The Effects of Foreign Direct Investment and Economic Freedom on Economic Growth in Developing Countries

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Abstract: One of the economic factors of economic development is achieving positive and stable economic growth and Foreign Direct Investment (FDI) is one of the factors affecting the stable economic growth. FDI attraction can make the growth and development progress faster in the host countries by positive effects such as gaining wealth, technology transfer, extending the market size and export advantages, introducing new processes, improving management ability, training human resources and accessing foreign markets. Considering the important role of FDI, this study is trying to study the effects of FDI and economic freedom on economic growth in 10 selected developing countries in period of 2000 to 2013 using panel data. The results show that FDI has a positive and meaningful effect on the economic growth of the studied countries so that we can say by increasing FDI there will be an improvement in the economic growth of the countries. Also the index of economic freedom has a positive and meaningful effect on economic growth. It is to be mentioned that the rate of economic openness and the index of producer price also have had positive effect on the economic growth of the studied countries.

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1. Introduction:

Nowadays, many of the countries of the world have extremely tended to attract foreign capital due to domestic resources insufficiency. On the other hand, foreign investors, especially transnational companies have been willing to invest in advantageous and potential regions for increasing their competitive level and gaining more profit. Also during the recent two decades, by the increase technology level, the possibility of capital transfer has increased significantly. The normal result of the following factors is the fast growth of foreign investment in different countries including developed or developing countries (Pheang et al., 2017). Since the 1970s, foreign investment growth has increased and it has overtaken trade growth so that it has been 2 times more than the growth of the trade of goods and services (Ruxanda & Muraru, 2010).

The role and importance of investment in the process of economic growth and development of societies have been emphasized on, in most of the economic growth and development theories. Economists of development generally believe in the positive effect of FDI on the economic growth especially in the least developed countries (Ghatak and Halicioglu, 2006).

The officials of international companies also believe that among the different processes of private capital, FDI can be used as a trustable financial source in developing countries. The global growth of investment dedicated to FDI has been remarkable in the recent years. The global value of FDI by U.S dollars has reached from 200 billion dollars in 1993 to 1.3 billion dollars in 2000(UNCTAD, 2000). This is while this amount has reached 1.7 billion dollars in 2015 (UNCTAD, 2016). In 1980, the share of FDI in gross domestic product was 5 percent and in the late 1990s it increased to 14 percent, the share of developed countries in the process of global FDI has reached from 17.1 percent in the period of (1988-1990) to 21.4 percent in period of (1998-2000) (UNCTAD, 2000).

During the last decade, FDI flows have at least doubled at accordance with world trade rate (Gorg and Greenaway, 2004). It is to be mentioned that the share of developing countries in FDI was 0.1 trillion dollars in the year 2000 and it has got 7 times more and reached 0.7 trillion dollars in the year 2015 (UNCTAD, 2016).

The primary problem of the least developed countries and underdeveloped countries is the lack of resources for investment in creating jobs, economic infrastructures and improving the sustainable development and economic growth (Nahidi & Ketabforoush, 2014). This problem is caused by lack of foreign exchange earnings from exports and unfair exchange rate, which are usually transforming into losses to the exporters of goods and raw materials. By the saturation of investment in developed industrial countries, the rate of investment efficiency in these countries decreases and the investors are always looking for investment opportunities with higher efficiencies. If the security of investment in developing countries and transition economies be guaranteed and the required legal circumstances be provided, the international investors will be more willing to be present in these markets, so the acceleration of the entrance of foreign investments will have mutual advantages for both the host countries and the international investors (Alizadeh et al, 2009).

For the same purpose, special attention to the FDI issue and factors like economic freedom and their effects on economic growth seems necessary. So the present study is trying to consider the effects of FDI and economic freedom on economic growth of 10 selected developing countries in the period of 2000 to 2013.

2. Theoretical Foundations:

Since the late 1980s, concepts such as integrity of financial markets, FDI, investment in Portfolios, transnational companies and wide usage of communication facilities caused the weight of financial economic globalization to get heavier (Flora and Agrawal, 2017). In such conditions, on one side we could see the significant increase of economic growth rate in some countries and on the other side, at the same time, some countries were facing widespread financial stress caused by the fluctuations of capital flows and its hard effects in the areas of macroeconomic and acceptance of high socio-political costs. (Alizadeh et al, 2009) So the literature of the subject in this area got two different styles. One group are the supporters of free flow of capital across borders to positive externalities which cite the positive foreign effects of it and the transfer of efficient technology from countries with higher income to countries with less income. On the other side, are the opposers who cite the repeated financial crisis which means economic booms and recessions, and instability of foreign investment in open economies (Durham, 2003).

2.1. Economic Growth

Nowadays, economic growth is one of the most primary challenges of the countries. Economic growth is one of the quantitative indexes of examination of the economic development rate of the countries and the factors affecting it are highly important (Sharifi et.al, 2009).

Economic growth and increasing gross domestic production besides increasing the quality of life and equality of income distribution are the primary purposes of economic systems and plans of development. In all of the economic studies, the influence on economic growth has been concerned directly or indirectly, and there have been many solutions offered for achieving this. In the beginning and before the theory of human capital, physical investment was known as the only way of economic growth of the societies. But after that and in the early 1960s, the concept of human capital was raised beside physical capital and gradually its role became more prominent. Most of the economists believe that a country's human capital is what ultimately determines its economic development progress and the importance of the role of human capital is not less than physical capital in the growth process. The studies show that investment in human capital causes an increase of efficiency in production and finally it will cause economic growth (Emadzadeh et al., 2011).

2.2. Foreign Direct Investment (FDI)

FDI is considered as an important factor in economic growth and development, resolving the savings and investment gap, technology transfer, technical knowledge, modern management methods and creating jobs (Shah Abadi and Mahmoudi, 2006). Nowadays, attracting FDI is considered as one of the most important economic variables in most of the countries of the world, so that innovation of action in this field can grant many of the economic purposes of the countries (Hozhabr & Nahidi, 2011). According to the important role of FDI, countries try to attract this kind of capital. In fact, the competitiveness for attracting these capitals is very high. This competition is especially high between developing countries considering their need to fast achievement to the development and lack of more financial resources. These countries are looking for different kinds of capital and for this purpose, they use different methods for attracting this kind of capital (Shah Abadi and Mahmoudi, 2006).

The general conditions of FDI attraction can be classified in 4 groups including economic policy, economic structure factors, encouraging factors and geographical and political factors affecting FDI. Monetary, fiscal, exchange, commerce policies and policies monitoring the rules, are among the factors of policy. Also the stronger the economic structures and infrastructures of a country are, the more the foreign investors will be tending to directly invest in that country. Stability of trade balance, the extent (size) of the market, foreign debt, financing structure, infrastructural installations, skilled labor force and human resources development and presence of a wide information network are among the major economic structural factors which are directly effective on FDI attraction. About the encouraging facts, it can be said that some countries provide some facilitations for attracting the attention of foreign investors. It is obvious that the more the facilitations are, the investors will invest more willingly.

Also by geographical factors, the geographical and geopolitical location of the country is meant. The climate condition, population, location and relationship with the international waters are among the geopolitical factors (Behkish, 2006).

2.3. FDI, Economic Freedom, and Economic Growth

In the recent years, politicians and economists are facing the effects of globalization increase which appear as foreign trade growth and foreign investment flow (Nassabiyan, 2006). The positive effects and higher quality of foreign investment are among the important factors of this investment due to accompanying with technology and technical knowledge transfer, having wider selling market and more efficient management, which is increasing in developing countries (Heydari and Afshari, 2012). Another difference between FDI and other kinds of investment is the presence of special circumstances in this kind of investment. Developing countries usually use technology in limited scales due to their special circumstance. Most of the technologies used in these countries are old and as a result, the efficiency of the firms is lower (Hozhabr & Nahidi, 2011). Even if a part of the efficiency gap be compensated with fewer wages, the technical inefficiency will affect the quality of the product and will reduce their ability to provide the new needs of the market, while transnational companies can skip modern technology using FDI and increase the efficiency resulted by its use. Nationalizing these technologies and developing the activities of research and development centers can increase the effects of FDI flow.

For better understanding the nature of the relation between FDI and economic growth, the importance of the growth progress must be concerned; especially economic freedom as one of the main factors of the capacity of attracting the host countries which have a remarkable role in easing the FDI transfer progress. The truth is that lack of economic freedom has limited the capacity of attracting new technologies from transnational corporations and initializing them, and it becomes a problem for the economic growth of the host country. So the final effect of FDI on economic growth depends on the economic freedom of the host country. FDI cannot have any sensible influence without economic freedom. Economic freedom is an important easing factor for FDI; so that FDI can have positive effect on economic growth through that (Bengoa et al., 2003)

2.4. Previous Studies

Flora and Agrawal (2017), have studied the effect of FDI on economic growth using the Co-integration method. The results of the study show that there is a positive and meaningful relation between FDI and economic growth.

Kalai and Zghidi (2017), have examined the effect of FDI and trade on the economic growth of MENA countries in the period of 1999 to 2012. The results show that FDI can improve the economic growth progress in the studied countries and have a positive and meaningful effect on economic growth.

Sakyi and Egyir (2017), studied the effect of FDI and trade on the economic growth of 45 selected African countries in the period of 1990 to 2014 using the GMM method. The results show that trade and FDI have a positive and meaningful effect on the economic growth of the studied countries.

Pheang et al. (2017), have studied the relation between FDI, exports and economic growth in the ASEAN region countries using the panel-data method in period 2000-2014. The results show that FDI has a positive and meaningful effect on economic growth of the studied countries.

Durmaz (2017), has studied the relation between FDI, democracy and economic growth of Turkey in period 1977-2011. The results show that improving the democracy situation has had a positive and meaningful effect on FDI and the economic growth of Turkey.

Faisal et al. (2016), have considered the relationship between economic growth and FDI in the financial sector of China using the ARDL method. The results show that increasing FDI has had a positive and meaningful effect on China's economic growth.

Bekhet and Al-Samadi (2015), in a study using the Granger method, have considered the relation between FDI, GDP, and economic openness. The results show that there is a meaningful relation between FDI, GDP, and economic openness.

Alizadeh et al. (2009), studied the reciprocal effect of FDI and economic growth in the member countries of the D8 group in period 1995-2010 as simultaneous equations model. The results show that there is a positive and meaningful relation between FDI and economic growth.

Nahidi and Ketabforoush (2014), have studied the effect of FDI on economic growth in MENA countries in period 2005-2010. The results show that FDI has had a positive and meaningful effect on economic growth of the studied countries in the studied period.

Khalili and Salimi (2014), studied the relation between FDI, financial development and economic growth in 16 Asian countries in period 1980-2008. According to the results, the combined effect of FDI on economic growth for countries with high income which are financially higher-developed is more than countries with medium and low income. It can be concluded that financial development causes an increase of the effect of the foreign direct investment on economic growth.

3. Introducing data and estimation Model:

3.1. Data and research model

The data used in the studied model of this study are panel data. The studied period is 2000 to 2013. The statistical society of this study is 10 selected countries including Iran, India, Colombia, Russia, Bolivia, Armenia, Argentina, Turkey, Romania, and Bulgaria. The time series data are collected from WDI 2016. The introduced model of this study inspired from Bello Ajide and Bright's study (2015) go like the following:

$$LGDPC_i = \alpha_0 + \beta_1 LFDI_i + \beta_2 LEF_i + \beta_3 LOPEN_i + \beta_4 LPPI_i + \varepsilon_i \quad (1)$$

$LGDPC_i$ = Logarithm of gross domestic product per capita
$LFDI_i$ = Logarithm of foreign direct investment as a percentage of GDP
LEF_i = Logarithm of economic freedom index
$LOPEN_i$ = Logarithm of economic rate openness as a percentage of GDP
$LPPI_i$ = Logarithm of producer price index

3.2. Panel Data Method

The panel data are a combination of cross-sectional and time-series data, which means the data related to the sectional data are observed during the time. So that such data have two dimensions one of which is related to different units in any time section and the other one is related to time.

Sectional and time series data themselves, do not consider anisotropy of individuals, so they may give us a biased estimation, while in panel data method we can consider the dissimilarity by considering the individual variables. Panel data have more information, more changeability, less collinearity, a higher rate of freedom compared to time-series and sectional data. Especially the fact that one of the methods for lessening collinearity is combining sectional and time data as panel data. With all the panel data, effects which are not detectable in in mere sectional data or the pure time series, become detectable. Sometimes it is thought that sectional data cannot detect long-term behaviors, while in time series data short-term effects are emphasized. Combining these two features in panel data method, which is the special feature of panel data, more general and dynamic structure can be estimated (Ashrafzadeh & Mehrgan, 2009).

4. The Estimation Results:

4.1. Studying the stationary of the variables

One of the methods by which we can avoid spurious regression is making sure of the stationary of the variable. For studying the stationarity of the variables there are different tests like Levin, Lin and Chu (LLC), generalized Fisher-Dickey Fuller (ADF), Philips-Perron (PP), etc. In this study the Levine Lin Chu (LCC) test, which is one of the most important single root tests in panel data, has been used. The results of studying the stability of the variables of the study are presented in table 1.

4.2. The results of F Lymer and Hausman tests

According to Table 2, the possibility of the F statistic test shows that using the stable effects method will be more decent. Also, the statistic of Housman test shows the decentness of using the random effect method for estimating the model.

Table 1: *The results of variables stationary using LLC test*

Variables	T Statistics	Prob
GDPC	-4/3212	0.0000
FDI	-4.9583	0.0000
EF	-6.1889	0.0000
OPEN	-6.0484	0.0000
PPI	-8.3122	0.0000

Reference: Research findings

As we can see, the results of the table (1) show that all the variables are at a stable level.

Table 2: *results of F and Housman tests for estimating model*

Test	F test	Housman test
Statistic	490.5551	2.4378
Prob	0.0000	0.6558

Reference: Research findings

4.3. Results of model estimation

Based on this, the results of model estimation for determining the effects of FDI and economic freedom on economic growth using the random effect panel data is represented in table 3

Table 3: *results of the effects of FDI and economic freedom on economic growth*

Variables	Coefficient	T Statistic	Prob
LFDI	0.0871	6.6295	0.0000
LEF	0.2109	2.2166	0.0285
LOPEN	0.1664	2.1641	0.0324
LPPI	0.1983	6.4904	0.0000
R^2 =0.7611	$\overline{R^2}$ =0.7532	D-W =2.14	

Reference: Research findings

The results of random effect method show that all of the ratios of the variables of the model are statistically meaningful and have the theoretically expected signs. As it is observed, with 1 percent increase of FDI variable, economic growth increases by 0.08 percent. Increasing FDI has had a positive and meaningful effect on the economic growth of the studied countries. Considering the positive effect of FDI on economic growth of the studied countries and considering the competition between the developing countries and the present and future problems of exports markets, the need for developing countries to improve their exports still exists. One of the important ways to achieve this purpose is using foreign investments. So it can be said that by increasing FDI in developing countries, the capital required for different reconstructive and infrastructure plans is provided and the production and industrial units and new factories start to work and this causes an increase of gross domestic product and as a result, it causes economic growth and economic development of developing countries.

As it is observed, with 1 percent increase of the economic freedom variable, economic growth is increased by 0.21 percent. The improvement of economic freedom situation ensures the foreign investor that in the case of investment in different sectors of the host country, they can increase their capital. For the same reason, it can be said that improvement of economic freedom, motivates the foreign investor and encourages them to invest. So as a result, there will be an increase of entrance of FDI to the host country. By increasing the entrance of foreign investment, FDI increases and as a result, there will be an increase in the economic growth of the countries.

The ratio estimated for the variable of economic openness rate is 0.16 and positive. This shows that with 1 percent increase in the economic rate openness variable, economic growth increases by 0.16 percent. Increasing the economic openness rate causes improvements in trade atmosphere in the countries. Increasing trade in both exports and imports sectors causes improvement of working atmosphere and investment in different sections of industry, agriculture and services. Increasing the index of economic rate openness increases competition in production sectors which has positive effects on economic growth.

The estimated ratio for the variable of the producer price is also 0.16 and positive. This shows that with 1 percent increase of economic rate openness variable, economic growth increases by 0.16 percent. As it is observed, there a meaningful and positive relationship between the index of producer price and economic growth.

The estimated R^2 by the model is 0.76 which shows the explaining ability of the independent variables.

5. Conclusion:

By the time going on and expansion of economic theories, new variables are introduced as factors affecting economic growth. Among all, the role of investment has a high importance in growth models. FDI and creating a safe atmosphere for attracting it are among the vital subjects considered in developing countries which can be very effective on economic growth and development progress. Because providing capital is one of the most important factors and the primary steps of economic development and social improvement. Among all the capital flows of developing countries, FDI has more importance because of having features such as great and efficient management, advanced technology, easy access to international markets and a great deal of capital. So the developing countries must have special attention to FDI in order to achieve a stable economic growth.

Considering this and the determining role of FDI and economic freedom in economic growth and development, the present study has studied the effect of FDI and economic freedom on economic growth in 10 selected developing countries using panel data method in a period of 2001 to 2013. The results showed that FDI has a positive and meaningful effect on the economic growth of the studied countries. So it can be said that for increasing the economic growth of the countries, there must be circumstances to increase FDI. Economic freedom also has had a positive and meaningful effect on economic growth, for we can say with increasing economic freedom, the required condition for economic growth is provided. Improving the condition of economic freedom motivates the foreign investors to enter the host country which causes an increase of gross domestic product and as a result, improvement of the host country's economic growth. It is to be mentioned that the index of economic openness and the index of the producer price are also among the factors that have a positive and meaningful effect on the economic growth of the studied countries.

Also in order to increase economic growth in developing countries, it is suggested that for gaining the most profit from FDI and decreasing the initial threats of it, special attention is paid to political stability(both foreign and domestic) and economic security, improving the infrastructures and making and applying decent rules. Improving the exchange system of the developing countries and creating more stability of the exchange rate has an effective role in creating economic security for increasing the Productive investment which can have an effective role in improving the exports texture and renewing the industrial structure based on the principle of comparative advantage. Creating secure economic atmosphere and increasing the required conditions and the required facilities for easing the FDI flows, more support from governments for FDI to ease its attraction, reducing tariff and non-tariff barriers to the trade to improve the quality of trades, creating the required conditions for domestic institutes to enter the international markets and increasing the competition between different sectors can be considered among the factors of improving the situation of economic growth of the countries.

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