also because of the development of the Ports revenue is generated for the Pakistan government. Alto of Labor is needed for the completion so also of daily wagers are employed in the project. This has benefited Pakistan to come out

of the poverty crisis. Poverty is still there but now it's at a decreasing end. With the development of the economic development Zone many Chinese businessmen has opened their factories and production units in Pakistan. This project will benefit in future and keep on benefit both the countries.

One belt one rode also contains energy and coal projects. Pakistan had energy shortage before but now the situation is very stable. Which has stabilized the economy and attracted the foreign companies to open their production houses this was mainly to facilitate the Chinese construction projects but also helped Pakistan to grow economically and also the better the standard of living. Last but not the least this whole process also contains the railway and orange line project. The railway project has facilitated the and connected the whole country with every part. Motor way projects are connecting the big cities with each other and the railway is including. Both this highway and railway has connected the whole Pakistan. At the end the coal project is also important because the big resource of coal which is hidden in the mountain of Pakistan is being explored now and the recourse is helping the economy of Pakistan to grow and sell coal to other countries and gain revenue. This coal is also converted into energy and sold to China also because China's main energy is produced by coal. This helping both the countries as to produce energy for each country. Pakistan did have the advance technology to extract coal, but China did for the Host country.

2.8 Economic and Trade Volume

Reporter Name	Partner Name	Year	Trade Flow	Product Group	Export (US\$ Thousand)	Import (US\$ Thousand)	Export Product Share (%)	Import Product Share (%)
Pakistan	China	2018	EXPIMP	All Products	1818069.22	14544686.75	100	100
Pakistan	China	2018	EXPIMP	Capital goods	80307.53	6343426.78	4.42	43.61
Pakistan	China	2018	EXPIMP	Consumer goods	270110.93	2285729.31	14.86	15.72
Pakistan	China	2018	EXPIMP	Intermediate goods	1221748.42	5759852.51	67.2	39.6
Pakistan	China	2018	EXPIMP	Raw materials	245887.94	135836.89	13.52	0.93
Pakistan	China	2018	EXPIMP	Animal	92166.38	297.48	5.07	0
Pakistan	China	2018	EXPIMP	Chemicals	4585.04	2217144.68	0.25	15.24
Pakistan	China	2018	EXPIMP	Food Products	171535.87	48331.03	9.44	0.33
Pakistan	China	2018	EXPIMP	Footwear	201.9	98397	0.01	0.68
Pakistan	China	2018	EXPIMP	Fuels	0	41192.52		0.28
Pakistan	China	2018	EXPIMP	Hides and Skins	38608.78	29235.76	2.12	0.2
Pakistan	China	2018	EXPIMP	Mach and Elec	51222.56	6169900.99	2.82	42.42
Pakistan	China	2018	EXPIMP	Metals	160177.95	1945167.67	8.81	13.37
Pakistan	China	2018	EXPIMP	Minerals	110250.65	14283.38	6.06	0.1
Pakistan	China	2018	EXPIMP	Miscellaneous	32640.77	555836.9	1.8	3.82
Pakistan	China	2018	EXPIMP	Plastic or Rubber	4801.64	663299.28	0.26	4.56
Pakistan	China	2018	EXPIMP	Stone and Glass	2546.72	277535.79	0.14	1.91
Pakistan	China	2018	EXPIMP	Textiles and Clothir	951667.16	1481911.28	52.34	10.19
Pakistan	China	2018	EXPIMP	Transportation	3674.17	584465.54	0.2	4.02
Pakistan	China	2018	EXPIMP	Vegetable	189800.75	175483.2	10.44	1.21
Pakistan	China	2018	EXPIMP	Wood	4188.87	242204.26	0.23	1.67

Figure 1. Trade volume of Pakistan with China in 2018

The following data is from the world bank. If we see through this data, we can observe that China is the largest trading partner of Pakistan and every year the trade volume of Pakistan is increasing with China the above table gives the data for China Pakistan products imports and exports. Pakistan exports are very less compared to the exports. Pakistan is importing all aspects of goods from China. We analyses the economic size of Pakistan and China Pakistan economic size is very small in front of China, but the facts are with this small size still China take a big part of Pakistan imports. The biggest reason of large import size of Pakistan from China is that Pakistan is an agricultural state and doesn't have big manufacturing industry to produce large amount good for its on general public so this is why we need

to import consumer good and other products from China. Another reason is that China is our neighbor and we share border, so it becomes more easier for the businessman and the organization to import from China. Adding to this the visa policies of China for Pakistan are very lenient and because of the brotherhood of China Pakistan the entrepreneur like to go to China and buy the products.

The cheap pricing of China also attracts the Pakistan businessman to engage which Chinese businessman. The culture and the environment of China is very suitable for us. The way Chinese respect Pakistani people and are always welcoming for the foreign businessman. The way they treat the foreign investor and the business that is commendable, and which makes it easier for the foreigners to do business. Another factor is that the manufacturing industry of China is very big and very type of product can be bought, even though if the product cannot be found in China and the customer just reaches the closest manufacturer who can produce the product Chinese people never say no to the product and they have new ways to produce the product. If the customer reaches the minimum quantity of the factory, he can get the product. Many Chinese business are willing to make the new module and bring in new machinery for the product. This vast variety of products and manufacturing of China makes it unique and bring comfort to the customer that he can get its products. This is very big advantage of China this is why China is growing day by day and making its industry stronger compared to the rest of the world. Also, we have to mention the free trade agreement between both the countries that as increased the volume of trade. Now if we see the taxation and tariff system in the world that's much stricter and increasing. The world is moving to more closed economy then open economy that's not a good thing globally this will decrease the volume of trade between the countries. If we take the strongest economies of the world and America is one of them and in recent years, they have increased the percentage of taxes and decreased the volume of Imports. The famous trade war between the two giants America and China and we look and the report of the world bank the trade has decreased between the two but this is not the case of Pakistan and China both the countries the trade has increased. The trade volume between Pakistan and China is expected to increase in the future.

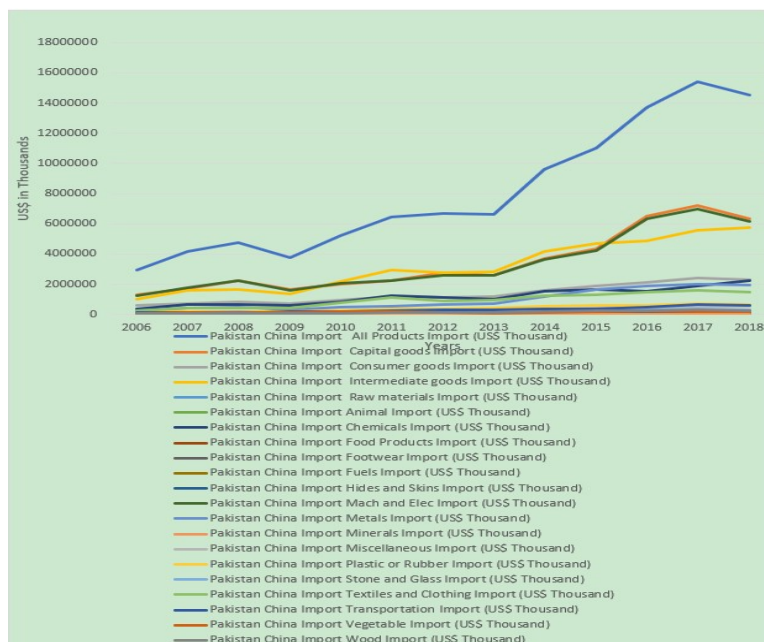


Figure 2. Pakistan Imports from China From 2006-2018

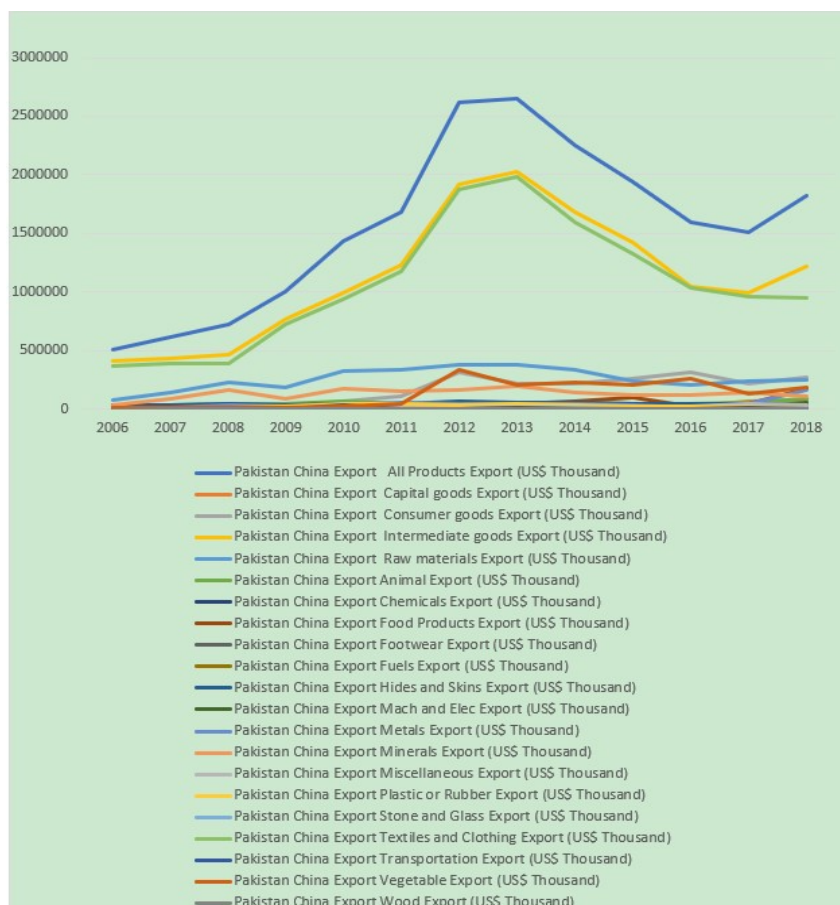


Figure 3. Pakistan Exports to China From 2006-2018

The Figure 2 and 3 gives us the data of Imports and exports date between China and Pakistan. If we Annalise the trend of imports of Pakistan from China, its increasing and if we see the exports that's decreasing. Firstly, we will talk about the imports from China which is also the exports of China to Pakistan. The upward trend of imports is because of the rapid increasing population of Pakistan. The population is increasing and the demand for the good is also increasing very rapidly and the first option we have to fulfill the demand is China and the second is produce it by our self but that's not possible because of the limited resources and the shutdown and the scarcity of the manufacturing industry in Pakistan. The previous couple years the manufacturing industry in Pakistan has move to other countries due to the load shedding of electricity and the shortage of gas in the country. This has setback Pakistan hugely and pushed Pakistan to import more from China. Another reason is that the government of Pakistan has very good ties with China because if that Chinese banks are operating in Pakistan which helps Pakistani people to open account in China. The transaction of money is very easy. The electronic transfer and the availability of Chinese currency in Pakistan has made it easier to do business in China. The biggest Chinese operating bank in Pakistan is Industrial and Commercial Bank of China (ICBC) also known as ICBC. This bank has branched in Karachi, Lahore and Islamabad the three big cities if Pakistan. Lahore and Karachi and Mainly the industrial hubs. The basis of doing foreign business with China are very good payment method, delivery of good and availability of cheap products. China fulfills all the criteria of healthy business with Pakistan.

We have to mention Pakistan China economic corridor which is a very big investment and it will make the delivery of the good faster and efficient also the transportation will be cheaper, so China has made permanent ground with Pakistan. The way China is intervening into the Pakistan economy the time is not far when China will be an internal and permanent part of the Pakistan economy. Adding more to this the Pakistan manufacturing industry over here we are talking about the bigger industries like textile, leather and surgical instruments all of these industries cooperating with the Chinese producers because if we need to export, we need more help from China because they have more expertise is production unit. If we look forward to the graph given above the data is taken from the world bank it shows that the country is importing all types of products. The major products are capital good which is mainly the machinery for the factories. Other than the machinery Pakistan is also importing huge raw material and semi-finished raw martial which means that if we don't import from China, we cannot even the products we can produce we won't have the raw material for the production for those products. So, it means that Pakistan is highly dependent on China.

Now talking about the figure 2 which is the export graph of Pakistan and China. Pakistan is looking for a wide range of cooperation with China in geographical areas and products because if we see the graph of exports its going down and it is very alarming and worst for the Pakistani side. The reason od this is the downfall of the industry and the ignorance of the government. The lack of resource and the power shortages have led to this situation. First the trend of the exports to China was upward and it was increasing but now after 2013 it started decreasing because Pakistan is a democratic government and

the government had change in 2013. The government is changed every 5 to 7 year but at least 5 year and after the government has change. The new government was form by the new party Pakistan Tehreek-e-Insaf. After this party has come into power the power shortages have decreased. Pakistan foreign relation and got to a better side and the exports have increased and the imports have decreased. The government has focused on the manufacturing industry and lower the interest rate so the industry can grow. The reputation of Pakistan has gone up and this has helped Pakistani businessman to sell goods and services to the other countries. Chinese government had provided Pakistan with an opportunity to export more than just textile, leather and agricultural products and now the country would export chemicals and engineering goods as well. In the graph we can see that after 2017 the exports have gone up. As per statistics, the 313 product lines, waived from tariffs under the agreement, would cover exports worth nearly \$2 billion of Pakistani goods to China each year. According to data compiled by the State Bank of Pakistan, the revised total exports from Pakistan to China rose \$106 million in the previous fiscal year—from July 2018 to June 2019 with potential to grow about 20 times. When asked whether Pakistan's exports to China were likely to increase by 10 times till the end of the current fiscal year following implementation of the second phase of FTA. anticipated increase in total exports to China is expected to come from a rise in the export volume of specific trade categories. Pakistani sugar is undoubtedly a defining product in China-Pakistan trade.

In the previous fiscal year, Pakistan exported sugar worth \$609.9 million to China, which was over four times compared to sugar exports in fiscal year 2017-2018. It is reported that among the newly added zero-tariff items, there are 12 products related to minerals and precious stones. The applicable tax rates on some of these products have been dropped from a high of 35% to zero. Some Chinese companies have also begun to focus on copper and gold deposits in areas such as Reko Diq. If talking about the exports increase, we have to mention the Pakistan China Economic Corridor with will help Pakistan to sell more metal and mineral items to China to help and boost their manufacturing industry. The decisions to expand the CPEC scope to copper, gold, oil, and gas sectors were taken during the 9th Joint Cooperation Committee (JCC) meeting that was co-chaired by Planning Minister. National Development and Reform Commission (NDRC). only the oil and gas sectors have the potential to attract \$8 to \$10 billion Chinese investment in the next three years. The planning minister stated that copper and mineral development would benefit both the countries as China remained one of the largest copper importers.

3 Empirical Analysis

3.1 RCA Index and TCI Analysis

Revealed Comparative Advantages (RCA) Index is suggested by B. Balassa in 1965, it represents the trade comparative advantage of a certain industry in a certain country or region. This index excludes the influence of the fluctuation of the national and world aggregate export volume, which reflects the

comparative advantage of the export level of product k of country i compared with the world average level. RCA index is calculated according to the following formula:

$$RCA_i^k = \frac{EX_i^k / \sum_{k=1}^n EX_i^k}{EX_w^k / \sum_{k=1}^n EX_w^k}$$

In this formula, RCA_i^k is the Revealed comparative advantages Index of product k of country i . EX_i^k is the export value of product k of country i , and EX_w^k is the export value of product k of worldwide countries. $\sum_{k=1}^n EX_i^k$ is the total export value of all products of country i , and $\sum_{k=1}^n EX_w^k$ is the total export value of all products of worldwide countries. K can be reflected as Pakistan and I can be reflected as China.

Generally, country i is perceived as having comparative advantages of product k if RCA index is greater than 1. The greater the index is, the higher the comparative advantage is. Otherwise, country i does not have comparative advantages of product k if the index is less than 1. More specifically, the index value can be divided into four categories as follows, each category refers to different comparative advantage level:

Table 1. RCA Index Value

RCA index	Comparative advantage level
<0.8	Weak
0.8-1.25	Medium
1.25-2.5	Strong
>2.5	Extremely strong

Trade Complementarity Index (TCI)

The Trade Complementarity Index (TCI) was proposed by Aoshima Qing. This index reflects the relationship between one country's export product structure and another country's import product structure, which could tell us how well a country's export supply fits into the import demand of its trading partners. The calculation formula is shown below:

$$TCI_{ij}^k = RCA_{xi}^k \times RCA_{mj}^k$$

$$RCA_{xi}^k = \frac{EX_i^k / \sum_{k=1}^n EX_i^k}{EX_w^k / \sum_{k=1}^n EX_w^k}$$

$$RCA_{mj}^k = \frac{IM_i^k / \sum_{k=1}^n IM_i^k}{IM_w^k / \sum_{k=1}^n IM_w^k}$$

Where TCI_{ij}^k represents the trade complementarity index between country i and j . RCA_{xi}^k is the competitiveness of product k of country i , which is explained in the former section. RCA_{mj}^k is the

competitive disadvantage of product k of country j , which is measured by import value. IM_i^k is the import value of product k in country j , and IM_w^k is the import value of product k of worldwide countries. $\sum_{k=1}^n IM_i^k$ is the total import value of all products of country j , and $\sum_{k=1}^n IM_w^k$ is the total import value of all product of worldwide countries.

When $TCI_{ij}^k > 1$, it indicates that the complementarity of product k between the exporting country i and the importing country j is higher than average level. This means a more favorable prospect for a successful trade cooperation between these two countries. However, this complementarity is relatively weak if $TCI_{ij}^k < 1$.

3.2 Model Setting and Related Symbols

In order to better reflect the situation of trade exchanges between countries, based on bilateral trade, a multi-regression analysis was conducted using a trade gravity model. Establish import gravity model and export gravity model and carry out logarithmic model transformation.

$$\ln Y = \ln A + \alpha \ln K + \beta \ln L + \ln u$$

Before introducing the equation, explain the relevant variables in the listed models, as shown in Table 2.

Table 2. Explanation of Symbols Related to the Listed Models

Explanatory variables	Variable meaning	Symbolic expectation
$Y_t Y_{it}$	Y_t represents China's GDP (USD) in year t , and Y_{it} represents the GDP of country i (USD) in year t	+
$Y C_t$	Represents China's GDP per capita (USD) in year t	+
$Y C_{it}$	Represents GDP per capita (USD) of country i in year t	+
D_i	The minimum absolute distance (km) between the main trading port or inland delivery point between China and country i	-
WTO_t	Whether the two parties of the trade are all WTO members in year t , value 0 or 1	+
$APE C_t$	Whether the two parties of the trade are all WTO members in year t , value 0 or 1	+
u_{it}	Random perturbation	-
M_{it}	China's imports to country i	-
X_{it}	China's exports to country i	-

The import trade gravity model equation is as follows.

$$\ln M_{it} = \beta_1 + \beta_2 \ln Y_t + \beta_3 \ln Y_{it} + \beta_4 \ln Y C_t + \beta_5 \ln Y C_{it} + \beta_6 \ln D_i + \beta_7 WTO_t + \beta_8 APE C_t + u_{it}$$

($i=1,2,3,\dots,13$; $t=2010,\dots,2016$)

The equation of export trade gravity model is as follows.

$$\ln X_{it} = \gamma_1 + \gamma_2 \ln Y_t + \gamma_3 \ln Y_{it} + \gamma_4 \ln Y_{Ct} + \gamma_5 \ln Y_{Cit} + \gamma_6 \ln D_i + \gamma_7 \text{WTO}_t + \gamma_8 \text{APEC}_t + \text{uit}$$

($i=1,2,3 \dots,13$; $t=2010,\dots,2016$)

3.3 Data Selection and Processing

The selected China's import and export trade volume with the countries along the "Belt and Road" initiative comes from the website of the United Nations Planning and Trade Department's Goods Trade Database. The GDP and GDP per capita data of China and 13 sample countries come from the World Bank database website. Major ports or inland delivery points in China and sample countries. The minimum distance between the two points is measured by Google Earth. In order to avoid the occurrence of pseudo regression and eliminate the effect of heteroscedasticity, the original sequence data is logarithmically processed before the data is brought into the model.

4. Model Estimation and Testing

4.1 Stationary Test

Use Eviews software and various test methods to perform unit root test on each selected variable to verify the stationarity of the series. The results are shown in Table 2.

Table 3. Data Stationarity Test Results

Variable	Inspection form	LLC	IPS	ADF-Fisher	PP-Fisher	Conclusion
Lnm	(C,N)	0.000 0	0.208 2	0.192 9	0.082 9	unsteady
Lnx	(C,N)	0.000 0	0.000 6	0.000 2	0.000 0	steady
Lny	(N,N)	0.000 0	0.130 0	0.000 5	0.000 0	unsteady
Lnyc	(N,N)	0.000 0	0.023 4	0.000 1	0.000 0	steady
Lnd	(N,N)	0.000 0	—	0.000 0	0.000 0	steady

At the 5% level of significance, except for the statistic lnm and the statistic lny, the rest of the test statistic values all reach the conclusion of rejecting the null hypothesis. The first-order difference processing is performed on the statistics lnm and lny. After the first-order difference processing, lnm and lny are stationary.

4.2 Panel Cointegration Test

Because each variable is a stationary sequence, the Pedroni and Kao cointegration test methods are used to verify whether the variables have a long-term equilibrium relationship. The test results are shown in Table 4.

It can be seen from Table 3 that at the 5% significance level, the test results reject the null hypothesis,

that is, there is a long-term stable equilibrium relationship between the selected variables, and the panel model can be used to further estimate the parameters.

Table 4. Results of Cointegration Test

Cointegration test method	Null hypothesis	Statistics	P value	conclusion	
Pedroni test	There is no cointegration relationship	Panel v-Statistic	2.578 9	0.023 4	Refuse
		Panel rho-Statistic	1.002 1	0.098 7	
		Panel PP-Statistic	-3.778 4	0.000 0	
		Panel ADF-Statistic	-0.667 0	0.062 5	
		Group rho-Statistic	3.216 7	0.009 7	
		Group PP-Statistic	-2.975 4	0.000 1	
		Group ADF-Statistic	6.987 0	0.000 1	
Kao test	There is no cointegration relationship	ADF	-3.423 5	0.000 0	Refuse

5. Empirical Testing and Result Analysis

5.1 Regression Results and Analysis of Import Trade Gravity Model Equation

Extract key indicators and get relevant statistics as shown in Table 4.

Table 5. Relevant Statistics of Key Indicators of Import Trade Gravity Model Equation

variable	Coefficient value	t statistics	P value
C	-24.753 990	-4.136 840	0.000 1
LNY	1.091 308	4.072 575	0.000 1
LNYC	-1.216 733	-3.650 635	0.000 4
LND	-3.081 594	18.784 690	0.000 0
WTO	1.793 870	1.896 093	0.061 1
APEC	2.013 267	2.652 066	0.009 4

R ²	0.801
F	79.426
statistics	880
D-W	0.024
value	128

In the imported gravity model, each explanatory variable has passed the 1% significance test, the adjusted R² has reached 0.8017, and the F statistic is 79.4269. The fitting degree of the model regression is good. Obtain the following imported gravity model equation.

$$\ln \text{Mit}_t = -24.75 + 1.09 \ln Y_t - 1.22 \ln YC_t - 3.08 \ln Di + 1.79 \text{WTO}_t + 2.01 \text{APEC}_t + \text{uit} \quad (i=1,2,3,\dots,13; t=2010,\dots,2016)$$

From the regression results, the most significant factors affecting China's exports are China's GDP, China's GDP per capita, the distance from China to country *i*, and whether they belong to APEC.

5.2 The Regression Result and Analysis of the Export trade Gravity Model Equation

Extract key related indicators and get the results as shown in Table 5.

In the export gravity model, each explanatory variable passed the 1% significance test, the adjusted R² reached 0.9440, the F statistic was 328.1347, and the degree of fitting was relatively good. The resulting imported gravity model equation is as follows.

$$\ln \text{Mit}_t = -15.08 + 0.74 \ln Y_t - 1.06 \ln YC_t - 3.08 \ln Di + 1.21 \text{WTO}_t + 1.59 \text{APEC}_t + \text{uit} \quad (i=1,2,3,\dots,13; t=2010,\dots,2016)$$

From the perspective of model regression, the impact of China's total GDP on China's exports to country *i* has weakened, with a variable coefficient of only 0.74, and GDP per capita still reacts to China's exports.

Table 7. Relevant Statistics of Key Indicators of Export Trade Gravity Model Equation

variable	Coefficient value	t statistics	P value
C	-15.075 200	-4.943 868	0.000 0
LN Y	0.736 654	5.394 676	0.000 0
LN YC	-1.057 050	-6.223 703	0.000 0
LND	-3.087 691	36.935 380	0.000 0
WTO	1.218 830	2.528 086	0.013 2
APEC	1.595 967	4.125 598	0.000 1

6. Conclusion and Recommendations

The empirical study shows the strong complementary of the Sino-Pakistan Trading Relationship. The conclusion is that Pakistan will always need China to fulfill its demand and to boost its economies. The investment in Pakistan by China will always make Pakistan reestablish to run its economy and will not create critical situation. Both the countries will need each other for trade. One the biggest factor is the trade route with Pakistan is gifted by its land topography so this concludes that Pakistan will always play a part in China's success. So, this bilateral trade will continue and grow because the population of Pakistan is increasing rapidly. If China keeps on investing money in Pakistan as we can see in the form on mega projects Pakistan will have growth very soon. The way China helps Pakistan in the critical situation the relationship between Pakistan and China will both side respect each other and are always move forward and will have better relations. To further promote the long-term and healthy development of bilateral trade relations between China and Pakistan, this article makes the following recommendations.

6.1 Continue to Build the China-Pakistan Economic Corridor and Promote the Expansion of Trade Scale

The China-Pakistan Economic Corridor is a China-Pakistan trade corridor and a strategic channel for China to go west in the new era. Continued construction of the China-Pakistan Economic Corridor can tap the potential of China-Pakistan trade and promote the continuous expansion of bilateral trade. To build the China-Pakistan Economic Corridor, we must first improve the infrastructure of Pakistan's railways, highways and telecommunications, and then establish a smooth cargo transportation network to promote the integrated development of the logistics industries of the two countries to reduce the cost of import and export transportation and shorten the transportation time. It plays a role in promoting the expansion of China-Pakistan trade. Second, improve the customs clearance environment to create conditions for Pakistan to expand its trade with China, so as to promote Pakistan's expansion of export trade and increase trade income. At the same time, we encourage high-quality complementary products of the two countries, such as electromechanical products, transportation equipment and chemical products, to use the "China-Pakistan Economic Corridor" platform to enter each other's commodity market and promote the continuous expansion of the scale of trade between the two countries.

6.2 Adhere to the Importance of Equal Emphasis on Trade and Investment and Improve the Trade Structure China and Pakistan should change the past approach of emphasizing trade and neglecting investment and adhere to the development strategy of placing equal emphasis on trade and investment. Because Pakistan's industrialization process is slow, the industrial industry has the characteristics of small scale and low level. The key equipment and technology required for its economic transformation and development basically depend on imports. However, Pakistan has a large population of about 180 million people, has a labor advantage and preferential investment policies, and has huge market potential. Therefore, on the basis of developing trade, China should take advantage of capital and technology to actively expand investment in related fields in Pakistan. In terms of investment projects,

we should choose projects that have our own advantages and are urgently needed by Pakistan, and have weak development, such as energy development, transportation infrastructure and industrial parks, to speed up Pakistan's industrialization process and improve Pakistan's industrialization level. This will continuously improve Pakistan's export trade structure and enhance its export trade competitiveness and advantages. At the same time, the structure of China's imported goods will also improve, and the trade structure between China and Pakistan is stable and single, and the phenomenon of low diversification of trade products can be improved.

6.3 Continue to Promote China-Pakistan Trade Development and Promote China-Pakistan Trade Balance

China and Pakistan have extensive common and similar interests. China and Pakistan should continue to improve trade partnerships, optimize the trading environment, eliminate trade restrictions between each other, and continuously expand the trade area and scale of trade between China and Pakistan to rationally resolve trade imbalance problem. At the same time, the two sides have implemented tax reduction and exemption policies to promote the continuous expansion of the trade scale of complementary goods for tax reduction and exemption. In addition, my country should further expand imports. Taking the opportunity of promoting ecological civilization, building a beautiful China, and practicing the development concept of green mountains and green mountains as a gold mine, we must reduce domestic production and increase imports of mineral products, chemical products, base metals and products that are likely to cause environmental pollution. The amount will continue to expand the import of textile raw materials and products, live animals and products and plant products that are conducive to improving people's livelihood. For products that are particularly needed by China, consideration can be given to appropriately reducing import quality and import standards, so that Pakistan can export more commodities to China, while meeting China's production and living needs while promoting trade balance between the two sides. Comparing to the traditional B2B business, it is better to build B2B2C and F2C business model to facilitate the bilateral Sino-Pakistan trading. Meanwhile Pakistan can be used as the Hub for China enterprises to enter into Southern Asia market with radiation.

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