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FOREIGN DIRECT INVESTMENT (FDI) AND EMPLOYMENT: A CASE OF PROVINCE OF PUNJAB, PAKISTAN

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ABSTRACT

Foreign direct investment is considered a significant source of capital inflows in developing countries. Along with its several impacts, FDI also influences the employment level of the host country. This study investigated the impact of foreign direct investment on employment in the province of Punjab, Pakistan. We employed the annual data from 1984-2010 to test this relationship. The stationarity of the variables was checked by applying ADF test. To find the relationship among variables, we applied ARDL approach. We found existence of co-integration between FDI and employment. Results also illustrated a significant long run direct relationship between variables.

Keywords: FDI, Co-integration, Capital flow, Stationary, ADF, Employment

Contribution/ Originality

This study contributes in the existing literature by looking into the FDI-employment relationship from provincial perspective. To best of our knowledge, such type of study in case of Province of Punjab has not been conducted. Further, it highlights whether increasing FDI in Punjab affects employment or not. Thence, findings of the study can be useful in devising the economic policies related to employment and foreign direct investment in Punjab province.

1. INTRODUCTION

Heap of scholastics work have substantiated the impacts of foreign direct investment (FDI) on different social and macroeconomic indicators. Along with its influence on process of development, FDI is also considered a major source to bring technology, and innovations (Sun, 2001). Further researchers also urge a positive impact of FDI on employment level of the host country.

The depth of the relationship between FDI and employment, however, depends upon the factors that attract FDI. For example, market seeking investment – a kind of FDI in which investor looks growth perspective of the market, access to other markets of the region, and

market structure etc— has a higher impact on social and economic factors as compare to resource and efficiency seeking—a kind of investment where reduction in cost of production is a main focus.

Similarly, green field investment FDIs focuses on production and installation facilities as compare to mergers and acquisitions(M&A) where already existing two or three firms are getting merged into one entity. Here former is a source of job creation whereas later often leads to unemployment. In this context, prime objective of this paper is to test the reciprocity between overall FDI and employment in province of Punjab, Pakistan. The prime reason to focus on Punjab province, beside its major economic contribution, is its ability to captivate a substantial amount of FDI. The following section of the paper discusses the different aspects of FDI-employment relationship in light of empirical literature. Remaining part of the paper comprises of 4 sections. Proceeding section, Section 2, reviews scholastic work done on the topic. Section-3 delineates the data and methodology whereas analysis and conclusion has been discusses in section-4 and section -5 respectively.

2. LITERATURE REVIEW

Empirical literature, discussing FDI's multi-facet impact on host country's economy, is abundant. Therefore, the issue demands empirical studies, angling innovatively, to substantiate the issue. FDI-unemployment is one such paradox that demands multi-dimensional scholastic attention. Study conducted by [Findlay \(1978\)](#) depicted that foreign direct investment did not only augment the technical development in host country but also remained a source of employment. Similar results emerged in the study conducted by [Borensztein et al. \(1998\)](#). Analyzing twelve (12) Latin American Countries, he found a direct relationship of FDI with growth and employment.

In this perspective, some of researchers tried to quantify the FDI's impact on job creation. [Aaron \(1999\)](#) conducted a similar type of research. According to him, FDI did not only create direct employment but it was also a source of indirect employment and its impact was cascading. Taking year 1997, he depicted that about 26 million jobs (direct) and 41.6 million (indirect) jobs have been created in developing countries by FDI in those countries. Likewise, [Altzinger and Bellak \(1999\)](#) compared domestic firms' performance in term of employment with firms having FDI. Results substantiated that firms having direct FDI was more significantly influenced by labor cost where indirect FDI had more focus on market seeking investment. Empirical results also confirmed better employment performance of firms having direct FDI as compared to those of indirect FDI. Congruently, [Nunnenkamp et al. \(2007\)](#) explored this relationship in case of Mexico. They examined the significance of FDI in reducing unemployment in Mexico. Taking the data of manufacturing sector FDI, they found a positive and significant affect of FDI on white collar and blue-collar employment. Some of empirical studies focused on the linkage of FDI with employment through growth. For example, according to [Buckley et al. \(2002\)](#), the contribution of FDI in growth and employment was dependent upon social and environmental conditions of host country. [Fry \(1992\)](#) also focused the same paradox. To him, foreign direct investment contributed to the process of economic growth, which could lead toward employment augmentation. He also

depicted an indirect (negative) relation of FDI with domestic investment. Here its also worth mentioning a study conducted by Rawski (2002). Partially differing from Fry (1992), he concluded a bi-directional relationship of economic growth and employment exists in case of China

Along with its impacts on jobs, FDI is also a source of high wages in recipient countries. Scholastic work on FDI-wage relationship showed that Multinational Enterprises (MNEs) had a higher wages structure as compare to domestic firms. The higher wages structure of multinational even pushed up the overall wages rate (Lipse, 2001; Lipse, 2002; Warsi et al., 2013).

Process innovative technology and technological expertise of worker have vital importance for growth. Most of LDCs, seek FDI as source of it. The proponents argue that employee turnover in foreign firms helps augment this process. Especially if an employee is leaving a foreign multinational and going to domestic firm, he becomes a source to transfer the technological knowledge. Bloom (1992) discerned the same issue in South Korea. He found a huge technological transfer in South Korea when production managers joined domestic firms by leaving foreign firms. Though some time foreign firms by paying higher wages try to retain their employees thus preventing technological transfers [Glass and Saggi (2002)].

Further empirical literature also highlighted the significant affect of FDI on labor force productivity of host country. For instance, Harrison (1996) depicted a substantial difference between the productivity of labors working in multinationals and domestic firms. He showed a higher labor productivity of those who were working in foreign companies. Supporting the same Ramachandran and Shah (1998) reported the results of their study conducted in Kenya. They found 59% high value addition per worker for a firm which is fully foreign owned enterprises than for a domestic Kensyan firm. They further stated that the productivity gaps were due to the training difference of local and multinational companies.

3. DATA, MODEL AND METHODOLOGY

We took the last 30 years data from 1980 to 2010. Data on employment was extracted from the various issues of labor survey of Pakistan (Govt of Pakistan, 2010). The data of employment was compiled from labor surveys of Pakistan. The FDI data emerged from SBP statistical handbooks 2010 (State Bank of Pakistan, 2010). To find out the order of integration of variables, we applied Augmented Ducky Filler Test .

We developed the following equation to further process for testing relationship.

$$EMP=f(FDI,GDP) \quad (1)$$

Where, EMP, GDP, & FDI represents Employment, GDP, and FDI respectively

After checking the stationary of the data, the existence of co-integration was tested by developing following equation using ARDL approach Pesaran et al. (2001) approach.

$$\Delta EMP_t = \lambda_0 P + \sum \lambda_i P \Delta EMP_{t-1} + \sum \lambda_i P \Delta FDI_{t-1} + \sum \lambda_i P \Delta LGDP_{t-1} + \beta_1 P EMP_{t-1} + \beta_2 P FDI_{t-1} + \beta_3 P LGDP_t \quad (2)$$

*All the variables have been taken in log natural form

The coefficients of variables (at level) was taken to test the hypothesis of no co-integration against the alternate hypothesis of co-integration.

Null hypothesis Eq.1 $\beta_1P=\beta_2P=\beta_3P=0$ No Co integration

The decision whether co-integration exists or not was taken by comparing the calculated values with the values given by Pesaran et al.

After finding the existence of co-integration, Error Correction Model was developed.

$$\Delta LEMP = \lambda_0P + \Phi ECTP + \sum \lambda_i P \Delta LEMP_{t-1} + \sum \lambda_i P \Delta FDI_{t-1} + \sum \lambda_i P \Delta LGDP_{t-1} \quad (3)$$

Where ECTP represents error correction term of equation

4. EMPIRICAL RESULTS

i) Unit Root Test

Table-1. Unit Root Test

Variables	ADF Test
LEMP	0.9163
DLEMP	-5.7568*
LGDP	-0.6761
DLGDP	-3.8183*
LFDI	-2.0339
DLFDI	-4.7157*

Note: * and ** shows the rejection of hypothesis at 1% and 5% respectively

Followings are the results of unit root test. This study employs Augmented Ducky Fuller(Dickey and Fuller, 1981) unit root test. The results are depicted below in table.1. The results shows that variables are not stationary at level and are I(1) at 1 percent .

ii) Co-integration Test

After unit root test, we developed equation by keeping employment as dependent variable and FDI and GDP as independent variable. This equation was used to check the existence of co-integration. The hypothesis of no co-integration was tested against the alternate hypothesis of co-integration. We used the standard F-statistic for this process. The results appear in Table.2. While comparing the 10 critical values, the null hypothesis of co-integration is rejected at 1% level. This confirmed the existence of co-integration between FDI, employment and GDP in Punjab. In order to further expound this relationship we developed Error Correction Model.

Table-2.ARDL Co-integration Test Result

F-statistic = 4.6957	
90% Lower Bound	90% Upper Bound
3.4985	4.5566

If the statistic lies between the bounds, the test is inconclusive.

If it is above the upper bound, the null hypothesis of no level effect is rejected.

If it is below the lower bound, the null hypothesis of no level effect can't be rejected.

Table-3 exhibits the long run estimates of the model. It shows that in long run one million dollar increase in FDI can raise employment level in Punjab by 0.24%. The coefficient is significant at 10% level.

Table-3.Long Term Regression Equation

Dependent Variable: LEMP			
Variable	Coefficient	t-Statistic	Prob.
Constant	-5.133	-9.481	0.000
LFDI	0.024	1.844	0.088
LGDP	0.561	13.562	0.000
R-squared	0.979		

iii) Error Correction Model

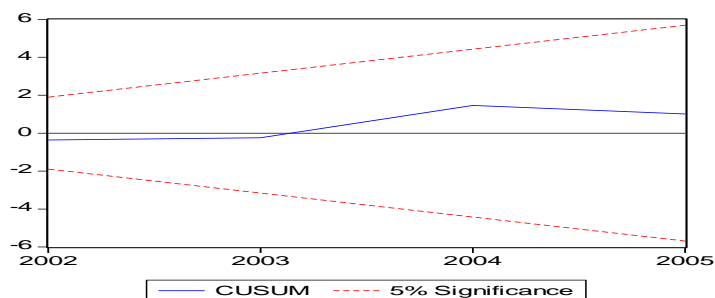
Before developing the error correction model, we normalized the coefficients taken at level and an error correction term was developed. Error correction term (ECT) was included in error correction model. The ECT was estimated by choosing appropriate lags with the help of AIC & SIC criteria. Table.4 shows the results of ECM. The coefficient of error correction term explains the convergence / divergence of variable toward equilibrium and the rate at which it diverges/converges. In order to have appropriate results, error correction term coefficient should have negative sign with significant t-value. In our case, the error correction term was negative with significant t-value. It means that employment level converged toward equilibrium by 72% in one time period.

Table-4.Error Correction Model

ARDL with appropriate lags	Error Correction Model	Error Correction Term	P-value
ARDL (2,5,3)	LEMP=f(LGDP, LFDI)	-0.72467	-2.66436 (0.0051)

4.1. Stability Test

The CUSUM test is applied to find the stability of parameters. Graph.1 shows that the blue line is within given band, which means that parameters are stable at 5% level.



5. CONCLUSION AND RECOMMENDATIONS

We analyzed the impact of FDI on employment by from 1984 to 2010. By applying the ARDL approach, study found a long-term momentous relationship between FDI and employment in province of Punjab. The negative sign of the error correction term is negative with significant t-value. It depicted that employment level converged toward equilibrium by 72% in one time. CUSUM test also showed that the parameters were stable at 5% level. Long run estimates illustrated that one million dollar increase in FDI can raise employment level in Punjab by 0.2%.

Based on results, we suggest Govt to give incentives to those foreign investors who want to directly undertake the investment activity in Pakistan. Because foreign investors are prone to security measures, so provision of security to them is utmost important. One of the ways to cater the huge flock of labor forces is to make country conditions conducive for foreign investors.

REFERENCES

- Aaron, C., 1999. The contribution of FDI to poverty alleviation. Washington, DC: Foreign Investment Advisory Service.
- Altzinger, W. and C. Bellak, 1999. Direct versus indirect FDI: Impact on domestic exports and employment. Working Paper No.09, Vienna University of Economics and Business Administration (WU).
- Bloom, M., 1992. Technological change in the Korean electronics industry. Paris: OECD.
- Borensztein, E., J. De Gregorio and J.W. Lee, 1998. How does foreign direct investment affect economic growth? *Journal of International Economics*, 45(1): 115-135.
- Buckley, P. J., Clegg, J., & Wang, C. (2002). The Impact of Inward FDI on the Performance of Chinese Manufacturing Firms. *Journal of International Business Studies*, 33(4): 637-655.
doi: 10.2307/3069587
- Dickey, D.A. and W.A. Fuller, 1981. Likelihood ratio statistics for autoregressive time series with a unit root. *Econometrica*, 49(4): 1057-1072.
- Findlay, R., 1978. Relative backwardness, direct foreign investment, and the transfer of technology: A simple dynamic model. *Quarterly Journal of Economics*, 92(1): 1-16.
- Fry, M.J., 1992. Foreign direct investment in a macroeconomic framework: Finance, growth in Pakistan. *The Pakistan Development Review*, 31(4): 831-841.

- Glass, A.J. and K. Saggi, 2002. Multinational firms and technology transfer. Scandinavian Journal of Economics, 104(4): 495-513.
- Govt of Pakistan, 2010. Labor survey.
- Harrison, A., 1996. Openness and growth: A time-series, cross-country analysis for developing countries. Journal of development Economics, 48(2): 419-447.
- Lipsey, R.E., 2001. Foreign direct investment and the operations of multinational firms: Concepts, history and data, NBER Working Paper, No. 8665.
- Lipsey, R.E., 2002. Home and host country effects of FDI, NBER working paper No. 9293. Cambridge, MA: National Bureau of Economic Research.
- Nunnenkamp, Bremont and Waldkirch, 2007. FDI in Mexico: An empirical assessment of employment effects, Kiel Working Paper No. 1328.
- Pesaran, M.H., Y. Shin and R.J. Smith, 2001. Bounds testing approaches to the analysis of level relationships. Journal of Applied Econometrics, 16(3): 289-326.
- Ramachandran, T.B. and M.K. Shah, 1998. Firm performance and foreign ownership in Africa: Evidence from Zimbabwe, Ghana and Kenya, RPED Paper No. 81. Washington, DC: World Bank.
- Rawski, T.G., 2002. Economic growth and employment in China, World Development, 7(8-9): 767-782.
- State Bank of Pakistan, 2010. Statistical Hand Books.
- Sun, H., 2001. Foreign direct investment and regional export performance in China. Journal of Regional Science, 41(2): 317-336.
- Warsi, A.Z., M.S. Mubarik and J. Hussain, 2013. Effect of workers' remittances on balance of trade, inflation and economic growth in Pakistan. Pakistan Business Review, 15(2): 204-217.

BIBLIOGRAPHY

- Altzinger, W. and R. Winklhofer, 1998. General patterns of Austria's FDI in central and Eastern Europe and a case study. Journal of International Relations and Development, 1(1-2): 65-83.
- Bulcke, D.V.D., 1987. Deregulation of foreign direct investment in developing countries. Paper Presented at the EDI-Conference in Amsterdam, the Netherlands, September.
- Dongin, L. and S. Peter, 1996. On the power of the KPSS test of stationarity against fractionally-integrated alternatives. Journal of Econometrics, 73(1): 285-302.
- Hanson, G.H., 2001. Should countries promote foreign direct investment? G-24 Discussion Paper No. 9. New York: United Nations.
- Phillips, P.C. and P. Perron, 1988. Testing for a unit root in time series regression. Biometrika, 75(2): 335-346.

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