Analysis of Sino-Pak Bilateral Trade Fluctuations: Based on Gravity Model of Trade

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Abstract: SINO-PAK enjoys a cordial relationship and friendly relationship over the years. Bilateral trade could further strengthen the Pak-China relationship with the help of China-Pak Free Trade Agreement (CPFTA) signed in November 2006 and effect from July 2007, initiated a new dimension in the promotion of trade between two countries. The panel data set dealing with the period 2003-2017 will be evaluated in this paper. Gravity model used for the analysis of data which is a typically used tool for the evaluation of bilateral trade activities and also showed to be useful in describing bilateral trade of Pakistan with China and with all Free Trade Agreement (FTA)-partner nations by higher values of R-Square. The outcomes showed that GDP, trade openness in each country, WTO and the shared border nations positively influenced on bilateral trade of Pakistan with all FTA-partner countries, while distance and inflation revealed a negative relation towards trade volume. It additionally specified that the overall (Preferential Trade Agreements) PTAs impact on Pakistan's bilateral trade along with its (FTA) partner nations is strongly significant and negative. We have also estimated enormous Pakistan's trade potential just in case of China. Pakistan's industrial sectors, as well as exporters, must take on new steps to increase and maximize the exports to China and to generate sensible equality in the bilateral trading relationship.
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1. Introduction

The primary goals of almost all developing countries are to achieve sustainable economic development and reducing poverty. Due to globalization, the economic activities each at a domestic level and the international level shows many necessary adjustments. The most important thing about economic integration is trade liberalization. World Bank, International Monetary Fund (IMF), and World Trade Organisation (WTO) are the major pillars in this regards. With the existence of Free Trade Agreements (FTA) and economic integration, economic development has additionally characterized. The most important examples of such economic integrations are South Asian Association for Regional Cooperation (SAARC), North American Free Trade Agreement (NAFTA) and the Association of Southeast Asian Nations (ASEAN). Most of the nations are diverting to promote the concentration of economic growth via adopting this regional or economic integration.

The politics of today's modernized World is growing day by day, and all the developing nations are commonly trying to find the brand-new market's entryway to sustain in every situation. (Irshad and Xin, 2014). Countries with bilateral relations are always looking for being mutually benefited with the primary intention of removing non-tariff barriers (NTBs) and by lessening tariffs. SINO-PAK enjoys a cordial relationship and friendly relationship over the years (Dr Ahmad Rashid Malik, 2013). China and Pakistan both are the World Trade Organisation (WTO) members. Table-1 in appendix manifest the latest Pakistan's trade agreement with other countries and regional alliances particularly the neighbored nation China.

In recent times Pakistan has perceived an essential increase in trading particularly exports because of agile development in global trading situations. During 2016, imports of Pakistan stayed at 44.8 in billion in US dollars, which is 15.82 % of gross domestic product (GDP), in the meantime, Pakistan's exports stood at the 24.662 billion in US dollars, which is 8.69% of gross domestic product (GDP). Similarly, In the year 2016 Pak's shares of exports towards China accounted at 1.94 billion in US dollars, which is 8% of total exports of Pakistan and in the meantime, Pakistan's imports share with China accounted at 14.20 billion in US dollars which is 30% of aggregate imports (Irshad & Xin, 2015). Below figure-1 and figure-2 show the graph of bilateral trade and trade balance of Pakistan with the World and China for the period of 2003 to 2017.

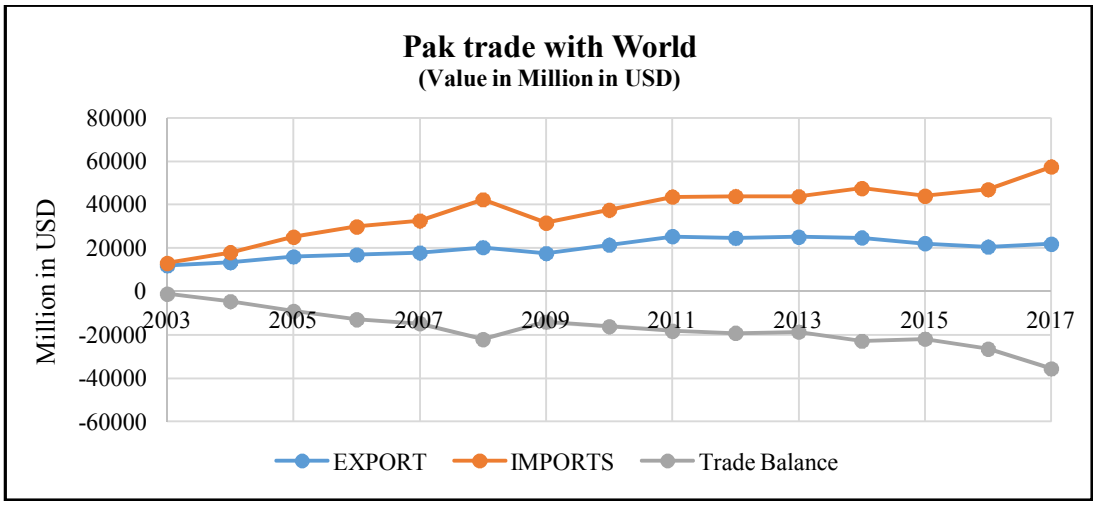

Figure No.1: *This figure shows estimation based on "UN Comtrade Data".*

In 2006, SINO-PAK signed a Free Trade Agreement (FTA). After signing this agreement, both nations have encountered an increasing slope in bilateral trade. In resultance, there's a rapid increase in imports 16.891 billion US$ in 2017 compared to 2.91 billion US$ in 2006.

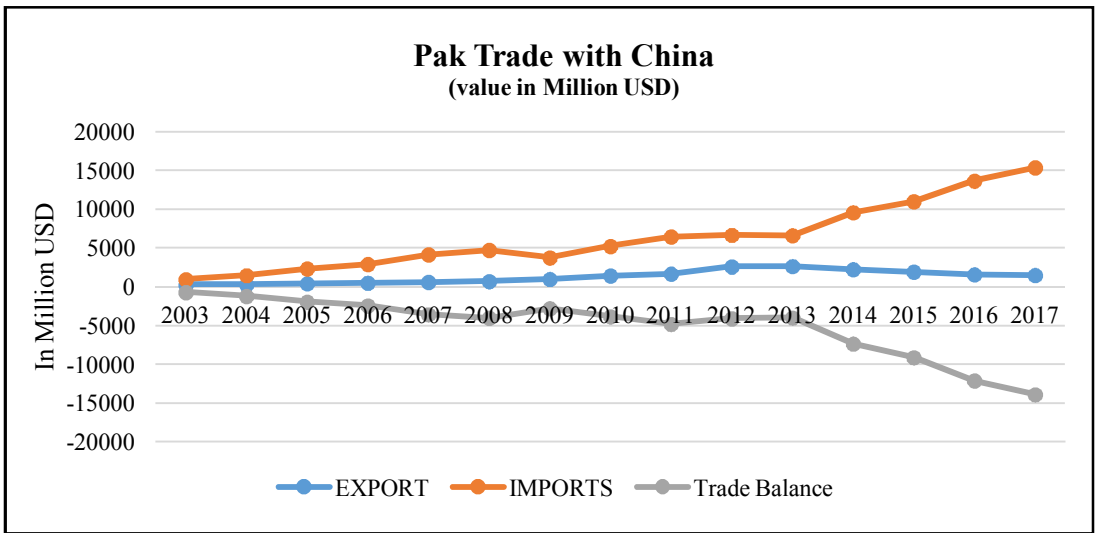

Figure No. 2: *The above figure represents estimation based upon "UN Comtrade Data".*

After signing the Free Trade Agreement with Pakistan, China has attained a substantial advantage. China's exports towards Pakistan recorded a quick growth rate when contrasted with imports from Pakistan. The two nations ought to need to revise tariff eliminations techniques. In 2015, a free agreement signed between South Korea and China, under this agreement both nations eliminated the tariffs on highly traded items up to ninety percent (Hua Xia, 2015). Pakistan is also expecting the same from China by eliminating tariffs on mostly traded items, not at the constrained things. In this paper, we will analyse the SINO-PAK bilateral trade fluctuations by implementing the gravity model, as well as we additionally work out the trade potential of Pakistan with China. For the international trade analysis; This model has turned into the essential tools over the years.

2. Gravity Model

2.1 Theoretical Framework

The gravity model of trade originated from Newton's law of Universal gravitational force in physics. In the 1940s, James Stewart turned into the first person to utilize this model in social sciences. To contemplate international trade, Tinbergen used this gravity model in 1962. According to his opinion, the bilateral trade flow in between a pair of nations like

the gravitational force in between a pair of the object is directly proportional to their respective economics sizes and also indirectly proportional to their distance between them. The basic form of the gravity model of trade is

$$F = G\,(m_1 * m_2)/\,r^2 \longrightarrow BT_{ij} = A\ Yi\,Y_j / Dist_{ij} \quad (1)$$

Where BTij=bilateral trade,
Yi =Country i's GDP,
Yj = Country j's GDP
Disttij = the distance between two countries, A = proportionality's constant. The Linnemann added population variable in addition to the inaccuracy condition into the gravity model of trade in 1962 and transformed the equation into the logarithm to form the actual trade gravity model. The formula is as below:

$$Log\,(BT_{ij}) = \alpha_0 + \beta_1\,log\,(Y_i\,Y_j) + \beta_2\,log\,(Dist_{ij}) + u_{ij} \quad (2)$$

Where Log (BTij)=natural log of trade volume, log (Yi Yj) is natural log of Country i's GDP and Country j's GDP, Distij = the natural log of the distance among two nations, Uij = is the error term.

The gravity model has been broadening and improved after being utilized in the trade research, that insinuate an ever-increasing number of variables have been added into the function. Anderson (1979) derived microeconomic foundations by applying elasticity of substitution (CES) product differentiation and utility function. The organization of a feasible facility for the gravity model shown by the substantive that the gravity function could be assumed coming from some distinct model of international trade (Krugsman and Helpman, 1985). Bergstrand (1989) added the per-capita income, the exchange rate and some dummy variables. Mdtyds (1998), Chen & Wall (1999), Breuss & Egger (1999) and Egger (2000) developed the economic assessment criterion of the gravity model of trade.

2.2 Application of Gravity Model

Khan and Mahmood (2000) determine the gravity model of trade to show a relationship between bilateral trade in Pakistan as well as economic, geographical and social elements. The bilateral trade volume (imports and exports of ten essential commodities) considered as the dependent variable. The independent variables are the real exchange rate, GNP, GDP per capita, the official language, border, and dummy variables to exemplify SAARC, ASEAN, NAFTA and the EU. He founded the results that the all variables are very significant except the variable the neighbouring nations, which is significant and also negative.

Shi Zhaoxing and Gu Haiying (2005) organises the new advancement of the gravity model of trade by adjusting independent variable and explaining border effect stages. With the introduction of the new theoretical advancement on the gravity model's establishment, as well as its application in the foreign trade of China.

Pan Qin and Han Jian (2006) endeavours to utilise the gravity model to make empirical research on the relations among them and finally gives some relevant policy informs about the advancement of China's regional trade integration and intra-industry.

Zhang Yu and Tang Zhifang (2006) approves that the economic scale of trade partners, population, distance, trade policy and so on are the essential deciding elements of bilateral trade of China.

Ding Huixia and Feng Zongxian (2007) examines the impact of the institution variant in China on China's attraction to FDI. The consequence of the empirical analysis demonstrates that the mark of bilateral trade protection agreement among China and contributing nations, culture factor, policy variant and RMB devaluation have clear beneficial outcomes on the attraction of China to FDI, and the custom level of China. The level of security to protect to intellectual property and the probity level of the government do not have a discernible impact on the FDI's entering China statistically.

Zhaoping and Xuling (2008) develop a gravity model for Xinjiang's bilateral trade. The bilateral trade volume considered as dependent variable and GDP, per capita GDP and Shanghai Cooperation Organisation (SCO) taken into consideration as independent variables. He established the outcomes that all three independent variables hurt the bilateral trade of Xinjiang.

Zaman, Aman, Khan and Awan (2010) used the gravity model for bilateral trade of Pakistan and Turkey to investigate the bilateral trade empirically between both countries by adjusting GDP, GDP per capita and distance as independent variables to explain bilateral trade. He founded the results that there is a solidly reliable and positive relationship between GDP especially GDP per capita and have a negative relationship concerning its bilateral trade.

Zhou Nianli (2010) recognize the elements which have a massive influence on the bilateral service trade in China and calculate the service export

potential of China and the "tariff equivalent" of the "non-tariff" barriers of China's major trading partners.

Dilanchiev (2012) uses the gravity model approach to examine Georgia's bilateral trade pattern. He established the results that there is a positive effect of Georgia's GDP with bilateral trade volume. Likewise, shared history and GDP per capita were founded to be critical determinants of Georgia's bilateral pattern, and he also founded there is a strongly positive relationship of foreign direct investment (FDI) with the trade volume.

3. Building The Model and Data

3.1 Illustration of the model's variables

In this paper, we will certainly develop a gravity model based on bilateral trade flows between Pakistan and FTA country especially China. At that point, the gravity model will be utilised to predict the SINO-PAK's trade potential. The standard gravity equation for our regression analysis presented as follows:

$$Ln\ (BT_{ijt}) = \beta_o + \beta_1 Ln\ (GDP_{it} * GDP_{jt}) + \beta_2 Ln\ (D_{ijt}) + \varepsilon_{ijt} \quad (3)$$

Ln (BTijt)= natural log of bilateral trade flow (merchandise exports + merchandise exports) in between Pakistan (country i) and its trade partner (country j) in year t.

Ln (GDPit * GDPjt) = natural log of Country i's GDP and Country j's GDP in year t.

Ln (Dijt)= distance between both countries

After assessing the previous researchers and aspect through point relocating toward snared on trade pattern of Pakistan along with FTA nations, and also specifically to think about the latest research study requisites the bilateral trade of Pakistan with China (after and before) signing a free trade agreement, the complying collection of variables considered. Equation (3) at that point comes to be:

$$Ln\ (BTijt) = \beta o + \beta 1 Ln\ (GDPit * GDPjt) + \beta 2 Ln\ (Distijt) + \beta 3 Ln\ (INFit * INFjt) + \beta 4\ TOPit + \beta 5 TOPjt + \beta 6 Bordijt + \beta 7 WTOijt + \beta 8 PTAijt + \varepsilon ij \quad (4)$$

Where Ln (BT_{ijt}) represents a natural log of bilateral trade flow (merchandise exports + merchandise exports) in between Pakistan (country i) as well as its trade partners (country j) in year t.

Ln (GDP_{it} * GDP_{jt}) is the natural log of Pakistan's GDP (country i) and also its trade partner's GDP (country j) in period t. The anticipated symbols of the variable to be highly significant and also positive related to trade, which means the bilateral trade flows in between both nations are proportional to the GDP of the two countries.

Ln ($Dist_{ijt}$) is the natural log of distance in between Pakistan (country i) and its trade partner (country j) in year t. The expected symbol of this variable is negative, which means the bilateral trade flow between both countries is inversely proportional to its distance because transport cost increases with distance.

Ln (INF_{it} * INF_{jt}) is natural log of Pakistan's inflation (country i) as well as its trade partner's inflation (country j) in year t. We are anticipating the negative sign of this particular variable because the rising cost of living can also hurt the bilateral trade flows. We used inflation in our model as a proxy of GDP.

TOP_{it} and TOP_{jt} is Pakistan's trade openness (country i) and its trade partner's trade openness (country j) in year t respectively. Trade openness is the proportion of overall imports, as well as exports to GDP, can be used as proxies for openness. A significant trade openness means greater involvement in the trade, and the condition of international trade is advantageous. We are expecting the positive sign of these two variables.

$Bord_{ijt}$ is a dummy variable, which is given a value of 1 if both countries (country i and country j) share a common border or else value =0. We are expecting a positive sign because there is an active bilateral trade relation between neighboured countries.

WTO_{ijt} is a dummy variable, which is given a value of 1 if both countries (country i and country j) are the member of World Trade Organisation (WTO) or else value =0 in a particular time t. The inclusion of this variable is to find whether the partner countries are being a member of this Organisation or not because it can impact on the bilateral trade.

PTA_{ijt} is also a dummy variable, which is given a value of 1 if both countries (country i and country j) having a trade agreement or else value =0 in a particular time t. We are expecting positive and significant sign.

3.2 Data

In this paper, the panel data from 2003 to 2017 is used to do regression analysis. The panel dataset of Pakistan, as well as 25 of its trading partners along with China, containing the data of annual trade

volume (imports + exports), is taken from the UN Comtrade Database in USD thousands. GDP, Inflation and Trade openness (Trade/GDP) (Pakistan and partners) is taken from the UN Comtrade Database and World Development Indicators. Data for distance collected from CEPII and (https://www.distancefromto.net/countries.php). The data on dummy variables for the border, WTO, PTA is collected from World Atlas website, World Trade Organisation and Asia Regional Integration Center respectively. We have chosen those countries that have already signed a free-trade agreement (FTA) or even any kind of regional trade agreement along with Pakistan. (see **Table 1** in Appendix).

4. Result Estimation and Discussion

The relevant data analysed with ordinary least square (OLS) regression for the simple or basic gravity equation (3), as well as full gravity equation (4), appear in Table (2) and (3) respectively. When the confidence interval is 95 %, the value of R-squared for both the equations is 0.6098 and 0.7181 respectively, which shows that the total performance of the model is impressive. The coefficient of determination (R2) for both models respectively proposes that the independent variables are describing sixty and seventy-one per-cent variations in the dependent variable (S. Khan, 2013). The importance of both models shows that the gravity model better reveals Pakistan's bilateral trade along with its FTA partner's countries.

Table 2. *Regression results of Basic Gravity Equation*

Dependent variable = Bilateral trade Volume				
Independent Variables	**OLS Coefficient**	**Robust Std. Err.**	**t-value**	**p-value**
Constant	-12.7304	1.04158	-12.22	0.000
Product of GDPs	0.880262	0.02525	34.86	0.000
Distance	-0.428729	0.10037	-4.28	0.000

R-squared= 0.6098, F-Statistics= 611.74, Prob (F-statistics) =0.0000, N=375
Source: *Author's calculation from Stata 14.0*

According to the results of OLS regression, the equation of the basic gravity model is:

$$Ln\ (BT_{ijt}) = -12.7304 + 0.8803(GDP_{it} * GDP_{jt}) - 0.4287(D_{ijt}) + \varepsilon_{ijt} \quad (5)$$

Equation (5) of the basic gravity model showed that the GDP variable possesses a positive as well as significant influence on Pakistan's bilateral trade with its FTA partners. Its coefficient is 0.8803 percent and significant at the 5 % level of significance. Its coefficient may be interpreted as always keeping all other variables steady, a 1% rise in GDPs will certainly on average results in rising Pakistan's bilateral trade along with its trade partners by 0.8803 percent. Distance variable is found significant at 5% level of significance and negatively influence on bilateral trade of Pakistan with its FTA partners, and its coefficient value is 0.428 percent. A 1% rise in distance will undoubtedly lessen the bilateral trade volume of Pakistan along with its own partner countries by 0.4287 percent.

Table 3. *Regression results of Gravity Equation*

Dependent variable is Bilateral Trade Volume				
Independent Variables	**OLS Coefficient**	**Robust Std. Err.**	**t-value**	**p-value**
Constant	-16.7909	1.4866	-11.29	0.000
Product of GDPs	0.8153	0.0465	17.53	0.000
Distance	-0.2597	0.1138	-2.28	0.023
Inflation	-0.1349	0.0659	-2.05	0.042
Trade Openness- Pakistan	0.1200	0.0301	3.98	0.000
Trade Openness- Partner	0.0070	0.0026	2.35	0.019
Border	2.0339	0.2888	7.04	0.000
WTO- membership	0.7893	0.2210	3.57	0.000
Trade agreements	-0.4857	0.2264	-2.14	0.033

R-squared= 0.7181, F-Statistics= 170.96, Prob (F-statistics) =0.0000, N=375
Source: *Author's calculation from stata 14.0*

In the case of full gravity equation, the function will be

$$Ln\ (BT_{ijt}) = -16.7909 + 0.8153(GDP_{it} * GDP_{jt}) - 0.2597(Dist_{ijt}) - 0.1349(INF_{it} * INFj_{jt}) + 0.1200\ TOP_{it} + 0.0070\ TOP_{jt} + 2.0339\ Bord_{ijt} + 0.7893\ WTO_{ijt} - 0.4857\ PTA_{ijt} + \varepsilon_{ijt} \quad (6)$$

Equation (6) of the full gravity model showed that the GDP variable is positive and significant at a 5% level of significance. The GDP's coefficient is determined to be 0.815 percent for full gravity equation. The forecasted coefficient may be taken that always keeping other variables steady, a 1% increase in GDP will increase bilateral trade volume of Pakistan along with its trading partners by 0.815 percent. Sohn (2005) and Ricchiuti (2004) likewise verified the bilateral trade volume and GDP has a positive relationship.

The distance variable is found significant at 5% level of significance and negatively influence on bilateral trade of Pakistan with its FTA partners, and its coefficient value is 0.26 percent. A 1% rise in distance will undoubtedly lessen the bilateral trade volume of Pakistan along with its own partner countries by 0.26 percent.

Regarding the inflation, we estimated this variable shows up a negative and significant and negative. The outcomes reveal that by increasing 1% in the rate of inflation in Pakistan along with its FTA partners, countries will lessen the bilateral trade volume by 0.135 percent, which indicates individuals will undoubtedly possess even more amount to purchase items. This increases demand, which increases the product prices in a nation which leads in the requirement of even more amount to purchase the same items which earlier bought at an affordable price.

Depending on our results, there is a positive influence on Pakistan' trade openness along with its partner countries. 1% rise in trade openness amount of Pakistan increases the bilateral trade volume by 0.12 percent. Likewise, 1 % rise trade openness in the FTA partner country increases the bilateral trade by 0.006 percent. The outcomes showed that Pakistan along with its partner countries has full potential to increase their bilateral trade.

Likewise, when it comes to the border, neighbour nations have always advantage to trade, considering that numerous variables could have less influence such as cultural, social impact or trade cost. Our model showed that Pakistan tends to trade even more along with shared border nations like China, Afghanistan and also India. A 1% rise alike border nation increases bilateral trade by 2.034 percent.

It prevails that countries who are members of WTO then there is much more trading chances along with one another considering that they are in some way tied to minimise the tariff and taxes on trade. In our scenario, the coefficient of WTO membership determined along with the optimum value of 0.789 percent.

Regarding the trade agreements, shockingly, we have found that the overall (Preferential Trade Agreements) PTAs impact on Pakistan's bilateral trade along with its (FTA) partner countries is highly significant and negative, which is actually peculiar due to the fact that trade of Pakistan with its partner countries is actually under potential as well as not entirely utilised. Other researchers additionally locate the unfavourable and uncertain results of trade agreements on trade (Robert et al., 2015). Pakistan possesses more trade potential, especially with China. Pakistan and China need to produce fruitful initiatives to improve their bilateral trade and to lessen trade barriers and also offer optimal market accessibility to each other.

5. Trade Potential

Finally, we are right now prepared to analyses Pakistan's trade potential for China. Researchers have widely utilised the principle of trade potential to examine international trade relationships. The outcomes acquired from the gravity equation (4) go through to analysing the predicting performance. We have calculated gravity model for Pakistan with it FTA partner nations that signed free trade agreement along with Pakistan for a relatively substantial period (2003–2017) with overall 375 samples or observations. There is no any zero trade in our observations. In short, it exemplifies the difference between the predicted and the actual amount of trade, where a positive value signifies the opportunity of trade growth in the future while a negative value reveals that Pakistan along with China has surpassed its trade potential. Figure 3 reveals the trade potential of Pakistan for China.

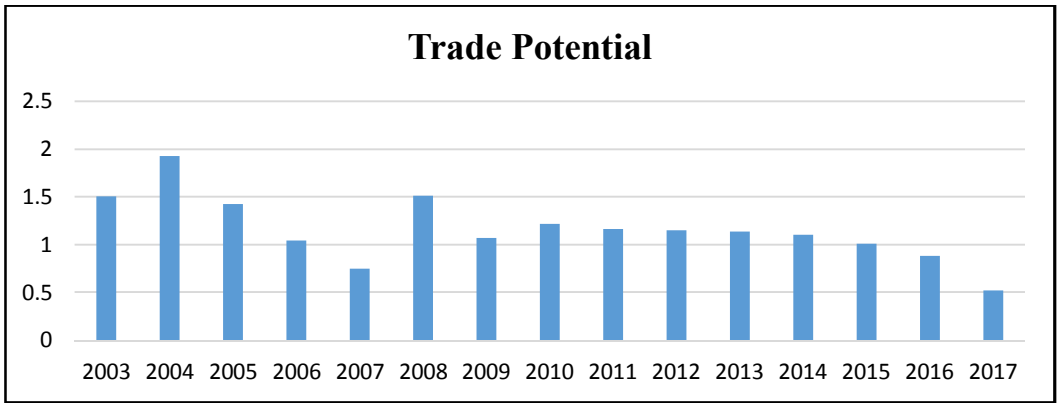

Figure No.3: *This figure shows that trade potential of Pakistan for China.*
Source: Author's estimation based upon "Gravity equation (6) results."

Table 1. *Latest Pakistan's Trade Agreement with Other Countries and Regional Alliances Particularly the Neighbored Nation China.*

Trading Blocs	**Countries**	**Signed**	**In Effect**
Economic Corporation Organisation (ECO)	Afghanistan, Azerbaijan, Iran, Kazakhstan, Kyrgyzstan, Pakistan, Tajikistan, Turkey, Turkmenistan, Uzbekistan	July 2003	Jan 2008
MERCOSUR Preferential Trade Agreement	Argentina, Brazil, Pakistan, Paraguay, Uruguay	July 2006	Jun 2009
South Asian Free Trade Area	Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, Sri Lanka	Jan 2004	Jan 2006
Preferential Tariff Arrangement- Group of Eight Developing Countries (PTA-D8)	Bangladesh, Egypt, Indonesia, Iran, Malaysia, Nigeria, Pakistan, Turkey	May 2006	Aug 2011
Country		**Signed**	**In Effect**
Sri Lanka		Aug 2002	Jun 2005
United States of America (USA)		Jun 2003	Jun 2003
Iran		Apr 2004	Sept 2006
China		***Nov 2006***	***July 2007***
Malaysia		Nov 2007	Jan 2008
Mauritius		July 2007	Nov 2007
Indonesia		Feb, 2012	Sept, 2013

Source: *Authors' compilation*

A1*: Pakistan's top ten exports and imports to World in 2017 in a million USD.*

Product Name	**Exports**	**Product Name**	**Imports**
Textile Articles, Sets, Worn clothing etc.	4,000	Minerals fuels, oils, distillation products etc.	13,700
Cotton	3,500	Nuclear reactor, boilers, machinery etc.	6,900
Articles of apparel, accessories, knit or crochet	2,500	Electrical and Electronic equipment	4,700
Articles of apparel, accessories, not knit or crochet	2,500	Iron and Steel	3,400
Cereals	1,800	Vehicles other than railway, tramway	2,700
Articles of leather, Animal gut, harness travel good	632.0	Organic chemicals	2,400
Sugars and sugar confectionery	511.9	Animal, vegetable fats and oils, cleavage products, etc.	2,400
Optical, photo, technical medical etc. apparatus	410.6	Plastics and articles thereof	2,300
Fish crustaceans, molluscs, aquatic invertebrates	406.9	Oilseed, fruits grain, seed fruit etc.	1,400
Salt, Sulphur, earth stone, plaster, lime and cement	385.5	Edible vegetables and certain roots and tubers	981.2

Source: Author's compilation based on UN Comtrade Database.

A2: *Pakistan's top ten exports and imports to China in 2017 in a million USD.*

Product Name	Exports	Product Name	Imports
Cotton	885.4	Electrical and Electronic equipment	3,600
Ores, slag and ash	98.4	A nuclear reactor, boilers, machinery etc.	3,300
Cereals	95.5	Iron and Steel	1,100
Fish crustaceans, molluscs, aquatic invertebrates	60.1	Organic chemicals	790.5
Optical, photo, technical medical etc. apparatus	39.7	Manmade filaments	552.1
Salt, Sulphur, earth stone, plaster, lime and cement	38.5	Articles of iron or steel	534.2
Copper and articles thereof	37.8	Fertilizers	487.0
Raw hides and skins (other than fur skins) and leather	37.0	Vehicles other than railway, tramway	440.5
Textile Articles, Sets, Worn clothing etc.	25.8	Plastics and articles thereof	424.7
Articles of apparel, accessories, knit or crochet	22.1	Manmade staple fibres	336.6

Source: Author's compilation based on UN Comtrade Database.

Our outcomes of the evaluation techniques reveal that Pakistan possesses obvious trade potential with China. In 2006, SINO-PAK signed a Free Trade Agreement (FTA). After signing this agreement in between these two nation experienced that greater trade values and also for future Pakistan have a more significant opportunity to look into Chinese markets due to the fact of the largest population of China in the World. Even though, Pakistan getting trade gap or trade deficit while bilateral trade with China. In resultance, there's a rapid increase in imports 16.891 billion US$ in 2017 compared to 2.91 billion US$ in 2006.

While China has exported and also exporting higher value-added products but Pakistan are still exporting low value-added products. Pakistan should have to revive their export techniques and additionally concentrate exporting to China with high value-added raw materials like a Textile Articles, Sets, Worn clothing, cotton as well as higher quality fabric. A Substantial prospective exists there for exports of Articles of leather, Animal gut, harness travel good, Copper and articles thereof, chromium ore as well as organic chemicals, sport goods, Articles of apparel, accessories, knit or crochet, Cereals, food items, fruits and vegetables, Sugars and sugar confectionery, Optical, photo, technical medical etc. apparatus, Salt, Sulphur, earth stone, plaster, lime and cement. All export need to fulfil a higher standard product which leads to higher revenue, as the higher revenue has made the consumer of China quality conscious.

6. Conclusion

This research study tried macroeconomic impact of bilateral trade of Pakistan along with its Free Trade Agreement (FTA) partner's nations especially for China to analyses with trade potential. The panel dataset from the year 2003-2017 was used to analyses SINO-PAK bilateral trade fluctuations and its trade potential. A gravity model of trade used for the evaluation of data.

The higher R-square value for each standard as well as full gravity equations showed that the gravity model is suited effectively in describing bilateral trade flows of Pakistan along with China and its FTA partner countries. Evaluation of full gravity equation accompanied strongly significant and also anticipated signs. Our evaluated outcomes showed that both countries GDP, trade openness, border and WTO possess a significant positive impact on bilateral trade of Pakistan along with China and various other FTA-partner nations. Whereas bilateral distance and inflation reveal a significant and negative influence on bilateral trade, however, we additionally established the fascinating factor in our outcomes that the total (Preferential Trade Agreement) PTA influence is highly significant and negative. The border impact also aspect Pakistan to optimize its trade association along with China. SINO-PAK are members of the World Trade Organisation (WTO).

However, shares of China acquiring much larger in imports of Pakistan and Pakistan fell short to maximise its exports towards China. In South Asia, China only possesses Free-Trade Agreement with Pakistan which is a remarkable chance for each nation to sustain their balance of trade and also proceed shared economic cooperation. In some cases, free-trade agreement and also trade liberalisation policies might negatively influence local industry of a nation. The broadening trade gap is a significant problem for Pakistan, and it badly neglected to develop a trade strategy via-a-vis China in previously 29 years. Slow-moving exports by Pakistan to China and continuous rise of imports from China into the markets of Pakistan has broadened the trade gap. Chinese Cheaper imports influenced the commercial output of Pakistan in the previous three decades. Pakistan requires to revitalise its industrial sector. Pakistan and China Free Tarde Agreement are beneficial in

attaining export-led development strategy of Pakistan. Our outcomes revealed that Pakistan has to maximise its exports towards China but also lessen the imports so that both Pakistan and China should proceed their trading techniques and policies to further enhancement in mutual collaboration and to lessen the trade gap.

Nevertheless, coming from our perspective, this research study shows valuable and possess some fascinating results, which may assist policymakers and economists to obtain a much better perspective of bilateral trade of Pakistan along with its all FTA partners and particularly with China.

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