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The Investigation of the Effective Factors on Foreign Direct Investment in Developing Countries with Emphasize on Globalization

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ABSTRACT

The paper deals with the investigation of effective factors on economic growth from globalization and attraction of international capitals aspects. To analyze this issue, two more globalized and less globalized countries groups are considered and with emphasize on globalization components in the form of endogenous growth models, the effect of these variables on the attraction of capital indirectly and economic growth directly is reviewed. The results obtained by the statistics of 36 developing countries over the period 1980-2007, indicate the importance of variables compatible with the acceptance of globalization criterions including economic security, the degree of openness in the economy and government policies for economic stability influencing the economic growth and capital flow.
KEY WORDS: Globalization; economic growth; FDI; developing countries.

INTRODUCTION

Recently, globalization is developing rapidly. Probably globalization for developed countries is a part of its structure and social-economical environment. But it is a challenging decision-making and policy making for developing countries. World Bank reports (2002) shows that the title "developing countries" has lost its application in some cases and now instead of developed and developing countries, more globalized countries and less globalized counties are introduced. Statistics show that GDP in the world was 47 times during 1960-2008 (Domestic grow product increased from 1.3 thousands billion $ in 1960 to 61thousands billion $ in 2008). In this period the export and import value and service at international level were 18 times (The value of commodities export and services was 672 billion $ in 1960 (with the fixed price in 2000) and reached 11615 billion $ in 2006).

However, the products in developing countries are inclined to factory commodities. In 1990, the amount of factory export in ratio to the total export was 77% in high revenue countries and it was 40% in average revenue countries and this ratio for average revenue countries reached 60% in 2006. Diagram 1 shows globalization trend by KOF index at world level. This index covers globalization from 3 aspects.

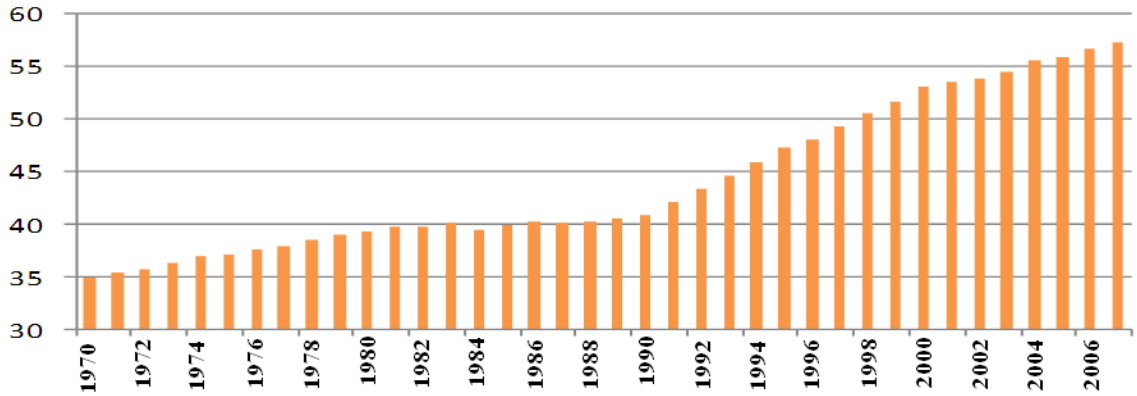

Diagram 1- Globalization trend by KOF index is including the information of 158 countries over the period 1970 to 2007 (http://globalization.kof.ethz.ch)

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A. Economic Globalization [37%]: Actual Flows, Trade (percent of GDP), Foreign Direct Investment, flows (percent of GDP), Foreign Direct Investment, stocks (percent of GDP), Portfolio Investment (percent of GDP), Income Payments to Foreign Nationals (percent of GDP) , Restrictions ,Hidden Import Barriers ,Mean Tariff Rate ,Taxes on International Trade (percent of current revenue) Capital Account Restrictions

B. Social Globalization [39%]: Data on Personal Contact ,Telephone Traffic ,Transfers (percent of GDP) ,International Tourism ,Foreign Population (percent of total population) ,International letters (per capita) , Data on Information Flows ,Internet Users (per 1000 people) ,Television (per 1000 people) ,Trade in Newspapers (percent of GDP) ,iii) Data on Cultural Proximity ,Number of McDonald's Restaurants (per capita) ,Number of Ikea (per capita) ,Trade in books (percent of GDP),

C. Political Globalization [25%]: Embassies in Country, Membership in International Organizations, Participation in U.N. Security Council Missions, International Treaties

It seems that after 1990, globalization trend is increasing rapidly. According to UNCTAD (2005) report, R&D expenses in 2002was estimated as 45million dollar, of which at least 2.3 of it were due to attracting FDI (Gersbach &Schmutzler 2006).

The most challenging issue in this paper for authors is the way we face with globalization in developing countries and how we use its capabilities. In fact, although, globalization is the dominant part of international economical and political relations, empirical findings show that for a process to play its positive role, it requires good infrastructures including most of economical, political, social and cultural aspects of the countries. As there are different requirements to join with the world community, our main approach in this paper is that we look carefully at the effects of globalization from economic growth aspect with emphasize on FDI inflows. Based on theoretical basics and empirical investigations, saving and also using FDI flow are the effective factors on economic growth. Ascending trend of FDI flow especially in developing countries shows that by forming globalization super paradigm, capital flow is of importance. The information shows that in 2007 (UNCTAD, 2008), FDI inflows reached to more than 322 billion $. According to this information, while in 1980, 22 % of FDI inflows were dedicated to developing countries, this amount increased to 42% in 2006. The main question here is that how some countries such as china, Singapore or India could dedicate a considerable share of FDI inflows to themselves and use this trend for increasing their economic growth? Or is it possible to repeat golden years of FDI attraction for under developing countries? Diagram 2 shows the increasing share of developing countries of FDI inflows in comparison with developed countries.

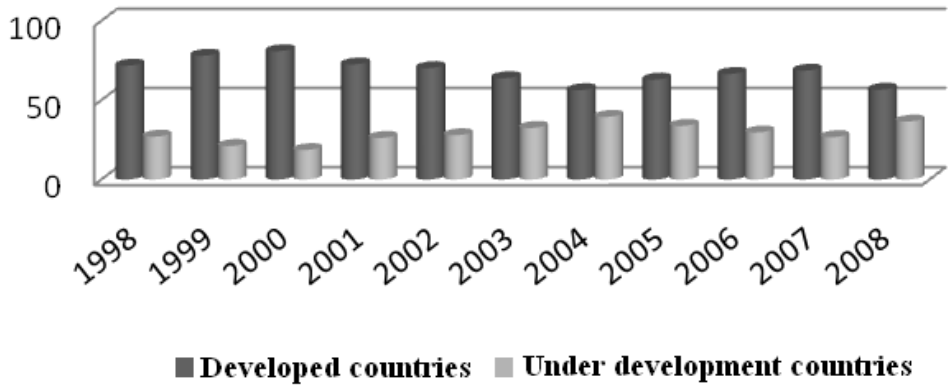

Diagram 2- The share of developing and developed countries from FDA inflows (Major FDI indicators (WIR 2009)) under development

Indeed, there are many factors in this process. Authors of this paper believe that one of the important effective factors on FDI in developing countries is globalization and accepting its requirements. It seems that not joining world community (with its defined game rules) and introversion are the main factors of economic growth reduction and underdevelopment of countries despite planning for capital attraction. In the main model of this paper we will explain about this issue that how the relationship between capital flow and

economic growth require regulations and structures having direct connection with globalization. By analyzing different factors in the researches in this field, four main branches are considered. These are including security, observing the international game rules, infrastructural requirements and financial facilities development. To analyze these factors, we divided developing countries by KOF index into more globalize and less globalized countries. The main information is being fit from World Development indictor for 36 developing countries over the period 1970 - 2007. Although, In these regressions some factors don't have the necessary meaningfulness to be proved, the results show the importance of globalization in reception and durability of FDI.

At first, the paper deals with the theoretical principles and then empirical principles are analyzed. Section four introduces 4 groups of variables used in this model and section 5 estimates the model and in the final section is dedicated to conclusion.

Theoretical principles

Capital accumulation is considered as one of the main prerequisite of economic growth. In the history different countries always attempted to develop their economic growth by capital accumulation as domestic saving or using foreign financial resources. Kines by introducing ascending coefficient are the shooting platform for most of economic relations, namely growth theories. Early after Second World War, the main role of capital was emphasized as an important factor in growth process. Harrod (1948) and Domar (1946) were the first who introduced dynamics and economic growth. After that Neo-classic model was suggested. This model has a productive function in which there are a set of variables as capital-output and capital –labor. Therefore, balanced growth rate of this rate is varied as capital-output ratio and this growth rate can be equal to total employment rate (Solow (1956), Swan (1963), Usawa (1964)).

Mankiw, Romer, and Weil (1992) in a research showed that Solow–Swan model has convincing reasons to prove empirical evidences. However, they found that if human capital is not placed in this model, there is a positive correlation between economic growths, human capital, saving and population growth rate, saving and population growth effects in comparison with other variables are of great importance. Since 80s, the models emphasizing on open economies, were the dominant models of economic growth. These models considered some factors such as economy openness, using foreign investment and technology transfer. In this case one very simple model that allows for endogenous growth and is used mostly in theoretical and empirical studies is AK model. In this model (Jones, 2002); the growth rate of an AK economy is an increasing function of the saving rate. In other words, $g_y = \frac{Y^0}{Y} = sA - d$

Where, A is the technology advancement, saving rate and d is depreciation. This model shows that so making policy to raise the saving rate and technology will raise the economic growth rate. But these models were challenging in terms of justification of economic growth rate in different countries and they couldn't define long-term growth and show it as permanent. Makin (2000) believes that in spite of close economies providing the domestic saving level as an ascending function of production and owning national revenue, provide investment opportunities in the country, in an open economy domestic investment is separated from domestic saving and current account balance and capital in every production level is influential on economic growth. In this model, as the focus is on the international movement of the capital, and if technology is placed on foreign capital, foreign investment in a transnational way increases the national revenue of open economy until the domestic return of foreign investment exceeds renting expenses of foreign investment. Prasad, Rogoff, Shang-Jin Wei, and Kose (2003) in a comprehensive research investigated the relationship between economic growth and using capital international inflows in different countries. The results of their research show that capital flow influences economic growth via two direct and indirect channels, but the important thing here is the requirements of capital attraction.

It seems that although theoretical principles is certain about the role of foreign capital on economic growth, the approach of the researches in FDI or FPI beside considering the influence of foreign capital, analyzed its good condition of attraction and durability as the most important structures.

Empirical principles and findings

Reviewing the empirical researches on FDI, two main routes are differentiated: On one hand, by flowing FDI, there was considerable economic growth rate in some countries. On the other hand, at the same

time, the other countries are having problem with extensive financial issues due to capital flow fluctuation and its great influence on macroeconomics that leads into more social- political cost. In this case, the literature of this subject is moved into directions:

On proponents of capital free flow referring to its external positive effects and productive technology transfer from high revenue countries to low revenue countries and the others are opponents referring to frequent financial crises- stagnation and prosperity and stability of foreign investment in open economies (Durham 2003).

Some people as King and Varadi (2002) in a research on 10 countries of eastern Europe and 15 Baltic countries and commonwealth nations, Hermes & Lensink in 2003 and Tornell Aaron, Westermann Frank, Martinez Lorenza , Mexico Branco de in 2004 and Bekeart, Harvey, Lundblad in 2005 in their research showed that there is a positive relationship between economic growth and foreign capital.

Prasad, Rogoff, Shang-Jin Wei, and Kose (2003) indicated that on one hand FDI flow in a direct way improves domestic savings and reduces investment costs by the optimal risk distribution (hazard), technology transfer, and specialized management and on the other hand, in an indirect way improves legal elements cause financial sector development, forcing to take good policies as per international rules and works as a signal to other countries. But its effects are not absolutely positive in all the countries. Ciftcioglu, Fethi, and Begovic (2007), believes that the foreign savings from FDI are mostly in the form of the introduction of the modern management system, expert forces, technical knowledge and innovation in production and administrative organizing in developing countries. The most important point in all these studies is that there should be some factors to make a positive relationship between economic growth and FDI. For example, Schularick Moritz and Thomas Steger (2006) analyzed financial liberalization and capitals flow for 54 countries in two periods 1880 to 1914 and 1980 to 2002. Their studies showed that nowadays there is not a definite reason to prove that some countries with higher convergence rate and openness of financial system have higher economic growth rate.

Analyzing the empirical researches, we found that although there are many researches regarding globalization, there aren't indices as directly putting together three aspects of globalization, economic growth and FDI and mostly the effective factors to attract FDI are emphasized. Therefore, by analyzing these factors, in the main model some variables were considered to have a certain relationship with globalization. It is assumed that developing countries by using these requirements can used FDI flow and make it permanent.
The potential spillover benefits are realized only if local firms have the ability and motivation to invest in absorbing foreign technologies and skills (Blomstrom & Kokko, 2003).

Researches of Levine et al (1997, 1999, 2002, 2005), Hermes and Lensink (2003) show that one of the most important influential factors on attraction of FDI is the development of financial markets, convergence and standardization of rules in market. Harrison & McMillan (2003) show that trust in the economical environment is one of the requirements of the presence of foreign investors and the institution size.

Azémar, Desbordes, Mucchielli (2004) defined national governance as the most important attribute of the countries development. For example, some variables such as law authority, corruption rate, bureaucracy, academic achievements and the presence of revolution and war are the most important features of the recognition of national governance.

Ranciere, Tornell &Westermann (2006) in an article including the information of 60 countries in 1980 to 2002, showed that classic model of economic growth is meaningful for some variables as inflation, the degree of economy openness, population growth and the size of government and is compatible with expectations. Although the effects of liberalization of financial markets and capital flow have positive influence on economy growth, they lose these effects considerably due to crises and the indirect influence of it.

Goodspeed et al. (2006) in his article emphasized on inflation and its negative effects. He indicated that fluctuation of costs is the instability and uncertainty of economic policies applied in economy that leads into the lack of trust in economic environment and obligatory reduction of saving.

Research variables

Based on theoretical principles and the results of empirical researches in the analysis of globalization, economic growth and FDI flow, four main branches are considered.

a) Security

In security group macro indices of economy were more emphasized. These indices from foreign investor view provide a kind of secure economical condition to encourage him to invest in the target country.

These indices indicate durability, economic stability and reasonable and wise behavior of policymakers in a country. Variables of inflation, the size of government, the amount of foreign debts and market size are the variables of this group being tested in this model.

b) Acceptance and observing international games rule

When a country decides to use foreign capitals and tries to have relationship with world markets, the acceptance and bearing international markets rule is raised as a inseparable part from the policies of that country. The indices related to the acceptance of world rules are mostly about the rules, national authority, partnership and respect to personal ownership and the rights of investor. The variables of trade open doors, capital market freedom index that is used by Bekeart and Harvey (2002) index.

This index is one if stock market is officially liberalized, otherwise, it is zero. Tourism and custom tariff are the tested variables in this group of the model.

c) Institutional requirements

Infrastructural requirements are variables influencing economical and development structures. Indeed, these requirements are considered indices to use and attribute domestic and foreign resources that the country accepting the foreign capitals by relying on them provides the condition for reception of capital flow. It is expected that in the absence of these requirements, even the foreign capitals enter the country that country couldn't optimally use them and the durability of capital was very challenging.

These requirements are including an extensive group of variables that are not normally in physical form as roads, ports and etc., but they include the good performance of the countries institutions. Foreign investors prefer economics with a developed network of roads, airports, water, energy, telephone and internet.

d) Financial market development

Financial markets are money and investment market providing a completing role in creating credit and liquidity conditions to transfer capital to suitable sectors and using them as best as possible. Different indices are defined for the development of financial markets. But among them for many years, stock market value indices and the trade volume to GDP were applied. In money market sector, the applied indices are the ratio of the given credits to the private sector to GDP. This index in some countries shows the good condition of attraction and giving credits to the private sector and in some countries, it shows the bad quality of banks portfolio or the rapid growth of cost and high inflation Tornell & Velasco (1996). Therefore, its effect was indefinite on economic growth.

Designing the model

The main structure of the model is according the Barro and Sala-i- Martin (1992) growth model, with 4 vectors of separate variables as mentioned above.

$$GROWTH_{it} = \alpha_0 + \alpha_1 FDI + \beta_1 R + \beta_2 O + \beta_3 S + \beta_4 U + \varepsilon_{it}$$

Model fit is done in the form of two panel models for two groups of more globalized and less globalized countries. The data of independent variables from World Development indicator reference for the liberalization index of capital market is obtained from Bekeart and Harvey index (2003) and globalization index is obtained from Credit Suisse Group, KOF Index. For fitting the model, the independent variables introduced in the previous section in each group is entered into the model and after deleting meaningless variables two optimal models are selected.

MODEL RESULTS

The results of the model indicated that the variable of foreign direct investment had a positive and meaningful relationship with economic growth. In other words, for developing countries attraction of foreign capital increases the economic growth. Indirect investment variable in portfolio is deleted from second group models due to the lack of precise information about the countries with low globalization degree but it is meaningful for countries with high globalization amount. However, in the analysis of some different models in most similar cases, the results (Durham 2002) were meaningless.

Fitting the controlling variables of risk such as inflation and the amount of foreign debt are as expected and they are of importance in determination of economic growth and both are negative. It means that policy variables for risk reduction in the country can provide good conditions for capital attraction and economic growth. These results are also proved in other studies proposed by Carcovic, and Levine (2002),

Hermes, and Lensink (2003), Durham (2003), Mody, and Murshid (2002), Moosa (2004) and Tornell, Westerman, Martinez, and Mexico (2004).

For countries with high globalization degree only the size of government variable is meaningless. This variable was negative in Tornel, Westerman, Martinez, and Mexico (2004) models. Manh Vu, and Terukazu (2005) showed in their analysis that the relationship between general current costs and FDI on the increase of economic growth rate is very complex and general.

According to their model, if in developing countries the ratio of general current costs is more than 25%, the effect of FDI is reduced on economic growth.

Liberalization index capital market which was use by Bekeart, Harvey, and Lundblad (2005) for free entrance and exit of financial resources to capital market was with different expectations. On one hand, it is expected that this index with positive sign show the increase in convergence amount in financial markets and easy transfer of capital between countries and on the other hand, opening the capital account doors in some countries created financial crises. This index is meaningless for countries with high globalization degree and it is negative and meaningful for second group.

The openness variable of economic doors as the ratio of export to import to GNP is positive and meaningful for both groups and according to article Ranciere, Tornell & Westermann (2006) that indicates the positive effect of globalization from trade aspect in developing countries.

Table 1- The relationship between economic growth, foreign investment and its requirements

Independent variables	Countries with higher globalization level	Countries with lower globalization level
Constant value	0.48	0.215
	(7.125)	(6.012)
Population growth	0.587	
	(3.582)	
Internal investment	0.125	0.0998
	(10.87)	(9.505)
Growth		-0.147
		(-5.168)
Government volume	-0.35	-0.1014
	(-5.87)	(-4.458)
Foreign deficits		-0.389
		(-3.875)
Money release indicators		-0.098
		(-2.989)
Open economic level	0.201	0.185
	(7.875)	(4.589)
Money volume	0.0045	
	(3.528)	
Direct foreign investment	0.075	0.298
	(4.87)	(2.565)
Schematic foreign investment	0.123	
	(3.21)	
Evidences quantity	200	330
Adjusted R-squared	0.688	0.587

- The numbers in parenthesize are the amounts of static – t
- Method: GLS (Variance Components)
- Except for two foreign investment ratio to GNP and investment in other portfolio, variables are entered in the form of logarithm in the model.
- Investment variable in portfolio is obtained from the sum of the investment in securities and bonds in the foreign country.
- 17 countries with higher globalization degree are including as: Emirate, Malaysia, Chile, Argentina, Kuwait, Turkey, Jordan, Venezuela, Bahrein, Brazil, Mexico, China, Southern Africa, Trinidad and Tobago, Saudi Arabia, Tiland and Egypt.
- 19 countries with lower globalization degree are including as: Bangladesh, Iran, Zimbabwe, Sri Lanka, Botswana, India, Kenya, Pakistan, Maghreb, Ghana, Ekwador, Peru, Philippine, Indonesia, Tunisia, Oman, Colombia, Nigeria, Jamaica.

Institutional structures and communication facilities in analyzed by Azémar, Desbordes , Mucchielli (2004) model, was analyzed here in both groups of countries and none of variables were meaningful.

Conclusions

The investigation of information at international level namely in two late decades shows the ascending movement of capital flow proves classic and Neo-classic growth and its extensive effects in economic growth of developing countries.

Super paradigm of globalization is very overwhelming that all believe that it is an inevitable route that for using it we should accept its requirements, limitations and realities to achieve development and growth goals.

By analyzing the results of Econometrics models in this article, it seems that in the capital flow due to globalization (over the period 1980-2007), developing countries could achieve the higher economic growth rate. The important thing here is that we need some requirements and facilities as the effective factors on capital flow attraction and its durability to use capital flow. These factors are related to the countries with higher globalization degree, capital market and development indices and in countries with lower globalization degree, political and economical security is emphasized.

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