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Impact of Foreign Direct Investment and Foreign Remittances on Unemployment in Pakistan: A Time Series Analysis

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Abstract

The present study aims at measuring the impact of FDI and foreign remittances on unemployment in Pakistan. The analysis is carried out by using annual time series data over the period 1972 to 2014. The study has employed the ARDL model. The results reveal that in the long run both FDI and foreign remittances play an important role in reducing the unemployment in Pakistan. However, in the short run their impact is statistically insignificant. The results suggest that appropriate measures ought to be taken by the government to increase the flow of foreign capital in the form of FDI and remittances to reduce unemployment rate in Pakistan.

JEL Classification: C22; F41; O53

Keywords: Foreign Direct Investment; Foreign Remittances; Unemployment; ARDL

I. Introduction

In a modern world, globalization has led the basis of mutual interdependence among various countries of the world and none of the country is self-sufficient in producing all goods and services. Therefore, countries are interlinked with one another through free trade for achieving their requirements (Vijayasri, 2013). In this way, globalization and the availability of foreign capital have created many advantages and opportunities for development of the developing countries. In this regard, the primary and considerable advantage to developing

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countries is the inflow of capital in the form of foreign direct investment (FDI) which helps in modernizing different sectors in these developing countries through better management and improvement in technology leading to raise the employment level (Whyman & Baimbridge, 2006). Furthermore, through the transfer of modern and sophisticated technology from developed to developing countries, FDI tends to enhance the productivity of factors of production, products quality and increases the exports of the host country and finally it stimulates the economic growth (Bacic, *et al*., 2004).

On the other hand, foreign remittances are also considered an important mechanism for relocating the international assets and resources from developed to developing countries (Russell, 1992). In theory, the impact of remittances is controversial. However, they have very strong positive impacts on economic development of a nation (Connell & Conway, 2000). On the whole, the inflow of foreign remittances increases the economic development and reduces the poverty by increasing the national income of the recipient country, lessening the credit constraints, increasing the investment and employment opportunities and augmenting the human capital by developing the education and health facilities (Stark & Lucas, 1988; Taylor, 1992). In general, for developing nations their significance cannot be denied in light of the fact that they have turned into the second biggest wellspring of foreign financing after FDI in these economies (Ratha, 2003).

Like all other developing nations, attracting the FDI inflows has always remained at the top priority of Pakistan. However, Pakistan failed to magnetizer considerable volume of FDI inflows due to incompatible policies, disappointing judiciary system, lack of political steadiness and macroeconomic discrepancy (Khan, 1997). Increasing international economic prerequisites has encouraged the importance of FDI as a development motivating element of foreign capital flows. Despite its hard efforts Pakistan could not become a safe haven for foreign investors. Consequently, we see a fluctuating trend of FDI inflows to Pakistan over the sample period of the study (see figure 1 in appendix).

On the other hand, the inflow of remittances has been registering a steady increase for the last three decades, nonetheless, remittance income as percent of GDP has depicted a fluctuating behavior for the last four decades (see Figure 2 in the appendix). Currently, Pakistan is facing several problems and unemployment is one of them. Many Pakistani graduates are talented,

intelligent, and skilled, yet do not get an opportunity to work. During the 1970s and 1980s the unemployment issue was not so much serious but since the 1990s this problem has become alarming despite adopting liberal and open policies (see Figure 3 in the appendix).

The aim of this study is to empirically investigate the effect of FDI and foreign remittances on unemployment in Pakistan by utilizing the autoregressive distributed lag (ARDL) model. In addition, the study examin the relative significance of FDI and foreign remittances in influencing the unemployment in the country. The significance of the present study is evident from two facts. Firstly, the study is pioneer in examining the role of foreign remittances in determining unemployment in Pakistan. This is worth mentioning that previous studies only focus either on exploring relationship between economic growth and foreign remittances or the poverty and remittances nexus in Pakistan. No attempt has been made in the past to gauge the impact of foreign remittances on unemployment in Pakistan. Secondly, the study also incorporates the exports in the analysis which has not been used in the existing literature on Pakistan with regard to the determinants of unemployment.

The rest of the study is structured as follows. Section 2 throws light on the existing relevant literature. The details of the methodology used is given in section 3. The empirical results are given in section 4. Section 5 concludes the study.

2. Review of Literature

The dramatic expansion of high level of unemployment is a big annoyance for developing countries. There is a huge stock of literature on analyzing FDI and employment association but there is a dearth of literature examining the impact of foreign remittances on unemployment. Leon-Ledesma and Piracha (2001) by taking the annual time series data for eleven Central and East European countries have scrutinized the effect of remittances on employment over the period 1990 to 1999.Thestudy finds the strong evidence of positive relationship between remittances and employment. On the other hand, Shaari, et al. (2012) aim at estimating the impact of FDI on unemployment and economic growth in Malaysia over the time period 1980 to 2007 and the OLS technique has been applied. The study reports a negative and statistically significant relationship between FDI and unemployment and a positive and significant relationship between FDI and GDP. The study concludes that the

establishment of foreign companies in particular country can provide more jobs and thus total number of unemployed persons falls. Other studies such as Bayar (2014) and Stamatiou and Dritsakis (2014) document a positive relationship between FDI and unemployment for Turkey and Greece respectively.

Drinkwater et al. (2003) employ the panel data of a sample of twenty countries in order to study the role of remittances in labor market dynamics covering the period 1970 to 2000. The findings reveal that remittance income is an insignificant determinant of unemployment but it is positively associated with investment. In contrast, a study by Kim (2007) concludes that remittances are positively related with unemployment because families with remittance earnings have high reservation wage and reduce their labor supply. The studies such as Rizvi and Nishat (2009) by taking the data for Pakistan, India and China over the period 1985 to 2008, and Mehra (2013) by using the Indian data for the period 1970 to 2007 report that FDI inflows have no impact on unemployment. However, Balcerzak and Zurek (2011) find that FDI tends to reduce unemployment in Poland.

In case of Pakistan, Habib and Sarwar (2013) investigate the impact of FDI and other macroeconomic variables (i.e. exchange rate and GDP per capita) on employment. They employ the Johenson cointegration technique using data for the period 1970 to 2011. The findings reveal that FDI and GDP per capita have positive influence on employment whereas exchange rate is negatively related with employment. Maqbool et al.(2013) analyze the relationship between unemployment, FDI, GDP, population, inflation and external debt by using the annual time series data for the period 1976 to 2012 in case of Pakistan. The study finds a negative association between inflation, GDP, FDI, external debt and unemployment but a positive relationship between population growth and unemployment. Using annual data for the period 1983 to 2010, Aqil *et al.* (2014) explore the determinants of unemployment in Pakistan. The findings of the study indicate that FDI and population growth have negative impact on unemployment. Kamran, *et al.* (2014) inspect the sources of unemployment in Pakistan over the period 1981 to 2010. Using the OLS technique the study documents a positive relationship between FDI and unemployment. Similarly, the relationship between FDI, corruption, population size, inflation and unemployment has been investigated by Zeb *et al.* (2014). Their study covers the time period 1995 to 2011 while their employed estimation technique is the OLS. The results indicate that FDI negatively affects unemployment. Furthermore, inflation has significant

negative relation with unemployment, whereas, corruption and population growth are positively linked with unemployment.

The survey of the literature clearly demonstrates that there is acute shortage of researches germane to explore the relative importance of FDI and remittances in affecting unemployment in the context of Pakistan. Hence, this study is the first attempt in this direction. The other contribution of the study is the inclusion of exports in analysis which has never been incorporated in previous literature concerning the issue of unemployment in Pakistan.

3. Analytical Framework

Concerning the theoretical view point on FDI it is widely believed that Greenfield investment has the potential to generate maximum employment opportunities in an economy (Hisarciklilar, et al*.,* 2014). Stark (1991) is of the view that that no general theory of remittances exists in the existing literature. However, the theory of new economics of labor migration draws some intention towards the impact of remittances on the economy. According to this theory remittances have positive impact on macroeconomic development of the home country (Taylor, 1999). Moreover, following the search matching model of the labor market developed by Drinkwater *et al.* (2006) foreign remittances can have two opposite effects on the unemployment rate. Firstly, given risk averse workers, they increase search utility and the impact on the unemployment rate can be both positive and negative. Secondly, they relax the credit constraint facing firms, raising the capital stock towards its optimal level and reducing the unemployment rate. When remittance income is sufficiently high, the optimal capital stock is reached and any further increase has only the search effect.

Following Maqbool, *et al.* (2013) and Arslan and Zaman (2014), we estimate the following mdoel,

$$UEMP_t = \hat{a}_0 + \hat{a}_1 FDI_t + \hat{a}_2 REM_t + \hat{a}_3 INF_t + \hat{a}_4 GDPGR_t + \hat{a}_5 LOP_t + \hat{a}_6 X_t + u_t$$

The description of variables used in equation (1) along with their data sources are presented in Table 1.

Table 1: Variable Description

Variable	Description
UEMP	Unemployment (% of labor force)
FDI	FDI, net inflows (% of GDP)
REM	Foreign Remittances (% of GDP)
INF	Growth Rate of Consumer Price Index (CPI)
GDPGR	GDP growth (annual %)
LOP	Natural Log of Oil Prices (rupees per barrel)
X	Exports of goods and services (% of GDP)

We have already discussed the likely impact of FDI and remittances on unemployment. With regard to the relationship between inflation and unemployment the Phillips curve suggests a tradeoff between inflation and unemployment: the higher the inflation, the lower will be rate of unemployment and vice versa. High GDP growth is theoretically expected to bring a reduction in unemployment. The theoretical relationship between GDP growth and unemployment is strongly supported by the notion of Okun's law (1962). Higher oil priceis expected to cast a negative impact on employment because it results in higher input cost which in turns squeezes the wages and lowers production leading to increase unemployment in the economy (Brown and Yucel, 2002). The last important explanatory variable is exports which has an expected negative impact on the unemployment rate as exports are important source of foreign exchange earnings that can be used for enhancing productive capacity of the economy. Therefore, the rise in exports tends to increase the economic growth and employment in various sectors of the economy (i.e. mining, industry, agriculture etc) and consequently unemployment rate falls.

The study has accomplished its empirical task using time series data for the period 1972 to 2014 for Pakistan. The required data are obtained from

Pakistan Economic Survey (various issues), World Development Indicators, the World Bank, and US Energy Information Administration.

The study has employed the ARDL co integration technique developed by Pesaran *et al*. (2001). This technique is considered quite useful in obtaining consistent parameter estimates even if the order of integration of variables is mixed i.e. I (0), and I (1). Moreover, it is capable enough to yield efficient and consistent empirical results for the small data size. We can express the model (1) within the ARDL specification as follows:

$$\Delta UEMP_t = \alpha_0 + \sum_{i=1}^{\rho} \alpha_1 \Delta UEMP_{t-i} + \sum_{i=0}^{\rho} \alpha_2 \Delta FDI_{t-i} + \sum_{i=0}^{\rho} \alpha_3 \Delta REM_{t-i} + \sum_{i=1}^{\rho} \alpha_4 \Delta INF_{t-i} + \sum_{i=2}^{\rho} \alpha_5 \Delta GDPGR_{t-i}$$
$$+ \sum_{i=3}^{\rho} \alpha_6 \Delta LNOP_{t-i} + \sum_{i=0}^{\rho} \alpha_7 \Delta X_{t-i} + \beta_1 UEMP_{t-1} + \beta_2 FDI_{t-1} + \beta_3 REM_{t-1} + \beta_4 INF_{t-1} + \beta_5 GDPGR_{t-1} + \beta_6 LNOP_{t-1}$$
$$+ \beta_7 X_{t-1} + v_t \qquad (2)$$

In equation (2), the coefficients attached with difference operators measure short-run dynamics, whereas, the terms with first lagged captures the long run relationship. Here the null hypothesis of no long-run relationship

$(\beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = \beta_7 = 0)$ is tested against the alternative hypothesis of the presence of long run relationship $(\beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq \beta_5 \neq \beta_6 \neq \beta_7 \neq 0)$. The short run dynamics and the stability of the model is explored through the error correction model (ECM) which can be expressed as follows.

$$\Delta UEMP_t = \delta_0 + \sum_{i=1}^{\rho} \delta_1 \Delta UEMP_{t-i} + \sum_{i=0}^{\rho} \delta_2 \Delta FDI_{t-i} + \sum_{i=0}^{\rho} \delta_3 \Delta REM_{t-i} + \sum_{i=1}^{\rho} \delta_4 \Delta INF_{t-i} + \sum_{i=2}^{\rho} \delta_5 \Delta GDPGR_{t-i}$$
$$+ \sum_{i=3}^{\rho} \delta_6 \Delta LNOP_{t-i} + \sum_{i=0}^{\rho} \delta_7 \Delta X_{t-i} + \eta ECT_{t-1} + e_t \qquad (3)$$

where, ECT_{t-1} is the error correction term and η indicates the speed of adjustment which is linked to cointegration equation. This term actually represents the feedback of the system in stabilizing its disequilibrium.

4. Results and Discussion

We begin our estimation task by checking the stationary properties of the variables. Table 2 reports the result of the Augmented Dickey-Fuller (ADF) unit root test applied to determine the order of integration of the time series used in the study. The results clearly indicate that the variables FDI and GDPGR are stationary at level, whereas, other variables are non-stationary at level but they become stationary after taking the first difference. It shows that the variables are a purely combination of I(0) and I(1) and none of them is

integrated of order (2), which makes a suitable case for employing the ARDL model. Thus, we proceed further with our empirical analysis by applying the ARDL technique.

Table 2: Results of ADF Test

			Mackinnon Critical Values for Rejecting the Unit Root Hypothesis	
Variable	**Level**	**First Difference**	**5%**	**Order of Integration**
UEMP	-2.048	-6.179	-3.523	*I* (1)
FDI	-4.884		-3.540	*I* (0)
REM	-1.684	-4.907	-3.523	*I* (1)
INF	-3.415	-7.678	-3.523	*I* (1)
GDPGR	-5.663		-3.540	*I* (0)
LOP	-2.563	-5.786	-3.523	*I* (1)
X	-1.630	-6.225	-3.523	*I* (1)

As a first step, we apply bound test in order to check the long run relationship between dependent and independent variables. On the basis of F-statistic, the decision regarding cointegration is taken. Results of bound test are presented in Table 3.

Table 3: Results of Bound Test

Significance Level	Critical Values		F- Statistic
	Lower Bound	**Upper Bound**	
10 %	2.12	3.23	
5 %	2.45	3.61	5.054
2.5 %	2.75	3.99	
1 %	3.15	4.43	

The results reveal that the value of calculated F-statistic is 5.054, which is

greater than the upper bound critical values at 10%, 5 %, 2.5 %, and 1% levels of significance. Based on the finding the null hypothesis of no long run relationship is rejected. Thus, we conclude that a cointegrating vector exists when unemployment is taken as dependent variable. In the second step we obtain the long run parameter estimates of repressors. To this end, we use the SBC for the optimal lag length selection of all the variables of the model. The optimal lag length for each variable is shown as ARDL (1, 0, 0, 1, 2, 3, 0). The long run estimates of ARDL model are presented in Table 4.

Table 4: Estimated Long Run Coefficients

Dependent Variable: UEMP

Variable	Coefficient	t-value
FDI	-0.115***	-6.105
REM	-0.066**	-2.505
INF	- 0.211***	-4.950
GDPGR	- 0.570***	-2.742
LOP	0.319*	1.732
X	- 0.369***	-2.965
C	1.472**	2.616

Note: ***, ** and * indicate significant at 1 percent, 5 percent, and 10 percent levels respectively.

The results reveal that FDI, foreign remittances, inflation rate, GDP growth, and exports have a negative long run impact on unemployment while oil price has a positive impact on unemployment. It is obvious from Table 4 that one percent increase in FDI leads to 0.115 percent decrease in unemployment rate in Pakistan. The relationship is logical because high FDI inflows, especially establishment of foreign companies in an economy provide more jobs opportunities. Moreover, FDI facilitates in expanding the business size by providing the technical know-how to the domestic investors, augments human capital, and improves the managerial skills. All this results in enhancing business activities and hence paves the way

for more jobs in an economy. This finding is consistent with the empirical evidence provided by Habib and Sarwar (2013) Maqbool *et al.* (2013), Aqil *et al.* (2014), Arslan and Zaman (2014) and Zeb *et al.* (2014) for Pakistan as all these studies have documented the unemployment reducing role of FDI. Nonetheless, our result contradicts the positive association between FDI and unemployment as provided by Kamran *et al.* (2013) for Pakistan. The coefficient of foreign remittances variables carries a negative sign which suggests that one percent increase in foreign remittances is associated with a 0.066 percent reduction in unemployment in Pakistan. Remittances reduce unemployment by lessening the credit constraints and motivate the business enterprises to expand their business and make jobs available. This result is in line with the empirical findings of Loen-Ledesma and Piracha (2001) and Drinkwater *et al.* (2003) for various developing countries including Pakistan, whereas, it is in sharp contrast with what has been reported by Kim (2007) for Jamaica. Inflation rate is appearing to be statistically significant at 5 percent level of significance. The result reveals that one percent rise in inflation rate leads to 0.211 percent decline in unemployment. This result supports the findings of Zeb *et al.* (2014) who argue that unanticipated increase in price level decreases the real wage which will make the situation more favorable for producer; hence, they increase labor demand which ultimately leads to lower unemployment in an economy in the long run. Moreover, this outcome is also in line with the notion of the Phillips curve.

There exists a negative relationship between growth rate of GDP and unemployment in such a way that one percent rise in GDP growth tend to reduce unemployment in the economy by 0.57 percent. The inverse relationship between GDP and unemployment has already been postulated by the Okun's law and by the empirical studies such as Rizvi and Nishat (2009) and Kabaklarli *et al.* (2011), among others. Since Pakistan is the net importer of oil so the changes in oil price play a crucial role in affecting the macroeconomic variables. The oil price has very devastating effect on macroeconomic variables such as unemployment, inflation and GDP growth (Shaari *et al.*, 2012).The empirical result presented in table 4 indicates that the coefficient of the variable oil prices is statistically significant at 10 percent level and it is positive which means that 1 percent rise in world oil price will cause 0.319 percent increase in unemployment rate Pakistan in the long run. This outcome supports the findings of Rabalo and Salvado (2008), and Ahmad (2013) that upward pressure in oil prices upshots the higher production cost leading to make it quite difficult for production and business activities to sustain themselves. The situation may deteriorate further with the net outcome rise in the number of jobless individuals in the economy. Finally, the study finds strong support in favor of a significant and negative relationship

between exports and unemployment such that a 0.369 percent decrease in unemployment is associated with 1 percent increase in exports. The finding is supported by Dizaji and Badri (2014) who argue that higher exports lead to higher competition among different industries and the production units, increase the labor productivity, improve the quality and diversification of the products which result in production process development and more employment opportunities.

Table 5: Results of Error Correction Model

Variable	Dependent Variable: UEMP Coefficient	t-value
Δ FDI	-0.018	-0.105
Δ REM	0.053	0.583
Δ INF	-0.023*	-1.753
Δ GDPGR	-0.007	-0.112
Δ GDPGR (-1)	0.133**	2.356
Δ LOG(OP)	0.580	1.299
Δ LOG(OP(-1))	0.611	1.099
Δ LOG(OP(-2))	0.835	1.411
Δ X	-0.186**	-2.544
ECT_{-1}	-0.504***	-3.389
R^2	0.613	
Adjusted R^2	0.420	
F-statistic	3.176	
Prob(F-statistic)	0.005	

Note: ***, ** and * indicate that coefficients are significant at 1 percent, 5 percent, and 10 percent level of significance respectively.

The next step after estimating the long-run coefficient is to estimate the ECM. Table 5 reports the results for the ECM. The coefficient of ECT is statistically significant at 5 percent level of significance and it carries a negative sign which is desirable. Therefore, the result indicates that the long run equilibrium relationship between unemployment and the explanatory variables is stable. The coefficient of ECT or the speed of adjustment is -0.504 suggesting that in case of any disturbance in the long run equilibrium position, the forces of the model will restore the equilibrium at the speed of 50 percent each year. Moreover, it is found that in the short run FDI, inflation rate, GDP growth and exports influence the unemployment inversely, whereas, foreign remittances and world oil price impact unemployment positively. However, the impact of all the variables is insignificant except INF and X. Hence, FDI and remittance income play their role in reducing unemployment in Pakistan only in the long run while they fail to bring any change in the unemployment rate in the country. This outcome can be justified on the ground that both FDI and remittances require time to expand the productive capacity of an economy and establishing a business encouraging environment in the economy for raising employment rate.

Figure 1: Result of CUSUM Test

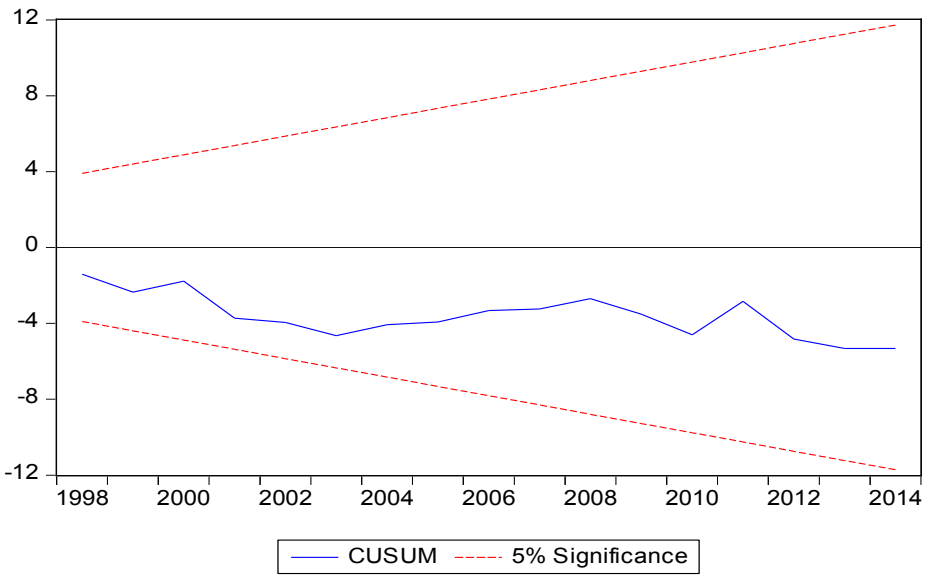
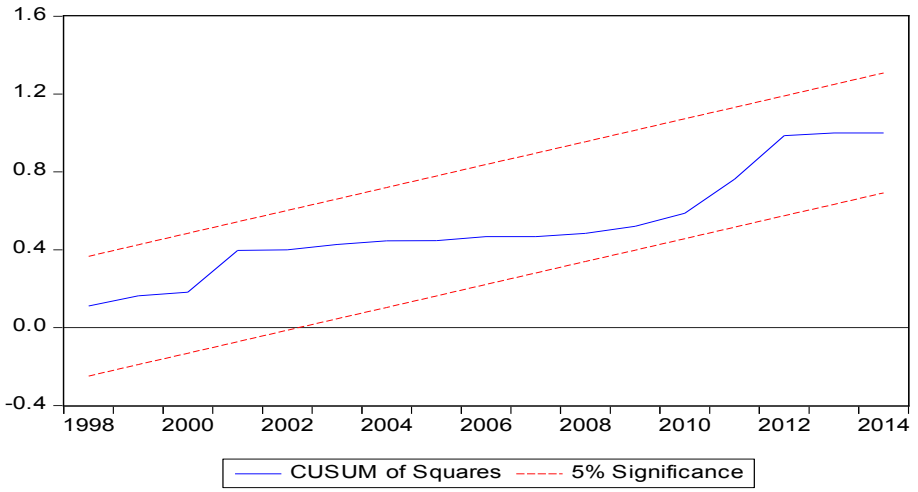


Figure 2: Result of CUSUM of Squares Test



Finally, Cumulative Sum (CUSUM) and CUSUM of Squares test are applied in order to check the stability of the estimated parameters of the model. Figure 1 displays the results of CUSUM test whereas figure2 shows the results of CUSUM of Squares test. Results of CUSUM and CUSUM of Squares test reveal that the estimated lines are within the critical limits at 5 percent level of significance. Therefore, it is confirmed that parameters of the model remained stable during sample period of the study.

5. Conclusion

Unemployment is a serious concern for policymakers as it creates financial, moral and social hazards in an economy that may hamper the pace of economic growth and development. Like other developing countries reducing unemployment has been the core of macroeconomic policies in Pakistan. The role of FDI and remittances has become crucial in the management of Pakistan's economy. Therefore, the present study has focused on gauging the impact of FDI and foreign remittances on unemployment in the country. For this purpose the study has selected the time period from 1972 to 2014 and the empirical task has been carried out by means of the ARDL technique.

The findings indicates that FDI, foreign remittances, inflation, GDP growth and exports has significant negative impact on unemployment in the long run. On the other hand, in the short run FDI, inflation rate, GDP growth and exports have negative impact on unemployment, however, only the impact of

inflation and exports is significant. Moreover, foreign remittances and world oil price have positive but insignificant effects on unemployment. FDI has a greater impact on unemployment relative to foreign remittances in the long run which implies that foreign remittances are mainly used for consumption purposes in Pakistan. Unfortunately, the policy makers in Pakistan have failed to chalk out a convincing plan to divert the remittance income towards productive use. The findings of the study lead to the following policy recommendations. Firstly, as FDI is negatively related with unemployment, hence, government should take appropriate measures to attract FDI and foreign capital in Pakistan. In this regard, it is imperative to create a business friendly and peaceful environment in the country. For this purpose, improving infrastructure facilities, providing better law and order state, overcoming energy crisis and existence of political stability are crucial to craft investment conducive climate to enhance the volume of FDI in Pakistan. Secondly, for enhancing their unemployment reducing role, remittances can be redirected from current consumption towards productive investment by offering higher interest rate on deposits or subsidies for productive investment. In addition, government should facilitate investment by Pakistani diaspora in real estate and industrial enterprises through the provision of tax holidays and without any requirement for a national tax number. Finally, for bringing a significant decline in unemployment rate, exports ought to be increased. For this purpose, there is a need to increase the production of goods and services in all sectors in general but in exportable sector in particular. Moreover, export diversification should be given top priority for which we need to diversify the production base in favour of goods and services with comparative advantage, global demand and growth potential.

REFERENCES

Ahmad, A., Ali, S., and Ahmad, N. (2014). Crime and economic growth in developing countries: Evidence from Pakistan. *Journal of Basic and Applied Scientific Research, 4*(4), 31-41.

Ahmad, F. (2013). The effect of oil prices on unemployment: Evidence from Pakistan. *Business and Economics Research Journal*, *4*(1), 43-57.

Aqil, M., Qureshi, M. A., Ahmed, R. R., and Qadeer, S. (2014). Determinants of unemployment in Pakistan. *International Journal of Physical and Social Sciences*, *4*(4), 676-82.

Arslan, M., and Zaman, R. (2014). Unemployment and Its Determinants: A study of Pakistan Economy (1999-2010), *Journal of Economics and Sustainable Development, 5*(13), 20-24.

Bačić, K., Račić, D., & Ahec-Šonje, A. (2004). The effects of FDI on recipient countries in Central and Eastern Europe. *Privredna kretanja i Ekonomska Politika*, *14*(100), 58-96.

Bayar, Y. (2014). Effects of economic growth, export and foreign direct investment inflows on unemployment in Turkey. *Investment Management and Financial Innovations*, *11*(2), 20-27.

Brown, S. P., & Yücel, M. K. (2002). Energy prices and aggregate economic activity: an interpretative survey. *The Quarterly Review of Economics and Finance*, *42*(2), 193-208.

Connell, J., & Conway, D. (2000). Migration and remittances in island microstates: a comparative perspective on the South Pacific and the Caribbean. *International Journal of Urban and Regional Research*, *24*(1), 52-78.

Dimitrios, A. (2006), Applied Econometrics: *A modern approach using E-Views and Microfit*,Palgrave Macmillan: (New York).

Dizaji, M., & Badri, A. K. (2014). The effect of exports on employment in Iran's economy. *Merit Research Journal of Arts Social Sciences and Human*ities, *2*(6), 081-088.

Drinkwater, S., Levine, P., & Lotti, E. (2003). *The labor market effects of remittances*. Hamburgisches Welt-Wirtschafts-Archiv, (2003), 1-47.

Habib, M. D., & Sarwar, S. (2013). Impact of foreign direct investment on employment level in Pakistan: A time series analysis. *JL Pol'y & Globalization*, *10*(1): 46-55.

Hisarciklilar, M., Gultekin-Karakas, D., & Asici, A. A. (2014). Can FDI be a panacea for unemployment?: The Turkish case. In *Labor and employment relations in a globalized world*, 43-70. Springer, Cham, 2014.

Abdus, S., & Zafar, I. (2005). The Contribution of workers' remittances to economic growth in Pakistan. *PIDE-Working* Paper No. 187.

Jamali, M. B., Shah, A., Soomro, H. J., Shafiq, K., & Shaikh, F. M. (2011). Oil price shocks: A comparative study on the impacts in purchasing power in Pakistan. *Modern Applied Science*, *5*(2), 192-203.

Kabaklarli, E., Hazel, P., & Buluş, A. (2011, August). Economic determinants of Turkish youth unemployment problem: Co-Integration analysis. *International Conference on Applied Economics–ICOAE*, 267(2011), 272.

Kamran, A., Shujaat, S., Syed, N. A., and Ali, S. N. (2014). *A study on determinants of unemployment in Pakistan*. In proceedings of the seventh international conference on Management Science and Engineering Management. 1337-1348.

Kim, N. (2007).The impact of remittances on labor supply: The case of Jamaica. *World Bank Policy Research Working Paper No*.4120.

León-Ledesma, M., & Piracha, M. (2004). International migration and the role of remittances in Eastern Europe. *International Migration*, *42*(4), 65-83.

Maqbool, M. S., Sattar, T. M. A., and Bhalli, M. N. (2013). Determinants of unemployment: Empirical evidences from Pakistan. *Pakistan Economic and Social Review*, *51*(2), 191-207.

Mehra, N. (2013). Impact of foreign direct investment on employment and gross domestic product in India. *International Journal of Economics and Research*, *4*(4), 29-38.

Ratha, D. (2005). Workers' remittances: an important and stable source of external development finance. *Remittances: development impact and future prospects*, (2005), 19-51.

Rizvi, S. Z. A., & Nishat, M. (2009). The impact of foreign direct investment on employment opportunities: panel data analysis: empirical evidence from Pakistan, India and China. *The Pakistan Development Review*, *48*(4), 841-53.

Robalo, P. B., and Salvado, J. C. (2008). *Oil price shocks and the Portuguese economy since the 1970s*, FEUNLWorking Paper No. 529, Universidade Nova de Lisboa, Faculdade de Economia, Portugal.

Russell, S. S. (1992). Migrant remittances and development. *International Migration/Migrations Internationales/Migraciones Internacionales*, *30*(3-4), 267-87.

Stamatiou, P., & Dritsakis, N. (2014). The impact of foreign direct investment on the unemployment rate and economic growth in Greece: A time series analysis. In *International Work-Conference on Time Series Analysis (ITISE)* (Vol. 1, 97-108).

Stark, O. (1991). *The migration of labor*, Cambridge, Mass: Basil Blackwell.

Stark, O., & Lucas, R. E. (1988). Migration, remittances, and the family. *Economic development and Cultural Change*, *36*(3), 465-481.

Tahir, M., Khan, I., & Shah, A. M. (2015). Foreign remittances, foreign direct investment, foreign imports and economic growth in Pakistan: A time series analysis. *Arab Economic and Business Journal*, *10*(2), 82-89.

Taylor, E. J. (1999). The new economics of labor migration and the role of remittances in the migration process. *International Migration*, *37*(1), 63-88.

Taylor, J. E. (1992). Remittances and inequality reconsidered: Direct, indirect, and intertemporal effects. *Journal of Policy Modeling*, *14*(2), 187-208.

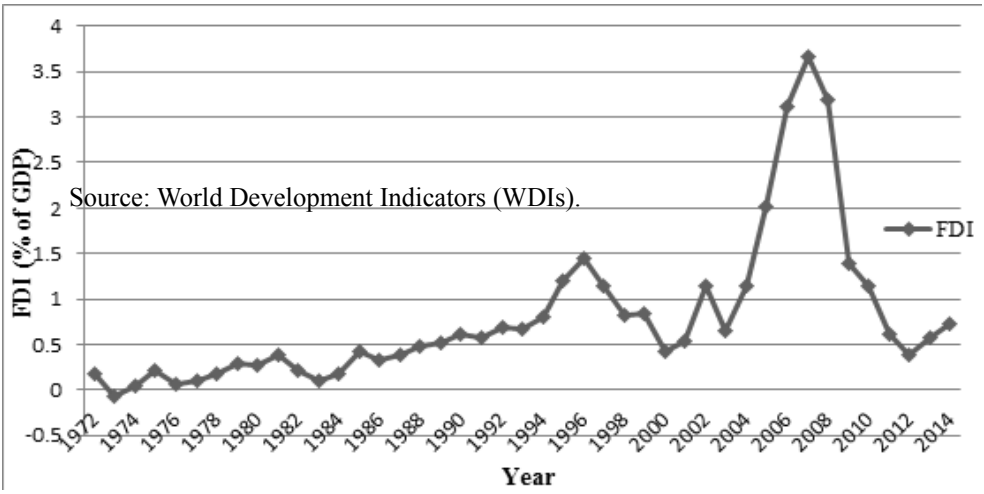
Vijayasri, G. V. (2013). The importance of international trade in the world. *International Journal of Marketing Financial Services and Management Research*, *9*(2), 111-9.

Whyman, P., andBaimbridge, M. (2006). Labor market flexibility and foreign direct investment, employment relations, Occasional Paper, Employment Market Analysis and Research, Department of Trade and Industry, London.

Zeb, N., Qiang, F., & Sharif, M. S. (2014). Foreign direct investment and unemployment reduction in Pakistan. *International Journal of Economics and Research*, *5*(02), 10-17.

Appendix

Figure 1: FDI Inflows to Pakistan (1972-2014)



Source: World Development Indicators (WDIs).

Figure 1: Foreign Remittances in Pakistan (1972-2014)

Source: Pakistan Economic Survey (various issues).

Figure 2: Unemployment in Pakistan (1972-2014)

Source: Pakistan Economic Survey (various issues).