INVESTIGATING THE EFFECT OF SECURITY COUNCIL COMPREHENSIVE SANCTIONS ON IRAN'S REGIONAL INTEGRATION WITH MEMBERS OF ECO AND D8 BLOCS

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ABSTRACT

This paper examines the effect of Security Council comprehensive sanctions on Iran's regional integration in two blocs Economic Cooperation Organization (ECO) and D8 group using the gravity model and panel data over the period of 1995 to 2010. The results of the evaluation of Iran's integration with other members of the ECO bloc indicates that Iran's presence in this bloc doesn't have a significant effect on Iran's regional integration and trade volume with other members of the bloc, and the results on the D8 Group, suggests that not only it has not resulted in integration, but also because of the presence of the Egypt in the bloc, the divergence has been achieved. The results of the investigation of the effect of sanctions on Iran's regional integration with other members of ECO and D8 confirm the ineffectiveness of sanctions on Iran's trade volume and regional integration with the rest of the blocs' members and in fact, the sanctions have not intensified the lack of integration in ECO bloc and divergence in D8 group.

KEYWORDS: Security Council Comprehensive sanctions, regional integration, ECO, D8, gravity model

In recent years, the international community has seen various developments. On the one hand, expansion and speeding up the process of globalization and turning to regionalism and building commercial and economic blocs and on the other hand, the use of economic sanctions as a tool to achieve political goals are examples of such development. Political, economic and cultural life of each country requires interaction with international organizations. The scope of functions and activities of international organizations has expanded to such an extent that even if a country does not want to have any interaction with them, it cannot rid itself of the restrictions imposed by them. Islamic Republic of Iran, like other countries, has been affected by the phenomenon of globalization and regionalism, and like some others by the sanction phenomenon. One of the economic and political challenges that Iran was gripped with over thirty years is the political conflicts with the West countries led by America that has led to imposition of political and economic pressures from Western governments over Iran. An obvious example of this is the pressure of economic sanctions imposed on Iran by the UN Security Council sanctions since 2006 with association of other countries. Impact of sanctions imposed on Iran has been examined in different studies and these studies have discussed and doubted their usefulness and effectiveness (Clawson, 1998; Preeg, 1999 And Torbat, 2005)[1][2][3]. Since Iran is engaged in two phenomena of globalization and regionalism and economic sanctions, therefore, the impact of Security Council comprehensive sanctions that have been more aggressively imposed on Iran, are very important in regionalism, which is proposed as a shield in the face of loss or damage arising from globalization. Therefore, the aim of this study is to investigate the impact of Security Council comprehensive sanctions on Iran's regional integration in Economic Cooperation Organization (ECO) and Developing 8 Countries (D8) blocs. Therefore, the studies conducted on regional integration and economic sanctions are mentioned in the second part of the paper, then in the third section we will clarify and explain the model and in the fourth and fifth sections, we will estimate the model and conclude.

Vineri (1950) was the first economist, who draw attentions to the effects of creating regional blocs and investigated international trade in his famous essay entitled “The customs union: from Havana Charter to dissolved organization”[4]. Aitken (1973) used the gravity model to assess the impact of the establishment of AFTA agreement on bilateral trade flows between members. The estimation results indicate that integration has led to trade increase in AFTA [5].

Krugman and Helpman (1985) conducted a case study on Mexico (NAFTA member), and concluded that regionalism (NAFTA bloc) increase and diversify production and exports in Mexico and noted that leaving the countries' economy open for trading will lead to increase in diversity of import and export that both will

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contribute to economic growth of the countries[6]. Hanson (2001) has shown that the integrity of the US-Mexico has contributed to the development of economic activities in the border regions [7]. Wallac, Christopher and Ramon (2002) have estimated the effects of regionalism in Asia and its effects on trade using the gravity model. The results indicate that preferential trade agreements create trade diversion for member countries [8].

Konnott and Fu Kushige (2003) investigated the bilateral relations between the U.S. and Mexico. They concluded that free trade agreements lead to an improvement in the trade balance and sustainable economic growth [9]. Perridy (2005) has used the gravity model for a review of trade relations between the Mediterranean and Europe Union. His data are about nineteen countries for the period of 1980-1995. The results indicate that in the presence of the ASEAN\(^1\) regional agreement with the Nordic countries, there will be an increase in commercial interest [10]. Raymond (2006) investigated the relationship between trade-regional agreement (such as NAFTA\(^2\)) and foreign direct investment, and showed that trade integration will encourage and increase foreign direct investment [11]. Kaur and Nanda (2010) examined the potential for Indian exports to member countries of South Asian Association for Regional Cooperation (SAARC) bloc during the period of 1981-2005 using the gravity model. The results show that the integration of this country with South Asian Association for regional cooperation bloc countries (SAARC) will increase their export potential [12].

Azarbayjani (2002) examined the relationship between globalization and economic and regional integration, and then he investigated and analyzed the effects of regional integration and outward-oriented policies on the growth and prosperity of the littoral states of the Caspian Sea and the Caucasus republics. The results of this study indicate a positive correlation between regional integrations and outward-oriented policies on economic growth of countries in the region [13]. Gholami (2006) examined the role of trade liberalization policies in the context of regional trade agreements. He used generalized gravity model to show the role of trade liberalization on foreign trade between Iran and Islamic countries (including 16 trading partners).

The results indicate that improved trade and tariff policies and eliminated non-tariff barriers and eradication of corruption in customs and trade related organizations will lead to increase in these countries' trade in the form of regional bloc [14]. Shakibaei and Bata (2009) in an article entitled "economic integration in the region of Southwest Asia" investigated the success or failure of possible regional bloc for Iran in Southwest Asia. They used the gravity model with panel data for the period of 1995-2006 to estimate the effects of trade integration in the region of southwest Asia. According to this research, Iran's commercial potential and economic integration of the countries of Southeast Asia's regional bloc in bilateral trade is estimated to be 61% and the amount will be more integrated in the absence of Iran in the region, and will increase to 71% [15]. Loffafi Poor et al (2011) used the gravity model to assess the success or failure of formation of the trade bloc between Iran and Latin American countries and concluded that the formation of bloc will lead to 89% increase in the volume of trade between the members of the bloc [16].

After the end of the Cold War and the collapse of the Soviet Union, sanctions growth has been remarkable, so that the distance of the First World War to 1990, i.e. during nearly 75 years, a total of 115 economic sanctions against various countries have been adopted and implemented that is by an average 1.5 sanctions per year, but since 1990, the number of economic sanctions have greatly increased. For example, between 1990 and 1999 world countries have experienced 66 sanctions that is the equivalent of 6.6 sanctions per year (Hufbauer et al, 2007\(^3\)) [17]. Economic sanctions are activities that the boycott country (or countries) (the sender) create restrictions on the flow of goods, services or capital between themselves and the other (the target country), with the ultimate goal of creating definite foreign policy or enhancing national security. Economic sanctions can create comparable effects with destructive effects of military actions but wider and more stable (Montaz, 2008)[18]. Caurso (2003) defines three kinds of sanctions as follows [19]:

Boycotts: imposing restrictions on the import of one good or more from the target country (sanctioned county). The purpose of this sanction is decreasing the competitiveness power of the target country's export and

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1 Association of Southeast Asian Nations
2 North America Free Trade Agreement
3 Hufbauer, Gary C., Jeffrey J. Schott, Kimberley A. Elliott and Barbara Oegg, 2007
reducing current earnings and causing damage to the industries of the country.

Embargo: Under this sanction, certain goods' export to the target country is prohibited.

Financial sanctions: giving loans and investments in the target country is announced as limited or outlawed. This will also include confiscation of assets (such as Iran or Nicaragua).

Economic sanctions can be unilateral, multilateral and comprehensive in terms of the number of participants. Sanctions that are imposed only from a country are called unilateral sanctions. In contrast to the unilateral sanctions are comprehensive sanctions that require issue of resolution by the UN Security Council and activating Article 41 of Chapter VII of the UN Charter and the multilateral sanction is in between the unilateral and comprehensive sanctions (Zamani 2007) [20].

Increase and intensify in the use of sanctions has provided a good context to conduct research on the effectiveness of unilateral and multilateral sanctions, the imposed costs on the countries subject to sanctions and who impose sanction. The sanction hypothesis was first proposed by Galtung to express dissatisfaction and deter some countries' behaviors (Yavari and Mohseni, 2010) [21]. Richardson observed that the embargo on gold exports of South Africa have limited impacts on employment of South African gold mining. Assuming multilateral sanctions and regulating the export reduction scenarios (20 % and 50% reduction) [22], Spandau indicated that this kind of sanctions leads to severe reduction in output and employment of blacks, especially in the gold mining sector [23]. Eaton and Engers (1999) identified the factors that lead to effectiveness of sanctions and stated that if the sanctions pursue modest goals, they are often successful [24].

Caruso (2003) examined the impact of negative economic sanctions on international trade using gravity models in a paper. At first, he examined the effect of unilateral sanctions of America on bilateral trade between America and 49-targeted countries in the period of 1960-2000 by estimating the gravity model and using panel data. He, then, enters dummy variables into the model as an alternative variable of sanctions. The results show that widespread and comprehensive sanctions have many negative effects on bilateral trade, while it is not the case in the intermediate and limited sanctions. He also estimates the effect of America's unilateral sanctions on the volume of bilateral trade between the countries aimed at boycotting and member countries of G-74. Results suggest that unilateral widespread sanctions have many negative effects, while mild and limited sanctions impose little positive impact on the world trade G-7 countries [19].

Petresku (2008) showed that economic sanctions decrease the possibility of military invasion between the two countries imposing sanctions and subject to sanctions to 9 percent’s [25].

After the Islamic Revolution, America imposed unilateral economic sanctions on Iran in response to the America's embassy hostage in 1979. From that time until 2006, multilateral and unilateral sanctions have been imposed on Iran with different excuses. Since 2006 and with the complexities of the Iranian nuclear issue, sanctions were being more severe. On 23 December 2006, the UN Security Council issued Resolution 1737 against Iran whereby a set of sanctions including a ban on sensitive nuclear installations and seizure of assets and Iranian companies associated with Iran's nuclear program and Iran was given 60 days suspend the uranium enrichment. By enacting the above resolution, Iran's economic sanction entered a different phase in terms of quality so that before the above resolutions, Iran's sanctions were mostly unilateral and enjoyed limited success due to the lack of participation of other countries. The above resolution that has been set and enacted according to Article 41 of Chapter VII of UN charter, requires all UN member states to implement the resolution, and thus enters Iran's economic sanction program into a new phase that is comprehensive and is much more effective. In March 2007, the second set of Security Council sanctions against Iran were enacted according to 1747 resolution, which included new financial sanctions and arms embargo. The sanctions increased the assets' seize to 28 groups, businesses and others involved in or who supported sensitive nuclear activities or the production of missiles. The resolution called for the implementation of Article 41 of Chapter 7 of the UN Charter and made the further implementation of its provisions by removing the military action mandatory. The third UN Security Council resolution against Iran was adopted in March 2008 (Resolution

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4 Canada, Japan, France, Germany, Italy, United Kingdom
1803), whereby the financial and travel restrictions on individuals and companies were increased and implementation of some of these restrictions became mandatory. The resolution expanded partial ban on trading in goods with military and civilian applications and these embargoes included sales of all such technology to Iran. 12 individuals and 13 companies were added to the list of individuals and companies suspected of helping Iran's nuclear and missile programs. In June 2010, the Security Council adopted the fourth sanctions against Iran by resolution 1929, which was more intense than others, whereby the travel restrictions and a ban on exporting armament major systems, widespread boycott goods of dual-use and assets seize, expanded financial sanctions by taking insurance and banking transactions with Iran into account, and tougher enforcement of sanctions by inspecting ships entering and leaving the country under special circumstances are included.5

The sanctions imposed on Iran, has provided a good context to conduct research on the effectiveness of sanctions. Amuzegar (1997) states that America's sanctions have not yielded the expected results or change of the Islamic state. Clawson (1998) showed that the sanctions have not convinced Iran to change behavior [26]. Dadkhah and Zangene (1998) noted that America can achieve its goals better through negotiating with Iran [27]. Preeg (1999) claimed that net assessment of economic impacts of America's sanctions on Iran is negative, and believed that America should abandon unilateral sanctions [2]. Alikhani (2000) studied sanctions imposed on Iran from a political and historical perspective. His overall assessment is that sanctions have not affected Iran form political perspective. [26]. Torbat (2005) has assessed the effectiveness of America's unilateral economic sanctions against Iran in 2000, according to the size and type of goods that historically were transferred between America and Iran and specify trade ties between the two countries. He has used the concept of the welfare cost to estimate the trade sanctions' effects and measured the harmful effects of the economic sanctions by assessing the additional financial costs that Iran has to pay because of the sanctions; he has then compared the results with other studies. In his paper, he shows that the effects of trade sanctions on non-oil exports and imports of capital goods are significant relative to Iran's oil exports. In general, trade and financial sanctions' costs for Iran is estimated about 1.1 percent of GDP that has significantly reduced Iran's economic growth. He believes that two main causes of the economic size of the two countries and the duration of the time that sanctions are applied are important to evaluate the impact of economic sanctions and suggests that the economic burden imposed on Iran are significant but is almost negligible on America and thus sanctions have been successful economically and if sanctions lead to achieving the desired goals, they are also successful politically, in this case, the political success due to the sanctions of Iran are not quite remarkable [3]. Yavari and Mohseni (2010) also examined the impact of trade and financial sanctions against Iran in 2000, and concluded that the America's sanctions were partly economically successful and also trade sanctions on non-oil exports of Iran and imports of capital goods had more significant effects than oil exports of Iran. Financial sanctions have also more severe impacts than trade sanctions. They assessed the trade and financial sanctions' costs in Iran to be about 1.1% of GDP using consumer surplus welfare; this amount is exactly the same as the Torbat (2005) [28].

METHODS
Study Methodology

As was mentioned earlier, in this article the gravity model has been used to show the effect of sanctions on Iran's regional integration in ECO and D8 blocs. Gravity theory describes the distance gravity between two or more substances. Classical gravitational theory in physics, states the gravity force (a_{ij}) between the two materials i and j proportional to their weight (M) and the inverse square of the distance (D_{2ij}) between the two substances:

\[ a_{ij} = \gamma \frac{M_i M_j}{D_{ij}^2} \]  

In which, \( \gamma \) is a constant factor.

Estimation of the international commercial flows has also inspired by Newtonian gravity theory. In the simplest case, when there is no obstacle and encourage, bilateral trade flows can be considered as a direct function of the size of the two countries' economic and the inverse function of the geographical distance between two countries using this model:
The gravity model was proposed for the first time to measure the examples of bilateral trade and explaining commercial blocs and then was used to study the effects of regional integration on FDI flows. The first attempt to apply the gravity equation has been done by Isard (1954). This equation is in the multiply form and is converted to linear mode to ease the estimation of the logarithm [29]. Tinbergen (1962) first introduced the logarithmic model and aimed to determine the normal and standard model of international trade that can be used in the absence of overt trade barriers (Caruso, 2003) [19].

By the presentation of this model by researchers, many experimental works were conducted that were in practice experimentally successful. However, until the 70s, any proof was provided for the gravity model, and there was a great conflict in this case. Since the 1970s, several attempts were undertaken to demonstrate the theoretical gravity model including Anderson (1979) and Bergstrand (1989) [30] and [31].

Anderson (2003) attempt to investigate the theoretical foundation of the gravity model which is more based on the development of his work done in 1979 to evaluate the reality of doing business in Canada after the free trade of the United States with this country is (Najarzadeh, 2006) [32].

Model Specification

As Gravity model, explains the total bilateral trade flows using the following simple linear equation:

$$TRADE_{ij} = A_0 \cdot (GDP_i \cdot GDP_j / DIST_{ij}) \tag{2}$$

To show the existence of integration among members of the bloc in the period of 1995-2005, the number of member states of the selected sample should be more than bloc members and that's why we've randomly selected sixty countries. To investigate the integration in the first period, the estimated equation is as follows:

$$LTRADE_{ij} = \beta_0 + \beta_1 L GDP_i + \beta_2 L GDP_j + \beta_3 L POP_i$$

$$+ \beta_4 L POP_j + \beta_5 LDIST_{ij} + \beta_6 A_i + U_{ij} \tag{3}$$

In which:

- $L POP_{it}$ and $L POP_{jt}$ are the logarithm of population of the countries and $A_i$ is the variety of other factors (usually dummy variables) that helps to support and sustain trade between the two countries and $U_{ij}$ is the normal random error term. In this study, the generalized gravity model is obtained by adding a dummy variable to the standard model to investigate the existence of integration in the period of 1995-2005, and other dummy variable to examine the effect of Security Council sanctions on the Iran's regional integration in the period of 1995-2010.

RESULTS AND DISCUSSION

In this section, we will examine integration and the impact of sanctions on the integration according to the (4) and (5) models. First ECO block and then D8 group will be reviewed.
Evaluation of integration between Iran and the other members of ECO and assessing the impact of sanctions on it

Panel models involve choosing between models with pooled data and models with fixed effects and also models with random effects from model with fixed effects. Therefore, before estimating (4) models to verify the existence or absence of integration, Chow F and Hausman tests are used to discern the correct form of the 3-4 model. F-test results with a value of 7.130 and the Hausman test with a value of 77.78 confirm existence of model with fixed effects. It is important to note that variables such as distance, proximity, and dummy variable to indicate regional integration and etc. that are constant over time, cannot be directly entered into fixed effect models, because these variables are unique to each of the partner countries and are hidden in the intercepts or individual effects. To estimate these models, these variables can be removed from the original model (Model 6) and their individual effects can be estimated in a separate model (Model 7).

\[ LTRADE_{ijt} = \beta_0 + \beta_1 LGDP_{it} + \beta_2 LGDP_{jt} + \beta_3 LPOP_{it} + \beta_4 LPOP_{jt} + \beta_5 LDIST_{ij} + \beta_6 REG + \beta_7 DW \times AT_{ij} + \beta_8 DCUL_{ij} + \beta_9 U_{ij} + \varepsilon_{ijt} \]  

(6)

To examine these variables, the estimated intercept from the above equation that is only related to the fixed effects can be estimated in a regression equation as follows.

\[ FX_{ij} = \beta_0 + \beta_1 DIS_{ij} + \beta_2 STR_{ij} + \beta_3 DTRA_{ij} + \beta_4 DW \times AT_{ij} + \beta_5 DCUL_{ij} + \beta_6 REG + \beta_7 DU_{ij} + \ldots + U_{ij} \]  

(7)

In Model (7), FX_{ij} represents individual effects. Other variables of (7) model replaced by the variables that are constant over time, such as distance, proximity, shared contacts, cultural similarities, dummy variables represent regional integration and so on. Due to the fact that in order to estimate the generalized model of (4), in addition to removing distance variable (LDIST_{ij}) we will also have to remove the REG dummy variable, in this case it won't be possible to directly examine the regional integration among ECO members; therefore, that's why we use random effect method to examine regional integration among the members of ECO, although the fixed effect models are confirmed by the related tests [16]. However, due to the random selection of member countries added to the block, using this method can be justified. Model (4) estimation results for the period of 1995-2005 have been reported in Table (1).^6^

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>9.95</td>
<td>0.50</td>
</tr>
<tr>
<td>LGDP_{it}</td>
<td>0.94</td>
<td>0.02</td>
</tr>
<tr>
<td>LGDP_{jt}</td>
<td>4.80</td>
<td>0.00</td>
</tr>
<tr>
<td>LPOP_{it}</td>
<td>1.58</td>
<td>0.02</td>
</tr>
<tr>
<td>LPOP_{jt}</td>
<td>-12.57</td>
<td>0.00</td>
</tr>
<tr>
<td>LDIST_{ij}</td>
<td>-2.53</td>
<td>0.00</td>
</tr>
<tr>
<td>REG</td>
<td>1.00</td>
<td>0.69</td>
</tr>
</tbody>
</table>

| Number of observations: 656 | $R^2 = 0.21$ |

Although the economic integration variable (REG) is positive, it is insignificant statistically, which indicates the failure of ECO economic bloc in increasing the trade ties of Iran with other members and making them more integrated.

To examine the effect of sanctions on Iran's trade relations and other members of the ECO and the integration between them, the (5) models has been used. F-test with a value of 80.93 implies the existence of a model with fixed effects, but Hausman test with a value of zero does not indicate a significance difference between fixed effect and random-effect models. We have estimated the (5) models by both random effect and fixed effect methods and have reported the results in Table (2). As can be seen from the estimated coefficients, the distance coefficient has not been estimated in the fixed effect method and its effect has been placed in the intercept. In both models, other variables are the same in terms of sign and significance and SANC variable has been entered as a successor variable of sanctions and it has a negative sign but this variable is rejected even at a significance level of 90 percent and this means that comprehensive sanctions of Security Council do not affect Iran's trade volume and other members of the ECO and in fact, it has not intensified the divergence between Iran and other members of ECO that was proved in the 4 model (table 1). This could be due to the compatibility of the international community and Iran with sanctions.

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^6^ Trade volume and GDP data are based on the fixed price of 2000.
Repeated application of sanctions against various countries and specially Iran and not achieving the desired goals by the sanctions have led to neglecting and violating restrictions of sanctions by countries and the not cutting and decreasing ties with Iran.

**Table 2: Estimating the model of the impact of sanctions on Iran's integration With ECO, members**

(Model FE and RE)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model Coefficient</th>
<th>Model Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>22.63</td>
<td>231.06</td>
</tr>
<tr>
<td>LGDP_{j}</td>
<td>0.04</td>
<td>0.22</td>
</tr>
<tr>
<td>LGDP_{i}</td>
<td>5.30</td>
<td>6.24</td>
</tr>
<tr>
<td>LPOP_{j}</td>
<td>11.65</td>
<td>6.96</td>
</tr>
<tr>
<td>LPOP_{i}</td>
<td>-24.66</td>
<td>-21.53</td>
</tr>
<tr>
<td>LDIST_{ij}</td>
<td>-</td>
<td>-30.33</td>
</tr>
<tr>
<td>SANC</td>
<td>-0.08</td>
<td>-0.16</td>
</tr>
<tr>
<td>Number of observations: 128</td>
<td>R² = 0.93</td>
<td>R² = 0.50</td>
</tr>
</tbody>
</table>

**Investigating the integration between Iran and other members of D8 and evaluating the sanctions' effect on it**

As before, we use model (4) to investigate the regional integration of Iran with other members of D8 and F-test and Hausman test will be used to discern the correct form of the model. F-test with a value of 150.65 confirms the existence of a model with fixed effects and Hausman test with a value of 2.43 does not show a significance difference between random effects model and fixed effects model, therefore, we choose and estimate the random effects model. Estimation results of the model (4) are presented in table (3). In this estimation, the main variables of gravity model are significant and have the desired signs.

**Table 3: Estimating the regional integration model of Shanghai group**

(Random effect method)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>P-Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>1.13</td>
<td>0.92</td>
</tr>
<tr>
<td>LGDP_{j}</td>
<td>0.30</td>
<td>0.00</td>
</tr>
<tr>
<td>LGDP_{i}</td>
<td>5.39</td>
<td>0.00</td>
</tr>
<tr>
<td>LPOP_{j}</td>
<td>0.07</td>
<td>0.00</td>
</tr>
<tr>
<td>LPOP_{i}</td>
<td>-11.78</td>
<td>0.00</td>
</tr>
<tr>
<td>LDIST_{ij}</td>
<td>-0.44</td>
<td>0.00</td>
</tr>
<tr>
<td>REG</td>
<td>-0.63</td>
<td>0.00</td>
</tr>
<tr>
<td>R² = 0.26</td>
<td>Number of observations: 656</td>
<td></td>
</tr>
</tbody>
</table>

REG variable is statistically significant, but contrary to the expectations it is negative in sign, which indicates that formation of this group, not only did not lead to the integration of Iran and other members, but it led to more divergence of the relations. To investigate the reason of the negativity of this variable, we have respectively removed each of the countries from the bloc and estimated the model successively and concluded that Iran's trade ties with Egypt and Bangladesh is the main reason for this result is estimation. So that, by removing Egypt from the bloc, the sign of the coefficient of the REG variable is positive but statistically insignificant and by removing Egypt and Bangladesh simultaneously, not only the sign of this variable is positive but also is statistically significant (Table 4) and this means that in the absence of Egypt and Bangladesh in D8 Group we see an integration between Iran and other countries.

**Table 4: Results of the integration model estimation for D8 Without the presence of selected countries in the block**

(Random effect method)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>P-Value</th>
<th>R²</th>
<th>Descriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>REG</td>
<td>0.05</td>
<td>0.12</td>
<td>0.25</td>
<td>Removing Egypt from the model</td>
</tr>
<tr>
<td>REG</td>
<td>0.42</td>
<td>0.00</td>
<td>0.25</td>
<td>Removing Egypt and Bangladesh from the model</td>
</tr>
<tr>
<td>REG</td>
<td>0.10</td>
<td>0.03</td>
<td>0.25</td>
<td>Removing Egypt, Bangladesh and Turkey from the model</td>
</tr>
</tbody>
</table>
As is reported in Table (4), in the absence of Egypt, and Bangladesh in D8 Group and stability of other things, Iran's presence in this group increased commercial relations and made the relations with members of this group more integrated to 52 percent. Furthermore, as can be seen in Table (4), removing Turkey from the D8 group leads to decreased integration between Iran and other members of the D8 group so that the removal of Turkey, with Egypt and Bangladesh, the REG coefficient is reduced from 0.42 to 0.10 that substantially reduce the integration between Iran and other members of the D8 group.

To assess the impact of Security Council's comprehensive sanctions on Iran's integration with other members of the D8 bloc, we use the model (5). Since the model determining integration is effected (Model 4) by the presence or absence of the three countries, Turkey, Egypt and Bangladesh in Group D8, we will estimate the model (5) with three scenarios of with all members of the group D8, without Egypt and Bangladesh and without Egypt, Bangladesh and Turkey. Before estimating the model, the proper form of it must be determined using F and Hausman tests. Both tests (F with a value of 188.22 and Hausman with a value of 33) suggest that there are models with fixed effects. The results of estimating model 3-5 for three different scenarios of D8 group are reported in Table (5).

Table 5: Estimating the model of the impact of sanctions on Iran's integration

<table>
<thead>
<tr>
<th>Variable</th>
<th>Model coefficient (D8 with all the countries)</th>
<th>Model coefficient (D8 without Egypt and Bangladesh)</th>
<th>Model coefficient (D8 without Egypt and Bangladesh and Turkey)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-46.05 (0.00)</td>
<td>-40.91 * (0.01)</td>
<td>-42.80 * (0.00)</td>
</tr>
<tr>
<td>LGDP_j</td>
<td>1.52 (0.04)</td>
<td>2.84 (0.00)</td>
<td>3.75 (0.01)</td>
</tr>
<tr>
<td>LGDP_i</td>
<td>1.64 (0.15)</td>
<td>1.03 (0.49)</td>
<td>-0.84 (0.60)</td>
</tr>
<tr>
<td>LPOP_j</td>
<td>7.78 (0.00)</td>
<td>4.09 (0.00)</td>
<td>6.11 (0.00)</td>
</tr>
<tr>
<td>LPOP_i</td>
<td>-10.80 (0.00)</td>
<td>--8.70 (0.03)</td>
<td>-8.39 (0.02)</td>
</tr>
<tr>
<td>LDIST_ij</td>
<td>-----</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>SCSANC</td>
<td>0.08 (0.43)</td>
<td>0.03 (0.42)</td>
<td>-0.03 (0.64)</td>
</tr>
<tr>
<td>R²</td>
<td>0.95</td>
<td>0.92</td>
<td>0.88</td>
</tr>
<tr>
<td>Number of Observations</td>
<td>96</td>
<td>64</td>
<td>48</td>
</tr>
</tbody>
</table>

* The numbers in parentheses are p-value

According to the estimation results, it is observed that in none of the three scenarios defined for the D8 group, sanctions had significant effect on Iran's regional integration with other members of D8.

**CONCLUSION**

After the end of the Cold War and the collapse of the Soviet Union, on the one hand the world witnessed a significant growth of globalization and consequently the regionalism process and creation of regional blocs to deal
with unwanted and harmful effects of liberalization of trade and economic boundaries and on the other hand the use of economic sanctions by some countries and international organizations in order to achieve foreign policy goals of some states also have significant speed. These two seemingly contradictory phenomenon’s have provided a suitable context for researchers to study aspects of both phenomena.

This paper examines the effect of Security Council comprehensive sanctions on Iran's regional integration in Economic Cooperation Organization (ECO) bloc and D8 group by using the gravity model and pooled data (panel) during the period of 1995-2010. First, during the period of 1995-2005 the presence or absence of integration between Iran and the rest of the bloc members have been assessed. The results show that ECO bloc has not led to integration between Iran and other ECO members and D8 group not only has not led to integration and enhancement of trade volume between Iran and other members, but also due to the presence of Egypt in the D8 bloc it has led to divergence. The results of investigating the effect of sanctions on Iran's regional integration with other members of ECO and D8 confirms the lack of effectiveness of sanctions on trade volume and regional integration of Iran and other members of blocs and in fact, the sanctions have not intensified the lack of integration in ECO bloc and divergence in D8 group.

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