Challenges and Prospects for Bilateral Trade between Iran and South Korea

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I: Introduction

In recent years, Iran and South Korea have made attempts for expanding their bilateral trade relations. In February 2005, the South Korea's Chambers of Commerce and the Iran's Chamber of Commerce, Industries, and Mines (ICCIM) talked in a meeting in Tehran to explore ways of expanding economic and trade ties between the two countries' private sectors. At the meeting, both sides pointed out that they would do their utmost to take steps for a higher level of the bilateral trade relations (Iran-Daily, 2005)[1]. Accordingly, they emphasized on close cooperation between the two countries that pave the way for capital mobility, technology transfer and financial management, which are necessary for trade expansion.

Iran and South Korea enjoy strong economic ties with bilateral trade. According to the latest report released by the South Korea International Trade Association (KITA) the volume of Korea's export to Iran has reached $3.956 billion in the first 7 months of 2012. The export value has risen 21.7 percent. This is while Iran's export has been $6.072 billion during this time. The majority of Iran's Exports has been oil. Iran has been the 12th main exporter to South Korea while Korea is the 20th exporter to Iran. The total volume of bilateral exchange between the two countries in 2012 is $10.028 billion which has increased 3 percent compared to the year 2011.

Throughout history, the two countries have maintained a relatively friendly and strongly strategic partnership. South Korea is one of Iran's major commercial partners. However, Korea has been more advanced than Iran in some of the specific sectors, such as the commercial and industrial, information and communication, health and education sectors. Korea is a more developed country rather than Iran, in terms of physical structure, Labor efficiency and financial resources, possesses comparative advantage. On the other hand, Iran is one of the richest regions in the world in terms of hydrocarbon resources.

This study mainly concentrates on the trade relationship between Korea and Iran. After a review of general pattern between Iran and Korea, key features of Intra-Industry trade (IIT) and the impact of sanction against Iran on trade pattern with Korea are examined with some policy recommendation to improve trade and relationship between them in the last chapter.
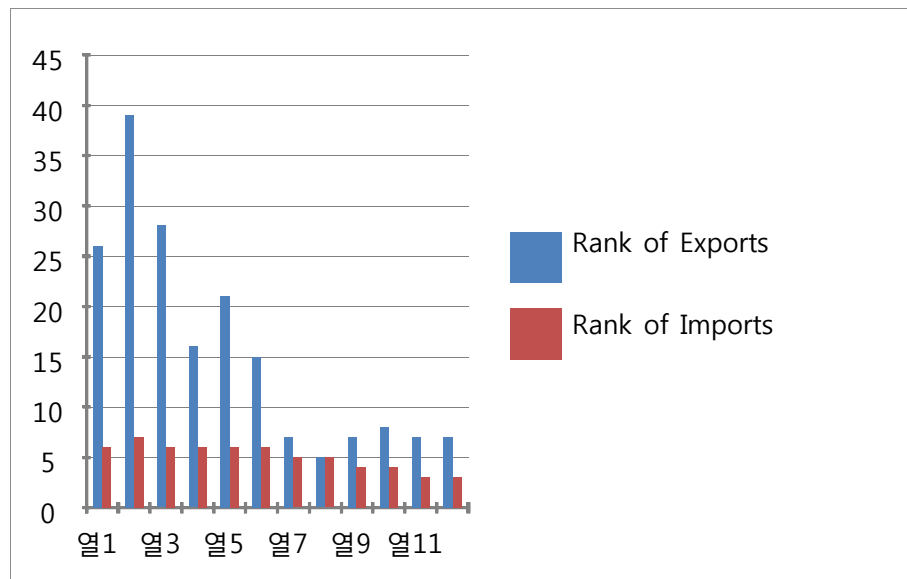
II: Key Trends of Bilateral trade

According to recent sanction against Iran, sanctions have created pressure on

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[1] Published by the Islamic Republic News Agency, IRNA, 2005, www.iran-daily.com.

Iran, but Iran is also a large regional economy with a relatively diversified structure. Oil is very important, but it's not entirely dependent on oil. The data[2]shows that in past decade (2001-2011) Korea ranking base on volume of trade with Iran continuously improved. Such as, in 2012 ranking base on import was third (after UAE and China) and seventh on export (after Iraq, China, UAE, Afghanistan, India and Turkey) while in 2002 this ranking was 39 and 7 respectively. This is shows that Iran trade pattern to Korea had persistence.

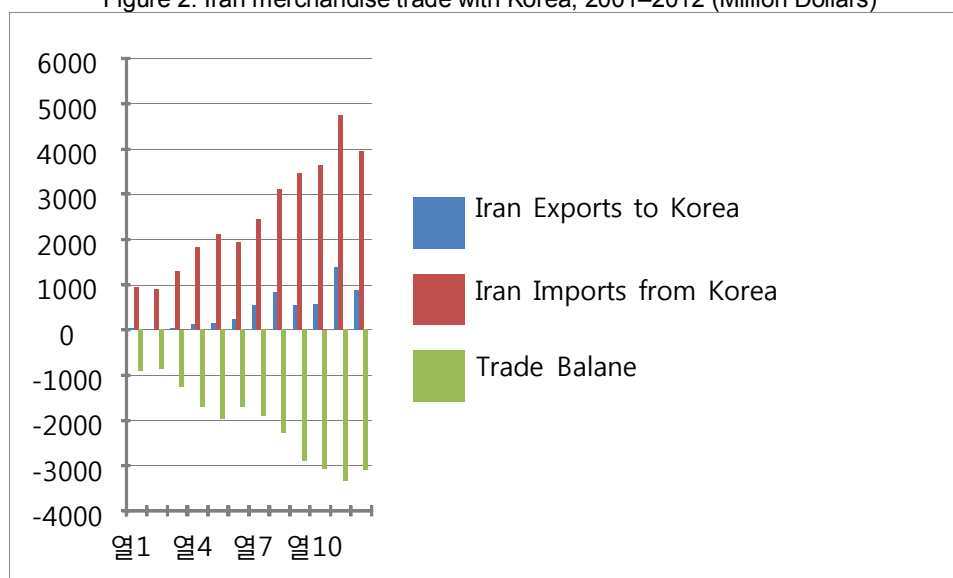### Figure 1: Rank of Korea on Trade with Iran (2001-2012)

Source: Compiled from official statistics of the Tehran Chamber of Commerce (www.tccim.ir)

Korea and Iran shares common features in many respect. However, Korea has been more connected with trade world and advanced in some of the specific sectors, such as automobile industry, information and communication, electronic devices and etc. Table 1 compares some economic indicators in Iran and Korea.

It has been frequently recognized that Iran possesses limited non-oil exportable articles when compared with Korea. Due to the persistence of unequal balance between demand and supply of goods and articles, the question of balance of trade and balance of payments has been in central when considered Iran-Korea trade relation. Trade imbalance in total with Korea in value increased significantly as showed in Figure 2.

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[2] Tehran Chamber of Commerce (www.tccim.ir)

Figure 2: Iran merchandise trade with Korea, 2001–2012 (Million Dollars)

Source: Compiled from official statistics of the Tehran Chamber of Commerce (www.tccim.ir)

Table 1: compare some economic indicators between Iran and Korea

	Iran	Korea
Rank in world trade		
Export	33	7
Import	47	9
Trade per capita (US$, 2008-2010)	2,653	21,575
Trade to GDP ratio (2007-2009)	58	108
% change (2005-2009)		
Export	4	9
Import	6	7
Simple average of import duties		
All goods	26.6	12.1
Agricultural goods (AOA)	30.4	48.6
Non-agricultural goods	26.1	6.6
Share in world total exports	0.72	3.04
Share in world total imports	0.34	2.84

Source: IMF data bases

III: Measurement of Intra-Industry Trade

For more than five decades theoretical and empirical researchers in the field of international trade have been keenly interested in two way trade of products belonging to the same industry, that is intra – industry trade (IIT), with theories of comparative advantage, or Heckscher –Ohlin factor endowment, focusing on inter – industry trade. Ricardo's comparative advantage model states that countries with different comparative advantages engaging in trade will profitably benefit from it. Both types of trade models assume that goods traded are homogeneous, and the country will therefore only either export goods within the same industry or only import these goods, but not simultaneously export and import goods within in the same industry. One important

observation in international trade is that much of the post-war expansion of trade has taken the form of intra-industry trade (IIT); commonly define as the simultaneous imports and exports of goods from the same industry. Empirical work on the measurement of intra-industry trade began in the mid-1960s with Balassa (1966) and the most well-known work on intra industry trade by Grubel and Lloyd (1975).

I calculated intra-industry trade (IIT) indices, which quantify the extent to which bilateral imports and exports are matched within sectors. After use of Grubel and Lloyd (GL) index at the 4-digit from the Harmonized System (HS), It could be found that Iran and Korea had the maximum levels of trade overlap, on average, in products coded by 2712 (petroleum jelly, mineral waxes) and 2803 (carbon, nesoi), while they had minimum values of IIT, on average, in products coded by 7901 (zinc waste and scrap) and 8534 (printed circuits), respectively. These data were extracted from www.tccim.ir for the period 2001-2011. Table 2 indicates GL index values, on average, for a variety of 12 products, which were available in this period.

According to the results, out of total 12 items, 5 items have had the comparatively high levels of IIT ($GL > 10$), while the remaining ones (7 items) have had the comparatively low levels of IIT ($GL < 10$). Thus, the results show that intra-industry trade intensity has been more pronounced between two countries, because the comparatively high levels of IIT for more product items can be attributed to the interests of both countries for expanding their trade relations and economic integration implementation.

Table 2- Measures of GL Intra-Industry Trade, on Average, for Iran and Korea in the 4-digit Level during 2001-2011 (%)

Code	Product	Average of IIT	GHM	PQV	Distribution of IIT
2712	petroleum jelly, mineral waxes & similar products bitum mineral etc,	3.523	0.06	0.12	GL > 10
2803	carbon, nesoi	10.103	0.12	0.21	GL > 10
4012	retread or used pneu tires, solid tires etc, rubber	7.970	0.03	0.06	GL < 10
4819	cartons etc paper, office box files etc, paper etc	16.939	0.18	0.3	GL < 10
7901	zinc, unwrought	32.965	0.27	0.43	GL < 10
8422	machines, dishwash, clean etc cont & fill, pak etc materials	16.809	1.22	1.1	GL > 10
8431	parts for machinery	19.506	0.55	0.71	GL > 10
8501	electric motors and generators	34.589	0.42	0.59	GL > 10
8534	printed circuits	1.503	0.24	0.39	GL < 10
8703	motor cars & vehicles for transporting persons	1.073	0.69	0.82	GL < 10
8707	bodies (including cabs), for specific motor vehicles	8.168	0.26	0.41	GL < 10
8708	parts & access for motor	17.585	0.14	0.24	GL < 10

		vehicles				

According to result, Iran exports lower quality variety of product. For example, for most widely used measure GHM[3] index where α=15%, HIIT[4] accounts for less than 10% of all IIT but low quality exports accounting for around two-thirds of all IIT. The highest share of intra-industry trade belongs to vertical intra-industry trade with a low quality. A similarity degree of 25% shows the same number of products belong to vertical intra-industry trade with a low quality. A comparison of PQV[5] index and GHM similarity index indicates that PQV index put a greater number of products in the vertical intra-industry trade group. Therefore, during 2001 to 2011 Iran's intra-industry trade with Korea was included in vertical intra-industry trade with different product groups of low quality.

One of the reasons for the low level of Iran's intra-industry trade with Korea is related to the low share of manufactured goods in exports. One of the reasons for the low level of intra-industry trade is associated with geographical distance between Iran and Korea.

IV: conclusion and policy implication

Korea and Iran are two traditional trade partners. Bilateral trade between the two countries has been quite increasingly. In the recent years, as International Sanction impose on Iran created some problems by the both countries in their own perspectives. I don't expect to see high degree of IIT between Iran and South Korea. In fact, Iran does not have competitive power relative to Korea. But, examining IIT variations in time can yield useful insights for adopting suitable trade policies. The result shows that Iran and Korea had the maximum levels of trade overlap, on average, in products coded by 2712 (petroleum jelly, mineral waxes) and 2803 (carbon, nesoi), while they had minimum values of IIT, on average, in products coded by 7901 (zinc waste and scrap) and 8534 (printed circuits), respectively. Also, out of total 12 items, 5 items have had the comparatively high levels of IIT ($GL > 10$), while the remaining ones (7 items) have had the comparatively low levels of IIT ($GL < 10$). Thus, the results show that intra-industry trade intensity has been more pronounced between two countries, because the comparatively high levels of IIT for more product items can be attributed to the interests of both countries for expanding their trade relations and economic integration implementation.

According to Greenaway, Hine, and Milner (GHM) Index less than 10% of all IIT are Horizontal with low quality. The highest share of intra-industry trade belongs to vertical intra-industry trade with a low quality. A similarity degree of 25% shows the same number of products belong to vertical intra-industry trade with a low quality. A comparison of Product Quality Verticalness (PQV) index and GHM similarity index indicates that PQV index put a greater number of products in the vertical intra-industry trade group. Therefore, during 2001 to 2011 Iran's intra-industry trade with Korea was included in vertical intra-industry trade with different product groups of low quality.

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[3] Greenaway, Hine, and Milner Index (1995)

[4] Horizontal Intra-Industry Trade

[5] Product Quality Verticalness