

Analysis of Gulf Cooperation Council Countries (GCC) Trade with Important Country Using Gravity Model

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Abstract We used gravity model to analyze the significant factors affecting intra-GCC trade flows, in order to evaluate the status of intra-GCC trade during 1989-2014. We used the idea of Head (2003) to calculate the distance. The results show that there is a positive correlation between GCC GDP in import and export, as well as a negative impact for each of the gross domestic products, geographic distance and the population rate in the four countries under study.

Keywords: GCC, gravity model, distance, export, import

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1. Introduction

Foreign trade is an important subject in the development of different economies, as it contributes to determining the growth rates of national income. It is known that economic development depends in its early stages on imported goods, especially capital and intermediate goods. Some economic blocs have emerged in order to enhance cooperation and trade in various regions. The most important of these economic blocs are the European Union (EU), created in 1992, The North American Free Trade Agreement (NAFTA) of 1992, and the Asia-Pacific Economic Cooperation of 1989 (APEC) [1].

Within this global context marked by the growing importance of trade at the international level, the Arab States established the Greater Arab Free Trade Area (GAFTA) in 1997. GAFTA established to improve cooperation between these countries and promote trade, through many partial Arab economic blocs, of which the most sophisticated is the Cooperation Council for the Arab States of the Gulf (CCASG) in May 1981. The CCASG (formerly known as the Gulf Cooperation Council (GCC)) includes six member states: Saudi Arabia, Qatar, Kuwait, Oman, Bahrain, and the UAE. The GCC countries had a conventional relationship such as Features, cultural, religions, traditional, and language. These relationships can increase the volume of bilateral trade exchange and increasing inflows of Arab and foreign investments, and solving the problem of unemployment and raise living standards through trade liberalization by removing tariffs [2].

The bilateral trade between the GCC countries had a significant increase in the first year of the Union

amounted to 31% (in 1981). The statistics also showed that from 2003 to 2008, the bilateral trade had recorded an annual growth rate of about 28%. It is noted that the volume of bilateral trade has increased from \$ 15 billion in 2002, the year before the establishment of the Customs Union, to more than \$ 121 billion in the year 2013, an increase of 700% [3]. Statistics prepared by the Sector of Information of the Secretariat of the Cooperation Council show that the growth of bilateral trade between the GCC countries reflects the direct impact of the decision to establish the GCC Customs Union in 2003.

The GCC countries amended the Common Agricultural Policy in 2004, with the aim of achieving agricultural integration among the GCC countries according to a unified strategy that relies on the optimal use of available water resources and the provision of food security. As well as developing local agricultural crops to increase their contribution to farm income, and increasing the contribution of agricultural production to national income to reduce dependence on non-renewable sources of income.

1.1. Research Problem and Objective

GCC member states depend on providing food for their populations through foreign trade, specifically through imports from non-GCC countries. This reliance imposes a massive burden on the balance of payments to these countries.

Despite these challenges, all GCC countries have the capacity for self - sufficiency in food if their economic resources are rationalized. The GCC countries depend on the global market for much of their food needs. The increase in population, as well as increased levels of incomes, has led to the need for more imported foods. The cost of food imports to the GCC countries increased from \$12 billion in 2002 to \$43 billion in 2012. [4].

Therefore, the problem of the study is to examine the possible ways to develop agricultural intra-GCC trade by identifying the factors affecting the volume of trade flows among them. Mainly, it requires identifying the regional strengths that will help achieve this integration: human resources, financial resources, and natural resources. All of these determinants may be an incentive to establish agricultural Gulf integration that will meet the food needs of Gulf citizens.

This study aims to analyze the significant factors affecting intra-GCC trade flows, in order to evaluate the status of intra-GCC trade. The idea differs from the previous studied which applied Head [5] method of calculating geographical distance.

2. Literature Review

Many descriptive and applied studies analyze international trade trends and measure the impact of the factors that affect the volume of foreign trade between these countries. Some of these studies employ the Gravity Model, which is commonly used to analyze the various determinants of exports, including agricultural exports, and imports.

Al-Abdali [6] estimates the determinants of intra-regional trade of Islamic countries during the period 1970-2006 using regression analysis of common Panel data. The study examined the factors that achieve cooperation and economic integration among member states such as the common relation in religious and historical dimensions. The study also reviews the most important applied research on economic cooperation between Islamic countries and other countries. It characterizes the status of foreign trade of Member States, its evolution over time, the structure of commodities, and the main obstacles encountered.

Bendjilali's [7] empirical study on the bilateral two-way trade of Islamic countries determinants uses exports as a representative of bilateral trade instead of the total foreign trade (exports + imports). The study employs the Gravity Model to estimate the relationship between intra-exports as the dependent variable and some macroeconomic variables as independent variables. In particular, GDP as a measure of the impact of the size of the economy; the size of the population as a measure of the size of the domestic market; the average per capita income to measure the impact of economic development level; and the distance between the commercial ports of the states as an indicator of the cost and time of transport. Also, it estimates the volume of import financing provided by the Islamic Development Bank of the State, the dummy variable for whether or not the state is a neighbor, and a dummy variable for whether or not the state belongs to the economic bloc.

The aim of Algaatheeb [8] studied was to analyze and determine the most significant factors impacting the intra-GCC trade. She found from the descriptive analysis of the deterioration of bilateral trade in the GCC countries to which it is attracted, the expected rates and the growing economies dependent on global economies due to the similar economic characteristics of the GCC countries in general. These economies are characterized by generally

limited production structures Narrow markets and rely heavily on oil and gas as a significant source of GDP and as significant exporters. The study has estimated a gravity model with time series data during the period 1985-2010. She applied cross section data using pooled regression, fixed effects, and random effects model. The result shows a positive correlation between GDP for export and import countries and intra trade between these countries. While the negative relation between the distance and intra trade.

3. Model Development and Specification for Characterization of the Gravity Model

The gravity model is commonly used in the statistical analysis and the measurement of bilateral flows between countries [5]. Following Isaac Newton's in 1687 "Law of Universal Gravitation" about strong attraction between two objects i and j : "any two bodies (F) in the universe attract each other with a force that is directly proportional to the product of their masses M_1 , M_2 and inversely proportional to the square of the distance between them D^2 ".

After Newton theory, several studies used the method in different sciences and had received a high impact in economic science. The first gravity application was developed by Carey in 1865 to explain the interactions of human group activities, particularly in the field of social economy. Ravenstein in 1865, applied the concept of gravity to the study of population migrations [9]. Reilly's in 1931, use of the law of gravity in the analysis of patterns of shopping trips and retail trade in order to identify commercial areas for some American cities and called it "Reilly Model."

The first applications of the model to economics and international commerce came in the sixties. Tinbergen's [10] applied Newton's law of the field of economics and earned a Nobel Prize in 1969. Then Poyhonen in 1963, developed a standard form to measure the volume of two-way bilateral trade to explain the trade flows between countries. The model became widely used in international trade to explain the trends of bilateral trade between the countries. It was found that the trade volume between the two countries depends on the GDP and is inversely related to the distance between them [11].

The model has been used for a long time in the social sciences in the field of social interactions, which address concerns such as immigration, tourism, direct foreign investment, and transportation. A formula was drafted from the economic research [12], as follow:

$$Y_{ij} = G \frac{M_i M_j}{D_{ij}^2} = \beta_0 \frac{GDP_i^{\beta_1} GDP_j^{\beta_2}}{D_{ij}^{\beta_2}}$$

Whereas: Y_{ij} : Flow Trade (exports or Imports) country i to or from the country j , M_i , M_j : reflects the size of the economy of the two sites i and j , M represents the size of the gross domestic product Y or gross national income volume of GDP for both sites, D_{ij} : distance between the two locations and is usually measured from the center to the center, and G : gravitational constant.

The previous equation is in exponential form. Taking the logarithm of both sides will convert it to a linear function of parameters in the form of a double logarithm. This equation is called the Basic Gravity Model (BGM):

$$\ln Y_{ij} = \beta_0 + \beta_1 \ln GDP_i + \beta_2 \ln GDP_j - \beta_3 \ln Dist_{ij} + \varepsilon_{ij}$$

Where ε_{ij} represent the random error in a linear equation.

In 1966, Linneman added population (POP) of the two countries and called it an Augmented Gravity Model (AGM):

$$\ln Y_{ij} = \beta_0 + \beta_1 \ln GDP_i + \beta_2 \ln GDP_j + \beta_2 \ln POP_i + \beta_4 \ln POP_j - \beta_5 \ln Dist_{ij} + \varepsilon_{ij}$$

$$\ln Y_{ij} = \beta_0 + \beta_1 \ln pcGDP_i + \beta_2 \ln pcGDP_j - \beta_3 \ln Dist_{ij} + \varepsilon_{ij}$$

Finally, more independent variables and including dummy variables, D_{ij} , are often added:

$$\ln Y_{ij} = \beta_0 + \beta_1 \ln pcGDP_i + \beta_2 \ln pcGDP_j - \beta_3 \ln Dist_{ij} + \sum_{j=1}^s \alpha_{ij} D_{ij} + \varepsilon_{ij}$$

Where GDP_i , GDP_j : Gross domestic product in two countries i , j ; $Dist_{ij}$: Distance geographic between two countries i , j ; $pcGDP_i$, $pcGDP_j$: Per capita GDP in two countries i , j ; POP_i , POP_j : Number of the population in two countries i , j ; and D_{ij} : Dummy Variable represents the (border - Language - the currency Shared - Agreements Commercial ... etc).

Because the gravity model is a double logarithmic model, the regression coefficients are elasticities. Therefore, we would expect the sign of the elasticities as the economic logic, since our relationship hypothesis is positive with the GDP and negatively with distance. The gravity model depends mainly on cross-sectional data, by including numerous countries, as well as, time series, by including much observation for the countries involved in the model.

Geographical distance is typically calculated as the mileage between the capitals of the countries through the latitude and longitude according to Head (2003) as shown in the table below:

Countries	Latitude	Longitude	mileage
GCC	25.30	51.15	-
China	39.90	116.41	3844.32
Iran	36.67	51.42	716.79
Iraq	33.34	44.39	688.14
Somalia	2.02	45.25	1655.70
Brazil	-22.90	-43.23	7136.56
India	28.60	77.20	1617.21
US	38.90	-77.04	6880.47
Australia	-35.28	149.22	7635.32

Source: www.disween.com.

$$Dis_{ij} = 3962.6 \arccos \left[\begin{array}{l} \left(\sin(Y_i) \cdot \sin(Y_j) \right) \\ + \left(\cos(Y_i) \cdot \cos(Y_j) \cdot \cos(X_i - X_j) \right) \end{array} \right]$$

Where Dis_{ij} is the distance between two countries capital, Y_i and Y_j are the locations of i and j on the latitude, X_i and X_j are the locations of i and j on the longitude, \sin is sine and \cos are cosine, and X is Longitude in degrees multiplied by 57.3 to convert it to radians and Y is latitude multiplied by -57.3.

3.1. Data Sources

The research is based on secondary data from many sources, such as the Department of Statistics in Foreign Trade, the Statistical Yearbook of the Gulf Cooperation Council (GCC), the Statistical annual agricultural book published by the Ministries of Agriculture in all member countries of the GCC, the Arab Organization for Agricultural Development from Statistical Yearbook, and the Statistical, Economic and Social Research and Training Centre for Islamic Countries (SESRI), as well as, the World Development Indicators - World Data Bank, the Food and Agriculture Organization of the United Nations, and United States Department of Agriculture (USDA).

4. Study Results

The study of the evolution of the relative importance of both exports and imports, the size of the GCC and World Trade, the annual rate of change in exports and imports, and the volume of GCC trade during the period 1989-2015 shown in Table 1 clarified that the relative importance of GCC exports and imports to world averaged 2.41% (\$16.67 billion) and 0.42% (\$9.83 billion). The value of agricultural exports and imports increase annually by an estimated \$1.48 billion and \$0.30 billion (Table 2). The average annual export and import rate of change reached 10.11% and 13.20% respectively.

The relative importance of GCC trade to world trade averaged around 1.41% (\$53.31 billion on average). The value of agriculture trade increased annually by an estimated \$1.78 billion (Table 2). The average annual export rate of change reached 9.47%.

Table 2 also shows the average of world agriculture export, import, and trade in global agriculture reached \$647.4 billion, \$645.6 billion, and \$1292.95 billion respectively during the period 1989-2015. World agricultural export, import and trade increased annually by \$47.14 billion, \$45.53 billion, and \$92.68 billion respectively and ranged from a minimum of \$94.71 billion, \$110.61 billion, and \$205.32 billion in 1989 and a maximum of \$1435.81 billion, \$1375.31 billion, and \$2812.13 billion in 2014, 2013, 2014 respectively.

On the other hand, the evolution of the relative importance of both exports and imports and the volume of intra-GCC trade and the annual rate of change of exports and imports during the period 1989-2014 is shown in Table 3. This table clarifies that the relative importance of intra-GCC exports and imports to total GCC export averaged 42.30% (\$0.90 billion) and 14.50% (\$1.71 billion). The value of agricultural exports and imports increased annually by an estimated \$0.097 billion and \$0.19 billion (Table 4). The average annual export and import rate of change reached 74.42% and

20.16% respectively. The annual growth rate of agricultural export and import value during that period is about 12% and 13%, at a significance level of 0.05. (Table 5)

The relative importance of intra-GCC trades to total GCC trades averaged 18.02% (\$2.48 billion). The value of agriculture trade increased annually by an estimated \$0.265 billion (Table 2). The average annual trade rate of change reached 54.57%. The annual growth rate of agricultural export value during that period is about 12% at a significance level of 0.05.

Table 4 showed the average of GCC agriculture export, import and trade in world agriculture reached about \$3.09 billion, \$13.96 billion, and \$16.58 billion respectively during the period 1989-2014. GCC agricultural export, import, and trade increased annually by \$0.421 billion, \$1.509 billion, and \$1.87 billion respectively. However, the annual growth rate of agricultural export, import, and trade value during that period is about 17%, 14%, 14% respectively at a significance level of 0.05 (Table 5).

Table 1. The evolution of the relative importance of both exports and imports, the size of the GCC and World Trade, the annual rate of change in exports and imports, and the volume of GCC trade during the period 1989-2015, in percentage

	GCC			The annual rate of change		
	Exports to the world	Imports from the world	Trade volume with the World	GCC Exp.	GCC Imp.	GCC trade
Average	2.4	0.4	1.4	10.1	13.2	9.5

Table 2. Time trend of the evolution of exports and imports for GCC and world during the period 1989-2015, in billions of dollars

	World			GCC		
	Export	Import	Trade	Export	import	Trade
Trend	47.14	45.53	92.68	1.48	0.30	1.78
R2	0.83	0.83	0.83	0.82	0.62	0.79
F	121.87	191.87	121.33	108.4	40.95	95.88
Average	647.38	645.58	1292.95	16.67	3.20	19.86
MAX Year	1435.81	1378.31	2812.13	44.92	9.83	53.31
	2014	2013	2014	2014	2011	2013
Min Year	94.71	110.61	205.32	2.76	0.32	3.12
	1989	1989	1989	1990	1989	1990

Source: Author created a table based on data (SESRIC [13]; USDA [14]; World Bank [15]).

Table 3. The evolution of the relative importance of both exports and imports and the volume of Intra-GCC trade and the annual rate of change in exports and imports during the period 1989-2014, in percentage

Year	Intra-GCC exports to total GCC exports	Intra-GCC Imports from total GCC imports	Intra-GCC trade volume with total GCC trade	The annual rate of change		
				Intra-GCC exports	Intra-GCC imports	Intra-GCC trade
Average	42.30	14.50	18.02	74.42	20.16	54.57

Source: Author created a table based on data (SESRIC [13]; USDA [14]; World Bank [15]).

Table 4. Time trend of the evolution of exports and imports for GCC and Intra-GCC during the period 1989-2014, in billions of dollars

	GCC Export	GCC Import	GCC Trade	Intra-GCC Export	Intra-GCC import	Intra-GCC trade
Trend	0.421	1.509	1.870	0.097	0.185	0.265
R2	0.6	0.71	0.72	0.57	0.76	0.74
F	35.88	59.82	61.7	31.6	77.02	67.37
Average	3.09	13.96	16.58	0.90	1.71	2.48
MAX Year	15.13	53.48	66.12	3.50	6.39	8.93
	2013	2013	2013	2014	2013	2013
Min Year	0.051	0.454	0.519	0.043	0.158	0.215
	1990	1989	1989	1990	1989	1989

Source: Author created a table based on data (SESRIC [13]; USDA [14]; World Bank [15]).

Table 5. Agricultural growth models of foreign trade value during the period 1989-2013 (million \$)

	Var	Modela	R2	F
GCC to world	Ex Value	$Export = 132.8^{0.172t}$	0.84	124.3
	Im Value	$Import = 1207.27^{0.141t}$	0.76	76.69
	Trade	$Trade = 1345.5^{0.144t}$	0.81	101.144
Intra-GCC	Ex Value	$Export = 99.64^{0.121t}$	0.64	42.7
	Im Value	$Import = 199.55^{0.127t}$	0.94	369.59
	Trade	$Trade = 299.35^{0.124t}$	0.92	260.6

^a This formula can be indicated by the following equation: $\hat{Y} = e^{a+bX}$, Where b represents annual growth rate, e the base of the natural logarithm and equals 2.7183.

Source: Author created a table based on Table 1 and Table 2.

Table 6. Efficiency of foreign trade standards for GCC and Intra-GCC during the period 1989-2014, in percentage

Year	Total GCC				Intra-GCC			
	Coverage rate	Dependency rate	The % of trade	of economic participation	export import coverage ratio	Dependency rate	% of trade	of economic participation
Average	17.80	1.90	2.20	70.34	53.94	0.24	0.34	18.40
Max	36.70	3.30	4.08	83.83	98.20	0.39	0.55	36.22
Min	8.80	0.24	0.27	46.31	16.05	0.09	0.12	5.09

Source: Author created a table based on data (USDA, [14]).

4.1. Efficiency Foreign Trade Standards for GCC and Intra-GCC

To identify the efficiency of the Intra-GCC foreign trade with GCC countries we include Coverage rate, Dependency rate, The Percentage of trade, and Degree of economic participation.

The result in Table 6 shows the GCC foreign trade efficiency standards with the world countries during the period 1989-2014. During the study period, the average GCC coverage rate¹ to world countries was about 17.8% indicating the relative decline of the ability of GCC to control imports with the world countries. It is clear that the deficit in the GCC trade balance appears because the value of its exports is not enough to meet the import expenditures.

The average Intra-GCC coverage rate in GCC countries was about 53.94%, indicates the relative decline of the ability of Intra-GCC in the control of imports with the GCC countries. The table shows the maximum coverage rate of the Intra-GCC foreign trade with GCC countries was about 98.2% in 1992 and a minimum of 16.05% in 1999.

The average GCC agricultural economic dependency rate² to the outside world as the agricultural foreign trade value of the GCC exceeds the national income value of GCC, reaching an average of approximately 1.9% during the period (1989-2014) and on average of 0.24% for Intra-GCC.

The relative importance³ of foreign agricultural trade exceeds national income on average by 2.2%, while the average of the importance of Intra-GCC agriculture foreign trade is 0.34%, indicating a weak agricultural foreign trade in supporting the economy. The increase in that percentage indicates the importance of agricultural foreign trade to the national economy.

Finally, degree of economic participation⁴ indicates that an average of GCC trade and Inter GCC trade were about 70.34% and 18.40% respectively during the study period, indicating the relative contribution of the GCC and Intra-GCC foreign trade to world countries and GCC

countries. This standard refers to the absolute difference between the GCC exports and imports of world countries attributed to the total value of GCC foreign trade.

5. Results of Estimating the Gravity Model of Trade

The gravity model was estimated between the GCC and the primary importance countries that are Brazil, India, US, and Australia in the cases of imports and China, Iran, Iraq, and Somalia in the case of exports. It should be noted here that the number of years for the period under study was 26 years.

The reason for the introduction of only four countries was that entering all GCC countries in the analysis of the gravity model would have resulted in a loss of degrees of freedom. Thus, the total number of model-observation is 104.

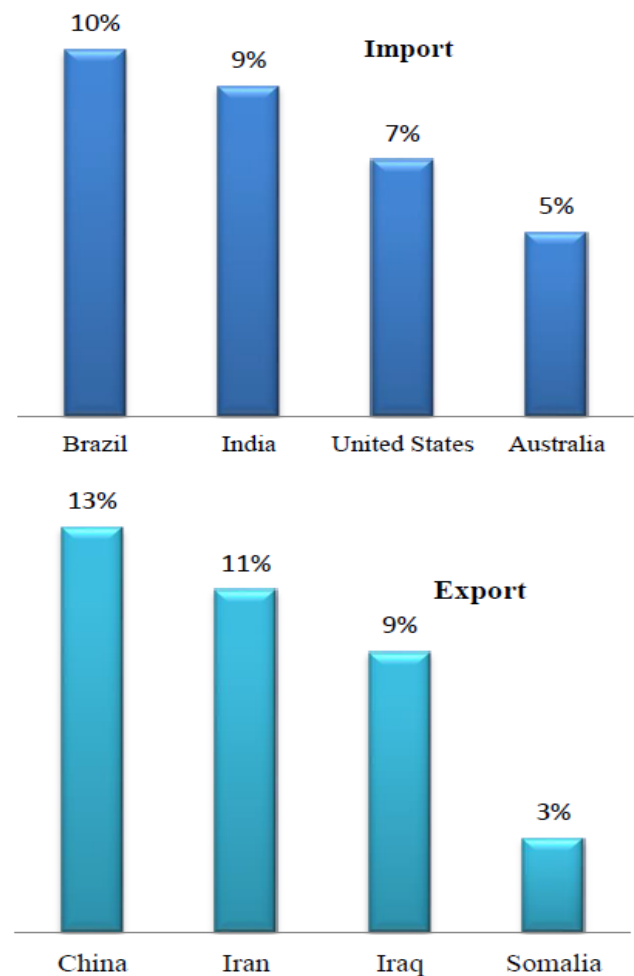


Figure 1. Relative importance of import and export countries' value to GCC during the period 2010-2014

¹ Coverage rate of exports to total imports and this rate is calculated by dividing the value of exports to the value of imports.

² GCC Agricultural economic dependency rate of the world: It means the country dependence rate of the outside world and extent of the country dependence on foreign agricultural trade in their economic structure, it is calculated as a percentage of the foreign trade value of agricultural from national income.

³ Ratio of foreign trade (exports + imports) to national income. The higher this ratio will be the more important rate of foreign trade and vice versa.

⁴ Degree of economical participation: It reflects the contribution of agricultural foreign trade in total trade. This standard ranges from zero in the case of perfect balance in the trade balance and 100 in the case of total dependence on the export or import.

This represents a cross-sectional data compound for the four countries and of the series in each country for 26 years. These countries are represented in Figure 1.

5.1. Gravity Model for GCC Import

It reflects the necessary Gravity for GCC agricultural imports overall effect of the four countries on GCC agricultural imports during the period (1989-2014). The model includes a gross domestic product for the GCC and each of the four countries under study, geographic distance between the GCC and every country, as well as a number of the population variables. The estimated basic Gravity model of GCC agricultural imports model represented in Table 7 shows the overall impact of the four countries (China, Iran, Iraq, Somalia) under the study of GCC agricultural imports. It is clear that the total entering variables in the model explain about 68.1% of the changes in the GCC agricultural import to those countries, according to the adjusted r-squared coefficient, while the rest of the changes occurring in the GCC imports are due to other factors not measured by the model. The model has been proven statistically significant at the 0.05 level of significance, according to F-test.

The results show that the increase in GCC GDP by 10% leads to an increase in GCC imports to the four countries by 33.3%. The increase in the four countries' GDP_j by 10% leads to the lower GCC imports to those countries by 0.85%; at the same time an increase in the geographical distance between the GCC and each of the four countries of 10% leads to a reduction in GCC imports to these countries by 1.29%, holding everything else constant. The model found that increasing the number of GCC population by 10% leads to a decrease GCC imports by 2.51% as well as increasing the number of the population of the four countries by 10%, leading to increased imports ratio of 1.41%.

5.2. Gravity Model for GCC Export

It reflects the basic Gravity model for GCC agriculture exports overall effect of the four countries on GCC agriculture exports during the period (1989-2014). The model includes a gross domestic product for the GCC and each of the four countries under study, geographic distance between the GCC and every country, as well as a number of the population variables. The estimated basic Gravity model of GCC agriculture exports model represented in Table 7 show the overall impact of the four countries (China, Iran, Iraq, Somalia) under study on GCC agriculture exports. It is clear that the total entering variables in the model explain about 73.9% of the changes in the GCC agriculture export to those countries, according to the adjusted r-squared coefficient, while the rest of the changes occurring in the GCC exports are due to other factors not measured by the model. The model has been proven statistically significant at the 0.05 level of significance, according to F-test.

The results show that the increase in GCC GDP by 10% leads to an increase in GCC exports to the four countries by 76.3%. The increase in these four countries (GDP_j) by 10% leads to lower GCC exports to those countries by 2.02%. At the same time, an increase in the

geographical distance between the GCC and each of the four countries of 10% leads to a reduction in GCC exports to these countries by 3.06%, holding everything else constant. It also found that increasing the GCC population by 10% decreases in GCC exports by 7.15% while increasing the population of the four countries by 10% leads to an increased exports ratio of 3.36%. (Which is similar to Algaatheeb [8] found).

Table 7. Estimate of the Gravity model of GCC agriculture exports and imports with the most critical countries during the period 1989-2014

Indicators	Export	Import
Constant	-3.290 (-3.140)*	-2.020 (-1.851)*
LnGDP _j	-0.202 (-1.267)	-0.085 (-0.511)
LnPOP _j	0.336 (-1.238)	0.141 (0.500)
LnGDP _i	7.633 (4.734)*	3.333 (3.465)*
LnPOP _i	-0.715 (-0.774)	-0.251 (-0.149)
LnDIS _j	-0.306 (-1.036)	-0.129 (-0.419)
\bar{R}^2	0.739	0.681
F	59.266	44.945

The number in Brackets represents t-test

* Significant at 0.05 level.

6. Conclusion

In May of 1980 in line with global economic developments, the six Arabic Gulf countries agreed to establish a Cooperation Council for the Arab Gulf States. Desiring to intra-regional trade liberalization in goods and services between Member countries, as well as to achieve economic integration by themselves. The formation of this Council enabled these countries to increase productivity and to strengthen their competitive position in global markets.

From this point, this study seeks to examine the reality and the future of the Gulf Cooperation Council (GCC) of agricultural trade through a descriptive analysis of agricultural trade and analysis of intra-GCC trade, in addition to the standard quantitative approach of identifying the most critical factors that affect intra-GCC trade.

Descriptive analysis revealed lower rates of GCC agriculture than what the Council hoped for and expected, due to growing dependence on global rather than local economies.

Similar economic characteristics of the GCC countries contribute to this situation, as limited total production structures, narrow markets, and reliance on oil and gas as essential sources for GDP and the two main components of exports characterize these economies.

As for the standard analysis, the study applies the gravity model on time series and panel data for the GCC countries with the world's most economically important countries for the period 1989-2014.

It was clear from the results there is a positive correlation between GCC GDP in import and export, as well as a negative impact for each of the gross domestic products in the four countries under study, geographic distance and the population rate in the GCC. However, our results appeared to be consistent with economic logic, and supportive of some similar previous studies

For future work, we recommend conducting more applied research and studies in the field of economic cooperation and integration of the Gulf countries, and discussing and analyzing the economic dilemmas that prevent this.

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