Regional Trade Integration among the Gulf Cooperation Council Countries

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1. Introduction

Since the Gulf Cooperation Council (GCC) took place more than two decades ago, trade has been fairly limited among the GCC countries which accounted for an average of 6% of total trade. This is not surprising given that oil related products are the main exports of the GCC countries, but not among them themselves. It is, however, more significant to focus on non-oil trade which represents about 80% of their bilateral trade. Understanding the determining factors of the GCC's non-oil bilateral trade volumes is a practical empirical task, as diversification of exports a way from natural resources is seen as one of the main goals of the GCC policies.

This paper addresses the effects of Gulf Cooperation Council economic agreements on intra-GCC trade, non-oil trade in particular as little is known about the scope for increased non-oil trade within the GCC. Applying the gravity model of bilateral trade flows to a set of panel data for the period 1980-2004 will helps to explain patterns of trade, and possible existence of trade creation between members.

Studies on the trade patterns for the GCC countries are limited. To my knowledge, this is the first empirical study on the impact of the GCC formation on the intra-non-oil trade; therefore, this paper provides an important contribution to the empirical assessment of the GCC formation on trade.

2. The GCC Economic Integration

On 1981, six Middle Eastern countries, Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates (UAE) agreed to establish the GCC with the goal of ensuring regional security and political stability among members in addition to complete economic integration. The Unified Economic Agreement was ratified in 1981, with the ultimate objective of introducing a single currency. It was only in 2003 when the GCC customs union came into effect that agreements were reached on a common external tariff, a unified customs code and the single entry point principle. The GCC common market has been lunched in 2008.

The GCC members share a major characteristic, which is heavy dependence on oil and gas as a source of income. The GCC members hold about 42% and 23% of global oil and gas reserves, respectively. In 2004, the UAE made the highest reduction in oil and gas sector contribution to GDP, falling to about 33%. Oman and Saudi Arabia decreased their oil and gas share to just over 42%, while Kuwait to 48%. Bahrain and Qatar showed little change, their oil and gas sector's contribution being 28% and 62%, respectively.

Given the volatility on GCC outputs, the long run economic sustainability will be determined by reducing the dependence on energy as a primary source of income. The GCC countries have worked towards economic diversification since the establishment of the GCC. However, progress was slow, and ineffective in some cases, as the pressure to diversify in the GCC economies is highly tied to oil and gas reserves. Bahrain and Oman have limited reserves of oil compared to the other GCC members; therefore face more pressures to diversify.

3. Patterns of non-oil trade[2]

Trade has been used by many researchers to evaluate the success of regional trade arrangments (RTAs), as trade effects are more tangible and easy to evaluate. Therefore, intra-GCC trade will be the main criterion in this paper when evaluating the GCC integration status. There has been considerable skepticism regarding the efficiency of the GCC in promoting intra-trade, which has been characterized as being slow since the formation of the GCC and the free trade zone in 1981 and 1983, respectively.

The GCC countries are considered open economies, with a total trade with the rest of the world of over 559 billion US$ in 2006. Since GCC establishment, intra-trade between members has been fairly

[2] All values in this section will be presented as real values based on year 2000 prices.

limited, accounting for approximately 6% of total trade. Total intra-GCC trade increased by more than 2 fold during the period 1980-2006, from 14.88 billion US$ in 1980 to 34.5 US$ by 2006. Such growth is high compared to the growth of the GCC's trade with the rest of the world, which grew from about 385.3 billion US$ in 1980 to about 559.1 billion US$ in 2006. Compared with other RTAs, such as the EU, ASEAN and Mercosur, the GCC has the lowest intra-regional trade share (Al Hinai, 2004).

The low level of intra-trade can be mainly attributed to the similarity in factor endowment (i.e. oil and gas), and the low level of diversification. The high dependency of GCC countries on a single commodity led them to trade more with non-GCC members. In addition, regulatory barriers may make an additional contribution to the low level of intra-trade.

However, it is optimistic if we look at the (non-oil) exports which accounts for about third of the total exports. Intra-GCC trade includes low share of oil exports, where non-oil products accounts for about 80% of the total trade within the GCC during the period 1980- 2004. Total intra-GCC non-oil exports increased from 1.61 billion US dollars in year 1980 to 10.05 billion US dollars by the year 2004, an increase by more than 6 fold. Non-oil exports to the world, on the other hand, rose from 4.76 billion US dollars in 1980 to 41.2 billion US dollars by 2004, more than 8 fold increases.

It is an important economic question as to whether integration agreements have been important for the GCC regionalization process and to what extent they can explain the flow of intra-trade (non-oil) which came with them. Given that non-oil trade represents an average of 80 % of the intra-trade within the GCC, understanding its pattern is vital for assessing the efficiency of the GCC as a regional entity.

4. Assessing the effect of the GCC on trade: a gravity model approach

The gravity model has been used in many empirical researches since the 1960s in order to explain patterns of trade between countries. The gravity model states that trade between two countries is determined by supply conditions at the exporting country and demand conditions at the importing country in addition to simulating and restraining factors. For instance, volumes of trade between two countries are proportional to their real national incomes (GDP), and negatively related to the geographical distance between them. The gravity model will be applied to bilateral trade flows in the GCC using a set of panel data for the period 1980-2004. The model will help to explain patterns of trade, and the possible existence of trade creation among members.

4.1 Data and estimations

This paper uses yearly data from 1980 to 2004 where all values are based on constant US$. 39 importing counties were chosen which were either major trading partners or had close regional or historical ties with the GCC countries. This set of countries represents around 90% of total non-oil imports from the GCC.

Different estimations of the gravity model will be applied for comparison purpose. These estimates will be based on: gravity model specification with country-specific fixed effects, and specification with bilateral fixed effects. The gravity model with time, country specific and bilateral fixed effect will be specified as:

$$Ln\ X_{ijt} = \alpha_0 + \theta_t + \delta_i + \gamma_j + \delta_{ij} + \beta_1\ Ln\ GDP_{it} + \beta_2\ Ln\ GDP_{jt} + \beta_3\ Ln\ POP_{it} + \beta_4\ Ln\ POP_{jt} + \beta_5\ Dist_{ij} + \beta_6\ Language_{ij} + \beta_7\ Border_{ij} + \beta_8\ GCC + u_{ijt} \quad (8)$$

Where:

X_{ijt} is the value of imports of country *j* from country *i*. α_0 is the portion of the intercept that is common to all years and trading partners. θ_t is the time specific effect that is common to all trading partners. δ_i is the exporter country effect. γ_j is the importer country effect. δ_{ij} is the bilateral effect. GDP_{it} & GDP_{jt} are the real GDP for country *i* and country *j* at time *t*, respectively. POP_{it} & POP_{ji} are the population in country *i* and country *j* at time *t*, respectively. GCC_{ij} is a dummy that takes the value of one when both countries are members of the GCC , and zero otherwise. The GCC dummy will take effect starting from 1983 which witnessed the establishing of the free trade zone among GCC members.

In terms of signs expectations, both output size of trading partners is expected to have a positive impact on trade. Exporter's population is expected to be positive, while there is no prior expectation regarding importer's population. As discussed earlier, distance which captures the impact of transportation cost is certainly expected to be negative, while GCC, language and borders dummies are expected to have a positive impact.

4.2 Results

The panel regression results for the two gravity equation specifications are reported in table 1. The overall performance of both specifications shows superior results, where all of the explanatory variables are found to be highly significant. In terms of goodness of fit, 68% and 78% of the variation is described for the equations with importer/exporter and bilateral fixed effect, respectively. The following is a detailed review for each specification.

The results for the first estimate are reported in the first column of Table 1. Both exporter and importer countries' real GDP estimates are consistent with the basic hypotheses of the gravity model that predict a higher trade to be associated with higher economic size. For instance, a 1% increase in the exporter country's real GDP is associated with 1.4% more exports, while a 1% increase in the importer country's real GDP is associated with 1.17% increase in exports.

The coefficient of the exporting country' population is positive and highly significant, where a 1 % increase in the exporter's population is associated with 2.05% more trade. Such a positive effect may indicate that the GCC exports tend to be labour intensive. According to Bergstrand (1989) and Baier and Bergstrand (January 2002), exporter population with positive (negative) sign indicates that exports are tend to be labour (capital) intensive. On the other hand, the coefficient of the importing country's population is negative and highly significant, indicating that partner countries tend to be less open to GCC's non-oil exports as they get larger. Probably larger population in importing countries may indicate a more diversified economy that is less depended on labour intensive imports.

The coefficient of distance is highly significant and has the expected negative sign, which stress the importance of geographical distance as a resistance factor of GCC's non oil exports. In terms of value interpretation, a country will export 53% less to a country that is twice as distant as another otherwise identical market. Common language and Border dummies are highly significant and returned the expected positive sign. However, the language dummy's order of magnitude is not credible: sharing a common language is associated with a 2,233.6% = $[(e^{3.15} -1)*100]$ increase in trade. These results suggest that cultural factors and geographical proximity are crucial factors to determine trade.

Regional bloc is expected to have a positive effect on intra-trade. However, after controlling for trader heterogeneity, the coefficient of the GCC bloc dummy turned out to be negative and highly significant. Based on the estimation, the GCC countries tend to trade about 53% less among themselves than non-GCC trading partners. This might suggest that the GCC countries had ineffective trading agreements during the period 1980-2004.

The results for the specification with bilateral fixed effect are reported in the second column of Table 1. There is no major difference in terms of the sign and significance of the coefficients between this estimation and the estimates with country specific fixed effects. The coefficient of GCC keeps its negative sign and is highly significant. According to the result, the GCC countries tend to trade 54.2% less among themselves than non-GCC trading partners.

Table 1

Regression results for GCC's non-oil export volums

Explantory variables	Exporter/Importer effects	Bilateral fixed effect
Exporter GDP	1.416***	1.476***
	(.289)	(.262)
Importer GDP	1.17***	1.132***
	(.237)	(.203)
Exporter's Population	2.03***	2.0***
	(.212)	(.19)
Importer's Population	-0.703***	-0.662***
	(.245)	(.2)
GCC	-0.758***	-0.78***
	(.238)	(.18)
Distance	-0.531***	---
	(.10)	
Language	3.15***	---
	(.393)	
Border	0.646***	---
	(.111)	
Observations	5243	5243
R-squared	0.68	0.764

Note:*** represent significance at 1%. Robust standard error between parentheses.

6. Conclusion

The GCC countries, with abundant natural resources, have been pursuing economic integration since 1981 with the goal of establish a single currency by 2010. Although one of the main goals of GCC formation was to motivate bilateral trade, the intra-regional trade share remains very small, roughly accounting for about 6% of total trade, as oil is the GCC's major export to the world, but not among them. Therefore, an optimistic approach is to look at intra-regional (non-oil) trade, which accounts for more than 80% of total trade within the GCC region.

This paper has addressed the effects of GCC formation on intra-regional trade, non-oil trade in particular, applying the gravity model of bilateral trade flows to a set of panel data for the period 1980-2004. The model is used to help in explaining patterns of trade, and the possible existence of trade creation among members.

The gravity model was estimated in the framework of Fixed Effects models that allow for time, exporter, importer, and bilateral effects. These estimations are shown to be superior to traditional estimations, which tend to produce biased results.

Despite the GCC membership that is expected to promote intra-trade, the results show GCC members tended to trade about 54% less among themselves than with non-GCC trading partners. This might suggest that the GCC countries had ineffective trading agreements during the study period. One of the main arguments explaining GCC trade patterns is the low level of economic diversification from oil and gas production. In addition GCC members usually produce similar products, and therefore compete with each other. Furthermore, the GCC members are considered open economies in terms of trade; therefore GCC products face competitions with global products in terms of prices.

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