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The Impact of FDI Inflow on Rural and Urban Employment in Pakistan

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Abstract:

This study is exploring the impact of FDI inflow on rural employment in comparison to urban employment with relevance to Pakistan. In the last two decades, Pakistan has received enormous FDI inflows; which has influenced various macroeconomic variables – especially: growth, investment and employment. Although, FDI has been discussed widely with employment from different aspects, however, its segregated effect on rural and urban employment has not been enough explored. We incorporate ADF unit root test followed by cointegration and Granger causality techniques to explore the existence of long run relationship between FDI, GDP and Rural and urban employment. Causality results show that FDI is only Granger-causing urban employment and not the rural. This might be articulated to the fact that urban areas have more skilled labor and FDI is mostly located nearby urban areas.

Key words: FDI inflow, rural and urban employment, cointegration

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I. INTRODUCTION

Foreign Direct Investment (FDI) is often seen as a driver for economic development as it may bring capital, technology, management knowhow, jobs and makes access to new markets (United Nation, 2002). Therefore, developing countries often give incentives to attract foreign investors and accelerate FDI inflow. Foreign capital inflow may be in the form of Foreign Direct Investment (FDI), Portfolio investment, economic grants and loans. The recipient countries generally pay interest and principal upon portfolio, economic grants and loans while FDI is a kind of input of foreign capital that has no payment or interest. This attribute makes FDI more attractive to the developing nations. One of the major enticements to the foreign investor is the abundance of cheap labor in the host country. Multinational enterprises (MNEs) are the mainstream carriers of FDI inflow; it is strongly expected that large multinationals would be able to maintain high level of employment (Dufux, 2010). However, MNEs have often been accused of taking unfair advantage of low wages and poor labor standards in developing countries. MNEs also have been accused of violating human and labor rights in countries where governments fail to enforce such rights effectively (OECD-ILO, 2008). Nevertheless MNEs provide employment to the labor force and utilize the domestic production resources. FDI inflow may affect domestic employment in several ways; subsequent sections will briefly explain interaction between FDI and employment.

II. THEORETICAL FRAMEWORK:

Keynes (1936) theory of employment suggested the existence of direct relationship between investment and employment; however, there are wide-range disputes among economists at the relationship between FDI and employment (Pugel 1985; Beldwin, 1995). The debates mainly encompass three major

issues: (i) the extent to which FDI is substituted for domestic investment (ii) the measure of increase in exports of the intermediate and capital goods due to FDI, (iii) whether FDI involves the construction of new plants or acquisition of the existing facilities? To sum up, FDI may promote employment directly by setting up new facilities or indirectly through distribution; secondly, FDI can maintain the employment level by acquiring and restructuring the weak firms; thirdly, FDI can reduce employment through divestment and closure of production facilities.

The available past literature shows weak relationship between FDI and employment, (Vaitsos, 1976) discussed employment and his findings claim that overall effect on employment of the host country is very small. Tambunlertchai (1976) analyzed the contribution of FDI to domestic employment and concluded that FDI brings significant impacts in employment due to high capital intensity and import dependency. Feldstein (1994) also suggested that total employment in the economy with well-functioning labor market will be affected by FDI inflow. Graham and Krugman (1991) found that net impact of FDI inflow on US employment is around zero. Other recent studies including: Mickiewicz, et al. (2000); Dufux, (2010); Ernst, (2005); Ekel (2001); Malik et al. (2011); Blomström et al (1997), found positive association between FDI and employment.

Another aspect of FDI inflow is the competition between home and foreign markets for MNEs capital resources; the wage level determines the extent to which offshore production reduces the demand for labor at home. A study for US firms indicates that domestic and foreign firms were not independent because of increase in plant and equipment investment in foreign operation decreases the capital at home due to raise the firm's cost of capital (Steven and Lispey, 1992). Further, Kravis and Lispey (1988) stated that US wage studies have been found

with positive relationship between foreign activity and home country wage level of firms.

FDI has been discussed with relative wage effect in domestic employment by Feenstra and Hanson (1997); they analyzed increase in relative wage rate for Mexican skilled labor and found that FDI in skill intensive production increases the demand and relative wages of skilled labors. Similar evidence has been found by Taylor and Driffield (2000) for UK inward FDI and came up with conclusion on positive association between FDI and demand for skilled labor. Economists generally agree over the preposition that relative wage changes causes increase in the demand for skilled labor; however, they diverge over the reasons for the shift in demand. There are two opinions: the first claims the advent of information technology as a main reason that switches firm to high production techniques which obviously requires highly skilled labor (Davis and Haltiwanger, 1991; Lawrence and Slaughter, 1993; and Berman et al 1993). While others explain that increase in import competition causes labor shift from low-wage sector towards high-wage industries which demand highly skilled labor and hence lowers wages for uneducated labor (Borjas and Ramey, 1993 and Leamer 1992).

Although a vast literature has been found which explains FDI and employment from different aspects, though, we are trying to explain the impact of FDI inflow separately on the rural and urban employment. FDI takes place mainly in the urban areas, due to abundance of skill labor therein. Contrary to this, rural areas being with unskilled labor have no attraction for foreign investors and hence do not gain much form FDI inflow in terms of employment. This paper will analyze, empirically, the impact of FDI inflow on rural and urban areas in case of Pakistan.

The remaining paper is organized as: the section II and III have theoretical and research methodology respectively;

section IV holds empirical framework and section V is comprised of the conclusion of this research.

III. RESEARCH METHODOLOGY

Empirical estimations have been borrowed from the model of Rizvi and Nishat (2009) that contains the variables like – Foreign Direct Investment (FDI) inflow, Gross Domestic Production (GDP) and Employed labor force (EL); however, due to the specific objective of this paper, we decompose the total employed labor force into rural and urban sector. We are applying conventional time series tools for empirical estimation that show long run interaction among variables. Therefore, cointegration technique has been used to check the existence of long run relationship; nonetheless, before going to estimate cointegration one might check the order of integration of the included variables; ADF unit root test is a better framework to check the order of integration of non-stationary data. The long time period data needs to be checked for the desirable stationary properties of the variables. We may use Dickey-Fuller (1979) and Dickey-Fuller (1981) methods for unit root test, yet the later technique holds some advantages over the earlier. In fact, Dickey-Fuller (1981) is one step extension of the Dickey-Fuller (1979) technique and is termed as Augmented Dickey-Fuller (ADF) test, thus the ADF unit root test model becomes as:

$$\Delta Y_t = \beta_1 + \beta_{2t} + \delta Y_{t-1} + \sum_{i=1}^{m} \alpha Y_{t-1} + \varepsilon_t$$

The hypothesis is tested for δ by using tau (τ) statistic or Mackinnon et al. (1999) critical values as t-values ($t=\tau$), if δ exceeds critical τ values, one can accept the hypothesis that δ is non-stationary and vice versa. Cointegration mainly explain the long run relationship between the variables; the two approaches namely Engle and Granger (1987) and Johansen

(1995) cointegration techniques are extensively used in empirical literature. We will follow Cointegration test suggested by Johansson (1995) which is based on Maximum Likelihood method and tested for two statistics one is Maxima Eigen value and other is the trace statistic. After testing the cointegration we may apply Granger casualty test (Angela et al. 2011; and Afzal, 2007).

The data for the variables are obtained from Pakistan Economic Survey various issues and World Bank Development Indicators (WDIs).

IV. EMPIRICAL FRAMEWORK:

Since we are using long period time series data, therefore, we should check the stationary properties of the variables; ADF unit root is used to fulfill this need. Table-1 shows ADF results.

Table-1

ADF unit root test*

Variable	At level**	At First Difference**	conclusion	order of integration
FDI	-2.2792 (-3.0123)	-2.9175 (-2.9175)	Non stationary at level Stationary at first difference	I(1)
GDP	0.8208 (-3.0048)	-5.7953 (-2.64611)	Non stationary at level Stationary at first difference	I(1)
UR	1.36923 (-3.0403)	-5.5879 (-3.0299)	Non stationary at level Stationary at first difference	I(1)
RE	1.369239 (-3.04039)	5.5879 (-3.0299)	Non stationary at level Stationary at first difference	I(1)

* The ADF values are computed with an intercept and no trend.
** The parenthesis shows critical values

The ADF unit root test indicates that all variable are non-stationary at level, though, became stationary at first difference indicating that all variables got to the same order of integration after the first difference.

Cointegration

We will follow the cointegration technique suggested by Johansen (1995), and run separate test for the set of vectors. The cointegration is computed with no intercepts or trends in the VAR framework, order of VAR = 1 for all cointegration results.

Table -2
Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.927311	86.48898	47.85613	0.0000
At most 1 *	0.633242	31.43606	29.79707	0.0321
At most 2	0.345917	10.37193	15.49471	0.2532
At most 3	0.067029	1.457002	3.841466	0.2274

* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.927311	55.05292	27.58434	0.0000
At most 1	0.633242	21.06412	21.13162	0.0511
At most 2	0.345917	8.914931	14.26460	0.2933
At most 3	0.067029	1.457002	3.841466	0.2274

* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Cointegration results show the existence of long run relationship between the included variables in the system as two cointegrating vectors in trace statistics while maximum Eigen-value shows one cointegrating vector.

Granger Causality Test

Table - 3
Sample: 1991-2013
Lags: 5

Null Hypothesis:	F-Statistic	Prob.
GDP does not Granger Cause FDI	20.1397	0.0005
FDI does not Granger Cause GDP	1.47965	0.3071
RE does not Granger Cause FDI	1.08207	0.4450
FDI does not Granger Cause RE	0.80821	0.5785
UE does not Granger Cause FDI	0.61089	0.6963
FDI does not Granger Cause UE	2.95182	0.0954
RE does not Granger Cause GDP	11.6746	0.0027
GDP does not Granger Cause RE	0.98829	0.4867
UE does not Granger Cause GDP	0.83786	0.5623
GDP does not Granger Cause UE	30.6446	0.0001
UE does not Granger Cause RE	195.388	2.E-07
RE does not Granger Cause UE	215.110	2.E-07

The causality results indicate that FDI doesn't cause rural employment (RE) rather it causes the urban employment (UE), significant at 10 percent. This means that FDI inflow mainly affects the urban areas employment. Since Granger causality is of bivariate case and used for the short run effect therefore in short run FDI doesn't cause rural employment in Pakistan. To sum up, our empirical findings pointed out the existence of long relationship between FDI, GDP, RE and UE.

CONCLUSION:

FDI inflow to Pakistan has been showing an increasing trend for the last two decades. It has affected different economic variables like –growth, investment and employment. Although

FDI and employment have been discussed widely in economic literature with regards to Pakistan, yet a very little attention has been given to explore its separate effects on rural and urban sector employment. The present study has, therefore, been designed to investigate the impact of FDI inflow on rural and urban employment, separately.

This study adopts Rizvi and Nishat (2009) model which comprises FDI, GDP, employed labor force; though, we utilized data of the employment being decomposed into rural and urban sectors. Data form 1991 to 2013 has been used for analysis and conventional time series tools have properly been applied for the empirical assessment incorporating ADF unit root test followed by cointegration technique and Granger Causality analysis.

Our findings claim the existence of long run relationship between urban employment and FDI; GDP and Rural and Urban employment. The causality results indicated that FDI only causes urban area employment, whereas, it has no Granger causation for rural employment. This postulates the fact that FDI stimulates urban employment because urban areas' labor market holds abundant skilled labor, hence, obviously has higher demand for foreign firms and again causes the urban area employment to increase. Secondly, most of the foreign firms are located in urban areas and urban areas' labor has closer access to such foreign owned firms, then opportunities, which incurs biases in the long-run relationship. This then leads to wage differences among the rural and urban areas. There is need to promote rural areas' labor through proper training and skill development in order to avert high wage difference between rural and urban areas. Government should abide firms by strictly obeying the minimum wage laws, and should facilitate foreign investors to open some of their industrial units in rural areas subject to the availability of raw materials.

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