



Advance Journal of Econometrics and Finance

Vol-3, Issue-2, 2025



Advance Journal of Econometrics and Finance

Online ISSN

2959-8990

Print ISSN

2959-8982

<https://ajeaf.com/index.php/Journal/About>

Name of Publisher: SCHOLAR CRAFT EDUCATION & RESEARCH HUB

Review Type: Double Blind Peer Review

Journal Frequency: Quarterly Research Journal (4- Issue)

Bilateral Trade of Pakistan and China, and the Comparative Advantage and Disadvantage between the Two Economies

¹Arbab Muhammad Jehandad Kasi, ²Muhammad Ali Kakar

	Abstract
Arbab Muhammad Jehandad Kasi University of Balochistan Quetta Muhammad Ali Kakar BUIITEMS Quetta	The swap over of goods among two countries that promotes venture and trade is referred to as bilateral trade (or two-way trade). To boost investment and trade, import quotas, tariffs, export constraints, and other trade barriers would be abridged or eradicated. As there are only two nations involved in bilateral agreement, it is quicker to negotiate, enter into force faster, and reap trade benefits sooner because both countries open their markets to one another, resulting in trade and economic growth. China is actively pursuing investment and bilateral trade agreements with countries who are not members of World Trade Organization. The China-Pakistan Free Trade Agreement (CPFTA) was supposed to run from 2007 to 2012, with the second phase starting in 2013. Phase I of the CPFTA went into effect in July 2007 and lasted through 2012. The CPFTA's Phase-II discussions have been ongoing since 2013, with a strong likelihood of completion in December 2018. In this research effort Pakistan and China's bilateral trade has been analyzed during a period spanning from 2001 to 2019. It was decided to use the well-known methodology of Fixed Effect based on Hausman test to meet study's goal. Study's initial goal is to look at the influence on bilateral trade of newly discovered comparative advantages and disadvantages. Depending upon findings, it can be further stated that findings of comparative advantage and disadvantage have a noteworthy affirmative and negative shock on bilateral trade respectively. Resultantly, annual growth rate of bilateral trade predicted by RCA is 71%, while the comparative disadvantage found by this analysis shows an actual annual decline of 1.23 percent.
Keywords:	FTA, Bilateral Trade, Comparative advantage and Disadvantage

Introduction

Bilateral trade refers to a transaction of products that takes place between two nations with the goal of increasing the amount of commerce and investment that takes place among those nations. Import quotas, export restraints, tariffs and other trade barricades between the two countries will be decreased or abolished because of the agreement. Since only two nations are concerned in a bilateral agreement, it's easier to negotiate and enters into force more quickly, allowing for greater realization of trade benefits more quickly. China energetically searches for bilateral trade and investment agreements with other countries outside of World Trade Organization. The formation of agreements with Asian neighbors, as well as with many other nations on whom it depends for minerals, energy, food, infrastructure, and geopolitical assistance, has been given top priority by the administration.

Governments of Pakistan and China struck a free trade deal in November 2006, bringing two countries closer together (FTA). The FTA stipulated that Pakistan provide tariff concessions to China on 6,711 distinct products as part of the agreement. In contrast, China has offered Pakistan with duty reductions on 6,418 distinct categories of merchandise, according to the Pakistani government. It was originally anticipated that Phase I of China-Pakistan Free Trade Agreement (CPFTA) would be in maneuver from 2007 to 2012, with the second phase following in 2013. Phase I of the CPFTA was implemented in July 2007 and was in force from 2007 to 2012. It covered the period 2007–2012. The discussions on Phase-II of CPFTA have been ongoing since 2012, with a high probability that they would be finished by the end of the calendar year 2018.

Bilateral trade between Pakistan and China has improved following comparative advantages, resulting in an unusual pattern of international specialization between two countries' economies". Having this level of specialization is crucial to a country's overall performance in international commerce with remainder of world. In recent years, as a result of failure of multilateral trade negotiations, regional and bilateral trade agreements have gained significant popularity, particularly in poor countries. Economic integration through international trade is facilitated through bilateral treaties, such as Free Trade Agreements (FTAs), which have an impact on macroeconomic and social indicators. Over half of global commerce is undertaken within trading blocs of each nation that is a constituent of one or more of blocs having an impact on the level of trade, competitiveness, and well-being on a national level (Mastel, 2004).

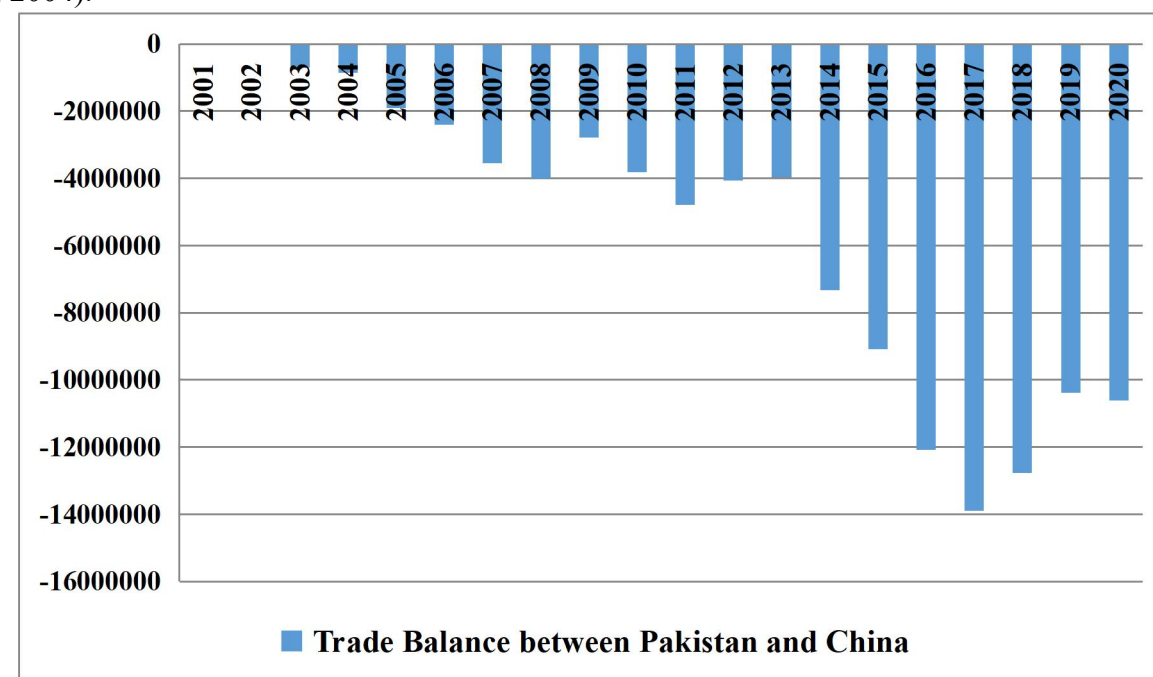


Figure 1: Trade Balance between Pakistan and China, 2021

Above figure shows trade among Pakistan and China. Pakistan and China stood an “all weather” friends since long and both the countries have also been enjoying much more trade agreements and easing each other in trade. Their trade started enhancing more when they first time signed a free trade agreement between them back in 2006. When they signed another major agreement, the China-Pakistan Economic Corridor (CPEC), in 2013, this trade grew much more quickly and in a more positive way. The China-Pakistan Economic Corridor is a massive undertaking that has potential to be game-changing for developing country. Despite that Pakistan's imports outnumber its exports, the country's trade ratio with China is increasing, and the support and assistance provided by the neighboring country in the form of various agreements will undoubtedly improve the country's economic situation, with the China-Pakistan Economic Corridor (CPEC) being a major hope in this regard (Ghulam Ali, 2015).

As the twenty-first century begins, China's economic incorporation into global system is one of most crucial factors shaping global system's formation and progression. Modern, industrial, and export-oriented sectors of China have grown at a rate of roughly 10% per year for the past 20 years. Adding an additional medium-sized industrial sector to global economy each year is the equivalent of moving 20 million Chinese workers from rural to urban areas with high unemployment. Over the course of the next decade, between 200 million to 300 million workers will be displaced from rural underemployment, and this isn't a one-time shock. Market exchange rates put China in sixth place in terms of global economic strength; purchasing power parities put it much higher. Globally, it ranks as the 4th largest trader. The country's growth plan is reflected in the fact that exports have grown at rates surpassing 20% per year, outpacing the economy. Because of this, China's global trade share has gone from less than 1% two decades ago to 6% now (Muhammad and Qi, 2015).

China is looking for alternative immediate measures to boost exports, one of which is the establishment of Free Trade Agreements (FTAs) with other countries across the world. With growing importance of emerging economies in South and East Asia, Asia Pacific, and South America, Pakistan wishes to increase its trade and commercial ties with economies of those regions to expand its market share. Keeping in view importance of friendly relations with China, which is world's largest economy and, more importantly, an immediate neighbor of Pakistan, She should consider strengthening its economic ties with the country, separate from their previously strained strategic and military ties. Pakistan

has called for the early completion of the Free Trade Agreement (FTA) with ASEAN, from which country can benefit in a variety of areas and cooperate in areas such as trade and industry, investment, environment, technology and science, information technology, narcotics control, education, agriculture, tourism, and human resource development”, among others. Although they have different perspectives on certain issues, Pakistan and the ASEAN countries have a shared aim for peace, prosperity, and advancement in the region. It was a significant shift in economic strategy from prior decades that establishment of a managed floating exchange rate regime necessitated”. As a result of the rupee's adjustment to the new system, Pakistan's exports grew significantly (Summaira & Amatul, 2011).

Review of Literature

Bilateral trade aims to reduce tariffs and remove Non-Tariff Barriers (NTBs) between trading partners through reaching mutually beneficial agreements. Pakistan, like many other countries, is adjusting its policy to emphasize reaping trade benefits through plurilateral and bilateral agreements. Pakistan entered the WTO in 1995 and has notified six (in effect) free trade agreements since then, while China has reported twelve (in effect) free trade agreements since its amalgamation with WTO i-e December 2001. Pakistan and China have set new goal for bilateral trade, energy cooperation and investment to boost economic content of their relationship. The size of Chinese investment in Pakistan demonstrates the country's determination to implement the new economic plan. The investment benefits Pakistan the most, while China gains admittance to new market for commodities through trade. Pakistan would sooner or later get the same out of it. China will reap the benefits of energy cooperation because it will be able to obtain right of entry to energy supplies during Gwadar port. This port is alternative route that goes through the Malacca straits, and it would also play a part in the development of China's western areas. In return, Pakistan has reaped the benefits of the massive infrastructural expansion that has continued in Gwadar and would persist to do so as soon as future strategy acquires traction (Sumita, 2007).

The comparative advantage that one nation enjoys over another determines the extent to which that nation's trade with the other nation is dominated by that nation's goods and services. There is no doubt that the idea of Revealed Comparative Advantage does not require an in-depth explanation at this point. It was initially published in Balassa's article in 1965, and it has unlocked a subject that has been high-flying in writing throughout course of past fifty years. It is ratio of percentage of product's exports in nation's exports to the share of the product's exports in global exports, and it can take on values ranging from zero to infinity. Values that are greater than one indicates that the nation in question have Relative Comparative Advantage in product under consideration (Grancy & Dudas, 2019).

The Balassa Index, developed RCA in 1965, is explained as ratio of nation's share of global market for a particular commodity to its overall market share for exports. The analysis may also assist us in comprehending the make-up of the products that are exchanged among Pakistan and China, as well as amongst Pakistan and rest of the globe, and among China and rest of world. Findings will also shed light on whether Pakistan demonstrates a comparative gain in same items in commerce with China as it does in its trade with rest of world, which is something that we will learn from the findings. During this research, this index will be utilized to assist in identifying the products or fields where Pakistan and China have demonstrated a comparative edge over one another.

Pakistan, much like other nations, modifies course of its policies to raise its hard work to seize profits that can be obtained through trade through bilateral agreements. Through the pursuit of arrangements that are beneficial to both parties, bilateral relations work toward the abolition of tariffs and lessening of non-tariff obstacles (NTBs). The Islamic republic of Pakistan and People's Republic of China have been able to establish friendly and long-lasting partnerships even though their titles could lead one to believe that they adhere to political ideals that are incompatible with one another (Muhammad et al., 2015).

Although commerce between the two nations has increased in general, Pakistan's trade imbalance has risen to be an even greater amount. The relative competitive advantage (RCA) and the (SWOT) assessments demonstrate a disparity in the items exchanged between the two countries on global marketplaces and bilaterally, except for the products that are ranked highest (Irshad, Hoa and Arshad, 2017). Pakistan-Association of Southeast Asian Nations-China Free Trade Agreement hopes to highlight the benefits of the structure of the triangle as well as the opportunities it presents for Pakistan. In recent years, Pakistan's commerce with China and the countries of ASEAN has significantly increased, while the country's exports have remained relatively unchanged. The China-Pakistan Economic Corridor would give Pakistan with great potential as well as long-term advantages. These would be huge for Pakistan. It is projected that Pakistan's economy, environment, investment climate, research and development, drug control, information technology, agriculture, education, tourism, and the development of human resources will all improve as a result of Pakistan's free trade agreement (FTA) with ASEAN. It would be wonderful if Pakistan and ASEAN countries could cooperate on a vast scale to do well for each other's regional peace, progress, and prosperity (Irshad et al, 2016).

Methodology

The dependent variable used is the bilateral trade and the comparative advantage in bilateral trade among Pakistan and China on bases of a resource is discussed. When two nations participate in trade with one another, they can attract investors and consumers from both nations by cutting tariffs, export restrictions, import quotas, and other trade barriers. If one country's economy can manufacture a certain good or service at a lower opportunity cost than its trading partners, then that country has a comparative advantage in making that good or service. The concept of "comparative advantage" is used to describe the positive outcomes that can result from international trade for various entities. When discussing international trade, the term "comparative advantage" is used to characterize the goods in which one country has a significant economic or logistical edge over another. Based on the principle of comparative advantage, nations should trade with one another and export those products in which they have a competitive edge, an essential tenet of international trade theory. It is commonly believed that David Ricardo, an English political economist, developed the concept of comparative advantage.

Bilateral trade in study is used as a dependent variable. Bilateral trade is a subject of main concern in international trade and the same is observed in literature review. Trade among countries is expanding day by day, bridging the gap and widening the trade market globally. In the model bilateral trade shows the overall trade between Pakistan and China. $rcdapk$ represents the revealed comparative disadvantage for Pakistan. cpi represents the consumer price index for Pakistan. ec represents the energy consumption in Pakistan. $inst$ represents the institutional quality. Institutional quality is the level to which a country's institutions smooth the progress of international transactions and provide for their security and certainty. The index for institutional quality is made from different indicators such as, control of corruption, government effectiveness, voice, regulatory quality, political stability, and accountability and rule of law. ypc shows gross domestic products of Pakistan and China. $tariffpc$ represent the level of tariff rate between Pakistan and China.

The relationship between these variables is as: Bilateral trade and revealed comparative advantage between countries is taken in a way that countries trading increasingly with each other tend to follow pattern of comparative advantage and geographically bordered countries trade more as compared to distant countries (Martin & Tomas, 2019). Countries having disadvantages in the production of products shall not opt for those products as those products would cost more. Rather should go for the products having comparative advantage with lower cost and are helpful in earning more foreign exchange. Gross domestic products are positively associated with bilateral trade in a country. The more the GDP of a country grows, exports of the country will increase and the same way the trade with other countries will be enhanced.

Gross domestic products are positively associated with bilateral trade in a country. To enhance the GDP of a country, exports shall be increased. By exporting more to the partner country will expand the economy of the country and GDP will be growing. The more the gross domestic product of a country grows, exports of the country will increase and the same way the trade with other countries will be enhancing. More reserves of energy are required, the more energy the productivity and trade will be improving. For improving bilateral trade with partner countries, the institutional quality of the country must be improved. Foreign direct investment is also attracted through institutional quality. For further improvement of bilateral trade, the tariff rate between partner countries must be reduced so that the trade between them expands on a faster rate and both the economies flourish smoothly.

The idea/formula for the calculation for revealed comparative advantage has been taken from the paper given by Irshad, M.S. (2017). This index is calculated as follows;

$$RCA_{ij} = (X_{ij} / X_{wj}) / (X_i / X_w)$$

Where

X_{ij} = ith country's export of commodity j

X_{wj} = world exports of commodity j

X_i = total exports of country i

X_w = total world exports.

Another independent variable which is constructed in the study is the revealed comparative disadvantage. A value less than unity implies that country has a revealed comparative disadvantage in particular product. So, products in which country has a revealed comparative disadvantage shall not be produced as the cost of production would be high. The index for calculation of revealed comparative disadvantage is;

$$RCDA = (Pak. Exp of X / world Exp of X) / (Pak. total Exp / world total Exp)$$

Where

Pak. Exp of X = Pakistan's export of commodity X

world Exp of X = world exports of commodity X

Pak. total Exp = total exports of Pakistan

world total Exp = total exports of the world.

The quality of institutions is then developed as an independent variable following the disclosure of comparative disadvantage. Institutional quality includes things like the rule of law, protection of individual liberties, and efficient public services. Long-term, the strength of institutions and the growth of economies are interdependent. Indicators of global governance developed by the World Bank are used to evaluate the effectiveness of various institutions around the world.

A Model for Bilateral Trade and Revealed Comparative Advantage

Bilateral trade refers to the buying and selling of goods between two countries to stimulate economic activity and investment. Trade obstacles between the two countries will be reduced or removed entirely. In international trade, the relative advantage of one country over another in a certain class of goods or services is measured by an indicator called revealed comparative advantage. The model for these variables is given below:

$$\ln l_{ijt} = \beta_0 + \beta_1 \text{rcap}_{ij} + \beta_2 \ln \text{cpi}_i + \beta_3 \ln \text{ec}_i + \beta_4 \ln \text{export}_{ij} + \beta_5 \ln \text{inst}_i + \beta_6 \ln \text{ypc}_{ij} + \beta_7 \ln \text{tariff}_{ij} + \epsilon_{ijt} \quad (\text{Eq-1})$$

In this model 'i' is representing Pakistan and 'j' is pointing China and 't' in subscripts of variables show time period in years.

ln l_{ijt} shows the log of bilateral trade among Pakistan and China. **rcap_{ij}** is revealed comparative advantage for Pakistan and China. **ln cpi_i** represents the log of consumer price index. **ln ec_i** shows log of energy consumption. **ln export_{ij}** is used for log of exports for Pakistan and China. **ln inst_i** stands for log of institutional quality. **ln ypc_{ij}** indicates the log of gross domestic product of Pakistan and China. **ln tariff_{ij}** is showing log of tariff rate between Pakistan and China and ϵ is the error term.

A Model for Bilateral Trade and Revealed Comparative Disadvantage

In bilateral trade agreements it is easier to negotiate since it involves only two countries; reaping trade benefits more quickly, goes into effect faster, as both countries provide each other access to their markets which leads to trade creation and economic growth. Revealed comparative disadvantage is a situation in which a country has a disadvantage over the other country in producing a particular good due to lack of resources. Their model is described below in equation 2:

$$\ln l_{ijt} = \beta_0 + \beta_1 \text{rcdapk}_i + \beta_2 \ln \text{cpi}_i + \beta_3 \ln \text{ec}_i + \beta_4 \ln \text{inst}_i + \beta_5 \ln \text{ypc}_{ij} + \beta_6 \ln \text{tariff}_{ij} + \epsilon_{ijt} \dots \dots \dots (\text{Eq-2})$$

In this model 'i' shows Pakistan and 'j' represents China and 't' in subscripts of variables show time period in years.

ln l_{ijt} shows the log of bilateral trade between Pakistan and China. **rcdapk_i** is revealed comparative disadvantage for Pakistan. **ln cpi_i** represents the log of consumer price index. **ln ec_i** is showing the log of energy consumption. **ln inst_i** stands for log of institutional quality. **ln ypc_{ij}** indicates the log of gross domestic product of Pakistan and China. **ln tariff_{ij}** is log of tariff rate between Pakistan and China and ϵ is the error term.

Analyses

The study is based on panel data analysis, a time period for two countries and having cross-section units. In this study the cross-section units are more than time period of the study so cannot apply the unit root. Therefore, the techniques used for the estimation of data and variables in this study are Fixed Effects, Random Effect and Hausman Test. Economists use the Fixed Effects method to estimate accurate coefficients using ordinary least squares (OLS). To determine the effects of out-of-the-way changes in explanatory

factors on the variations in the dependent variable, the Fixed Effects method de-means the data for each cross-sectional unit "n" over time (in this case, country-pair and origin-product). The Fixed Effects method requires a minimum of two observations to be made for each cross-sectional unit at two distinct moments in time. Additionally, both of these observations need to be unique for at least some of the cross-sectional units. A key consideration here is that while panel data is often employed to boost data variation in order to facilitate efficient and unbiased estimate, the data debase required to apply Fixed Effects typically results in a decrease in variation and an increase in standard errors. In this light, it may be said that the use of the Fixed Effects method for unbiased estimate results in very large standard errors. On other hand, if specific features of cross-sectional units are not correlated with all explanatory variables, then applying Fixed Effects proves to be an inefficient estimator.

For better understanding of above discussion mull over to following model:

$$Y_{it} = \alpha_i + \beta_1 X_{1it} + \beta_2 X_{2it} + \dots + \beta_k X_{kit} + u_{it}$$

which can be rewritten in a matrix notation as:

Random Effect model therefore takes following form:

$$Y_{it} = (\alpha + v_i) + \beta_1 X_{1it} + \beta_2 X_{2it} + \dots + \beta_k X_{kit} + u_{it}$$

$$Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \dots + \beta_k X_{kit} + (v_i + u_{it})$$

The fact that we are required to make precise assumptions on the distribution of random components is one of the most obvious drawbacks of This means that we compare the null hypothesis (H_0) that random effects are dependable and effective with the alternative (H_1) that they are incongruent (as Fixed Effects would always be consistent). Hausman test uses following test statistic:

$$H = (\hat{\beta}^{FE} - \hat{\beta}^{RE})' [Var(\hat{\beta}^{FE}) - Var(\hat{\beta}^{RE})]^{-1} (\hat{\beta}^{FE} - \hat{\beta}^{RE}) \sim \chi^2(k)$$

If the statistic's value is high, it means that there is a large discrepancy between the various estimates; in this case, we reject the null hypothesis that the Random Effect model is robust and instead employ the Fixed Effects estimator. When the Hausman statistic has a low value, however, the Random Effect estimator becomes preferable (Dimitrios & Stephen, 2011, Applied Econometrics 2, Palgrave macmillan). Workings of this study are also based upon the above findings.

Results and Discussion

Exchange of goods among two nations encouraging business and speculation is bilateral trade. It was agreed that in order to encourage investment and commerce, the two countries would reduce or eliminate trade barriers such as quotas, tariffs, and export restrictions. On the other hand, disclosed comparative advantage is a tool for international trade that may be used to determine the extent to which one country's resources allow it to compete favorably with those of another country in a given market. The model for these variables is given below:

$$\ln b_{tall_{ijt}} = \ln \beta_0 + \beta_1 \ln rcapc_{ij} + \beta_2 \ln lcp_i + \beta_3 \ln lec_i + \beta_4 \ln exportpc_{ij} + \beta_5 \ln inst_i + \beta_6 \ln lypc_{ij} + \beta_7 \ln ltatiffpc_{ij} + \ln \epsilon_{ij}$$

In this model 'i' is representing Pakistan and 'j' is showing China and 't' in subscripts of variables show time period in years.

(**lbtall**) log of bilateral trade between Pakistan and China, (**rcapc**) revealed comparative advantage for Pakistan and China, (**lcp_i**) log of consumer price index, (**lec**) log of energy consumption, (**lexportpc**) log of exports for Pakistan and China, (**linst**) log of institutional quality, (**lypc**) log of gross domestic product of Pakistan and China, (**ltariffpc**) log of tariff rate between Pakistan and China and (ϵ) error term.

In order to comprehend nature of data, we use descriptive statistics. It summarizes a given set of data and its brief descriptive coefficients. Descriptive statistics can be viewed into two groups of central tendency and measure of dispersion. The descriptive statistics of this study are shown below:

Descriptive Statistics of Revealed Comparative Advantage

	Mean	N	max	Min	Range	Std. Dev.	Median	Skewness
Lbtall	9.321	380	10.303	0	10.303	2.229	9.845	-3.836
Lrcapc	-6.221	380	0.000	-7.454	7.454	0.901	-6.865	1.982
Lcpi	1.982	380	2.261	1.651	0.61	0.155	2	-0.527
Lec	6.531	380	7.777	5.074	2.704	1.059	6.587	-0.048
Lexportpc	5.298	380	7.493	0	7.493	2.07	5.885	-1.601
Linst	0.345	380	0.615	0	0.615	0.173	0.32	-0.013
Lypc	9.73	380	13.157	0	13.157	3.21	9.833	-0.581
Ltariffpc	1.057	380	1.308	0.879	0.43	0.124	1.092	-0.006

Source: Author's estimation and construction

The above table illustrates the descriptive statistics of revealed comparative advantage for Pakistan and China. The table shows that on average bilateral trade among Pakistan and China is 9.321 with a maximum of 10.303 and minimum of 0, its 50th percentile is 9.845. Then we have revealed comparative advantage for Pakistan and China, its average is -6.221 with a maximum of 0 and a minimum of -7.454 and a median of -6.865. The consumer price index of a country has a mean of 1.982 with a maximum of 2.261 and a minimum of 1.651, its median is 2. The average of energy consumption is 6.531 having a maximum and minimum of 7.777 and 5.074 respectively having a median of 6.587. The

exports between Pakistan and China have an average of 5.298 with a maximum of 7.493 and a minimum of 0, having a median of 5.885. The average institutional quality is 0.345 with a maximum range of 0.615 and a minimum range of 0, its 50 percent is 0.32. The mean of gross domestic product for Pakistan and China is 9.73, having a maximum and minimum of 13.157 and 0 respectively with a median of 9.833. The tariff between Pakistan and China has an average of 1.057, having a maximum of 1.308 and a minimum of 0.879 and its median is 1.092.

After descriptive statistics, the next table is of correlation matrix. Correlation matrix is simple table showing the correlation. It is used to show a linear relationship between variables. It is a powerful tool for summarizing a large dataset and identifying the patterns in the given data. The values of correlation matrix, following the Pearson coefficient of correlation, fall between -1 and +1. Two variables are absolutely correlated when correlation coefficient is falling between 0.9 and 1 or -0.9 to -1. Strong correlation is observed when the correlation coefficient is between 0.5 and 0.9 or -0.5 to -0.9. Weak correlation would be there when correlation coefficient is between 0.1 and 0.5 or -0.1 to -0.5. No correlation is there when the correlation coefficient is between 0 and 0.1 or 0 to -0.1.

Correlation association can be classified into three ways: positive, negative and no correlation. In positive association, if one variable amplifies other variable would also enhance. In negative relationship, if one variable is increasing the other variable would be decreasing or vice versa. Lastly, if movement in one variable cannot be predicted from the other variable then there is no correlation between the variables. Now we proceed to the discussion of correlation matrix of this study shown in the table below.

Correlation between Variables of Bilateral Trade and Revealed Comparative Advantage Model

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) lbtall	1.000							
(2) lrcapc	-0.012 (0.822)	1.000						
(3) lcpic	0.602* (0.000)	-0.010 (0.840)	1.000					
(4) lec	-0.179* (0.000)	-0.642* (0.000)	-0.022 (0.668)	1.000				
(5) lexportpc	0.610* (0.000)	0.398* (0.000)	0.332* (0.000)	-0.492* (0.000)	1.000			
(6) linst	-0.246* (0.000)	0.048 (0.348)	-0.432* (0.000)	-0.013 (0.796)	-0.122* (0.017)	1.000		
(7) lypc	0.234* (0.000)	0.589* (0.000)	0.081 (0.116)	-0.916* (0.000)	0.508* (0.000)	-0.037 (0.471)	1.000	
(8) ltariffpc	-0.471* (0.000)	-0.477* (0.000)	-0.458* (0.000)	0.762* (0.000)	-0.592* (0.000)	0.185* (0.000)	-0.792* (0.000)	1.000

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Source: Author’s estimation and construction

In above table relationship between bilateral trade and revealed comparative advantage for Pakistan and China is negative and insignificant in second row and first column showing a strong relation between two variables. Then we have the association between consumer price index and bilateral trade in the third row and first column showing positive, significant and strong association among two variables. After that in fourth row and first column we have energy consumption and its association with bilateral trade, showing a significant, weak and negative relationship. Next are the exports for Pakistan and China in the fifth row and its relationship with bilateral trade in the first column which shows strong positive and significant relationship among variables. After exports we have institutional quality in the sixth row and its correlation with bilateral trade in the first column shows a weak negative but significant relationship between the two variables. In the seventh row we have gross domestic product, its relationship with bilateral trade in the first column is weak positive and significant. After this we have the variable of tariff showing the tariff rate between Pakistan and China in the eighth row depicting a weak negative but significant relation.

This portion represents the combined tests of Pooled, Random and Fixed Effects model to identify the best fitted model and findings of estimation in relation to the present study.

The Impact of Revealed Comparative Advantage on Bilateral Trade Using Pooled, Random and Fixed Effects

	Pooled OLS	Random Effect	Fixed Effect(1)	Fixed Effect (2)
Lrcapc	0.673*** (0.107)	0.673*** (0.107)	0.716*** (0.107)	0.719*** (0.107)
Lcpic	5.441*** (0.705)	5.441*** (0.705)	4.537*** (0.527)	4.409*** (0.515)
Lec	0.096	0.096	-3.519***	-3.427***

	(0.191)	(0.191)	(0.636)	(0.631)
Lexportpc	0.564***	0.564***	1.184***	1.19***
	(0.045)	(0.045)	(0.049)	(0.048)
Inst	0.072	0.072	0.133**	0.125*
	(0.088)	(0.088)	(0.066)	(0.065)
Lypc	0.026	0.026	0.051	
	(0.061)	(0.061)	(0.045)	
Ltariffpc	-2.33*	-2.33*	-7.045***	-6.981***
	(1.338)	(1.338)	(1.641)	(1.641)
_cons	7.222**	7.222**	19.215***	19.275***
	(2.905)	(2.905)	(5.532)	(5.534)
Observations	380	380	380	380
R-squared	0.604	.z	0.8	0.799

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Source: Author’s estimation and construction

In the above table the result for the impact of revealed comparative advantage on bilateral trade is presented using the three models which are Pooled, Random and Fixed Effects model. These models are each expanded by one of the trade facilitation indicators in their respective areas. This method has been implemented in order to validate the accuracy of the findings and locate the model that provides the most accurate specifications. In above table appropriate test amongst Pooled, Random and Fixed Effects model is Fixed Effects model because it gives more significant value in favor of the variables as compared to Pooled and Random Effect model. Along with significant results we made up our mind for the Fixed Effects model also on bases of Hausman test. Before using the Hausman test we used the Breusch and Pagan test between Pooled and Random Effect model. This test decided that Random Effect is appropriate but Random Effect in the above table in column 2 does not give significant value for the variables so we move forward to choose among Fixed and Random Effect model on bases of Hausman test. Third column of the above table shows the outcome of Fixed Effects model showing that all the variables are highly significant on bilateral trade except lypc. For lypc we use the redundant test whose value is shown in the table below which depicts that there is no significant role of lypc on bilateral trade. After this we drop that variable from the model and run another model in column 4 of the above table for the Fixed Effect which is clearly showing that all variables are showing highly significant and robust impact on bilateral trade. Now for the selection of the best fitted model between these three we move to our next table.

Model Selection between Pooled, Random and Fixed effect

Breusch and Pagan Lagrangian multiplier test for random effects.	Coef.	Hausman (1978) specification test	Coef.
Chi-square test value	145.432	Chi-square test value	194.586
P-value	0.0000	P-value	0.0000
Redundant Variables Test on Lypc			
	Test Statistic Value	Probability Value	
t-statistic	1.120636	0.2632	
F-statistic	1.255825	0.2632	

Source: Author’s estimation and construction

In the above table two different techniques have been applied which help us decide between Pooled, Random and Fixed Effects model. When we applied Breusch and Pagan Lagrangian Multiplier test, it helps us decide between the Pooled estimator and Random Effect model and on bases of result of this technique we selected the Random Effect model to be more appropriate for the study as Random being more significant. Now after Breusch and Pagan test and before finalizing of Random Effect model we move towards the well-known Hausman test to decide the model selection between the Random Effect model and Fixed Effects model. Alternate hypothesis of Hausman test goes for selection of Fixed Effects model whereas null hypothesis of Hausman test opts for Random Effect to be appropriate. As the result of Hausman test in our findings is significant so we reject null hypothesis and select alternate hypothesis which tells us that Fixed Effects model is more appropriate for study.

Hence, depending upon the findings of the Hausman test in the above table, the next portion represents findings of estimation using the Fixed Effects model and the discussion of the findings in relation to the present study.

Result of the Fixed Effects Model for Revealed Comparative Advantage

Lbtall	Coef.	St.Err.	t-value	p-value	[95% Conf Interval]	Sig
Lrcapc	0.719	0.107	6.73	0.000	0.929 0.509	***
Lcpi	4.409	0.515	8.56	0.000	3.396 5.421	***
Lec	3.427	0.631	5.43	0.000	4.669 2.186	***
Lexportpc	1.19	0.048	24.62	0.000	1.094 1.285	***
Inst	0.125	0.065	1.91	0.057	-0.004 0.253	*

Ltariffpc	-6.981	1.641	-4.25	0.000	-10.208	-3.754	***
Constant	19.275	5.534	3.48	0.001	8.392	30.159	***
Mean dependent var	9.321		SD dependent var			2.229	
R-squared	0.799		Number of obs			380	
F-test	234.559		Prob > F			0.000	
Akaike crit. (AIC)	1068.380		Bayesian crit. (BIC)			1095.961	
Wooldridge test for autocorrelation in panel data				Modified Wald test for groupwise heteroskedasticity			
Autocorrelation				Heteroskedasticity			
F-statistic	1.892		F-statistic			0.2352	
P-value	0.1850		P-value			0.5674	

Source: Author’s estimation and construction

The above table shows the result of Fixed Effects model. We used this model on the basis of Hausman test. The Hausman test indicated significant probability value which means that we would apply Fixed Effects model for the analyses of our estimation. Now we are moving towards the explanation of Fixed Effects outcome which is represented in table. This table also explains the F-statistic value which shows that all the independent variables in Fixed Effects model are statistically significant or explaining significant shock on their dependent variable. In above table, probability value of Wooldridge test and Modified Wald test for Autocorrelation and Heteroskedasticity respectively depicts that there is no problem of Autocorrelation and Heterskedasticity in model because the probability value of both the tests are above 5 percent showing that we accept the null hypothesis of no Autocorrelation and Homoskedasticity for the model.

In above table lrcapc represent the log of revealed comparative advantage for Pakistan and China. The outcome of revealed comparative advantage for Pakistan and China explain significant and positive relationship at 1% level of significance with bilateral trade, which depicts that a one percent rise in revealed comparative advantage would increase the bilateral trade between Pakistan and China by 0.71% in a single year. “Revealed comparative advantage is an index which is used for calculation of relative disadvantage or advantage of particular nation in trade with the other country. It is an economy’s capability to produce a particular good or service at a lower opportunity cost as compared to its trading partner”. Its base is Balassa index (1965). Country having comparative advantage in particular good over its partner country must specialize and increase the production of that good. It would increase the productive capacity, and the overall economy can be improved in the same way.

Now in the second row of the above table, we discuss lcpi which stands for the log of consumer price index. The outcome of consumer price index shows a positive and significant relation at 1% level of significance with bilateral trade. This reflects that a one percent increase in consumer price index would cause the bilateral trade to rise by 4.5% in a single year between Pakistan and China. As inflation erodes value of cash, it encourages the consumers to spend less and stock more. The amount is then invested, which is again a positive step towards trade. After that in the third row of the table we have lec which expresses the log of energy consumption. The outcome of energy consumption explains a positive and significant relationship at 1% level of significance with bilateral trade, representing that a one percent rise in energy consumption would be causing a 3.5% improvement in bilateral trade between Pakistan and China. Consuming more and more of energy directly affects the GDP of a country; more output can be produced with the labor and available stock of capital. Availability of energy at reasonable cost improves competitiveness of domestic products in international markets, thus increasing exports of home country. This results in enhancing net exports and resultantly gross domestic product improvements through multiplier effect. Our findings are in line with findings of Shakeel et, al. 2014.

After energy consumption we have lexportpc in the above table, lexportpc represents log of exports for Pakistan and china. Exports for Pakistan and China explain a significant and positive association at 1% level of significance with bilateral trade, which depicts that a one percent rise in export would increase bilateral trade among Pakistan and China by 1.1% in a single year. Increasing the export level of a country is considered the influential step towards economic growth of a country. The more the exports of country enhance, economies of scale would be provided in production and the more improved the business cycle would be.

Now we have inst in the above table which represents the institutional quality. The outcome of institutional quality shows a significant and positive association at 5% level of significance with bilateral trade, reflecting a five percent increase in institutional quality would improve the bilateral trade by 0.1% in a year. The index of institutional quality mainly comprises of political stability, law and order situation, control of corruption, etc. Having institutional quality in a country can attract foreign direct investment for country which reflects a positive sign for overall growth of the economy.

After institutional quality in the above table comes lypc which represents log of gross domestic product for Pakistan and China. The outcome of gross domestic product explains a positive and insignificant relation with bilateral trade among Pakistan and China in a year. Our result is similar with findings of Saqib et. al, (2017). Improvement of GDP of a country is dependent upon certain other factors in the economy, especially increasing the productive capacity of the country which enhances the export level of the country and as result gross domestic product improves.

The last variable in the above table, is ltariffpc which represents the log of tariff for Pakistan and China. The outcome of tariff explains statistical significance at 1% and negative association with bilateral trade. It means that a one percent rise in tariff rate will decrease the bilateral trade by 7.0% in a single year between Pakistan and China. For smooth trade between partner countries, tariff rate should be reduced between them so that the trade is carried out without any hurdle and the economies are better off.

Result of Revealed Comparative Disadvantage

In bilateral trade agreement it is easier to parley since it involves only two nations; goes into effect quicker, bringing in trade benefits more rapidly as both nations provide each other access to their markets which leads to trade creation and economic growth. Revealed comparative disadvantage is a situation in which a country has a disadvantage over the other country in producing a particular good due to lack of resources, their model is given below:

$$lbtall_{ijt} = l\beta_0 + \beta_1rcdapk_i + \beta_2lcpi_i + \beta_3lec_i + \beta_4linst_i + \beta_5lypc_{ij} + \beta_6ltatiffpc_{ij} + l\epsilon_{ijt}.....(Eq-2)$$

In this model ‘i’ shows Pakistan and ‘j’ represents China and ‘t’ in subscripts of variables show time period in years.

(lbtall) log of bilateral trade between Pakistan and China, (rcdapk) revealed comparative disadvantage for Pakistan, (lcp_i) log of consumer price index, (lec) log of energy consumption, (linst) log of institutional quality, (lypc) log of gross domestic product of Pakistan and China, (ltariffpc) log of tariff rate between Pakistan and China and (ε) error term.

In order to understand nature of data, we use descriptive statistics. It summarizes a given set of data and its brief descriptive coefficients. Descriptive statistics can be viewed into two groups of central tendency and measure of dispersion. The descriptive statistics of this study are shown below:

Descriptive Statistics of Revealed Comparative Disadvantage

	Mean	N	max	min	Range	Std. Dev.	Median	Skewness
Lbtall	9.321	380	10.303	0	10.303	2.229	9.845	-3.836
Rcdapk	0.64	380	4.005	0	4.005	1.017	0	1.743
Lcp _i	1.982	380	2.261	1.651	0.61	0.155	2	-0.527
Lec	6.531	380	7.777	5.074	2.704	1.059	6.587	-0.048
Linst	0.345	380	0.615	0	0.615	0.173	0.32	-0.013
Lypc	9.73	380	13.157	0	13.157	3.21	9.833	-0.581
Ltariffpc	1.057	380	1.308	0.879	0.43	0.124	1.092	-0.006

Source: Author's estimation and construction

The above table illustrates the descriptive statistics of revealed comparative disadvantage for Pakistan and China. The table shows that on average bilateral trade between Pakistan and China is 9.321 with a maximum of 10.303 and minimum of 0, its 50th percentile is 9.845. Then we have revealed comparative disadvantage for Pakistan, its average is 0.64 with a maximum of 4.005 and a minimum of 0 and a median of 0. The consumer price index of a country has a mean of 1.982 with a maximum of 2.261 and a minimum of 1.651, its median is 2. The average of energy consumption is 6.531 having a maximum and minimum of 7.777 and 5.074 respectively having a median of 6.587. The average institutional quality is 0.345 with a maximum range of 0.615 and a minimum range of 0, its 50 percent is 0.32. The mean of gross domestic product for Pakistan and China is 9.73, having a maximum and minimum of 13.157 and 0 respectively with a median of 9.833. The tariff between Pakistan and China has an average of 1.057, having a maximum of 1.308 and a minimum of 0.879 and its median is 1.092.

The next table after descriptive statistics is of correlation matrix. Correlation matrix is simple table which shows the correlation, used for showing a linear relationship between variables. It is a powerful tool for summarizing a large dataset and identifying the patterns in the given data. The values of correlation matrix, following the Pearson coefficient of correlation, lie between -1 and +1. Two variables are perfectly correlated when correlation coefficient is falling between 0.9 and 1 or -0.9 to -1. Strong correlation is observed when the correlation coefficient is between 0.5 and 0.9 or -0.5 to -0.9. Weak correlation would be there when correlation coefficient is between 0.1 and 0.5 or -0.1 to -0.5. No correlation is there when the correlation coefficient is between 0 and 0.1 or 0 to -0.1.

Correlation relationship can be classified into three ways: positive, negative and no correlation. In positive association, if one variable is increasing other variable would also increase. In negative relationship, if one variable is increasing the other variable would be decreasing or vice versa. Lastly, if movement in one variable cannot be predicted from the other variable then there is no correlation between the variables. Now we proceed to the discussion of correlation matrix of this study shown in the table below.

Correlation between Variables of Bilateral Trade and Revealed Comparative Disadvantage Model

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) lbtall	1.000						
(2) rcdapk	0.146* (0.004)	1.000					
(3) lcp _i	0.602* (0.000)	0.079 (0.124)	1.000				
(4) lec	-0.179* (0.000)	0.638* (0.000)	-0.022 (0.668)	1.000			
(5) linst	-0.246* (0.000)	-0.076 (0.139)	-0.432* (0.000)	-0.013 (0.796)	1.000		
(6) lypc	0.234* (0.000)	-0.583* (0.000)	0.081 (0.116)	-0.916* (0.000)	-0.037 (0.471)	1.000	
(7) ltariffpc	-0.471* (0.000)	0.462* (0.000)	-0.458* (0.000)	0.762* (0.000)	0.185* (0.000)	-0.792* (0.000)	1.000

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Source: Author’s estimation and construction

In above table relationship between bilateral trade and revealed comparative disadvantage for Pakistan and China is positive and significant in second row and first column showing a strong relation between two variables. Then we have the association between consumer price index and bilateral trade in the third row and first column showing positive, significant and strong association among two variables. After that in fourth row and first column we have energy consumption and its association with bilateral trade, showing a significant, weak and negative relationship. Next is the institutional quality in the fifth row and its correlation with bilateral trade in the first column shows a weak negative but significant relationship between the two variables. In the sixth row we have gross domestic product, its relationship with bilateral trade in the first column is weak positive and significant. After this we have the variable of tariff showing the tariff rate between Pakistan and China in the seventh row depicting a weak negative but significant relation.

This portion represents the combined tests of Pooled, Random and Fixed Effects model to identify the best fitted model, findings of estimation in relation to the present study.

The Impact of Revealed Comparative Disadvantage on Bilateral Trade Using Pooled, Random and Fixed Effects

	Pooled OLS	Random Effect	Fixed Effect
rcdapk	-0.788*** (0.106)	-0.788*** (0.106)	-1.239*** (0.132)
lcpi	6.209*** (0.783)	6.209*** (0.783)	6.635*** (0.768)
Lec	0.149 (0.215)	0.149 (0.215)	4.539*** (0.949)
linst	0.367 (0.532)	0.367 (0.532)	1.042** (0.521)
lypc	0.065 (0.07)	0.065 (0.07)	0.146** (0.069)
ltariffpc	-5.683*** (1.498)	-5.683*** (1.498)	-14.544*** (2.397)
_cons	2.734 (3.3)	2.734 (3.3)	38.613*** (8.145)
Observations	380	380	380
R-squared	0.489	.z	0.538

Standard errors are in parentheses

*** $p < .01$, ** $p < .05$, * $p < .1$

Source: Author’s estimation and construction

In the above table the result for the impact of revealed comparative disadvantage on bilateral trade is presented using the three models which are Pooled, Random and Fixed Effects model. Each of these models is then extended by using a different one of the trade facilitation metrics. This process has been implemented in order to validate the reliability of the results and choose the most accurate model possible. Now for selection of the best fitted model of these three we move to our next table of model selection.

Model Selection between Pooled, Random and Fixed Effect

Breusch and Pagan Lagrangian Multiplier test for Random Effect.	Coef.	Hausman (1978) specification test	Coef.
Chi-square test value	80.63	Chi-square test value	69.52
P-value	0.000	P-value	0.000

*** $p < .01$, ** $p < .05$, * $p < .1$

Source: Author’s estimation and construction

In the above table two different techniques have been applied which help us decide between Pooled, Random and Fixed Effects model. When we applied Breusch and Pagan Lagrangian Multiplier, it helps us decide between the Pooled estimator and Random Effect model and on bases of finding of this technique we selected the Random Effect model to be more appropriate for the study as Random being more significant. Now after Breusch Pagan test and before the finalizing of the Random Effect model we move towards the well-known Hausman test to decide the model selection among Fixed Effects model and Random Effect model. Alternate hypothesis of Hausman test goes for selection of Fixed Effects model whereas null hypothesis of Hausman test opts for Random Effect to be appropriate. As the result of Hausman test in our study is significant so we reject null hypothesis and select alternate hypothesis which tells us that Fixed Effects model is more apposite for study.

Hence, depending upon the findings of the Hausman test in the above table, the next portion represents findings of estimation using the Fixed Effects model and the discussion of the findings in relation to the present study.

Result of the Fixed Effects Model for Revealed Comparative Disadvantage

Lbtall	Coef.	St.Err.	t-value	p-value	95% Conf	Interval	Sig
Rcdapk	-1.239	0.132	-9.39	0.000	-0.98	-1.499	***
Lcpi	6.635	0.768	8.64	0.000	5.125	8.145	***
Lec	4.539	0.949	4.78	0.000	6.405	2.672	***
Linst	1.042	0.521	2	0.046	0.018	2.067	**
Lypc	0.146	0.069	2.13	0.034	0.011	0.281	**
Ltariffpc	-14.544	2.397	-6.07	0.000	-19.259	-9.829	***
Constant	38.613	8.145	4.74	0.000	22.594	54.631	***
Mean dependent var		9.321		F-test		68.599	
SD dependent var		2.229		Prob > F		0.000	
R-squared		0.538		Akaike crit. (AIC)		1384.990	
Number of obs		380		Bayesian crit. (BIC)		1412.571	
Autocorrelation		Wooldridge test for Autocorrelation in panel data		Heteroskedasticity		Modified Wald test for groupwise Heteroskedasticity	
F-statistic		0.892		F-statistic		0.163	
P-value		0.320		P-value		0.664	

*** p < .01, ** p < .05, * p < .1

Source: Author's estimation and construction

In the above table shows result of Fixed Effect model. This model is used on the basis of Hausman test. Hausman test is used for the indication of significance of the probability value which means that Fixed Effects model can be used for the analyses of estimation in this study. Moving towards the explanation of outcomes of Fixed Effects model which are represented in above table. The F-statistics value in the table show that all the explanatory variables in the fixed effect model are statistically significant, or they are explaining significant impact on their dependent variable. Probability value of Wooldridge test and Modified Wald test for Autocorrelation and Heteroskedasticity respectively in the above table depicts that there is no problem of Autocorrelation and Heterskedasticity in model because the probability value of both the tests are greater than 5 percent which shows that we accept the null hypothesis of no Autocorrelation and Homoskedasticity in model.

In above table, rcdapk in the first row represent the revealed comparative disadvantage for Pakistan. The outcome of revealed comparative disadvantage for Pakistan explains a negative relationship at 1% level of significance with bilateral trade, which shows that a one percent rise in revealed comparative disadvantage bilateral trade between Pakistan and China will be decreased by 1.23% in a single year. This index is used for the calculation of relative disadvantage or advantages of a specific country in a particular product during trade with another country, using the base of Balassa index (1965). A country having a disadvantage in a particular product as compared to the partner country must not go for the production that product, instead should go for the production of a product in which it has a relative advantage as compared to its partner country.

The second row in the above table discusses the lcpi which represents the log of consumer price index. The outcome of this variable shows a significant and positive relation at 1% level of significance with bilateral trade. This reflects that a one percent rise in consumer price index would be causing the bilateral trade to rise by 6.63% in one year between Pakistan and China. The effect of inflation compels the consumer to stock up and spend less so that the amount could be utilized for further transactions in future.

After consumer price index we have lec in third row of the table representing log of energy consumption. The outcome of energy consumption explains a significant and positive relationship at 1% level of significance with bilateral trade. This shows that a one percent increase in energy consumption would cause the bilateral trade to improve by 4.5% between Pakistan and china during a year. To perk up competitiveness of domestic products in international market, availability of energy at a reasonable cost is must. It enhances export capacity of country and economy as a whole improves.

In the next row we have linst which represents the log of institutional quality. The outcome of institutional quality shows a significant and positive relationship at 5% level of significance with bilateral trade, reflecting that a five percent increase in institutional quality would enhance bilateral trade by 1.0% in a year. Improvement of institutional quality index of a state is a very appealing way of attracting foreign direct investment which is an affirmative sign for economic development of a country. In above table after institutional quality in the next row lies lypc which represents log of gross domestic product for Pakistan and China. The outcome of gross domestic product explains a significant and positive relationship at 5% level of significance with bilateral trade, showing that a five percent rise in gross domestic product would cause the bilateral trade to rise by 0.1% between Pakistan and China in one year. Improvement of gross domestic product of a country also enhances the other related sectors.

The last variable of the above table is ltariffpc which represents the log of tariff for Pakistan and china. The outcome of tariff explains statistical significance at 1% level of significance but with a negative association with bilateral trade. It means that a one percent rise in tariff rate would decrease the bilateral trade between Pakistan and China by 14.5% in a single year. So, for the smooth functioning of trade between partner countries, the rate of tariff should be reduced between them and the condition of the economy could be improved.

Conclusion

Exchange of goods among two nations that promotes investment and trade is known as bilateral trade. Tariffs, export restrictions, import quotas, and other trade barriers will be reduced or eliminated between the two countries. Since only two nations are involved, bilateral agreements are quicker to negotiate, go into force faster, and enjoy trade benefits sooner because both countries open their markets to each other, resulting in trade and economic growth. Trade across borders occurs due to the price differences among countries.

These differences exist due to initial factors endowment or due to differences in productivity among countries. Countries export those goods in which they have absolute/comparative advantage either due to difference in productivity or initial endowment. Trade between Pakistan and China has been expanding rapidly, especially in recent years. Pakistan revealed that China became Pakistan's first-largest trading partner after bilateral trade agreements while Pakistan became China's second-largest trading partner. The rapid increase in Pakistan-China bilateral trade stems not only from the fact that the two countries have both been experiencing rapid economic growth recently and reaping the benefit of trade liberalization undertaken by both countries. Pakistan and China's bilateral trade has been analyzed during a period of time spanning from 2001 to 2019. It was decided to use the well-known methodology of Fixed Effects based on Hausman test in order to meet the study's goals.

China is the most remarkable friend of Pakistan inhibiting a large quantity of trade. The fall in commodity prices that occurred in 2008 had a significant impact on Pakistan, as seen by the country's decreased export volume and destination. The nation is also struggling with issues such as unstable earnings from exports, a current account deficit, a sinking currency, rapidly increasing foreign debts, deficit finance, and persistently high levels of poverty, amongst other issues. Export markets need to be diversified in order to eliminate all of these negative indications, and one instrument for doing so is diversification of exports. Pakistan is exporting a large number of products to China and this is benefitting the country's economic growth. Then we have another objective in which we have to analyze the comparative advantage / disadvantage for Pakistan and China in different commodities". Finding of the study depict that if a one percent increase in revealed comparative advantage is observed, it would increase the bilateral trade among Pakistan and China by 0.71% in a single year. Outcome of revealed comparative disadvantage for Pakistan explain a negative relationship at 1% level of significance bilateral trade, which means that a one percent increase in revealed comparative disadvantage bilateral trade among Pakistan and China will be decreased by 1.23% in a year. Revealed comparative advantage/ disadvantage are an index used for calculation of relative advantage or disadvantage of a particular country in trade with the other country. Then we have another objective of study in which it is to analyze potential of China's export to Pakistan in different sectors. Results of this study analyzed that exports from Pakistan and China explain a positive relationship at 1% level of significance with the bilateral trade. It means that a one percent increase in exports amongst Pakistan and China would increase bilateral trade among two nations by 1.2% in one year. When the export level of a country increases, this is an influential step towards the economic growth of a country".

Policy Recommendations

The sectors in which Pakistan has comparative advantage shall be produced and exported to the partner countries, so that domestic industries flourish and expand their productive capacity, resultantly employment ratio would be improved, hence enhancing the GDP level too. Rather than producing goods in Pakistan at a greater cost because of Pakistan's comparative disadvantage, these products will be bought from the partner country. Uniform tariff rates are advocated for imports. All importers will pay the same tariffs on particular products. This way the small industry will flourish and individuals with single or very few products to import would be benefitted by having relaxed conditions in imports. Concessionary tariffs should be available to all trade partners. The regulatory duties may be abolished and similarly, the sales tax and income withholding tax shall also be relaxed for trade-importers, the same way as it is favoring manufacturer-importer. To protect the local economy, the import policy of products that are also produced locally would be tightened. For example, the imported vehicles from various countries, as the import of these luxury vehicles is eating away a very big share of our foreign reserves and on the other side the local industry shall be strengthened and advised to improve the condition of the locally produced product. In the same way, textile being the key industry of Pakistan, therefore immediate cut is recommended or advised on all textile and clothing tariffs. For which the present export subsidies may be economically reviewed and justified.

References

- Ahsan & Faryal,(2018). Joint Ventures under CPEC and Prospects for Pakistan' Industry: A Remarkable Yield of One Belt One Road Initiative. *Centre of Excellence China-Pakistan Economic Corridor*, 1(018), 1-10.
- Ali, S. (2016, October 11). China Pakistan Economic Corridor: Salient and Importance. Centre line.
- Ali, G. (2015). China and Pakistan prepare to establish economic corridor. *Central Asia-Caucasus Analyst*, 15.
- Ehsan, S. (2013). *Impact of foreign trade agreement (FTA) on trade patterns of goods between Pakistan and China* (Doctoral dissertation, KDI School).
- Evans, D., Lester, S., & Mercurio, B. (2009). Bilateral and plurilateral PTAs. *Bilateral and Regional Trade Agreements: Commentary and Analysis*, 52-78.
- Irshad. et al. (2016). Deltoid Analysis of Pakistan-ASEAN-China Free Trade Agreements and Opportunities for Pakistan. *Asian Economic and Financial Review*, 6(5), 228-237.
- Irshad, M. S. (2017). SWOT analysis of Pakistan-China free trade agreement: Pros and Cons. *International Journal of Asian Social Science*, 7(1), 45-53.
- Irshad, M. S. (2015). Pakistan-China free trade agreement (PCFTA) treaty model: Capability, prospects and disputes. *Academic Research International*, 6(3).
- Irshad. et al. (2017). SWOT Analyses of Pakistan-China Free Trade Agreement: Pros and Cons. *International Journal of Asian Social Science*, 7(1), 45-53.
- Irshad. et al. (2018). An Empirical Analyses of Pakistan's Bilateral Trade and Trade Potential with China: A gravity Model Approach. *Cogent Economics & Finance*, 6(1504409), 1-18.
- Irshad, Muhammad Saqib & Xin, Qi. (2017). Determinants of Exports Competitiveness: An Empirical Analysis through Revealed Comparative Advantage of External Sector of Pakistan. *Asian Economic and Financial Review*. 623-633. 10.18488/journal.aefr.2017.76.623.633.
- Khan, R., Shaikh, A. S., & Masood, H. (2019). Impact of Pak-China Free Trade Agreement (FTA) on Trade and Industry of Pakistan. *Electronic Research Journal of Social Sciences and Humanities*, 1, 1-33.
- Liu, M., Su, C., Wang, F., & Huang, L. (2020). Chinese cross-border M&As in the "One Belt One Road" countries: the impact of Confucius Institutes. *China Economic Review*, 61, 101432.
- Muhammad & Qi. (2015). Pakistan-China Free Trade Agreement (PCFTA) Treaty Model: Capability, Prospects and Disputes. *Academic Research International*, 6(3).
- Naz, L., Alam, S., & Ali, A. (2018). An Assessment of Pre and Post Pak-China Free Trade Agreement: A Comparative Advantage Analysis of Textile Sector of Pakistan. *Kashmir Economic Review*, 27(2).