

Competitiveness and Factors Affecting in Services Export

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ABSTRACT

Trade in services has been growing in recent decades especially among developing countries. Services export can improve the trade balance, expand employment, boost economic growth and also support the development of the merchandise sector. **The main object of this paper is to study the competitiveness by Revealed Comparative Advantage (RCA) index and to evaluate the main factors affecting the export of services among OIC member countries by panel data method.**

Findings of RCA index show that the comparative advantage of travel and transportation services export among these countries has increased and percentage of countries which have RCA less than unit has increased. The factors such as GDP per capita, real effective exchange rates, foreign investment inflow, and communication infrastructure have significant and positive effects on export services. The variables such as inflation and institutional index reduce the services export. **Furthermore, the membership of these countries in regional blocks, ECO and D8, has increased the export of services.** Therefore, policy makers in public and private sectors should plan for development of services exports by consideration of main factors affecting and comparative advantages.

Key Words: Services export, Revealed Comparative Advantage (RCA), main factors affecting, Panel data, OIC member countries.

JEL Classification: F13, F14, L84.

INTRODUCTION

Trade in services has features that make it distinct from goods trade. First, services are intangible although sometimes they are combined with tangible goods; second, services are perishable and non-storable and also their consumption and production proceed simultaneously; third, in contrast to the exclusively cross-border mode for trade in goods, there are three other modes including consumption abroad, commercial presence and movement of natural persons [1]-[2]. Generally, the clear and comprehensive definition for services cannot be presented but when the differences between the categories of trade are examined, services can be introduced as a process while goods are tangible objects [3].

Global trade is characterized by expansion and an increasing share of trade in services. This affects on the process of production, employment and economic development as well as the tangible goods sector. In 2010, the share of services value added in world's GDP was 71 percent, while the share of industry and agriculture sectors respectively were 26 percent and 3 percent [30]. Since the 1990's the trend of services trade has increased on a global level. According to UNCTAD¹ statistics, the world's services export has increased from 391 billion dollars in 1980 to 3765 billion dollars in 2010 i.e. by more than 9.5 times. UNCTAD's statistics explain that the growth rate of services export among developing countries and developed countries respectively has been 12.4 percent and 8.2 percent from 2000 until 2010. [28].

In addition, it seems that one of the important factors in constructive interaction with the international economy depends on the ability of countries for export of services in global and regional markets. Therefore, market identification and competitiveness among countries considering the comparative advantages of services export, analyzing factors influence the promotion of this sector can create the clearer perspective for the improving of trade policy with trade partners.

This paper at first present the theoretical foundations and the previous studies related to this subject. Trends and distribution of services export among Organization of Islamic Cooperation (OIC)² are discussed in second section. The next sections cover the research methodology, calculating RCA and estimated models by panel data for services export. Analysis of findings and conclusions along with policy recommendations are the final parts of paper.

¹ United Nations Conference on Trade and Development

² Organization of Islamic Conference (formerly)

THEORETICAL FRAMEWORK AND LITERATURE REVIEWS

Establishment of international organizations and major economic institutions like IMF³ and GATT⁴, led to economic integration in regional and international levels for development of trade. The spread of GATT's agreements and negotiations as well as the reduction of tariff and non tariff barriers have created more competitiveness among economies, growth of technology and free movement of capital and foreign investment. In this scope, GATS⁵, contains the multilateral principles and rules that follow the progressive liberalization and is considered as an instrument for promoting the economic growth.

In the process of trade, goods are exchanged exclusively through cross-border mode. On these contexts, GATS classifies the range of services trade under four modes:

Mode 1 (Cross-Border Supply), includes the services transmitted across borders and occurring through telecommunication networks. They are introduced as an intermediary service. Sending educational materials for students by electronic instruments, telecommunications networks and postal services, sending the recommends and advisements of doctors to patients abroad are the examples of this mode.

Mode 2 (Consumption Abroad) refers to services supplied within the borders of a country to consumers in other countries. Tourism services including use of hotel or restaurant services abroad, educational programs for foreign students, health care services for non-resident persons and sending equipments out for repair belong to this category.

Mode 3 (Commercial Presence) refers to services the provider of which is in the home country and a branch or representative offices of foreign non-residents supplier may employ internal staff under the internal rules and regulations. Although these services are provided by residents companies, their source is foreign investment. The local offices of multinational service companies, infrastructure projects, banking and insurance services are business practices in this mode.

Mode 4 (Movement of Natural Persons) includes services provided by citizens of a country in other countries as non-resident and temporarily. Construction projects, engineering services, drilling of oil wells are examples [5] - [11].

Many developing countries benefit from expanding the service sector. They can change and replace the modes of services supply within their economies. For example the presence of skilled and semi-skilled workforce with improved technology enables them to use the Mode 1 and Mode 4 type [3].

Objectives and principles contained in GATS with the approach of eliminating trade barriers and developing new export strategies lead to a new concept of competitiveness that are shown in theory of Porter's National Diamond. Four attributes of the national advantage of Porter's Diamond include factor conditions, demand conditions, related and supporting industries as well as strategy and firm's structures. Factor conditions refers to inputs used as factors of production such as labor, land, natural resources, capital and infrastructure. This seems to be similar to the standard economic theory but Porter argues that the key factors of production or specialized factors are created not substituted. Non-key factors or general use factors such as unskilled labor and raw materials can be obtained by any company and, hence, do not generate sustainable competitive advantage. However, specialized factors involve maintainable investment [22].

Hence, Porter's approach indicates precisely that the main components to explain the factors that enhance the competitiveness of countries share in the international trade are combination of the micro and macro fields

The conclusion of these ideas about the determinant factors for influence and development of services export implies that whenever in one economy the appropriate and legal institutions is creating, knowledge and productivity are endogenous, innovation is growing, personal and monopolized powers is restricted and as well as disruption and obstacles related to the dynamic interaction between economic parts is removed, the prices act as an effectiveness opportunity. They play the important role of signaling to the economic factors and allocation of resources properly and efficiently.

Thus, with regard to the complementary relationship between these factors, we can say each of these components can influence the rate and direction of services export. Most of studies around this area confirmed this attitude and sometimes focused on one key factor or multifactor for describing the competitiveness.

In the study of Francois and Hoekman (2010) the subject of services trade and policy has investigated. Specially, they focused on determinants of international trade and investment in service, liberalization through agreements as a main source of welfare, FDI and foreign affiliates in this sector, performance and restriction of services trade [9].

The results of research's Lennon and et al (2008), shows that the effects of variables related to physical geography (distance, contiguity and being landlocked) are significantly lower when explaining trade in other commercial services. By contrast, language variables, which can be considered as cultural and informational proxies, impact trade in service more significantly than trade in goods. Additionally, results are consistent with

³. International Monetary Fund

⁴. General Agreement on Tariffs and Trade

⁵. General Agreement on Trade in Services

the hypotheses that Trust and contract enforcement, networks, countries' level of education, Labor market regulation and Technology of communication are more important when explaining trade in Other Commercial Services than when explaining trade in goods. In this study bilateral trade in goods explains bilateral trade in services [16].

Li and Moshirian (2003) evaluated determinants of international investment in insurance services in the US. The results of this study show that national income, market size, financial development and the solid economic fundamental in the host countries are main factors for expansion of foreign direct investment in this sector. On the other hand, higher wages and cost of capital as well as uncertainty of exchange market reduce the effect of FDI attraction policies in insurance services. According to the suggestions of this study, FDI in insurance services is complement with FDI in total trade in this sector [18].

Moshirian in another research (2007) represents that there is a lot of similarity between trade in goods and trade in services. Price competitiveness is one of trade determinants in the part of transport and tourism services and it is similar in products manufacturing [21].

According the results of Kumar' research (2005), the South Asian countries have natural comparative advantage in movement of natural persons, Mode 4. In addition, RCA is belongs to the countries which is labor intensive in services [14]. On the other hand, findings of Makoto (2007) show that comparative advantage in export structure of US is base on the knowledge-based services [19].

According to results of Dang (2010), variations in economic institutions across provinces in Vietnam can be explained by trade liberalization. Using data on 63 provinces, this research has documented a positive association between institution and trade openness policy. On the other words, provinces that have had a greater amount of foreign direct investment have a better institutional quality. The instrumental variable approach explains that the direction of influence is from greater openness to better institutions [6].

Do and Levchenko (2009), in their study investigate the relationship between international trade and the quality of economic institutions. They model institutions as fixed costs of entry, in a framework that has two key features. First, preferences over entry costs differ across firms and depend on firm size. Larger firms prefer to set higher costs of entry, in order to reduce competition. Second, these costs are endogenously determined in political economy equilibrium. Trade opening can lead to higher entry costs when it changes the political power in favor of small elite of large exporters, who in turn prefer to install high entry barriers [7].

The study by Sekkat and Varoudakis (2002) investigating the links between trade policy reforms and share of manufactured exports to GDP on the Middle East and the North Africa region (MENA) confirmed that trade policy matters for the region's performance [25]. In a recent study Meon and Sekkat (2004) found that for MENA countries, the weakening in the quality of institutions was associated with low performance in terms of manufactured exports and foreign direct investment attractiveness [20].

Gani and Prasad (2006) investigated the determinants of export, import and total trade including both traditional explanatory variables and a set of indicators of institutional quality among six Pacific Island countries. Results provides evidence that improvements in government effectiveness is associated with increased imports; improved regulatory environment positively facilitates increased levels of trade; deterioration in rule of law seems to be working against improved exports for these countries; presence of corruption tends to reduce imports; appreciation of exporter's currency does not significantly harm trade; higher levels of technological diffusion are vital for improved trade; and living with the WTO principles of trade liberalization and becoming more outward oriented strongly facilitates more trade [10]. The study by Dollar and Kray (2002) implies a positive correlation between openness and the quality of institutions [8].

Trends of services export among OIC member countries

After the UN and WTO, the OIC is considered as the largest world economic and political organization in terms of member number and historical antiquity. This organization was established in 1969 to expand the cooperation among 57 countries.

According to its charter, "the OIC aims including to preserve social and economic values, promote solidarity amongst member states, increase cooperation in social, economic, cultural, scientific, and political areas, uphold international peace and security and advance education, particularly in the fields of science and technology" [27] – [23].

OIC has done efforts for economic cooperation and the realization of bilateral and multilateral trade among member countries during these years. It is one of the pioneers in South-South trade and began its activity in this field before many of the relevant international organizations.

According to the World Bank classification, of 57 member states OIC, 18 countries have low income are LDCs⁶. Countries such as Afghanistan, Bangladesh, Benin, Burkina Faso, Chad, Comoros, Gambia, Guinea, Guinea-Bissau, Kyrgyz, Mali, Mozambique, Niger, Sierra Leone, Somalia, Tajikistan, Togo and Uganda. Seven countries which have high income include Bahrain, Brunei Darussalam, Kuwait, Oman, Qatar, Saudi Arabia,

⁶ . least-developed countries (LDCs)

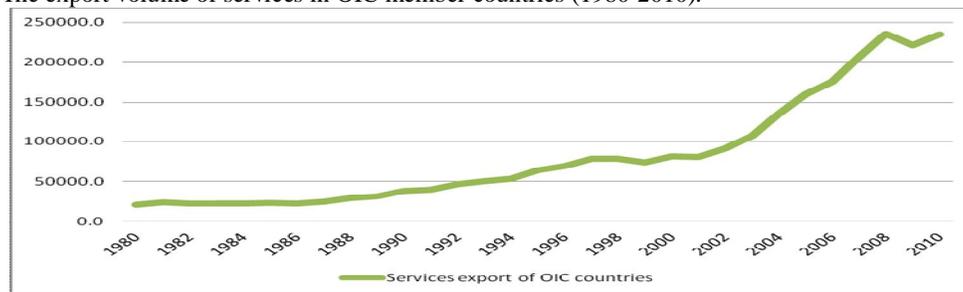
United Arab Emirates and all of GCC⁷ members are in this list. 18 countries have lower middle income and 14 countries have upper middle income. According to this classification, Cameroon, Cote d'Ivoire, Djibouti, Egypt, Guyana, Indonesia, Iraq, Mauritania, Morocco, Nigeria, Pakistan, Senegal, Sudan, Syrian Arab, Turkmenistan, West Bank and Gaza, Uzbekistan and Yemen have lower middle income. On the other hand, countries such as Albania, Algeria, Azerbaijan, Gabon, Iran, Jordan, Kazakhstan, Lebanon, Libya, Malaysia, Maldives, Suriname, Tunisia and Turkey have upper middle income. Among OIC members, Turkey had the highest GDP at nominal exchange rates with 747 billion US dollars in 2010. Qatar is the richest country on the basis of real GDP per capita and Comoros, Guinea-Bissau, Gambia, Djibouti and Maldives have the lowest real GDP per capita [29]. There are two trading blocks in OIC group that play an important role in the position of regional integration among member state namely, ECO and D-8.

Economic Cooperation Organization (ECO), established in 1985 by Turkey, Iran and Pakistan. In fact it is an intergovernmental regional organization and its main object is providing the cooperation among member countries for promoting economic, technical and cultural areas. In 1992, new members such as Afghanistan, Kazakhstan, Turkmenistan, Azerbaijan, Uzbekistan, Kyrgyz were added.

The Developing Eight (D-8) are a group of developing countries which have established an economic and business development alliance. The member states are Indonesia, Iran, Turkey, Bangladesh, Egypt, Nigeria, Malaysia and Pakistan. The major objectives of this group for economic cooperation are to enhance and improve their position at the international level, to participate in decision-making for increasing their standards of living and reduce the trade barrier in agriculture, finance, energy, banking, science, health and technology [24]-[31].

The whole services export of OIC member countries has increased from 21.1 billion dollars in 1980 to 38 billion dollars in 1990. After 2000, exports have increased with more intensity, so that it has increased from 81 billion dollars in 2000 to 235 billion dollars in 2010. The average of total services export over the period (1980-2010) is equal to 83 billion dollars and during this period, exports in these countries have been 11.2 times [28]. Fig. 1 shows the export volume of services in OIC member countries from 1980 to 2010.

Fig. 1: The export volume of services in OIC member countries (1980-2010).



Source: UNCTAD Statistics (2011)

According to WTO statistics, in 2009 the countries including the United States of America, China, Australia and Turkey have the highest export among the top 15 countries at the field of tourism and travel services export. Among OIC countries, Malaysia and Egypt have eighth and twelfth ranking respectively. Also at this year the transportation services in countries such as the United States of America, Japan, Singapore, South Korea, Hong Kong and China has the best position in world and Turkey and Egypt with 7.6 and 6.7 billion, respectively, after Canada have the eleventh and twelfth ranks.

At this year, in the part of related to other commercial services in compare two major parts there is no OIC country. However, in 2008, Bahrain with 916 million dollars and Turkey with 752 million dollars in the field of insurance services as major exporters have tenth and twelfth position. Turkey with 841 million dollars had fifteenth rank in the world for export of financial services. The second rank in the world after the United States of America with 6071 million dollars for the export of telecommunications services belongs to Kuwait and also other countries such as Turkey, Morocco and Malaysia had the seventh to ninth ranks respectively in the world. The third cultural services exporter has been hatched to Turkey. Among OIC countries including Iran, Egypt, Malaysia and Turkey, after Japan, China, Russia and America are the major exporter of construction and related engineering services [30].

Competitiveness in services export

When Adam Smith (1776) introduced the theory of absolute advantage, David Ricardo (1817) and Heckscher-Ohlin (1933) expanded this theory. The Ricardian theory assumes that differences in technology and productivity of labor determine comparative advantage across countries, while Heckscher-Ohlin theory (H-O)

⁷. Gulf Co-operation Council

explains that technologies among countries are the same. They believe that the comparative advantage for a country arise from relative factor scarcity.

Balassa (1989) argues that two previous theories have some problems and they have not included relative prices under autarky and also Vollrath (1991) supports this idea. Balassa's index is introduced as follows:

$$RCA_i^k = \frac{X_i^k / X_{ii}^k}{X_w^k / X_{tw}^k} = \frac{X_i^k / X_w^k}{X_{ii}^k / X_{tw}^k} \quad (1)$$

Where; RCA is Revealed Comparative Advantage, X represents exports, k is a service sector, i is a country, t is a set of exports (total exports) and w is a set of countries (the world).

RCA measures the proportion of the exports of one country in a specific services sector to the country's total exports divided by the export share of this services sector to total exports in the world.

If RCA_i^k is greater than unit ($RCA_i^k > 1$), the comparative advantage is revealed and it means that a given country (i) can compete in the international markets through the export of specific service (k). If $RCA_i^k < 1$, explains that this country have a comparative disadvantage and is not able to compete in the world markets through the export of this service. [3] - [15].

A. Revealed comparative advantage in the export of transport services

In this section, revealed comparative advantage has estimated for OIC member countries in 1990, 2000 and 2010. The results of calculations states that countries without comparative advantage in transportation sector are 69 percent in 1990 and has decreased to 44 percent in 2010. In other words, the number of countries with comparative advantage less than 1 and the lack of comparative advantage have decreased. On the other hand, the number of OIC member countries which has the comparative advantage more than one and less than two ($1 < RCA < 2$) have increased over these years, so that the range of this index for 1990, 2000 and 2010 respectively include 21 percent, 28 percent and 44 percent. Table 1 reports the percentage and number of countries with different RCA by export of transportation.

Table 1: percentage and number of countries with different RCA in the export of transportation services

Year	1990		2000		2010	
RCA. Transportation	Percent	No. Country	Percent	No. Country	Percent	No. Country
RCA < 1	69	27	54	25	44	17
1 < RCA < 2	21	8	28	13	44	17
RCA > 2	10	4	17	8	13	5
Total	100	39	100	46	100	39

Source: Authors calculation and UNCTAD Statistics (2011)

B. Revealed comparative advantage in the export of travel services

Findings related to the export of tourism and travel services in the RCA index show the number of countries which have not used their export potentials has decreased. In other words, the percentage of member states which have the advantage of less than one ($RCA < 1$) in 1990, 2000 and 2010 respectively is equivalent to 54 percent, 40 percent and 35 percent. In addition, the percentage of countries that have comparative advantage more than one ($RCA > 1$) in travel services part has increased and in comparison with other sectors is higher.

Table 2 explains the percentage and number of countries with different RCA in the export of travel sector.

Table 2: percentage and number of countries with different RCA in the export of travel services

Year	1990		2000		2010	
RCA. Travel	Percent	No. Country	Percent	No. Country	Percent	No. Country
RCA < 1	54	20	40	19	35	14
1 < RCA < 2	32	12	43	20	28	11
RCA > 2	14	5	17	8	37	15
Total	100	37	100	47	100	40

Source: Authors calculations and UNCTAD Statistics (2011)

C. Revealed comparative advantage in the export of other commercial services

This section that includes subsections such as financial services and insurance, business, engineering, education, health and etc has differences with the previous two sections. The percentage and the number of countries which have comparative advantage ($RCA > 1$) has increased in 1990, 2000 and 2010 and respectively are 49 percent, 66 percent and 72 percent. This means that OIC member countries have failed in their export potentials in the past two decades and also the number of countries with $RCA > 2$ is low. It should be mentioned that high diversity of subsectors in other services export can be justified, so that the low comparative advantage of the some subsections have affected the significant advantage in over other sectors and finally RCA index in this

sector has been faced with a decreasing trend. Table 3 shows the percentage and the number of countries with different RCA in other commercial services section.

Tables 3: percentage and number of countries with different RCA in the export of other commercial services

Year	1990		2000		2010		
	RCA. Other services	Percent	No. Country	Percent	No. Country	Percent	No. Country
RCA < 1		49	19	66	31	72	28
1 < RCA < 2		38	15	32	15	28	11
RCA > 2		13	5	2	1	0	0
Total		100	39	1.00	47	1.00	39

Source: Authors calculations and UNCTAD Statistics (2011)

Methodology and introduced model

In this study the model estimated is based on panel data and this method is a combination of time-series data (1996-2010) and the OIC member countries as cross-sectional data. The advantages of this method including the increasing of sample size, reduction of collinearity, increasing of efficiency, reducing the estimation bias, heteroscedasticity.

In panel models, some of variables change between the cross-sectional units or over the time. To consider of this difference, both of fixed effect model (FEM) and random effect model (REM) is used. In fixed effects model assumed that the difference between cross sections can be appeared in intercept. However, in the random effect model is assumed that the difference among sections can be appeared in error terms.

At first for using of panel data method in this study, it is necessary to do the related tests. The statistical test for the hypothesis is as follows;

$$F = \frac{(RSS_R - RSS_{UR}) / (N - 1)}{(RSS_{UR}) / (NT - N - K)} \quad (2)$$

Here T is time period, N is the number of cross-sections, k is number of regressors, RSS_R is restricted residual sum squares and RSS_{UR} explains unrestricted residual sum square in the above model.

Hausman statistics is used for selection among both model random effects and fixed effects, so that by accepting the null hypothesis, the performance of random effects is confirmed and vice versa. This statistics is calculated as distribution of χ^2 with degrees of freedom k and is expressed in the following equations;

$$\chi^2(k) = (b - \hat{\beta}) \sum^{-1} (b - \hat{\beta}) \quad (3)$$

$$Var(a, \beta') = Var(b) - Var(\beta') = \sum$$

In this equation, b implies coefficients estimated using fixed effects and β' indicates the estimation of random effects [2].

According to the theoretical foundations of this research and previous experience in other studies including Francois and Hoekman (2009), Li and Moshirian (2003), Lennon and et al (2008), Gani and Prasad (2006) and Meon and Sekkat (2004), the specified model with panel data approach is as follows:

$$LSERV_{it} = \beta_0 + \beta_1 LGDPC_{it} + \beta_2 L RER_{it} + \beta_3 INF_{it} + \beta_4 MOBIL_{it} + \beta_5 FDIG_{it} + \beta_6 INST_{it} + \beta_7 Dum_{it} \quad (4)$$

Variables used in model 3 including the total services exports by constant prices ($SERV_{it}$); Gross domestic product per capita (GDP_{it}); real effective exchange rate (RER_{it}); inflation or changes in consumer price index (INF_{it}); the number of fixed telephone users and mobile subscribers per 100 ($MOBIL_{it}$); ratio of foreign investment to GDP ($FDIG_{it}$); dummy variables including the presence or absence of membership in regional trading blocs ECO and D8 as well as institutional index ($INST_{it}$), a simple average of the indices such as voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law and control of corruption [12]-[13].

Information and secondary data needed for this research have been taken from World Development Indicators (WDI) and Governance Matter 2010, WTO and UNCTAD statistics. For data analyzing and the estimation of model, software package Eviews 0.7 has been used.

RESULTS AND DISCUSSION

At first in order to select between panel data and pooling data as well as fixed effect and random effect model by using Hausman and Limmer test, the concerned hypotheses have been tested. In all models, null hypothesis (H_0) was rejected. It means that intercepts is the same and therefore, the method of panel data is chosen for estimating the models. The Hausman test statistic is significant for all estimated models and implies the necessity of using a fixed effects model. In other words, in all of them the null hypothesis is rejected and the

independence of cross sections is not accepted from the independent variables. In whole estimated models, Hausman test is in the range of [26.2 - 29.4] and emphasized on fixed effect models significantly.

Before estimating the models it is necessary to measure the stability of variables used in model. For this purpose, the six most important methods for testing of unit root have used that including: Levin, Lin and Chu (2002), Breitung (2000), Im, Pesaran and Shin (2003), Fisher-type tests using ADF and PP tests Maddala and Wu (1999), Choi (2001), and Hadri (2000).

The results of unit root tests have been presented in Table 4. According to the findings of this study, all of the variables are stable in level and the null hypothesis which indicates on existence of unit root is rejected.

Table 4: The results of unit root tests for the variables used in the model by different methods

Variables	with intercept and without trend	With intercept and trend	Test type
LSERV	-	-3.47 (0.0003)	LLC
LGDP	-	-1.96 (0.024)	IPS
LRER	-2.13 (0.016)	-	Breitung t-stat
INF	596 (0.000)	-	PP-Fisher *
FDIG	-	8.07 (0.000)	LLC*
MOBIL	235 (0.001)	-	ADF
INST	-5.19 (0.000)	-	LLC
D8	-	-3.00 (0.001)	Breitung t-stat
ECO	-	-2.71 (0.003)	Breitung t-stat

Source: Authors calculations

Numbers in brackets represent (P-Value). (*) indicates that the other tests confirm the lack of unit root but one of the indicators or states has been reported in here.

In this essay the influential and identified factors in selected countries in specified models have been estimated. According to the results in all estimated models the coefficient of determination (R^2) is over 95 percent and it means that the models are fit and optimal.

The first model has been estimated without the institutional and regional blocks variables. All variables except the inflation rate have been accepted significantly in high level. Inflation's negative sign indicates an inverse relationship with the export of services and is confirmed theoretically. In addition to, the positive sign of GDP per capita, foreign investment and infrastructure variables imply the direct relation with export of services.

In the second model by entering variables representing the regional integration, membership of countries in the regional block such as ECO and D8, the significant of inflation rate also increases with a negative sign. The significance of other variables in this model is also considerable and the level of errors is less than one percent.

Results from the estimated models show that the impact of GDP per capita on total services export is positive and significant. This means that a further increase in production capacity and supply among OIC member countries has been led to increasing the services export. On other hand, the coefficient size of this variable is larger than the other model variables and implies on the importance of development and economic growth for enhancing the services export.

The effect of real effective exchange rate on the total services export in both models is positive and significant. Increasing of this rate that is considered as one of the important factors of international competitiveness, has led to increase the services export. In other words in higher levels of exchange rate, firms exporting services tend to more supply. The positive coefficients of variables, GDP per capita exchange rate, in export equation is confirmed theoretically.

The variable of users of mobile and fixed telephone representing the communications infrastructure among OIC countries has been estimated positive and significant in both models (2) and (4). This argues that whenever the changes in infrastructures improve and more people benefit from its access, then services export will increase. Moreover, the effect of foreign investment variable on the total services export has been estimated positively. In other words, policies to encourage and attract the foreign investments can increase services exports considerably.

The coefficients of dummy variables related to OIC member countries as regional commercial blocks, ECO and D8 are significant. This type of trade policy for cooperation and regional integration has led to the increasing of services export. The estimated models (4) and (5) express that the weight institutional variable lead to reduction of export significantly. This result states that the institutional performance is low and the system of governance in OIC member countries has not promoted the export of services. The results of all the estimated models have shown in Table 5.

Table 5: Estimated models of determinant factors in services export

Dependant Variable: Total services export					
Independent Variables	Model 1	Model 2	Model 3	Model 4	Model 5
C	-7.1 (0.000)	-16.6 (0.000)	-4.8 (0.000)	-16.2 (0.000)	-6.5 (0.000)
LGDP	1.93 (0.000)	3.01 (0.000)	1.57 (0.000)	2.9 (0.000)	1.8 (0.000)
MOBIL	0.0095 (0.000)	0.0078 (0.000)	0.009 (0.000)	0.0076 (0.000)	0.008 (0.000)
INF	-0.001 (0.35)	-0.0073 (0.014)	-0.001 (0.24)	-0.01 (0.004)	-0.0024 (0.13)
FDIG	0.011 (0.000)		0.011 (0.000)		(0.0065) (0.0042)
LRER		0.43 (0.005)		0.45 (0.006)	
ECO		0.17 (0.002)	0.49 (0.000)	0.20 (0.0006)	0.25 (0.000)
D8			0.51 (0.000)		0.08 (0.023)
INST				-0.33 (0.000)	-0.39 (0.0004)
R²	0.93	0.98	0.94	0.98	0.96

Numbers in brackets represent (P-Value). **Source:** Authors calculations

Conclusion and implications

Exports of goods and services as the engine of economic growth play an important role in development of countries. In recent decades, the growth of services export in many countries specially developing countries has been considerable. Therefore, the study of competitiveness along with effecting factors can help to identify and improve the situation of exporting countries. This essay has studied these items among OIC member countries by RCA index and panel data approach.

Findings of RCA index show that the comparative advantage of travel and transportation services export among the OIC member countries has increased and the percentage of countries which RCA is less than 1 has decreased. The number of countries which have not comparative advantage in the export of other commercial services has increased. Hence, these countries should revise on their trade policies for better using of the potentials exist in subsections such as finance and insurance services, engineering and construction services, education and distribution services.

The theoretical positive relationship between GDP per capita and exchange rate with services export has confirmed significantly. In other words whenever the OIC member countries try to promote their national production, the export of services will increase. The determination of reasonable exchange rate as an important factor for improving the competitiveness of export can be effective for services exporters. Inflation as a limited factor for the export of services has decreased that and it can increase transaction costs among these countries. The foreign investment inflow and creating the information and communication infrastructures has been resulted to increase of services export significantly. Making policy for encourage and attract the investment into these countries and individual access to updated information and communication technology will accelerate the export of services in these countries.

The membership of countries in regional trading blocs such as ECO and D8 has been lead to enhance of services export. Therefore, creating more trade agreements among these countries in services part generate higher profitability and raise national income. The institutional index shows that the ability of governments in OIC member countries for implementation of appropriate policies in process of promoting of export is not efficient and has reduced the services export. On other hand, increasing bureaucracy, political instability, low transparency in policies and regulations, has resulted to decline in export.

Therefore, policy makers in public and private sectors should consider the main economic and institutional factors for improving of services exports and try to identify the comparative advantages of different services parts.

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