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Influence of Economic Integration on Foreign Trade in the Region of Persian Gulf

Summary

The aim of the current research is to study the effects of economic integration within the Cooperation Council for the Arab States of the Gulf (CCASG) and its influence on the trade within the region as well as with other countries. The trade development of member countries of the Cooperation Council for the Arab States of the Gulf was analysed with the help of gravitation model in the context of the existing agreements of the trading preferences on the Middle East and North Africa. It was proved that establishment of CCASG made extremely positive influence on the development of the intraregional trade. It was also discovered that economic integration of the CCASG members showed rather the effect of trade creation than the effect of trade diversion. Signing of free trading agreement between the CCASG and the EU and between the CCASG and the USA had also positive results.

Key words: economic integration, Cooperation Council for the Arab States of the Gulf, gravitation model, trade creation effect.

JEL codes: B41, F13, F15

Introduction

The characteristic feature of international economic relations on the modern stage is a growing tendency for separate countries to international economic integration. That results from the extension of international labour division, higher internationalisation level of economic life.

Integration triggers qualitative changes in many components of the modern world. First of all, areal organisation of international economic relation system is being transformed; secondly, roles are redistributed between the members, and their place is taken by the international unions founded in different parts of the world. The problem of integration, development of mutually profitable relations with countries of the world, participation in international economic relations as an independent country, the search of one's own place to solve vital problems of the world development are extremely important problems. In this context, research of integration processes in Persian Gulf, formation of mutually profitable relations between the countries is an objective for solving the tasks of effective integration for the countries of the region into the world community.

The Persian Gulf region occupies a special place in the system of international economic relations, based on its unique geostrategic geographical location, rich stock of energy re-

sources (64% of real world oil stock and 10.2% of world gas stock are concentrated in this region); some of Arabic countries are the world finance-currency centres (Volovych 2011).

Evolution of views on the economic integration and its effects

The development of integration processes in Europe and other regions showed that in order to achieve success in the integration of national economy it is not enough to use only market methods. The participation of state and interstate institutions in regulatory mechanism of international economic integration is obvious. This has led to appearance of the school named as market-institutional, which recognised alongside with market factors the important role of economic politics of the states and interstate structures developing in the integration unions. The representatives of this school such as B. Balassa are trying to find a compromise between the market and state integration mechanisms (Hosny 2013, p. 133-155).

Unlike representatives of the market school, they consider integration as the consistency and harmonisation of economic and economic-juridical elements at the international level. Meanwhile the unity is being formed gradually, stage by stage, from the lower forms to the higher ones. B. Balassa's suggestion about the classification of integration levels remains relevant. Main integration stages are free trade zone, customs union, common market, economic union, full economic integration (Balassa 2011).

Representatives of the structure school (K.G. Myrdal, A. Marshall, F. Perroux) consider economic integration as a process of structural changes in the economy of the countries having big companies (MNC) and whole industrial branches as centres of integration development. In their opinion, such changes result in a qualitatively new integration zone with far more perfect economic mechanism. They consider integration as a creation process of a new economic structure. Thus, for example, A. Marshall, who developed the idea about real integration, stresses that it is only possible on the stage of economic union, when interpenetration of national economics takes place, and it is connected with changes in their structures (Hosny 2013).

It is worth mentioning one more trend of international integration theory – neo- Keynesian economics, described in the dirigisme concept. Representatives of this school consider integration as the process of optimal market structure formation (as, for example, R. Cooper and others.). The main problem of regional integration is the search of optimal combination of two possible variants of economic integration development: a) union of countries with further loss of their sovereign and mutual agreement of economic politics; b) integration with maximal preservation of national autonomy. Thus, J. Tinbergen (one of the dirigisme theorists) considered that functioning of international integrated structures was possible on the basis of common economic politics developed by their members and agreed social law (Balassa 2011).

The integration theories researching economic consequences of integration have a practical value. First among them is the theory of customs union, offered by J. Viner. This theory is based upon the comparison of trades between countries under conditions of own customs tariffs for each of them and under conditions of agreement about customs union signed

between them, with no tariffs in mutual trading. As a result of customs union creation and cancellation of tariffs in mutual trading, member states have two contrary consequences: a) static effects, arising as a result of the redistribution of the existing assets, labour and other resources of the member economies; b) dynamic effects, influencing production capacities, productivity and growth of member economies (Azavedo 2004).

The alternative concepts of international economic integration have arisen. They are differentiated in accordance with aims and time duration of the integration process. On this basis models of two-speed and multi-speed Europe are considered (Ehlermann and Ehring 2005, p. 51-75). They consider that as a result of different starting conditions, integration participants, having declaimed common goals, may lose different amount of time for their achievement. Examples of multi-speed integration are the Maastricht Treaty (1992) about the convergence criteria as to creation of an internal market for the EU and the European Monetary Fund.

The aim of the current research is to study effects of economic integration within the Cooperation Council for the Arab States of the Gulf and its influence on trade within the region and with third countries.

Investigation of the economic integration effects within CCASG

Using the gravitation model we shall try to investigate CCASG effects on the trade development within the region and to define trading potential of CCASG member countries with countries or groups of countries, with which free trading zone agreements are signed. In order to estimate the model, based upon 7500 observations (2001-2012), the cross regression method of united time series was used. The countries of Middle East and North Africa will be used as a control group for CCASG, as CCASG member countries have the most stable economic, political and cultural relations with them.

CCASG member countries heavily depend on foreign trade. Export ratio deviates from 74% for Bahrain to 41% for Saudi Arabia. Totally, 82% of regional export consists of oil. Saudi Arabia is the most powerful participant; it maintains 46% of regional export and 38% of regional import. In the second place there is the UAE with 21% of export and 35% of import. The biggest shares of import are cars and equipment (38%), the manufacturing sector (18%) and food products (11%) (United Nations 2014).

Providing that CCASG member countries are big oil exporters, their main trade partners are outside of the region. Only 4.12% of export is realised on the markets within the region and only 9.74% of import come from CCASG member countries. The small volume of intraregional trade is explained by the similarity of economic structure of CCASG member countries and lack of industrial diversification (EIA, 2014). Nevertheless, if oil trading is excluded, part of intraregional export will increase to 26.7%, which is a much higher value that can be compared with values of such integration unions as Mercosur or ASEAN. This shows that intraregional trade of CCASG is more intensive, and economies of the region's countries are more integrated than it seems from the first site.
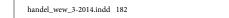
Table 1 provides trade directions of CCASG member countries in 2001-2012. South-East Asia, the USA and the EU – 22%, 9.8% and 8.6% of total CCASG export respectively, and Arabic countries (including CCASG countries themselves) – only 6%. If oil is excluded, Arabic countries (including CCASG) will get 35% of export, while the rest of export is directed to South-East Asia (17%), the EU (8%) and the USA (6%). Obviously, oil does not influence so much on the import (United Nations 2014).

In order to define how the geographical structure of foreign trade of CCASG member countries was changing during the years we separated the period 2001-2012 into three sub-periods. As it can be seen from the table, the ratio of CCASG intraregional export, excluding oil, was gradually decreasing (26.6% in 2001-2004 to 21.5% in 2009-2012). Shortening of intraregional total export was compensated by the increasing export ratio to main trade partners, while export decrease excluding oil is accompanied by decrease of ratio falling on main trade partners and increase of ratio for 'other' countries. In order to explain these structural changes in CCASG trade, it is necessary to build a formal model, which would take into account different factors influencing two-side trading, including effect from economic integration within the region and strengthening of global openness of the CCASG member countries. For such cases the gravitation model is mostly used, which is known for its flexibility and authenticity of results.

Table 1

Geographical structure of foreign trading of CCASG member countries (in %)

Period	CCASG member countries	Arabic countries	USA	EU	Asia	Others
Total export						
2001-2012	4.12	1.46	9.38	8.74	20.73	55.56
2001-2004	4.32	1.38	11.66	12.30	14.51	55.84
2005-2008	4.12	1.43	6.22	5.71	23.83	58.69
2009-2012	3.91	1.58	10.26	8.22	23.86	52.16
Export (excluding oil)						
2001-2012	26.62	8.09	6.21	7.32	18.16	33.60
2001-2004	30.65	8.26	6.12	8.10	27.17	19.69
2005-2008	27.69	9.35	7.25	8.17	15.00	32.54
2009-2012	21.52	6.68	5.24	5.69	12.31	48.57
Total import						
2001-2012	9.74	2.57	14.64	31.11	25.75	16.19
2001-2004	8.76	2.64	17.54	32.30	23.04	15.72
2005-2008	10.83	2.35	13.87	30.94	27.48	14.52
2009-2012	9.61	2.72	12.51	30.09	26.73	18.34

Source: United Nations (2014).

Application of the gravitation model for analysing the effects of economic integration within CCASG and its influence on foreign trading

The gravitation model is based upon the hypothesis that volumes of two-side trading between two countries directly depend on their GDP and counter depend on distance between them. In different researches, this model was enlarged with different variables such as common cultural and historic past, common language, common border, trade preferences, etc.

Specification of the model used in the research looks as follows:

$$
\begin{aligned}
\ln X_{ijt} = {} & \beta_0 + \beta_1 \ln(Y_{it}) + \beta_2 \ln(Y_{jt}) + \beta_3 \ln(Pop_{it}) + \beta_4 \ln(Pop_{jt}) + \beta_5 \ln(Dist_{ij}) \\
& + \beta_6 (B_{ji}) + \beta_7 DCC_{ijt} + \beta_8 DMU_{ijt} + \beta_9 DMAS_{ijt} + \beta_{10} DCCO_{ijt} \\
& + \beta_{11} DCMU_{ijt} + \beta_{12} DCMAS_{ijt} + \beta_{13} DCEU_{ijt} + \beta_{14} DCUS_{ijt} + u_{ijt}
\end{aligned} \tag{1}
$$

where

X_{ijt} – volume of trading between the countries i and j within the t period;

Y_{it} – nominal GDP of the i country;

Y_{jt} – nominal GDP of the j country;

Pop_{it} – population of i country;

Pop_{jt} – population of j country;

$Dist_{ij}$ – distance between i and j;

B_{ji} – dummy variable to mark common border between i and j;

DCC_{ijt} – dummy variable, equals to one, if i and j both belong to CCASG;

DMU_{ijt} – dummy variable, equals to one, if i and j both belong to Arab Maghreb Union (Algeria, Libya, Mauritania, Morocco, Tunis);

$DMAS_{ijt}$ – dummy variable, equals to one, if i and j both belong to countries of Mashreq (Iraqi, Syria, Jordan, Palestine, Lebanon);

$DCCO_{ijt}$ – dummy variable, equals to one, if i is a CCASG member country and j is not;

$DCMU_{ijt}$ – dummy variable, equals to one, if i is a CCASG member country and j belongs to Arab Maghreb Union;

$DCMAS_{ijt}$ – dummy variable, equals to one, if i is a CCASG member country and j is a country of Mashriq;

$DCEU_{ijt}$ – dummy variable, equals to one, if i is a CCASG member country and j is an EU member country;

$DCUS_{ijt}$ – dummy variable, equals to one, if i is a CCASG member country and j is the USA;

u_{ijt} – error term;

$\beta_0, \beta_1 \ldots \beta_{14}$ – estimated parameters.

One can expect that parameters β_1 and β_2 will be positive as trading between the countries grows with GDP increase. Big countries trade more among themselves, as they have more potential to the export offers and import demand. Coefficients β_3 and β_4 are expected to be negative, as countries with more population are poorer with a certain level of GDP, and thus – trade less. However, some scientists (Zarzoso and Lehmann 2003) are stating that positive or negative value of population parameters depends on absorption effect or scaling effect. Parameter β_5 will probably be negative, as the larger distance between the countries, the higher are the expenses on transportation and transactions. However, in a course of time module value of this parameter will be getting less because of the transport connection development. Coefficient β_6, as expected, will be positive, as the common border favours the trade development.

Parameters β_7 - β_{14} reflect influence of economic integration within CCASG and other agreements of preferential trading. Namely, a positive and considerable value of the β_7 parameter will mean that belonging to CCASG member countries stimulates the development of the trading more that it could have been expected with the set level of economic development. In other words, creation of CCASG leads to common increase of intraregional trading. The DCCO variable reflects the openness level; in other words, whether the increase of intraregional trade takes place because of non-CCASG member countries, or no. If parameter β_7 is positive and statistically valuable, and parameter $\beta10$ - statistically not valuable, then a trade creation effect is being observed. In case if β_7 is positive and statistically valuable, and parameter β_{10} – negative and statistically valuable, then trade deviation effect takes place.

A similar approach to modelling of economic integration effects was applied for researches of Mercosur, NAFTA and African trade unions (Zarzoso and Lehmann 2003; Azevedo 2004; Havrylyshyn and Kunzel 1997).

We use the cross regression method for analysis and model with fixed effects for comparison of the results. Table 2 shows values of estimating parameters and mean-square error. All main variables have expected mark and high statistical value (1%), with the exception of the population index.

Value of the GDP variable is positive both for importer and exporter, which means that last GDP volumes of mutual trade are growing. Nevertheless, trade growth depends more on GDP growth in the exporting country and less on GDP growth in the importing country.

The parameter calculated for the population index is negative, thus countries with more population are more self-reliant, and correspondingly import less. The distance index also has negative influence on trading, as was expected, which reflects increase of costs for transportation, if the distance increases. Value of the common border dummy variable is predicted as well – countries with common border trade more than those not having common border.

Effects of the trade unions are expressed by the mark and value of the corresponding parameters. Intraregional trade parameter of DCC for CCASG member countries is positive and statistically valuable. In other words, influence of economic integration of CCASG member countries on trade between member countries is rather significant – countries are

trading within the region twice as intensive as they would trade without the integration union. Also, it is visible from the results of the research, intensive intraregional trade does not provoke diversion of trade flows from the third countries, which is proved by the positive and statistical «openness level» parameter (DCCO). Value of this index certifies the trade growth with non-members of CCASG by 39%. Thus, during the research period CCASG member countries have grown trade volumes within the region as well as with the rest of the world, and, hence, economic integration within CCASG demonstrates a trade creation effect rather than a diversion effect.

Table 2

Calculation results in accordance with the gravitation model

Variable	Cross regression method		Model with fixed effects	
	Estimating parameter	t-statistics	Estimating parameter	t-statistics
GDP_i	0.696*	17.157	0.503*	2.710
GDP_j	1.194*	88.452	1.150*	89.149
Pop_i	0.034	0.903	0.380*	2.896
Pop_j	-0.151*	10.346	-0.211*	14.922
$Dist_{ij}$	-0.782*	28.179		
B_{ji}	0.335*	2.863		
DCC	1.199*	6.289	2.557*	10.697
DCCO	0.298*	3.354	0.227*	3.611
DMAS	0.835*	4.892	2.665*	11.470
DMU	0.736*	4.755	1.317*	6.647
DCMAS	1.426*	7.490	1.608*	5.759
DCMU	-2.378*	12.364	-3.992*	13.834
DCUS	0.615*	2.715	0.0930	0.277
DCEU	0.367*	4.691	0.477*	4.291
GCCPR2	-0.250	1.064	-0.256	0.737
GCCPR3	-0.452	1.919	-0.155	0.447
GMASPR2	-0.205	0.770	-0.222	0.578
GMASPR3	-1.378*	5.376	-1.341*	3.539
GMAGPR2	0.229	0.870	0.676	1.736
GMAGPR3	-0.130	0.498	-0.248	0.639
R^2	0.64		0.596	
N	8045		8044	
Logarithmic probability	-15153.7		-16044.2	

* Valuable on the level of 1% or 5%.
Source: the calculations on the basis of *International Trade Statistics Yearbook* United Nations (2014).

Trading of CCASG member countries is reflected in two dummy variables: DCMAS and DMU. Results prove that trading with Mashreq countries is developing much faster, while trading with Maghreb is less than one can expect. Hence, trade agreement on lowering barriers between CCASG and Arab Maghreb Union will favour in prominent trade growth, as it has already happened with Mashreq.

CCASG trading with EU and the USA is also developing rather intensively, which is certified by positive and statistically significant DCUS and DCEU coefficients. This is unconditionally promoted by the signed free trade agreements.

In order to investigate the evolution of CCASG trade relations (both inside the region, and with third countries), we have divided the data into three periods, 4 years in each: period 1 – 2001-2004, period 2 – 2005-2008, period 3 – 2009-2012. To brace time effects dummy variables were introduced GCPR2, GCPR3, GMASPR2, GMASPR3, GMAGPR2, and GMAGPR3, GCOPR2, GCOPR3. They reflect CCASG intraregional trading, trading between CCASG and Mashreq countries, trading between CCASG and Arab Maghreb Union and trading between CCASG and the rest of the world within the periods 2 and 3 correspondingly. Period 1 is used as basic.

Results provided in Table 2 are certifying that coefficients of intraregional trading of CCASG member countries are negative, but statistically significant. This means that tendencies of intraregional trading in 2005-2008 and 2009-2012 showed no considerable changes, comparing to the basic periods. Trading potential from economic integration of CCASG countries has already been realised. Trade intensity with Mashreq countries is getting lower. The coefficient with the Arab Maghreb Union is not statistically significant. We can make a conclusion that implementation of the agreement on Greater Arab Free trade Area (GAFTA) has not had serious influence on the development of trading relations between CCASG and other Arabic countries.

Conclusions

We have analysed trade development of CCASG in the context of the existing agreements on the trade preferences in Middle East and North Africa (MENA region). Notwithstanding the traditional vision that Arabic countries are not intensively trading among themselves, we proved that creation of CCASG had extremely positive influence on the development of intraregional trading – CCASG member countries are trading among themselves twice as intensively due to the economic integration within the region. Also due to the analysis we have discovered that economic integration of CCASG shows the effect of trade creation rather than diversion. Probably it is a result of CCASG countries' openness to the rest of the world. Signing of free trade agreements between the CCASG and the EU and between the CCASG and the USA has also had extremely positive influence. This experience shows that possible signing of the free trade agreement between Ukraine and the EU will by itself have positive influence on the relations with the CCASG countries.

Bibliography

Aleksandrov I.A. (2000), *Monarkhii Persidskogo zaliva: etapy modernizatsii*, Delo i servis, Moscow.

Azevedo A.F.Z. (2004), *The Effects of Mercosur on Trade: An Analysis Based on a Gravity Model,* „Pesquisa e Planejamento Economico''*, Vol. 34, No. 2, Rio de Janeiro.

Balassa B. (2011), *The Theory of Economic Integration*, Routledge, New York.

Ehlermann C.-D., Ehring L. (2005), *Decision-Making in the World Trade Organization*: *Is the Consensus Practice of the World Trade Organization Adequate for Making, Revising and Implementing Rules on International Trade?*, „Journal of International Economic Law", Vol.8, Issue 1, Oxford.

EIA (2014), *Monthly Energy Review, May 2014*, U.S. Energy Information Administration, Washington, DC.

Havrylyshyn O., Kunzel P. (1997), *Intra-Industry Trade of Arab Countries: An Indicator of Potential Competitiveness*, „Working Papers", IMF, WP/97/47, Washington, DC.

Hosny A.S. (2013), *Theories of Economic Integrtaion: A Survey of the Economic and Political Literature*, „International Journal of Economy, Management and Social Sciences", Vol. 2, No. 5, Houston.

Levkivskyi V.N., Rybchuk A.V., Antonenko V.H. (2011), *Osoblyvosti rozvytku intehratsiynych protsesiv u rehioni Pers'koyi zatoky: Dosvid dlia Ukrainy,* „Ekonomika i upravlinnia", No. 2, Kyiv.

United Nations (2014), *International Trade Statistics Yearbook, 2012, Vol. 2, Trade by Commodity,* United Nations, New York.

Volovych O.O. (ed.) (2011), *Stratehiya aktyvizatsiyi spipratsi Ukrainy z derzhavamy Pers'koyi zatoky: analitychna dopovid',* Feniks, Odessa.

Zarzoso I., Lehmann F. (2003), *Augmented gravity model: an empirical application to MERCOSUR - European Union trade flows*, „Journal of Applied Economics", Vol. 6, No. 2, Amsterdam.

Wpływ integracji ekonomicznej na handel zagraniczny w regionie Zatoki Perskiej

Streszczenie

Celem badania jest analiza skutków integracji gospodarczej w ramach Rady Współpracy Zatoki Perskiej (RWZP) i jej wpływu na handel wewnątrz regionu i z krajami trzecimi. Korzystając z modelu grawitacyjnego, przeanalizowano rozwój handlu Rady Współpracy Państw Arabskich Zatoki Perskiej w kontekście istniejących umów dotyczących preferencji handlowych na Bliskim Wschodzie i w Afryce Północnej. Udowodniono, że powstanie RWZP miało bardzo pozytywny wpływ na rozwój handlu wewnątrzregionalnego. Stwierdzono również, że integracja gospodarcza państw członkowskich RWZP pokazuje skutek kreacji, a nie odrzucenia handlu. Bardzo pozytywny wpływ miało podpisanie umów o wolnym handlu między RWZP i UE oraz między RWZP i USA.

Słowa kluczowe: integracja gospodarcza, Rada Współpracy Państw Arabskich Zatoki Perskiej, model grawitacyjny, skutek kreacji.

Kody JEL: B41, F13, F15

Влияние экономической интеграции на внешнюю торговлю в регионе Персидского залива

Резюме

Целью исследования было изучение эффектов экономической интеграции в границах Совета сотрудничества арабских государств Персидского залива (ССАГПЗ) и его влияние на торговлю внутри региона и с третьими странами. При помощи гравитационной модели проанализировали развитие торговли Совета сотрудничества арабских государств Персидского залива в контексте существующих соглашений о торговых преференциях на Ближнем Востоке и в Северной Африке. Доказано, что создание ССАГПЗ имело весомое позитивное влияние на развитие внутрирегиональной торговли. Также было выявлено, что экономическая интеграция стран-членов ССАГПЗ демонстрирует эффект создания, а не эффект отвержения торговли. Заметное позитивное влияние имело подписание соглашений о свободной торговле между ССАГПЗ и ЕС и между ССАГПЗ и США.

Ключевые слова: экономическая интеграция, Совет сотрудничества арабских государств Персидского залива, гравитационная модель, эффект создания.

Коды JEL: B41, F13, F15

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