The Comparative Analysis of the Linder Hypothesis:The Bilateral Trade Model between Iran and Its Trade Partners

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Abstract: **Linder theory implies that the more similar the demand structure of two countries is, the more intensive is the potential trade between these two countries .This study examines Linder hypothesis for bilateral trade of Iran. Linder effects describe the effect of dissimilarity of Per Capita GDP of Iran and its trading partners on bilateral trade. Empirical estimations suggest that there is a strong Linder effect for bilateral trade of Iran. However, the Linder effect is not the only factor that affected trade pattern and direction of Iran. Political factors such as ideology of the Islamic Republic of Iran, international sanctions imposed on the country, domestic political instability, and other factors such as economics size of trading partners, distance among them, common borders, etc. affected bilateral trade.**

INTRODUCTION

Economy of Iran largely depends on oil resources and oil price fluctuations in international markets affect the country's economy, which causes disruption in economic decision-making. The problem can be solved by developing export of manufactures. It is possible by production in large scale with high quality, economic growth and increase in per capita income level. In addition, the international sanctions imposed on the country severely affect the domestic economy. For instance, getting foreign currencies (mostly U.S. dollar and Euro) from export of goods is increasingly difficult. Further, the international banking channels have almost become non-existent.

Linder (1961) asserted that countries with an ability to reallocate factor of productions probably are passing through a process of economic growth under trade that reflected in rising per capita income. He argued that if the domestic market were small, the economic development would be possible through foreign trade and manufacture exports. If the domestic market permits an industry to attain a sufficiently large scale of operation, then it becomes competitive on the world market. The strongest import market for one country's products will be in countries with similar per capita income levels. High quality manufactured export products of rich countries will find a good market in other rich countries where people demand such a product. Linder, in his famous trade thesis based on trade in manufactures, has mentioned the significance of the relation between international trade and subjects such as economic growth, demand-consumption patterns and income level distribution.

Prior to the Revolution, Iran was America and West's closest partner in the Persian Gulf and was one of the fastest growing countries in the world. In mid 1970s, the upward trend in industrial exports begun and in 1978-79, industrial exports accounted around 22 percent of total non-oil export. After the Islamic Revolution, the trend of development was halted. From a fast developing, rich friend of the West, Iran changed to an oil economy with more dependency on oil, and an enemy of the World. The diversion from being a western oriented developing country and the related change in trade pattern/direction has had a great impact on Iran's economy.

In post-Revolution era, Iran's trade direction has changed towards developing countries. During 1974-1978 (pre-Revolution), Western industrialized countries and Japan (the only Asian country) were top ten trade partners of Iran. During post-Revolution (1979-2000), Turkey, Republics of Korea and United Arab Emirates have become top trade partners of Iran in place of United Kingdom, The Netherlands and Belgium. During 2000-2007, United Arab Emirates, Iraq, China, India, Germany and Italy (only two European countries) were main trade partners. Since 2009 onwards, there is no European country in the list of Iran's top 10 trade partners. Presently, Iran is trading more with developing countries and countries with higher per capita income replaced with the countries, which have the lower per capita income levels. (See Table 4)

Linder (1961) argued that structure of preferences is the major determinant of trade flows between two countries. Linder asserted that "overlapping demand'' determines the pattern of trade. It means that countries generally produce goods for the domestic market and then export the surplus. Consequently, countries that have an interest in acquiring this

surplus would have similar demand patterns as those exporting countries.

One of the main issues in the reviewing Iran's trade patterns during pre- and post-Revolution era is to determine causes and criteria behind the country's decisions to choose its foreign relation and trade pattern and in addition, study the factors, which could affect the trade patterns during time. There are many possible ways to analyze how these changes in trade occur. In this paper, specific focus is aimed at the Linder hypothesis. Moreover, other possible stimuli behind trade patterns are studied.

While, some facts discussed above is showing the possibility of the existence of Linder effect for Iran bilateral trade, review of the country's trade history imply also the effects of other factors. Since the Revolution, Iran's foreign economic relations were affected by several factors. The early revolutionary ideology (neither east, nor west), giving especial priority to trade with its neighbors first, then Muslim countries, non-aligned developing countries and finally developed counties, diplomatic disputes with the United states and West, war with Iraq, international sanctions imposed on country due to its nuclear program , etc changed the country's trade directions in past decades.

Change in Iran's trade direction from developed world (with higher per capita income) toward developing countries, which have lower per capita income, regardless to the causes, has important consequences on the economy. Diversion of trade toward countries such as China and India replaced the high quality products of rich countries by low quality products imported from developing countries. It damages the domestic industries especially in recent years. Domestic producers cannot compete with the imported cheap products.

Another important aspect of this study is to test the Linder effect for Iran as a developing country, since there are few studies about the Linder effect in developing world. Most of the empirical tests of Linder focused on existence of Linder effect among high-income countries.

This study intends to investigate about the factors that affect Iran's trade direction by the examination of the "Linder theory". In addition, effects of other important variables in forming Iran's trade patterns will be studied, factors such as influence of political ties, international sanctions, distance, etc. Linder's theory will be investigated for Iran and its trade partners by reviewing empirical tests of the hypothesis, analyzing data of international trade and computing the econometric models using panel data regression.

LINDER TRADE THESIS AND EMPIRICAL TEST OF LINDER HYPOTHESIS

Trade can have significantly different effects on different countries; furthermore gains from trade for participating countries are not same. According to the factor proportion theory, the more capital and labor proportions hence per capita income and, consequently, demand structures differ the more widely will commodity price structures differ and the greater will be scope of trade. Linder declared apposite hypothesis and asserted that a country cannot get a comparative advantage in the production of a good in which there is no home market. Therefore trade will be most intensive among countries with similar demand structures. Linder indicates differences in capital-labor proportions are a potential obstacle to trade in manufactures. An increasingly labor-abundant country will face fall in per capita income levels. An increasingly capital-abundant country will experience rising income levels. Since demand structures of two countries will be different, the nature of their trade will change and potential scope of trade will decrease. Consequently per capita income differences are a potential obstacle to trade in manufactures.

One of the main theories of demand side of international trade is Linder's theory. Linder's theory, called the "theory of overlapping demand", implies that companies in one country are generally eager to produce manufactured goods for which there is a large domestic market and export the surplus, so a commodity will be potentially exported if there would be a large demand for it in the home market. Moreover, Linder stated that consumer demand is determined strongly by income levels. Countries with high per capita incomes will demand high quality manufactured goods and nations with low per capita income will demand lower quality goods. Consequently, countries with similar per capita income will have overlapping demand structure and will likely demand similar manufactured goods.

The level of average income is one of the most important forces influencing the demand structure of a country. The similarity of average income levels can be used as an index for the similarity of demand structures. The modal incomes are likely to be more representative than the arithmetic mean of average income but modal or median income is difficult to find. There is strong relationship between the level of per capita income and the types of consumer or capital goods demanded. Countries with high per capita incomes will demand high quality, "luxury "consumer goods and sophisticated capital goods, while low per capita incomes will demand lower quality, "necessary" consumer goods and less sophisticated capital goods.

Linder has not presented any formal model to test his hypothesis, so economists tested his theory by different methods. The empirical validity of Linder hypothesis is not clear. Several studies have found a significant impact of Linder effect and have supported Linder's proposition. A high proportion of international trade in manufactured goods takes place among the relatively high-income industrial countries. However, other has had weaker result.

Among empirical studies of the Linder theory in this paper, five have rejected hypothesis introduced by Linder. Greytak and McHugh (1977), Qureshi, et al. (1980), Dakal, et al.

(2011), etc. in their studies did not find any support for the Linder hypothesis. Rest of studies has gotten evidences implying approval for Linder trade theory. Hong (1969), Sailors, et al. (1973), Thursby and Thursby (1987), McPherson, et al. (2000), Baltagi, et al. (2003), Bernasconi (2013), etc. have found some supports for the Linder trade thesis

METHODOLOGY AND THEORETICAL MODEL

According to Linder theory, Linder effect implies that similarity of per capita income levels among trading partners affect trade positively. In this paper, Linder Hypothesis will be tested in Fixed-Random Effects model, Gravity model A, and Gravity model B, through three Linder effects. Data will be collected for Iran and its trade partners for the time period 1992 to 2012 .The related statistics will be gathered from statistical yearbooks of The Islamic Republic of Iran, Islamic Republic of Iran Custom Administration, Central Bank of Iran, Tehran Chamber of Commerce and industries and mines, the World Bank and the United Nations. To test the validity of the Linder hypothesis for Iran and its trading partners, Data related to 127 countries has been collected. These countries divided into 5 groups.

The first group (Base group) includes all cross-sections, and the rest four groups are divided based on their GNI per capita levels according to the World Bank Atlas Method (2012) classification. Countries classified according GNI per capita levels which are Low income (23 countries), lower middle income (27 countries), upper middle income (36 countries) and high income (41 countries).

Model Specification[1]

3.1.1. Fixed-Random (FE-RE) Effects Model(Model I)

Panel data models can measure the effects of observable and unobservable variables on dependent variables. A fixed effects or random effects models will be selected depend upon whether or not an unobservable variables is correlated with dependant variables. In a fixed effects model, a time-invariant variable such as distance cannot be used. In order to determine the special effects, Model I has been applied.

$$RTRADE_{itj} = \beta_1 + \beta_2 GDPP_{jt} + \beta_3 GDPIRI_{it} +$$
$$\beta_4 REXCHANGEP_{jt} + \beta_5 LINDER1_{itj} + \varepsilon_{itj} \quad (1)$$

Where,
$RTRADE_{itj}$= Dollar values of total trade between Iran and potential trading partner in constant 2005 US \$

$GDPP_{jt}$=Gross domestic products of potential trading partner in constant 2005 US \$

$GDPIRI_{it}$ =Gross domestic products of Iran in constant 2005 US \$.

$REXCHANGEP_{jt} = \dfrac{e_{jti}p_{jt}}{p_{it}}$ =Real exchange rate

e_{it} is the exchange rate of potential trading partner (measured in units of the currency of Iran per unit of the currency of potential trading partner), p_{jt} is the GDP deflator of potential trading partner and p_{it} is the GDP deflator of Iran.

$LINDER1_{itj}$ =The absolute difference in the level of real per capita GDP of Iran and potential trading partner in constant 2005 US \$. LINDER1 shows the degree of dissimilarity of Per Capita GDP among trading partners. If the Linder hypothesis is supported by the data of this model then the coefficient on this variable should be negative and statistically significant. εitj =Error term

3.1.2. Gravity Model Approach

Timbergen (1962) and Pöyhönen (1963) were the first to introduce the gravity model into economics studies on international trade. The origin of the gravity model is the gravity equation that is brought from physics[2]. The results provide an explanation of bilateral trade flows by using an analytical relation that is very similar to the "Universal Law of Gravitation" proposed by Newton in 1687. As reproduced by Timbergen and Pöyhönen , the volume of trade between two countries is positively related with their economic "mass" and negatively with distance between them.

Linnemann (1966) has added several additional variables to the basic gravity model, called the "augmented gravity mode". Empirical studies added other variables to the basic model such as population, income per capita, exchange rates, and dummy variables (for the presence of common language, common currency, colonial links, infrastructures, migration flows, bilateral tariff barriers, commercial agreements among the trading countries and etc)

a) Gravity Model A (Model II)

$$LTRADE2_{itj} = \alpha_1 + \alpha_2 LOG(SUM1_{itj}) + \alpha_3 LNDIS_{ij} +$$
$$\alpha_4 LINDER2_{itj} + \alpha_5 LOG(POPP_j) +$$
$$\alpha_6 LOG(REXCHAMGEP_{jt}) + d_1 DUM1$$
$$+ d_2 DUM2 + d_3 DUM3 + \omega_{itj} \quad (2)$$

Where,
$LTRADE2_{itj}$=Logarithm of Dollar value of total trade between Iran and potential trading partner in constant 2005 US \$

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[1] Indice i refer to Iran, indice j refer to trade partners and indice t refer to time. Further , C in all models shows constant/ intercept

[2] Since the early 1940s, the gravity model has been applied to explain the determinants of different types of flows, such as migration, flows of buyers to shopping centers, commuting flows, patient flows to hospitals and etc.

$$SUM1_{itj} = GDPP + GDPIRI$$

$LNDIS_{ij}$ =Logarithm of geographic distance between countries i and j that is calculated by distance between capital cities of Iran and potential trading partner in kilometers.

$LOG(REXCHANGEP)_{jt}$ =Logarithm of real exchange rate

$$LINDER2_{itj} = |LOG(PCGDPIRI_{it}) - LOG(PCGDPP_{jt})|$$

PCGDPIRI=Per capita gross domestic products of Iran in constant 2005 US $

PCGDPP= Per capita gross domestic products of potential trading partner in constant 2005 US $

LINDER2 shows the absolute differences in Logarithm of per capita income GDP among trading partners. If the Linder hypothesis is supported by the data of this model then the coefficient on this variable should be negative and statistically significant.

$LOG(POPP_{jt})$ =Logarithm of total population of potential trading partners

DUM1 is a time dummy variable stand for the period of 2005-2012. This variable is included in model to consider economic and political uncertainties, shocks and instability.

DUM2 is dummy variable stands for countries with common border with Iran includes Afghanistan, Armenia, Azerbaijan, Iraq, Kuwait, Oman, Pakistan, Qatar, Russia, Saudi Arabia, Turkey, Turkmenistan ,and United Arab Emirates.

DUM3 is dummy variable stand for membership in OPEC. This variable includes Algeria, Angola, Ecuador, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates and Venezuela ω_{itj} =Error term

b) Gravity Model B(Model III)

$$LTRADE_{itj} = \alpha_1 + \alpha_2 LOG(SUM2_{itj}) +$$
$$\alpha_3 LNDIS_{ij} + \alpha_4 LINDER3_{itj} + \alpha_5 LOG(POPP_j) +$$
$$\alpha_6 LOG(REXCHAMGEP_{jt}) + d_1 DUM1 +$$
$$d_2 DUM2 + d_3 DUM3 + \varpi_{itj} (3)$$

Where,

$$LTRADE_{itj} = LOG(\frac{RTRADE_{itj}}{SUM1_{itj}})$$

$$SUM2_{itj} = PCGDPP_{tj} + PCGDPIRI_{it}$$

$LNDIS_{ij}$ =Logarithm of geographic distance between countries i and j that is calculated by distance between capital cities of Iran and potential trading partner in kilometers.

$LOG(REXCHANGEP)_{jt}$ =Logarithm of real exchange rate

$$LINDER3_{itj} = LOG(\frac{|PCGDPIRI_{it} - PCGDPP_{tj}|}{SUM2_{itj}})$$

LINDER3 shows the Logarithm of the share of the absolute differences in per capita income GDP among trading partners from aggregate per capita income GDP. If the Linder hypothesis is supported by data of this model then the coefficient on this variable should be negative and statistically significant.

$LOG(POPP_{jt})$ =Logarithm of total population of potential trading partners

DUM1 is a time dummy variable stand for the period of 2005-2012. This variable is included in model to consider economic and political uncertainties, shocks and instability.

DUM2 is dummy variable stands for countries with common border with Iran includes Afghanistan, Armenia, Azerbaijan, Iraq, Kuwait, Oman, Pakistan, Qatar, Russia, Saudi Arabia, Turkey, Turkmenistan ,and United Arab Emirates.

DUM3 is dummy variable stand for membership in OPEC. This variable includes Algeria, Angola, Ecuador, Iraq, Kuwait, Libya, Nigeria, Qatar, Saudi Arabia, United Arab Emirates and Venezuela.

ϖ_{itj} =Error term

COMPARING RESULTS OF MODELS

Empirical evidences derived from results of three models indicate the existence of the Linder effect for Iran. This study found that there is a significant and negative Linder effect in some of groups. Further, evidences show that Model II is performing better to reply to the hypothesis of this study.

It is expected stronger effect for Linder effect in UMI. It is significant not only in base group, HI and UMI, but also surprisingly, it is strong and significant in LI among three models of this study. There is strong, negative and significant effect in LI group in all three models of this study. In addition, Linder effect is highly elastic in this group, which shows that bilateral trade with lower-income countries is too much sensitive to any change in dissimilarity in per capita GDPs. In all three models in LMI group, no Linder effect is found. It implies that bilateral trade with lower-middle income countries is not affected by dissimilarity in per capita GDPs, but affected by dissimilarity in factors endowments. Further, it is derived that results of study are sensitive to formulation of Linder effects. In addition, there is also Linder effect in bilateral trade of developing countries with developed countries, other developing countries, and less developing countries.

According to evidences, the size of the countries, which is measured, by GDP, aggregate GDP, aggregate GDP per capital and population in most of the groups in this study (except HI group) show positive, strong and significant effect on Iran's trade.

The results for effect of the real exchange rate on trade in this study are mixed (both negative and positive) but mostly insignificant.

There are strong evidences in this study about the negative and significant impact of distance among trade partners on Iran's trade (range between -0.59 and – 4.32).

Empirical evidences of this study shows that time dummy variable does not have significant effect on trade in UMI group and LI group. This variable has negative and significant effect in other groups (range between -0.14 and -0.55).

Results imply the strong effects of dummy variables of common border (range between 0.87 and 0.91) and membership in OPEC (range between -1.48 and -1.3) on trade in this study.

CONCLUSION

This study shows some insights in support of the Linder hypothesis between Iran and its potential trading partners. In particular, this study indicates that Iran trades more intensively with economies that have per capita income levels similar to its own. However, the Linder effect is not strong for all groups of study. In some income groups, there is no significant relationship between trade intensity and the similarity of per capita income levels implying that there is no income effect in those groups to boost trade. Surprisingly, the Linder effect is too strong and highly elastic in the Low-income group. It means that there is significant effect even for trade between developing countries. Since the later empirical studies have not seriously tested the Linder theory among developing countries, this research provided some evidences on the possible validity of Linder theory in the developing world.

Furthermore, the study found that although income similarities can affect trade positively among countries, there might be other important factors, which affect trade among countries.

The study came to conclusion that there are impacts of several factors on Iran trade such as, economic size, political shocks and instability, international sanctions, physical distance, common borders, trade treaties, etc.

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APPENDIX
The classification of countries has been made as follow:
a. **Base group**

Base group includes 127 countries: Afghanistan, Albania, Algeria, Argentina ,Armenia, Australia, Austria, Azerbaijan, Bahrain, Bangladesh, Belarus, Belgium, Benin, Bosnia, Brazil, Brunei, Bulgaria, Burkina Faso, Cameron, Canada, Central Africa, Chile, China, Colombia, Congo, Costa Rica, Croatia, Cuba, Cyprus, Czech Republic, Denmark, Djibouti, Dominican, Ecuador, Egypt, Estonia, Ethiopia, Finland, France, Gabon, Gambia, Georgia, Germany, Ghana, Greece,

Guinea, Hong Kong, Hungary, India, Indonesia, Iraq, Ireland, Italy, Ivory Coast, Japan, Jordan, Kazakhstan, Kenya, Kuwait, Kyrgyz republic, Lebanon, Libya, Lithuania, Luxemburg, Macedonia, Madagascar,

Malaysia, Malta, Mali, Mauritania, Mauritius, Mexico, Moldova, Morocco, Mozambique, Myanmar, Namibia, Nepal, Nigeria, Netherlands, New Zealand, Norway, Oman, Pakistan, Panama ,Paraguay, Peru, Philippines, Poland, Portugal, Qatar, Republic of Korea, Romania, Russia, Saudi Arabia, Senegal, Sierra Leone, Singapore, Slovak Republic, Slovenia, Somalia, South Africa, Spain, Sri Lanka, Sudan, Sweden, Switzerland, Syria, Tajikistan, Tanzania, Thailand, Togo, Tunisia, Turkey, Turkmenistan, Uganda, Ukraine, United Arab Emirates, United Kingdom, United States, Uruguay, Uzbekistan, Venezuela, Vietnam, Yemen, Zambia and Zimbabwe.

b. **Low Income (LI)**

LI group includes twenty-three courtiers: Afghanistan, Bangladesh, Benin, Burkina Faso, Central Africa, Ethiopia, Gambia, Guinea, Kenya, Kyrgyzstan, Madagascar, Mali, Mauritania, Mozambique, Myanmar, Nepal, Sierra Leone, Somalia, Tajikistan, Tanzania, Togo, Uganda and Zimbabwe.

c. **Lower Middle Income (LMI)**

LMI group includes twenty-seven countries: Albania, Armenia, Cameroon, Congo, Ivory Coast, Djibouti, Egypt, Georgia, Ghana, India, Indonesia, Iraq, Moldova, Morocco, Nigeria, Pakistan, Paraguay, Philippines, Senegal, Sri Lanka, Sudan, Syria, Ukraine, Uzbekistan, Vietnam, Yemen and Zambia.

Upper Middle Income (UMI)
UMI group includes thirty-six countries: Algeria, Argentina, Azerbaijan, Belarus, Bosnia, Brazil, Bulgaria, Chile, China, Colombia, Costa Rica, Cuba, Dominican, Ecuador, Gabon, Jordan, Kazakhstan, Lebanon, Libya, Lithuania, Macedonia, Malaysia, Mauritius, Mexico, Namibia, Panama, Peru, Romania, Russia, South Africa, Thailand, Tunisia, Turkey, Turkmenistan, Uruguay and Venezuela.

High Income (HI)
HI group includes forty-one countries: Australia, Austria, Bahrain, Belgium, Brunei, Canada, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hong Kong, Hungary, Ireland, Italy, Japan, Korea, Kuwait, Luxemburg, Malta, Netherlands, New Zealand, Norway, Oman, Poland, Portugal, Qatar, Saudi Arabia, Singapore, Slovakia, Slovenia, Spain, Sweden, Switzerland, United Arab Emirates, United Kingdom, and United States.

Table 1: Estimation results of Model I

Dependent variable RTRADE	GDPP		GDPIRI		RECHANGEP		LINDER1	
Base	2.58E-06	SS	1.27-05	SS	-0.637140	IS	-0.000296	IS
HI	-1.07E-06	IS	6.47E-05	SS	-73.23571	IS	-814.8061	SS
UMI	1.64E-05	SS	-3.26E-06	IS	-0.979686	IS	-0.000317	IS
LMI	1.09E-05	SS	1.13E-05	SS	-9.724434	IS	-179.1339	IS
LI	-2.51E-05	SS	5.05E-05	SS	-6.113315	SS	-4531.587	SS
SS: Statistically Significant ,SI: Statistically Insignificant								

Table 2: Estimation results of Model II

Dependent variable LTRADE2	LOG(SUM1)		LNDIS		LINDER2		LOG(POPP)		LOG(REXCHNAGEP)		Dummy*		
											T	B	O
Base	0.56	SS	-1.31	SS	-1.40	SS	0.68	SS	0.04	IS	-0.14 SS	0.91 SS	-1.48 SS
HI	0.55	IS	-0.89	SS	-1.96	SS	1.29	SS	0.12	IS	-0.12 IS	---	---
UMI	1.04	SS	-1.77	SS	-1.75	SS	0.70	SS	0.02	IS	-0.13 IS	---	---
LMI	2.33	SS	-2.13	SS	-0.90	IS	0.67	SS	-0.10	SS	-0.45 SS	---	---
LI	1.54	SS	-4.32	SS	-3.43	SS	0.78	SS	0.018	IS	-0.06 IS	---	---
* T: Time dummy variable,*B: Border and *O:OPEC SS: Statistically Significant, and SI: Statistically Insignificant													

Table 3: Estimation results of Model III

Dependent variable LTRADE	LOG(SUM2)		LNDIS		LINDER3		LOG(POPP)		LOG(REXCHNAGEP)		Dummy*		
											T	B	O
Base	0.67	SS	-1.41	SS	0.11	IS	0.57	SS	0.06	SS	-0.24 SS	0.87 SS	-1.30 SS
HI	-0.31	IS	-0.59	SS	2.37	IS	0.20	IS	0.29	SS	-0.16 SS	---	---
UMI	0.82	SS	-1.71	SS	0.10	IS	0.71	SS	0.02	IS	-0.15 IS	---	---
LMI	2.74	SS	-2.12	SS	1.53	SS	0.84	SS	-0.12	SS	-0.55 SS	---	---
LI	0.51	IS	-4.31	SS	-9.88	SS	0.81	SS	0.01	IS	0.02 IS	---	---
* T: Time dummy variable,*B: Border and *O:OPECSS: Statistically Significant and SI: Statistically Insignificant													

Table 4: Value of Iran's Exportation According to Country of Destination (Ordered in Value US $)

2011-12		2007-08		2002-03	
Iraq	4066038890	Iraq	2,762,069,614	United Arab Emirate	916,165,649
China	3433344877	United Arab Emirate	2,322,178,281	Iraq	588,473,980
United Arab Emirate	3194421226	China	2,051,320,534	Japan	360,288,750
Afghanistan	1823694480	India	1,159,444,987	Germany	347,315,106
India	1801265800	Republic of Korea	820,552,364	Azerbaijan	307,378,099
Turkey	933201817	Afghanistan	632,847,353	India	296,179,150
Republic of Korea	833154007	Japan	588,690,973	Afghanistan	259,934,226
Turkmenistan	481988177	Turkey	530,080,253	China	231,571,099
Pakistan	447001554	Belgium	406,098,810	Italy	169,754,724
Indonesia	370466777	Saudi Arabia	387,583,999	Pakistan	137,966,386
Azerbaijan	347734500	Taiwan	376,248,707	United State	137,922,092

Hong Kong	284106536	Azerbaijan	368,767,263	Turkmenistan	135,575,283
Russian Federation	257637505	Russian Federation	358,299,599	Saudi Arabia	128,081,482
Germany	215593781	Netherlands	346,420,768	Kuwait	125,455,988
Taiwan	176236100	Italy	325,410,909	Turkey	110,610,275
Tajikistan	169009055	Indonesia	321,224,000	Spain	100,929,594
Egypt	153213048	Germany	319,063,303	Armenia	100,588,194
Oman	139976582	Syrian Arab Republic	316,319,740	Russian Federation	94,656,016
Italy	136901067	Pakistan	295,692,766	Tajikistan	77,525,110
Syrian Arab Republic	128663991	Turkmenistan	248,790,505	Uzbekistan	76,339,215
Source: The Islamic Republic Of Iran Customs Administration (IRICA)					