The Open Access Journal of Resistive Economics (OAJRE)

Toroudshomal Research Company
May 2, 2015
Iran\Mazandaran\Babolsar
Contents

The Words of Managing Editor: ................................................................. 6
The Words of Economics Editor in Chief: .............................................. 7
The Words of Management Editor in Chief: .......................................... 8
Aims and Scope: ...................................................................................... 9
Editorial Board: .................................................................................... 10
Members: ............................................................................................... 18

Studying Challenges and Opportunities of Non-Oil Export from Knowledge Components Aspect: An Approach to Cope with Economic Sanctions ......................................................... 20
Abolfazl Shahabadi, Soheila Mirzababazadeh, Amir Lalisarabi

Providing a Model to Establish a Network of Incubators in the Ministry of Energy(Electricity Industry) to Promote Entrepreneurship ................................................................. 40
Mojtaba Ghorbani and Kiamars Fathi Hafashjani

Exceptions of Economic Sanctions in Human Rights Conventions........................................ 56
Davood seify qareyataq, Maryam poodineh peer and Samira Zare jam khaneh

Studying the Impact of Joint Plan of Action (November 2013) on Iran Economic Sanctions .............. 71
Hojjatollah Moradianfar, Mohammad Mehdi Hooshmand and Omid fateh

The Effect of Western Sanctions on the Political Will and Economic Structure of Iran .................. 91
Enayatollah Yazdani, Amin Nozari

Effects of International Sanctions on Exports in Iran with an Approach to Business Attraction ........ 108
Sanaz Kahrazeh, Naser Nikpour

The Significant Role of Mutual Understanding in the Strategic Management of Relationship between Industry and University ................................................................. 121
Amir Reza Narimani, Mehrdad Sabaghi
Introduction:

Recently, resistive economics joined the economics literature. One of the main requirements for such economy is self-reliance, due to achieve excellence. Some definitions of resistive economics regard the persistence against sanctions. And other ones emphasize on reinforcement of national economy. First time, in 2005, resistive economics was introduced after the blockade of Ghaza, And in recent years, tighten sanctions against some countries causes to promote this approach and takes into consideration. The goal of resistive economics is to use the internal sources potential against sanctions and restrictions with minimal crisis.

The approach and process of Protecting the national production, labor and capital has different economic, political and social aspects. The main one is resistive economics which could be effective due to the development and uprising of economy’s activities. Resistive Economic can be evaluated as one of the pillars that support the national production which neutralizing sanctions by relying on domestic production. And implementing its principles lead to revolution in the national production.

According to rapidly growth of scientific connections which comes from promotion and usage of online web, we aim to publish an open access journal. Nowadays, regarding many open access journals indexed in Citation Indices and high impact factor of some of them, authors became eager to them.

On the other hand, the open access movement’s attempts to start rising level of scientific journals which includes professional evaluations. This entire increases the attractiveness of participating in the movement.

By using the open access publishing, this journal is looking for promoting discussion about resistive economics. All published papers are peer reviewed and would have acceptable scientific standards and also would reveal the various aspects of resistive economics according to economics literature.
The Words of Managing Editor:

Toroudshomal Research Company According to its missions for protecting and promoting the intellectual heritage of humanities aims to establish annual conferences in order to cover the new and critical humanities Themes. Also we would publish the outcome of these events which are accessible for all researchers to improve the scientific boundaries and to remedy the increasing real-world problems. So, for the first time, we publish the international journal of resistive economics in five scope Economy under sanctions, Oil and gas economics and management, Military Management and Economics, Green economics and Entrepreneurship. And we are trying to introduce the object of resistive economics’ discussions to international R&D centers and make it popular between economists.

We are pleased with the open access, because:
- It is publicly accessible on the web.
- Readers have right to read, print and share it with others freely.
- In traditional publishing, authors leave many of his/her rights to publishers. But in open access, all rights belong to authors.
- This open access journal is peer reviewed.
- It needs fewer cost and time to accept article.

Mohsen Kelich,
Director of Toroudshomal Research Company
The Words of Economics Editor in Chief:

History of scientific journal in Iran began from 3 decades ago. And so far it has remarkable progress in terms of quantity and quality. Retrospect at journals published in developed countries; we face to Evolution of screening and evaluating of paper and method of publishing which moved from traditional ones to electronic publishing. However, the vision and purpose of authors from publishing papers and publishers’ responsibilities in this scope has been somewhat changed. Maybe part of this improvement could be attributed to legislation which itself is acceptable. Providing access to scientific and scholarly content placed readers in a potential and strategic situation which plays a fundamental role in informing. The potential Background of resistive economics like special committees to develop scientific papers, scientific centers against sanctions for compiling new strategic approaches in the economics literature and also scientific journal management method, implementing electronic publishing could be found in the goals of Toroudshomal Research Company as a scientific collection. Open access journal of resistive economics would publish regularly despite of many ups and downs in the International events. In this way we need the Cooperation of professors, teachers and researchers.

We hope to be able to draw bright prospect in this field by benefit from the valuable comments of teachers, students, and researchers and take large steps in this path.

Dr. Pedram Davoudi
Economics Editor in Chief
The Words of Management Editor in Chief:

Sustainable growth and development in general and economic development specifically, is one of the most important and most controversial issues and challenges in the world, and the national aspirations of the people of all nations.

One of the most important effective factors of such a noble aspiration is having an effective and efficient interaction among countries. And resistive economics, sanctions (economic, political, cultural, social), regardless of their causes, are the most important challenges (opportunities and threats) in this field.

Management of sanctions challenges and turns them into good opportunities in different countries and it depends on the function of the effectiveness of three M. Top Management, Middle Management and Operational Management (Malaysia's new economic architect, Mahatyr M)

Although managers can take many tools to manage the challenges associated with the sanctions that may be applied, but certainly in the role of creativity, innovation and idea creation, the most unique feature of entrepreneurs (economic, political, cultural, social) is undeniable and unmatched.

Talent and creativity, innovation and idea creation found in all humans, but the degree of expression, appearance, and use it in different ways is not based on a specific rule. And conferences are ideal place to hunt for any kind of creativity, innovation and ideas.

Creativities, innovations and ideas targeted and trapped at the journal and opportunities and new solutions will be facing managers and administrators, so that they can use them to create knowledge-based wealth (economic, political, cultural, and social) to manage the different aspects of the sanctions act.

Dr. HassanAli Aghajani
Management Editor in Chief
Aims and Scope:

Themes and Sub-themes

- Military Economics and Management

The economics of war:
- War military expenses
- Background and state of economy prior to war
- Peacekeeping funding
- Recent wars and world economy
- Most military countries and their economy
- Value of economic lost in war
- Defense budget
- Defense subsidy

Military service:
- Relation between Military service and GDP, Entrepreneurship, Unemployment, …
- Troops costs
- The impact of Conscript on economic growth

Military treaty organization:
- North Atlantic Treaty Organization (NATO) and world economy
- Southeast Asian Treaty Organization (SATO) and world economy
- Nuclear Non-proliferation Treaty (NPT) and world economy

Military Markets:
- International arms market
- Global military expenditures
- Arms producing companies
- Arms trade
- Arms race model
- Small arms market
- Global military expenditures
- FDI in military project
- Ratio of military expenses to GDP
- Black market arms
- World arms exporters and imports
- Money laundering in arms market
Military new technologies and economic growth

Military companies/institution:
- Private military companies/forces (PMCs/PMFs)
- Military labor market
- Joint military projects expenditures or joint Military project costs
- Military pay scale

Military management:
- Human Resource Management
- Management of Financial Resources
- Industrial Management
- Business Management
- Knowledge Management
- Production Management
- Risk Management
- Strategic Management
- Time Management
- Crisis Management

Cyber war and economy:
- Economic infrastructure and cyber war
- International monetary transactions and cyber war
- Economic Information Warfare

Terrorism and world economy:
- Financial flows of terrorist organization
- Expenditure of national & international security
- Terrorism operations and world economy
- September 11, 2001 attack and world economy
- The effect of weapons of mass destruction(biological, chemical, Nuclear, …) on world economy
- History of military-economic thought and theories
- Militaristic Keynesianism
- Golden arches theory
- Economy under Sanctions

- Explain the economic conditions of sanctioned countries (China, Libya, India, Cuba, Iran, Iraq, Pakistan, South Africa, Syria, Sudan, Afghanistan, Russia, North Korea, etc.) from the perspective of macro-Economic variables (exports, imports, privatization, inflation, interest rates, exchange rate, GDP, per capital income, economic growth, tax, unemployment, etc.)

- Explain the economic conditions under sanctions from the perspective of micro economic variables (market, consumer, manufacturer, price, utility, and the price elasticity of production, replacement and return of …)

- Economic sanctions and social variables (general health, health, Racism, Poverty, migration, food security, environment, Social Capital, etc.);

- Economic sanctions and international politics and law (human rights, democracy, humanitarian aid, etc.)

- The impact of sanctions on the production and trade of energy (oil, gas, etc.);

- Terms of economic sanctions and international monetary and financial systems;

- The impact of sanctions on banking and international trade;

- Economic sanctions and Doing business, entrepreneurship, SMEs;

- The impact of international sanctions on international organizations and companies, FDI & FPI;

- The Nature and Models of Sanction;

- Sanctions Management;

- Typology of Sanctions;

- Sanctions and Resistive Economics;

- Management of Organizations and Companies In Terms Of Sanctions;

- Reduce the Social and Economic Effects of Sanctions;

- Geneva Agreement and Its Consequences;

- Military Economy;
- Oil and Gas Economics and Management

Theories and Concepts:
- Economic Development and oil and gas
- Geoeconomics and oil and gas
- Oil and gas planning

Oil and gas’s demand and supply
- Trade and markets
- Market Forecasting
- Oil and gas pricing
- Consumption of oil and gas product
- The analysis of international energy demand and supply

Alternative Energy sources
- Renewable Energy
- The global climate change and international cooperation on reducing carbon emissions;
- New energy saving technology
- Other sustainable energy
- Ecological economy, circular economy and low-carbon economy;
- New technologies and design for energy efficiency

Investing in oil and gas
- Financing of oil and gas
- Contracts
- Energy Security and Risk Assessment
- Project management and investing
- Investment in related projects such as refineries and petrochemical

Domestic and international Policy making
- Exporter’s policies
- Importer's policies

International organization
- OPEC
- GPEC
- G20
- Green economics

Theories and Concepts:

- Environmental Economics
- Environmental Management
- Green industries
- Welfare Economics
- Development Economics
- Agricultural Economics
- Eco Socialism
- Green tourism
- Eco Feminism And Women’s Economics
- Strengthening economic competitiveness,
- Foreign Direct Investment
- Game Theory

Structural Questions:

- privatization
- Good Governance
- Doing Business
- NGO’s
- Consumerism
- Civil Society And Attitudes To Acceptable Economic Activity
- Environmental Management As An Industry
- Taxing
- Off Shoring
- Outsourcing
- Multinationals And Tariff Barriers
- Polluter Pays
- …

International Institutions and Corporate Activity:

- Bretton Woods
- EU
- UN
- IMF
- World Bank
- WTO
- UNCTAD
- GATTs
- Sovereign Wealth Fund
- Trading Blocks
- New Protectionism
- International Governance
- Roles And Activity Within Multinationals
- Procurement
- Processes Of Globalization At A Practical Level
- Limiting The Power Of The Multinationals

**New Initiatives and Cases, Experience and Applications:**
- Green Solutions
- Green intelligence
- Eco Taxes
- Resource Management
- Renewable Energy
- Green Management
- Green building
- New Economic Indicators
- Zero Waste
- Reuse
- Recycle, Repair
- Quality Of Life And Consumerism
- Information Technology and environments

**New Paradigms of the Economy:**
- Biosphere, Non-Human Species
- Women and Minorities
- Post Agricultural Social And Economic Requirements And Organization
- Planning To Reduce Surplus And Not To Harness It For Power Over Others
- New Fertilizer and environmental effects

**Social Justice:**
- Less Developed Countries
- Subsistence Economies
- Entrepreneurship

Entrepreneurship:

- Theoretical and Empirical principles about entrepreneurship and value creation
- Entrepreneurship and its role in sustainable development (economic, political, cultural, social)
- Entrepreneurship in various areas of science and technology (With the goal of creating jobs and creating value and wealth).
- The role of entrepreneurship in resistive economics.
- Entrepreneurship, from the perspective of Islam and Quran.
- Green Entrepreneurship.
- Entrepreneurship under sanctions.
- Military Entrepreneurship
- And ……..

Incubator centers and science and technology parks:

- Theoretical and Empirical principles about Incubator centers and parks
- Specialized clinics for consultation and brokerage firms, operating and maintaining knowledge-based businesses.
- Knowledge-based Businesses (companies) and commercialization of science and technology
- And ……..

Management in the knowledge Based SMEs:

- Theoretical and empirical principles about knowledge – based SMEs
- Production, financial markets, innovation, legal issues, strategic management, management consulting for SMEs.
- Business clusters
- Green business.
- And ……..

The relationship between universities, industry and society:
Theoretical and experimental study on the relationship between universities and industry.

University and industry mutual expectations (community)

Community/ Models / Patterns / Frameworks for effective communication between universities and industry

And ……..

Third Generation Universities (entrepreneur and value creation):

Theoretical and Experimental Community on Third Generation Universities.

The role of universities in society development of (economic, political, cultural, social).

The role of Third Generation Universities in Resistive Economics

Academic entrepreneurship and entrepreneurial University – Commercialization of knowledge and academic technology.

Universities, Colleges, departments, new generations’ courses.

Programs and entrepreneurial training systems in universities.

University and industry mutual expectations (community)

Community/ Models / Patterns / Frameworks for effective communication between universities and industry

And ……..

Commercialization and academic goods & services sale (education, research and technology):

Knowledge- based wealth creation (economic, cultural, social and political) in the different academic areas.

Shops, exhibitions, academic products markets technology (didactic, research and technology),

Academic products sales and after-sales service chain (supply chain management) (didactic, research and technology),

Businesses clusters, unions, guilds and organizations which support academic goods and services (didactic, research, technology).

Models / frameworks / patterns of employment and money making in the various spheres of academic production (education, research, technology and others).

And ……..

Entrepreneurial relationships with various academic courses:

Theoretical and Empirical principles about entrepreneurship and academic courses.

Entrepreneurship, employment and money making in different humanity courses (management, economics, accounting, law, political science, geography, literature, language, religion, theology, jurisprudence and Islamic law, physical education and sports science, etc.).
• Entrepreneurship, employment and money making in various fields of basic sciences (chemistry, physics, biology, mathematics, biochemistry)
• Entrepreneurship, employment and money making in various fields of Agricultural sciences (Agronomy, Horticulture, Soil Science, Landscape, Animal Science, etc.).
• Entrepreneurship, employment and money making from various fields of engineering (Electrical engineering, Civil engineering, Mechanical engineering, Industrial engineering).
• Entrepreneurship, employment and money making in various art courses (architecture, urban planning, tourism, restoration and archeology, industrial design, painting, graphic design, clothing design and sewing, cinema, film, theater, acting, script-writing, crafts, art research, public relations.)
• Entrepreneurship, employment and money making in various medicine courses (medicine, nursing, physiotherapy, laboratory, dentistry)
• Entrepreneurship in defense and military fields and others…..
• And ……..

And other freebies in line with the objectives of the conference:
• Knowledge Based Economy.
• And ……..
Editorial Board:

“Science does NOT know Borders”

The Open Access Journal of Resistive Economics (OAJRE) kindly invites distinguished research scientists (only with PhD) to join in and work on the scientific committees and editorial review boards of the journals and conferences. Membership in the Open Access Journal of Resistive Economics (OAJRE) scientific committees and editorial review boards can open windows of opportunity for your professional growth and development as free-of-charge. Through special scientific committees and editorial review boards, and numerous occasions for scientific exchange with colleagues, journal of resistive economics gives distinguished research scientists the power to enhance their knowledge, skills, and professional options.

ISSN 2345-4954

Members:

Managing Editor:
Mohsen Kelich Director of Toroudshomal Research Company
kelich@toroudshomal.com

Management: Editor-in-Chief
Dr. Hassanali Aghajani, Iran
Aghajani@umz.ac.ir

Economics: Editor-in-Chief
Dr. Pedram Davoudi, Iran
davoudi@toroudshomal.com

Green Economics Editors:
- Dr. Sedigheh Kelich
- Dr. Azhar Bin Harun, Malaysia
- Dr. Salman Dastan, Iran
- Dr. James Meckler, India
- Dr. Ebrahim Javdan, Iran
- Dr. Younos Vakilaroaya, Iran
- Dr. Hamid Reza Feili, Iran
- Dr. Samira Aligholi, Iran

Oil and Gas Economics and Management Editor:
- Dr. Samson Adeniyi Aladejare, Nigeria (aladejare4reel2000@yahoo.co.uk)
- Dr. Kamal Sadeghi, Iran
- Dr. Bostan D. Ionel, Romania
- Dr. Naser Feghhi Farahmand, Iran
- Dr. Saeed Darab, Iran
- Dr. Sina Karam, Iran
- Dr. Niaz Bashiri Behmiri, Italy
Military Economics and Management Editors:

- Dr. Aboulfazl Shahabadi, Iran (shahabadia@gmail.com)
- Dr. Davoud Kiakojori, Iran
- Dr. Azhar Bin Harun, Malaysia
- Dr. Alireza Shahpari, Iran
- Dr. Mohammad Reza Zeynoddini, Iran
- Dr. Mohammad Mohammadi, Iran

Economy under Sanctions Editors:

- Dr. Carmen Bizzarri, Italy (carmen.bizzarri@gmail.com)
- Prof. Mansour Zara Nehjad, Iran
- Dr. Mohamad javad zare, Iran
- Dr. OJO. Afolabi Micheal, Nigeria
- Dr. Khiji Bashir Ahmad, Pakistan
- Dr. Rasool Yarifar, China
- Dr. Mohammadreza Poorghorban, Iran
- Dr. Mandana Saniee, Iran

Entrepreneurship:

- Dr. MohammadMehdi Mardanshahi, Iran
- Dr. Alireza Fallahpour, Malaysia
- Dr. Maryam Asghari, Iran
- Dr. Morteza khodakhah, Iran
Studying Challenges and Opportunities of Non-Oil Export from Knowledge Components Aspect: An Approach to Cope with Economic Sanctions

Abolfazl Shahabadi¹, Soheila Mirzababazadeh², Amir Lalisarabi³

ABSTRACT: In any country, research and development activities are the main factors of economic growth and prosperity that lead to innovation, improvement of quality and variety of goods and services and also reduce in costs and increase in competition power and interdependency. According to the new theories of international trade, trade partners' research and development can play essential role in exports growth in the country through intermediate and capital goods imports, since it enables the country to imitate foreign technology and to convert it to be used within the country. This study is done to investigate and analyze the impact of knowledge components on non-oil exports with cross-sectional method and SWOT model to increase interdependency and decrease sanction degree of Iran's economy. The studied period was 1970-2010 and the needed statistics has constant price (base year 2000). The obtained results indicated deep gap of Iran's economy technology with the world economy, dependency of non-oil exports to the traditional factors of production, lack of supply and demand mechanism in research and development activities because of wrong economic policies which lead to relative price distorting of factors in favor of using physical capital and imports technology and to the detriment of other production factors such as knowledge components (human capital and research and development activities). As a result, we will observe loss of competitiveness capability and one–sided dependency of Iran's economy to the world economy.

KEYWORDS: Non-Oil Exports, Research and Development, Technology Spillover, Economic Sanction

¹ (Corresponding Author), Associate Professor, Faculty of Economics and Social Science, Bu-Ali Sina University, Hamedan, Iran, shahabadia@gmail.com
² Instructor, Faculty of Economics, Payam Noor University, Tehran, Iran, nmirzababazadeh@gmail.com
³ Assistant Professor, Faculty of Management, Payam Noor University, Tehran, Iran, lalisarabi@gmail.com
1. INTRODUCTION

Export is an important factor in economic growth and accordingly in increasing welfare of countries. Moreover, research and development activities in each country lead to the innovation and thereby lead to the improvement of quality and variety of goods and services, decrease of production costs, increase of production and exports. Investment on research and development activities after the World War II which is the major difference between developed and developing countries. In developed society science and technology utilize human resources and creativity which forms the main economic structure so that has led to increased economic growth and exports. Considering economical components of developed countries and comparing it with developing countries show that 2-3 percent of gross domestic product of developed countries is allocated to research and development activities but less than 1 percent of gross domestic product of developing countries is spent on research and development activities (Hughes, 1985).

Many countries have overcome recession through raising exports and some new theories of international economics have stressed on the importance of non-price factors on exports. Policies and strategies for export stimulation are generally focused on its most dynamic components. R&D and innovation intensity are the main predictive factor for exporting and the share of R&D expenditure in GDP expressed the R&D and innovation intensity (Sandu and Ciocane, 2014). Internal and external R&D activities improve product quality and increase competitiveness devising new methods and making use of advanced technical knowledge (Coe and Et al, 2008).

Endogenous growth theories claim that innovation is a major driving force of economic growth and studies have emphasized export –oriented growth as a successful development strategy (Yang & Chen, 2012). Studies show that external technology acquisition, positively influence firm's export performance and the exporting firms that acquired technology from foreign countries outperformed those relied on domestically developed technology (Wang and Et al, 2013).

Nowadays, every country must be innovative to be able to compete in the world effectively. In addition to the innovation, diffusions between countries are important. imports of capital is an effective tool to knowledge transfer among nations and innovation, and can easily be achieved through imported technology and must be replaced over time by internal technology (Mody and Yilmaz, 2005).

2. LITERATURE REVIEW

Technology and trade literature indicate that technological gaps to trade in different parts are important to countries involved in organizing economic cooperation and development and Fagerberg (1999) considers technology as a passageway to Europe to achieve rapid growth rates. Innovation and technology create relative advantage in trade and improve exports conditions of countries by creating field to new production and reducing production cost.

Pozner discussed technology gap theory of international trade in 1961 and concluded that the continuous innovation process, even among countries with similar primary factors, leads to trade among them, since it will take some time to the producers of other countries to learn new goods production. But overtime, innovative firm should create new innovations to continue exports.

Montobbio and Rampa (2005) examined the role of technology and structure change in the exports of main and industrial sections of 9 developing countries over the 1985-1998 period and they stated that technology has significant role in the formation of trade patterns of developed and developing countries.

Dipi etra and Anoruo (2005) examined the impact of innovative activities on exports. The obtained results showed that capital import is an important tool to knowledge transfer among nations and innovation can be achieved through imports technology.
Ledesma (2002) examines the impact of knowledge spillover on the exports of 21 organization for economic cooperation and development of member countries during 1971-1990 and states that increase of knowledge overflow through goods imports led to increased foreign knowledge reserve and this fact leads to increase the impact of foreign knowledge accumulation on the performance of imports of organization for economic cooperation and development of member countries.

Johanson and Karlson (2006) examine the impact of Research and development activities on the export of Switzerland during (1993-1999). They conclude accessing to external and internal R&D activities have a positive effect on export.

Faustino, Lima and Matos (2012) examined the evolution of Portuguese exports to Spain and its determinants during 2004-2008 using panel data. Remuneration and innovation measured by the expenditure on R&D. results confirm that R&D variable is statistically significant with a positive effect on Portuguese exports in the model.

Yan Aw, Roberts and Yi Xu (2009) estimated the model using plant-level data from the Taiwanese electronic industry. The obtained results show that investment in R&D or new technology raise productivity and increase the payoff to exporting.

Fernandez and Tang (2014) study how learning from neighboring firms affects new exporter's performance. They develop a model based on several factors including the number of neighbor currently selling there, the level and heterogeneity of their export sales and the firm's own prior knowledge about the market. They find supporting evidence for the main predictions of the model from transaction – level data for all Chinese exporters over 2000-2006 period. Findings are robust to control for firm's supply shocks, countries demand shocks and city-country fixed effects.

Artopoulos et al (2013) explore the underlying factors that enable developing countries firms to successfully export differentiated goods to developed countries. Their findings point to the importance of foreign market knowledge and production knowledge, as the constraint to achieve consistent export to developed countries.

Wang and et al (2013) study the determinants of export performance by examining the impact of inter-organizational dimension of innovation strategy to export performance. They used a sample of 141 Chinese indigenous manufacturing firms that engaged in inward technology licensing 2000-2003 period. Results indicate that external technology acquisitions positively influence Chinese firm's export performance and the firms that acquired technology from foreign countries outperformed those relied on domestically developed technology.

Yang and Chen (2012) examine the relation between productivity and export in Indonesian manufacturing firms. Estimates show that R&D has a positive impact on both productivity and exports, suggesting the importance of R&D to Indonesian economic growth.

Sandu and Ciocanel (2014) assessed at the European level the relationship between medium and high-tech exports and main determinants of innovation. Results confirm a positive correlation between total R&D expenditure volume and the level of high-tech exports.

Shakeri (2004) examined pricey and non-pricey effective factors on the exports of non-oil economy of Iran during 1961-2001. The obtained results show that non-oil export has been mainly related to the basic variables of productivity and competitiveness but the effect of pricey variable is not determinant and considerable.

Shahabadi(2004) examined the impact of total factor productivity on the non-oil exports of Iran's economy during 1959-2003 and he states that total factor productivity, increases sing real exchange rate and global imports level have positive effect on non-oil exports.

Karimi and Rashedi (2001) investigate the relationship between non-oil exports and gross domestic product of Iran's economy during 1959-1997 and they consider variables as exchange rate, labor, capital and imports as determinant factors of non-oil exports.
3. THEORETICAL FRAMEWORK

Development attitudes focus on research and development centrality, so that if a country cannot have significant investment in research and development field and cannot exploit it, it will not be able to develop other thing. But, due to paying less attention of developing countries to research process and lack of allocation of appropriate research fund, it has been considered as a preventing factor in economic development process (Dipietro and Anoruo, 2005). According to the new theory of international trade, trade partner’s research and development like domestic research and development can play essential role in export growth of the country through importing intermediate and capital goods and it enables international trade of country to imitate foreign technology and convert them for domestic usage. As a result, transferring research and development activities spillover and appropriate technology and converting exportable raw materials to goods exports, high technology exports is substitute for exporting raw material (Ledesma, 2002).

In Dixit and Stieglitz's (1977) model, knowledge accumulation variable has been considered as accumulation of thoughts and ideas that is used in productive activities. In this model, innovation, invention and technology are subsets of idea and thought accumulation. Thus, countries with more developed universities and developed research sectors will use more opportunities to use productive knowledge in different economical sections to improve product's quality and diversity (Dixit and Stiglitz, 1997). Thus, developing countries like Iran can transfer technology and technical methods through international transactions in the form of exports and imports to bridge the technology gap and can attract and localize research and development increase competitiveness and create interdependency with other countries of the world through significant investment in the field of research and development and human resource. Therefore, it could be stated that domestic and foreign research and development investment accumulation plays crucial role in exports development and interdependency in reducing vulnerability that is resulted from the possible sanctions, however, due to the fact that domestic research and development capital accumulation are scarce in developing countries, so, with the proper economy management, foreign research and development, capital accumulation has more influence on exports compared to domestic research and development capital accumulation. Also, it is worth mentioning that a developing country with more human capital and more open economy will be capable of attracting more foreign research and development of capital accumulation and new evolution in export (Shakeri, 2005).

Statistics show that in spite of the fact that Iran is one of the major-countries with large gas and oil reserves, it has decreasing trend in the world exports. Now, it's necessary to examine factors that have caused Iran to have fewer shares of the world exports. However, it is worth mentioning that if we eliminate oil exports from total exports statistics the declining trend of Iran's economy exports share from the world exports will be at inappropriate situation. It seems reasonable to eliminate oil exports from overall exports of Iran's economy, because oil exports are the exports of goods and raw materials that does not reflect very well the relative effort, planning, scientific and economic position of Iran in relation to the world and oil exports is essentially considered as an exogenous fact. Therefore, it's necessary to assess the impact of domestic and foreign research and development accumulation on non-oil exports accurately. Thus, the aim of the present study is to investigate the effect of domestic and foreign research and development accumulation (through importing goods from countries involved in organization for economic cooperation and development) on non-oil exports of Iran's economy to provide political advices to economical politicians in order to fulfill outlook document and to deal with any economical sanction and also to provide future planning orientation (Shakeri, 2005).
4. METHODOLOGY

4.1. Data Collection

This study used cross-sectional method and SWOT model for analyzing the data. The most appropriate model of analysis is SWOT that analyzes strengths, weaknesses, opportunities and threats. Nowadays SWOT is a new tool for analyzing economic performance. SWOT model is a conceptual framework that used for the systematic analysis. In this model it is possible to compare threats, opportunities, strengths and weaknesses. Strategies in these models are based on the analysis of external environment (opportunities and threats) and internal environment (strengths and weaknesses). Investment opportunities and threats matrix is reflected in the table below (Shahabadi and Ganji, 2013).

Table 1: SWOT matrix

<table>
<thead>
<tr>
<th>SWOT matrix</th>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opportunities</td>
<td>SO Strategy</td>
<td>WO Strategy</td>
</tr>
<tr>
<td>Threats</td>
<td>ST Strategy</td>
<td>WT Strategy</td>
</tr>
</tbody>
</table>

Source: Shahabadi and Ganji (2013).

Data sources for the statistical tables used in this study are WDI (2012) statistical database, Central Bank of Islamic Republic of Iran, Customs of Islamic Republic of Iran, Griliches (1988) and Coe and Helpman (1995).

To make the domestic research and development capital accumulation the domestic R&D expenditure is used. In addition only the government research budget has been used. Primitive accumulation of internal research and development \( S_0 \) is calculated with respect to Guilloches equation.

\[
S_0 = \frac{R_0}{g + S} \left( \frac{R \times D}{n} \right)
\]

\( R_0 \) represented the cost of R&D in the first year (1968). \( \delta \) is the depreciation rate. In addition domestic R&D capital accumulation in every year is equal to:

\[
S_t = (1 - \delta)S_{t-1} + R_t
\]

The depreciation rate of R&D is considered 5% and 10% (Griliches, 1988).

The partners in this study are 21 developed OECD countries and United Arabic Emirates. Given that the imported goods can be transferred the R&D of partners to the country, so that the accumulation of foreign R&D capital is as a weighted sum of imports multiplied by the partners R&D expenditures accumulated. There for using the equation that is offered by Coe and Helpman (1995), partner’s R&D capital accumulation is calculated (Coe and Helpman, 1995).

\[
J = 1, 2, \ldots \quad S_{T-c} = \sum_{ij} \frac{m_{ij}}{m_j} S^d_j
\]

\( m_{ij} \) represent the country’s imports from developed partners, \( m_i (\sum m_{ij}) \) is Iran’s total imports from 21 developed partners and UAE. And Sd shows accumulation of domestic R&D of developed partners and UAE.
4.2. Data Analysis

This study is done to investigate and analyze the impact of knowledge components on non-oil exports with SWOT method to increase interdependency and decrease sanction degree of Iran's economy. Many countries have overcome recession through raising exports (Sandu and Ciocane, 2014). According to the statistics shown in Table (2), the ratio of exports to gross domestic product is very high for Iran's economy. So that in total studied period (1970-2010), the ratio of exports to gross domestic product for Iran's economy is about 27/1 percent. Although this issue is apparently indicator of openness degree of Iran's economy and it is considered as an advantage, since Iran's economy is dependent on oil exports and bulk of Iran's economy exports is through oil export thus it's necessary to pay attention to it. It should be noted that the ratio of exports to gross domestic product for Iran's economy has strong fluctuations so that during 70th, 80th and 90th decades of 20th centuries the ratio of exports to gross domestic product for Iran's economy are 43.2, 17.2, and 25.3 respectively and this ratio is 21 for the first decade of the recent century That may have been caused by intense fluctuations in oil price and sanctions against Iran. But in this period(1971-2010) the ratio of exports to gross domestic product of countries which are member of organization for economic cooperation and development is almost stable and is about 14/8 percent and industrial goods is the main exports of developed countries( the ratio of exports to gross domestic product for countries which are member of organization for economic cooperation and development have been 10/9, 13, 17/7 and 21/3 percent respectively during 70th, 80th and 90th decades of 20th centuries and the first decade of 21th century. It should be noted that, the ratio of exports to gross domestic product in organization for economic cooperation and development is nearly regular and additive trend, during the studied period. Also, exports growth of these countries is more than their economic growth. Additionally, during this period (1970-2010) the ratio of exports to gross domestic product for seven groups of countries and other countries which are member of organization for economic cooperation and development are 11 and 32 percent, respectively. Since Iran is an oil-bearing country and is dependent on oil wealth and its main exports is oil, so it's better to consider exports figure without using oil exports amount. And it's also necessary to pay attention to non-oil exports. Thus in the fifth development plan, paragraphs A, B, C and Article 104 are allocated to exports especially non-oil exports and exports incentives and according to these paragraphs and Article it is stated that:

A- In order to promote the participation of institutions and to increase the share of organizations, networks, clusters, association, companies(consortiums), export management countries, and large export companies with diverse products the government has authority to grant aids, facilities, incentives, and its direct and indirect protections in the field of non-oil exports through these organizations.

B- The ban on tax and duties taking in the exports over the program is prohibited.

C- Non-oil exports: Exports of goods and services is exempt from any permission except for mandatory standards and usual certificates in international trade that is demanded by buyers.

D- Trade promotion organization and Export Guarantee fund Of Iran: The government is obliged to prepare and empower economical pillars of the country to join to the World Trade Organization in addition to creating harmony in laws and regulations of country's trade section with laws and regulations of regional and international unions such as World Trade Organization ( Management and Planning Organization of Iran , 2010).
This Article will be effective if it is directed from the correct way and aids, facilities, incentives and supports given to people and exporters who deserve and don’t lead to bribery in society. Also, it's necessary to pay substantial attention to knowledge and research in order to empower economical pillars of the country to international competition.

Also, in Articles 69, 72, 75, 78 of the second chapter of fifth development plan of Islamic republic of Iran law(2001-2005) business environment improvement has been discussed. In these Articles and its paragraphs, encouraging policies have been examined to use trade names for goods and services in retail and wholesale through reserving spiritual rights of brand holder, to provide insurance services related to prices fluctuation and exchange rate fluctuations, to form public and private dialogue council in order to exchange government viewpoint and to form private and cooperative sectors and facilitating economical activities in these sections, identification of laws and regulation that are detrimental to production and investment in Iran and to examine and process problems and demands of productive and export organizations. Also, according to Article 78 the government is obliged to purchase its needed goods and services with the priority from domestic producers to support domestic products. Improving business environment is one of the most effective factors to attract investors in order to expanding production and then exports, and it's necessary to have the necessary legal production and supports given to people and exporters who deserve and don’t lead to bribery in society.

According to table(2), the ratio of non-oil exports to gross domestic product of Iran's economy is 2/7 percent during the studied period which is not considerable amount and this shows that non-oil export in Iran's economy is located at low position.

Table (3) shows comparison of gross domestic product of the countries which are member of organization for economic cooperation and development and Iran. During the studied period (1971-2010) the average share of group seven and other members of out of group seven in gross domestic product of organization for economic cooperation and development have been respectively 13 and 87. It should be noted that, More than one –third of gross domestic product in countries with the organization for economic cooperation and development belongs to...
American economy and New Zealand has the least share of gross domestic product in countries with the organization for economic cooperation and development among the examined countries. Meanwhile gross domestic product of Iran to Canada (that is economically the smallest country in group of seven) is about 16 percent of gross domestic product. Also, gross domestic product of Iran to New Zealand (that is economically the smallest organization for economic cooperation and development member country) is almost double. However it should be noted that, major part of gross domestic products of Iran's economy is from direct and indirect effects of petroleum that if we deduct the direct and indirect effect of oil from gross domestic product, the gap between Iran's economy and also the gap between the actual capacity of Iran's economy with the potential and actual capacity of global economy will be evident. Also, gross domestic product is not alone an enough standard to judge but we can use per capita production index.

Table 3: Gross domestic product share in every Country with OECD

<table>
<thead>
<tr>
<th>Country (non-oil)</th>
<th>OECD</th>
<th>Iran</th>
<th>Group 7</th>
<th>Non G7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norway</td>
<td>0.42</td>
<td>0.42</td>
<td>0.42</td>
<td>0.42</td>
</tr>
<tr>
<td>1971-1980</td>
<td>0.42</td>
<td>0.42</td>
<td>0.42</td>
<td>0.42</td>
</tr>
<tr>
<td>1981-1990</td>
<td>0.43</td>
<td>0.43</td>
<td>0.43</td>
<td>0.43</td>
</tr>
<tr>
<td>1991-2000</td>
<td>0.46</td>
<td>0.46</td>
<td>0.46</td>
<td>0.46</td>
</tr>
<tr>
<td>2001-2010</td>
<td>0.45</td>
<td>0.45</td>
<td>0.45</td>
<td>0.45</td>
</tr>
<tr>
<td>1971-2010</td>
<td>0.44</td>
<td>0.44</td>
<td>0.44</td>
<td>0.44</td>
</tr>
<tr>
<td>1981-2010</td>
<td>0.44</td>
<td>0.44</td>
<td>0.44</td>
<td>0.44</td>
</tr>
<tr>
<td>1991-2010</td>
<td>0.46</td>
<td>0.46</td>
<td>0.46</td>
<td>0.46</td>
</tr>
</tbody>
</table>


According to table (4), the average of per capita gross domestic product of the countries which are member of organization for economic cooperation and development was 22165 dollars during the studied period. Of course, the highest per capita gross domestic product belongs to Switzerland, America and Japan and Greece has the least per capita gross domestic products among the studied countries. The average of per capita gross domestic product of seven group countries and other countries, which are member of organization for economic cooperation and development, was 23544 and 15704 dollars during this period. However, per capita gross domestic products were 1874, 1346 and 1478, respectively in Iran during 70th, 80th and 90th and it was 1800 in the first decade of the recent century.

Table 4: Capita gross domestic product of OECD countries and Iran

<table>
<thead>
<tr>
<th>Country (non-oil)</th>
<th>OECD</th>
<th>Iran</th>
<th>Group 7</th>
<th>Non G7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norway</td>
<td>15073</td>
<td>14583</td>
<td>11260</td>
<td>14055</td>
</tr>
<tr>
<td>1971-1980</td>
<td>19798</td>
<td>17478</td>
<td>14590</td>
<td>17258</td>
</tr>
<tr>
<td>1981-1990</td>
<td>20255</td>
<td>17477</td>
<td>17687</td>
<td>20404</td>
</tr>
<tr>
<td>1991-2000</td>
<td>24224</td>
<td>25902</td>
<td>19497</td>
<td>23119</td>
</tr>
<tr>
<td>2001-2010</td>
<td>18695</td>
<td>18998</td>
<td>15224</td>
<td>18081</td>
</tr>
<tr>
<td>1971-2010</td>
<td>20143</td>
<td>20762</td>
<td>16811</td>
<td>19689</td>
</tr>
</tbody>
</table>

In other words, the average of per capita gross domestic product in Iran has been 1598 during this period that is one-sixth of per capita gross domestic product of Greece which is the smallest economical number of the organization for economic cooperation and development. High level of per capita income in the organization for economic cooperation and development compared to Iran results from economic dynamics and attention to new production factors (research and development, technology, information and communication technology, scientific management and etc.) in other words, organization for economic cooperation and development, succeeded to increase per capita income with correct economic policy to create relative acquisitioned merit and to decrease the role of relative natural merit. However, a remarkable portion of per capita of Iran's economy is earned from petroleum selling that is natural wealth and non-governmental, are obliged to import all of the agricultural goods and products including raw or processed goods or food requirements needed for food industries. The government is obliged to impose effective tariff to import all of the agricultural goods and products in order to support domestic products so that the exchange rate should be always in favor of domestic producers. This paragraph can be effective, if it does not lead to increase competitiveness gap between agricultural activities from the outside world. In other words, the support should have program and structure reform orientation to move towards knowledge-based economy (Management and planning organization, 2010).

Also, in Article 150 it has been stated that: the Ministry of Industries and Mines is obliged to act to fulfill the goals of twenty years perspective of Islamic Republic of Iran in the form of codifying industrial and mineral development strategy in coordination with deputy under the selected parts of industry and mine, so that to increase the growth rate of added value in industry and mine selection.

A- Promoting industry competition with an emphasis on developing technology capabilities and transferring dependency point of relative merits of raw material to technology capabilities and creating competitive advantages

B- Diversifying the industrial exports base and increasing the share of products with high processing in exports

C- Developing appropriate linkage between small, medium, and large industries and forming industrial clusters and brand and preparing merger and large competitive firms.
Also, in the fourth development plan there is attention to increase competitiveness power and engagement with the global economy and the essential program which turns Iran's economy to the knowledge-based economy (Management and planning organization, 2010).

Based on the new theories of international trade, increasing the competitiveness power and exports development of each country depends on technical and industrial progress and this is done in the light of internal research and development activities and international research and development overflow through goods imports and attracting direct investment (Coe and et al., 2008). Ledesma (2000-2002), Dipietro and Anoruo (2005), Yan Aw, Roberts and Yixu (2009), Faustino, Lima and Matos (2012), San du, Cio canel (2014) suggest a positive impact of accumulation of domestic research and development expenditure on the exports in the long term. Industrial countries undergo large position of research and development costs and countries with the organization for economic cooperation and development undergo more than 90 percent of these costs in industrial world. Surely, high concentration of research and development in this countries leads to technology progress, improvement of new production process and also improvement of products quality (Ledesma, 2002).

According to table(5), approximately 0.93 of domestic research and development capital of countries with the organization for economic cooperation and development belongs to seven groups of countries and the remaining 0.07 belongs to members other than group seven during the studied period. It should be mentioned that, nearly half of domestic research and development capital of countries with the organization for economic cooperation and development belongs to America and Greece which has the least capital accumulation of domestic research and development among studied countries. However, during 1971-2010 the ratio of capital accumulation of domestic research and development of Iran to Greece is four fold. It should be noted that, this trend has completely decreasing trend during the studied period. Also, the ratio of capital accumulation of domestic research and Development of Iran to Canada was about 2.52 percent. It should be stated that, the major part of domestic research and capital accumulation development is governmental in Iran's economy. But the bulk of research and development activities in countries which are member of organization of economic cooperation and development belong to the private sector due to healthy economic structure and correct signaling of Price factors to Entrepreneurs. Then, with the present structure we cannot be hopeful to capital accumulation in domestic research and development in Iran's economy to technical change and development of knowledge-based economy activities. Another interesting point is that, in Iran's economy 0/1 to 0/5 percent of gross domestic product are spent to research and development costs; however this amount is 2 to 3 percent at the developed countries with the organization for economic cooperation and development. Thus, is it possible to be successful by allocating small percentage of gross domestic product to research and development to fill deep gap of technology and increase competitiveness power of Iran's economy in order to develop non-oil exports and society welfare? And also, is it possible to respond to the wide demand of Iran's economy (resulting from information and expectation explosion, population explosion and etc.) with respect to the existent condition?

Table 5: domestic research and development capital of Iran & OECD

<table>
<thead>
<tr>
<th>Year</th>
<th>Canada</th>
<th>England</th>
<th>Italy</th>
<th>France</th>
<th>Germany</th>
<th>Japan</th>
<th>America</th>
<th>Ireland</th>
<th>Greece</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971-1980</td>
<td>0.92</td>
<td>10.85</td>
<td>1.60</td>
<td>6.12</td>
<td>8.43</td>
<td>13.13</td>
<td>51.90</td>
<td>0.04</td>
<td>0.01</td>
</tr>
<tr>
<td>1981-1990</td>
<td>1.05</td>
<td>8.27</td>
<td>1.77</td>
<td>5.57</td>
<td>9.32</td>
<td>18.08</td>
<td>49.09</td>
<td>0.06</td>
<td>0.02</td>
</tr>
<tr>
<td>1991-2000</td>
<td>1.58</td>
<td>5.97</td>
<td>2.00</td>
<td>5.24</td>
<td>8.85</td>
<td>23.21</td>
<td>45.32</td>
<td>0.10</td>
<td>0.07</td>
</tr>
<tr>
<td>2001-2010</td>
<td>1.98</td>
<td>5.26</td>
<td>2.03</td>
<td>5.14</td>
<td>8.37</td>
<td>23.96</td>
<td>44.68</td>
<td>0.16</td>
<td>0.11</td>
</tr>
<tr>
<td>1971-2010</td>
<td>1.3</td>
<td>7.93</td>
<td>1.82</td>
<td>5.58</td>
<td>8.83</td>
<td>18.96</td>
<td>48.19</td>
<td>0.08</td>
<td>0.04</td>
</tr>
<tr>
<td>1981-2010</td>
<td>1.45</td>
<td>6.74</td>
<td>1.92</td>
<td>5.37</td>
<td>8.96</td>
<td>21.31</td>
<td>46.7</td>
<td>0.09</td>
<td>0.05</td>
</tr>
<tr>
<td>1991-2010</td>
<td>1.72</td>
<td>5.74</td>
<td>2.02</td>
<td>5.23</td>
<td>8.71</td>
<td>23.45</td>
<td>45.11</td>
<td>0.13</td>
<td>0.09</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Year</th>
<th>Finland</th>
<th>Denmark</th>
<th>Belgium</th>
<th>Austria</th>
<th>Australia</th>
<th>New Zealand</th>
<th>Switzerland</th>
<th>Sweden</th>
<th>Spain</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971-1980</td>
<td>0.15</td>
<td>0.29</td>
<td>0.74</td>
<td>0.23</td>
<td>0.17</td>
<td>2.15</td>
<td>0.81</td>
<td>0.19</td>
<td>0.21</td>
</tr>
<tr>
<td>1981-1990</td>
<td>0.22</td>
<td>0.30</td>
<td>0.76</td>
<td>0.33</td>
<td>0.26</td>
<td>1.61</td>
<td>1.05</td>
<td>0.31</td>
<td>0.29</td>
</tr>
<tr>
<td>1991-2000</td>
<td>0.41</td>
<td>0.43</td>
<td>0.78</td>
<td>0.48</td>
<td>0.65</td>
<td>1.32</td>
<td>1.34</td>
<td>0.61</td>
<td>0.28</td>
</tr>
</tbody>
</table>
Article 17 of fifth development plan points to technology development and diffusion and support knowledge-based companies by which the government can take following actions in order to develop and diffuse technology and support knowledge-based companies.

A- Financial support from demand-based researches with universities and institutions of higher education, research and seminaries in the field of solving the country problems provided that at least 50 percent of its costs are committed to private employer.

B- Financial support and facilitating formation and development of small and medium private and cooperative companies which act in trading science and technology especially producing goods based on advanced technologies and exporting technical services and also supporting growth center startup and parts of science and technology by private sector.

C- The needed legal supports in order to encourage foreign parties of international relations and foreign investment to transfer technical knowledge and part of research and development activities related to the country and doing it in coordination with local countries.

D- Financial support of creating and developing idea exchange and technology market in order to use scientific capacity to meet the needs of industry, agriculture and service's needs. (Management and planning organization, 2010).

This is one of the main components of production and exports and negligence of this component can cause problems in the development of competitiveness capability of the country. It is worth mentioning that, according to the facts and figures about this component and other components there is considerable gap between Iran and developed countries and if we pay attention to filling these gaps we will see decrease of gap between competitiveness powers of Iran's economy with the developed economies.

On the other side, given the deviation of relative prices resulted from poor economic policies is it possible to increase the ratio of research and development to the production by active members of private sectors as other developed countries?

Or, how can we see demand increase of highly educated labor force by the active members of private sector in this structure? In other words, it seems that political orientation of macroeconomic is not appropriate in order to transform capital-based and resource-based economy to knowledge-based economy and it should be taken into consideration in the future planning, otherwise we cannot observe the fulfillment of perspective document and fifth and final development plan. Because over the many years that have been passed from the perspective document there is not serious change in this field. Although tremendous efforts have been carried by the government in the supply of human capital and research and development activities but due to the inconsistency between macroeconomic policies and educational policies we cannot observe optimal use of investments in educational fields.
According to the recent theories of international economics, with the existence of international trade among countries, exports of each country depend on foreign research and development capital stock as domestic research and development capital accumulation. Interests of foreign research and development capital accumulation can be direct and indirect. Therefore, international trade increases exports growth and the increased access to intermediate and capital goods. In other words, trade sector is one of the main components of economic systems that take more importance in the world due to technology development and increase in goods production diversity. In addition to the existence of theoretical evidences to suggest the positive effect of trade (exports and imports) on economic growth, the experience of most of the world countries show that the presence in international markets and exploiting foreign trade advantages paved the way to the economic growth for most of the developing countries in recent decades (Mody and Yilmaz, 2005). Because it's possible to transfer trade partners' research and capital accumulation development to the country through objective goods imports and with knowledge and technology absorption orientation and this fact can cause an increase in competitiveness power and growth of country's export performance, the implicit assumption is that foreign research and development capital stock occurs in country through importing intermediate and capital goods (Wang et al, 2013).

Ledesma (2000), Karlsson and Johanson (2006), Yan Aw, Roberts and Yixu (2009), Faustino, Lima and Matos (2012) and Wang et al (2013) suggest a positive impact of foreign research and development expenditure accumulation on the exports in the long term. Statistics of table (6) indicates goods imports level from organization for economic cooperation and development to Iran's economy. During the studied period (1970-2010) the average share of goods imports of Iran's economy from countries with the organization for economic cooperation and development and group seven have been respectively 65 and 50 percent. The highest goods imports share in Iran's economy belongs to Germany (Germany is Iran's most important trading partner) and among countries with the organization for economic cooperation and development Portugal has the least share in supplying goods imports in Iran's economy.

**Table 6: Share of Iran imports from OECD**

<table>
<thead>
<tr>
<th>Country</th>
<th>Canada</th>
<th>England</th>
<th>Italy</th>
<th>French</th>
<th>Germany</th>
<th>Japan</th>
<th>America</th>
<th>Ireland</th>
<th>Greece</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971-1980</td>
<td>0.8</td>
<td>10.3</td>
<td>5.6</td>
<td>6.0</td>
<td>20.9</td>
<td>18.7</td>
<td>18.4</td>
<td>0.1</td>
<td>0.3</td>
</tr>
<tr>
<td>1981-1990</td>
<td>2.2</td>
<td>8.8</td>
<td>8.0</td>
<td>2.8</td>
<td>26.2</td>
<td>17.2</td>
<td>1.1</td>
<td>0.4</td>
<td>0.3</td>
</tr>
<tr>
<td>1991-2000</td>
<td>4.7</td>
<td>6.0</td>
<td>11.0</td>
<td>6.8</td>
<td>25.0</td>
<td>12.3</td>
<td>2.7</td>
<td>0.3</td>
<td>0.1</td>
</tr>
<tr>
<td>2001-2010</td>
<td>2.2</td>
<td>6.9</td>
<td>12.4</td>
<td>15.2</td>
<td>24.3</td>
<td>7.5</td>
<td>0.6</td>
<td>0.5</td>
<td>0.1</td>
</tr>
<tr>
<td>1971-2010</td>
<td>2.6</td>
<td>8.2</td>
<td>8.8</td>
<td>6.5</td>
<td>24.1</td>
<td>14.7</td>
<td>6.4</td>
<td>0.3</td>
<td>0.2</td>
</tr>
<tr>
<td>1981-2010</td>
<td>3.3</td>
<td>7.3</td>
<td>10.1</td>
<td>6.8</td>
<td>25.4</td>
<td>13.3</td>
<td>1.7</td>
<td>0.4</td>
<td>0.2</td>
</tr>
<tr>
<td>1991-2010</td>
<td>3.7</td>
<td>6.3</td>
<td>11.4</td>
<td>9.6</td>
<td>24.7</td>
<td>10.7</td>
<td>2.0</td>
<td>0.4</td>
<td>0.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Country</th>
<th>Finland</th>
<th>Denmark</th>
<th>Belgium</th>
<th>Austria</th>
<th>Australia</th>
<th>New Zealand</th>
<th>Switzerland</th>
<th>Sweden</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971-1980</td>
<td>1.3</td>
<td>0.9</td>
<td>2.9</td>
<td>1.6</td>
<td>1.8</td>
<td>3.3</td>
<td>1.8</td>
<td>1.4</td>
</tr>
<tr>
<td>1981-1990</td>
<td>1.3</td>
<td>1.4</td>
<td>4.9</td>
<td>2.8</td>
<td>5.7</td>
<td>4.5</td>
<td>3.4</td>
<td>2.8</td>
</tr>
<tr>
<td>1991-2000</td>
<td>1.0</td>
<td>1.0</td>
<td>7.0</td>
<td>3.2</td>
<td>4.0</td>
<td>5.0</td>
<td>2.3</td>
<td>3.1</td>
</tr>
<tr>
<td>2001-2010</td>
<td>1.1</td>
<td>0.9</td>
<td>4.0</td>
<td>2.8</td>
<td>2.6</td>
<td>8.3</td>
<td>4.5</td>
<td>2.8</td>
</tr>
<tr>
<td>1971-2010</td>
<td>1.1</td>
<td>1.1</td>
<td>4.9</td>
<td>2.6</td>
<td>3.8</td>
<td>4.8</td>
<td>2.8</td>
<td>2.5</td>
</tr>
<tr>
<td>1981-2010</td>
<td>1.0</td>
<td>1.16</td>
<td>5.6</td>
<td>2.9</td>
<td>4.4</td>
<td>5.5</td>
<td>3.3</td>
<td>2.9</td>
</tr>
<tr>
<td>1991-2010</td>
<td>1.0</td>
<td>1.0</td>
<td>3.1</td>
<td>3.5</td>
<td>6.2</td>
<td>3.0</td>
<td>3.0</td>
<td>3.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Country</th>
<th>Portugal</th>
<th>Spain</th>
<th>Holland</th>
<th>Norway</th>
<th>OECD</th>
<th>Imports from 21 countries to overall imports</th>
<th>Imports from group7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971-1980</td>
<td>0.0</td>
<td>0.2</td>
<td>3.2</td>
<td>0.5</td>
<td>100</td>
<td>0.76</td>
<td>0.62</td>
</tr>
<tr>
<td>1981-1990</td>
<td>0.1</td>
<td>0.2</td>
<td>4.1</td>
<td>2.2</td>
<td>100</td>
<td>0.68</td>
<td>0.44</td>
</tr>
<tr>
<td>1991-2000</td>
<td>0.2</td>
<td>0.1</td>
<td>3.5</td>
<td>0.6</td>
<td>100</td>
<td>0.62</td>
<td>0.41</td>
</tr>
<tr>
<td>2001-2010</td>
<td>0.2</td>
<td>0.2</td>
<td>3.2</td>
<td>0.2</td>
<td>100</td>
<td>0.49</td>
<td>0.33</td>
</tr>
<tr>
<td>1971-2010</td>
<td>0.1</td>
<td>0.2</td>
<td>3.6</td>
<td>1.8</td>
<td>100</td>
<td>0.65</td>
<td>0.50</td>
</tr>
<tr>
<td>1981-2010</td>
<td>0.1</td>
<td>0.2</td>
<td>3.7</td>
<td>1.2</td>
<td>100</td>
<td>0.62</td>
<td>0.46</td>
</tr>
<tr>
<td>1991-2010</td>
<td>0.2</td>
<td>0.1</td>
<td>3.4</td>
<td>0.5</td>
<td>100</td>
<td>0.56</td>
<td>0.40</td>
</tr>
</tbody>
</table>

Statistics show that during the studied period more than half of Iran imports is from countries with the organization for economic cooperation and development that more than 0.90 of research and development costs in the world and large portion of world income belongs to these countries. Thus, although the share of these countries has been decreased in goods imports (due to deal with economic sanctions and etc) after the Islamic Revolution but again the major part of Iran's economy is done from organization for economic cooperation and development countries. On the other words, the composition of Iran trade partners has slightly changed after Islamic Revolution to cope with the possible sanctions. However, large portion of Iran's imports is from countries with the organization for economic cooperation and development that have high research and development capital stock. But due to the lack of a principled approach to imports in order to attract technology and knowledge we have not been able to use this opportunity to increase competitiveness power and create interdependency. However, there was appropriate platform to fill the deep technology gap through attracting and implementing technology embodied in them by targeted importing of capital and intermediate goods and adopting coordinated and proper economic policies (monetary, fiscal, exchange and trade). Experience shows that overflow of embodied technology, is one of the appropriate channels to fill deep technology gap in importing capital and intermediate goods (Montobbio and Rampa, 2005). thus with respect to little attention of developing countries such as Iran to research and development activities on one side and due to the injection of exchange dollars obtained from the sale of the oil wealth and allocation of the main value of these dollars to the capital and intermediate goods import from the developed countries especially organization for economic cooperation and development on the other side, it was expected to fill the remarkable portion of country's technology gap with the developed economies by transferring technology in this way and to observe the active role and position of non-oil export in Iran's economy and international context. However, statistical facts don't show this but they lead to the dependency of major part of country's economic activity to capital and intermediate goods imports. Perhaps, this is due to non-targeted imports and adopting incorrect economic policies (monetary, fiscal, exchange and trade) that resulted in incorrect price signals to economic active members and then we observed decision adoption by economic active members that has not been to increase economic structure reformation in order to increase dynamism and competitiveness power In Iran's Economy.

According to table (7), the share of group seven in foreign research and development capital accumulation is 96 percent during the studied period (1971-2010). It should be mentioned that, nearly one-third of the country's foreign research and development capital accumulation has been carried out from America which has the highest research and development capital accumulation. In general, the share of America was 60 percent in Iran's foreign research and development capital accumulation before Islamic Revolution but this amount has been decreased due to economic sanctions of goods imported from America, and has been reached to 40 percent during 2001-2010. Although Iran's foreign research and development could be improved during the studied period and it could play decisive role in real variables particularly non-oil exports of Iran's economy, it should be noted that the world organization for economic cooperation and development research and development capital accumulation has been increasing during the studied period. However, foreign research and development capital accumulation of the country has not been increasing after Islamic Revolution due to economic sanctions and fluctuation in real goods imports. But the important point is that the success secret of dealing with economic sanctions and fulfillment of objectives of resistance economy is internalization of innovation and technology activities in Iran's economy.

Table 7: Share of OECD member from foreign research and development capital of Iran

<table>
<thead>
<tr>
<th></th>
<th>Canada</th>
<th>England</th>
<th>Italy</th>
<th>French</th>
<th>Germany</th>
<th>Japan</th>
<th>America</th>
<th>Ireland</th>
<th>Greece</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971-1980</td>
<td>0.05</td>
<td>7.38</td>
<td>0.67</td>
<td>2.54</td>
<td>12.60</td>
<td>17.26</td>
<td>58.39</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>1981-1990</td>
<td>0.36</td>
<td>9.51</td>
<td>1.99</td>
<td>2.06</td>
<td>33.10</td>
<td>42.75</td>
<td>6.95</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>1991-2000</td>
<td>1.19</td>
<td>4.87</td>
<td>3.07</td>
<td>5.05</td>
<td>29.51</td>
<td>38.03</td>
<td>14.76</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>2001-2010</td>
<td>0.77</td>
<td>6.28</td>
<td>4.34</td>
<td>13.20</td>
<td>36.15</td>
<td>29.61</td>
<td>4.35</td>
<td>0.01</td>
<td>0.00</td>
</tr>
<tr>
<td>1971-2010</td>
<td>0.56</td>
<td>7.13</td>
<td>2.20</td>
<td>4.38</td>
<td>26.35</td>
<td>32.33</td>
<td>24.08</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>
Since through correct and targeted management, foreign research and development of capital accumulation can play supplementary role for the domestic research and development of capital accumulation and non-oil exports development and creating interdependency, thus its necessary to provide the least amount of research and development capital accumulation, human capital and other real components in Iran's economy while the investments on research and development activities in countries were poor and also the ratio of research and development to gross domestic product is between 1 to 6 percent during 1971-2010 and meanwhile, nearly 90 percent of research and development activities in Iran's economy was governmental that is determined based on the order that is not emerged from market mechanism and it should be noted that more than half of the research and development costs has been spent on building constructions, thus with these conditions how can we expect exchange in competitiveness space of Iran's economy.

In paragraph (e) of Article 16, the second chapter of law of fifth development plan by Islamic Republic of Iran (2011-2015) has been clarified that in order to increase research and development share from gross domestic product, there should be a plan to 5 percent annual increase in research share from gross domestic product and its 3 percent increase up to the end of the plan. In this direction, research resources specify the issue of this statement in annual budget in the form of specified programs and also at the end of year, country's research performance report provide the issue to the Islamic Assembly Committee on education and research. Since this component is not demand-driven in the structure of Iran's economy and it is supply-driven, thus by continuing the existent status we cannot observe interdependency creation and reduction of Iran's competitiveness power gap with the developed countries (Management and Planning organization, 2010).

According to the table (8), the average of ratio of gross domestic product to domestic research and development capital accumulation of organization for economic cooperation and development has been 4.9. However, the same ratio is 53 for Iran that is about tenfold for organization for economic cooperation and development. This ratio is 5 for the group seven countries and it's 10 for the countries that are not member of group seven which are not also member of organization for economic cooperation and development. The above mentioned figures and numbers represent that domestic research and development capital accumulation in Iran is very low in relation to gross domestic product. On the other hand, the main weight of gross domestic product in Iran is crude oil. In other words, domestic research and development accumulation of the countries which are member of organization for economic cooperation and development is %20 of their gross domestic product. But domestic research and development research and development accumulation for Iran is nearly 2 percent of country's gross domestic product.
Research and development activities are the key factors in the world's technology progress and Iran's gross domestic product is negligible compared to organization for economic cooperation and development countries. So, how can we expect technology change in Iran's economy through continuing the existent status? In other words, if we take the oil-wealth from Iran's economy do we have the same amount of gross domestic product with these amounts of research and development activities?

Table 8: GDP to domestic research and development capital of Iran and OECD

<table>
<thead>
<tr>
<th>Year</th>
<th>Canada</th>
<th>England</th>
<th>Italy</th>
<th>France</th>
<th>Germany</th>
<th>Japan</th>
<th>America</th>
<th>Ireland</th>
<th>Greece</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971-1980</td>
<td>20.81</td>
<td>4.13</td>
<td>21.17</td>
<td>6.60</td>
<td>7.11</td>
<td>9.81</td>
<td>4.74</td>
<td>34.56</td>
<td>833.34</td>
</tr>
<tr>
<td>1981-1990</td>
<td>16.63</td>
<td>4.43</td>
<td>17.19</td>
<td>6.30</td>
<td>5.28</td>
<td>6.88</td>
<td>4.54</td>
<td>25.63</td>
<td>211.30</td>
</tr>
<tr>
<td>2001-2010</td>
<td>14.43</td>
<td>4.32</td>
<td>18.02</td>
<td>6.01</td>
<td>4.11</td>
<td>7.52</td>
<td>4.55</td>
<td>27.28</td>
<td>592.6</td>
</tr>
<tr>
<td>1971-2010</td>
<td>13.78</td>
<td>4.30</td>
<td>15.10</td>
<td>5.57</td>
<td>5.18</td>
<td>6.35</td>
<td>4.20</td>
<td>22.62</td>
<td>310.2</td>
</tr>
<tr>
<td>1981-2010</td>
<td>10.97</td>
<td>4.35</td>
<td>12.68</td>
<td>5.17</td>
<td>4.40</td>
<td>4.93</td>
<td>3.98</td>
<td>17.85</td>
<td>102.50</td>
</tr>
<tr>
<td>1991-2010</td>
<td>7.20</td>
<td>4.32</td>
<td>9.67</td>
<td>4.43</td>
<td>3.84</td>
<td>3.64</td>
<td>3.62</td>
<td>12.67</td>
<td>29.95</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Finland</td>
<td>23.37</td>
<td>18.48</td>
<td>10.00</td>
<td>23.23</td>
<td>58.73</td>
<td>49.75</td>
<td>4.31</td>
</tr>
<tr>
<td>Denmark</td>
<td>15.09</td>
<td>14.43</td>
<td>8.00</td>
<td>14.78</td>
<td>35.41</td>
<td>39.83</td>
<td>4.47</td>
</tr>
<tr>
<td>Belgium</td>
<td>5.30</td>
<td>6.94</td>
<td>5.51</td>
<td>7.69</td>
<td>11.42</td>
<td>10.86</td>
<td>3.59</td>
</tr>
<tr>
<td>Austria</td>
<td>7.30</td>
<td>12.00</td>
<td>7.30</td>
<td>13.75</td>
<td>31.15</td>
<td>29.52</td>
<td>3.94</td>
</tr>
<tr>
<td>Australia</td>
<td>18.23</td>
<td>15.31</td>
<td>8.57</td>
<td>18.61</td>
<td>44.02</td>
<td>39.83</td>
<td>4.23</td>
</tr>
<tr>
<td>New Zealand</td>
<td>12.89</td>
<td>12.00</td>
<td>7.30</td>
<td>13.75</td>
<td>31.15</td>
<td>29.52</td>
<td>3.94</td>
</tr>
<tr>
<td>Switzerland</td>
<td>8.82</td>
<td>9.45</td>
<td>6.25</td>
<td>10.00</td>
<td>20.12</td>
<td>20.6</td>
<td>3.81</td>
</tr>
<tr>
<td>Sweden</td>
<td>4.66</td>
<td>6.10</td>
<td>5.10</td>
<td>6.81</td>
<td>9.93</td>
<td>9.20</td>
<td>3.29</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Spain</td>
<td>93.19</td>
<td>93.49</td>
<td>85.49</td>
<td>5.78</td>
<td>6.5</td>
<td>6.2</td>
<td>6.0</td>
</tr>
<tr>
<td>Norway</td>
<td>93.19</td>
<td>93.49</td>
<td>85.49</td>
<td>5.78</td>
<td>6.5</td>
<td>6.2</td>
<td>6.0</td>
</tr>
<tr>
<td>Portugal</td>
<td>93.19</td>
<td>93.49</td>
<td>85.49</td>
<td>5.78</td>
<td>6.5</td>
<td>6.2</td>
<td>6.0</td>
</tr>
<tr>
<td>Holland</td>
<td>93.19</td>
<td>93.49</td>
<td>85.49</td>
<td>5.78</td>
<td>6.5</td>
<td>6.2</td>
<td>6.0</td>
</tr>
<tr>
<td>OECD</td>
<td>93.19</td>
<td>93.49</td>
<td>85.49</td>
<td>5.78</td>
<td>6.5</td>
<td>6.2</td>
<td>6.0</td>
</tr>
<tr>
<td>Iran</td>
<td>93.19</td>
<td>93.49</td>
<td>85.49</td>
<td>5.78</td>
<td>6.5</td>
<td>6.2</td>
<td>6.0</td>
</tr>
<tr>
<td>Group 7</td>
<td>93.19</td>
<td>93.49</td>
<td>85.49</td>
<td>5.78</td>
<td>6.5</td>
<td>6.2</td>
<td>6.0</td>
</tr>
<tr>
<td>Non G7</td>
<td>93.19</td>
<td>93.49</td>
<td>85.49</td>
<td>5.78</td>
<td>6.5</td>
<td>6.2</td>
<td>6.0</td>
</tr>
</tbody>
</table>


5. RESULTS

5.1. Opportunities and Strength
- Abundance of rich underground resources and considerable petroleum income
- The ratio of employed specialists is growing compared to overall employers of Iran's economy
- The ratio of scientists and researchers is growing compared to overall employed people.
- Very high potential of human capital
- Geopolitical situation and the existence of regional markets to exports development

5.2. The Main Challenges and Weaknesses
- Change in the composition of the country's trade partners in the period after the Islamic Revolution from the developed countries towards the developing countries due to the existence of economic sanctions and unilateral dependency of Iran's economy to the world's economy.
- The deep technology gap of Iran's economy with the world's economy and then we see that the exports composition is traditional and the country does not have exports competitiveness power.
- Lack of elasticity of high proportion of Iran's non-oil exports supply( due to the fact that the high value of the exports of Iran's economy goods is traditional without technology).
- High dependency of the exports of industrial products on imports technology.
Dependency of non-oil exports of Iran's economy on traditional production factors (labor and physical capital) and the exchange earned from oil wealth which leads to the reduction in competitiveness power of Iran's economy and cease of economic growth and non-oil exports.

Dependency of exports of industrial products to various subsidies such as energy subside, subsidies resulting from the exchange rate differences, poor facilities, and etc.

Low level ratio of research and development costs to added value of the country's economy during the four past decades (share of research and development costs from gross domestic product of Iran's economy has been lower even from the average of this share in developing countries such as African countries, Arab countries and Latin America)

High dependency of government's activities and all of the economic activities to the wealth earned from oil exports

On one hand, we observe a considerable gap between demand and supply of goods and services (demand excess) that is resulted from the population explosion, information explosion and explosion of monetary and financial expectations and policies and on the other hand we see law reflexivity of domestic production supply and exports of Iran's economy.

Adopting improper economic policies (monetary, financial, exchange and trade) which lead to the distortion of relative price in favor of using physical capital and imports technology and to the detriment of other production factors (human capital, research and development activities, and labor force) and this fact results in the lack of reluctance of the private sector to do research and development activities and development and use of human capital. In other words, unlike developed and newly industrialized countries that most of their research and development activities are done by the private sector and based on supply and demand mechanism, about 90 percent of research and development activities in Iran's economy is relevant to the country

Lack of principled and targeted planning to attract foreign research and development accumulation from imports channel.

Lack of success in FDI attraction in proportion to most of countries such as China, Malaysia and etc. in order to attract foreign research and development accumulation to fill deep technology gap.

Expensiveness of production factors needed for knowledge-based economy and cheapness of production factors needed to resource and capital-based economy because of improper economic policies.

6. CONCLUSION

6.1. Outlook: While Continuing the Existent Status
Considering the economic sanctions on one hand and increase of population and labor supply, fluctuation in per capita oil income, fluctuation in per capita investment, spending most of the country's oil income to government's current costs, lack of structural reforms in the country's economy, lack of efficient resource allocation due to improper economic policies, lack of principled planning to reform economic structure in order to decrease relative price deviation and to create remarkable relative acquired advantage, reduction of the role of labor and abundant physical capital as a comparative advantage, information, population and expectations explosion, dependency of competitiveness power of the world economy on foreign and domestic research and development activities and human capital on the other hand, we can state economic outlook of the country with the current situation as follow:

- Fluctuation in non-oil growth rate of Iran's economy compared to other countries
- Lowness of non-oil exports role and share, particularly exportation with high technology in Iran's economy
- Increasing deep technology gap and strong dependency of Iran's economy activities to import technologies and raw material, intermediate and capital goods
- Lack of private sector tendency to do research and development activities and human capital
- Lack of competitiveness power due to lowness of exportable goods and services quality in Iran on one side and highness of costs of exportable goods and services compared to developed countries on the other hand due to adopting wrong economic policies that lead to the deviation of inputs relative price
- High dependency of economic structure, exports and budget of government to oil exports derived incomes
- Lowness of competitiveness power and challenge in accession to world trade organization
- Equality of domestic oil production and consumption and decrease of exchange income and its negative consequences on payments balance, particularly non-oil exports.

6.2. Outlook: Most Favorable Option

In order to achieve to the continuous and stable economic growth, increase in competitiveness power and increase in exports strength of the country in the way of fulfillment of goals of outlook document and Articles of fifth development plan and orientation of future development programs and dealing with any economic sanction, it is necessary to apply development strategies that lead to increase exports, development of communication and information technology to establish domestic communicative and informational networks, to decrease imports of consumer goods and to increase production power of capital and intermediate goods, to motivate economically active members in order to increase investment and research and development activities and to apply developed technology. Rapid technology developments and innovation in technology all over the world has led to provide ensure from creating competitive economy as a basic economical aims. Thus to provide a strong and dynamic economy in long term it's necessary to realize the following goals:

- Diversifying economic activities in proportion to relative existent merits.
- Creating relative merits based on global economic orientation and human capital capabilities in knowledge-based economy.
- Increasing exports share based on knowledge and research and development activities
- Technology transfer through persuading trade partners who have high research and development capital accumulation.
- Innovation development using deep and practical researches to fill deep technology gap and development of non-oil exports.
- Attracting foreign research and development accumulation through attracting foreign direct investment, imports of capital and intermediate goods and reverse brains' migration.
- Increasing the role of knowledge management, resource management, futuristic technology, and e-commerce in Iran
- What can we do to increase government's outsourcing and principled and serious support of the private sector investment in order to explain Article 44 of the constitution?

7. PRACTICAL SUGGESTIONS

Non-oil exports has remarkable role in the fulfillment of goals of economic development programs and twenty years' perspective document and Articles of fifth development plan and creating interdependency. On the other the role of acquired relative merits resulted from the components of knowledge-based economy (resulted from human capital and research and development activities and innovation) on the exports has increased. Thus in order to move towards knowledge-based economy and to increase competitiveness power and seriousness to deal with any kind of economic sanctions and in order to diversify non-oil exports and to increase exports with high knowledge and technology and appropriate use of the opportunities to participate in the world trade organization the following actions have been recommended:
- Overall emphasis on research and development activities to enhance the role of technology progress, innovation, invention and creativity in non-oil exports
- The correct selection of trades partners and improving the country's ability to attract and localize foreign research and development capital accumulation and its institutionalization in production processes to improve product quality.
- Transferring more resource and oil incomes on human capital and research and development activities on one side and adopting reasonable policies in order to stimulate economic active members to employ new production elements to expand components of knowledge-based economy.
- Moving towards relative price reformation for optimal resource allocation and profitability of research and educational activities.
- Reforming economic structures (such as creating macroeconomic stability, creating competitive space in Iran's economy, focusing on IT and ICT, improving capital system) based on knowledge.
- Protecting foreign direct investments with the intention of attracting new knowledge, new management, new technology and financing.
- Improving the business environment of investors through implementing Articles 69, 72, 75, 76 and 78 of the second chapter of fifth development plan of Islamic Republic of Iran (2011-2015).
REFERENCES:


Fagerberg, J. (1999). The need for innovation-based growth in Europe, Challenge, 42(5); 63-78.

Faustino, H., Lima, J. and Matos. P. (2012). Exports productivity and innovation, Technical University of Lisbon,


Ledesma, M. L. (2002). Exports products differentiation and knowledge spillovers, Department of Economics University of Kent,


Providing a Model to Establish a Network of Incubators in the Ministry of Energy (Electricity Industry) to Promote Entrepreneurship

Mojtaba Ghorbani¹ and Kiamars Fathi Hafashjani²

ABSTRACT: The purpose of this study is providing preliminary comments on the establishment and operation of the network of development technology centers in the Ministry of Energy in the power field. Despite of the past efforts and actions in relation to science and technology parks, unfortunately good results have not been achieved, because these actions haven’t had necessary coordination and compliance to create a consistent and coherent standard network between technology development centers of Ministry and haven’t had a scientific perspective based on a designed pattern. In this study, considering the realities and existing needs, the network model is presented. The development and completion of the product and the business cycle based on strategic innovation had good function. Obviously, considering the various technologies in the field of electric power industry, the Ministry of Energy needs better ways in the field of science and technology management till can answer its today and tomorrow’s needs. Network of the growth centers is one of solutions that if it be implemented properly, can have an important role in this regard and the growth of entrepreneurship in the Ministry of Energy and consequently in the country. In this regard, previous research and experts opinions were used to extract and screen effective indicators and sub-indicators in establishment of incubator network. Then, paired comparison questionnaire and DEMATEL questionnaire were used to weight both criteria and indicators and calculate effectiveness and impact of sub-indicators. The results showed that effective measures in order of importance are as follows: communication index, empowerment index, index of services, infrastructure index, resources and facilities index. These are management indicators. According to the results, an appropriate model was designed. Expert population included managers and professionals in incubators of Department of Energy. All the experts were specialized in issues related to incubators of the Department of Energy. They had a direct relationship with changes in the incubators.

KEYWORDS: network incubators, strategic innovation, entrepreneurship, electricity industry, the Ministry of Energy

¹ master student of Technology Management, Ministry of Energy, PH (0098) 912-5860710; E-mail: mojtaba.ghorbani@yahoo.com
² Assistant Professor, Islamic Azad University, PH (0098) 912-5358604; E-mail: fathikiamars@yahoo.com
1. INTRODUCTION

New institutions, small and medium-sized enterprises are effective in scientific development and economic prosperity and consequently entrepreneurship. Development of these institutions depends on necessary infrastructure to reduce risk-taking and support the institutions during start up activities (Scaramouzi, 2002). Incubators are one of the most important infrastructures. Model of incubators is used to reduce risk and increase the success of small and medium enterprises. This developing model was experienced in different countries around the world. The incubators are such institutions, which mainly create small and medium businesses by relying on science and technology to help the entrepreneurs and emerging companies in order to accelerate conversion of innovation within the companies and ideas into products and services in society (text of conversations in the seminar on incubators and their role in employment of graduates, 2001).

Technological progress and economic development of any country is closely associated with the research activities in the country. There is a strong relationship between gross domestic production, exports and research and development costs in major exporting countries. This indicates the important role of research activities in promoting technological, economic growth and capabilities of export countries (Jane, R. K., & Triandis, H. C, 1990).

Nowadays, more research is conducted on research and development to increase productivity, improve product quality and manufacturing techniques and ultimately reduce costs, reduce waste, and improve customer satisfaction in developed countries than basic and applied research. In many of these countries, more than 60% of national research expenditure is allocated to research development. Incubators as forefront of technological growth and development can play an important role in this context. In recent decades, incubators were the most significant issues in industry, universities and governments. According to importance of the subject matter, performance and the approach to incubators can play a significant effect in development of science and technology. In this case, selection of an appropriate model is one of the major factors influencing establishment of incubators. The present study aimed to provide an appropriate model for establishment of incubators network at the Department of Energy (electricity industry).

2. LITERATURE REVIEW

R.Gholami, H.A Aghajani, M.Hassan Zadeh (2009) conducted a study titled as “Presenting a conceptual model to determine the subject of activities in scientific and technological parks and incubators”. They stated that much attention has been focused on scientific and technological parks and incubators in recent years. Establishment and development of incubators are emphasized in the fourth national development plan. The study presented a model to determine the subject of activities in parks and incubators based on domestic and international experiences (extracted indicators: scientific relationship with universities and research centers, relationship with the IT department, relationship with specialized sector).

H.Soltan Panah and V.Khaksar (2007) conducted a study entitled as “examining the effects of establishment and development of scientific and technological incubators and parks on industrial success”. They attempted to explain the effective role of scientific and technological incubators and parks in entrepreneurship and establishment of small and medium-sized enterprises. These were addressed as infrastructure development centers in different countries. Over 3,000 centers were established in developed and developing countries in the past three decades(extracted indicators: services related to development growth and promotion of technological units, marketing and project tracking services, consulting services, the ability to provide services( managerial, legal, financial, credit, project tracking and marketing), educational services, public service).
M.H Kermani (2012) conducted a study entitled as “conceptual models and frameworks in incubators”. They stated that incubators have become a pervasive phenomenon in many parts of the world and as a mean to promote IT-based firms. In this paper, different models and frameworks were introduced for understanding incubators by a review of relevant literature. Two function-oriented and source-oriented models were explained and the components were described (extracted indicators: familiarity with technical and economic structures of society, familiarity with function of the private sector, Introduction to principles of incubators).

I.Mohammadian and M.Rezaei (2005) conducted another study entitled as “presenting a fuzzy model to evaluate performance of IT units in incubators”. In the study, a model was presented for evaluation of IT units in incubators during their lives based on expert opinions (extracted indicators: adaptability feature, flexibility).

S.I Shariati (2012) conducted a study entitled as “presenting a model for interaction of leading industry with technological parks and incubators”. They stated that the capability of this center, to interact effectively with industrial-manufacturing centers and universities is particularly important since IT management and commercialization of ideas are defined as the mission of technological incubators and parks (extracted indices: technological infrastructure, technical infrastructure, software infrastructure, software, hardware infrastructure).

A.Bøllingtof (2008) provided a framework for assessment of technological incubators in scientific park in an article entitled as “assessing appropriate and inappropriate programs of technological incubators in scientific park” (extracted indices: the capability of commercializing research achievements, the context to create entrepreneurship, the capability to facilitate local economy prosperity based on technology).

N.Aksoy (2009) conducted a study titled as “examining the effects of technology on business growth: a framework for technological development centers in Turkey”. They concluded that entrepreneurship and innovation are widely accepted as an important source of business success, value-added jobs and national economic development. These were also addressed as a wide range of mechanisms, which promote support of innovative entrepreneurship (extracted indicators: fiscal space for expansion and growth of small and medium sized scientific-based units, branches or offices relevant to financial support organizations).

C.J Chen (2009) conducted a study entitled as “growth of business from the bottom up: networking leverage and cooperation of styles to create an active entrepreneurial environment for production”. This exploratory study aimed to introduce two active entrepreneurial environment and self-manufacturer with respect to bottom to up business growth jointly established by entrepreneurs (extracted indices: coordination, control, monitoring, feedback).

E.J. Karynansy (2011) conducted a study entitled as “UPS technological growth in scientific and technological parks and incubators in the universities: relationship between life cycle development and launching the sources of growth”. They stated that University Science Park incubators (USIs) have emerged as a means by which government, academia and business can develop high technological business firms (spin out HTBFs) from initial conception to established small firms, which are ready to move beyond the Scientific Par (extracted indicators, suppliers, transport, finance, data privacy and confidentiality, specialized trainings).

According to the literature on incubators and relevant components in studies conducted in Iran and abroad, the present study attempted to extract the factors affecting establishment of incubator network and its performance.
3. THEORETICAL PRINCIPLES OF THE RESEARCH

3.1. Definition of Incubators

Growth centre or incubator is one of the tools of scientific and technological development and economic growth established to support small and medium enterprises and educated entrepreneurs in order to provide context for establishment of new companies by providing public facilities. Nowadays, incubators are accepted as the tools to convert creativity, scientific and research achievements into marketable products and entrepreneurial development. Nowadays, there are more than 5,000 incubators worldwide among which 1000 centres are in Asia (nearly half of them in China), 900 centers in Europe and nearly 400 centres in Latin America (Abavonel L., 2009)

In the literature on entrepreneurship and scientific development, incubators are established as centres for development or establishment of small businesses (usually with an emphasis on science and technology), which possess a small management staff and adequate physical space and common facilities for companies and entrepreneurs.

3.2. History of Parks and Incubators

The first industrial park or industrial zone was established in America in 1905, “the central manufacturing district in Chicago”. The idea of focusing industry on a given location after World War II was introduced in America. According to new definitions, the first scientific-technological park was founded in Menlo Park in California in 1948. The first wave was initiated by 1950s and early 1960s with establishment of the most important and successful
parks. Stanford Industrial Park in Northern California in Silicon Valley, Triangle Research Park in Northern Carolina, and industrial center (Waltham) in 128 Boston Road were established in this period (Drescher, 2003). New models were introduced in late 1970s and 1980s. The second wave of scientific and technological park was initiated in 1980 (Lalkaka, 1998).

The first scientific and technological parks in Europe were established in the late 1960s among which “Cambridge” and “Heriot-Watt” in England and “Neville Node” and “Sophia Antipolis” in France can be cited (Aghayi, 2006). Nowadays, there are more than 1,000 scientific and technological parks in more than 55 countries around the world (Safari Niar, 2003). Incubators in recent definition have quickly developed in the United States in 1950. Nowadays, more than 3,000 incubators are operating worldwide primarily located in the United States, Europe and Japan. Over 500 incubators are in transition to an open economy in developing countries (Madah, 2003).

3.3. History and Statistics Relevant to Incubators in Various Countries

Incubators (business) are the basis of health care system initiated in the United States in early 1950s. They had not developed much by early 1970s. They were used for industrial growth in certain regional and economic circumstances. By late 1970s, business incubators in the United States and in other member states of the OECD had become a tool to improve regional and national competitiveness and encourage the emergence of innovative and technology-based firms. Development of incubators accelerated by narrowing the relationship between the concept of incubator, higher education and research institutions in the 1980s. Development of business incubators around industrial clusters based on specific technologies such as biotechnology, environmental technologies and informational technologies continued in 1990s. The number of incubators reached thirteen items in the world in 1980. The incubators quickly developed in the 1980s, especially in the second half of the 1980s in industrial countries. There were 2000 incubators in the world in 1992.

The number of incubators was more than 47273 in the world in 2011. In addition, 70 countries around the world are equipped with incubators. Table (1) shows statistics on incubators in different countries (Arnodet, R., 2011).

Table 1: The number of incubators in different countries (Arnodet, R., 2011)

<table>
<thead>
<tr>
<th>Row</th>
<th>Country</th>
<th>The number of incubators</th>
<th>Row</th>
<th>Country</th>
<th>The number of incubators</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>America</td>
<td>3915</td>
<td>11</td>
<td>Australia</td>
<td>917</td>
</tr>
<tr>
<td>2</td>
<td>Germany</td>
<td>2811</td>
<td>12</td>
<td>New Zealand</td>
<td>795</td>
</tr>
<tr>
<td>3</td>
<td>Korea</td>
<td>1023</td>
<td>13</td>
<td>Austria</td>
<td>871</td>
</tr>
<tr>
<td>4</td>
<td>Netherlands</td>
<td>981</td>
<td>14</td>
<td>Canada</td>
<td>871</td>
</tr>
<tr>
<td>5</td>
<td>France</td>
<td>2017</td>
<td>15</td>
<td>Israel</td>
<td>298</td>
</tr>
<tr>
<td>6</td>
<td>Japan</td>
<td>2571</td>
<td>16</td>
<td>Finland</td>
<td>687</td>
</tr>
<tr>
<td>7</td>
<td>Brazil</td>
<td>874</td>
<td>17</td>
<td>Finland</td>
<td>687</td>
</tr>
<tr>
<td>8</td>
<td>China</td>
<td>1908</td>
<td>18</td>
<td>Finland</td>
<td>687</td>
</tr>
<tr>
<td>9</td>
<td>England</td>
<td>817</td>
<td>19</td>
<td>Finland</td>
<td>687</td>
</tr>
<tr>
<td>10</td>
<td>New Zealand</td>
<td>795</td>
<td>20</td>
<td>Portugal</td>
<td>917</td>
</tr>
<tr>
<td>11</td>
<td>Australia</td>
<td>917</td>
<td>21</td>
<td>Portugal</td>
<td>917</td>
</tr>
<tr>
<td>12</td>
<td>Canada</td>
<td>871</td>
<td>22</td>
<td>Portugal</td>
<td>917</td>
</tr>
<tr>
<td>13</td>
<td>Poland</td>
<td>345</td>
<td>23</td>
<td>Portugal</td>
<td>917</td>
</tr>
<tr>
<td>14</td>
<td>Poland</td>
<td>345</td>
<td>24</td>
<td>Portugal</td>
<td>917</td>
</tr>
<tr>
<td>15</td>
<td>Israel</td>
<td>298</td>
<td>25</td>
<td>Portugal</td>
<td>917</td>
</tr>
</tbody>
</table>

44
It is noteworthy that North American incubators have created nearly 57,000 companies and more than 735,000 new jobs. According to the latest statistics, incubators and parks were introduced by late 2011. So far, many efforts around the country were dedicated to construction of such complexes (Behzad Soltani, 2003).

4. MATERIALS AND METHODS

This is an applied research conducted as a survey using descriptive approach. Survey aims to recognize the society. Thus, systematic data was collected from the subjects. In this study, the researcher attempted to deduce what exists without any intervention subjectively in order to obtain objective results. The purpose of using this methodology lies in recording, analyzing and interpreting the current situation. In this study, a questionnaire and opinions of experts and specialists were used in the field of multi-criteria decision-making in order to collect and decide on the options.

4.1. Determining Indicators of Establishment of Incubators Network in Department of Energy

Indicators of establishment of incubators network in department of energy were prioritized by a review of literature. The screening questionnaire was distributed among five members of the expert. The scores of all screened indicators and sub-indicators were calculated as follows:

1- Communicational Indicators

- Scientific relationship with universities and research centers
- Relationship with Technological Unit
- Relationships with specialized unit

2- Infrastructure index

- Technological infrastructure
- Technical infrastructure
- Software Infrastructure
- Hardware Infrastructure

3- Management Index

- Coordination
- Control
- Monitoring
- Feedback
- Suppliers

4- Service Index

- Department of Public Services
- Department of Education Services
- Department of Consulting Services
- Department of project-tracking and marketing services
- Services related to development, growth and promotion of technological units

5- Empowerment Index

- Empowerment of commercializing research achievements
- Empowerment of facilitating local economy prosperity based on technology
- Empowerment in flexibility
- Empowerment in providing services (managerial, legal, financial, credit, project-tracking and marketing)

6- Facilities and resources index

- Branches or offices of financial support organizations
- Financial environment for growth of knowledge-based small and medium enterprises
- Adequate financial resources
- Transport
- Data privacy and confidentiality

4.2. Statistical Population
The statistical population consisted of managers and specialists of the incubators in department of energy and all the experts specialized in issues related to incubators in department of energy who have a direct relationship with changes in these centers. To summarize final indices and filling out the questionnaire (questionnaire for extracting the indices), opinions of five experts (their characteristics are presented in the following) were used. No sampling procedure was carried out due to small sample size. The opinions of 16 experts in the organization were used to weight the factors. Their opinions were used to weight and rate the factors using DEMATEL and hierarchical methods.

Characteristics of the experts are as follows:

1- Bachelor or higher than that
2- Executive and managerial history over 5 years
3- Familiarity with administrative affairs and continuous relationships with incubators in department of energy

5. DATA ANALYSIS
Hierarchical method was used to calculate weights of both indices and sub-indices in order to help the decision-maker. DEMATEL method was used to measure the effectiveness and impact of the indicators.

5.1. Hierarchical Analysis Process Model
At this stage, the subject and objective of decision-making were associated with each other as hierarchical elements of decision. Design elements include “decision-making criteria” and “decision options”. Analytic hierarchy process requires breaking a problem with several indicators to a hierarchy of levels. High level indicates are the main objective of decision-making process. The second level represents major and fundamental indicators, which may
break into “sub-indices and detailed indices in the next level”. The last level presents decision options. Figure 2 shows the hierarchy of a decision problem (Mehregan, 2004).

Figure 2: Hierarchy of a decision problem

5.2. Final Model of Hierarchical Analysis
In Figure 3, the model extracted by AHP approach is presented following screening the indices and sub-indices.
Table 2: Weights obtained by Expert Choice Software

<table>
<thead>
<tr>
<th>Weight prioritization</th>
<th>Index from perspective of experts</th>
<th>Weights</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Relationship with specialized department of each other</td>
<td>0.231</td>
</tr>
<tr>
<td>2</td>
<td>Empowerment in providing services (managerial, legal, financial, credit, project-tracking and marketing)</td>
<td>0.153</td>
</tr>
<tr>
<td>3</td>
<td>Scientific relationship with universities and research centers</td>
<td>0.092</td>
</tr>
<tr>
<td>4</td>
<td>Services related to development, growth and promotion of technological units</td>
<td>0.084</td>
</tr>
<tr>
<td>5</td>
<td>Empowerment in commercializing research achievements</td>
<td>0.082</td>
</tr>
</tbody>
</table>
The impact and effectiveness of sub-indices were calculated using DEMATEL method. The results are presented in Table 3.

Table 3: Calculation of weights of effectiveness and impact of sub-indicators

<table>
<thead>
<tr>
<th>Factor number (categorized)</th>
<th>R + J</th>
<th>Type</th>
<th>Factor number (categorized)</th>
<th>R-J</th>
<th>Type</th>
<th>Factor number (categorized)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>7.198</td>
<td>12</td>
<td>1</td>
<td>4.18</td>
<td>19</td>
<td>1</td>
</tr>
<tr>
<td>7</td>
<td>6.9</td>
<td>13</td>
<td>2</td>
<td>2.904</td>
<td>20</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>6.892</td>
<td>1</td>
<td>3</td>
<td>2.718</td>
<td>21</td>
<td>3</td>
</tr>
<tr>
<td>9</td>
<td>6.888</td>
<td>8</td>
<td>4</td>
<td>2.664</td>
<td>8</td>
<td>4</td>
</tr>
<tr>
<td>10</td>
<td>6.888</td>
<td>9</td>
<td>5</td>
<td>2.636</td>
<td>13</td>
<td>5</td>
</tr>
<tr>
<td>11</td>
<td>6.838</td>
<td>21</td>
<td>6</td>
<td>2.628</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>12</td>
<td>6.669</td>
<td>11</td>
<td>7</td>
<td>2.489</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>13</td>
<td>6.652</td>
<td>20</td>
<td>8</td>
<td>2.449</td>
<td>11</td>
<td>8</td>
</tr>
<tr>
<td>14</td>
<td>6.629</td>
<td>10</td>
<td>9</td>
<td>2.354</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>15</td>
<td>6.483</td>
<td>16</td>
<td>10</td>
<td>2.338</td>
<td>12</td>
<td>10</td>
</tr>
<tr>
<td>16</td>
<td>6.378</td>
<td>17</td>
<td>11</td>
<td>2.275</td>
<td>22</td>
<td>11</td>
</tr>
<tr>
<td>17</td>
<td>6.359</td>
<td>15</td>
<td>12</td>
<td>2.246</td>
<td>23</td>
<td>12</td>
</tr>
<tr>
<td>18</td>
<td>6.32</td>
<td>24</td>
<td>13</td>
<td>2.18</td>
<td>18</td>
<td>13</td>
</tr>
<tr>
<td>19</td>
<td>6.25</td>
<td>19</td>
<td>14</td>
<td>2.126</td>
<td>17</td>
<td>14</td>
</tr>
<tr>
<td>20</td>
<td>6.18</td>
<td>18</td>
<td>15</td>
<td>2.052</td>
<td>24</td>
<td>15</td>
</tr>
<tr>
<td>21</td>
<td>6.146</td>
<td>14</td>
<td>16</td>
<td>2.021</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>22</td>
<td>6.126</td>
<td>23</td>
<td>17</td>
<td>1.9</td>
<td>14</td>
<td>17</td>
</tr>
<tr>
<td>23</td>
<td>6.097</td>
<td>22</td>
<td>18</td>
<td>1.687</td>
<td>15</td>
<td>18</td>
</tr>
<tr>
<td>24</td>
<td>5.964</td>
<td>3</td>
<td>19</td>
<td>1.601</td>
<td>2</td>
<td>19</td>
</tr>
<tr>
<td>25</td>
<td>5.895</td>
<td>2</td>
<td>20</td>
<td>1.532</td>
<td>3</td>
<td>20</td>
</tr>
<tr>
<td>26</td>
<td>5.815</td>
<td>6</td>
<td>21</td>
<td>1.503</td>
<td>7</td>
<td>21</td>
</tr>
</tbody>
</table>
6. DISCUSSION AND CONCLUSION

According to results and effective indicators and sub-indicators in establishment of incubators network in department of energy and trinary model of the relationship between scientific centers (universities), industry and government (here, department of energy is an industrial and manufacturing organization), we attempted to present a conceptual model for establishment of incubators. The model is shown in figure 4.

It is worth mentioning that support and constituent parts, including scientific centers and universities on one hand and government and other organizations on the other hand, are given in our model according to their functions and role. The relationship and interaction between centers provide the context for establishment of incubators network in department of energy.
Figure 4. Providing an appropriate model for establishment of incubators network at department of energy (Electricity Industry) to promote entrepreneurship.
The research model was designed with three arms of government, universities and scientific centers and the Department of Energy. The sub-indices extracted from data analysis results and the relationships of these indices with the three arms provide the context for establishment of creating financial support organizations, technological infrastructure, and required environment for development and growth of technological small and medium enterprises.

Financing
- Making policy on data privacy and confidentiality
- Department of energy (Organization)
- Universities and scientific centers
- Transport department

Communication
- Empowerment factor
- Servicing factor
- Management factor
- Relationship with technological department
- Consulting services department
- Educational services department
- Services department
- Suppliers management

Empowerment
- Incubator department 1
- Incubator department 2
- Incubator department 3
- Incubator department 4

Macro policy making and executive arm (government)
- Technical infrastructure
- Software infrastructure
- Hardware infrastructure

The relationships of these indices with the departments and organizations involved in the model include:
- Making policy on data privacy and confidentiality
- Empowerment in commercializing research results
- Relationship with technological departments
- Educational services department
- Consulting services department
- Services department
- Suppliers management
- Project-tracking and marketing services department
- Control
- Feedback
- Coordination
- Suppliers management
incubators network in department of energy. In simple terms, we drew the obtained indices based on results with respect to the effective process on network incubators in department of energy.

7. **APPLIED RESEARCH RECOMMENDATIONS**

1- The government should function properly in order to facilitate the establishment of incubators network of incubators in department of energy because the Department of Energy is one of the agencies under government control and influence, which should be aligned with the principles and requirements of the organization and attempt to facilitate establishment of incubators network with appropriate policies.

2- The scientific centers and universities as scientific resources that direct the incubators scientifically and facilitate the obstacles for implementation of technological projects. These centers should also introduce qualified and efficient human resources and meet the priorities and needs of the organization in format of research projects.

3- Open mechanisms for controlling and monitoring incubators network in order to resolve the problems within the network consisting of incubators because incubators as frontiers, which produce new technology are more aware of problems, obstacles and governing situation in practice. These centers can provide better solutions.

4- Department of Energy as an organizer and coordinator of the incubators network structure of DOE should adopt appropriate policies to raise more positive and effective activities and enhance synergies between incubators.

5- Barriers to development and inefficiency of incubators output in the country should be seriously investigated, especially in Department of Energy.

**REFERENCES:**

Pour Soleimanaan, Faride, (2004). The role of scientific and technological parks in technological development in national industry, Case Study: Water and electricity industry, development of technology, Specialized Journal of Parks and Incubators

Jane. R. K and Triandis, H. C. (1990), Management on unmanageable, management of research organizations, translation by strategic studies and planning office (1997), Tehran, defense industry and research institution

Derstcher, Dennis, (2003), a review of literature on research parks in the United States, translation: Amin Reza Khaleghian, Pardis Technological Park

Soltani, Behzad, (2003), parks and incubators, the secretariat of the Supreme Council of Information Portal

Soltan Panah, Hirsch and Khaksur, Veria, (2007), examining the effects of development of incubators and scientific and technological parks and on industrial enterprises success, the first national conference on entrepreneurship, innovation and future organizations

Shariati, Seyed Iman (2012), providing a model for interaction of leading industries with technological parks and incubators, the Second International Conference of the Sixth International Conference on Management of Technology

Safarinia, Mahdi, (2003), Case Study of Pardis Technology Park, the first workshop on scientific and technological incubators and parks, Isfahan, 30 and 31 May.

Rules and regulations for establishment of scientific and technological parks, establishment of technological incubators, (2003), Ministry of Science, Research and Technology, Office of Scientific and Technological incubators and parks

Gholami Ramezan, Aqajani, Hassan Ali and Hassan Zadeh, Mahdi, (2009), presenting a conceptual model to determine the subject of activities in scientific and technological parks and incubators, National Conference on the Sustainable Development of virtual technology park

Kermani, Mohammad Hassan, (2012), Conceptual models and frameworks in incubators, Second International Conference of the Sixth International Conference on Management of Technology

Mohammad Iman and Rezai, Mahmoud (2005), presenting a fuzzy model to evaluate the performance of IT department in incubators, Fifth International Conference on Industrial and Mining Research and Development centers

Madah, Masoume (2003), Introduction to incubators and its types, Journal of growth, the first edition, No. 1

Mehregan, Mohammad Reza, (2004), Advanced Operations Research, an academic book publishing, the first edition

The text of conversation in the seminar on incubators and their role in graduates employment, October 2001

Asian and pacific center for transfer of technology: technology incubation. journal of the Asian pacific tech monitor,vol.18,NO.1,jan-feb2001

Abuonl L, (2009), The rapid internationalization of high technology firms created through the commercialization of academic research, Journal of World Business, 43, 2008, pp 146


E. scaramuzzi (may 2002). incubator in developing countries: status and development perspectives.


Rustam Lalkaka, New Strategies, skills and structures for technological innovation, IASP conference, Turkey.

Relan, P. (2012). 90% of incubators and accelerators will fail and that's just fine for American and the world.

Exceptions of Economic Sanctions in Human Rights Conventions

Davood seify qareyataq¹, Maryam poodineh peer² and Samira Zare jam khaneh³

ABSTRACT: Studies show that after the cold war, the Security Council has widely used sanctions based on CHAPTER VII. Economic sanction is one of the tools for maintaining international security and keeps the peace in international community to the Security Council. The aim of this interdicts is to change operations and conducts and using imposed force on the government under interdicts. But actually these interdicts cause the detrimental effects on purposed country's population and breach of human rights. In the present study, the method of analytical-descriptive research has been used and the data collection is library method. The results of this research show that, although the Security Council has authority to exert sanctions based on Chapter VII to keep international peace and security, but this authority has been limited to follow United Nations goals and principles and on one hand depends on binding of many human rights standards and by regard to limiting law of UN Security in the charter, exertion of sanctions that violates human rights, is out of United Nations competency and does not have legal validity. So member countries of United Nations don’t require this interdict, because of violation of the human rights by Council.

KEYWORDS: sanction, economic sanction, Security Council, human rights conventions.

¹ faculty member in Department of human science, University of zabol, PH (098) 9149526784, E-mail:davoodseify@gmail.com

² MA Student of private Law Mazndaran University, Department of law, ph.(98)9300397171, email: Poudinehm953@yahoo.com

³ Master of International Law Damghan Azad University, Email: samira_z60@yahoo.com, PH(098) 9113547229
1. Introduction

One of the forces exerted on the countries that violate international law is using international sanctions for changing actions of those countries (Hadadi, 2005). International interdict as a tool for keeping international peace and security is in Charter VII. At first because of nonmilitary nature of sanction and uncompensable consequences and dangers of military actions, it seems that using of interdicts can be suitable replacement for military actions. Though by increasing interdicts and widely destructive effects of military actions on civilian people, there are significant worries. The main cause of these worries is that these kinds of interdicts violate the human rights law and friendly human rights (Zamani, Mazaheri, 2011).

Basically, in view of the international law the sanctions are lawful, unless the aim of that is dominance and pressure on other countries be inconsistent with undertaking contract of other countries. In other hand, exerting economic sanctions in legal conditions depends on following international law and the followers of international law must accept some legal limitation in the sanctions exertion. It means that the decision of Security Council would be binding only if it is cited according to Charter or doesn't have any contradict with basic principles of Charter (farokh seiry, 2008:4). According to this view, the decisions of Security Council have some limitations (Shygan 2009). As a result, Charter doesn’t grant unlimited authority to United Nation and Security Council.

Across relevant regulations, strenuous efforts have been done to establish specific criteria to limit authorities. So the Security Council is required to follow international law when it exerts some interdicts in the 7 chapter of charter (Geiss.Robin, 2005).

Traditionally Security Council actions have been applied against nations. Aim of civil actions of 7chapter of charter is using force on purposed nation by some interdicts in order to retire them of international economic and politic community to obey Security Council requests. These privation and restrictions apply on all elements such as land, community and government. By this view, Charter doesn't offer any remedy to reduce public harm under sanctions. Organizers leave the remedies and worry of harmful interdicts on civil community. So bring to an end this situation by obeying international community requests. The reason of this is that by 1945, the idea of individual has not considered as subject of international law yet, and private rights are in the domestic competency of the government. So reticence of charter is because of traditional ideas of power principle. People suffered by government that is under one of situations in Article 39. Whereas other nations that are executers of Security Council decision, should be safe of negative effects of that cases. Sometimes interdicts have destructive effects more than military effects. And it does not seem that civilian at least have same support in the situation of military disputes (Momtaz, 2009).

Changing of Security Council’s sanctions policy, in order to make them intelligent based on the principle of distinguishing between political and military leaders and their supporters on the one hand, and innocent civilians on the other hand, can bring the international sanctions the tools to conform to international law. In comparison with poor effect of multilateral sanctions, intelligent or purposed sanctions have more effect, because of direct focus on required area (Momtaz, 2009). These sanctions try to follow human rights law and human constitutional law, and reduce the cruel pressure on innocent people by multilateral sanctions.

So, by studying the exceptions of economic sanctions in the human rights, conventions must distinguish the human rights from the sanctions. So they can reduce bad effect of the sanctions on people life. By attention to these problems and difficulties and the aims of research, these questions are asked:

1-Does Security Council have any limitation to exert sanctions on purposed countries?
2- Must Security Council follow the human rights principles to exert sanctions?
3- Does non-execution human rights law and friendly human rights with Security Council cause responsibility for Council?
4- What laws are among human rights law exceptions which Security Council must follow them and are pointed in human right conventions?

Research Hypothesis:
- On the basis of international law, UN Security Council has some limitations in exertion of sanctions.
- It seems that Security Council must follow principles of human rights conventions in exertion of sanctions.
- Sanctioning Countries in case of violation of human rights have civil responsibility.

Economic interdicts and condition of liability derived violation of Human rights exceptions are the problem of nations such as Iran that have been ignored in international law. On the base of that, the main goal of this research is practical use for units and organs involved with interdicts and actual persons under interdicts. Until by enough aware of limits and human rights principles of interdicts, purposed nations can advocate their rights in the international community, such as supreme court Hague, Human rights committee and general assembly of united nation.

2. LITERATURE REVIEW

Economic sanctions are studied in different aspects in the international law. Fredrick Schuster (2009), Marco .A (2012) and Bossyt Marc (2000) in a research titled: ‘legal economic sanctions in the view of the international law” concluded that only Security Council is allowed to enact sanction against offender country under the seventh chapter of Charter, in the case of serious breaking or threat world peace, and aggression to a nation. But the authority of council is limited and should follow courtesy principals and necessity principals of sanctions. Otherwise it is illegal sanction.

Boris Kondoche (2003) and Hoskins Eric (1997) evaluate the sanctions against Iraq in the view of international law. After analysis of principals and conditions of sanctions in the Charter of United Nations, they showed that not only the sanctions against Saddam, didn't stop him from acting against international peace, but also caused inexistence of thousand vulnerable individuals of Iraq, (among them inadequacy of pure water, food, medicine and primary necessities of life), between them women and children had a bad effect from sanctions.

Also according to results of researches of Mallory Wen (2013), the sanctions of Security Council against Congo which was applied with the aim of stopping violation of human rights by government and rebels, caused wide breaches of civilian rights.

Emmitt Y. Riley (2012) analyzes relations between economic sanction and human rights in the despotic regime by time series data. The results of this analysis suggest that economic sanctions imposed on purely autocratic regimes, significantly decrease levels of political repression when measured in terms of extra judicial killings, political imprisonment, disappearances, and torture. The implications of this analysis suggest that international actors should continue to rely on coercive diplomacy on the international stage when dealing with the most autocratic forms of government. Furthermore scholars studying economic sanctions should revisit the assertion that economic sanctions increase political repression.

Robert (2004) in an article examines economic sanctions from an ethical perspective. Utilitarian ethics and rights theory are applied to economic sanctions in general. Special attention is paid to the economic sanctions imposed against Iraq and Cuba. The conclusion is that economic sanctions are very difficult to justify on any grounds and have negative consequences. Sanctions should not be used as a tool of international relations.

Aminzade (2012) along with human rights, recognized the social rights and the competition rights rules, restrictive factors of legal sanction, and believed that nowadays, the nations must
have a share in the trading, so they can meet the necessity of human rights. Also the right of trade is one of the principal rights that cause economic and social development. Moreover, WTO seeks to support the free trade system and pick up trading borders. So the member nations accept any unlimited trading. Rahim and et al (2014) in a case study criticize any unilateral sanction out of United Nations Charter and recognized them inconsistent with international law and human rights.

Tridmiss and et al (2012) proceeds to survey competency of Europe Union in exert of sanction against private individuals and protect fundamental rights of sanctioned individuals in the supreme courts of Europe. According to this research, UE has a legal competency to exert sanction against individuals that help terrorism and the votes of Europe revision court confirmed them. But on the base of UE rules, sanctioned individuals can claim nullification of Union sanctions.

Totally in abovementioned research, the main subjects are recognizing of principals and explaining legal sanction or effect of them on society. But researchers don't pay attention to exertion of legal sanction by Security Council to protect human rights.

3. THEORETICAL FRAMEWORK

By paying attention to exceptions of economic sanctions in human rights conventions in this research, these facts have been studied in three aspects: (sanctions, economic sanctions, human rights exceptions).

3.1. Meaning of Sanction

Different views and definitions of "interdict" have been presented by scientists of social science, but there isn't any consensus among them. In the political dictionary and word book (sanction) is synonym of interdict, approval, fine, penalty and executive guarantee (Noroozy khibany, 2005) Britannica dictionary writes under (sanction) and (guarantee): (sanction) and (guarantee) in the international law employ as a tool for guarantee of the international rules and regulations by government mass-action. That it may begin by the governments critics and rebukes in the international organizations against other government and finishes by economic sanctions or military forces.

In the other place, about this word: sanction is synonym of executive guarantee or fines “political, economic or military punishment against violator of the international law by mass-security system.” (Dargahi, 2010)

Sanction in French language is synonym of just fines by threat and imposition. According to "wild" belief, sanction is a tool that causes follow and execution of regulations and obligations. So it is necessary for international societies to maintain peace, calm, and observe the rule between the governments. Briefly, the interdiction consists of: regulatory refusal of social, political, economic or military relationship of a government or a group of government for punishment or acceptance function. So it employs more in the international economic relation, and others refuse transactions and services with them. The interdict may be comprises of all products and services or limits one group of products. (Evans, Graham and Nonam, Gefry, 2002)

It is important to note that although there are some elements of punishment in the interdict, but it does not mean difficult conditions for interdicted individuals of a country. The aim of this is a change in the political action of this country. Some other believes the most important role of sanction is prevention (ZARIF, and Mirzaie.1997).
3.2. Species of Sanctions

The sanctions are different in three aspects: 1-goals 2-addresssee 3-the method of interdict

The sanctions are divided into two groups based on goals:
First: sanction with strategic goal, in this case, the strategic interests of a state is in danger. That in this case sanctions substitute of war. That it has less expense than war.
Second: sanction with changed action, in this case, there is no multilateral interdict and change of the government (Mustafa zahrany, 1997).

The sanctions are divided into three groups based on addresssee:
First, unilateral sanctions: in this case, the country exerted sanctions based on one-side.
Second, multilateral sanctions: that several countries exert sanctions against another country.
Third, UN sanctions that, applied by Security Council

In international view, the interdict is as a punishment for members of international society. This is the capacity of some organizations based on United Nations Charter. So the sanctions as a punishment only include Security Council of United Nations resolution. There are other sanctions in a political literature that not only are not real sanctions, but also are called “act of government”. In other words, these are domestic law that executed internationally (Ghmami, 2012).

The sanctions divided into two groups in view of governmental act:
First: primary sanctions: if the sanctions depend on relationships of two countries so a country refuses transactions and social relations with other country. This interdict is limited.
Second: secondary sanctions, sometimes a country may extend sanctions and refuses transactions and financial relation with other countries that are related to interdicted country. That is called secondary sanctions. Sometimes in the secondary sanctions, such as American DAMato law against Iran" that determined some punishment for the countries that have relation with Iran (Kusch, Hans G; 2005).

3.3. Economic Sanctions

Carter said about economic sanctions: coercive economic measures against one or several countries and their goals are for changing policy or proof of their views about politics of that country (carter, 1989). Robert P. Quinn brought up this issues in his book "economic sanctions guidance" that are sanctions proper way to foreign politics goals?" and “what solutions are proper to insure the interests by these sanctions?” He appended that: "the sanctions are important arms in the politic arsenal". Of course these arms must be used with high precaution until laborer and related organization, their providers and shareholders don't have any injuries (Quinn, 2000). Hufbauer and Scott limited it to operational dimensions: economic sanctions include: inform to refuse or threaten to refuse common trade and financial relationships (Hufbauer and Schott, 1999). Advantage of this definition is limiting oneself to evident facts, but not to motive commentaries. These definitions have used articles of United Nations charter, which are basic law of economic sanctions of United Nations. In article 41 there isn't any reference to economic sanctions but have an ungeneral executive dimensions that include "full or partial commentary relations of economic and railway, sea, air, mail, telegraph, radio, and other communication tools and limit diplomatic relations"(Davidson, 1996).

4. METHOD OF RESEARCH

Present research is applicative and the method of this research is analytical-descriptive. The data gathered by studying of library references such as literature, books, articles and sites.
5. HUMAN RIGHTS EXCEPTIONS TO SANCTION

5.1. Right of Life
The right of life is the most important of rights that other rights arise from that, in the article 3 of Human Rights advertisement, (Brownlie, 1995) emphasized on civil and political rights in article 6 international promise, article 6 in the Children rights convention and other international documents and supported as an essential right to human.

Catastrophic effects of sanctions on right of life that are commander and unaggressive rules, are irrefragable in many sanctions, in particular full sanctions, because these result in poverty, shortage of food and drugs, delaying on social services and increasing the diseases and mortalities. Based on different unit of United Nations reports, effects of sanctions in Iraq including inadequacy of water, food, drugs, life primary possibilities, caused damage on hundred thousands of individuals. (Normand, 1996; Hoskins, 1997; ebrahim, 2005).

5.2. Right of Proper Standards of Life
Based on Declaration of Human Rights, each person has right of providing life level, welfare and care of oneself and family in regard to food, home, medical care and necessary social services. The right of social security and respective life even in disease and unemployment conditions must be respected (universal declaration of Human Rights, art.25-1). This right brought up in the cases of 11 and 12 in international treaty of economic, social and cultural law. And members of this treaty recognized the right of individual and his family in proper level of life (art.11-12).

The sanctions with negative effects on production, occupation and national income, cause of poor economic income, poor and unjust distribution of product and services and social disorders and totally lack of proper standards of life. Statistical reports about Iraq and Haity confirmed this claim (Garfield, 2002).

5.3. Right of Wellbeing (Removal of Sanitary and Medical Equipment from Sanction)
After efforts of international society for support of Human Rights, effective factors in Human Right were recognized. Among cultural, social and economic rights, the right of wellbeing is one of the basic human rights in the international Human Rights. The right of wellbeing is an uncut link to right of life and in other side, has tied to social security and health rights. Moreover the right of healthy environment, which is in third generation of Human Rights, is based on the right of healthy life. So the right of healthy life is in the chain of different generates of Human Rights (Zamani, 2006). Healthy is defined in introduction of World Health Organization (WHO):"not only the healthy consists of nonexistence of diseases, but consists of full physical, mental and social relief".

The right of wellbeing is one of the recognized human basic rights in international Human Rights. This right in deferent treaty and international law, has a firm place, and takes into account of total principles of developed law. The first and general right of wellbeing in the international treaty is in the charter of United Nations. Although there is not any reference of this right to Charter, but the article 55 of that, obliged to rise of high standard life. The second right of wellbeing in the international treaty that moved next titles, is in WHO by 1946. In this article:" having high standard of healthy is one of basic right of human" and "healthy people are basic for the peace and security".

But the most perfect expression of wellbeing rights in the international treaties, founded in the international economic, social and cultural rights. In the first joint of Article 12 of this treaty it is said that: “the present nations of this treaty, recognized individual rights to utilize high standards of physical and psycho health”. In the second joint of the same Article proceeds to
actions that should adopt the wellbeing rights by member nations. Also the wellbeing rights have the most important place in the human rights treaty. Three treaties of them are: the Article 5 of convention undertakes nations to warranty the rights of public health, medical care, collective security and collective services. Article 12 of the convention indicates nation’s agreement equal access to healthcare services for men and woman (Majande, 2007). Article 10 of above convention foresights the access to training information for family health. Article 11 indicates occupation affairs and health of working place rights. Article 12 attended to female healthcare and proper services in the period of pregnancy and after that, and Article 14, to rural female. Article 24 of above convention said about the right of children in special life level that is enough for physical, psycho, moral and social development of children and utilizes of high standards of healthcare and medicate for children. Article 26 of American human rights convention, Article 16 of African charter of human rights and nations, Article 17 of Cairo human rights in Islam and European social charter, recognized the right of healthy in the regional level (mirzadeh et all, 2013).

Article 25 global human rights allocated to the right of health:” each person has the right of enough welfare for himself and family among food, clothing, home, and medical care and collective security”. On the basis of these documents there is a sufficient reason to accept the health right as a norm of customary international law and it is binding for all countries. However, in resolution 1747 The Tehran Nuclear Research Center, which is active in the field of medicines and medical equipment, has been explicitly banned. In addition, Europe and America have banned the sale of important drugs into the country.

5.4. Right of Food (Exit Imports of Basic Foodstuffs from Sanction)

In the international law, the right of food is a basic right for each person and it’s the right to be free from hunger and having sustainable access to food quality and quantity. Legal basis of the right of food in article 11 of resolution is International Covenant on Economic, Social and Cultural Rights. The first line of article 11 emphasized on essential rights of food, home, clothing and improvement of life. In the second line, following right of food as one of basic necessity for human has been emphasized (Talaee and Razmkhah: 2013).

The right of food unlike practical negligence is under consideration in theory and hinted to some titles of human rights. At first we hint the right of food article 25 of world human right advertisement. This article prescribe that;” Everyone has the right to a standard of adequate living for the health and well-being of himself and of his/her family, including food, clothing, housing and medical care and necessary social services, and the right to security". Many legal authors believe that many clear parts of that context entered to international common law. Even by reject of this view, it can’t be refrained that world human rights advertisement is in upper condition of common law titles, because this title in many cases hint to basic principles of human rights and United Nations goals to Charter as higher title of international law(Vidar,2003; Hannum,1998).

In the first line of article 11 it is provided that:” the countries in this agreement recognized the right of proper life such as food, clothing and home and also improvement of life conditions”. This line of article is one of great context in the agreement and involved in issues that is about "development". In fact, in this article the right of food is a part of proper standards of life (Razmkhkhah, 2013).

Beside of the right of food as a human rights, (Molai,2007) this right can be found as a comment of sixth article of international agreement in politics and civil law and that is about the right of human life. Committee of Human Rights believed that the right of life in this article has unlimited commentary. This committee in NO6 commentary claimed that: "support of life
rights requires certain and known actions for rise of desirable life” (No 6, 1982 and NO28 commentary, 2000:1).

Article 20 of convention 1951 is related to refugees’ condition that engaged to ration of foods and related to right of food indirectly (Convention relating to the Status of Refugees (CRSR), 1951).

Also in forth line of article 24, convention of children rights 1989 bring up:” the government must provide children food and finish their mortalities“.

Beside of international binding law titles, international conferences and advertisements and agreements have many recommendations that world general consensus shows for the norms of food right. For instance, we can hint to world advertisement about food by 1992, Vienna advertisement about human rights by 1993, Rome advertisement about world food security by 1996, food world planning by 1996, agreement 15-171 in United Nations by 1996, and more important millenary development advertise of United Nations by 2000 that, they consent reduced the hungry people to half until 2015 (Honar bakhsh, 2009). Also after five years in world meeting advertisement by 2002 again emphasized on the right of healthy food and security (Talaee and razkhah, 2013).

The sanctions of Security Council sometimes violate this basic right and consequent of that violate other human rights.

Not only this case appears in Iraq, but punishment against Federal Republic of Yugoslavia had a hard pressure on civilian. When the farmers of Yugoslavia because of reduced worth of Dinar didn't sale the croups to government, independency fall to risk (Resiman and Sterick, 1998). Security Council interdicts, against Haeety caused of increase in children mortality.

5.5. Right of Access to Water

Contrary to unrecognition of the right of access to water in Human Rights titles, but this right is the basic right for human. Unfortunately the right of access to water from reporter of United Nations doesn't recognize as the most important right of human in world titles explicitly. For instance, in the first line of article 25 Human Rights advertisement 1948 propounded that: “every person has the right of providing proper life level, health and welfare of himself and his family in regard to food, home, and medical care and social security."Without any hint to water or access to water” Lack of this right in the titles of Human Rights, is unusual because of basic right of human and undoubtedly, this right is more basic than formerly recognized it in the international society and Human Rights titles. Recognition of the right of access to water is necessary to fulfill other human rights because this right is related to the rights of life, food, education, healthy, proper environment or development. In other words, warrant of aforementioned rights is impossible without recognition of the right of access to water (Dashab, 2012).

General sanction of Security Council violates this basic right. For instance, “the government of Milosowich declared that because of prohibition of chemical imports, for filtration of water, significantly enhanced contagious diseases, and in the first months of interdicts 108 individuals died because of diseases (Resiman and Sterick, 1998). Also in Iraq, the interdicts cause filtration reduction of water (Ibid).

So with this issue in mind that the unequal access to water and resources reduction lead to large differences in levels of human origin (Dashab, 2009). And attention to that the Security Council primary responsibility is maintaining international peace and security, It seems that the general sanction of Security Council are opposed of the right of access to water. Its Inconsistent with his the primary task of the council (Zamani and Mazaheri, 2011).
5.6. Right of Trading (Sanctions against the Right to Personal Business)

International trading system doesn't recognize basis of rights, but importance of this system for meeting the needs of a country, causes bringing up this, in the right of trading. Of course this right was in some views as prohibition of prejudice in the trading (Wai, 2003). But these days separating human rights from trading aren’t easy. Because this separating causes creation of some political problems that don't have any sanction in most cases (Alston, 1982). These days’ countries must have a share in trading for meeting of needs. Also this right as a basic right causes economic and social development that is a civil right. Without trading substructure of education, health and medicine which warrant the right of them, couldn't be provided (Wai.2003). Amaritasen the winner of Nobel Prize believed that diseconomy of some countries is cause of non-access to the sources of education, land, health care, justify and credit (Ariel Arson, 2008).

After Second World War, two motions appeared for growth of two fields. One of them was publishing of Human Rights advertisement by 1948 and other was assembling of contract for trading by 1947. Poor instance of these motions, after Second World War, showed that the governments considered making a relation between human rights and trading (Ariel Arson, 2008). Even the right of trading founded in Vitoria opinion that recognizes trading right to nation’s right. So today trading usually is the governmental right (Askari, 2008).

Extensive use of “effective evaluation” in the ground of trading and human rights appeared as a right for basis of other rights in enhanced human rights and economic standards (Harrison, 2008; John S et al, 2003).

The statement of “trading ideas are causes of peace” Attributed to Montesquieu. He explained that the natural effect of trading is peace. He believed that the date of trading is same as human date and also economic trading for meeting of human needs is cause of relationship between countries. War is an important case to enhance trading expenses so it makes some obstacles in the direction of trading (Howse, 2006). Disputes increases the price of goods, and reduced the exports of nations at war and so opposed nations try to limit using of those goods (W. Polachek et all, 2006). on the other hand, whereas some resources used for war, the expense of production raised and more interest make more expenses of war because the governments lose more interests. So the trading enhanced the peace (Watkins, 1942).

5.7. Right of Education

Economic, social and cultural covenant rights recognized individual’s right to education. (Article, 13-2) The education aims to raise human character and enrich respect to basic human rights. For this purpose, the member countries of this contract, undertake high education for public (Zamani Shahraki, 2013).

Also by virtue of article 26 in human rights advertisement and article 28 in children rights convention, the right of education is a human right that has an important role in the human rights system. Because education make people aware (Dehshiry & Sharif, 2009).

Between two levels of elementary- middle school and high education, the role of access to new science for science life in high education is more important. High education as one of basis education right in human rights titles is under considered. The human rights declaration emphasizes on high education for all as a human rights. In other side, individuals with high education can make development and new way to high level of life. 26(1), universal declaration, (Dehshiry & Sharif, 2009) this will be achieved through broad access to educational resources like access to resources in different ways, such as students transfer, teachers, and access to new possible research (UNESCO Recommendation on the Recognition of studies and Qualification in Higher Education, UNESCO conference, UNESCO, Paris 1993).
So there is a bilateral relation between education right and free access to knowledge. On the one hand knowledge needs to train people for its development and one of the necessary cases of scientific activities is free access to scientific sources. We proceed to free academic debate in access to knowledge. It means that members of scientific community can be free to follow knowledge, ideas, develop and extend them. These cases must be in the different areas of research, education, study, conversation, production, creation and inventions (Dehshiry & Sharif, 2009).

For academic freedom different cases and conditions must be verified. One of the necessary cases for free scientific activities is free access to scientific resources. So for academic freedom, knowledge must consider as public goods not private goods. (Academic Freedom 21th century, the AFT (American Federation of Teachers), statement of Academic freedom, 2007). But we proceed to two issues of commercialization of scientific research and related them to security:

1-commercialization of scientific research:

Interests of trading require of unspoken research, that by make obstacles in information transfer and scientific, there is no chance to assess and examine information. So in the high education areas violate the right of education.

2- Connection of knowledge and security

For different pretext of security, academic freedom is ignored and nations prevent from emission of knowledge and prevent scientific research in the reason of politics (Dehshiri, Sharif shahi, 2009). So education structure of the nation under interdicts, by the reason lack of requiring budget has high disorders, and spoiled the rights of children, teenagers and juveniles in access to enough education and training in these areas (Zamani, Sahraki, 2013).

5.8. Right of Development

The right of development is undertaking freedom and progress and enjoyment of each person from material and spiritual resources that include food, education, health, home, social security, arts, communication, freedom, security and all equipments for human life and growth of them (Molai, 2002; Sengobta, 2005). Based on international titles, the right of development is a universe right, inalienable and inseparable from basic human right, among them right of life and international society and other government should avoid some obstacles in this way.

Imposing Economic sanctions are the opposite direction, this task (Rai, 2001) and the weakening of the economic system of countries, stop its development in various cultural, economic, social fields and in some cases cause a rollback.

Totally violation of human rights in economic sanctions is evident and obvious sample of that are injurious sanctions on the rights of Iraqi people. Of course the sanctions have injurious effects on Afghanistan, haytie, Cuba and …

6. THE EFFECTS OF SECURITY COUNCIL SANCTIONS ON NUCLEAR PLANNING OF IRAN

By considering ever increasing importance of nuclear energy, western countries in particular USA try to use different tools, such as sanctions and economic pressure for control of independent country such as Iran to access this critical and essential technology. These countries have refereed Iranian nuclear file to Security Council by supporting of propounding Iran nuclear issue in international atomic energy agency, and approved 10 resolutions in Council by SEP 2003 to Nov 2009, refer (zahrany and Dolatkhah, 2010). Based on this issue, Security Council approved some resolutions against Iran in frame of seven chapter of Charter. By refer to repeated inspections of atomic energy agency, from nuclear installations of Iran and reports of
this agency based upon lack of evident against Iran and also by consideration to the right of peaceful using of nuclear energy, in particular to article 4 NPT, approved these resolutions by the goals of political impetus (Hojjatzadeh, sartipi, 2012).

These sanctions have worse effect on Iranian people, from enjoyment of basic human rights, and caused privation or limitation of rights to proper standards of life, health, education and development. These rights emphasized on different binding titles of human rights. Based on 1737 resolution and subsequent resolutions, Iranian subjects can't educate in the nuclear course of foreign university. In the line 17th of resolution 1737, all countries must refuse acceptance of Iranian people in the areas of nuclear issues and product of nuclear equipment systems. This joint is kind of innovation in Security Council interdicts, because Security Council has not already imposed such sanctions. Although education is a basic right and international organs can't limit this right for the reason of political issues and use of that in the especial way.

In all resolutions Iran has been asked to suspend enriching uranium and related activities, based on this asking, the rights of healthy, development and proper standards of life, for Iranian people is under effect of bad conditions (Zamani and Shahraky, 2013).

In joint 15 of resolution 1803, Security Council not only forbids Iran from industrial improvement, but also prohibits Iranian scientists from research activities and this issue is opposed of development rights of nations. In joint 5 of resolution 1747, sail and shift of any war equipment and related material, have been prohibited for Iran. Also in joint 6 of this resolution and in joint 8 of resolution 1929, prohibited sail and shift of any current weapon such airplane, helicopter, war ship and … To Iran, and prevented other nation to finance or technical help to Iran. This interdicts have a negative effects on Iranian military power. The right of advocacy based on Article 51 of Charter recognized as a essential right. Based on joint 14 and 15 of Security Council resolution 1929, enact limits in the field of financial and insurance services and inspect against navigation activities, and based on joint 23 of this resolution, different limits against banking of Islamic republic of Iran. This interdicts have a negative effects on proper standards of life for Iranian people. Also in the oil and banking interdicts of USA and European nations against Iran, and by high dependency of Iran to sail of pure oil, limits Iranian people to main rights of Human rights. Reduced worth of currency and economic growth, economic inflation and….that are main factors of interdicts against Iran, caused unsuitable governmental services to people, raised unemployment, reduce of purchasing and other subject. In general it can be said that the common people were victimized from sanctions against Iran. So exertion of this interdicts are in comparison with human rights principles.

7. CONCLUSION

By study of world standards of Human Rights in Charter of United Nations (1945), WHO (1948), Children Rights Conventions (1989) and other related titles that accepted international principles, can claim that there isn't any confirm for sanctions when it causes human suffering. This case takes into consideration even economic sanctions prosper of United Nations Charter. Security Council by exertion of unjust and rough sanctions causes violation of basic rights of some individuals. Unlike Fredrick Schuster (2009), Marco .A (2012) and Bossyt .Marc (2000) who know only three conditions necessary for sanction, this research shows that Security Council shall exclude human rights such as the right of life, right of education, right of food, right of development, Right of trading, and etc from sanctions issue.

So unlike to some (E.g.: Emmitt Y. Riley, 2011) views that believe sanctions are effective tools for changing manner of purposed government, but experiments were In contrast to them and revealed some facts that the sanctions have bad effects on purposed people, and violate basic rights of them. This result is consistent with the findings of the Robert W, 2004, Hoskins, 1997 and Boris kondoch, 2003 and Mallory .w, 2013.
There isn't any independence and solid legal text about exceptions of interdicts that caused violation of nation rights. So two remedies are recommended:

1- By issue of resolution or letter of recommendation via human rights committee or general assembly of the United Nations, specifying exceptions of economic sanction and recommending them to Security Council and United Nations to follow that.

2- Permanent Supreme Court must demonstrate a formal commentary of seventh chapter of charter and must oblige council to follow that.

3- In the last step, United Nations must prepare independent international convention in this case and must foresee a mechanism to follow human rights in interdicts and protest against sanctions for government and innocent people

Acknowledgements:
The authors thank the staff, editorial board of the Journal and Ms. Samira Zare that helped me in the writing and editing this paper.
REFERENCES:

Academic Freedom 21st century, the AFT (American federation of teachers), statement of Academic freedom, 2007, p.25

Agim BEHRAMI and Bekir BEHRAMI against France and Application no. 78166/01, http://www.jstor.org/discover/2014/9/30/p.323


Aminzade Elham,Golami Vahid,(2013). Economic sanctions under the rules of competition and social rights, of foreign relations, the third year, 2013, pp.181-210. (In Persian)


Convention relating to the Status of Refugees (CRSR), 28 July 1951.


Dashab, Mehryar (2009), The right of access to water from the perspective of international human rights law", Proceedings of weeks of study at the Faculty of Law and Political Science, published by Tabatabai, print 1,pp.63-66-70-69. (In Persian)


Evans, Graham and Jeffrey Nynam (2002), Culture in International Relations, translated Humira Moshir Zadeh, Hossein Sharifi Trazkhy, Tehran, Mizan publisher, p.96. (In Persian)

Farokh Sirri, Mansour. (2009), Legal restrictions for the Security Council in imposed economic sanctions , Journal of International Law, the Journal of International Legal Affairs Center Vice President for Legal and Parliamentary Affairs, Twenty-Fifth Year, No.39,pp.2-4. (In Persian)

Frederick Schauer, (2009), WAS AUSTIN RIGHT AFTER ALL? ON THE ROLE OF SANCTIONS IN A THEORY OF LAW. University of Virginia, pp.1-33.


International Covenant on Economic, Social and Cultural Rights (16 December 1966)


Mirzade nader and Sephrifr, Sima, (2013). The State's obligations towards the right to food, according to Article 11 of the International Covenant on Economic, Social and Cultural Rights, Journal of Law, journal of Faculty of Law and Political Science, Volume 34, Summer, No. 20, p. 45. (In Persian)


Vidar, Margaret, (2003). The Right to Food in International Law, South Africa, The Socio-Economic Rights Project of the Community Law Centre, University of the Western Cape,p.2,3


Studying the Impact of Joint Plan of Action (November 2013) on Iran Economic Sanctions

Hojjatollah Moradianfar\(^1\), Mohammad Mehdi Hooshmand\(^2\) and Omid fateh\(^3\)

**ABSTRACT:** With the Islamic Revolution in Iran in 1979, America has repeatedly used the instrument of sanctions against Iran. The Security Council also applied four Courses of sanctions against Iran in the background of nuclear program. However, following the successive negotiations, Iran and the (5+1) finally reached agreement on the Iranian nuclear program in November 2013 after approximately ten years of nuclear negotiations. Signing the joint plan of action between Iran and the (5+1) is considered as an important and strong step in order to cancel sanctions against Iran. But the question that arises here is whether the agreement really impacts on economic sanctions against Iran? Does the agreement have legal burden? Surely the answer to this question is not negative, whatever it is. The aim of this study is to examine the impact of sanctions on the Iranian economy partially and examine the impact of the Geneva agreement on sanctions against Iran in detail. Findings of the study show that joint plan of action can open the way to better economic relations for Iran.

**KEYWORDS:** 2013 Geneva agreement, joint plan of action, economic sanctions, the P5 + 1, Iran's nuclear program.

---

\(^1\) The M.a of International Law at Shiraz University, Faculty of Law and Political Sciences, Email: Moradianfar_hojat@yahoo.com

\(^2\) The M.a Students of International Law at Shiraz University, Faculty of Law and Political Sciences Email:M.Mehdi.Hooshmand@gmail.com

\(^3\) The M.a Students of International Law at Shiraz University, Faculty of Law and Political Sciences
1. INTRODUCTION

Iran sanctions were formed by Western countries in order to stop the progress of Iran's nuclear program. The sanctions on Iran's nuclear program have not been effective, but have negative effects on the economy. The sanctions are in economic, scientific, political and sale of weapons and ammunition fields (Omidvar, 2010). Sanction against Iranian oil exports and Iran's central bank may be noted as the most effective one whereby Iran mono product (oil) economy would suffer an irrecoverable hit and according to both of these sanctions, the Iranian economy is in serious trouble (Mohammadi, 2013). Food and Drug sanction applies while the America's tobacco exports are exempt from the sanctions list and Iran is the third largest importer of American cigarettes in the world.

The first comprehensive global sanctions against Iran in the modern era was the Britain sanctions against Iran in response to the selected doctor Mohammed Mossadegh as minister who pursued nationalization of the oil industry (Ferrier, 1982). The first Security Council resolution against Iran was issued at the time of Prime Minister Mohammad Mossadegh as a reaction against nationalized Iran's oil industry. America levied also broad economic sanctions against Iran in 1980 in response to the America Embassy occupation in Tehran (Baker & Reisman, 1992). In 1995, President Bill Clinton attempted to impose sanctions whereby the US oil companies were barred from investing in oil and gas projects in Iran. Trade relations with Iran were also severed unilaterally.

Following Iran nuclear program and consecutive Iran and west countries negotiations, a 6 months extendable agreement have been signed on Iran's nuclear program between the Islamic Republic of Iran and (P5 + 1) on (24 November 2013). According to the agreement which was signed to "reach a mutually agreed and long-term solution" and to "guarantee the peaceful nature of Iran's nuclear program", the parties "voluntarily" undertake to provide reciprocity as a first step of a comprehensive solution. According to the agreement, Iran's nuclear program and uranium enrichment will be continued in a limited way, and Iran will facilitate the IAEA monitor on its installation. Instead, the opponent will suspend a part of the sanctions imposed against Iran and will avoid imposition of new sanctions including international, multilateral and unilateral. The problem here is that basically what is the impact of this agreement on Iran sanctions naturally and structurally which are formed over many years and to what extent these effects are typically tangible. In this context, some politicians and analysts have theorized briefly which unfortunately do not have sufficient cohesion and are not analyzed technically and scientifically. In other words, much of the analysis was based more on political interests rather than scientific development. Hence, in this study we have attempted on scientific principles and facts in our analysis and avoid the unscientific bias.

in this study, at first Generalities about international economic sanctions, including the definition and purpose of economic sanctions, economic sanctions history, types of economic sanctions, the effectiveness or impact of economic sanctions in various sectors ( agriculture, banking, industry, foreign investment, oil and gas, commercial and manufacturing costs), time domain and time constraints associated with economic sanctions will be expressed. Then the legal aspects of unilateral sanctions based on the principles of international law will be considered. After that the legal basis of UN Security Council economic sanctions will be studied. In the fourth step an introduction about 2013 Geneva agreement will be noted and after that the effect of Geneva agreement on Iran's banking and monetary affairs, transport and energy sector will be discussed separately.

2. GENERALITIES ON ECONOMIC SANCTIONS

2.1. Definition of Economic Sanctions and its Purpose

The term "economic sanctions" is called actions with economic character against diplomatic or military character which governments adopt in order to express an opposition toward actions of the target country, so that the government change a policy or procedure or even the structure of
the government. Although the boundaries are not always accurate and sometimes there are mixed motivations, economic sanctions are usually adopted without economic benefits and impose mostly commercial losses to the government involved in sanction program (Andreas, F. Lowenfeld, 1983). In better words, economic sanction is a set of actions which a state or set of states or an international organization adopt and impose against a government has violated the obligation for violating a commitment to achieve specific goals (Seyed Ali Mohammad Hosseini, 2012). There are two other concept close to economic sanction; embargo and blockade. Embargo has a broader concept than economic sanction and is partial or complete isolation by imposing trade restrictions on the given country. Henry Benin and Robert Gilpin described sanctions as manipulating economic relations in order to achieve political objectives which threat a society to economic punishment in order to coerce it to change its policy or government (Zahrani, 1997). Michael Malloy believes the sanction is a series of actions against the desired or target country without using threat force (Malloy, 1990). Margaret doxycycline one of the renowned researchers in the field of economic sanctions defines international sanctions as follow: punishment, which was run or applied as the consequences of target failing to comply with the international standards or requirements (Doxey 1996).

The purpose of sanctions is to exclude an economy from making benefit from global goods, services and capital markets. In fact the sanction creates a situation for the violated country that puts it in a self-sufficiency state and also forces the country to accept a low level of life in an isolated economy. One of the goals of economic sanctions is to change the behaviour of sanctioned country for the improvement of foreign relations. Economic sanctions are commonly used as a tool in the pursuit of foreign policy. It is argued that the purpose of economic war is to damage the enemy's economy as far as possible. (*3) Doxey proposed that economic sanctions are considered to be negative actions that seek to influence state behaviour through threatening and, if necessary, imposing penalties for failure to comply with the law. Destabilizing the country through economic pressures can be noted as another goal of economic sanctions. Investigating Sanctions history indicates that in most cases, economic sanctions have had a considerable economic impact but their political success was not too noticeable. In term of aim, sanctions are divided generally into: Coercive and Manipulative. In coercive sanctions the assumption is that a particular class of society, the state elites, is the aim and the main purpose of these sanctions is to change behaviour. But the main goal in manipulative sanction is to change political regime and instability (Mostafa Zahrani, 2008).

However, economic sanctions are two types in terms of target. First, the economic sanctions that aims to destabilize the country's political regime which in fact, originated from the conflict in the strategic interests of the country and target country. This type of sanction aims at changing regime in the target country.

Second, sanctions aim at changing political or economic behaviour of the country. This type of sanction is much moderate than the first one.

Although research on the economic sanctions is often about relationship and international politics but the economic punishment issue can also be investigated from more perspectives include legal, moral, political, economic and risk management.

2.2. History of Economic Sanctions

The equivalent English word of sanction is "boycott" which refers to the fate of the "Captain Charles Boycott," an English landowner in Famine Ridden of Ireland in the late 1870. The captain was isolated economically and socially because of his cruel behaviour with farmers from Ireland Landowners Assembly. By the beginning of this century, the term was transferred from its common application in labour relations law to international scope; then, it was changed and developed. Until 1918, the economic sanctions were supplement to military action, because before the League of Nations and United Nations war was an inevitable phenomenon (Lawrence, 1923; Westlake, 1913). It was only after the First World War that the use of sanctions was considered rather than military action that the use of economic weapons as a non-
military weapon was included in the Covenant of the League of Nations to establish the peace (Article 16 of League of Nations Covenant).

After the foundation of the United Nations in 1945 and ratifying the Charter of the United Nations, sanctions regime took on a new style. Security Council used only two sanctions during the Cold War until 1990. The first time was in 1966 against Southern Rhodesia (Sands and Klein, 2001) and the second time was applied against South Africa in the apartheid policy in 1977 (Reisman and Stevick, 1998). After the end of the Cold War, the Security Council activated largely sanction mechanisms. From 1990 to the present Iraq, Yugoslavia, Somalia, Liberia, Libya, Haiti, Iran, Rwanda, Afghanistan, etc. have been sanctioned.

2.3. Types of Sanctions
Economic sanctions are generally applied in two ways: Trade sanction and financial sanction. Trade sanctions that cause to restrict or stop the import and export of different types of goods and services. Also, countries promise to avoid buying exported goods from the country and to sell their goods and services to the country. They even go a step further and ban the investments of or in violating country. In financial sanctions some limitations and restrictions and pressures exerted on target country. In other words, investment, capital operation, financing and financial transactions will be pressured. For example avoid investing offending country in other countries and preventing other country to invest in offending country namely the sale of assets in offending country. Economic sanction is seeking to any circumstance to exclude the offending country of doing international trade.

Other divisions can also be considered include the "origin" of sanctions:
First, unilateral sanctions; in this type of sanction a country imposes sanctions based on its unilateral decision.
Second, multilateral sanctions; which is applied from some countries against target country. Third, United Nations sanctions; which is imposed by the Security Council.

Since in the unilateral sanctions only one country limits its trade and financial ties with the target country, finally this type of sanctions will have fewer adverse effects. The magnitude of this impact depends on economic influence of sanction sender country in target country. For example if a country like America sanction a country like Canada which nearly 80 percent of its trade ties is dependent on America, Canada will be undoubtedly severely affected. But if America's economic transactions with a country are for example about 15%, the unilateral sanctions will not take action (Aadeli, 2009).

2.4. The Effectiveness or Impact of Sanctions
Each time the economic sanction is spoken, it follows this question that what is the effectiveness of economic sanctions imposed on the world? Basically sanction in the viewpoint of international economic make a distortion in the normal direction of international trade. Naturally trade between countries is in such a way that the buyer is seeking the best and highest quality product at the lowest price and the seller produces the best products. When the sanction began, the artificial diversion of trade relations between the sender and recipient of sanction will be made and cause to rise economic costs for both sides. International economic relations generally will be damaged. But in sanctioned country the magnitude of increased costs depends on its dependence to sender of sanction.

In a study that was conducted on the effectiveness of economic sanctions it has been revealed that 176 cases of economic sanctions imposed from 1914 to 1990, which about 66% were successful and 34 percent were only partially successful. These statistics show that the sanctions have not been successful in its essence. Since 1973, the 24% of economic sanctions have been evaluated relatively successful. Only those sanctions which are referred as successful examples were Sanctions against the racist regime of South Africa and Rhodesia (in Zimbabwe) ¹.

¹ http://tnews.ir/news/C53817520799.html
Apart from these two cases in the history of economic sanctions, Iraq has recently cited. In South Africa the economic sanctions did not cause to rule black government but a lot of pressures were applied on regime of the country.

Another important point about the sanctions is the imposition steps of economic sanctions. There are generally four steps before beginning sanctions. First, the sender country of potential sanctions starts negotiation with target country privately to encourage it to change its way. In the next step the sanction declared publicly. In the third stage the sender county consults with its allies and fourth stage includes start of sanction with non-economic cases.

There are also several non-economic sanctions include revoking multilateral meetings in the target country, avoid issuing visa for a group of people, recalling ambassadors and reduce the level of relations, prevent it from adhering to the conventions and international organizations, Opposition to any political meeting in the country as a host, Cutting aid including loans, investments and financial supports and finally cutting off communications, including radio, telephone, transportation, and post and telegraph.

With this background in economic sanctions, facing Iran with economic sanction can be discussed. The first question that comes to mind is whether Iran has placed yet in economic sanctions? The answer is yes. Iran has been sanctioned economically during 36 years after revolution. Most of Iran sanctions are unilateral and have been imposed from America. Moreover, in some goods Iran has been sanctioned multilateral from Candidate Countries. Among most important examples, dual-purpose good can be noted. Moreover, in some dual-purpose goods Iran has been also sanctioned multilaterally. For example, lists of dual-purpose goods are not exported to Iran from the Australia Group. However, the dual-purpose goods are become so vast that almost many electronic devices are included¹.

2.4.1. Consequences of Economic Sanctions on the Agriculture Sector

Possible effects of economic sanctions are in different sectors of Iran's economy. Since the agricultural sector is of very sensitive areas that deals directly with the food security of the people, naturally, in case of such an event, its consequences will shadow on this area more than any other part. Consequences and impacts of sanctions on the agricultural sector are concerned. In such circumstances, the agricultural production may be increased because of the importance and more government support but many problems will emerge in long term. In the first and second year the government would be forced to subsidize and increase the area under cultivation in order to fix the strategic goods partly for consumers. But some products prices gradually increase due to their low production. Thus the area under their cultivation increase and as a result strategic goods production decrease. In fact a sinusoidal movement will be emerged in production that fixing this movement would be difficult without utilizing products unless the government eliminates free production. Our agricultural economy would be also quite introspection due to economic sanctions which this economy would be non-competitive and in non-competitive economy supply is limited and demand is in a high level².

Oil sanctions cause to remove the power of investment in agriculture. Because the government cannot even meet its expenses, as oil revenues are blocked, factories shut down and the production decreases. Thus people do not pay taxes and hence there is no income for the government and so the government will be on the brink of bankruptcy.

Increasing corruption is another result of sanctions; corruption causes large disparities in the society and overnight billionaires. According to analysts the economic ravages of our country cause agricultural sector to suffer the stress against economic sanctions. Due to the fact that according to statistics, nearly 82 percent of the food is produced in the country and the amount of agriculture production has increased during recent years, what will threaten agricultural sector is not external risk but internal. Due to the presence of brokers and intermediaries in the agricultural sector, some individuals and organizations involved in the gap between production

1 http://www.taraznews.com/link/127
2 http://kurdeconomic.blogfa.com/1391/01
and distribution which increase the commodity prices artificially using their investments in property in sanctions and thus deprive a large category of people from having access to the least Level of food and endanger the food security¹.

Hoarding expansion and unsanitary agricultural commodities smuggling are of other consequences of sanctions. Increasing agricultural production to offset shortages caused by the cessation of imports regardless the relationships govern the production, distribution and consumption is insufficient. In our country, the production, distribution and consumption are considered separately and production is considered without adequate attention to the distribution and consumption, while these three cycles are completely united and the failure of one of these steps can cause crisis in another one. Iran economic system is chaotic, disorganized, with no map and no network of relations between the sectors of mining, industry, agriculture and finance; while developed countries have a complex network of relationships between the sectors that economists know it and the import, export and production are done based on materials and facilities lied in that internal network. Agricultural sector in Iran is vulnerable due to the absence of this network against the sanction. However, the third and fourth development plans, accordingly, are not dependent on a detailed analysis of the economy and what is reflected is less in accordance with the society data, and therefore, the program has not been yet effective. Agricultural production will not hurt so much due to its low dependence on foreign technology and foreign exchange earnings. Agriculture and livestock and poultry status is not evaluated favourable in terms of machinery, seeds, seedlings, pesticides and food additives. Most of the needs of these sectors are produced in country by public and private sectors. The procedure of non-oil exporting even supplementary and processing industries and agro-based industries such as carpet will be impaired in case of sanction².

Experts have multiple and sometimes same views in answer to the question that which agricultural sector have become more challenging in case of sanction. Urban consumers realize most damage in short-term and villagers in long-term because lack of fuel disturb transportation system and cause to increase production costs. The greatest losses in agriculture is also horticultural sector and the most advantages are in the farming sector, because The garden is not like farming to have a crop this year and another next year and an orchardist may invest 10 to 30 years for his garden. Horticulture sector, particularly manufacturing and export of flowers, will hurt so much in sanctions. A large part of livestock sector needs such as corn for animal feed supply is imported and increasing the prices of these inputs cause to increase the price of milk and meat. A part of cultivation is also dependent on imports of modified seeds. If farmers don’t receive desirable seeds such as corn and potato there will be a problem in producing these corps. Some horticultural products are convertible. But in dried products particularly in pistachio we will be faced with serious threat, since the investment horizon in nuts particularly pistachio is export horizon and we have cultivated this crop more for external export than internal consumption³.

2.4.2. Damage to the Banking System

Banking system is considered as an arm for the state's economy in Iran after the Islamic Revolution. Today perhaps it can be undoubtedly an acknowledged that the bulk of the country’s economic development programs, particularly the Fourth program of economic, social and Cultural Development is influenced by the strength of the banking system. By the end of the 86 Sepah and Saderat banks are sanctioned by Security Council and the Banks Saderat, Mellat and Melli were sanctioned by America. Sanctions from America have a very large scale unlike what is seen at first glance, because European banks contracted by US banks, are not willing to cut their ties with America.

¹ http://kurdeconomic.blogfa.com/post/10
² http://farshadshirali.persianblog.ir/post/14
³ http://abdifarshid.blogfa.com/post/8
1) On the day of resolutions and international sanctions on Sepah Bank all opened and active credits were affected by the sanction regard to centrality of London Sepah Bank account payment of exchange currency reserve and Vendors avoided to supply due to the impossibility to payment transaction and trade documents. As a result all the important capital goods related to opening account of the foreign currency reserve is remained undecided and the central bank could not manage to set the bank or banks replace to pay the remaining funds.

2) From resolutions 1737 and following 1774, the credit risk and insurance coverage of exports to Iran is increasing.

3) In 2007, the price of capital goods (machinery and equipment) raised between 7 to 10 percent (by European retailers), while the rate of inflation in these countries was between 1 to 3 percent.

4) With sanction of the oldest Iranian bank (Sepah Bank) and Saderat Bank, international vendors trust to Iranian banks has greatly reduced so that they emphasize not to deal with these banks and broadcast it widely to whole bank system will have detrimental effects.

5) Thousands of foreign currency expertise of sanctioned banks and their international and their foreign branches are highly vulnerable and its long-term continuation is irrecoverable for them.

6) The major factor that affects all banks, one after another, and its economic and social harmful effects spread to other sectors of economy is possible decrease of public confidence in the banking system in the country and more money out of the country because of increased bureaucracy and financial inhibiting factors in the manufacturing sector

Damage to the industry:

1) Disturbance in the supply of raw materials and spare parts, equipment and technical know-how and technology: regarding to political issues, a group of foreign companies including buyer and seller cut ties with Iranian companies. This disconnection caused to stop the supply.

The Process of raw materials, machinery and spare parts, resulted in a sharp decline in exports. On the pretext of some equipment associated with the military or nuclear industry providing industry necessities has been also very difficult. Meanwhile, the technology and technical knowledge of some world industries are not transferred.

2) Imposing international sanctions for some internal banks

Due to international sanctions for some domestic banks, doing banking operations in the form of foreign currency is limited to a handful of domestic active banks that regarding to the strict rules of the banking system, it cause to reduce capabilities and maneuverability of domestic manufacturers in the strict global market.

After sanction of Sepah Bank and Saderat Bank and given that Mellat Bank and Melli Bank are going to be sanctioned, nowadays we are facing with problem for banks of Sepah, Saderat, Mellat and Melli. To get rid of this problem, some of the solutions (e.g. import or export via a third country and with special connections) are used which leads to an increase in the cost of raw materials and product.

3) Rejection of Iranian documentary credits

According to the world poisoned atmosphere due to negative publicity from certain countries and international organizations pursuant to the first and second resolutions, now the trust of some companies and need suppliers to Iran's banking system has been withdrawn so much so that in some cases the C / L Iranian banks (even those are not sanctioned) will not be accepted and foreign vendors demand cash payments.

4) Imposing internal government restrictions:

---

Imposing governmental restrictions related to impossibility of imports from some countries cause to lose opportunities and gained credit in different intervals during past collaboration and cause to abuse other vendors.

5) Restrictions on foreign currency:

Restrictions on foreign currency and impossibility to open documentary credit in dollar and severe fluctuations in the exchange rate of other currencies versus Rial like Euro which has increased more than 10% during current year, cause to irreversible damages to the economy and industry, in such a way that for example in credit openings which is done in euro, the Euro rate increases after the expiration of the period (say 6 months) unpredictably. Nowadays some countries like East Asian countries do not collaborate with Iranian companies and do not also with a currency other than dollar. This problem causes the monopoly of some European vendors and also causes to impose unreasonable conditions by foreign suppliers and emerge problem for domestic manufactures. In addition to the planned constant dollars rate, transactions in other currencies, is followed by lack of proper planning and desired decision making and economic stability threatened severely.

7) Problems of business trips:

Business issues are done hardly due to imposing additional restrictions on issuing foreign visas especially European countries and sometimes a visa for European countries will take about two or three months and finally it is issued with short and limited times. Similarly, the external side is reluctant to have a trip to Iran due to restrictions imposed by third countries (because of Iran visa in the passenger passport). The country industry is faced with the following problem due to recent effects of recent resolutions of the UN Security Council and the resulting adverse consequences arising from the issuance of these resolutions:

- difficult Survival for majority of industries due to problems with the supply of raw materials, technology transfer and providing spare parts and new production equipment which in some industries is led to completely stop production and bankruptcy.
- About the few industries that continue to survive with difficulty and unconventional ways we observe increased cost from 10 per cent to 30 per cent which naturally leads to a lack of global competitiveness and deny access to global markets and economic prosperity.
- In addition to previous cases, other side effects are the following:
  - giving the toll to the intermediary countries like China, Russia, UAE, Turkey, India and ....... to meet industry needs.

2.4.3. Reduced Foreign Investment

Despite the adoption of the Law of Attraction and Protection of Foreign Investment in the Sixth Parliament and resolve legal uncertainties which should cause to accelerate the attraction of foreign investments, 84 and in particular 85 sharp declines in LOCO monitor of foreign investment are showed. International Institute for attracting foreign investment declared the foreign investment in Iran in 2003, 2004, 2005 and 2006; respectively 803,1150,4260,2990 millions of dollars and apparently, it is declined to less than one hundred million dollars in 2007 followed by triple resolutions issued.

While Iran has begun negotiations with Europe and America, the economic sanctions against Iran added problems over the country. Among the various sectors of the economy, the oil and gas sectors suffered most damages. The parts which are pulse of Iran economy and can have a significant impact on the structure and economic performance of the country.

1 http://kurdeconomic.blogfa.com/1391/01
2 http://cbiran.blogsky.com
Oil and gas sector:

Iran has an oil-dependent economy and a large share of the country's revenue comes from oil and gas exports every year. Studies show that the West's economic sanctions against Iran which has targeted in the early stages the oil industry has imposed the most damage to economic pulse of Iran and continuing this process can cause irreversible damages. Iran's oil and gas industry needs huge foreign investments and presence of companies has access to the world modern technologies. With the implementation of economic sanctions and the withdrawal of Western companies of Iran, utilizing the world modern technologies has been cancelled and Iran couldn't also pay to develop new oil and gas fields in order to replace the old fields in the coming years. According to recent research by America Congress, the vulnerability of Iran oil and gas industry to economic sanctions is obvious and inevitable. This is while the economic actors believe that Iran can deal with this problem with the help of high oil prices, as in the past year Iran could face sanctions with minimal difficulty thanks to this huge income. Energy Information Agency declared Iran revenue from oil exports in the first half of 2008 to 54 billion dollars; while last year's total export revenues from oil sales were only $ 60 billion. Undoubtedly the growth of Iran export revenues is not due to increased production volumes in this country but it is because of the oil price increase from 70 dollars in last year to more than 120 dollars and even experienced 140 dollars.

Studies show that in 1990, revenues of Iran's oil export to global market were 17 billion dollars. From that time until 2000 the price fluctuated between 10 and 22 billion dollars and then suddenly grew. Studies show that in 2005, the country's oil export revenue was 48 billion dollars and in 2006 this revenue was 54 billion dollars and finally in the last year it reached to 60 billion dollars.

During the last year Iran has produced more than 5 million oil barrels daily and according to present studies there is no power to increase output because the current areas are old and enough investment has not been done in order to develop new areas. Iran plans more investment in the oil and gas industry and does not require the Europeans and Americans for these investments. In recent months, news of replacement of the Asian countries, especially China, has been heard. At the same time, negotiations between Iran and Russia are done which strengthened the possibility of contracts between two countries. These two countries, which can replace the western countries to a large extent, are seeking to enter the Iran by major investments and projects in order to receive a great benefit from Iran potentials instead of the European countries and on the other hand, Iran could gain much benefit from this cooperation and reduce the pressure of West economic sanctions. The Russia oil national company plans in 2008 to $ 16 billion invest in oil and gas projects and this is while Iran has invested only $ 12 billion per year over the past three years.

Iran plans to make benefit of internal capacities rather than global investment in the development of the oil industry. Iran currently does not have the possibility of the use of foreign capital and therefore has replaced foreign investment by internal capacity. Now Iran production capacity is 4.3 million barrels of oil per day which this production capacity will reach to 4.7 million barrels per day up to two next years. It is noteworthy that before the Islamic Revolution, Iran was able to produce more than 6 million barrels of oil a day, and now the problem is the lack of access to new technologies.

We have seen a gradual exit of Western companies in the past years. US companies were excluded from working in Iran because of economic sanctions and great European companies like British Petroleum, Royal Dutch Shell and Total which stayed in Iran economic scene,

1 http://irdiplomacy.ir
2 http://irdiplomacy.ir
3 http://www.donya-e-eqtesad.com
4 http://cbiran.blogsky.com
believed continuing cooperation with Iran as very risky action in the Economic and political conditions ruled the world. However, the need to invest in Iran's oil and gas industry is more than any other sector. Because this industry has a key role in Iran economy and has suffered a lot of damages during the Islamic Revolution and the war. On the other hand, the oil fields of Iran are among the world's oldest oil fields and use of these areas caused to reduce amount of oil in wells. In these circumstances, with no investment and no new drilling it cannot be hoped\(^1\).

Increased costs of manufacturing and trading as a result of sanctions: Under the sanctions, which performed for the first time in 2006 by the United Nations and exacerbated by America in the last year, Iran's access to international capital markets became less and a major obstacle were created to its use of advanced technologies in America and Europe. Sanctions against Iran created many problems for Iran business. Increased costs for Iran business forced many companies to exit of Iran projects. For example, finding private companies to finance large projects and also finding companies which export required components of projects to Iran were very difficult as a result of intensifying the economic sanctions and this problem caused more costs.

Economic advisers of Iran Offshore Engineering and Construction Company anticipate that sanctions increase the cost of company to more than 30 percent. Undoubtedly this growth will be in this year and if sanctions continue in the coming years the costs will be increased more and more\(^2\).

2.5. Time Domain and Constraints Associated With Economic Sanctions

For the period of sanctions under Article 41 of the UN Charter or resolutions start or expand the sanctions, there is no prediction about the sanctions expiration after a certain period of time or the occurrence of a specified event. So it can be believed that the economic sanction program in implementation of Security Council resolution might be just ended with another resolution according to ordinary voting procedures, such as the possibility of veto. It can be also seen in the case of sanctions on South Rhodesia.

In April 1979, in the mood of so-called "internal settlement" in Rhodesia / Zimbabwe and open elections about the black and white which were sanctioned by the guerrilla organization, "Front homeland", the Security Council passed a resolution and it reiterated its call upon all States to refrain from identifying or so-called elections and observe mandatory sanctions against Southern Rhodesia carefully.

In autumn 1979 the British government formed a long conference between all parties in London, with the goal of orderly transfer of power to the elected government of the majority blacks. In December 3, before all parties sign the necessary documents, the British government announced the ruling on the Southern Rhodesia for an interim period, until the elections are held under its supervision. On December 12, the British government announced the end of the conference, and said that UN Security Council sanctions against Southern Rhodesia will not run. On December 15, United States of America announced that the rules relating to sanctions against Rhodesia which should run on the next day will be cancelled. On 18 December, the United Nations General Assembly adopted a resolution and expressed displeasure with the move of some governments to remove unilateral sanctions and announced that the Resolution 253 (1968) of Security Council can only be cancel by Security Council decision and any unilateral action related would be the breach of the obligation of Member States under Article 25 of the Charter. On December 21, the day of signing ceasefire by domestic front in London, Britain proposed a resolution to the Security Council stating the sanctions would expire, although Britain believed that the resolution is not necessary since the commitment to apply

\(^{1}\) http://kurdeconomic.blogfa.com/post/10
\(^{2}\) http://farshadshirali.persianblog.ir/post/14
sanction were cancel automatically with returning the Colony to the rule, but anyway a resolution adopted in order to cancel sanctions.

But about the constraints facing sanctions or general exemptions from sanctions Note that Article 41 of the UN Charter doesn’t apply restrictions on sanction imposed by Security Council. With the increasing use of sanctions, entering a number of exemptions has become customary. The most common exemptions are supply materials which follow exactly medical aims. Other common exemptions include: training equipment, publications, news and food, and this is if the supply is controlled by the Red Cross to ensure that groups supported by target government do not receive them. Other exemptions, for example, are propane gas for cooking in Haiti despite a ban on the supply of petroleum products, and allow flying to Iraq and from this country for people who go for Hajj to Mecca. Altogether with gaining experience by UN sanctions it seems that prohibitions and specific exemptions are negotiable in somewhat apparent contradiction between tend to punish the target State and support of the suppressed population.

3. STUDYING LEGAL ASPECTS OF UNILATERAL SANCTIONS BASED ON THE PRINCIPLES OF INTERNATIONAL LAW

3.1. Unilateral Sanctions Are In Violation of the Security Council

According to the principles of the UN Charter, the conflicts of unilateral sanctions with the United Nations goals can be found.

When the Charter of the United Nations was prepared in San Francisco Conference, The United Nations decided to assign the coercive action authority to the Security Council to avoid unilateralism which was the cause of World War. Article 39 of the Charter of the United Nations assigned responsibility for maintaining international peace and security to the Council If needed act to adopt recommendation or make the appropriate decision and for example impose communication or economic sanctions according Article 41. Unilateral breach of international peace and security by countries is firstly return to the pre-Charter of United Nation and secondly, cause ignoring the authority of the Security Council. In other words, the authority granting of the primary responsibility for maintaining international peace and security from the countries to the UN Security Council cause to deprive the option of UN members. More interesting is that the unilateral sanctions originators are permanent members of the Security Council that their actions could mean the failure of the pillar from the permanent members of this pillar¹.

3.2. Deviation of Unilateral Sanctions from the Resolutions Guidelines of the United Nations

Declaration of Principles of International Law concerning Friendly Relations and Cooperation Among Nations, dated 1970 (Resolution 2625), proposes the principle of non-interference basis and states that no country has the right to use economic pressure, political or any other pressure to force other countries to follow the rule of the contrary country. Many resolutions of international organizations have been mentioned the illegitimacy of unilateral sanctions or in general or only those that have cross-country properties. United Nations General Assembly Resolution 1991 want form all States to revoke unilateral economic pressures that are intended to intervene in the decisions. Resolution A / RES / 51/22 of United Nations General Assembly dated 1996 under the title of "elimination measures of economic pressure as a means of political and economic coercion" while knowing the unilateral sanctions with extra-territorial feature as illegal, knows these rules against the law right of states to determine their economic fate. Paragraph 2 of the resolution forces appliers of these rules to remove these unilateral laws with extra-territorial feature which impose sanctions against companies and individual. The

¹ http://iranbazgoos.persianblog.ir/post/416
paragraph 3 asks all States not to recognize unilateral economic policies with extra-territorial characteristic\(^1\).

### 3.3. Individual and Collective Positions of States

Declaration on the prohibition of military, political or economic Compulsion in concluding agreements attached to the Convention of the Law of Treaties 1969 which was adopted by the conference participants, condemned economic pressures at the conclusion of treaties and some of these countries were of the opinion that economic pressure could lead to the invalidity of a treaty. It should be noted that many countries have been declared or positioned against unilateral US sanctions.

#### 3.4. Unilateral Sanctions Incompatible with Human Rights

Commission on Human Rights (now Human Rights Council) has always been positioned against the UN sanctions committee. Based on report of the minorities subcommittee, Security Council sanctions committee doesn’t have sufficient information for quick suspending of sanctions when sanctions injure people. Unilateral sanctions violations of human rights, paragraph 1 of Article 25, paragraph 1 of Article 11 of the Universal Declaration of Human Rights and the Covenant on Economic, Social and Cultural Rights have been mentioned fundamental rights of human well-being and health and access to medicines and Paragraph 2 of mentioned covenant implies that people should not be deprived of the right to subsistence in any way. This subject approved by the Declaration on the Elimination of hunger and malnutrition in the World Food Conference in 1974. According to the Vienna Declaration, June 25, 1993, the Right to Development is recognized as integral human rights, there for sectional actions are as a violation of these fundamental human rights. Security Council resolutions based on collective sanctions imposed in recent years, have also predicted rules to exclusion of vital supplies such as food and drug for people. So we can say that the unilateral sanctions without observing Subtleties of human rights will have no legitimacy\(^2\).

### 4. THE LEGAL BASIS OF UN SECURITY COUNCIL ECONOMIC SANCTIONS

The United Nations was formed with the purpose of preserving international peace and security, articles 24 and 26 of the Charter of the Organization has expressed the Security Council tasks. Based on mentioned articles the main task of maintaining international peace and security has been put on the Security Council and members of the organization have agreed that the Security Council is responsible for carrying out the duties under this responsibility. In addition to the above main task, the Council is required to operate within the framework of the objectives and principles of the organization, in other word actions and decisions of the Security Council should be in accordance with the content of Charter and activities should not be arbitrary. In this case, according Article 25 of the Charter, members also agree to accept and carry out the decisions of the Security Council in accordance with the provisions of the Charter. Given that maintaining international peace and security is the primary responsibility of Security Council, The use of coercive measures must be considered the most important tool for maintaining world peace. In fact the purposes of United Nations Charter will be realized by implementing the provisions of Chapter 7 of this charter (Articles 39 to 51), and in particular Articles 40 and 41. Before the Security Council decides on Articles 41 and 42, it should be established According to Article 39 whether "threat to peace", "breach of the peace" or "act of aggression" has taken place. In other words, the decisions of the Security Council under Chapter 7 should be obtained just by taking one of the concepts contained in Article 39. UN Security Council takes action according to Article 41 which is not to use force. Under the anticipated provisions of Chapter VII, the UN Security Council may show its response to threat international peace and security,

\(^1\) [http://yaserziaee.blogfa.com/post-278.aspx](http://yaserziaee.blogfa.com/post-278.aspx)

by apply sanctions. In these efforts, the UN Security Council can ask the members to take action such as cutting all or part of their economic relations, rail, sea, air, postal, telegraphic, radio, and other means of communication, or to sever diplomatic relations 1.

5. AN INTRODUCTION TO THE GENEVA AGREEMENT (NOVEMBER 24, 2013)

After nearly 10 years of debate about the nuclear negotiations and reaching a comprehensive settlement agreed by the parties, a contract finally signed on November 24, 2013 accordance with the November 24, 2013 as Joint Plan of Action between the P5 + 1 and Iran. In fact, over the years, all the diplomatic efforts of the parties were in order to reach a mutually agreed framework to be the basis for future actions. This matter occurred in the contract and it is clear that the hereinafter any discussion will not be about collaboration framework anymore but further discussions takes place to define the operational guidelines of the agreement. That is why the content of this agreement is very important and effective. This agreement serves as a rail that will determine the future direction of the negotiations train.

This agreement is formed with an introduction and 3 steps called the first step, the second step, the final step and a final section called the next step (Following successful implementation of the final step). Of course, there are different titles for these steps that will be addressed in turn. Introduction begins with (The goal for) and ends with (nuclear program). After introduction, second step starts. The second step begins with (There would) and continues up to (of this matter). After that the first step begins and ends in two and a half pages later with words (Elements of a first step). After that the final step begins with words (Elements of) and continues up to (R & D practices). At the end, the next step (Following) is mentioned. The first step starts on 1st January 2013 and determined up to 6 months in which extensibility is anticipated. There is no measure for extensions. In other words, its extensibility is indefinite. So the end of the first step is unclear. The beginning and end of the second step is not mentioned in the text unknown end like first step. The beginning of the third step is about the late November 2014 but has not specified end time, so it can be a long time, say 20 years. Results given the lack of time steps:

1. The general time of agreement is unknown. In other when all results will be made.
2. The time to act the contrary to the provisions of the Agreement will not be clear and it would be able to evade doing it.
3. There is a possibility of interference commitments. For example, it is not declared whether the first step is finished or not, its commitment can be extended and continued up to the next steps.
4. Steps are not defined mutually and simultaneously but it is proposed that the studies for our action will begin after agency verification. Hence the obligations of the other party can be delayed and even it is possible not to implement practically. Text words are able to multiple interpretations. One of the most important features of a legal text is application of explicit words with clear meaning. The words from which there is no possibility to multiple interpretations. The strength of a legal text depends on precision in the technical and accurate use of words. But this Agreement contains the terms ambiguous, interpretable and sometimes several semantic, the words that everyone can have an interpretation from them. These figures in best situation represent the unfamiliarity of agreement writers with international written contracts because the lexical composition may be limited executively. On the other hand, in a pessimistic approach it has been based on a program or detail from the other party which has planned to gain most unwritten benefits when implementing the agreement and imposing most commitments to the other party using words with unclear meaning and finally consider it as its interpretation 2.

1 http://nividar.com/news/52817de57dd7083851d4a0b5
2 http://www.afsaran.ir/link/501288
6. THE IMPACT OF THE GENEVA AGREEMENT (24 NOVEMBER 2013) ON IRAN’S BANKING AND MONETARY AFFAIRS

Iranian banks before the Geneva agreement
Evaluation of the Geneva agreement on the status of Iranian banks needs considering the condition of these banks before the agreement. In this context it is necessary to consider UN sanctions, the United States of America and the Union of Europe separately. United Nations has passed several resolutions against Iran’s nuclear program and has noted the names of several companies and individuals subject to sanctions in this regard. However, Iranian banks and financial and credit institutions have not been subject to serious sanctions. There are only two banks - Sepah and Saderate Shargh- in UN sanctions list. However, in its Resolution 1929, the Central Bank of Iran is named without being subject the central bank to sanctions. It has been pointed out in the Resolution that the government should observe precautions regarding relation of the Central Bank with Iran's oil revenues, which ultimately can be used in nuclear program. The largest bank sanctions against Iran have been applied by the United States of America. Since 1979, United States of America stopped its banking relations with the Islamic Republic of Iran and since 1995, imposed gradually sanctions against Iran's energy sector and accordingly the banks and foreign financial institutions that offer services related to energy projects in Iran. Between the years 2006 to 2011 United States of America sanctioned several banks according Executive Orders 13382 and 13224 with the accusation that they support the Iranian nuclear program or international terrorism. Finally, the Defence Authorization Act for Fiscal Year 2012 of US banned all foreign banks from any relationship with the banks that somehow interact with the Central Bank of Iran. Thus, virtually the entire Iranian banking system was subject to sanctions. Union Council of Europe has imposed other sanctions in order to pressure Iran to stop other actions of its nuclear program, in addition to the implement sanctions imposed by the UN Security Council. Iranian banks and credit institutions are a part subjected to the sanctions. In addition to the banks that have been sanctioned in Security Council resolutions, the banks Mellat, Sina, Saderat, Melli, Post Bank, PIB, Mehr, Ansar, Tejarat, Iran and Europe, Refah, Kargoshayi, and Central Bank of Islamic Republic of Iran are also sanctioned and no payment may benefit them and their assets have also been seized in Europe. Moreover in March 2012 Swift Institute which is headquartered in Brussels and all financial messaging of Iranian banks are established in that bank, stopped service to all Iranian banks.1

The impact of Geneva Agreement on Iranian banks sanctions:
It is mentioned in Geneva Agreement that P1+5 accept to provide a financial channel through which Transfer of funds for humanitarian purposes, the payment of Iran obligations to the United Nations and paying education costs of Iranian students is done. The financial channel is in fact composed of a number of European banks which Iranian banks do related transactions by opening a brokerage account with them or activating existent accounts have been disabled as a result of Sanctions. It can cause to restore the relationships of European banks with Iranian banks, although such a relationship would be defined for a limited certain banks and for specified purposes. However, it should be considered that The Geneva agreement has no obligation to exit the Iranian banks from sanctions list and it has not been undertaken by the P5 + 1. It means that these banks are still subject to sanctions. The banks with lawsuit in General Court of Europe Union against sanctions and no final verdict has issued yet on cancellation of sanctions imposed will be also remained subject to sanctions. So this financial channel only includes the banks that are not in the EU sanctions list. Nevertheless, the question is that what is the practical benefit of the Geneva agreement? This question therefore is to be construed that the purchase of humanitarian supplies and paying former obligations may also be permitted in the context of existing sanctions and was possible obtaining some permits. In this regard it

should be noted that not sanctioned Iranian banks are in practice forced to buy foreign currency from the Central Bank of the Islamic Republic of Iran for payments on their foreign currencies. While the Central Bank of Iran should be subject to sanctions, providing foreign currency for payments for these banks is not possible. Geneva agreement actually creates the possibility that revenues from the sale of petroleum and petrochemical products deposit in not sanctioned Iranian bank accounts and ensure European broker banks not to face with punitive measures of European officials for aforementioned exchanges.

Another effect of the Geneva Agreement on Iranian banks activities is increasing the maximum level of funds transfer by individuals under sanctions. Accordingly, Iranian banks or the banks associated with them in the territory of the Europe Union can do transfers of less than 100 thousand euro or the equivalent in other currencies which can be associated with the Iranian people without previous notification to the competent authorities of the Member States and less than one million euro transfer for humanitarian purposes will not also need to obtain permission from the Union officials and just informing to make such a transfer is enough. Although these amounts of money may not fully cover the country business needs, it could be expected to do a number of transactions relating to medicinal or special medical products in the same way and there is no need to obtain licenses from Europe Union officials. It does not also need to obtain permission from the Europe Union for payments of personal use of Iranian individuals if less than 400 thousand euro or the equivalent in other currencies. It seems that the expansion of this amount actually fully resolve the problems of individuals. Not sanctioned Iranian banks can utilize maximum level extending for transfers.

Another subject that has been mentioned in the Geneva agreement, from which Iranian banks can utilize it, is banning cancellation of the purchase of gold and precious metals. Given that this is explicitly mentioned in the Geneva agreement and amended Europe Union sanctions regulations, not sanctioned Iranian banks in Europe Union can buy gold and precious metals in the country and enter them to Iran if they need. Finally, with regard to the overturned sanctions imposed against Iran's petrochemical industry and cars on the basis of the Geneva Agreement, all payments and transfer of resources in relation to these matters will be done by not sanctioned Iranian banks. In this context the sanctioned banks can ask specified European banks to receive services in context of funds transfer related to petrochemical and automotive industry as well as humanitarian purposes.

Despite all the above opening, Iranian banks are still faced with many problems Due to the sanctions, which still are remained and it is necessary to consider in order to remove these sanctions in future negotiations. A significant part of Iranian banks are still in the Europe Union's sanctions list and documentation of the sanctions is association with Iran's nuclear program while the reasons for such a claim in the case of any bank is not expressed explicitly and transparently. The Central Bank of the Islamic Republic of Iran Banks is at the head of the mentioned banks which the removal of its sanction is a major step towards solving many existing problems.

7. THE IMPACT OF THE GENEVA AGREEMENT (24 NOVEMBER 2013) IN THE FIELD OF TRANSPORTATION

In the official translation of agreement between Iran and the 5 + 1, there are some cases dedicated to transport especially in the field of aviation as follows: America and EU sanctions suspension and Europe in the supply certification and installing spare parts for safety of flight of Iran civil aircraft and related service, suspending certification issue of safety-related inspections and repairs in Iran, as well as related services. In this agreement there is also a paragraph in which there are some explanations that unfortunately they are not mentioned in the translation of the Ministry of Foreign Affairs. This paragraph is as
follow: Related services sanctions means any kind of services subject to sanctions of America or Europe Union, such as insurance, transportation, or financial. These services can include not sanctioned Iranian entities. Removing sanctions may include any Iranian airline and also Iran Air. On the other hand ISNA quoted by Bloomberg that according to the agreement, Iran can have access to parts for passenger aircrafts. In the maritime sector, although there is no direct reference in this Agreement, but some points are expressed about insurance and transportation of oil; stop trying to reduce the purchase of Iranian oil, So that existing customers can continue to purchase the current amount of crude oil from Iran; returning specified amounts of Iranian oil sales abroad revenues to Iran. In the case of oil trading, sanctions of Europe and America will be suspended on insurance and related transport services. However, although the nuclear agreement with the P5 + 1 talk about removing the oil and petrochemical products sanction, It is not clear whether their delivery has been released. Therefore, we hope to remove the Islamic Republic shipping sanction to carry oil and petrochemical transportation. Agreement between Iran and the 5 + 1, although will cause an increased volume of import and export and hence the volume of transportation in the country will increase, but the shipping is still subject to sanctions and foreign countries cannot enter the Iran. Anyway reducing Iranian air lines costs and returning foreign airlines to our country are among the major results of Geneva Agreement.

8. THE IMPACT OF THE GENEVA AGREEMENT (24 NOVEMBER 2013) IN THE FIELD OF ENERGY

Energy security includes those that deal directly with the government in political units. Although, the largest international oil and gas companies have their own concerns in this field, however, energy supply has been the constant concerns of state and governments. Stability of systems related to energy carriers, such as electricity grid of any country is one of the major concerns of any government. Like any other economic good, energy resources are scarce and also evolve over time, especially exhaustible energy resources such as oil, gas and coal reserves which it seems undoubtedly is declining. This leads to increased competition in the market and raising the prices of these energies. The geopolitics of oil and gas resources is very important. Major global crude oil reserves focused in the Middle East, particularly in Saudi Arabia, Iran, Iraq, and Kuwait, while the two main centers of consumption in the past and currently are mainly industrial West European countries, North America and East Asia. Dipole of the production and consumption of natural gas is clear. Russia and Iran are two countries which have 40% of proven natural gas reserves lonely. And this is while many countries in the world are turning to use natural gas in order to less environmental consequences. According to the BP Statistics, Iranian crude oil, with 157 billion barrels of proven reserves has 9.4% of the world's reserves. If the reserves of unconventional oils are also take into account Iran is the fourth largest holder country of crude oil after Venezuela, Saudi Arabia and Canada. In terms of production in 2012 with 3/68 million barrels per day and 1/97 million barrels consumption in per day, Iran exports has been about 1.5 million barrels per day. Of course, the average crude oil exports in 2013 declined to one million barrels per day. With only two percent of the world's refining capacity, Iran has to purchase amount of substantial products from outside the country. On the other hand, Iran's crude oil production is cheaper than similar countries. While a barrel of crude oil produced from mineral exploration rocks fee equal to $ 55 for Canada, Oil production in the country has a cost of $ 4 per barrel. If we compare proven reserves of natural gas of producing countries with each other, we will conclude that Iran is the first country in terms of the sum of proven gas reserves in the world. Iran has 18 percent share of the world in terms of accessibility, with 33/60Trillion cubic meters proven gas reserves. Given the current production level of the average amount of 160 billion cubic meters in 2012, Iran produces 4.8 percent of the world production. In contrast, consumption of natural gas in 1.156 billion cubic meters in 2012. This is 4.7% of global consumption. In 2012 Natural gas exports to Turkey, Nakhjian and Armenia is 5.7 billion cubic meters and 900 billion cubic meters respectively. In
contrast, the import natural gas from Azerbaijan and Turkmenistan has been 0.4 and 7.5 billion cubic meters respectively. The total proven oil and gas reserves make Iran as the first country in the fossil reserves. Joint plan of action that is the interim Geneva agreement for a six month period and extension of Iran's nuclear program on November 24, 2013 agreed between Iran and the so-called "5 + 1" namely the permanent members of the UN Security Council plus Germany. Under the agreement that was signed to achieve a long-term and mutually agreed solution with the aim of ensuring the peaceful nature of Iran's nuclear program, the parties voluntarily undertake to reciprocal actions as a first step towards a comprehensive solution. According to the agreement, Iran's nuclear program and uranium enrichment will continue in a limited form and Iran will facilitate the International Atomic Energy Agency monitoring facilities. Instead, the front part will suspend a part of imposed sanctions against Iran and avoid to the imposition of new sanctions, including international, multilateral and unilateral sanctions. Plats magazine reported that America has delayed the restrictive measures against oil imports from Iran by six countries: China, India, Turkey, Japan, Taiwan and South Korea on a six-month. That is these countries can import oil from Iran in the coming months as much as the last volume of import. EU has also cancelled insurance prohibition of Iranian oil tankers from January 20, 2014. Some experts have called the agreement as a ceasefire. If this is correct, then the consequences of the ceasefire would be initial analysis of the situation and also temporal planning for the ceasefire period. Hence, for any policy on energy in Iran it should be considered that for using investment, advanced technology and management of international oil companies it is first needed to act quickly and second it should be done for a limited transitional period. A transitional period is the first six months and after six months, the joint plan of action will be extended with the high probability. It seems that it is not wisely to have any confidence in the international oil companies, especially in the western oil companies for a long-term period. The fact is that the West interpretation of Geneva agreement is different from the interpretation of Iranian decision-makers. Americans speak of reducing the number of centrifuges from 19 thousand to five thousand. Americans speak stopping heavy water activities completely. Its sign is the US Treasury Department's statements and interviews which stresses daily that any sanction has not been revoked. Everyone knows that David Cohen, Deputy Secretary of the Treasury of America has been contacted with companies that trade Iran with as much as $ 500 in recent years and warned them. Major oil companies have a position as vice president of government affairs that he is responsible for coordinating with the US government decision. Energy policy planners can be advised to seek more profits this time from international companies in the oil and gas sector. Development of the gas sector will be accountable for domestic demand and will free crude oil production for export. Second, the risk-taking of such projects is less if they stop the work again for Iranian oil companies. Third, the regional gas market has more certainty in finding markets to sell gas for Iran if sanctions are not fully resolved. In contrast, any participation and integration with other countries like Iran is a strategic subject. Iran while is negotiating with companies such as Shell or Total, can do joint projects in the oil and gas sectors in countries such as Iraq, Turkey, Russia, Saudi Arabia, Turkmenistan and Pakistan. In this regard, the opinion of Mr. Zangane was somewhat strange to insist for Iran production ceiling in OPEC even if the price of oil declined to $ 20 per barrel. This shows a lack of attention to fundamental changes in countries approaches such as Iraq. Iraq suffers from a geopolitical point and Iran can exploit from a variety of access points to the high seas for the transfer of Iraqi oil. If Iran continues its production of three million barrels per day in the next few years, Iran will be able to remain one of the exporters of crude oil in the world for 87 years. The number for the United States of America is 12, Russia 22, Saudi Arabia 66, and United Arabic Emirates90 years. In the gas context with maintaining the current production, Iran will be able to export 250 years of natural gas to the world.1

1 http://www.csr.ir/
9. CONCLUSIONS

As we mentioned above, sanction in the face of economic sanctions as an act with economic characteristic in contrast to diplomatic or military, is a method employed by governments to express opposition toward actions of target government, or to force the target government to change a policy or procedure or even the government structure often cause to enter the trade and economic lose to that government. sanctions have different impacts in addition to objectives such as economic exclude from gaining benefit of global goods markets and services or to destabilize the target countries through economic pressures or changing politic or economic approaches of country, which often ends with damages to target country and Fundamentally no change in political or economic behaviour is seen or no particular policy is observed in sanctions result and in some cases even tougher stances.

As we saw in a study on the effectiveness of economic sanctions taken between 1914 and 1990, nearly 66% of them failed and the rest has been successful only in certain parts. Since 1973 also only 24% of the sanctions have gained their intended purpose. The impact of the sanctions is very evident on various sectors of the economy. As a result different sectors of the target economy suffered sometimes heavy damages. For example, in agriculture that is a very sensitive area and deals directly with the populace food security. In terms of sanctions the agricultural production may be increased primarily due to government support, but in the long term cause to failure. In the first and second years the government forced to subsidize and increase the area under cultivation, thus somewhat maintain a constant price of strategic commodities for the consumer but the price of some products gradually increases due to the low price. And in this way the area under cultivation increases and as a result the production of strategic goods will be decreased or for example in the banking systems, since the resolutions and International sanctions on Sepah Bank, vendors avoided sending commodities regarding to centrality of London Sepah Bank because of impossibility of documents trade. The economic effects of the mentioned subject has been irreparable in this short term and if the continuity it is unpredictable.
REFERENCES:


Andreas F. Lowenfeld, (1983), Trade Controls for Political Ends , United States of America: New York University


Hosseini, Seyed Mohammad Ali (14/05/1391), the threat or sanctions?, The East No. 1594, page 3 (politics).


Omidvar, K. (2011), Iran is concerned about the increase in oil production in Iraq?, BBC Persian, 22 January

Reisman and Stevick (1998), The Applicibility of international law Standards to the United Nations Economic Sanctions programmes, EJIL. 82


Seidl - Hohen Veldern, Ignaz (1379), International Economic Law, doctor Qasim Zamani (translation and research), Tehran: Institute of Legal Studies and Research in knowledge.

T. J. Lawrence, (1923), The Principles of International Law, (7th edn), Boston DC: Heath & Co.


Lee, S.hyun (2008), This is my paper, ABC Transactions on ECE, Vol. 10, No. 5, pp120-122.


http://abdfarshid.blogfa.com/post/8
http://www.cibiran.blogsky.com/1392/03/20/post-40
http://www.taraznews.com/link/127
http://kurdeconomic.blogfa.com/1391/01
http://kurdeconomic.blogfa.com/post/10
http://farshadshirali.persianblog.ir/post/14/
http://nividar.com/news/52817de57dd7083851d4a0b5
http://www.afsaran.ir/link/501288
The Effect of Western Sanctions on the Political Will and Economic Structure of Iran

Enayatollah Yazdani ¹, Amin Nozari ²

ABSTRACT: One of the significant signs of the globalization phenomenon is the existence of close connection between economy and politics and deep correlation between these two. One of the most important matters that can influence the economic security of governments is the issue of economic sanctions. Islamic Republic of Iran has been constantly suffering from extensive economic sanctions. This study seeks to address this fundamental question: What impacts have the economic sanctions had on the economy and political will of the Islamic Republic of Iran according to the Realist, Liberalist and Constructivist schools of thought? The present study, using a descriptive-analytical method indicates that, according to Realism and Liberalism, economic sanctions have made the economic structure of the Islamic Republic suffer heavy losses. They have also led to changes in the political behavior of Iran and the countries that enforce these sanctions. According to the constructivist approach, however, despite their detrimental effects on the economy, the sanctions have not been able to undermine the political determination of the Iranian Nation-State in defending its lawful rights.

KEYWORDS: Iran, Economic Sanctions, Realism, Liberalism, Constructivism

¹ Associate Professor of International Relations, Department of Political Science, University of Isfahan, Isfahan, Iran. P.O. Box 81799-37671, E-mail: yazden2013@gmail.com

² Scholar of International Relations from University of Isfahan, Isfahan, Iran. P.O. Box 81799-37671, Email: amin.nozari2012@yahoo.com
1. INTRODUCTION

Economic security is one of the chief concerns of any government. Given that extensive economic interdependence exists between governments, economic disorders can jeopardize the economic development and domestic security of countries. One of the issues that may threaten the economic security of any country is the issue of economic sanctions. Economic sanctions are pressures imposed by the international community upon one or a group of countries. Since the Islamic Revolution in 1979, White House has passed about 9 laws and 16 executive orders related to sanctions against I.R.I. American sanctions on I.R.I have gone through three phases: the first phase from 1979 to 1995 was in response to the hostage crisis in the American Embassy and I.R.I’s support of the region’s radical groups (Jentleson, 2007). The second phase of the sanctions, carried out from 1995 to 2006, was aimed to weaken Iran by targeting oil and gas industries and preventing Iran from getting hold of rocket and nuclear technologies. American sanctions also targeted companies of the third-party country who had invested in Iranian energy sector which led them to shift their attitude toward Iran to an anti-Iranian one. The third wave of the sanctions formed chiefly due to concerns regarding I.R.I’s nuclear intention. These sanctions targeted almost all the vital organs of I.R.I’s economy (Ilias, 2010).

There are different perspectives on the effect of sanctions on the economic body of a country and the political will of leaders. In this paper, the effect of sanctions on the economy and policies of Iran is discussed from the perspective of Rationalist (Realism and Liberalism) and Reflexive (Constructivism) theories of international relations. The hypothesis is that from the perspective of Realism and Liberalism theories, heavy political and economic costs and increasing pressure of the sanctions on the penalized country will definitely force that country to change its policies to evade pressures produced by the sanctions and adopt a policy more in line with the sanction-imposing country. From the constructivist point of view, with regard to beliefs, values and ideas, sanctions do not affect the political will of the penalized country in the short term and will not necessarily lead to changes in policies of the target country. Although all perspectives confirm that the economic costs of sanctions are heavy, there are disagreements whether the sanctions will yield the desired political results. This paper employs a descriptive-analytic method and library resources, articles, tables, diagrams and statistics as well as comparing it with the approaches of the study to develop the hypothesis.

The structure of the paper is based on three main sections. In the first section, the theoretical relationship between meta-theories of international relations (Realism, Liberalism and Constructivism) and the issue of sanctions is discussed. In the second section, the impact of sanctions on the economic body of Iran will be addressed from the perspective of Rationalist theories (Realism and Liberalism). In the third section, the effect of sanctions on the political will of I.R.I will be dealt with from the viewpoint of the Constructivist theory. Finally, there will be a concluding part which wraps up the discussions.

The recent wave of sanctions against I.R.I which peaked in 2010 was prompted as a result of the passing of Comprehensive Iran Sanctions, Accountability, and Divestment Act of 2010 by the U.S Congress that included some of the most severe restrictions which U.S has imposed on any country so far. In addition to the Central Bank of I.R.I which was responsible for transferring oil revenues to the country, recent sanctions have targeted the transportation, insurance, manufacturing and financial sectors of I.R.I. The first two phases of the sanctions against I.R.I were imposed unilaterally by Washington. The next two phases of the sanctions, however, include similar arrangements imposed on Iran simultaneously by the U.N and allies of U.S, and is virtually tantamount to a global regime of sanctions against I.R.I (Clyde & Co LLP, 2010). In other words, the second and third waves of sanctions were concomitant with the Statement No. 1696 in July 31st 2006, No. 1737 in December 23rd 2006, No. 1747 in March 24th 2007, No. 1803 in March 3rd 2008 and No. 1929 in June 2010 of the Security Council which made the sanctions against Iran worldwide (Krause & Mallory IV, 2010).
In the interval between 2010 and 2012, nine executive orders were issued by Barrack Obama against Iran which is unprecedented compared to the last three presidency terms. Some of these executive orders which are mentioned below specifically targeted vital organs of the Iranian economy: Executive Order No. 13590 (2011), Executive Order No. 13599 (2012), Executive Order No. 13606 (2012), Executive Order No. 13608 (2012), and Executive Order No. 13623 (2012) in which commercial sanctions against Iran were intensified. Aside from these nine executive orders Obama also signed the Congress’s anti-Iranian bill. Anti-Iranian sanctions are part of U.S’s 633-billion-dollar defense law in 2013 which targets Iran’s energy, shipping, shipbuilding, as well as Iranian ports (Clyde & Co LLP, 2010).

In parallel with the measures taken by U.S, according to the decision made by the EU in January 2012, European countries and EU are prohibited from making any contracts related to Iran’s oil activities. We can also notice Swift (Bank) sanction by EU in March 2012 which prohibited foreign financial institutions and companies from trading with and money transferring to and from the Central Bank or any other financial institutions of I.R.I (Camallonga & Lismary, 2012). In the new sanctions by EU. Any form of financial support, insurance and reinsurance associated with investment on importing, purchasing and transportation of Iranian crude oil, petroleum products and petrochemical products is forbidden (Haak & Michael, 2012).

2. RESEARCH LITERATURE

Previous researches carried out with focuses in line with the present study and have both directly and simultaneously attempted to investigate and define influential factors on sanctions imposed on Islamic Republic of Iran. They have often looked into this issue through an international relations perspective (realism, liberalism and constructivism) comprehensively and functionally, each having referrals to the present study either generally or indirectly.

Biniaz (2011) did an investigation under the title of “Recent Middle East upheavals and sanctions imposed on Islamic Republic of Iran” in which he characterized upheavals taken place in Middle East and North Africa and their effects on Iranian sanctions. Findings indicated that, regarding recent upheavals in Middle East and North Africa, one can expect support and cooperation of countries which export oil, because they are in political and social instability and, also, their goals are in line with those of great powers.

Dolatkhah (2010) made attempts in her study, entitled “A comparison of sanctions imposed on Iran and North Korea in United Nations Security Council”, to comparatively analyze sanctions against Iran and North Korea. She suggested that boosted sanctions against these countries were not fair and equal due to profits of UNSC (United Nations Security Council) members.

Furthermore, Simbar’s (2010) study, titled “US foreign policy and new sanctions against Islamic Republic of Iran”, dealt with an explanation of US foreign policy against Iran. He proposed that president Obama, despite his motto ‘change in foreign policy’, has not been able to perform what he has announced about foreign policy with Islamic Republic of Iran and, instead, he has followed previous presidents’ policies, i.e. force, military threat, and economic sanction against Iran.

Yazdanfam (2006) in his study “International sanctions and Islamic Republic of Iran’s national security” deals with Iran nuclear power and international punishments formed as result of that. He introduces that Islamic Republic of Iran’s national security would be vulnerable to any type of international punishment. He came to the conclusion that international sanctions against Iran, if boosted and maintained, would gradually disable the government, have serious damages to its economy, cause tension, and make people doubtful about government’s legitimation.
In a study with the title of “A consideration of sanctions against Iran through an International laws perspective” Mafi (2006) takes accounts of economic Sanctions, particularly those imposed by US against Islamic Republic of Iran and evaluates whether such sanctions are credible, legitimate, or illegitimate. He proposed that fundamental principles of international laws are based on nations’ rights of equality, no interference, cooperation and friendship, respect of freedom and land integrity. In this sense, execution of an exterritorial law to other Companies which are a part of interaction with Iran is an unfriendly activity and this can be mentioned as a violation to international principles. To get rid of this problem, international community needs to think of executable punishments in a common goal framework so as to preserve nations’ security.

3. THEORETICAL FRAMEWORK

In the field of international matters, economic sanctions are alternative instruments used instead of war and exertion of force and are considered an intermediate solution between fairly moderate diplomatic action and forceful military intervention. Economic sanctions, therefore, are considered as coordinated restrictions of trade, services, transactions and financial relations of a country with the aim of achieving certain political goals and damaging the economic life of that country (House of Lords, 2007).

The inherent logic of sanctions is making political use of the economic regulations of the penalized country in order to prevent it from obtaining certain positions. Accordingly, the negative impact of the sanctions presents itself in the form of increased consumer prices, increased production costs, state-run economy, increased inflation, increased unemployment, losses suffered by business owners and decreased supply of imported goods and increased prices (The Iranian Nuclear Program: Alternatives to Sanctions, 2010).

The intentions behind sanctions are also considerably varied. When sanctions were first discussed as a legitimate tool in the hands of the International community against a certain country, Woodrow Wilson considered it as an alternative to war that could make the population of that country suffer heavy losses without exerting military force (Drezner, 2003). The purposes and the manner of imposing the sanctions also gradually changed. In this regard, Holsti believes that the purpose of sanctions is changing principles and the domestic and foreign behaviour of the country on which sanctions are imposed (Holsti, 1994). But another group of researchers believe that the instrument of sanctions used with different political goals always goes after different goals. For example, according to Bare Carter, three main reasons may be pointed out to justify the usage of sanctions:

- producing changes in the target country’s system;
- changing the policies or tendency to influence the policies in the target country;
- punishing and penalizing the target country as a symbolic gesture showing disapproval of its approaches and policies (Alikhani, 2005).

3.1. Different Interpretations Regarding the Efficiency of Economic Sanctions

There are three principal viewpoints in international relation theories which have rich literature about the effectiveness of sanctions on the target country’s economy and policies. These three theories are Realism, Liberalism and Constructivism. The first two views pertain to the Rationalists of the international relations and the third view belongs to the Reflexivity group or culture-oriented theories. In Realists’ view, policymakers use advertising, diplomacy, economic sanctions or war as options to employ coercion and force. Among the mentioned options, the governments consider those options that have more advantages and usages with highest benefit and lowest costs in regard to their desired objectives. Accordingly, one of coercive instruments in the foreign policy of international players is using the diplomacy of coercion. The diplomacy
The Open Access Journal of Resistive Economics (OAJRE) /2345-4954/ Volume 7, Number 43-49, Published Online May 2, 2015

of coercion which also includes sanctions is used by powerful countries against target countries in cases where their behavior does not comply with their wishes and demands (Drury, 2001). Thus, Realists believe that by undermining the opposing country’s potentials, negative economic drives sooner or later force that country to succumb to the imposing country. Liberalism sees men as money-lovers and believes that human beings react (politically) quickly in regard to their economic welfare. Consequently, their governments are obliged to pay attention to their people’s wishes or otherwise be overthrown. Liberalists of international relations in the matter of economic sanctions believe that given the interdependence between actors in the international arena in different political, economic, cultural and other dimensions, imposing economic sanctions may inflict irreparable damage on the economy of the target government insofar as to leave significant costs including increase in prices, lower economic growth rate, decrease in national revenues and threatening of public welfare (Christopher Hill, 2007). Accordingly, by observing the severity of economic and social welfare, the public opinion of the penalized country will extend its political protests against their government’s domestic and foreign policies to the extent that it will either lead to the concession of the target government to the wishes of the imposing government or collapse of the regime (Chan & Drury, 2000).

On the other hand, from the perspective of Liberalism, we can point out the role of political parties and beneficiaries who direct their procedures and policies with respect to the costs and benefits the sanctions bring about for them. Therefore, on the one hand, if sanctions make them bear heavy costs, they begin to direct public opinion and extend their political protests. On the other hand, if sanctions bring about many benefits for these groups and parties, they tend to support them and make them appear legitimate. Therefore, one might say that from the perspective of the Liberalists, sanctions function differently in every political unit. One can clearly observe the effective role of public opinion in democratic governments where the imposition of sanctions is responded with quick reaction of the public whereas in non-liberal governments, people’s protest against the effects of sanctions on their livelihood is confronted with the regime’s resistance and the effect of public opinion fades. In other words, the effect of sanctions in liberal democratic governments is higher than non-liberal governments (Yazdanfam, 2007).

Constructivism emphasizes the determining role of values and norms in interactions between human beings and nations. It stresses the fact that social realities are constructed: actors or players construct their own world and shape and frame it as they wish and then interpret and analyze their own perception of the world, and finally put it into action. Constructivist approach does not ignore the role of material forces in social realities and generally in international politics, but considers a secondary role for it. This approach believes that “there are no benefits without ideas, no meaningful material conditions without benefits, no reality without material conditions” (Behyar Moghaddam, 2007). Based on what is said so far, according to constructivist approach, international players’ behavior is formed in the following stages as sketched out by the diagrams.
Constructivism holds that human beings in different cultures act differently to material drives. This theory considers conflicts between countries as normative-identity conflicts and sanctions indicate the confrontation of the norms of sanction-imposing countries and imposed countries. In fact, by applying sanctions against the target government and undermining it, great powers and sanction-imposing countries seek to make their own norms dominant (Levornik, 2011).

Therefore, economic sanction is one of the issues that covers all aspects, namely cultural, political, social, economic, etc. of the target country’s existence. That is to say, economic sanction is an action that its primary goal is to influence the target country’s behavior and reducing its legitimacy to the lowest possible degree. According to constitutionalists, real power should be found in the one who has the capability of influencing the values, norms and ideas of other actors. In fact, those aspects of national power (political, economic and military) that make a country capable of enforcing domestic and foreign policies are actively influenced by social and cultural factors (Moradi, 2009).

According to constitutionalists, success and efficiency of economic sanctions are higher when the imposing country succeeds in ideological domination. Sanctions (whether bilateral or multilateral) are feasible only when the sanction-imposing country is able to persuade other actors of the international community that the penalized country is a threat to international security, principles and values and attract their support and effective participation. On the other hand, if the people of the target country accept the rightfulness of sanctions and succumb to it, Sanctions will be a decisive influence. Therefore, convincing the international community depends on the political and ideological position of the sanction-imposing country in international arena and ideological vulnerability of the penalized country (Mohseni, 2010). Thus, according to constitutionalists, economic policies are not adequate to counter sanctions, it is necessary to form a resistance culture as strong as the domineering ideology of the sanction-imposing country and the internal structures of sanction and non-material intentions of the imposing countries are divulged.

4. METHODOLOGY

The research method used in this paper is descriptive-analytic and library and internet resources as well as related literature are used to support the research hypothesis.
5. THE EFFECT OF SANCTIONS ON THE IRANIAN ECONOMIC BODY AND ITS POLITICAL CONSEQUENCES FROM THE PERSPECTIVE OF REALISM AND LIBERALISM

From the Rationalist perspective of international relations (Realism and Liberalism), sanctions have affected different parts of the economic body including oil revenues, investment growth, and employment rate as described below. These theories maintain that with respect to the quick reaction of human behavior to material-economic factors, sooner or later we will observe a change in the political behavior of Iran in the direction of the sanction-imposing countries. The economic indices which the advocates of these views believe are negatively affected by sanctions will be discussed further on. Indeed, it should be noted that it is probably unfeasible to scientifically determine the exact effect of the variable of sanction on economic indices because in economic output, different factors including administrative factors play a crucial role. Thus, disregarding other factors, the effect of sanctions on major economic variables can be analyzed as follows:

5.1. Oil and Gas

By restricting Iranian oil export market, sanctions have reduced oil revenues of Iran and have increased the cost and complicated the transfer of earned revenues. According to the estimation of the International Energy Agency in October 2012, Iranian oil export reduced from 2.2 million barrels per day at the end of 2011 to 860000 barrels in September 2012 (Flavia, 2010). In other words, reduction of Iranian oil selling at the end of 2011 has caused Iran to suffer 50 million dollars loss in a one-year term with current oil prices. Therefore, Iranian reserves which were 106 billion dollars at the end of 2011 shrank to 80 million dollars in November 2012 which translates to a 50% loss of value between September 2011 and September 2012. Hence Iranian Rial which had lost its value by 80 percent since the autumn of 2011 has lost 100 percent of its value after EU’s oil sanctions since early October 2012 (Nasseri, 2012).

The diagram below which is extracted from AEA’s bulletin indicates reduction of oil production in 2011 and the first 10 months of 2012 following the enforcement of economic sanctions on I.R.I. It reveals that oil export revenues have reduced nearly by half in 16 months.

![Figure 2: reduction of oil production in 2011 and the first 10 months of 2012 following the enforcement of economic sanctions on I.R.I.](image_url)

Furthermore, considering that Iranian oil and gas industries require foreign investment for renovation and development, West’s unilateral sanctions have undoubtedly impeded direct
foreign investment in Iranian oil and gas sector and increased investment risk and costs. This has hindered the growth of the country’s production capacity in oil and gas areas, whereas according to the reports by world oil market, Iran has suffered an annual reduction in production of 280 to 300 thousand barrels per day and in order to compensate for this reduction in production requires large investments in the upstream section of oil industry (Katzman, 2012).

5.2. More State-run Economy in Iran

Iranian economic system has become a state-run economy after thirty four years of enduring economic sanctions and it has remained a largely public-governmental system in order to reduce the costs and pressures exerted by sanctions. The intensification of sanctions has increased the likelihood of Iranian economy to become a more state-run one and this process of becoming a more state-run economy has many implications for the economic status of the society including bribery, wasting of resources, state pricing, increased interference of the government in economy, increased public expenditure of the government and more budget deficit and limited field of action for the private sector (Crescenzi, 2008).

5.3. Increased Smuggling

Another consequence of economic sanctions is increased smuggling of goods. Since sanctions virtually disturb the regulations governing free market, emergence of monopolization and black market for the basic goods under sanction and international legal restraints for their transit creates an environment in which opportunist individuals and companies are encouraged to extend the black market in order to increase goods smuggling and earning easy money. This in itself results in an increase in prices and social and economic corruption (Yazdanfam, 2006).

5.4. Increased Unemployment Rate

Another outcome of the sanctions is increased unemployment as a result of increased inflation in I.R.I. The Economist had reported that unemployment rate would reach 15% in the second half 2012. In its March 2012 issue, The Economist reported that the employed work force was 26 million and 400 thousand people with unemployment rate of 14.1 percent compared to the same period in the last year and predicted that this index would be, respectively, 17 million people and 15 percent for 2012. In addition to that, the information unit of The Economist has predicted that in 2012 and 2013 the workforce in Iran would be 27 million and 700 people and 28 million and 400 thousand people, respectively. Unemployment rate for these two years has been predicted to be 15 and 15.5 percent, respectively. Furthermore, it has predicted that in 2015 the number of employed people in Iran will reach 29 million and 100 thousand people hence an unemployment rate of 15.1 percent for this year (Performance Report by the Armaghan-e Iranian Investment Fund for a six-month fiscal period, 2013).
5.5. Decreased Domestic and Foreign Investment

In systematic financial sanctions, one of the important subcategories of new international sanctions, sanction-imposing countries refrain from having financial transactions, money transfer and investment in the target country and use their influence on international financial institutions to make them avoid providing any financial and technical assistance to or even blockading the assets of the target country. Since investors tend to invest only in conditions of political-economic stability and security and low risk factor, one of the latent burdens of sanctions on finance and bank affairs in the matter of production is increased investment risk hence increased insurance costs. When the risk of economic activity is high, domestic and foreign insurance companies are obliged to increase their insurance rate. As a result, investment, import and export costs increase. Domestic investor needs minimum confidence in future and predictable conditions to invest in the country’s industry, whereas foreign investor needs minimum security and security of the principal and reasonable profit for itself in the target country. Therefore, imposers of sanction on Iran have targeted all factors ensuring security of investment in Iran in their new wave of international sanctions (Crescenzi, 2008).

The amount of foreign investment in the Islamic Republic of Iran has decreased since 2006 due to the political pressures put by U.S on foreign investors and banning of any foreign investments in Iran. After the last round of EU sanctions in 2012, direct foreign investment will probably fall considerably. This has caused the growth of I.R.I to dwindle (Redzic, 2012). Investment growth rate during the tenure of President Rafsanjani was 7.2 percent which reached 7.8 percent at the time of Khatami’s government. However, investment growth rate plummeted to lower than 4 percent from 2004 to 2012 during the tenure of Ahmadinejad.

Table 1: The Amount of Foreign Investments in I.R.I (Mazroui, 2013)

<table>
<thead>
<tr>
<th>Index Period (Years)</th>
<th>Average Annual Investment Growth Rate (Percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1977-1988</td>
<td>-8</td>
</tr>
<tr>
<td>(First Decade and the War Period – Musavi’s Government)</td>
<td></td>
</tr>
<tr>
<td>1989-1996</td>
<td>7.2</td>
</tr>
</tbody>
</table>
5.6. Economic Growth Rate

Economic growth rate is a general criterion of all important economic indices and can show to what extent gross domestic production has increased or decreased. This index shows both the amount of revenues earned and somehow indicates the level of employment in the country. Following the imposition of economic sanctions after 2010, economic growth rate in this country experienced some changes and it decreased significantly and reached -5.4 in 2012 while it was -1 percent in 1987 compared to -5.5 percent in 1988. In 2004, economic growth rate in Iran increased 3.3 percent and it continued to grow until 2011. Nevertheless, economic growth rate decreased to -5.4 percent in 2012. This fact shows the impact of economic sanctions on the economic growth rate of Iran. The following diagram outlines the economic growth rate of Iran since 1981.

Table 2: Economic Growth Rate in I.R.I

<table>
<thead>
<tr>
<th>Year</th>
<th>Economic Growth Rate</th>
<th>Year</th>
<th>Economic Growth Rate</th>
<th>Year</th>
<th>Economic Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>60</td>
<td>-4.4</td>
<td>71</td>
<td>4</td>
<td>82</td>
<td>7.8</td>
</tr>
<tr>
<td>61</td>
<td>12.6</td>
<td>72</td>
<td>1.5</td>
<td>83</td>
<td>6.4</td>
</tr>
<tr>
<td>62</td>
<td>11.1</td>
<td>73</td>
<td>0.5</td>
<td>84</td>
<td>6.9</td>
</tr>
<tr>
<td>63</td>
<td>-2</td>
<td>74</td>
<td>2.9</td>
<td>85</td>
<td>6.6</td>
</tr>
<tr>
<td>64</td>
<td>2</td>
<td>75</td>
<td>6.1</td>
<td>86</td>
<td>5</td>
</tr>
<tr>
<td>65</td>
<td>-9.1</td>
<td>76</td>
<td>2.8</td>
<td>87</td>
<td>0.8</td>
</tr>
<tr>
<td>66</td>
<td>-1</td>
<td>77</td>
<td>2.9</td>
<td>88</td>
<td>3</td>
</tr>
<tr>
<td>67</td>
<td>-5.5</td>
<td>78</td>
<td>1.6</td>
<td>89</td>
<td>5.8</td>
</tr>
<tr>
<td>68</td>
<td>5.9</td>
<td>79</td>
<td>5</td>
<td>90</td>
<td>3</td>
</tr>
<tr>
<td>69</td>
<td>14.1</td>
<td>80</td>
<td>3.3</td>
<td>91</td>
<td>-5.4</td>
</tr>
<tr>
<td>70</td>
<td>12.1</td>
<td>81</td>
<td>8.2</td>
<td>92</td>
<td>-</td>
</tr>
</tbody>
</table>

(Donyay-e Eqtesad Newspaper, 2013)

The effects of sanctions on Iran’s economy during different periods have been such that gross domestic production has not been immune from them. However, since 1989, gross domestic production in Iran has had an increasing trend, and after the intensification of West’s sanctions since 2012, we have observed a decreasing trend in this index (Taraz Analytic-News Website, 2012). The following diagram outlines the decreasing trend of gross domestic production growth in I.R.I along with decreasing of the country’s economic growth.
5.7. Inflation Rate

In the circumstances of sanctions, imported goods have a high finished price because on the one hand, imposition of any kind of sanctions is actually translated as increase in customs tariffs and reduction of imports and on the other hand, the penalized country is forced to import goods at whatever prices the exporter or intermediary sets and pay unreasonably high prices. In 1978, inflation rate started with 10 percent. In 1987, inflation rate was 6.9 percent. Beginning in 1996 we observed a declining trend in inflation rate until in 2001 growth rate reached 11.4 percent. In the interval between 2002 and 2004 inflation rate reached about 15 percent. From 2005 onwards inflation rate approached 10 percent so that increase in inflation rate reached 25.4 percent in 2008. In 2011, inflation rate fell to 21.5 percent and the year 2012 finished with 30.5 percent. According to the report by the I.R.I Central Bank, in the twelve months before April 2012 inflation rate was estimated to be 32.2 percent, in the twelve months before May 2013 compared to the twelve months before May 2012 it was estimated to be 43 percent. In addition, in the twelve months before March 2013 compared to the twelve months before March 2012 inflation growth rate was estimated to be 35.9 percent (Adapted from the data produced by the Central Bank and Tehran-Emruz Newspaper, August 2013).
6. THE FINDINGS

Constructivism emphasizes the fact that social realities are constructed. In other words, players or actors construct their own world and shape and frame it as they wish and then interpret and analyze their own perception of the world, and finally put it into action. In this regard Alexander Wendt refers to two fundamental parameters in constructivist approach:

a. certain shared ideas determine social structures rather than material forces;

b. actors’ identities and their interests in foreign policy emanates from their norms and transformation and cannot be taken as predetermined;

As discussed earlier, the primary goal of economic sanction is to influence the target government by undermining its cultural, political and social patterns through hegemonic power. Thus, it is able to use these advantages to win the support of allies and legitimize its measures against the target government in order to jeopardize the entire identity-cultural infrastructures of the target government and then start changing the factors that define the national identity of the target government. In contrast, the country that is threatened to be penalized by sanctions tries to counter the sanctions with any possible means; in other words, it institutionalizes some kind of resistance culture in its internal system and bolsters the home culture in opposition to the invading culture (Pishgami Fard et al, 2011)

Sanctions might have had detrimental impact on the economic sanction of the country, but is there enough reason to conclude that Iran has backed off from its position in the nuclear program? Realism and Liberalism theories hold that Iran has backed off from its positions or it soon will. From the perspective of rationalist schools of thought (Realism and Liberalism), decreasing of economic indices, international consensus, relative cooperation of international organizations with sanction-imposing countries and introduction of the notion of “heroic flexibility” and the results of the 2013 presidency elections suggest the effect of sanctions on Iranian economy and political will. Apparently, Western countries including U.S claim success with sanctions. As U.S president maintains, the purpose of applying sanctions is to coerce Iran into negotiation so that this conflict is, as he says, resolved “peacefully.” President Obama said, “We will not be sure by waging war if they will not try to obtain nuclear bomb more resolutely.

While admitting the efficacy of sanctions he said, “If we believe in diplomatic solutions, we should not enforce new sanctions. Existing sanctions have dragged them (Iran) to the table.” (BBC Persian, November 2013). But was not Iran already prepared to negotiate? Does Iran’s participation in these negotiations imply her surrender? Were not Western parties themselves the main reason for the failure of negotiations?

The constructivist approach, however, does not endorse this rationalistic approach and its related results in regard with Iran. From the constructivist viewpoint, imposing economic sanctions against the Islamic Republic of Iran by the United States implies that U.S, considering her own national and cultural identity as a global superpower and capitalist system, cannot allow Islamic Republic of Iran to have access to nuclear energy, the symbol of a country’s resistance against capitalist domination, and struggles to impede Iran’s nuclear activities in different ways. On the other side, Islamic Republic of Iran does not, according to its Islamic-Iranian identity and based on its religious norms accept being dominated by any exploiting power considering its bitter historical experiences. Therefore, Iran continues its peaceful nuclear activities. In fact, considering Iran’s traditional culture of resistance which originates in the Shia culture, it resists against the imposition of any economic sanctions against itself and considers economic sanctions a product of the Western dictatorial culture (Akbari, 2011).

According to the constructivist approach, the West, which senses its supremacy and hegemony threatened in the light of Iran’s resistance-seeking norms, confronts the Islamic Iran in different ways including sanctions in an unremitting, multidimensional war in order to reduce Iran’s
power and in other words, lessen the level of threat the Western hegemony is facing. What is worth noting here is that in this stage the Islamic Republic of Iran is not a certain country with limited geographical borders? Iran is an idea that has risen in opposition to the idea of West’s supremacy. According to the constructivist methodology, nuclear activities of Iran are “a symbol of independence-seeking” in the eyes of Western authorities; a symbolic gesture that is so well developed and worked out that seems like a nightmare that may destroy the interests of the Western powers in other regions. The rightful and oppression-defying measures and statements by leaders of the Islamic Republic of Iran in their speeches (as texts and objective matters) are thus interpreted, translated and symbolized for Western leaders (Ragheb, July 2012).

In other words, existence of opposing perceptions and meanings in the minds of these two political units (Islamic Republic of Iran and United States) is a factor that contributes to creation of crises in the interactions between these two countries. In fact, adopting this aggressive approach is the transliteration of the same ideas formed in their minds and evolved in the course of their mutual interactions. Therefore, sanctions symbolize and reflect this identity and normative duality and the more they struggle, the more severe will the sanctions become (Seifzadeh, 2005).

In addition, we should mention this point that despite the negative impact of sanctions on the economy of I.R.R, they have strengthened values in the Islamic Republic nation-state. Therefore, one can say that in the Shia tradition, suffering is very important in promoting God’s justice. This tradition has made the spirit of resistance to be embodied in the I.R.I state and nation in opposition to the dictatorial and domineering culture of the West, especially U.S (Mottaghi, 2008). Thus, Islamic Republic of Iran resists against countless severe sanctions as well as the demands made by Western governments particularly U.S to suspend its nuclear activities (Molana & Mohammadi, 2009).

In fact, I.R.I has arrived at a special perception of sanctions; it considers sanctions against Iran as attempts in the direction of overthrowing and restructuring the Islamic Republic and sanctions against Iran are of an overthrowing kind, overthrowing a system that is standing single-handedly against oppressive policies. It is in this regard that Ayatollah Khamenei has stressed this point in relation to the imposition of sanctions that “sanctions irritate people, but there are only two ways against it: ‘surrendering and repenting in front of the oppressors; or ‘like the brave nation of Iran, activating the potentials and internal forces and heroically and sturdily passing the safe zone…’ the nation of Iran will, undoubtedly, choose the second path and in God’s name will turn sanctions into a phase of development and increased flourishing” (Khajehpur et al, 2013).

7. DISCUSSION, CONCLUSION AND SUGGESTIONS

An existing gap in finding obtained from the above findings is that none of them has comparatively considered the relationship between economic sanctions and theories of international relations. However, the present study attempts to fill this gap by performing a comprehensive and functional investigation of the efficiency of economic sanction against Islamic Republic of Iran. This would be done through a perspective of international relation theories and attempts would be made to complete previous talks which were indirect and general.

Even though the sanctions have disturbed the economic lives of Iranians and they are looking for ways to extricate themselves from this situation, for the people of Iran this material liberation is tantamount to inferiority and surrender; that is why they have never yielded to it.

In addition, sanction has found another meaning and that is self-sufficiency and localization of sciences. Although the imposition of sanctions on the Islamic Republic of Iran resulted in the
limitation of economic growth and development, it paved the way for the Islamic Republic of Iran to be able to localize sciences and technical knowledge in different fields. Hence, the perception of the penalized is that sanctions have strengthened the value of independence and self-sufficiency through localization of technical knowledge in economic and military fields (Abbbasi Shahkuh, 2013).

In other words, imposing sanctions on I.R.I caused Iran to achieve self-sufficiency in some economic industries and be able to exploit the complications arising from sanctions. In this regard, we can refer to the statements by Ayatollah Khamenei, who said, “in the harshest sanctions and in circumstances where the enemy talks of crippling sanctions, the country has made considerable progress in different areas including science and technology” (Teymouri, 2012). Therefore, sanctions have had a positive impact on Iranians’ idea of self-confidence and self-reliance and the outcomes of the sanctions have not been necessarily negative in all aspects.

According to the theories of Realism and Liberalism, sanctions have inflicted many negative impacts on the economy of the Islamic Republic of Iran so that one can observe decrease in economic growth, decreasing of petroleum and non-petroleum imports and exports, increasing of prices and level of unemployment, etc. These two theories hold that sooner or later Iran will change or modify its political behaviour regarding issues in dispute. In contrast to these two theories, the constructivist approach believes that even though the sanctions have had negative impact on Iran’s economy, it has not been able to alter the political will and determination of the Iranian Nation. In other words, the Iranian Nation, following their culture of resistance, are prepared to endure all pressures exerted by the Western countries and U.S in form of economic sanctions rather than accept oppression and subordination. Based on what was said, we may say that economic sanctions will not have practical effect on the political will of the Iranian Nation unless they metamorphose the values, ideas and norms of the Iranian Nation-State.

Therefore, it is suggested that:

1. Besides promoting resistance culture among the people of the society and institutionalizing it among the laymen and elites, some appropriate measures should be conducted regarding diplomacy and foreign relations according to the requirements of the government and the people and also supporting national interests.
2. As the authorities have emphasized, it is necessary that besides negotiating, and relying on internal and national power against foreign pressure and invasion, public endurance should be employed.
3. Using potentials of human forces and natural resources, the native production can be boosted in order that sanctions cannot fulfill the objectives of the sanctioning countries.
REFERENCES:


Biniaz, A., (2011). Recent Middle East upheavals and sanctions imposed on Islamic Republic of Iran. Journal of Foreign Policy; 25 (3)

Camallonga José María Viñals & González Lismary Suárez. (2012), New economic sanctions against Iran: oil embargo and freeze of assets, NEWSLETTER, pp. 1-5


Clyde & Co LLP( 2010), Update on US Economic Sanctions Iran, Regulated by the Solicitors Regulation Authority, p. 1


Drezner, Daniel (2003), How Smart are Smart Sanctions?, Department of Political Science, University of Chicago, Oxford,OX42DQ,UK, p. 1


Krause, Joachim & Mallory IV, Charles King(2010), The Strategic Implications of the Iranian Nuclear Program, Aspen European Strategy Forum, P. 95


Performance Report by the Armaghan-e Iranian Investment Fund for a six-month fiscal period, (2013), pp. 32-33 (In Persian)


Yazdanfam, M., 2006; International sanctions and Islamic Republic of Iran’s national security; Strategic Studies; No. 34.


Haak, Andreas and Michael Brüggemann(2012), The Iran Embargo Overview on Latest Developments and Outlook, at: www.theworldlawgroup.com, pp. 1-2


The Iranian nuclear program: Alternatives to Sanctions (2010), Al Sharq Centre for Research and Strategic Studies (SCRSS) and the Rosa Luxemburg Foundation (RLF), American University in Cairo, at: http://www.rosalux.de/publication/37597/the-iranian-nuclear-program-alternatives-to-sanctions.html, p. 5

Effects of International Sanctions on Exports in Iran with an Approach to Business Attraction

Sanaz Kahrazeh¹, Naser Nikpour²

ABSTRACT: Today, international sanctions are used as a means to achieve political objectives. Iran has been repeatedly put under sanction and it has had various consequences. This paper estimates the impact of economic sanctions on Iran’s exports to member countries of the ECO, OPEC and ASEAN Union during the period 1992-2013 using the gravity model approach and the OLS estimation method based on panel data. Estimation results show that sanctions have a negative impact on the volume of Iran’s exports to member countries of the OPEC but it has no impact on exports to the ECO and ASEAN. Finally, it is recommended that Iran shifts its diplomacy from West to East and choose its Eastern neighbors for doing business transactions in order to neutralize the effects of sanctions.

KEYWORDS: economic sanctions, international trade, gravity model, panel data, OLS

¹Undergraduate Student of Economics, University of Sistan and Baluchestan. Iran – zahedan; PH (0915)4671274, E-mail: karasanaz@yahoo.com

²Undergraduate Student of Economics, University of Sistan and Baluchestan. Iran-gonabad; PH(0930)5321770, E-mail: nikpour.naser@yahoo.com
1. INTRODUCTION

In the field of international affairs, economic sanctions are an important and effective political tool which has a position between diplomacy and military intervention and is often considered as an alternative to war since it is less costly. Economic sanctions include disruption of economic relations and exchanges in order to apply pressure so that the target of sanctions concedes to of policies desired by the agent of sanctions. Economic sanctions are typically applied in two ways: one, trade sanctions which restrict or cut off the target country’s exports and imports and, two, financial sanctions, in which constraints and pressures are exerted on the financial affairs of the target country. Various sanctions have been imposed on Iran at different periods among which we can point to the freezing of Iranian assets, prohibition on investment for the development of oil fields; banning the export of facilities to Iran, Iranian oil imports and exports embargo, sanctions on Iranian banks, prohibition on Iranian exports and imports, sanctions on the Iranian Shipping Organization and so on. The continuous imposition of sanctions has had various effects on the body of the Iranian economy. Today, the Islamic Republic of Iran is faced with unprecedented issues or concepts in the economic sphere either in theory or in practice. One of these emerging concepts is the notion of “economic resistance”. After the intensification of sanctions against Iran in recent years, economic resistance has emerged as a new chapter in the economic literature of the country and has become the refrain of macroeconomic issues these days. The target of economic resistance is to revive the national economy: “our national economy must be revived in the era of sanctions”. Iran’s economy should step forward in line with correct principles so as to turn sanctions into an opportunity and follow the path of economic development successfully. In order to achieve an economic resistance, we should first investigate the impact of sanctions on the Iranian economy and then, on this basis, formulate and implement strategies of resistance. A look at the figures and numbers in foreign trade in recent years shows that the geographical distribution of customs export had no significant changes over these years, and the continental distribution of exports indicates the preservation of Asian countries among the major export markets of Iran.

In this regard, we point to a number of national and international studies cited. Dursun Peksen (2006) in an article evaluated the effects of unilateral United States sanctions on trade flows between the target country and third countries using two approaches, using the gravity model and panel data, during the period from 2000 to 1975. Generally, the findings suggest that sanctions imposed by the United States have resulted in decreased flow of trade between the target country and third countries. The results also point to significant differences between OECD and non-OECD countries: impairment of trade for OECD countries is relatively low whereas the negative impact of sanctions on non-OECD countries is striking. Raul Carus (2000) in a study deals with two methods for estimating the negative impact of economic sanctions on international trade. This study uses a gravity model to study the bilateral trade between the United States and 49 other countries during the period 1960-2000. The results of the first approach suggests that vast and comprehensive sanctions can have a significant negative impact on bilateral trade between countries while it is not so in limited sanctions. The second estimation focuses on the impact of unilateral United States sanctions on the volume of bilateral trade between target countries and other G-7 countries in the same period. The results indicate that large unilateral sanctions have a huge negative impact whereas limited sanctions have a small positive effect on bilateral trade among other G-7countries. In general, both estimations suggest that multilateral sanctions have a negative impact on trade flows. Akbari Fard, A'layi and Jalali (2010) in a study investigated the sanctions imposed by the Security Council on the regional integration of Iran and two blocks of the Economic Cooperation Organization (ECO) and D8 group using the gravity model and panel data during the period from 1995 to 2010. The results suggest that Iranian Sanctions had no significant effect on the regional integration of Iran and the ECO bloc members. Also Iranian sanctions on the D8 group had caused severe divergence in D8 members.
2. LITERATURE REVIEW

Hadi Nejad, Mohammadi and Shirkhani (2010) in an article investigated the direct effects of economic sanctions on Iran’s non-oil trade during the period 1977-2006. The estimation sample consisted of 42 countries, selected from among the partners of Iran. The results indicated that limited and moderate sanctions during this period had significant effects on Iran’s non-oil trade. Zia'i Bigdeli, Gholami and Tahmasbi Boldaji (2009), in a study studied the effects of economic sanctions on Iran’s bilateral trade with 30 partners during the period 1973-2007. For this purpose, they used the generalized gravity model using panel data. The results of this study indicated that sanctions had a negative yet small effect on Iran’s trade with its partners.

Kazem Yari and Reza Mohseni (2009), in an article evaluated the effects of business and economic sanctions on Iranian economy in 2000. The results indicate that American sanctions led to economic successes by causing damages on Iranian economy. There is a meaningful effect of business sanctions on Iran’s non-oil export and capital goods’ import in comparison with Iran’s oil export sanctions. The one-sided sanction of raw oil import from Iran is ineffective according to its nature and the competitive business. Financial sanction also has a more extreme effect in comparison with business sanctions.

Samad Aziz Nejhad and Mohammad Reza Seyed Nourani (2009) evaluated the effects of economic sanctions on Iranian Foreign business in three scopes of energy, goods and bank services in a study. The results indicate that the sanctions had no effect on energy scope and also ineffective according to its nature and the competitive business. Financial sanction also has a more extreme effect in comparison with business sanctions.

3. THEORETICAL FRAMEWORK

The origin of the gravity equation, which has been used for decades in international trade, goes back to the law of gravity in physics developed by Newton in 1687. In the 1860s, this law was appropriated by H. Gary from physics into the study of human behavior. Gravity models were first used in relation to international trade by Tenbergen in 1962. Later, Poyhonen (1963) examined the general patterns of bilateral trade flows among European countries. The gravity equation in international trade is one of the most important empirical findings of econometrics which provides the possibility of estimating bilateral trade flows at a particular time and simultaneously from the perspectives of both the exporting and importing countries (H. Gary). Linnman (1966) generalized the gravity model that was proposed by Tenbergen and added explanatory trade variables such as population to the basic model. In the simplest form, the gravity equation can be expressed as follows:
\[ T_{ij} = A \frac{(Y_i^\alpha \cdot Y_j^\beta)}{D_{ij}^2} \]  

(1)

Whereby \( T_{ij} \) is the volume of trade between the two countries of \( i \) and \( j \); \( A \) is the constant value; \( Y_i \), economic size of country \( i \); \( Y_j \), economic size of country \( j \); and \( D_{ij} \) is the geographical distance between countries \( i \) and \( j \) (Deardorff, 1995).

Equation (1) is an explicit form of Newton’s gravitational model, whereby bilateral trade is a function of the positive performance of income and the negative performance of anticipated distance. Typically, the GDP variable is used for showing the size of the economy. However, with regard to the nature of the problem, different variables are used in different studies for showing the size of the economy such as GDP, per capita GDP, income, consumption, employment, etc. In fact, a larger size of the economy increases the supply and demand in a country and the volume of its business with commercial partners. In other words, GDP has a positive impact on bilateral trade flows. Also, variables such as the distance between the capitals of two business partners, the distance between two ports in kilometers or miles, time of travelling and freight costs are used for showing the distance. The distance variable in the equation represents part of business expenses such as transportation, insurance, and vulnerability and corruptibility of goods. Thus, an increased in the gap between two countries has a negative effect on trade flows between them. If we take the logarithm of both sides of the equation (1), we obtain a linear equation as follows:

\[ \log T_{ij} = A^* + \alpha \log(Y_i) + \beta \log(Y_j) - \lambda \log D_{ij} + \epsilon_{ij} \]  

(2)

Whereby \( A^* \) is the logarithm of \( A \); \( \alpha \), \( \beta \) and \( \lambda \) are estimated parameters. \( \epsilon_{ij} \) represents the error component with zero mean and constant variance (to represent the effects of stochastic variables on bilateral trade).

Also in recent years, other variables were added to the model such as common language, common religion and common colony all of which reflect the cultural similarities between the two countries - borders and customs tariffs indicating freight costs. Trade agreements and other economic factors such as trade policy have been added to the model. The data relating to real exports of Iran to its trading partners are collected from the data center Uncomtrade. GDP and per capita income data are collected from the World Bank (WDI) based on the fixed rate of the U.S. dollar in 2005. The data deployed used belong to the period 1992-2013. The statistical population of the study includes member countries of Economic Cooperation Organization (ECO), Association of Petroleum Exporting Countries (OPEC) and Association of South East Asian Nations (ASEAN) which had business dealings with Iran in this period (those with incomplete data relating to the period 1992-2013 have been removed from the model). Member countries of ECO which has trade relations with Iran have (and had complete records for the study period) include Pakistan, Turkey, Azerbaijan, Kazakhstan, Kyrgyzstan, Turkmenistan, Uzbekistan and Tajikistan. Member countries of OPEC which has trade relations with Iran have (and had complete records for the study period) include Algeria, Kuwait, Nigeria, Saudi Arabia, United Arabic Emirates, Ecuador, Angola and Venezuela. Finally, member countries of ASEAN which has trade relations with Iran have (and had complete records for the study period) include Indonesia, Malaysia, the Philippines, Thailand, Singapore, Brunei, Dar al-Islam and Vietnam. The results are estimated using the Eviews software v8.

4. METHODOLOGY

To evaluate the effects of economic sanctions on Iran’s exports to member states of the three Trade Unions under study, the following gravity model has been used:
\[ \ln RX_{ijt} = \beta_1 + \beta_2 \ln GDP_{it} + \beta_3 \ln GDP_{jt} + \beta_4 \text{DPIC}_{ijt} + \beta_5 \ln DIS_{ij} + \epsilon_{ij} \] (3)

To consider specific effects, fixed effects (\(a_{ij}\)) and time effects (\(t\)) were added to the model whereby \(RX_{ijt}\) is the real exports of country \(i\) to country \(j\); \(GDP_{it}\): GDP of country; \(GDP_{jt}\): GDP of country \(j\); \(\text{DPIC}_{ij}\): differences in per capita income between countries \(i\) and \(j\); \(\text{DIS}_{ij}\): geographical distance between the capitals of countries \(i\) and \(j\), and \(\epsilon_{ij}\) the error term. \(\text{DPIC}_{ij}\) is the differences in per capita income between countries \(i\) and \(j\) and is calculated as follows:

\[ \text{DPIC}_{ij} = \ln \left( \frac{GDP_{it}}{N_{it}} \right) - \ln \left( \frac{GDP_{jt}}{N_{jt}} \right) \] (4)

\(\text{DPIC}\) is expressed as the difference between two per capita points. Difference in per capita income has been used by Helpman (1987), Baltagi et al. (2003), Stack (2009) and Stack and Pentecost (2011). If both countries have similar per capita income, the value of \(\text{DPIC}\) will be zero. Any deviation from zero shows the difference in per capita income. To evaluate the effects of economic sanctions on the volume of exports, sanctions are considered as the dummy variable and added to the model as follows:

\[ \ln RX_{ijt} = \beta_1 + \beta_2 \ln GDP_{it} + \beta_3 \ln GDP_{jt} + \beta_4 \text{DPIC}_{ijt} + \beta_5 \ln DIS_{ij} + \beta_6 \text{SAN} + \epsilon_{ij} \] (5)

Since the variable of sanctions is considered as a dummy variable, it takes up the value of one in peak years of sanctions (2011, 2012 and 2013) and zero for the other years.

4.1. Explanation and Analysis of Data

Lack of reliability in sets used in one model can lead to incorrect statistical inferences and result in the problem of a spurious regression in which case the use of \(t\) and \(F\) statistics will be misleading. To avoid this, it is necessary, before estimating the model, to test the reliability of variables used in the estimation. Therefore, it is necessary to use at least one of the following tests for calculating the panel data unit root: Levin, Lin & Chu; Im, Pesaran & Shin, Fisher Dickey–Fuller test (ADF), Fisher Phillips-Perron test, and Hadri. In order to examine the collective reliability of variables, we used three tests: Im, Pesaran & Shin, Fisher Phillips-Perron test and Fisher Dickey–Fuller test (ADF). These tests are conducted for the main variables of the model and the results are presented in Table (1).

<table>
<thead>
<tr>
<th>Zero Hypothesis</th>
<th>Test (variable level)</th>
<th>(\ln RX)</th>
<th>(\ln GDP_i)</th>
<th>(\ln GDP_j)</th>
<th>DPI C</th>
</tr>
</thead>
<tbody>
<tr>
<td>existence of unit root</td>
<td>Im, Pesaran, Shin W-stat</td>
<td>0.0000</td>
<td>1.0000</td>
<td>0.0000</td>
<td>0.95 10</td>
</tr>
<tr>
<td></td>
<td>ADF- Fisher Chi-sq</td>
<td>0.0000</td>
<td>1.0000</td>
<td>0.0000</td>
<td>0.34 02</td>
</tr>
<tr>
<td></td>
<td>PP- Fisher Chi-sq</td>
<td>0.0000</td>
<td>1.0000</td>
<td>0.0000</td>
<td>0.05 35</td>
</tr>
</tbody>
</table>
The figures reported in the table represent the probability (p-value). According to the above table, all the main variables of the model, with one stage of subtraction, reject the H0 indicating the existence of unit root, and become reliable. In other words, all of them are filled with of root one. Now that we have found that all the main variables feature I1 patterns, the use of a cointegration test on variables becomes important. In panel cointegration test analyses, we investigate the association between variables and test the long-term possibility of business relationships. When using panel data, the cointegration test is generally conducted on the basis of Pedroni’s proposed method (1995 and 1999). Besides, Kao (1999) presented the generalized cointegration Dickey-Fuller test by the assumption that the mass vectors are homogeneous in all sections. Cointegration test results using Pedroni’s and Kao’s methods are presented in tables 2 to 7. According to the results of the cointegration tests as presented in the following tables, the null hypothesis is rejected based on PP and ADF panel statistics indicating the absence of cointegration between the dependent variable and the explanatory variables. In other words, the existence of long-term relationships between real exports of Iran and other variables used in the model is confirmed for all three groups of countries.

Table 2: Pedroni cointegration test results for member countries of the ECO

<table>
<thead>
<tr>
<th>Pedroni Cointegration</th>
<th>Test statistic</th>
<th>P-value</th>
<th>Test statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel v-Statistic</td>
<td>3.058151</td>
<td>0.0011</td>
<td>1.384088</td>
<td>0.0832</td>
</tr>
<tr>
<td>Panel rho-Statistic</td>
<td>-1.837479</td>
<td>0.0331</td>
<td>0.109194</td>
<td>0.5435</td>
</tr>
<tr>
<td>Panel PP-Statistic</td>
<td>-3.117859</td>
<td>0.0009</td>
<td>-1.317165</td>
<td>0.0939</td>
</tr>
<tr>
<td>Panel ADF-Statistic</td>
<td>-2.394064</td>
<td>0.0083</td>
<td>-1.980422</td>
<td>0.0238</td>
</tr>
<tr>
<td>Group rho-Statistic</td>
<td>-0.437835</td>
<td>0.1202</td>
<td>0.712562</td>
<td>0.7619</td>
</tr>
<tr>
<td>Group PP-Statistic</td>
<td>-3.341315</td>
<td>0.0004</td>
<td>-1.423614</td>
<td>0.0773</td>
</tr>
<tr>
<td>Group ADF-Statistic</td>
<td>-2.842662</td>
<td>0.0021</td>
<td>-2.464347</td>
<td>0.0069</td>
</tr>
</tbody>
</table>

Table 3: Kao cointegration test results for member countries of the ECO

<table>
<thead>
<tr>
<th>Kao Cointegration</th>
<th>t-Statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADF</td>
<td>-8.059758</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

Source: Research Findings
Before estimating the model, one must first see whether the sections under study are cointegrated or not. If the sections are equal, one can use an aggregated least squares method (using combinatorial data - Pooled). Otherwise, one must use panel data methods. The present study uses the F-Limer test to determine the type of estimation based on combinational or panel data and uses the Hausman test to choose from among fixed effects or random effects. Hausman and F-Limer test results for the three groups of countries are presented in Tables 8 to 10:

### Table 4: Pedroni cointegration test results for member countries of the OPEC

<table>
<thead>
<tr>
<th>Pedroni Cointegration</th>
<th>With intercept</th>
<th>With intercept and trend</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>test statistic</td>
<td>P-value</td>
</tr>
<tr>
<td>Panel v-Statistic</td>
<td>1.969157</td>
<td>0.0245</td>
</tr>
<tr>
<td>Panel rho-Statistic</td>
<td>-2.251575</td>
<td>0.0122</td>
</tr>
<tr>
<td>Panel PP-Statistic</td>
<td>-3.739019</td>
<td>0.0001</td>
</tr>
<tr>
<td>Panel ADF-Statistic</td>
<td>-4.648662</td>
<td>0.0000</td>
</tr>
<tr>
<td>Group rho-Statistic</td>
<td>-1.037476</td>
<td>0.1498</td>
</tr>
<tr>
<td>Group PP-Statistic</td>
<td>-4.206173</td>
<td>0.0000</td>
</tr>
<tr>
<td>Group ADF-Statistic</td>
<td>-5.270088</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

Source: Research Findings

### Table 5: Kao cointegration test results for member countries of the OPEC

<table>
<thead>
<tr>
<th>Kao Cointegration</th>
<th>t-Statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADF</td>
<td>-3.647438</td>
<td>0.0001</td>
</tr>
</tbody>
</table>

Source: Research Findings

### Table 6: Pedroni cointegration test results for member countries of the ASEAN

<table>
<thead>
<tr>
<th>Pedroni Cointegration</th>
<th>With intercept</th>
<th>With intercept and trend</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>test statistic</td>
<td>P-value</td>
</tr>
<tr>
<td>Panel v-Statistic</td>
<td>4.269363</td>
<td>0.0000</td>
</tr>
<tr>
<td>Panel rho-Statistic</td>
<td>-2.973490</td>
<td>0.0015</td>
</tr>
<tr>
<td>Panel PP-Statistic</td>
<td>-4.045732</td>
<td>0.0000</td>
</tr>
<tr>
<td>Panel ADF-Statistic</td>
<td>-5.151571</td>
<td>0.0000</td>
</tr>
<tr>
<td>Group rho-Statistic</td>
<td>-1.630168</td>
<td>0.0515</td>
</tr>
<tr>
<td>Group PP-Statistic</td>
<td>-3.392771</td>
<td>0.0003</td>
</tr>
<tr>
<td>Group ADF-Statistic</td>
<td>-5.343162</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

Source: Research Findings

### Table 7: Kao cointegration test results for member countries of the ASEAN

<table>
<thead>
<tr>
<th>Kao Cointegration</th>
<th>t-Statistic</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADF</td>
<td>-5.482722</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

Source: Research Findings
Table 8: F-Limer and Hausman test results for member countries of the ECO

<table>
<thead>
<tr>
<th>Test</th>
<th>P-value</th>
<th>Statistic</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-Limer</td>
<td>0.0295</td>
<td>1.746169</td>
<td>Rejection of H0 and confirmation of the panel data approach</td>
</tr>
<tr>
<td>Hausman</td>
<td>0.0362</td>
<td>8.532691</td>
<td>Rejection of H0 and confirmation of the fixed effects method</td>
</tr>
</tbody>
</table>

Source: Research Findings

Table 9: F-Limer and Hausman test results for member countries of the OPEC

<table>
<thead>
<tr>
<th>Test</th>
<th>P-value</th>
<th>Statistic</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-Limer</td>
<td>0.0003</td>
<td>2.704809</td>
<td>Rejection of H0 and confirmation of the panel data approach</td>
</tr>
<tr>
<td>Hausman</td>
<td>0.7087</td>
<td>1.386347</td>
<td>Confirmation of H0 and confirmation of the fixed effects method</td>
</tr>
</tbody>
</table>

Source: Research Findings

Table 10: F-Limer and Hausman test results for member countries of the ASEAN

<table>
<thead>
<tr>
<th>Test</th>
<th>P-value</th>
<th>Statistic</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>F-Limer</td>
<td>0.0000</td>
<td>4.294149</td>
<td>Rejection of H0 and confirmation of the panel data approach</td>
</tr>
<tr>
<td>Hausman</td>
<td>0.3734</td>
<td>3.120570</td>
<td>Confirmation of H0 and confirmation of the fixed effects method</td>
</tr>
</tbody>
</table>

Source: Research Findings

5. MODEL ESTIMATION: RESULTS AND DISCUSSION

As seen in the above tables, F-Limer test results propose the panel data method for estimating the model for all three groups of countries. Also, Hausman test results propose the fixed effects method for estimating the model for member countries of the ECO and the random effects method for estimating the model for member countries of the OPEC and ASEAN. Model estimation results for members of the three unions are presented in Tables 11 to 16.

Table 11: Model estimation results for member countries of the ECO using the fixed effects method before the imposition of sanctions

<table>
<thead>
<tr>
<th>P-value</th>
<th>t statistic</th>
<th>coefficient</th>
<th>Independent variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0000</td>
<td>-6.297570</td>
<td>-36.10381</td>
<td>Constant (C)</td>
</tr>
<tr>
<td>0.0000</td>
<td>4.466030</td>
<td>1.158342</td>
<td>Ln GDP_i</td>
</tr>
<tr>
<td>0.0000</td>
<td>12.06643</td>
<td>1.307473</td>
<td>Ln GDP_j</td>
</tr>
<tr>
<td>0.9337</td>
<td>0.083297</td>
<td>0.005594</td>
<td>DPIC</td>
</tr>
<tr>
<td>0.0000</td>
<td>-11.05939</td>
<td>-1.335250</td>
<td>Ln DIS</td>
</tr>
</tbody>
</table>

Source: Research Findings
Table 12: Model estimation results for member countries of the OPEC using the random effects method before the imposition of sanctions

<table>
<thead>
<tr>
<th>P-value</th>
<th>t statistic</th>
<th>coefficient</th>
<th>Independent variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0000</td>
<td>-8.804116</td>
<td>-114.2639</td>
<td>Constant (C)</td>
</tr>
<tr>
<td>0.0000</td>
<td>6.574715</td>
<td>3.549974</td>
<td>Ln GDP_i</td>
</tr>
<tr>
<td>0.0000</td>
<td>8.028955</td>
<td>1.591401</td>
<td>Ln GDP_j</td>
</tr>
<tr>
<td>0.0000</td>
<td>-10.08881</td>
<td>-1.175045</td>
<td>DPIC</td>
</tr>
<tr>
<td>0.0000</td>
<td>-5.112781</td>
<td>-0.315417</td>
<td>Ln DIS</td>
</tr>
</tbody>
</table>

Source: Research Findings

Table 13: Model estimation results for member countries of the ASEAN using the random effects method before the imposition of sanctions

<table>
<thead>
<tr>
<th>P-value</th>
<th>t statistic</th>
<th>coefficient</th>
<th>Independent variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0000</td>
<td>-6.084546</td>
<td>-73.26502</td>
<td>Constant (C)</td>
</tr>
<tr>
<td>0.0000</td>
<td>6.340837</td>
<td>2.267270</td>
<td>Ln GDP_i</td>
</tr>
<tr>
<td>0.0000</td>
<td>15.34526</td>
<td>1.843623</td>
<td>Ln GDP_j</td>
</tr>
<tr>
<td>0.0001</td>
<td>-4.082474</td>
<td>-0.407269</td>
<td>DPIC</td>
</tr>
<tr>
<td>0.0606</td>
<td>-1.893846</td>
<td>-1.803469</td>
<td>Ln DIS</td>
</tr>
</tbody>
</table>

Source: Research Findings

Table 14: Model estimation results for member countries of the ECO using the fixed effects method after the imposition of sanctions

<table>
<thead>
<tr>
<th>P-value</th>
<th>t statistic</th>
<th>coefficient</th>
<th>Independent variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0000</td>
<td>-4.558379</td>
<td>-31.28950</td>
<td>Constant (C)</td>
</tr>
<tr>
<td>0.0017</td>
<td>3.186756</td>
<td>0.961536</td>
<td>Ln GDP_i</td>
</tr>
<tr>
<td>0.0000</td>
<td>12.14871</td>
<td>1.317553</td>
<td>Ln GDP_j</td>
</tr>
<tr>
<td>0.8650</td>
<td>0.170332</td>
<td>0.011445</td>
<td>DPIC</td>
</tr>
<tr>
<td>0.0000</td>
<td>-11.10737</td>
<td>-1.339042</td>
<td>Ln DIS</td>
</tr>
<tr>
<td>0.2058</td>
<td>1.270095</td>
<td>0.260646</td>
<td>TAH</td>
</tr>
</tbody>
</table>

Source: Research Findings

Table 15: Model estimation results for member countries of the OPEC using the random effects method after the imposition of sanctions

<table>
<thead>
<tr>
<th>P-value</th>
<th>t statistic</th>
<th>coefficient</th>
<th>Independent variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0000</td>
<td>-8.952724</td>
<td>-134.8980</td>
<td>Constant (C)</td>
</tr>
<tr>
<td>0.0000</td>
<td>7.092295</td>
<td>4.317885</td>
<td>Ln GDP_i</td>
</tr>
<tr>
<td>0.0000</td>
<td>8.334688</td>
<td>1.626821</td>
<td>Ln GDP_j</td>
</tr>
<tr>
<td>0.0000</td>
<td>-10.16944</td>
<td>-1.164254</td>
<td>DPIC</td>
</tr>
<tr>
<td>0.0000</td>
<td>-5.158220</td>
<td>-0.312637</td>
<td>Ln DIS</td>
</tr>
</tbody>
</table>

Source: Research Findings
Table 16: Model estimation results for member countries of the ASEAN using the random effects method after the imposition of sanctions

<table>
<thead>
<tr>
<th>P-value</th>
<th>t statistic</th>
<th>coefficient</th>
<th>Independent variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0000</td>
<td>-6.162737</td>
<td>-82.20500</td>
<td>Constant (C)</td>
</tr>
<tr>
<td>0.0000</td>
<td>6.184735</td>
<td>2.615780</td>
<td>Ln GDP</td>
</tr>
<tr>
<td>0.0000</td>
<td>15.47998</td>
<td>1.852051</td>
<td>Ln GDP</td>
</tr>
<tr>
<td>0.0001</td>
<td>-4.153879</td>
<td>-0.412465</td>
<td>DPIC</td>
</tr>
<tr>
<td>0.0559</td>
<td>-1.930305</td>
<td>-1.828844</td>
<td>Ln DIS</td>
</tr>
<tr>
<td>0.1303</td>
<td>-1.523036</td>
<td>-0.498121</td>
<td>TAH</td>
</tr>
</tbody>
</table>

Source: Research Findings

As seen in Tables 11 to 16, this study first analyzes the factors affecting the exports of Iran to member countries of the three trade unions according to equation (3), and then estimates the effects of economic sanctions on the volume of Iran’s exports to member countries of trade unions according to equation (4). According to the results of Tables 11 to 13, GDP of Iran and its trading partner, which represents the size of the economy of countries, has a positive polarity and predictable bearing on member countries of the three trade unions. This variable is also statistically significant for all three groups at the 95% confidence interval such that one percent of increase in this variable will lead to more than one and a half percent increase in the volume of exports of Iran to its commercial partner. Thus, an increase in the size of the economy of countries will increase the volume of trade between them. The DPIC variable also indicates the difference in per capita income of the trading partners. The coefficient for this variable is negative for OPEC and ASEAN countries and is significant at the 95% confidence interval which is consistent with theoretical expectations. The negative impact of this variable on the exports of Iran to member countries of the OPEC is more that its impact on Iranian exports to member countries of the ASEAN. This variable is not significant for member countries of the ECO and is therefore removed from the model. The other variable studied is the geographical distance between the two countries. As seen in the table, the coefficient of the distance variable has an expected negative effect on the exports of Iran. This variable is also significant for all three groups. Taking the sanctions into account, we have achieved the results presented in Tables 14 to 16. As seen in the tables, by taking the sanctions into account, the coefficients of variables did not undergo significant changes whether in terms of magnitude and polarity or in terms of significance. The variable of sanctions has a positive polarity but insignificant bearing on ECO countries. Therefore, the variable of sanctions did not have an impact on Iranian exports to ECO countries and is excluded from the model. The variable of sanctions on Iranian exports to OPEC and ASEAN countries has a negative polarity and is significant for member countries of the OPEC at the 95% confidence interval. In other words, an increase in sanctions decreases 1.15 units of Iran’s exports to OPEC countries. Also, economic sanctions on Iran’s exports to member countries of the ASEAN are insignificant and excluded from the model. Therefore, the variable of sanctions is not significant for member countries of the ECO and ASEAN and only has a significant negative impact on the exports of Iran to member countries of the OPEC.
6. DISCUSSION AND CONCLUSION

The aim of the present study is to investigate the impact of economic sanctions on Iran’s exports to member countries of the ECO, OPEC and ASEAN Union during the period 1992-2013. In this study, the gravity model is considered in two states: taking economic sanctions into consideration or leaving out economic sanctions. The results indicate that the economic size of countries has a positive impact on the volume of Iran’s exports either by taking economic sanctions into consideration or by leaving it out. Also, the degree of similarity between the economic and geographical distance between countries has a negative effect on the volume of Iran's exports. The variable of sanctions has a negative and significant effect on the volume of Iran's exports to OPEC countries whereas it has no impact on Iran's exports to ECO and ASEAN countries and is therefore removed from the model. All member countries of the ECO are among Iran's neighbors and constitute a major target market for Iranian exports through adjacency and cultural and religious similarities. Iran should take advantage of this situation and try to increase its exports to these countries. Among the factors that affect exports are: holding economic exhibitions in neighbor countries for becoming familiar with business opportunities in those countries, emphasis on strengthening cooperation in the private sector on trade, investment and utilization of the capacity between countries, cooperation between the two countries for seeking appropriate ways to enhance the capacity and capability of the private sector in the fields of cooperation and strengthen the cooperative ties between the private sectors of the two countries.

Among the major problems of Iran in trade relations with neighboring countries, one can point out the limited range of Iran’s exports, lack of banking relations between the two countries, transport and transit problems, and the absence of a common trade chamber between the two countries. Among other effective factors in the development of trade relations between Iran and its commercial partners and neighboring countries are: the establishment of common banks or Iranian banks in these countries, encouraging supplier companies to participate in the regional market, encouraging Iranian companies to set up various production lines in the form of a partnership, relying on the presence of consulting firms in these countries, and the presence of Iranian companies in the field of engineering and technical services. Besides, Iran can play a special role in providing services for transiting goods from Persian Gulf countries to East Asia because of its extensive, effective and efficient shipping industry, common land and sea borders with 15 regional countries, and huge transiting routes in the region. This opportunity can be used as a basis for the replacement of oil revenues by member countries (Mohammad Javad Zarif). According to the results of the estimation, the impact of sanctions on Iran's exports to member countries of the ASEAN is scheduled based on a planned strategy to become a social, political, economic, military and cultural union by 2015. The realization of this goal, which is not unexpected, would in political terms mean that Iran, in the near future, is to face another “European Union”, this time on the East Side. Economically, the realization of the ASEAN Community provides a unified and potentially attractive market with a population of over 500 million people that could open up a new horizon for the exports of Iran and diversify its exchange patterns. With regard to local conditions and the changes and developments that are underway within the ASEAN and its surrounding areas, it is necessary for Iran to develop an active diplomacy to enter this area, identify the currents and power actors in these countries, discover penetrable aligned and non-aligned circles, and identify the existing opportunities and obstacles. The results also suggest that sanctions, among the three unions, have had the greatest negative impact on member countries of the OPEC. Finally, it is recommended that Iran shifts its diplomacy from the West to the East and target member countries of the ECO and then the ASEAN to neutralize the effects of sanctions.
REFERENCES:


Puri, lakshmi (2007), IBSA: An Emerging Trinity In The New Geography Of International Trade , Policy issues in international trade and commodities study series no. 35,UNCTAD.


Zamani , H. (2007), the effectiveness of the policy of economic sanctions and the prospect of resolution 1737.
The Significant Role of Mutual Understanding in the Strategic Management of Relationship between Industry and University

Amir Reza Narimani¹, Mehrdad Sabaghi²

ABSTRACT: Today, the link between industry and university, with the expansion of factors such as globalization, the daily increase of competition at international level and fast changes of technology has changed towards the fast development of knowledge market. The purpose of this article is to identify the main foundations of the cooperation and link between universities and organizations. If they are properly and effectively managed, the resulting interests will be at a maximum level. The research methodology is of the descriptive-survey type by using the library sources and theoretical academic bases. In fact with the use of Johari Window and its application in the intra-organizational links, it is possible that with the increase of the vivid area, to increase the rate of awareness of university and industry about each other. In this process, if only one side takes action to self-openness and the other does not do it, the link will not be established. So, one of the measures which should be taken by universities and industries in line with the link between industry and university is to call the trust of both sides with the self-openness and understanding. The results show that the presence of university in industry and on time information dissemination and paying attention to the needs of the industry on one hand and on the other hand, the presence of industry in university and paying attention to the abilities of universities and giving their own research needs to them will bring about the growth and flourishing state of the country.

KEYWORDS: Link between Industry and University, Research Centers, Self-Openness, Mutual Understanding

¹ Ph.D. Student of Public Management Faculty of Management and Accounting, Allameh Tabataba’i University, narimani@ut.ac.ir
² Ph.D. Student of Public Management Faculty of Management and Accounting, Allameh Tabataba’i University, Mehresaba@gmail.com
1. INTRODUCTION

Today due to reasons such as the daily growth of competition at international level, governments try to have an active cooperation and interaction with universities and industry to increase innovation, efficiency and creation of wealth. This issue can have many advantages for universities as well (Bestiller et al, 2015). Though our knowledge and awareness of different forms of intra-organizational cooperation is relatively limited, but the formation of networks is an evidence of greater attention towards them and management over them in the real world (O’Toole, 2014). There are many issues and challenges in the society whose solution and management is beyond the power of a single organization and necessarily, it is necessary that many organizations and institutions should cooperate with each other to be able to take an action about them. Cases such as tourism, employment, presentation of health services, urban services, research and development are of these types. Because in all of them, cases such as insufficient financial and information resources, daily growth of environmental complexes, multi-dimensional form of issues and etc. necessitates that a network comprising of different organizations and institutions make decision about them and take action (Shortel et al, 2014). To the extent that our knowledge about the intra-organizational networks is greater, to the same extent the possibility of success in them in practice will increase greater. This is the same thing that the governments and leaders of the society are in need of that to be able to be a source of better services in the society. In the most primary form, the emergence of an intra-organizational cooperation will be in need of the presence of the five-fold cases including tendency to cooperation, need to cooperation due to the management of multidimensional issues and challenges, need to a greater financial resources, acceptance of contribution in risk and need to efficiency (Rapkin et al, 2012). So, the relation between industry and university has changed with the expansion of factors such as globalization towards the fast development of knowledge market. The results of researches show that in most of the countries, the concentration of policy making of the government is directed at the role of the relation of the industry and university (OECD, 2002). The experience of countries in which the two way link between industry and university in them is strong shows that this relation has been laid down properly from the beginning and has moved ahead in structured form. In our country, so fat, different measures have been performed to increase the cooperation between university and industry, however, despite the efforts made, the results have not been satisfactory sufficiently. Different factors have impacts on the interactions and cooperation between university and industry. When this relation might be possible and efficient that could establish a link through a common language. The problem starts when this relation and common language is not observed in our industry and universities. Universities mainly speak with the language of expansion of knowledge frontiers and industries speak with the language of cost and interest. This lack of common language reduces the effective cooperation and interaction of them with each other. The main purpose of developing the present article is to offer a new approach in the relation between university and industry with the pre assumption of mutual understanding and self-openness in reviewing the quality of the impact of it on university and industry relation. While reviewing the studies already performed, efforts have been made to study the models prevailing in this domain.

2. RESEARCH BACKGROUND

The results of researches show that in most of the countries, the focus of government policy making has been directed at the role of the relationship between the industry and university (OECD, 2002). The cooperation between industry and university was started in America with the introduction of the Muriel Act in 1862 in which the academic system launched the grant of lands. This act allocated governmental lands in each state to create and establish faculties of agriculture and industry for the purpose of granting lands to the educational centers. These faculties were both educational institutions and research centers for scientific agriculture.
Following that, the congress allocated a budget for the construction of centers of experimental agriculture throughout the country. It gave this budget directly to the department of agriculture for research objectives. The result was that in the beginning of the twentieth century, the scientists throughout the US were involved in many research projects on agriculture (Carlson, 2007). Thus, the revolution which took place in the end of the 19th century on university scene was added as a duty to the traditional duty of the university based on education and at least at educational level, it was considered equal to teaching. With the increase of the undeniable role of knowledge and research in economic development, concurrent with the World War II, another revolution was created in university scene and a third duty was delivered to university. According to this duty, university should have a specific role in the economic development of countries (Gulbrandsen, 2005). This third role became more sensible from the end of the cold war onwards. In USA, in 1970’s and in the countries of the Western Europe since 1980’s, the impacts resulting from this revolution has led to the revaluation of the role of university in the society. Similar revolutions have taken place in Latin America, Asia and other spots of the Europe. After the Cold War, the military role of the governmental institutions in America, former Soviet Union Republics and many other countries has reduced and the their academic roles have increased. The newly established atmosphere created a new framework in the university-industry-government relations (Etzkowitz, 2000). Universities mainly speak with the language of expansion of knowledge frontiers and industries with the language of time and cost. This lack of common language decreases the possibility of their effective cooperation and interaction with each other. The root of this lack of coordination dates back to the late 19th and early 20th centuries. Though governments undertook the centralized financial support to the researches in many areas, i.e. when this action made the daily growth of researches, but due to the fact that the minds of universities and researchers were free from financial preoccupations, so that it led to greater freedom of action on the selection of research areas and the daily growth of university and research centers with the needs of the society and industries. In an effort towards the supportive policies of governments, the establishment of intermediary organizations for the direct link of universities and industry with each other and their synergy and interaction in the cycle of researches and innovations were placed in the blueprint of governments. Thus, the incubators, science and technology parks, RTIs, industrial towns and various academic and scientific centers were found. The first science and technology park started its activities in the early 1950’s in USA with the establishment of the Stanford Research Park and the park of research triangle. However, the first important park was established in 1951 and in Silicon Valley in USA. The miracle and electronic revolution arising from this park directed the global attention towards this phenomenon (Kanani, 2005).

Reviewing the past articles and researches, Changa et al in 2009 (quotation from Zareh and Hejazi), describe the two main trends of these researches which have dealt with the study of commercialization of university researches. One is the trend of transfer of technology which in 1980’s puts forth that commercialization should be viewed as the process of transfer of technology from university to industry. So for the promotion of commercialization of university researches, through a motivational gap, university should notice to the obstacles and confrontation between those benefiting from this transfer process. The second trend is the trend of institutional and organizational sources. This trend which emerged in the early 21st century states that the ideal institutional and organizational sources including the commercial supportive infrastructures, organizational motivations, access to capital, have a main role in the enhancement of commercial performance of university research.

In Iran, the relation of industry with university shows that primarily, the formation of this link has not laid down in a firm base in the course of time and no basic infrastructure has been shaped for it. Secondly, the content and direction of this relation has not been specified and targeted properly (Shafiei, 2003). The history of the relation between university and industry has been from the time of the establishment of University of Tehran in 1934 to 1961. In this
period, the interaction between university and industry has been based on education. In line with coordination of universities with the new imported industries and creation of academic fields needed by the newly established industries, the government was making efforts in the second period which is from 1961 to 1981. In this period, the interaction was based on education and government was still trying to coordinate universities with industries with this difference that in this period, some trainees were being sent from university to get familiar with the new importing technologies and familiarity with some of the issues to the public industrial companies. The third period is from 1981 to 1995. In that period, government tried to extend the base of interaction of university and industry to research in addition to education. In the fourth period, since 1995, government tried to present a new base for the interaction of university and industry. This new base can be called the development of technology. In line with this, since 2000, government has established scientific and research estates, science and technology parks and incubators centers. Since then, so far, some other actions have been taken such as the creation of national system for traineeship, establishment of research-oriented Ph.D. fields and so on. However, the latest measure to establish an effective link between university and industry has been the formation of the centers for the coordination of knowledge and industry (Saljouqi, 2006). Considering the mission of the Office of Vice-President for Science and Technology for the establishment of effective link between university and industry and pathological study of the experiences, this office has created certain bodies as the centers for the coordination of knowledge and industry in order to form a close and effective link between universities and industries and other beneficial parties of the science, technology and innovation system. Having concentrated on a product, service or a specific technology, these centers are missioned to put the problems of that domain in their agenda aiming at creation of closer interactions between universities and industries and facilitating the process of conversion of idea into business. The main attitude in the formation of the centers of coordination between knowledge and industry is to create an infrastructure for the constant and close interaction among different beneficiaries of each domain including governmental, non-governmental and academic sectors. At present, no serious activities is observed in these centers.

Many researches have been conducted throughout the world on the relation between industry and research-academic centers. Some of them have been summarized in the Table No. 1 (Feiz and Shahabi, 2012).

Table1. A summary of a number of researches on the relation between industry and research centers

<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ofenso</td>
<td>2012</td>
<td>The results of research in Madrid showed that education based on the needs of the industry and the presence of suitable training period in industry and presence of experts of industries in university programs have the greatest impact on the reinforcement of employment.</td>
</tr>
<tr>
<td>Osman and Omar</td>
<td>2012</td>
<td>They have studied different factors such as skilled human force supply, education and increase of the abilities of industry workers and... which reinforce cooperation between university and industry in Malaysia and they showed that with the presence of a strong two-sided relation between university and industry, sustainable development is obtained.</td>
</tr>
<tr>
<td>Ayami and Keshti Aray</td>
<td>2012</td>
<td>The results show that the percentage of non-educational and outside university activities at Islamic Azad University in Sanandaj has a great difference with Kingston university and suggest that the outer university courses and learning in</td>
</tr>
<tr>
<td>Author</td>
<td>Year</td>
<td>Citation</td>
</tr>
<tr>
<td>--------------------</td>
<td>-------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Rosi</td>
<td>2010</td>
<td>The effective relation between university and industry can cause the increase of innovation and transfer of knowledge and technology.</td>
</tr>
<tr>
<td>Salter</td>
<td>2009</td>
<td>Knowledge produced in universities can be considered a competitive advantage for industry.</td>
</tr>
<tr>
<td>Kaou et al</td>
<td>2009</td>
<td>Yang Kaou et al in their research in China showed that the link between university and industry through the supply of capital in the side of industry and faculty members, graduates and education in the side of university can promote the research, inventions and technology. Government can also help with the establishment of this tie through creation of motivation structures.</td>
</tr>
<tr>
<td>Faez and Shahabi</td>
<td>2010</td>
<td>They introduced the obstacles of relation between university and industry with the following priorities: Legal obstacles, cultural barriers, lack of demand-oriented of university projects, lack of efficiency of traineeship course, lack of harmony between university fields and needs of the industry.</td>
</tr>
<tr>
<td>Welsh et al</td>
<td>2008</td>
<td>Cooperation of university and industry has caused the increase of income and facilitated the process of technology transfer. The university researchers have supported labor force and forces of commercial market.</td>
</tr>
<tr>
<td>Frank</td>
<td>2007</td>
<td>University can also use the financial resources and equipment of industries. Students can also get familiar with the industry environment and face the existing daily challenges by passing their traineeship courses in industries.</td>
</tr>
<tr>
<td>Muller</td>
<td>2006</td>
<td>The sharing of the researches of university and industry, the canal of transfer of companies for production is services and commercialization of knowledge.</td>
</tr>
<tr>
<td>Entezari</td>
<td>2003</td>
<td>The study of the models of interaction of science and industry presented a new model which is called the national system of knowledge development.</td>
</tr>
<tr>
<td>Abbaszadeh et al</td>
<td>2002</td>
<td>Interaction of university and industry has been studied by them from the convergence perspective. According to their discussion, with the application of the convergence view in the new technology, the frontier of science and technique is not limited but with the application of proper industrial strategy and correct planning, the distance of the lines of industry and university is removed and two separate lines come closer to each other.</td>
</tr>
<tr>
<td>Salimi and Seifoldin</td>
<td>2002</td>
<td>The effective relation of government, university and industry is in need of the framework of the national system of innovation. Innovation and development of technology is the result of a complex set of relations among the active elements in the innovation system. The innovation system at national level acts in an integrated way for the commercialization of ideas and constant transfer of knowledge up to the level of utilization and production.</td>
</tr>
<tr>
<td>Sentro</td>
<td>2001</td>
<td>Relation between industry and universities are in four main domains: Basic researches, Participatory researches, Transfer of the knowledge of technology. Universities enjoy a unique</td>
</tr>
</tbody>
</table>
potential. They not only can gain their knowledge in need from industry, but they can use the graduates and faculties to give service as advisors or staffs.

<table>
<thead>
<tr>
<th>Author</th>
<th>Year</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fambron</td>
<td>1996</td>
<td>Benefits gained from universities for industries: Access to high level trained students, scientific forces and facilities that enjoy a high ability and flexibility in facing a scientific organization.</td>
</tr>
<tr>
<td>Li and Reed</td>
<td>1991</td>
<td>Power to do a technical action in the country depends on factors such as power of research and educational activities, collaboration among industry, university and government, development of humane, physical, financial and legal infrastructures, national policies to support technology and so on</td>
</tr>
<tr>
<td>Bets</td>
<td>1987</td>
<td>Concerning the cycle of high wave, it states that the explorations performed in the science is the base of innovation in technology and the development of technology by itself leads to the creation of new sciences and its progress. (scientific pressure)</td>
</tr>
<tr>
<td>Denison</td>
<td>1985</td>
<td>Productivity is intensively dependent on scientific and technological innovations. About eighty percent of the growth of productivity of America since the great recession onwards is resulting from innovation directly or indirectly</td>
</tr>
</tbody>
</table>

3. THEORETICAL FOUNDATIONS

Contribution and coordination display two types of relations in which the partners put together their resources to both use, the mutual and common interests and achieve their own common objectives (Fischer, 2012). Intra-organizational cooperation has been defined as the use of the resources and administrative structures of more than one organization. Due to the presence of a common intra-organizational language, the presence of intra-organizational cooperation between university and industry will be possible and effective when they establish link through a common language (Sarala et al, 2014). In a communicative situation, the sender of the message merely sends information and not knowledge and it is the receiver who should receive the information and convert them into knowledge. The use of a common language is a precondition of an effective trend in establishing communication. In addition, the common language is an important aspect in learning too (Von Krogh, 2000). Bili and Keni (2000) believe that the efforts of intra-organizational cooperation, irrespective of the names like consortium, collation, association, network, federation, etc., all have an interactive structure which notice to cooperation and participation among organizations to achieve a joint objective(s).

3.1. The Significance of Relation between Industry and Research Centers

University is the main center for the train of expert and educated human forces. Enjoying the new idea, university can inject a new force in the vital veins of the society which moves ahead at each moment. Also, employing the newly emerged ideas of the university community, the industry can materialize the idea of economic development and progress of the society. So any kind of shortage, either sectional or constantly in the continuation of cooperation between these two institutions challenges the multilateral development.

The cooperation between university and industry are examples of contractual agreements which are concluded on scientific and research activities among universities and administrative organizations. This type of cooperation is performed usually by using the scientific power of
university and experiences of industry and effort to achieve this goal. The relation and cooperation between university and industry have special position in the scientific development of countries. For the purpose of training capable human forces and scientific innovation, universities are in need of expansion of academic services and settlement of social problems in line with the improvement of the people’s life. In order to achieve such objectives, the establishment of cooperation and a logic link with institutions such as industry sector seems to be necessary for universities. Considering the theoretical and experimental backgrounds, these two institutions cannot have necessary success individually and any kind of separation in the link between these two causes disruption in the process of sustainable development. The deepening of cooperation between university and industry can take shape based on different motivations including the financial interests, advancement of science and new innovations (Shafeai, 2005). Ignoring the importance of evaluation of commercialization of university researches by the policy makers of university and government leads to a very high cost to implement the projects of commercialization of university researches (Read, 2003), waste of time in the side of university researchers (Zhao, 2004) and reduction of motivation among researchers (Vohora and Wright, 2004). Thus, the general goal is to use the intra-organizational cooperation, giving a good and effective direction to the programs and decisions related to multidimensional issues and challenges existing in the society and presenting better and greater services to the society.

3.2. Effective Relation with Mutual Understanding

Concerning the intra-organizational and institutional link, the concept of relation and process of a proper relation has been tackled less. Moorhead and Griffin in their book of Organizational Behavior (Griffin and Moorhead, 2012), have referred to this subject well. That communication is the process of transfer of message from sending to a receiver provided that there is an equal meaning between them, or communication is an organized process to exchange information among the parts and usually through a set of signs. Communications is a social process in which information is exchanged and a kind of understanding and agreement is made among the beneficiaries. Firstly, communication is a social process because two or more than two people are involved in it. Secondly, communication is a two-sided process which does not take place at a moment but it is materialized in the course of time. The process of communication is the formation of a circle between the source and receiver of a data. Each of the components of communication process is important. If one of the components is deleted, it is possible that the message could not be exchanged as it has been desired.

Source: It is an individual, a group or an organization who desires to establish relation with the other party. It is possible that a person sends a message on behalf of a group or an organization. The source is in charge of preparing a message, to codify it and select a proper instrument to send it. In some cases, It is possible that the recipient selects the source of data himself like when the decision makers desires to receive information from the trusty and informed individuals.

Codification: It is a process by which a message is sent from the shape of a concept and idea into signs. The signs (symbols) in use might be in form of words and numbers, images, hints and physical movements. The source of the message should be codified such that the recipient could discover it. In other words, the source and recipient should consider one meaning for the codified signs.

Transfer: Transfer is a process by which the signs which convey a message are sent for a recipient. Media is the canal or route of transfer. For example, in the face to face dialogues, the audio waves are intermediary. Media have a broad spectrum such that it starts from the communication between two persons such as conversation to mass media including a
newspaper, journal or a T.V. program. Each media has its own specific capacity for the transfer of data.

Detect (Decipher): It is a process by which the recipient of the message interprets the meaning of the message. Using his own knowledge and experience, the recipient of the message interprets the signs of the message. In some cases, it is possible to refer to other sources such as dictionaries or decipher book. If the meaning received by the receipt of the message is different from that of the sender, the communication has failed and might even lead to misunderstanding.

Recipient/Respondent: The recipient of the message might be an individual, a group or a person as the representative of a group. Up to the stage of deciphering a message, the source of the message has been active and the recipient of the message has been passive. Now, it is the recipient of a message who decides to detect the message, grasp it and respond or react to it. In addition, it is possible that the recipient does not want or cannot receive the message.

Feedback: Feedback audit and confirms the message. In other words, it tells to the source that the message has been received and understood. Feedback might be only a simple telephone contact or a complex bill of indictment which is sent to a judge by a prosecutor.

Parasite: It is any kind of disorder in the communication process which interferes with the communications or causes its distortion. For example parasite in Radio or T.V. screen flakes (ibid).

In a communicative situation, the sender of the message merely sends the information and not the knowledge and it is the recipient who should receive the information as the input and converts them into knowledge. Using a common language is the precondition of an effective trend in establishing communication among the members. Moreover, common language is an important aspect in learning too (Von Krogh, 2000). Due to the presence of an intra-organizational language among the members, the mental model which exists at the back of words and terms is understood by others. The presence of intra-organizational cooperation among university, government and industry will be possible and effective when all individuals establish communication with each other through a common language (Davenport and Prusak, 1998).

3.3. Mutual Understanding with Self-Openness (Johari Window)
According to Joseph Luft and Harrington Ingham (Robbines, 1998), known as Johari Window (Figure 1), and based on this model, the leaders have certain behaviors or tendencies which are aware of them themselves. In addition, there is a part of the character of the leader which is unknown to self. In other words, in some cases the leaders do not know how to treat with others. It is possible that their followers have not given any feedback or the leader has not been conscious enough to learn the verbal or non-verbal feedbacks.

In fact, Johari Window is a communicative model for the improvement of understanding of individuals from each other among different individuals of a team or among the groups. Of course, this model can be applied in the relation among organizations too. This model is based on self-assertion and feedback. Johari Window can also use to improve the intra-group relations and mutual understanding. There are two key ideas behind this instrument:

1. It creates trust among the members of the team through expressing some information about them.
2. It helps the individual to achieve a better understanding of themselves and come in terms with their personal problems better with the help of the feedback which they receive from the others.

With the description of Johari Window model for the members of a team, you help them to lean the value of self-statement. Encourage individuals to express and accept feedback. Do it in a sensitive and delicate form this stage. This stage can help with the establishment of more reliable and sincere relations among the members of the team, settle down the problems and the team could activate in a more effective form.

![Johari Window Diagram](image)

The instrument of Johari Window is a network in form of a window with four main areas shown in the above figure. These four areas include:

1. Public area or open which shows some aspects of an individual’s character which is known to self and others.
2. Blind area which shows some aspects of the individual’s character known to others but unknown to the self.
3. Private or hidden area which shows some aspects of the individual’s character known to the self but unknown to others.
4. Unknown area which shows some aspects of an individual’s character neither known to the self nor to others.

4. **Research Methodology**

Present research is of the basic research type from the viewpoint of objective and of the descriptive-survey type as far as the nature is concerned. Using the library method and scientific resources, this research has been conducted to review the theoretical and background foundations and the concepts as well. In this study, reviewing the theoretical bases of communications in particular Johari Window and its adaptation with the communication system or lack of link between industry and university, a suitable base has been prepared to understand and establish intra-organizational relations.
5. FINDINGS

According to the model of Johari Window, to the extent that the public area of the individual become broader, to the same extent, their communicative relation, flexibility in their style of leadership and the states of self of them become broader. Because at this area, both sides have knowledge, the possibility of emerging a conflict is weak. So, for the purpose of the increase of their own communicative power, individuals should expand their public area. Approaches to expand the public area include: divulge or self-openness and feedback.

Divulge or self-openness means that an individual disseminate information about himself. It is worth noting that the disclosure should be on time and mutual, i.e. if in the process of communication, only one party take action to disclosure and the other does not make it, the communication is not established. Disclosures cause the progress of public area in hidden area and downsize hidden. Feedback causes the expansion of public area in the blind area.

As it was stated, one of the applications of the Johari Window is to express the type of intra-organizational relation. In this model, with the increase of the vivid area, to the extent that university and industry can have greater awareness from each other, to the same extent, they can emerge more constructive, productive and effective in interaction with each other.

The process of the expansion of the vivid area is practical with the self-openness between university and industry through sharing information for example by presenting the abilities of universities from the viewpoint of human force, technology, equipment and similar activities and researches performed or potential ones and this vertically will increase the vivid area and reduction of hidden part. In the same manner, in industry, with the presentation of feedback on what it needs, problems, innovation, technology, applied researches and many other subjects, the vivid part will increase horizontally and the level of blind spot will decrease. Thus, with the process of a reciprocal “self-openness” and “feedback” between university and industry, the level of trust gradually goes up and communications improve. The organizations which in Johari Window have a greater vivid part usually establish communication easily and accepted in a working team simply. Oppositely, the organizations which have a small vivid part establish link hardly. They cannot mostly work with other organizations well because they are not reliable and trusty. Thus, the inputs and outputs of every three sections are in a close relation with each other and share with each other based on the bed ground of trust (base of mutual understanding) with each other (Figure 3).
Figure 3. The interactional model of government, industry and university based on the attitude of trust and mutual understanding

In this model, in the areas in which there is no possibility for investment in other sectors and will be followed with high risks, the government moves ahead and take effective measures in the rates such as basic research in national and transnational areas and also production of services, goods and new sciences including researches on food security in the country or at the world level in cooperation with international institutions or researches related with the reduction of poverty, inversion and etc. On this case, definitely, the scientific and administrative arm of the government will be the university and industry.

In the present model, in addition to education and research, university does the process of innovation and entrepreneurship and does not ignore economic activities. In addition to the consumption and employment of the knowledge produced in the universities, the industry help with its distribution and reproduction.

6. DISCUSSION AND CONCLUSION

The development of relation between industry and university has been noticed by the strategists, policy makers and university and industry planner due to its very positive effects in the creation of technological, economic and social changes since long time ago and many efforts have been made to create an effective link between industry and university. In the 21st century, the international economic competition is based on knowledge. Competition in today’s technological market is in need of the integration of modern knowledge with industry. Also helping with the improvement of the quality of people’s life and meeting the basic needs of industry and services to create competitive advantage and promoting the power of exports makes necessary the use of modern knowledge and new technologies and effective link between university and industry. Thought so far different actions have taken place for this purpose, but in order to complete the cycle of innovation and design in the country and to move the industry and service sectors towards the road of excellence, there is a need to the presence of an institution which could establish and correct the relation between university and industry. On the other side, today due to the reasons such as the daily increase of competition at international level and fast technological changes, government should try to have active cooperation with universities and industry in order to increase innovation, efficiency and produce wealth. In fact, if the cooperation between universities and industry could be managed correctly and efficiently, the resulting benefits will be maximized and it will be possible to have necessary opportunity in line with the increase of innovation, efficiency, wealth production, technological progress, reduction of costs and greater and deeper knowledge.

Of course, the purpose of this article is not to concentrate on proposals and usual solutions which are not practicable, but reviewing the views, models and existing models on relation
between university and industry, it will be possible to restudy the nature of communications and cooperation between university and industry well. In comparing the results of this study and previous researches, it can be admitted that all of them emphasize on the principle of mutual understanding progressively. In other words, all studies and proposals presented by researchers are based on the lack of a proper and effective communication between industry and university which has been dealt with through different viewpoints. As among the views stated on relation between industry and research centers, there are a few cases to deal with the subject of mutual understanding from the theoretical and basic viewpoint, so that the effective relation will be established if we could institutionalize the trust in the society and between two individuals or group or an organization. It is at this status that mutual understanding and good relation will be established between the parties and their heartfelt and unknown desires will become vivid to each other. In other words, for the development of the country, university should deal with the settlement of the problems of industry and consider their problems as its own problems. Moreover, industry should also refer its problems to the university and trust on them. Managers of universities and industries should know that the presence of intra-organizational cooperation among them should increase their powers and resources and will have a greater potential impact on the changes in the society and its growth and development.

7. SUGGESTIONS

1. Cooperation between university and industry is in need of trust building and paying attention to the needs and nature of the activities of these two institutions. The creation of trust between academic community and industry and considering the benefits of each is of specific position. The relation between university and industry should take place in order to promote education and research, to improve facilities and equipment and to solve the problems of industry. This issue will cause the reduction of trust between these two institutions.

2. Legislating and imposing compulsory standards with high quality in industry in the side of government will increase the need of industries to the scientific methods (universities).

3. Compiling and approving the new and comprehensive law of intellectual properties.

4. Creating a suitable legal bed for the active presence of academicians in industry and industrial people in the university.

5. Developing the necessary infrastructures for commercialization of the results of university researches by creating and developing the companies for the development of technology, industrial estates, technological parks and incubators.

6. Promoting the scientific degree of faculty members based on their cooperation with the industry.

7. Contribution of industry in creating new and interdisciplinary university fields of study based on the needs of the labor market and industry.

8. Change in the course units and syllabuses of courses in agreement with the views of industry

9. Creating sabbatical leave opportunities for the managers of industry in different universities to make the managers of industry familiar with the latest scientific and technological consequences.

10. Introducing the capabilities of university to the industry formally or informally through propagation brochures, presenting seminars, inviting the managers of industries and encouraging the professors to spend their sabbatical leave in industry.
11. Familiarity of industry and university with the needs and abilities of each other and optimal use of mutual facilities.
12. Presence of the strategy for the industrial development for the orientation of industry and university towards the national development.
13. Encouraging the industry section in the establishment of research centers by creating facilities such as tax exemptions.
14. Selecting the subject of thesis /dissertations of Ph.D. students on the issues related to industry and enjoying the financial assistances of industry in this sector.
15. Making efforts towards making converting researchers into problem-oriented researches.
16. Offering fellowship or research grants to the university professors in order to select and orient the capable and elite students towards solving the specific problems of industry sector.
REFERENCES:


Feiz D and Shahabi A (2012), Model Building for the Centers of Coordination between Knowledge and Industry in Developing the Relation between University and Industry with the Attitude of Industry Dynamism, Journal of Industry and University, 39-49 (In Persian).


