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Dynamics of Bilateral Trade and Labor Role in Case of Pakistan: A Gravity Estimation Model

Dr. Hina Ali¹, Munnaza Sattar², Sehrish Iqbal³, Nazia Nasir⁴

¹ Assistant Professor, Department of Economics, The Women University Multan, Pakistan, Email: hinaali@wum.edu.pk ² Phil Scholar, Department of Economics, The Women University Multan, Pakistan, Email:

munnazasattar724@gmail.com

³ Research Scholar, Department of Economics, The Women University Multan, Pakistan, Email:

sehrishiqbal786@gmail.com ⁴Research Scholar, Department of Economics, The Women University Multan, Pakistan.

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ABSTRACT

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The current research is on the bilateral trade and labor migration in Pakistan a gravity estimation model. The purpose of this study is to see the impact of labor migration on trade. For this purpose, analyzed trade between Pakistan and 11 partners countries. These countries are used as partners Iran, Saudi Arabia, Bangladesh, United Arab Emirate, china, India, Sri Lanka, Malaysia, Thailand, United States, and the United Kingdom. Trade among two states is known as bilateral trade. This paper analyzes the trade between Pakistan and China. China is our neighbour and friend country. Pakistan and China share a common border for trade. Pakistan has a smooth and enjoys a long-run relationship with China. China helps not only to boost up Pakistan's economy but also in defence. Pakistan enjoys a good relationship with its partner countries in terms of trade tourism and these partners countries help each other in case of emergency. There are the following variables are used for this study trade, gross domestics product distance, population scale, capital endowment, land endowment, and relative importance of trade that affect the economy. These studies are related to Pakistan and 11 partners countries. Pakistan has enjoyed a long run and flourishing relationship with china. Panel data are for this research from 2004-2019. Trade is a dependent variable in this study, Gross domestics product distance (GDP_dis), populationscale (Pop_scal), capital endowment, land endowment, and relative importance of trade are the independent variable. Trade has a negative effect on gross domestic's product distance and population-scale in Pakistan and partners countries. While capital endowment, land endowment, and relative importance of trade have a positive effect on trade in the case of Pakistan and partners countries. Panel ARDL technique used for the estimation of results.



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Corresponding Author's Email: hinaali@wum.edu.pk

1. Introduction

Trade between two nations or states is called bilateral trade. Like trade between Pakistan and China, Pakistan and India, Pakistan and United Nations, etc. However, in this paper, we concrete on trade between Pakistan and 11 partner countries. These partners are our neighbouring country and our relations with partners countries are friendly. Pakistan is the first

Muslim state who accepts China as a country. Pakistan and China share the Khunjerab pass located at Karakorum highway for trade and economic activities. The distance between Pakistan and China is 3291 kilometres. Pakistan and partners countries are trading partners. Pakistan is a developing country as compare to some partners countries, for example, China, the united kingdom, the united states, united Arab emirates is self-independent country use their domestics resources fully after the fulfilment of its requirements it exports their products (Nawaz, Azam, & Bhatti, 2019). Pakistan is one of the large countries of developed import products. Pakistan is a developing country their exports are low compare to other countries. Gravity model used for the estimation of trade among two countries. Geographical distance is important among the trade partner. If the distance between trading partner is less then trade among them are strong (Botezat & Ramos 2020).

In this research paper, we analyze the role of the gravity model and who it can be applicable in bilateral trade flow in the case of Pakistan. The following research paper also studies the use of cultural commodities between Pakistan and China, based on the nation of the volume of trade between them and its trading partner (Debaere 2003). Gravity model analysis aims to develop crucial inferences for Pakistan's trade strategy. A bilateral trade agreement signed to control the condition of those countries whose worker is transferred (Zhuang et al., 2021). Workers travelling country are sending the country and the country they migrate are host countries. Host or receiving country affords the legal protection to migrated worker protection from the work of national labor and provides the ability of health alliances etc (Shafiq & Gillani, 2018). Different variables used by different researchers like gross national income geographical distance, population, energy consumption, air omission, technology, GDP growth, per capita income, etc (Fazal, Gillani, Amjad, & Haider, 2020). This sees that gross domestic's product has a positive effect on trade. Gross fixed capital formation has a positive effect on trade. In this explain inflation has a negative impact on trade and it explains by results and discusses in the next chapter. Labor migration plays a significant role in trade (Frankel & Rose 2002).

The major inspiration for migration may be sketched back to wage inequalities such as those that occur between industrial and developing countries. As effect workers from lowly countries are more likely to drift to developed countries to earn a higher income. This could help to raise individual labor migratory income or social income of sending countries frequently through transmittals. Many countries are possible view allowances as the primary assistance that labor migrants exist abroad offers to their home country (Eun, Kim & Lee 2015). In any event, following direct foreign investment, external release to developing countries has now surpassed both responsibility and official development assistance as the main foundation of financial input (Shafiq, Hua, Bhatti, & Gillani, 2021). If we see the migration toward the Persian Gulf majority of workers are young and low skilled from rural areas, low-income families. These migrants lack not just the financial resources necessary for long-distance migration but also the education and skills needed in high-income countries' labor markets. These migrants have the option of bringing their families with them, which could lead to long term residency in those countries. The presence of such a significant number of immigrants' has not only accelerated the integration of Pakistan into the world economy but has also translated into a large flow of remittances back home (Légaré et al. 2018).

2. Literature Review

Menon (2006) studied interest in following BTAs has been skyrocketing. The number of BTAs in the Asia-Pacific areas has more than quadrupled in the last five years, from 57 in 2002 to 76 in October 2006. There are almost 300 of them in the world. They attempt to explain the explosion of BATs in this research by identifying the key inspiration for them. They discovered several general and specific elements at play. Each was further subdivided into sub-categories yielding a total of 11 distinct characteristics that could explain the growth of BTAs.

Kilchling, Hansmann and Seeland (2009) gave the logical economics and terrestrial importance of the two countries and the facts that few revisions had explored before it was thoughtful to understand the environmental impact incorporated in bilateral commerce between the United States and China. That looked at the environmental impacts of the eastbound (from 158

Chins to the United States) traffic, specifically energy consumption and air pollution. Faustino and Preonca (2011) studied effects of immigration levels as well as those of immigrated representatives such as consumption of the host country language and level of requirement or entrepreneurship on Portuguese intra-industry trade were studied using a typed control lined for the effects of other socio-economics features such as economics scoped price indexes and distance. Aside from Eu-27 members, the group of countries investigated includes the PALOPs a group of five Africa countries with Portuguese as their official language, and the BRICS countries (Mishra et al., 2006; Nasrullah et al., 2020).

Go et al.(2013) relationship between food security and commerce was investigated with a focus on food importers to unexpected market activity from a small group of foreign traders. They calculated a bilateral imports saturation index (BIPI) which assessed how reliant a country was on another for food imports. (Herrera 2013; Pfisterer et al; 2009) investigated gravity equation has long been used to forecast cross-section national flows. However, there are significant issues with its empirical application that have yet to be resolved. Unobserved heterogeneity the presence of Hetroskedasticity in trade data and the possibility of zero flows are just a few of the factors that make estimating the logarithm impossible.

Beck (2017) explained many hypothetical and experimental types of research on the relationship between trade and factor flexibility were motivated by the explained factor price equalization theorem. The results of bilateral trade on the separation of international permanent legal migration from 175 nations into the United States were empirically tested using a gravity equation. Kurtovic, Halili and Maxhuni (2017) explained factor price equalization theorem had inspired many hypothetical and experimental papers on the relationship between trade and factor flexibility. This paper used a gravity equation to empirically test the result of bilateral trade on the separation of international permanent legal migration from 175 countries into the United States. Cross-section and panel estimations were provided as examining tools. The consequences showed that bilateral trade streams were not meaningfully clarified migration flows while the traditional factors do.

Rahman et al., (2017) investigated China-Pakistan Economic Corridor (CPEC) as a massive project that will benefit both country's economy. In both country's trade and industries, there is a lot of opportunity for recompense for frugality. The study goal was to look at the impact of the China-Pakistan Economic Corridor on Pakistan fruit exports. The gravity technique was used to investigate bilateral or regional commerce.

Donner et al.(2018) analyzed over the last decades the quantity and economic impact of bilateral agreement BTAs have to expand dramatically. Such contracts have a significant impact on global trade later improvements in the flow of products and services had a significant impact on the economics of contracting countries as well as other partners involved in trade with these countries. The import tariff recently levied by the United States on its import of steel and aluminium was to curb its trade deficit. And one of the countries that had been a topic of this tariff was Germany. In their research paper, they investigated the impact of such tariffs on U.S. - Germany trade, especially whether or not the policy would help the United States control its trade deficit with Germany(Maluck, Glanemann & Donner 2018).

Yeo and Deng (2019) studied and explained the procedure of free trade and protection was destroyed in current years. The developed countries were losing more and more markets to the profit of developing countries. Liberals are worried about new charge hurdles while isolationists fear that unevenly circulated losses and developments would lead to important economic dislocation of workers in import-competing industries. Beck (2020) studied the migration of medical practitioners has increased dramatically in the last two decades. The medical profession was one of the most mobile of highly skilled professions especially in Europe and it was known about how doctors pick their purposes.

3. Data and Research Methodology

The annual data of 11 countries including Iran, China, India, Bangladesh, Thailand, Saudi Arabia, Sri Lanka, Malaysia, United Kingdom, United Arab imarets and the united states has been taken 2004 -2019 from different sources including IMF and World Bank i.e. The data of distance is taken from Google map while the Gross domestic product (GDP) per capita and Gross domestic product (GDP) has taken from International Monetary fund (IMF). Likewise, exports, imports, world GDP, capital, Labor force, arable land, total population have been taken from World Bank. All these variables are constructed for the gravity model in which GDP distance, Capital endowment, labor endowment, the relative importance of trade, population-scale and volume of trade has been used.

Variables	Source	Descriptive	Measurement unit	signs	
Trade	Exports + imports	Log of the volume of trade	Current US \$ (million)		
GDP distance	Max value of GDP per capita of Pakistan, GDP per capita of Partner countries, minus Min value of GDP per capita of Pakistan, GDP per capita of Partner countries	Log of GDP distance	Current US \$ (million)	-ive	
Cap endowment	Max value of Pakistan capital ratio, partner capital ratio / min value of Pakistan capital ratio, partner capital ratio	Log of capital endowment	US \$ (million)	+ive	
Land endowment	Max value of Pakistan land ratio, partner land ratio/min value of Pakistan land ratio, partner land ratio	log of Land endowment	US \$ (million)	+ive	
Pop scale	Population of Pakistan * population of Partner	Log of Population scale	US \$ (million)	-ive	
RIMT	Distance*GDP partner/GDP World	Log of Relative importance of trade	US \$ (million)	+ive	

Table 1Descriptive and Measurement of Variables

3.1. Model Specification

$$Trade = F(GDP \ distance, Cap \ endowment, Pop \ scale, Land \ endowment, RIMT)$$

Econometrics form is given below;

 $trade_{t} = \alpha_{o} + \alpha_{1}gdp_{dis_{t}} + \alpha_{2}pop_{scal_{t}} + \alpha_{3}cap_{end_{t}} + \alpha_{4}land_{end_{t}} + \alpha_{5}rimt_{t} + \varepsilon_{t}$

where α_o is the intercept and $\alpha_1, \alpha_2, \alpha_3, \alpha_4$, and α_5 are the coefficients of independent variables, ε_t is the error term in the model; Where

(1)

(2)

 $\alpha_1, \alpha_2 < 0 \text{ and } \alpha_3, \alpha_4, \text{ and } \alpha_5 > 0$

$$\ln trade = \alpha_0 + \sum_{i=1}^{p_1} \lambda_1 gdp _ dis + \sum_{i=1}^{p_2} \lambda_2 \ln pop _ scal_{ii-1} + \sum_{i=1}^{p_3} \lambda_3 cap _ end_{ii-1} + \sum_{i=1}^{p_4} \lambda_4 land _ end_{ii-1} + \sum_{i=1}^{p_5} \lambda_5 \ln rimt_{ii-1} + \mu_t$$
(3)

The equation shows the long-run relationship between trade and labor migration in Pakistan and the gravity estimation model where a_0 is the intercept μ_t error term.

4. Estimation Process

For the estimation of results use the panel ARDL technique.

4.1. Descriptive Analysis

Descriptive analysis is defined as the analysis that is used to present the quantitative description and to summarize the characteristics of the data set. The descriptive statistics include meaning, standard deviation, Skewness, and Kurtosis to show central tendencies of the study of the variables. The mean value of the table is the purpose of showing central tendencies of the study of the variables. The mean value of the table shows the average value of the data. The standard deviation shows the fluctuations and variations in the data. The term Kurtosis shows the weakness of data. To measure the central tendency of the variables descriptive statics are followings:

Table 2 Descriptive Analysis

	Trade	Gdp_dis	Pop_scal	Cap_end	Land_end	Rimt		
Mean	6.1145	6.0979	54254.82	5.0718	1.2280	430.3177		
Median	6.1473	5.2814	12081.93	4.9113	1.0237	18.1608		
Maximum	8.6429	9.9597	286630.8	20.9795	4.6543	21433.23		
Minimum	2.7985	0.7394	562.8337	0.7394	-0.4527	1.3767		
Std. Dev.	1.5099	2.7338	86118.00	2.7338	1.0945	1774.695		
Skewness	-0.2845	1.0883	1.6458	1.0884	1.6011	9.7047		
Kurtosis	2.4793	7.6986	4.0162	7.6986	5.2078	113.0347		
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Source: results are estimated with the help of E-views.

The trade is (6.1145) averages are (1.5099) variability with mean. Gross domestics product distance is (6.0979) with average mean and (2.7338) variability with mean. The population scale is (54254.82) average values and (86118.00) variability with mean. The capital endowment is (5.0718) with average mean and (0.7394) variability with mean. The land endowment is (1.2280) with average mean and (1.0945) variability with mean. The relative importance of trade (RIMT) is (430.3177) average mean and (1774.695) variability. The median shows the midpoint of all the variables. The maximum value of trade is (8.6429) and the minimum value is (2.7985). The maximum value of gross domestics product distance is (9.9597) minimum value (0.7394). The maximum value of the population scale is (286630.8) and the minimum value is (0.7394). the maximum value of the land endowment is (4.6543) and the minimum value is (-0.4527). The maximum value of relative importance of trade is (21433.23) and the minimum value is (1.3767).

4.2. Correlation Matrix of the Model

Table 3

In correlation matrix test that how variables correlated with each other. Also, analyze the correlation between dependent and explanatory variables and how explanatory variables are correlated with each other. The value ranges from (0-1) and numerical values show the sign and relationship of values. They are expressing negative and positive relationships.

Correlation Matrix								
	Trade	Gdp_dis	Pop_scal	Cap_end	Land_end	Rimt		
Lntrad	1				—			
Lnpop_scal	0.4862	1						
Cap_end	0.7780	0.0732	1					
Gdp_dis	0.8077	0.6579	0.5901	1				
Land end	-0.0664	-0.4725	0.3237	-0.2966	1			
Rimt	0.9038	0.5468	0.6983	0.8978	-0.2084	1		

Source: results are estimated with the help of e-views 11

The table shows that trade is perfectly correlated with trade. Ln population scale is weakly correlated with trade and perfectly correlated with population scale. Capital endowment weekly correlated with trade and perfectly correlated with population-scale and strongly correlated with trade, population scale, and capital endowment, and Inflation is strongly correlated with trade and also strongly correlated perfectly correlated with GDP_dis (Yang & Shafiq, 2020). The land endowment is negatively correlated with trade and population-scale and positively and weakly correlated with capital endowment. The relative importance of trade (Rimt) is strongly correlated with trade and negatively correlated with gopulation-scale and perfectly and perfectly correlated with population-scale and perfectly and weakly correlated with trade and negatively correlated with gross domestics product and perfectly correlated with the land endowment. The relative importance of trade (Rimt) is strongly correlated with trade and weakly correlated with population-scale and perfectly and positively correlated with dross domestics' product distance and capital endowment and weakly correlated with population-scale and perfectly and positively correlated with dross domestics' product distance and capital endowment and weakly correlated with the relative importance of trade.

Table 4 *long Run Results*

ARDL (1,1,1,1,1)						
Variables	Coefficient	P value				
GDP_DIS	-0.1229	0.2738				
LAND_END	0.7489	0.0000				
CAP_END	1.2815	0.0000				
LPOP_SCAL	-0.5382	0.0000				
LRIMT	0.6525	0.0059				

Source: results are estimated with e-views 11

The coefficient of GDP_dis indicates that a one percent decrease in gross domestics product distance cause to decrease in trade by 0.12percent. It shows that there I a negative and insignificant relationship between trade and GDP_dis. The coefficient of land endowment indicates that a one percent increase in land endowment cause to increase in trade by 0.75 percent. It indicates that there is a positive and significant relationship between trade and land endowment. The coefficient of population-scale indicates that a one percent decrease in population-scale case to decrease in trade by 0.58 percent. There is a negative and significant relationship between trade and population scale. The coefficient of capital endowment indicates that a one percent increase in capital endowment cause to increase in trade by 1.28 percent. There is a positive and significant relationship between trade and capital endowment. The coefficient of the relative importance of trade (right) indicates that a one percent increase in the relative importance of trade and capital endowment. The coefficient of the relative importance of trade and the relative importance of trade.

Table 5

Short Run Cross Section of Different Countries

Variables	Iran	China	Saudi	UAE	Bang	India	Sirilanka	Thailand	UK	US	Malaysia
Conint	-0.18	-0.64	-0.62	-0.069	-0.31	-0.66	-1.65	-0.40	-1.11	-0.16	0.54
	0.0014*	0.0000*	0.0005*	0.0000*	0.0008*	0.0001*	0.0000*	0.0003*	0.0083*	0.0000*	0.0000*
D(gdp_dis)	0.38	1.91	-0.64	0.016	0.36	-0.44	0.17	0.28	0.41	5.33	0.34
	0.0151*	0.0021*	0.4850	0.2890*	0.0007*	0.0958*	0.0055*	0.0025*	0.5500*	0.0032*	0.0000*
D(pop_scal)	-2.13	7.36	-0.78	0.002	-0.17	4.82	-0.12	-0.34	0.32	0.25	-0.22
	0.0000*	0.0000*	0.0000*	0.0000*	0.0000*	0.0000*	0.0000*	0.0000*	0.0000*	0.0000*	0.0000*
D(cap_end)	0.21	-0.29	0.14	0.024	0.23	-0.40	-0.21	-0.39	-0.86	-0.32	-1.17
	0.0044*	0.0000*	0.0000*	0.0100*	0.0033*	0.0537*	0.0000*	0.0050*	0.0002*	0.0000*	0.0014*
D(land_end)	0.68	-0.11	0.13	0.182	0.98	0.78	0.80	-1.21	0.49	0.46	0.72
	0.7961*	0.4154*	0.0021*	0.0000*	0.2570*	0.4321*	0.0000*	0.0014*	0.0769*	0.0000*	0.0001*
D(LRIMT)	0.98	-0.62	0.42	0.544	0.27	0.62	0.77	1.33	-0.54	-0.16	0.84
	0.0203*	0.9541*	0.0030*	0.0015*	0.1168*	0.0431*	0.0000*	0.0029*	0.9701*	0.0000*	0.0001*
С	0.21	1.44	1.65	0.308	0.28	1.62	-0.33	0.19	1.68	0.31	-0.92
	0.0239*	0.0115*	0.0016*	0.0010*	0.0061*	0.0000*	0.0317*	0.3546*	0.0649*	0.3355*	0.6544*

Source: results are estimated with e-views 11

These short-run results are associated with long-run elasticities that are estimated in the error correction model. It suggests that the result of a long run is positive or may be negative but it is always explained that the relation of the variable is positive in long run. But it may be positive or negative in the short run. Short run cross-section of different countries for the model. Where coefficient (-1), which measures the convergence of the model and it is negative and its value is (-0.18) and its p-value is (0.0014*) and highly significant probability value that verifies 162

the short run causality from the explanatory variables to the dependent variable. The system converges to equilibrium with 106 percent if trade in disequilibrium. For Iran, the T-statistics value for GDP_dis is (0.38) with a significant probability value. In the case of population T-statistics values are (-2.13) and with highly significant probability value (0.0000*). In the case of capital endowment T-statistics values is (0.21) and with significant probability value (0.0044*). In the case of land endowment T-statistics value is (0.68) and with an insignificant probability value (0.7961*). In the case of the relative importance of trade T-statistics value is (0.98) and with a significant probability value (0.0203*).

For Saudi Arabia, the T-statistics value for GDP_dis is (-0.62) with a significant probability value. In the case of population scale t-statistics values are (7.36) and with a highly significant probability value (0.0000*). In the case of capital endowment T-statistics value is (-0.29) and with a highly significant probability value (0.0000*). In the case of land endowment T-statistics value is (0.13) and with an insignificant probability value (0.7961*). In the case of the relative importance of trade T-statistics value is (0.98) and (0.0021*) with a significant probability value. In the case of the relative importance of trade T-statistics value is (1.65) and with a significant probability value (0.0016*). For China T-statistics value for GDP_dis is (-0.64) with insignificant probability value (0.4850). In the case of the population scale, T-statistics values are (-0.64) and with a highly insignificant probability value (0.4850). In the case of capital endowment T-statistics values are (-0.78) and with highly significant probability value (0.0000*). In the case of land endowment T-statistics value is (-0.11) and with an insignificant probability value (0.4154*). In the case of the relative importance of trade T-statistics value is (-0.62) and with significant probability value (0.9541*).

For UAE t-statistics value for GDP_dis is (0.016) with insignificant probability value (0.2890^*) . In the case of population scale T-statistics values is (0.002) and with highly significant probability value (0.0000^*) . In the case of capital endowment T-statistics values is (0.13) and with a highly significant probability value (0.0021^*) . In the case of land endowment T-statistics value is (-0.11) and with an insignificant probability value (0.544) and with a significant probability value (0.0015^*) .

For Bangladesh T-statistics value for GDP_dis is (0.36) with significant probability value (0.0007^*) . In the case of population scale T-statistics values are (-0.17) and with highly significant probability value (0.0000^*) . In the case of capital endowment T-statistics values is (0.23) and with a highly significant probability value (0.0033^*) . In the case of land endowment T-statistics value is (0.98) and with an insignificant probability value (0.2570^*) . In the case of the relative importance of trade T-statistics value is (0.27) and with a significant probability value (0.1168^*) . For India T-statistics value for GDP_dis is (-0.44) with significant probability value (0.0958^*) . In the case of population scale T-statistics values is (4.82) and with a highly significant probability value (0.0000^*) . In the case of capital endowment T-statistics values are (-0.40) and with significant probability value (0.0537^*) . In the case of land endowment T-statistics value is (0.78) and with an insignificant probability value (0.4321^*) . In the case of the relative importance of trade T-statistics value is (0.62) and with an insignificant probability value (0.0431^*) .

For Sari link T-statistics value for GDP_dis is (0.17) with significant probability value (0.0055*). In the case of population scale T-statistics values are (-0.12) and with highly significant probability value (0.0000*). In the case of capital endowment T-statistics values are (-0.21) and with highly significant probability value (0.0000*). In the case of land endowment T-statistics value is (0.80) and with a highly significant probability value (0.0000*). In the case of the relative importance of trade T-statistics value is (0.77) and with an insignificant probability value (0.0000*). For Thailand T-statistics value for GDP_dis is (0.28) with a significant probability value (0.0025*). In the case of population scale T-statistics values are (-0.34) and with highly significant probability value (0.0000*). In the case of capital endowment T-statistics values are (-0.39) and with significant probability value (0.0050*). In the case of land endowment T-statistics value is (-1.21) and with an insignificant probability value (0.0014*). In

the case of the relative importance of trade T-statistics value is (1.33) and with an insignificant probability value (0.0029^*) .

For Malaysia T-statistics value for GDP_dis is (0.34) with significant probability value (0.0000^*) . In the case of population scale T-statistics values are (-0.22) and with highly significant probability value (0.0000^*) . In the case of capital endowment T-statistics values are (-1.17) and with a significant probability value (0.0014^*) . In the case of land endowment T-statistics value is (0.72) and with a significant probability value (0.84) and with an insignificant probability value (0.0001^*) .

5. Summary and Conclusion

This research paper aims to explore the effect of bilateral trade labor migration in Pakistan and gravity estimation moel. In sense of gravity estimation model. The Gvavit estimation model uses to define the trade pattern between the two countries. Explain the variables one by one and also see the effect of these variables on each other discuss panel ARDL model discuss the results and discussion start with empirical analysis after discussing the empirical analysis study the descriptive analysis unit root test. Descriptive analysis correlation matrix, long run results of a model short run cross section of different countries. Panel co-integration analyses, such as the Akiak criteria information test and others, are used to examine for correlation between variables. From the estimation of results, it concludes that gross domestics product distance (GDP dis) Panel co-integration analysis, such as the Akiak criteria information test and others, are used to examine for correlation between variables. To test causality by using the Granger causality test for the variable. Pakistan is a developing country as compare to China, the united kingdom, the united states, and Arab emirates. GDP_distance has a negative effect on trade between Pakistan and partners countries. Because we the gravity model which can explain that long distance between the countries has less potential on trade and the short distance countries trade are good/high. The capital endowment has a positive effect on both the home country and partners countries. The land endowment has a positive effect on home and partners countries. Population scale harms trade because a country with a population san does not export the product domestically use the product even import the product for domestics use. When a country imports more than its exports it hurts the trade. The relative importance of trade (RIMT) has a positive impact on trade. Our results can influence the classical theory of trade Ricardo. Our results predict that GDP-dis has a negative impact on trade for home and partners countries our results are correlated with the study of Irshad (2018).

6. Policies and Recommendation

- i. If we bring new projects like CPEC it will have a significant impact on our country's trade.
- ii. As a result of the CPEC foreign skilled workers come to our country and work alongside our workers improving their skills.
- iii. If the government takes steps to trained workers and labourers at the federal level
- iv. If the government of the home country takes steps for a free trade agreement and sign this agreement with partners countries then trade will increase and it has a positive effect on the gross domestic product of the country.

References

Anderson, J. E., & Van Wincoop, E. (2003). Gravity with gravitas: A solution to the border puzzle. *American economic review*, *93*(1), 170-192.

- Beck, K. (2017). Bayesian model averaging and jointness measures: Theoretical framework and application to the gravity model of trade. *Statistics in Transition. New Series*, *18*(3), 393-412.
- Beck, K. (2020). What drives international trade? Robust analysis for the European Union. *Journal of International Studies*, *13*(3), 68-84.
- Botezat, A., & Ramos, R. (2020). Physicians' brain drain-a gravity model of migration flows. *Globalization and health*, *16*(1), 1-13.

- Chilton, A. S., & Posner, E. A. (2018). Why countries sign bilateral labor agreements. *The Journal* of Legal Studies, 47(S1), S45-S88.
- Debaere, P. (2003). Relative factor abundance and trade. *Journal of Political Economy*, 111(3), 589-610.
- Eun, C. S., Kim, S. H., & Lee, K. (2015). Currency competition between the dollar and euro: Evidence from exchange rate behaviors. *Finance Research Letters*, *12*, 100-108.
- Faustino, H. C., & Proença, I. (2011). Effects of immigration on intra-industry trade: a logit analysis.
- Fazal, S., Gillani, S., Amjad, M., & Haider, Z. (2020). Impacts of the Renewable-Energy Consumptions on Thailand's Economic Development: Evidence from Cointegration Test. Pakistan Journal of Humanities and Social Sciences, 8(2), 57-67.
- Frankel, J., & Rose, A. (2002). An estimate of the effect of common currencies on trade and income. *The quarterly journal of economics*, *117*(2), 437-466.
- Go, A. S., Mozaffarian, D., Roger, V. L., Benjamin, E. J., Berry, J. D., Borden, W. B., ... & Turner, M. B. (2013). Heart disease and stroke statistics—2013 update: a report from the American Heart Association. *Circulation*, 127(1), e6-e245.
- Gómez-Herrera, E. (2013). Comparing alternative methods to estimate gravity models of bilateral trade. *Empirical economics*, 44(3), 1087-1111.
- Kilchling, P., Hansmann, R., & Seeland, K. (2009). Demand for non-timber forest products: surveys of urban consumers and sellers in Switzerland. *Forest Policy and Economics*, 11(4), 294-300.
- Kurtovic, S., Halili, B., & Maxhuni, N. (2017). The effect of trade liberalization of bosnia and herzegovina with the leading trade partners. *Applied Economics Quarterly (formerly: Konjunkturpolitik)*, 63(4), 341-368.
- Labrinidis, G. (2021). The emergence of the Euro as imperialist money. In *The Routledge Handbook of Philosophy and Europe* (pp. 245-264). Routledge.
- Légaré, F., Adekpedjou, R., Stacey, D., Turcotte, S., Kryworuchko, J., Graham, I. D., ... & Donner-Banzhoff, N. (2018). Interventions for increasing the use oshared decision making by healthcare professionals. *Cochrane database of systematic reviews*, (7).
- Maluck, J., Glanemann, N., & Donner, R. V. (2018). Bilateral trade agreements and the interconnectedness of global trade. *Frontiers in Physics*, *6*, 134.
- Mishra, G. R., Suresh, M., Kumaran, K., Kannabiran, N., Suresh, S., Bala, P., ... & Pandey, A. (2006). Human protein reference database—2006 update. *Nucleic acids research*, *34*(suppl_1), D411-D414.
- Nasrullah, M., Chang, L., Khan, K., Rizwanullah, M., Zulfiqar, F., & Ishfaq, M. (2020). Determinants of forest product group trade by gravity model approach: A case study of China. *Forest Policy and Economics*, *113*, 102117.
- Nawaz, M. A., Azam, A., & Bhatti, M. A. (2019). Natural Resources Depletion and Economic Growth: Evidence from ASEAN Countries. Pakistan Journal of Economic Studies, 2(2), 155-172.
- Shafiq, M. N., & Gillani, S. (2018). Health Outcomes of Remittances in Developing Economies: An Empirical Analysis. Pakistan Journal of Economic Studies, 1(1), 1-20.
- Shafiq, M. N., Hua, L., Bhatti, M. A., & Gillani, S. (2021). Impact of Taxation on Foreign Direct Investment: Empirical Evidence from Pakistan. Pakistan Journal of Humanities and Social Sciences, 9(1), 10-18.
- Pfisterer, M., Buser, P., Rickli, H., Gutmann, M., Erne, P., Rickenbacher, P., ... & Time-CHF Investigators. (2009). BNP-guided vs symptom-guided heart failure therapy: the Trial of Intensified vs Standard Medical Therapy in Elderly Patients With Congestive Heart Failure (TIME-CHF) randomized trial. *Jama*, *301*(4), 383-392.
- Yeo, A. D., & Deng, A. (2019). The trade policy effect in international trade: case of Pakistan. *Journal of Economic Structures*, 8(1), 1-17.
- Yang, X., & Shafiq, M. N. (2020). The Impact of Foreign Direct Investment, Capital Formation, Inflation, Money Supply and Trade Openness on Economic Growth of Asian Countries. iRASD Journal of Economics, 2(1), 25-34.
- Zhuang, Y., Yang, S., Chupradit, S., Nawaz, M. A., Xiong, R., & Koksal, C. (2021). A nexus between macroeconomic dynamics and trade openness: moderating role of institutional quality. Business Process Management Journal.