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Does the variation in human development have an impact on countries economic growth? A study on relationship between inflow of FDI and Human development

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Abstract

There is great disparities in human capital- health, education, and skills around the world . Compared with developed countries, much of the developing world has lagged in its average levels of nutrition, health (as measured by life expectancy), and education (measured by literacy). The bulk of FDI ,which is vital for economic growth goes, to developed countries. This paper tries to assess the whether the variation in the FDI flow among the developed and developing countries was because of variations in the level of human development among the countries. By taking the countries which are ranked as very high human development countries and the countries which are ranked as low human developed countries as per the HDR report 2016 we examine the relationship between the human development and the flow of FDI to this countries. Study found that high human development is followed by a increasing flow of FDI and vice-versa. In our next effort , to assess the impact of variations in the human development on the countries development performance, by using the multiple regression analysis, we find significant econometrical evidence that variations in the levels of human development among the countries has been influencing the development performance among these countries.

Keywords- Human Development, FDI, Development performance.

1.0 Introduction

Foreign Direct Investment (FDI) is a major catalyst to economic development and hence, became an integral part of an open and effective international economic system. In an increasingly competitive environment for foreign investment capital, least developed countries should pay greater attention to the development of infrastructure , human resources and entrepreneurship which have a significant bearing on the locational choice of transnational corporations.(UNCTAD, 1991:91[1])

Investing in general education and other generic human capital is one of the utmost importance in creating an enabling environment for Foreign Direct Investment (FDI) as well as for hosts countries to gain maximum benefits from their activities. FDI has been found to create many externalities in the economy in the forms of benefits available through transfers of general knowledge, specific technologies in production and distribution, industrial upgrading. Developing countries need to have reached a certain threshold of development to be able to fully absorb new technologies. Enhancing human capital can therefore have a number of beneficial effects for an economy, since it enhances the productivity of the invested capital and profitability as a direct result of the increased capacity of the employees to perform their tasks.

1.1. *Human Development*

Human Development is a concept within the field of international development. The term human development may be defined as an expansion of human capabilities, a widening of choices, ‘an enhancement of freedom, and a fulfilment of human rights. This also simply means developing mentally, socially through growing and experiencing things in your life and learning new things. Thus, human development is about much more than economic growth, which is only a means of enlarging

people's choices. The Human Development Index(HDI) was created to emphasize that people and their capabilities should be the ultimate criteria for assessing the development of a country not economic growth rates. The HDI is a summary measure of average achievement in key dimensions of human development: a long and healthy life, being knowledgeable and have a decent standard of living. The HDI simplifies and captures only part of what human development entails.

1.2 *Foreign Direct Investment*

The FDI is a type of investment that involves the injection of foreign funds into an enterprise that operates in a different country of origin from the investor. Apart from being a critical driver of economic growth, foreign direct investment (FDI) is a major source of non-debt financial resources for the economic development. The factors propelling the growth of Inward FDI include tax breaks, low interest rates , grants. Outward FDI, also referred to as " direct investment abroad", is sometimes backed by the government against all associated risks. For our analysis, we are considering net inflows of FDI across different countries in the year 2015.

1.3 *Economic Growth*

An increase in the market value of an economy is termed as economic growth. Real per capita income and real gross domestic product are widely accepted indicators of economic growth. It implies increased capacity of the economy to produce. Growth of the economy can be considered in both real and nominal sense, the latter of which is adjusted in view of inflation. The growth rate of the economy is measured by the trend in the average level of GDP over a certain period.

There are various factors affecting the economic growth. Among them productivity of the factors of production is ordinarily recognized aspect by the theories dealing with economic growth. Technological advancement has become one of the most important determinants of economic growth after the industrial revolution. Hence, technology transfers , transfer of skilled personnel, knowledge which takes place due to inflow of FDI act as catalyst to economic growth.

1.4. *Theoretical Background*

Theodore W. Schultz presidential address to American Economic Association in December

1960 marked the beginning of the idea of investment in human capital. Human capital is defined as "Human capital is defined as "the body of knowledge possessed by the people and the capacity of the population for using knowledge effectively." (**T.W. Schultz, 1961**[2]).

Since, then economists like Simon Kuznets (1966), Psacharopollob and Woodhall (1985), Becker (1964) Dennison (1967), PQLI of Morrison and Morrison (1970) and Acemogen (1988) has made a growing recognition of human capital as a central force. However, since 80s, a much broader perception of human capital i.e., Human Development begin to receive crucial importance in development literature. Generally all these exercises culminated in the publication of human development reports by the UNDP every year focusing on various dimensions of human development. The human development approach emphasizes investment in education, health, nutrition and income.

Adam Smith (1776) was the first classical economist to include human capital in his famous book "An Enquiry into the Nature and Causes of the Wealth of Nations." He argues that growth means not only capital accumulation and technical progress, but also growth of human capital which play a critical role in the process of economic development. He included in the capital stock of a nation the inhabitantly 'acquired and useful talents of human being which improves wealth of society and individuals country as a whole.'

Marshall (1890) the neoclassical economist, seems to have recognised that capital consists in a great part of knowledge and Organisation and of this, some part is private property and other part is knowledge, a most powerful engine of production; it enables us to subdue nature and force her to satisfy our wants (Marshall, 1961).

Frank Knight (1944) states that investment in man, the traditional concept of capital, had to be extended to make room for human capital. The investment in man particularly in education, health, nutrition etc, are essential to take advantage of better job opportunities.

Schultz T.W. (1961) in his Human Capital model shows how education allows the production process to benefit from positive externalities and promotes growth.

Dennison (1967) states that human capital stock improves labour productivity, and contribute to the general betterment of society. He provided a direct link between educational attainment and the economic and social welfare of countries.

Harbison (1970) stated that Human Resource constitutes the ultimate basis for wealth of nations. Capital and natural resources are passive factors of production, human beings are the active agents who accumulate capital, exploit natural resources, build social economic and political organisations, carry forward national development.

Romer (1986) in the Endogenous Growth Theory highlights the fact that technological progress is not an exogenous factor influencing development but is the result of 'intentional actions' taken by people who respond to market incentives.

Lucas (1988) was another endogenous growth theorist who emphasised investment in human capital more directly and links it to long-term rates of economic growth. Educated people not only use technology more efficiently, they are also likely to innovate and spread the benefits of such innovation to co-workers thereby increasing the efficiency of all factors of production. The human capital theories attribute the lack of convergence between the growth rates in developed and developing countries to the fact that the poorer countries do not make adequate investments in human capital, which results in their recording low growth rates.

Amartya Sen (1998) argues that the standard of living of a society should be judged not by the average level of income but by people's capabilities to lead the life they value. He also expressed that commodities should not be valued in their own right but as ways of enhancing capabilities such as health, knowledge, self-respect and ability to participate actively in common life. The Capabilities refer to what a person can (not) do or can (not) be.

Over a period of time, the evolution of concept of human development reflects different nuances of human development.

Theoretically, FDI has been shown to boost economic growth through technology transfer and diffusion (Dimelis, 2005; Schneider, 2005), spillover effects, productivity gains, and the introduction of new processes, managerial skills and know-how in the host countries (Girma, 2005; Li and Liu, 2005). A number of studies including those by Barro and Sala-i-Martin (1995), Grossman and Helpman (1991), Hermes and Lensink (2003), suggest that FDI plays an important role in modernizing the economy and promoting economic growth in host countries, especially developing countries. Other research by Hejazi and Safarian (1999), for a number of countries, demonstrates that spillover effects increase significantly with the inclusion of FDI in the standard model, thereby explaining the link to total factor productivity and hence, economic growth. On the other hand, some authors find that there is no trace of spillover effects in some country studies, or if effects are present the economic effect is minimal. For ex ownership exhibit faster productivity growth, their study - and similar studies – suffer from a critical identification problem: if foreign investment gravitates toward more productive industries, the observed positive correlation will overstate the positive impact of FDI on growth ample, while Blomstrom (1986) finds that Mexican sectors with a higher degree of foreign . In the case of Aitken and Harrison's (1999) study they find that FDI raises productivity within plants that receive the investment, but lowers that of domestically owned plants; a finding that contradicts spillover theory.

While others find that FDI inflow is positively associated with economic growth only when countries have previously achieved a certain level of wealth (Blomstrom et al., 1994), education (Borenzstein et al. 1998), or financial development.

A study for the World Bank by Kamal Saggi (2000) reached similar policy conclusions. He found that "Without adequate human capital or investments in R&D, spillovers from FDI will fail to materialize. This finding underscores the importance of countries' policies toward education, accumulation of human capital, and R&D."

The United Nations provides another supporting lesson. It states that "Evidence also suggests that TNCs react to the availability of skills in host economies by raising technological content and upgrading their investments, in turn contributing to skill upgrading…the extent of training and collaboration in much higher in countries with advanced educational systems…" (World Investment Report 1999[3])

These findings have been given robust cross-country support by Bende-Nabende and Slater, 2000, who argue based on their data analysis that "governments need to pursue policies that lead to sustained output growth…For instance, investment in human capital builds a labor-force with the potential of improving productivity, while a good infrastructure facilitates the production and distribution of goods and services. No wonder then that these two also act as determinants of FDI, a key component of private investment" (Bende-Nabende and Slater, 2000[4])

A study of the theoretical perspective indicates that improved human capital makes a country attractive to FDI.

2.0 Objectives

1. To see the relationship between human development and direction of the flow of FDI.
2. To examine the effects of variation in human development on economic growth across countries.

2.1 Research Questions

Does the variation in human development have an impact on economic growth?

2.2 Materials and Methods

Data: Firstly, the total inflow of FDI is collected from world bank data (2016) by selecting the sample of 11 countries through simple random sampling method. To measure the human development among the countries we are using Human development Index(HDI) constructed by UNDP Human Development Report 2016.The index ranges from 0 (least human developed) to 1 (highest human developed). The index covers all the countries of the world developed, developing and underdeveloped countries.

Methods: Graphical methodology has been put in use to see the relationship between human development and flow of FDI for the sample of 10 countries in a single graph.

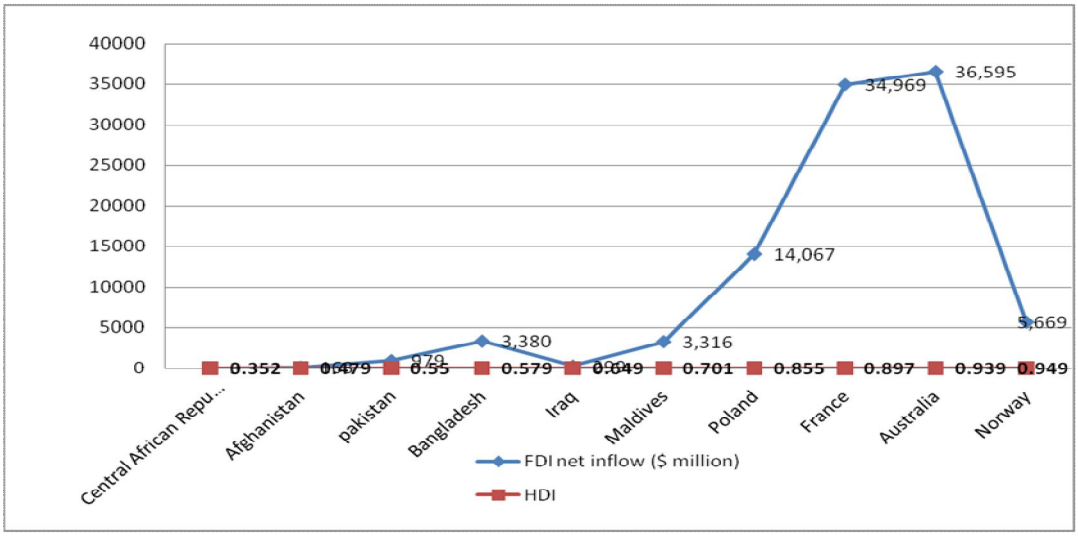
To examine whether the variation in human development across countries affects the countries development performance we are selecting the sample of 40 countries through random sampling method. The GNI per capita is taken as an indicator of measurement of economic growth among countries which is taken as dependent variable in our statistical analysis. The inflow of FDI in these countries and location factor categorized as very high, high, medium and low human developed countries is taken as independent variable.

3.0 Discussion

3.1 *Human Development and inflow of FDI in the countries*

The following figures show the relationship between the variation in human development (measured by Human Development Index formulated by UNDP) and total inflow of FDI in eleven countries viz. Central African Republic, Afghanistan pakistan, Bangladesh, Iraq, Maldives, Poland, France, Australia, Norway.

Figure-1 HDI and Inflow of FDI in the year 2015



Findings

It was expected that the improvement in human development (measured in terms of higher HDI) will increase the inflow of FDI . Graphical analysis reveals the following results:

- With the improvements in HDI, inflow of FDI shows a rising trends. Except, for the country i.e. Iraq , all other countries which are at higher level of human development has more inflow of FDI to the country as compared to the other country which are at lower human developed categories..Hence, the importance of Human development as a means to attract FDI for the countries which are at low human development categories is prominent
- The highest human developed country i.e. Norway shows a drastic fall in the inflow of FDI in the year 2015, which is contrast to our expectation. It reflects that after certain level of human development is reached for the country, there is need for the country to adopt other policies to attract FDI and it may also happen that, countries after reaching a certain developed stage, the importance of the FDI as a factor for economic growth declines, hence, the linear relationship between human development and FDI breaks down.

3.2 Does the variation in human development have an impact on economic growth?

To examine whether the difference in human development influences the countries economic growth we are considering the inflow of FDI from sample of 40 countries and Country category viz. very high, high, medium and low human developed countries considered as dummy as a dependent variable. The GNI per capita is taken as dependent variable in our statistical analysis.

Table:1 -Defining the Variables:

Phenomenon to be explained	Explanatory factors
• Capture in the Form of the Dependent Variable Phenomenon to be explained :GNI per capita Translated to dependent variable Y Y= GNI per capita measured	Quantifiable factors: • FDI, net inflows Qualitative factors: • Country Category are represented in 4 categories: Very High human developed countries, High human developed countries, Medium human developed countries, Low Human developed countries Dummies = 3 C_1= base category C_2= 1 for high human developed countries, 0 for others. $C_{3=}$ 1 for medium human developed countries, 0 for others. C_4= 1 for low human developed countries, 0 for others.

- **GNI per capita** (measured at $PPP, 2011): Aggregate income of an economy generated by its production and its ownership of factors of production, less the incomes paid for the use of factors of production owned by the rest of the world, converted to international dollars using PPP rates, divided by mid-year population. The wealthier a country is, the more money its citizens will have to spend on healthcare, and correspondingly , the more likely they are to have time for leisurely activities and exercise.
- **FDI , net inflows**- Foreign direct Investment refers to direct investment equity flows in the reporting economy. It is the sum of equity capital, reinvestment of earnings, and other capital. Direct investment is a category of cross-border investment associated with a resident in one economy having control or a significant degree of influence on the management of an enterprise that is resident in another economy. Data are in current US dollars

3.3 Model Formation:

C-D form :$Y= \alpha FDI^{\beta} e^{\delta 2c2} e^{\delta 3c3} e^{\delta 4c4} e^{u}$

Log linear form of C-D function : $\ln Y = \ln\alpha + \beta \ln FDI + \delta_2 C_2 + \delta_3 C_3 + \delta_4 C_4 + U$

For C_2= 1, other category of country are taken as 0. In that case the linear model will be:

$Y= \alpha + \beta \ln FDI + \delta_2 + U$

For $C_3 = 1$,

$Y = \alpha + \beta \ln FDI + \delta_3 + U$

For C_4=1,

$Y = \alpha + \beta \ln FDI + \delta_4 + U$

Similarly for C_1=1,

$Y=\alpha + \beta \ln FDI + U$

Under, log-linear model, the coefficients ($\beta_1, \beta_2, \beta_3, \beta_4$) are interpreted as elasticity.

The $\delta_2, \delta_2, \delta_4$ are the coefficient of a dummy variables representing the differential effect on Y of the category for which dummy is 1 over the base category.

Here, α is the intercept & U is the error term.

Table :2 Description of Variables and expected signs of coefficients

ariable Name	V ariable descriptions	M aximum value	M inimum Value	ean	tandard eviation	E xpected signs of coefficients
DI	F DI , net inflows($ millions)	2.85	.10	.0744	.58085	+
2	H igh Human Developed countries		0	25	.439	+ /-
3	M edium Human Developed countries		0	.22	.423	+ /-
4	L ow Human Developed countries		0	.25	.439	+ /-

Table: 3-Running Multiple Regression analysis we find the following results

Log Linear

l.No	Variables Name	Estimated Coefficients	Standard error	p-value
	FDI	0.068*	.036	.071
	C_2	-1.123***	.231	.000
	C_3	-1.739***	.242	.000
	C_4	-2.919***	.256	.000
	Constant	10.077***	.382	.000
	R^2	0.852		
	F(35)	50.543		

Note- *, **, *** represents statistically significant at 10%, 5% and 1% respectively.

Findings:

The model shows a strong linear fit with R^2 value of 0.852. This means that 85.2% of the variance has been accounted for in our model. Therefore, we can assume that our data set is sufficient for creating a regression model.

The FDI inflow exert significant relationship with p-value (0.071) on dependent variable i.e. a percentage increase in FDI inflow leads to 6.8 percentage increase in GNI per capita.

The Country category categorized into very high, high, medium and low human developed countries which is a dummy variable, exert highly significant relationship with the GNI per capita which is considered as an indicator of economic growth in our model. the coefficients of C_2 is 1.123, it implies that GNI per capita of the base category i.e. C_1 exceeds that of high developed countries by 1.123. Similarly, the coefficients of C_3 and C_4 are 1.739 and 2.919 implying that GNI per capita of the base category i.e. C_1 exceeds that of medium developed countries by 1.739 and C_1 exceeds that of low developed countries by 2.919.

Estimated log-linear regression model:

$\hat{}$ $\ln Y = 10.077 + 0.068 \ln FDI + (-)1.123C_2 + (-)1.739C_3 + (-)2.919C_4$

Conclusion:

Foreign investors choose those countries for their investment where human development is comparatively improved than that of other countries which is least developed in context of human development. Therefore, it is expected that Human development attracts the inflow of FDI. And the results of regression analysis depicts that FDI has a significant impact on the economic growth which is measured in our model in context of GNI per capita. And the graphical analysis proves that improvement in human development measured in terms of higher HDI has an impact on the direction of inflow of FDI. Our analysis concludes that variation in the human development has an impact on the countries economic growth since, variation in human development has an impact on inflow of FDI.

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