

**Foreign Investment as Main Factor for Successful  
Funds and Its Effect on Trade Balance Strategic  
Technology Adoption under Technological  
Uncertainty<sup>1</sup>**

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Received: 2013/04/16

Accepted: 2013/12/11

**Abstract**

National wealth funds have initiated their activities comprehensively over last two decades. National wealth fund is a governmental investment fund financed by surpluses of payments' balance, official foreign currency operations, revenues of privatization, payments for governmental transfers, fiscal surpluses and export revenues. However, the financing for this investment requires foreign currency reserve where management of current account's balance plays important role. First of all, some explanations are presented in this paper about national development fund and then in regard to the study made about successful funds which used foreign investment (direct or indirect) as investment strategy, we will consider the foreign investment. Next, regarding the role of the fund in trade balance and its effect on foreign investment, we will consider the relationship between fund and trade balance in short-term and long-term. Results shown that many successful funds prevented formation of possible corruption following the weakness of institutions to designate fund for inner sectors. Therefore, increase in foreign investment cause positive condition of trade balance in Iran. Whereas China is a new emerged economy with positive trade balance, investment in this country and

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1- I would like to thank Svetlana Boyarchenko for her continued advice and encouragement. I also thank Maxwell Stinchcombe, Thomas Wiseman, Andres Almazan, Stathis Tompaidis, Filomena Garcia, David Sibley and Richard Dusansky for their insightful comments. I am thankful to seminar participants at University of Texas at Austin in Spring 2012 for insightful comments. Also I benefited from comments of participants of the Midwest Economic Theory and Trade Meetings (Bloomington, Spring 2012). Special thanks to Ali Akbar Merrikh and Maedeh Faraji.

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formation of better relationship and cooperation provide privileges for this country.

**Keywords:** foreign investment, national development fund, trade balance

### **1- Introduction**

Regarding to the needs of country's industry to facilities for supporting product lines and its infrastructure in the Fifth Development Plan, the National Development Fund was created in a similar role like SWFs in the world. These funds were responsible for financing of country's projects based on operating banks, in addition to the mission of common foreign investment used for the charge of national wealth (Sadat Rasoul and et al. 2012).

The amount of loans paid to the countries are affected mostly when export rate (goods sold to abroad) is higher than import rate (value of goods purchased from abroad). In addition, countries take foreign loan (through increasing foreign asset holdings) to fill the gap between export rate and import rate. Thus, the current account balance and foreign asset holdings are considered as two fundamental factors for the amount of loan. (Higgins & Klitgaard, 1998)

Any decisions for financing and policymaking in this field leave fundamental impacts on different parts of an economic system. Therefore, National Development Fund (NDF) as one of the most powerful sources can adopt an important step in moving the economy from a resource-based economy to efficiency-driven economies through allocation of proper resources. Since establishment, fund always has been faced challenges due to the lack of an "industrial development strategy" based on relative agreement of those responsible for country's economy. The main challenge of NDF is to designate resources for various sectors where designation is based on competitive advantages of country's industry and geography as well as cultural advantages and finally the designation of resources to the sectors that received minimum effects from economic sanctions. In fact, economic team of NDF believes that production with the aim of export but not production to meet domestic needs should be prioritized for designation of Fund's resources, although, export-oriented production in the current condition of Iran seems to be the problem. (Sadat Rasool & et al. 2012)

According to importance of foreign investment in developing countries, this study examines the effect of FDI on the trade balance. Following the introduction of the NDF and its objectives, according to emphasis on foreign investment fund targets, the definition of this type of investment portfolio is given and in the next part according to the transparency index, the NDF of 3 countries between 10 world's

top countries as well as studies performed in other countries are investigated in the field of fund investment. Section IV includes the behavior of the trade balance to submit a proposal to policymakers and the final section presents the conclusions and suggestions.

## 2- Introduction to NDF

The oldest national wealth fund is Kevin that was established in 1953. However, the expansion of such fund began since 2005 so that during 5 years at least 19 national wealth funds have been established. Also, between 2003 and 2008 the increase in funds' resources has been met due to the growth of products' prices, particularly oil and gas. (Hashmi, 2011)

National Development Fund has different definitions with same nature:

Definition of the European Communities Commission:

Generally, these funds are a mean for investment by governments that manage and monitor the set of diverse portfolio of domestic and foreign assets

Definition of European central bank:

National or governmental wealth funds are some kinds of administrators for national assets employed abroad that have recently emerged. They are known as global investors.<sup>1</sup>

Definition of Institute SWFs:

National wealth fund is a governmental or Institutional investment fund that resources are provided from surpluses of payments' balance, formal foreign currency operation, the income gained from the privatization, governmental transfer payments, fiscal surpluses or exports revenue. (Hashmi, 2011)

Types of national wealth funds:

National wealth funds are separated into two general categories:

The first type is the same model enhanced oil fund that along with having national power, also it is responsible for economic stability, intergenerational savings, foreign investment and protect the domestic economy. Iran's National Development is Fund's foreign exchange reserves improved model established in 2010.

The second type of national wealth fund is generally active in non-oil countries those not reliant on natural resources. These funds in terms of intergenerational

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savings, support domestic economy and investment have same nature as first kind fund where the main difference between them is the lack of responsibility for economic stability. (Razavi & Rauf ,2010)

Governmental wealth funds (National Development Fund) pursued the objectives in most countries as below:

- Create a buffer against strong volatility prices of exporting raw materials such as oil
- Facilitate the transfer of intergenerational savings
- Create a variety of sources of country's income through planned investments
- Contribute to economic development by providing investment in infrastructures that despite significant social returns, they are not allowed to attracting foreign and private investments.( Nad Ali, 2012)

Investment and national wealth funds:

The investment program is the process concentrated on the strategies, objectives, assets mix and consider the way for "realizing investment". "Capital flow" in the process of globalization reflects one of the main indicators of countries to play a role in the global economy. This kind of economic behavior performs in the forms of "investment" and "foreign investment in foreign portfolios" (types of financial assets). (Sayadi,2012)

#### **Foreign direct investment (FDI)**

According to UNCTAD, FDI is defined as investment that will guaranties long-term relationships and reflects control and continuous benefit of any physical or legal resident of a country (foreign direct investment in the main company) in the company located abroad and acts as investor. There are always constant and direct relationship between the investor and the investment subject.

FDI, however, has several definitions, but in any case, it has common keywords. Existence of the direct and face-to-face relationship between "investors" and "constant" always happens around the investment. Some of the direct foreign motivations is performed with the aim of gaining more revenue and reduce of the risk. Other reasons could be mentioned as below:

- Manage the assets and funds and processing them in the areas related to the global economy.
- Expanding the range of production and services in other countries to develop export and finally through help to earn income and sustainable economic revenues.
- Transfer of technical knowledge and technology as well as other related services to other countries.

- Deal with the constant fluctuations of market and trying to maintain balance.  
(Sayadi, 2012)

The FDI main feature is direct role of the investor in the management of production unit where he has the financial liability. According to UNCTAD, the largest funds already have shown interest in the FDI are Dubai fund, Tmask, Singapore's GIC and PJSC United Arabic Emirates. Benefits provided to investee countries by investment are as below:

- Transfer of capital in many cases is associated with the transfer of modern technology.
- Financial market development and maturation of the host country.
- To promote and strengthen economic growth and productivity in countries that have good infrastructure and skilled workforce. ( The same,2012)

### **Foreign portfolio investment (FDI)**

SWFs, in addition to foreign direct investment are more motivated and willing to engage in investments through foreign portfolio investment. This type of investments include:

- Investment in financial assets, stocks and bonds

Always allocation of asset to portfolio containing stocks and bonds together can bear higher returns and lower risk than investing separately.

- Investments in real assets (Property & Real Estate)
- Investments in different countries and regions (geographical spread of investments)

Some funds, like the Funds in Norway, Alaska and New Zealand have distributed their portfolios in more than forty countries. This allocation of portfolio is always done within a wide range and based on different proportions.

- Investment in infrastructure and social projects of domestic economy (Sayadi & Nad Ali,2012)

SWFs tend to perform activities of foreign portfolio investment comparing with foreign direct investment concerning the following reasons:

- Acquisition of long-term returns
- Possibility of operate and deal in long-term
- Functionality and easy liquidity of securities
- Ease of movement of capital (Such as in the recent economic crisis had happened in the displacement of SWFs assets of financial markets in Europe and America where more attention paid to emerging markets.)

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- Participation in the decision-making process of companies' management
- Presence in the capital markets as a continuous market (despite fluctuations)
- the possibility of variation in asset allocation (Sayadi,2012)

Bornschiefer, Chase-Dunn, and Rubinson (1978) are considered as those who examined the effects of foreign investment and its contribution to economic growth for the first time. They stated that economic growth has positively correlated with FDI, but it has negative relationship with foreign investment of stock market and it is independent of geographic location. For Asia, foreign direct investment of stock markets show a substantial negative effect on economic growth. Bornschiefer(1980) , Dixon and Boswell (1996) were studied influence of foreign investment and domestic investment on economic growth and expressed that the flow of domestic investment have affect better than foreign investment in production growth. The results for developing countries refers to the difference in efficiency of foreign direct investment and domestic investment. Sun (1998) examined the effects of foreign direct investment on the macroeconomic from 1979 to 1996. This study shows that foreign direct investment plays an important role in promoting China's economic growth by helping domestic capital formation, rising exports and create new jobs. However, in the eastern and western regions of China, most of the production growth was due to gross domestic investment compared to foreign direct investment. Mencinger (2003) posed the question that if foreign direct investment increases in the transitional economies (developing), would this lead to economic growth? He considered the eight Eastern European countries in transition period to understand the reasons. The correlation coefficient between growth and foreign direct investment in the Lithuania is positive and it is negative in seven other countries. The results of pooled data also shows the negative correlation coefficient. Similar to cross-sectional data for each year, correlation coefficient between two variables is obtained negative. Balamoune-Lutz (2004) considered the effect of reducing foreign direct investment against growth and export with time series data. The hypotheses of this research as below:

foreign direct investment, will cause the growth (to impress). Export will cause growth. The results show negative correlation between exports and economic growth in later years from 1993 when the liberalization of FDI is occurred in Morocco. Both null hypotheses were accepted. In addition, FDI

and export are the two-way causality that it would be apart from the positive impact of exports on economic growth. Economic growth is also affected by the direct and indirect FDI.

### **3- Lynbrg's Transparency Index for National Wealth Funds**

Described in the previous section that most important function of the Fund was stabilization of economy, supporting the local economy as well as intergenerational savings. The reason for this is that oil revenues only can have the driving power of economic growth that their negative effects on economic mechanisms (Most commonly, it is Dutch disease) should be managed negative effects on economic mechanisms. Transparency in practices, the optimal portfolio of assets, manner of favorable policies for investment, priority areas for investment in economic activities, particularly foreign direct investment and choosing the appropriate geographic regions were considered to include characteristics of successful SWFs. To calculate and rate the transparency in performance of SWFs was introduced Lynbrg's transparency index. This index is based on ten fundamental principles and the minimum score that a fund can receive is number one. However, the institute of SWFs propose number 8 as least score for sufficient transparency.( Hosseini & Bastani,2012) Based on this index top ten countries in the world are Norway, United Arabic Emirates, China, Saudi Arabia, Kuwait, China - Hong Kong, Singapore - Government Investment Corporation of Singapore, Singapore – Tmask holding. (The overview on national development fund and foreign currency ceserves account in the third to fifth development plan, 2012)

Some brief studies about investment in countries received rank first to third (using Lynbrg index) are as below:

NDF of Norway: In 1990, this Fund was approved by Norwegian parliament to stabilize country's economy. Next to oil stabilization fund, National Insurance Fund was established in 1967 with aim to support Insured Pension Fund. In addition to the stabilization fund, the Norway's oil fund plays the role of Intergenerational Savings Fund too that it is considered as key role in order to increase its foreign exchange reserves.

The main goal of the the fund management is to invest fund capital with respect to an acceptable risk that increases the international purchase possibility. It could be concluded by provisions of the fund that the fund shall invest only in the out of country. The reasons behind the decision are:

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- Necessity to preserve and protect budget as a political tool of management. If the fund capital is used for financing of investment in infrastructure and trade, then the fund will be converted to additional resource for financing the costs of government. Such condition upsets the condition of budget as a political tool of management and undermines the budget process.

- The necessity of having a diversified industrial structure and pushing the investments to inside of country where industrial structure is dependent on oil revenues and the structure do not survive with stop or reduce in oil revenues.

- The Central Government helps outflows of capital needed to accommodate current account surpluses through petroleum fund direct investment in abroad.

Fund capital will invest in a place that has a lower risk. The Norwegian government on the experimental results concluded that the mix of companies' shares and bonds comparing with investments in net bonds cause higher returns and lesser risks. That is why, from the beginning of January 1998 the allocation of portfolio asset of benchmarked fund was set to be 60% in bonds and 40% in companies' shares. Fund have invested on the three regions of America, Asia - Pacific and Europe. Norwegian fund have invested on the Asia and Pacific region in the Australian Securities Exchange, South Korea, Japan, Hong Kong, Taiwan, Singapore and Europe stock markets as well as Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Netherlands, Portugal, Spain, Sweden, Switzerland, Turkey and Great Britain. In the investment strategy, the Ministry of Finance of this country has hired consultants and foreign experts to assess the performance of the Fund. This procedure is so that the advisor provides the recommendation of buying or selling bonds to the Minister of Finance, then Minister of Finance has ordered the central bank to sell or to purchase bonds within determined period. (Heidari Zadeh,2012)

Fund of the United Arabic Emirates: This country has several different funds that the most important ones are:

- 1 - Abu Dhabi Investment Agency (ADIA)
- 2 - International Petroleum Investment Company (IPIC)
- 3 - Abu Dhabi Investment Council (ADIC)
- 4 - Exchange



5 - Ras Al Khaimah Investment Agency (RAK)

Abu Dhabi investment agency (ADIA) in 1976 replaced with "The Financial Investment", established in 1967 as part of the Treasury Department. Reputation of this institution is the result of foreign currency's surpluses obtained from oil exports. The Abu Dhabi Investment is managed as fund. This institution with \$ 627 billion assets is the largest in the Middle East's wealth fund which is owned and monitored by government. This Fund has independent legal identity and authority to achieve its goals. Eighty percent of its assets are managed by foreign managers.

Financial resources of Abu Dhabi investment institute are obtained from resources of petroleum especially from the "Abu Dhabi National Oil Company" and the subsidiary companies that has paid to help ADIC Fund as well as " Abu Dhabi Investment Council". If government is facing a budget surplus and other obligations, these payments are performed periodically. Approximately 70% of payments are released to ADIA and other 30% is released to ADIC.

The investment of this institution has been conducted in different forms the assets, MSCI up to S & P indexes are used to assess the related stock market.

Combination of assets of the institution are:

- Stock - market development
- Stock - emerging markets
- Funds of Investment
- Funds of futures managed
- Governmental debts
- Company debts
- Real estate activities (direct investment funds)
- Private Property

The Board of Trustees manages Abu Dhabi Investment institution. This institution is plenipotentiary in management and it has a board of directors composed of eight members, including the chairman, managing director and six other members. These members are senior administration officials who are appointed by the ruling government.

Abu Dhabi Investment Council is branch of mentioned investment institution and it is much smaller than it. The Council is an Abu Dhabi government investment arm and has started its activities in April 2007. The

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Council is responsible for investing a part of surplus financial resources of government through a global diversified investment strategy with aim of positive returns of capital through a diversified portfolio of assets and capital management strategies.

Also, this council regarding the act on direct investment performs the development of economic infrastructures of Abu Dhabi as well as the facilitation of international development of domestic companies. The council investing in UAE banks locally.

Council in all investments seek returns balanced to risk and preservation of capital. This council along with balancing the domestic economy also investing at the worldwide level too.

Some fields of the council's asset allocation are as follows: active investment strategies - hedge funds, direct stock - Middle East and North Africa, stock, governmental debt, corporate debt, international particular situations, estate (funds with direct investments), private equity, insurance. (The overview on National Development Fund and Foreign Currency Reserves Account in the third to fifth development plan, 2012)

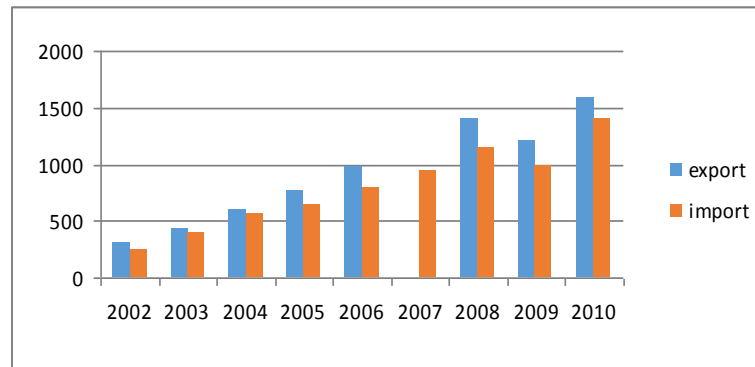
**National wealth fund of China:** In fact, part of China OFDI is round tripping, i.e. the sources flowing to the abroad and it is injected to companies with particular purpose (SPE) and returns to China through companies as foreign investment to benefit from financial incentives. Since 2008, however, the incentives are removed.

In contrary, there is the argument that says: a lot of private companies may not announce their foreign investment statuses to other countries and thus perhaps investment statuses are much more than the statuses proclaimed in the China.

China's twelfth five-year plan (2011 to 2015) encouraging the investment policy at the outside of country which is called "Global".

The following chart(1) shows China's trade with the world in the last few years.

Chart (1) China's trade with the world (billions of dollars)



Thus, after subtracting imports from exports for this country, trade balance becomes very positive.

For each country, the balance of payments (BP) is the sum of the trade balance and its capital balance.

As noted, the trade balance of each country is defined as exports minus imports where this amount for China is very positive and can conclude that the outflow of capital must be more than the inflow of capital to this country.

It should be noted that China is one of the countries with highest rate of foreign investment. Therefore, this country has a high potential for transmission investment. Of course, the large amount of China foreign investment is locates in America's government treasury bills. Nevertheless, potential of this country is high in the foreign direct investment outside of the country. (Nosrati,2012)

Foreign direct investment has always been considered as a key component in accelerating growth of developing countries. One results for savings is that real interest rates are declined and inflation rate is rising in the world. In contrast, it seems that foreign investment is becoming increasingly attractive for developing countries that exposed to domestic investment and High costs for foreign debt. (Perkins,2001)

Foreign direct investment is a large and growing financial resources that may help to developing countries eliminate the technology gap, improving management skills and development of their export markets against high-income countries and this can lead to more leaking and overflow that may cause the form of improvement in productivity of the economy.( Higgins & Klitgaard,1998)

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Johnson (1995) argues that the impact of FDI on the current account becomes more complex with investment income payment that increases through foreign investment. He have examined the impact of foreign direct investment on the growth in Thailand after sudden increase in foreign investment. Thailand's experience shows that foreign direct investment helps to restore private investment and growth and foreign direct investment with export orientation increasingly cause excessive export revenues. On the other hand, FDI also leads to an increase in import demand so that the current account gets worse and external debt increases rather than decrease.

Tayebi et al (1387) was studied the impact of FDI on the foreign business in the selected Asian and Pacific countries. They expressed that foreign direct investment can increase production capacity, especially in the case of exports. It also helps to host country in the field establishment of links and communication with international economy through the development of export markets and research. In this article, the impact of FDI on foreign trade is examined separately for imports and exports of selected countries in Asia and the Pacific in Eastern Asia and the Pacific and the Western Asian groups during the years 1980-2005. The results of research using panel data, show that the impact of FDI on exports is positive and significant; it indicates the export-oriented of foreign direct investment in these countries. Also the positive effect of foreign direct investment on imports cannot be rejected in the all the sample and in the two groups of study in the countries of West Asia, East Asia and the Pacific. The impact of foreign direct investment on foreign trade was remarkable in East Asia and the Pacific and therefore, attracting investment is potential in the Western Asian region.

Azerbaijani and colleagues (1391) considered the impact of foreign direct investment on the industrial sector's trade flows in the member countries of the "Organization for Economic Cooperation and Development". They were used the gravity model for OECD countries using combined data over the years 2000-2007. The results show that foreign direct investment income and population have positive and significant relationship with commercial flow of industrial sector, while geographical distance has a negative impact on the trade flow of industrial sector.

### **4- NDF and the Current Account Balance:**

The current account balance providing important information about the country's economic performance as well as policy recommendations for macroeconomic policymakers. NDF plays an important role in current account balance and the most

important reason is the investment activity, especially foreign investment. NDF determining priorities for investments in a way that provides possibility for repayment of foreign currency loans through "foreign currency". In other words, the condition of economic activity of whom receiving facility should be such that the "operator" can repay "the total sum of received foreign currency" into the fund. Therefore, the budget of NDF is allocated to projects with economic feasibility. Since the National Development Fund resources has exchanged in the form of Foreign currency, this means that all projects financing by fund and investment is performed on them, should be on the path of export-oriented production and create foreign currency revenue. Therefore, role of Fund is important in the investment and it plays an important role to adjust the economy's current account balance. On the other hand, identifying the short-term and long-term determining factors of current account balance requires high-level policymaking. Moreover, economists and policy makers are paying more attention to current account subjects due to lack of great and sudden global balances in current account of countries within last two decades.

The following chart shows current account (relative to GDP) (CA) and oil revenues (relative to GDP) (Oil) in Iran. As can be seen, since the oil revenue includes a large part of the government revenues, so according to diagram, the ups and downs of these two variables over time is almost similar. In other words, the increase in oil revenues leads to an increase in the current account balance (and vice versa). Thus, in this case, the management of foreign exchange revenues from the oil in the form of National Development Fund can play an important role in controlling the current account balance.

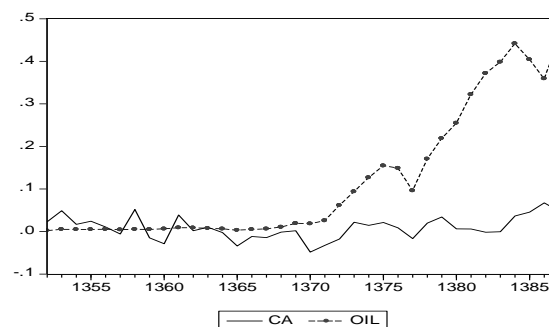


Figure 2: Current account balance and oil revenues (relative to GDP)

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According to the study performed by Mohseni (2012) National Development Fund through affecting foreign reserves and financing investment plans in Iran controls the current account balance in short-term and long-term. In this article the method of savings - investment balance is used which is synchronized with the method of quarter-period for current account. Several studies and particularly the study of Double Farooqi (1996), China & Prasad (2003) and Ying (2010) have been used and determining factors of current account balance in selected Asian countries were explained as follows:

$$CA = f(nfa, open, reer, y, y^*)$$

CA = the relation of current account balance to GDP ratio.

nfa = net foreign assets to GDP.

open = openness of economy

reer = real effective exchange rate

y = GDP

y\* = foreign production

We were investigated long-term relationship between the variables using vector regression (VAR) model and the short-term relationships using vector error correction model (VECM).

The results are as below:

**Table 1: Estimation Results of Short- Term and Long- Term**

Long-term balance relationship: the dependent variable ca				
<i>nfa</i>	<i>open</i>	<i>reer</i>	<i>y</i>	<i>y*</i>
0.273	-0.099	0.579	-0.438	0.286
(0.445)	(0.015)**	(0.040)**	(0.012)	(0.633)
The results of causality test in the short-term error correction equation for the current account				
<i>nfa</i>	<i>open</i>	<i>reer</i>	<i>y</i>	<i>y*</i>
٦,٢٩٨	١٩,٩٤٤	٤,٣٢٧	٢٥,٣٩٤	٣,٦٥٧
(0.043)**	(0.000)***	(٠,١١٥)	(0.000)***	(٠,٠٦١)
Numbers in parentheses shows final probability level and the sign * and ** show significance level 0.05 and 0.01.				

As Table (1) indicates, variable coefficient of net foreign assets was not significant in the long term for Iran and shows that the variable does not affect the current account balance in the long-term. Relationship between openness and

current account is estimated negative to Iran.<sup>1</sup> Negative relationship suggests that the policy of economic liberalization and opening to the world economy are caused budget deficit for the current account because this conditions increase to entry of foreign capital into the country. In other words, as much more the economy have the higher participation in world trade, so it could attract more foreign investment by which the domestic expenses will rise through foreign debt comparing to income (GDP) and consequently the current account will face a deficit. On the other hand, a more open economies are better able to finance their foreign debt through export earnings. Variable coefficient of economic openness is estimated to be significant at 10% level for Iran and its coefficient is estimated as negative (the similar to results are Chin and Prasad (2003) for developing countries). The real effective exchange rate coefficient is positive for Iran and it is significant statistically. It is consistent with two theories of Mandel - Fleming and Marshall Lerner condition. GDP coefficient ( $\gamma$ ) is negative in Iran and it is significant statistically. In other words, GDP growth has led to increased imports and the current account balance faced deficit that is in accordance to commercial elasticity approach theory. Foreign production coefficient has a significant effect on the current account of the economy in long-term.

VECM estimation results indicate that in each period, the one-third of current account imbalances can be adjusted to achieve a long-term relationship. In the short term, the real effective exchange rate and openness are important in Iran.<sup>2</sup>

In summary, evidence for this period suggests a long-term equilibrium relationship between the current account balance equation and its determinant that the relationship is harmonious and consistent with theoretical expectations. Net foreign assets variables, economy's openness and GDP are highly important in determining the behavior of the current account balance in long-term. In addition to the aforementioned factors, partly the real effective exchange rate is influential for description of the country's current account balance in short-term. (Mohseni, 2012)

## **5- Conclusions and recommendations:**

In this paper, we first presented the definitions of National Development Fund and then were explained about fund purposes by which there is emphasis on the necessity of investment. The study of successful funds shows that they used foreign investment in their investment strategies (direct or indirect). At the third part, we

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1- This is similar to study Prasad & Chin (2003) for developing countries.

2- Results have been approved based on analysis of the VDCs and IRFs.

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described about foreign investment. According to the Fund's role in the trade balance and its possible impact on foreign investment, in the next section, was explained the relationship between Fund and short-term / long-term trade balance. At the last part we present conclusions and suggestions.

Studies show that the world's most successful funds are paid attention to their main strategy for investment or significant portion of their assets of fund to overseas. This action prevents from the adverse effects of financial inflows into the country including the formation of disease and the formation of possibility of corruption raised by weaknesses of institutions to allocate fund resources to inner parts of the country through diversification of the portfolio and having safer Return Fund. Complete independence of Fund's investment decisions from political and social pressures as well as emphasis on economic criteria in the selection of investment projects along with formation of detailed internal auditing systems and public oversight on the activities of the fund including continuous awareness to increase public confidence and credibility of national and international fund should be considered.( Sayadi, 2012)

Generally, the forecasts provided by UNCTAD indicate continuous and moderate growth in foreign direct investment in the years ahead. The organization has predicted foreign direct investment in the years 2012, 2013 and 2014, respectively, \$ 1.6 trillion, 1.8 trillion and \$ 1.9 trillion.

In 2011, foreign investment have been increasing over the last year in all sectors of the economy. This type of investment shows increase in developed countries by 21 percent growth to \$ 748 billion, 11 percent growth to record 684 billion dollars in developing countries and 25 percent growth to 92 billion dollars in the moderate economies. The share of developed, developing and moderate countries from accumulated foreign investment had been respectively, 49%, 45%, and 6% at the end of 2011.<sup>1</sup>

Since the NDF plays an important role in current account balance and the main reason is investment activity particularly foreign investment and also regard to UNCTAD anticipation about the growth of foreign investment, the trade balance is positive in Iran.

Since the foreign investment results to the transfer of technical knowledge and management skills as well as resolving the foreign exchange problems, entry of foreign investments which increases the labor productivity and employment,

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<sup>1</sup> - UNCTAD



therefore a special effort should be made to increase foreign investment. Meanwhile, if the foreign direct investment happens for any reason, then it would have significant effects on macroeconomic variables including lower interest rates, lower exchange rates, increase in economic growth, increase in government tax revenue, reduce in government debt, improving income distribution, technology transfer, increase in employment, development of exports, reduce imports and positive impact on the balance of payments.

Foreign investment could be in multinational companies. For example, Iran could try for foreign investment in the oil companies of Middle East. Such investment leads to reduce of real cost of domestic corporate capital and cost of shareholders' capital (through increase in foreign demand). Multinational operations and foreign direct investment affect economic, social and political growth and development of host countries. This matter is important for host governments. Whatever country has extensive facilities to reduce production costs and it has a higher level of technology, the foreign direct investment flows more into the country. Foreign monetary policies should be adopted to attract foreign investment (which leads to reduce asset values and investment risk) and exchange policies should be driven for economic stability and increase in security for foreign investment. In the commerce sector also announcement of exemptions on intermediate and capital inputs required by foreign investors eases such flow to the country.

As noted, China is the emerging market economy that it had been a destination for foreign investment but now, in addition to accepting foreign investment, it performs huge investments in other countries too.<sup>1</sup> According to the provided explanations and increase in Chinese investment in other countries, we discuss the proposed model.

1 – formation of credit line for Iran's oil revenues in China

Assumptions:

- In such condition (sanctions), the transfer of oil export revenues from client countries is difficult. Some part of these revenues is supposed to be designated for importing products in such countries.

- In regard to the problem of oil revenue transfer to country, some part of the revenues can be used as line of credit for finance and foreign investment.

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1- Table of biggest investment in China in 2009(given in the Appendix).

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The proposed mechanism:

- Demands for exported oil are deposited in the Chinese fund.

-Part of the resources for mentioned fund is presented to the Chinese investors as investment loan to invest independently or jointly with Iranian partner to makes possible the transfer of machinery to Iran.

The investor must provide equity for himself or herself.

- Investment loan is presented only to the target sectors.

The major axes of this operational model includes the usage of credit line for Iran's oil revenues in China, formation of a joint working group with relevant institution, maintain and fixing problems of existing investors, explore the possibility of establishing Iran-China industrial township in country to run investment tourism for visiting potential investors, positive and constructive engagement with Chinese order in Tehran and business Council. (Nosrati, 2012)

### **References**

Azerbaijani, K., Karimi, H., Nagheli. sh.(1391), Estimated impact foreign direct investment on trade flows in the manufacturing sector for Economic Cooperation and Development member countries, *Economic Development and Planning*,69:1-94.

Bornschieer, V., Chase-Dunn, C. & Rubinson, R. (1978). Cross-national evidence of the effects of foreign investment and aid on economic growth and inequality: A survey of findings and a reanalysis. *American Journal of Sociology*, 84(3), p. 651-682.

Bornschieer, V. (1980). Multinational corporations and economic growth: A cross-national test of decapitalization thesis. *Journal of Development Economics*, 7. p. 191-210.

Baliamoune-Lutz (2004, April). Does FDI contribute to economic growth? *Business Economics*, p. 49-56.

Dixon, W. J. and Boswell T. (1996, September). Dependency, disarticulation, and denominator effects: Another look at foreign capital penetration. *American Journal of Sociology*, 2 (102), p. 543-562.

Heidari Zadeh, N (1391), the most successful of SWFs, *National Conference of National Wealth and Sustainable Development*, 109-121.

Hashmi, Z.S. (1390), SWFs, *Department of Planning and Information Technology, National Development Fund*.

Hosseini, SM., Bastani, AR.(1391), SWFs managed (patterns and actions); Islamic teachings to the National Development Fund *National Conference of National Wealth and Sustainable Development*,, 49-69.

Higgins, M. , Klitgaard, T.(1998), Viewing the Current Account Deficit as a Capital Inflow, [http://www.newyorkfed.org/research/current\\_issues/ci4-13.pdf](http://www.newyorkfed.org/research/current_issues/ci4-13.pdf).

Jansen, K. (1995) “The Macroeconomic Effects of Direct Foreign Investment: The Case of Thailand” *World Development* 23, 193-210.

Perkins (2001) Dwight. Economics of Development, W.W. Norton & Company, New York.

Mercinger, J. (2003). Does foreign investment always enhance economic growth? *Kyklos*, (56), p. 491-508.

Mohseni, R. (1391), The role of National Development Fund in Iran's Current Account Balance Management, *National Conference of National Wealth and Sustainable Development*, 189-211.

Nosrati, M. (1391), using the leverage of national development fund to attract foreign investment from China, *National Conference of National Wealth and Sustainable Development*, 375-369.

Nad Ali, M. (1391), The path of the future National Development Fund, *National Conference of National Wealth and Sustainable Development*, 3-21.

Siddiqui, D. , Hasnain Ahmad, M.(2007), The Causal Relationship between Foreign Direct Investment and Current Account: An Empirical Investigation for Pakistan Economy , Munich Personal RePEc Archive, [http://mpira.ub.uni-muenchen.de/19743/1/MPRA\\_paper\\_19743.pdf](http://mpira.ub.uni-muenchen.de/19743/1/MPRA_paper_19743.pdf)

Sun, H. (1998, July). Macroeconomic impact of direct foreign investment in China: 1979-96. *World Economy*, 21(5), p. 675-694.

Sadat Rasool, SM, Gholamian, MR, Haji Mohammad, Z. (1391), Risk Modeling and Return of Credit Portfolio of National Development Fund: provides an approach for distributing funds, *National Conference of national wealth and sustainable development*, 143-155.

Sayadi, M. (1391), Survey of Investment Strategies and Optimal Management of the Assets of the Fund's wealth World, *National Conference of National Wealth and Sustainable Development*, 211-225.

Razavi, M., Rauf, H. (1389), SWFs, new tools of governance on foreign investment, *the Institute of Economic Affairs*.

Tayebi, S. K., Azerbaijan, K., Babaki, R. (1387), The Effect of FDI on the foreign trade of selected countries in Asia and the Pacific, *Research Journal of Isfahan University (Human Sciences)*, 31:129-150.

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Take the National Development Fund and Foreign Currency Reserves Account in the third to fifth development plan, (1391), Tehran University Jihad, Amirkabir Unit.

### Appendix:

#### *the largest foreign investment of China in 2010 (new projects-Greendfield)*

Capital	Country of destination	The field of investments	Investor companies
۴۵۰۰	Cuba	Oil, gas and coal	China National Petroleum (CNPC)
۲۰۰۰	Indonesia	Metals	Jinchuan
۲۰۰۰	Egypt	Oil, gas and coal	Rongsheng Chemical Fiber
۱۹۱۳	Nigeria	Oil, gas and coal	China State Construction Engineering Corporation (CSCEC)
۱۳۰۰	Cuba	Oil, gas and coal	China National Petroleum (CNPC)
۷۳۰	Russia	Metals	State Grid Corporation
۷۰۰	Russia	Oil, gas and coal	China Huadian Corporation
۶۷۸	India	Electronic Appliances	Haier Group

#### *the largest foreign investment of China in 2010 (new projects-Greendfield)*

Capital	Country of destination	The field of investments	Investor companies
۴۰۰۰	Brazil	Metals	Wuhan Iron and Steel Co. Ltd. (Wisco)
۲۹۰۰	Afghanistan	Metals	China Metallurgical Group Corporation
۱۷۶۰	Iran	Oil, gas and coal	China National Petroleum (CNPC)
۱۷۰۱	Sudan	Oil, gas and coal	China National Petroleum (CNPC)
۱۶۵۷	Oman	Oil, gas and coal	China National Petroleum (CNPC)
۱۴۳۱	Singapore	New Energy	China Huaneng
۱۰۰۰	America	Instruments	Tianjin Pipe
۱۰۰۰	Costa Rica	Oil, gas and coal	China National Petroleum (CNPC)
۷۰۰	Brazil	Automotive OEM	SAIC Chery Automobile
۶۱۶	Russia	Building	China North Industries Group

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