Economic Development and Unemployment: A Missing Link

Muhammad Irfan Khan
Jinnah University for Women, Karachi, Pakistan

Athar Iqbal
Iqra University, Karachi, Pakistan

Syed Imran Zaman[1]
Jinnah University for Women, Karachi, Pakistan

Faraz Wajidi
Dow University of Health Sciences, Karachi, Pakistan

Abstract

Developing countries like Pakistan face a host of economic problems in the form of stagnant exports, low economic growth, inadequate private investment, and inefficient utilization of foreign direct investment. Given these problems, we have examined macroeconomic factors impact on unemployment in Pakistan from 1967 to 2018. We also tested the proposed hypotheses through "VAR, fully modified least squares, and Granger causality tests." Our results suggest that exports did not stimulate jobs in Pakistan. Perhaps, Pakistan needs to diversify its exports by focusing on non-conventional value-added goods. The results also indicate that although FDI and government expenditures have created jobs, they are below expectations. Although we found that private investment has helped job creation, the effect is small compared to other developing countries. Furthermore, we find that macroeconomic factors have had little impact on unemployment in the long run.

Keywords: Unemployment, exports, FDI, private investment, government expenditure.

Introduction

Despite the world economy's growth, the economic disparity between developed and developing countries has increased significantly. Consequently, more youth are unemployed in developing countries than in developed countries (Sever & İğdeli, 2018). Policymakers, especially in developing countries, are focusing on decreasing the unemployment rate of youth. Despite its importance, only a few empirical studies are

[1]Corresponding Author: Syed Imran Zaman; Email: s.imranzaman@gmail.com

available that may help developing countries' policymakers address the issue of youth unemployment (Pi & Chen, 2016; Liang, 2017; Yavas & Malladi, 2020).

Compared to other South Asian countries, Pakistan's economic growth is dismal, and most of the local population are earning below the poverty line. Additionally, the majority of the Pakistani community has a median age of 20 years. Most of them are struggling to gain meaningful employment (Popkova et al., 2018; Abaid, Furceri, Topalova, 2016). According to Pakistan government (GOP), about three million people in Pakistan are unemployed; many researchers believe to be under-reported figures (Meo et al., 2018). Many factors have contributed to such a dismal economic performance, including low saving and an undocumented economy. Besides inadequate macroeconomic policies, high production costs, stagnant exports, and political uncertainty have contributed to Pakistan's slow economic growth (Qazi, Raza & Sharif, 2017). Thus, the GOP must address Pakistan's economic issues on a timely basis (Bagchi & Paul, 2018).

Literature Review

There is an abundance of literature that provides theoretical support on the ability of exports (EX), economic growth (EG), and foreign direct investment (FDI) in mitigating the unemployment issue (Liobikienė & Butkus, 2019; Liobikienė & Butkus, 2018). Stable economic growth (EG) is critical for generating economic activity, income, output, and reducing unemployment (Su et al., 2018). For example, Okun's law postulates that enhanced production in a country simulates job opportunities and reduces unemployment (Blanchard, 2009). This law suggests a negative association between unemployment and gross domestic product (GDP) in broad terms. Thus, an increase in the real gross domestic product (RGDP) generates job opportunities and a decline in unemployment. This law's main limitation is that it assumes other factors remain constant that is far from reality.

There is sufficient theoretical and empirical support on the inverse association between direct foreign investment and unemployment (Ogunkola & Jerome, 2006; Borensztein, De-Gregorio, & Lee, 1998). That is, an increase in foreign direct investment (FDI) would decrease unemployment. Besides providing capital inflow, foreign direct investment (FDI) also contributes to investment avenues. Foreign Direct Investment (FDI) also has several "spillover effects," like technology transfer, increased competitiveness of domestic products, and greater export opportunities (Tsitouras, 2016).

Exports have a direct link with employment opportunities and gross domestic product (GDP). Pre-classical, classical, and neo-classical theories also support the notion that exports stimulate economic growth and employment opportunities in an economy

(Ozughalu & Ogwumike, 2013). Similarly, Joshua, Bekun & Sarkodie (2020) suggest that exports promote employment opportunities, enhance economic growth, and aggregate income. Past literature has examined the association between "private investment (PI), exports (EX), unemployment (UI) and foreign direct investment (FDI)" (Sekuloska, 2018; Karim, Karim, & Nasharuddin, 2019). Similarly, many studies have concluded that the impact of FDI on unemployment (UI) has produced inconsistent results (Azam, Khan & Bakhtyar, 2017; Aftab & Parikh, 2018). For example, Tsaurai (2018) found that FDI stimulates employment in a country, while Mkombe et al. (2020) suggest that FDI and employment have an insignificant association.

Nigeria, like other developing countries, is suffering due to high unemployment and other economic problems. Many studies have examined the causes of unemployment in Nigeria. For example, Ozughalu and Ogwumike (2013) investigated whether economic factors such as "economic growth (EG), exports (EX), and foreign direct investment (FDI) can solve unemployment problems in Nigeria." Based on historical data, the study concluded that economic factors such as economic growth (EG), exports (EX), and foreign direct investment (FDI) have not adequately contributed to solving the unemployment problem in Nigeria. Thus, the study recommends that the Nigerian government adopts suitable macroeconomic policies to ensure employment in Nigeria.

Dogan (2012) investigated the association between macroeconomic variables and unemployment in Turkey. The study used 11 years of quarterly data from 2001 to 2010 and found that macro-economic variables (i.e., real GDP, export growth, exchange rate, interbank interest rate, inflation, and growth in the money supply") have an association with unemployment. The results also suggest that GDP, exports (EX), and inflation (IN) are negatively associated with unemployment. The findings support the Phillips curve relationship that postulates a negative association between inflation (IN) and unemployment. The results are also in line with "Okun's law" that assumes a negative association between output and unemployment.

A study in Nigeria found that exports stimulate employment opportunities and reduce poverty. The study also compared the impact of oil and agricultural exports on the economy. The study found that exports of farm products stimulate job opportunities and reduces poverty. In contrast, oil exports neither help create job opportunities nor reduce poverty (Babatunde, Oyeranti, Bankole & Ogunkola, 2012). Investments in a country tend to enhance labor's contribution to GDP. On the contrary, a study found that investments in the UK have decreased labor share of GDP. The study also concluded that the same results were found when this analysis was carried out in other European countries (Driver, 2010). A study in Pakistan found that external debts (ED) stimulate GDP.

The study also documented that although external debt generates economic activities, the countries may face severe problems when they have to repay the loans in future. The research suggests that countries like Pakistan with high external debt must enhance their exports of goods and services. However, the study also observed that countries like Pakistan might benefit from foreign debt in the short term. However, external borrowing may have severe long term consequences (Arsalan & Zaman, 2014).

Onaran (2009) investigated the impact of wages, output, and FDI on employment in Central and Eastern European countries' manufacturing sectors. The data set for the study was related to the post-transition period. The study found that wages have stimulated employment in 50% of cases. The study also found that due to FDA and international trade, the manufacturing sector maintained the current level of jobs. However, studies also found that there were negative and insignificant effects of trade and FDI on employment in a few cases. Subramaniam (2008) examined the association between FDI and unemployment in Western Balkan countries. The study concluded that FDI had decreased unemployment in all countries except Serbia and Albania. FDI in Serbia and Albania did not affect the unemployment rate as they utilized FDI for mergers, acquisitions, and joint ventures. The study also concluded that in the long run, the observed variables have a bidirectional causal relationship.

A study in Turkey investigated the association between unemployment, foreign direct investment, gross national product, and exports. The study used a data set of seven years (Sever & İğdeli, 2018). The study found that FDI has not stimulated new jobs in Turkey. However, the results suggest that exports helped the country in attracting more FDI. The study's findings were inconsistent with the export growth model. The study concluded that economic growth in Turkey had not resolved the issues related to unemployment. Thus, it is recommended that the government's focus in Turkey should be on increasing the labor skills (Aktar & Öztürk, 2009). Rahman et al (2006), in the study on Bangladesh's economy, found that FDI in the short term had enhanced per capita economic growth. Also, the impact of FDI on exports was more significant as compared to external remittances. The study also concluded that contrary to the IMF's recommendations, the devaluation of the local Bangladeshi currency did not increase the real GDP growth rate. The external remittances, actual FDI, and real exports have improved the employment situation in the short run, but these factors have an insignificant effect on employment in the long run. Thus, the study concluded that Bangladesh should focus on diversification of exports.

Chang (2005) uses a Taiwanese data set from 1981 to 2003 and found that "foreign direct investment, economic growth, unemployment, and trade in Taiwan" are co-

integrated, suggesting a long-run equilibrium relationship between these variables. The results indicate that exports, as well as economic growth, stimulate positive FDI inflow. Contrarily, "export expansion has a negative" association with the outflow of FDI. However, in Taiwan, the FDI inflow has improved exports and economic performance. The historical data does not support the "relationship between FDI inflow and unemployment." The study found a positive association between exports and growth and a negative association between unemployment and growth. Mehmet and Demirsel (2013) examined the association between foreign direct investment (FDI) and unemployment on a data set collected from five developing countries between 1981 and 2009. The results for these countries were different. The results suggest that foreign direct investment (FDI) had increased unemployment in Argentina and Turkey, but the data does not support the association between unemployment and FDI in Thailand.

Craigwell and Maurin (2002) examined the business cycles in three countries, i.e., Barbados, Trinidad, and Tobago. The study had two aims. The first was to develop a "chronology of the cyclical movements in the Barbadian and Trinidadian production and unemployment cycles." The second was to draw inferences from the cyclic fluctuations of the two countries. The results suggest that both countries (i.e., Barbados and Trinidad) have experienced a moderate variation in business cycles in the last three decades. The size of these fluctuations was similar to some developed countries but significantly higher than most developed countries. Thus, the study concluded that the effects of economic shocks are more common in small and open economies. However, one advantage these countries have is that these fluctuations help identify output gaps and the economy's actual position. The study also concluded that countercyclical effects have contributed to unemployment and economic growth in recruiting unemployed labor.

McDonald, Tuselmann, and Heise (2002) examined the association between foreign direct investment (FDI) and employment in the European Union (EU). Based on a theoretical framework, the authors concluded that the initial impact of FDI on the job market might be small. Additionally, it may create jobs for less-skilled employees. However, many European countries might lose more jobs, mainly due to exports from other countries.

Hypotheses Development

Many exogenous variables, directly and indirectly, stimulate employment in a country. For example, foreign direct investment (FDI) is critical for developing an economy, especially developing economies. Thus, the government should develop and implement policies that encourage foreign investors to invest in the stock market

and productive sectors. Apart from the above, other essential facets of FDI include joint ventures, technology collaboration, and technology transfer. Maqbool et al. (2013) argue that a country's economy significantly depends on FDI and exports for addressing "inflation, poverty, the balance of payments, and productivity" issues.

Similarly, Fujita & Moscarini (2017) suggest that FDI promotes the host country's exports since foreign investors have more knowledge of international markets' needs and demands. Thus, if the size of direct foreign investment (FDI) is large, it will enhance exports and reduce imports. Consequently, not only the balance of payments of a country will improve, but it will also reduce the unemployment ratio (Fujita & Moscarini, 2017).

$$Unemp_t = \alpha + \beta_1 FDI + \beta_2 Expt + u \qquad [1]$$

Where,
Unemp is Unemployment
FDI is Foreign Direct Investment
Expt is Exports
α is the constant
β is the beta coefficient
u is the error term

Hypotheses:

H1: The FDI of a country would reduce unemployment.

H2: An increase in exports would reduce unemployment.

Government expenditure (GX) is inclusive of all the capital and recurring expenses on goods and services. However, in the following equation, GX denotes government capital expenditures only. Many past studies have documented that increased government spending enhances employment opportunities both in the short and long run (Obayori, 2016).

$$Unemp = \alpha + \beta_3 GX + u \qquad [2]$$

Where,
GX is Government Expenditure
Hypothesis:

H3: Increased governmental expenditure reduces the unemployment rate.

Private sector investment not only stimulates the economy but also creates job opportunities. Since the last few decades, the private sector in Pakistan has been investing consistently in the country. However, the quantum of their investment is far below the desired level. Pakistan being capital deficient, has fewer resources and low per capita income. Due to less disposable income and social influence, individuals in Pakistan are more inclined to invest in non-productive sectors (Abdelkader, Cheikh & Sofiane, 2017).

Developing countries like Pakistan for decades have been formulating different policies for encouraging private sector investment and reducing poverty. However, they have not been very successful. Perhaps, Pakistan and other developing countries need to examine why they have not been successful in this process. Based on experience, they should formulate and implement rational policies (Agrawal & Matsa, 2013; Daly, Ullah, Rauf, & Khan, 2017).

$$Unemp = \alpha + \beta_3 PI + u \qquad\qquad [3]$$

Where,
PI is Private Investment

Hypothesis:

H4: Private sector investments would reduce unemployment.

Past literature indicates that in the long run, "FDI, exports, government expenditure, private investment, and unemployment" are interrelated (Cosculluela-Martínez, 2020). Thus, we have also attempted to analyze the long term relationship between "the level of foreign direct investment, exports, government expenditure, private investment, and unemployment."

Hypothesis:

H5: There is a long-run relationship between "FDIs, export, government expenditure, private investment, and unemployment."

Overall, the study has three main objectives. First, it examines how four macroeconomic

factors, i.e., "foreign direct investment (FDI), exports (Expt), government expenditure (GX), and private investment (PI)," impact unemployment. Second, it analyzes the long-run cointegrating relationship among the exogenous variables. Thirdly, it investigates the Granger causality among the variables.

Research Methods

We have collected data from the State Bank of Pakistan (SBP) annual reports. The data set for the study spans over five decades, i.e., from 1967 to 2018. The graphical representation of the data presented in Figure-1 suggests that all the variables are not moving in the same direction.

Figure 1: Time Series Patterns of Variables
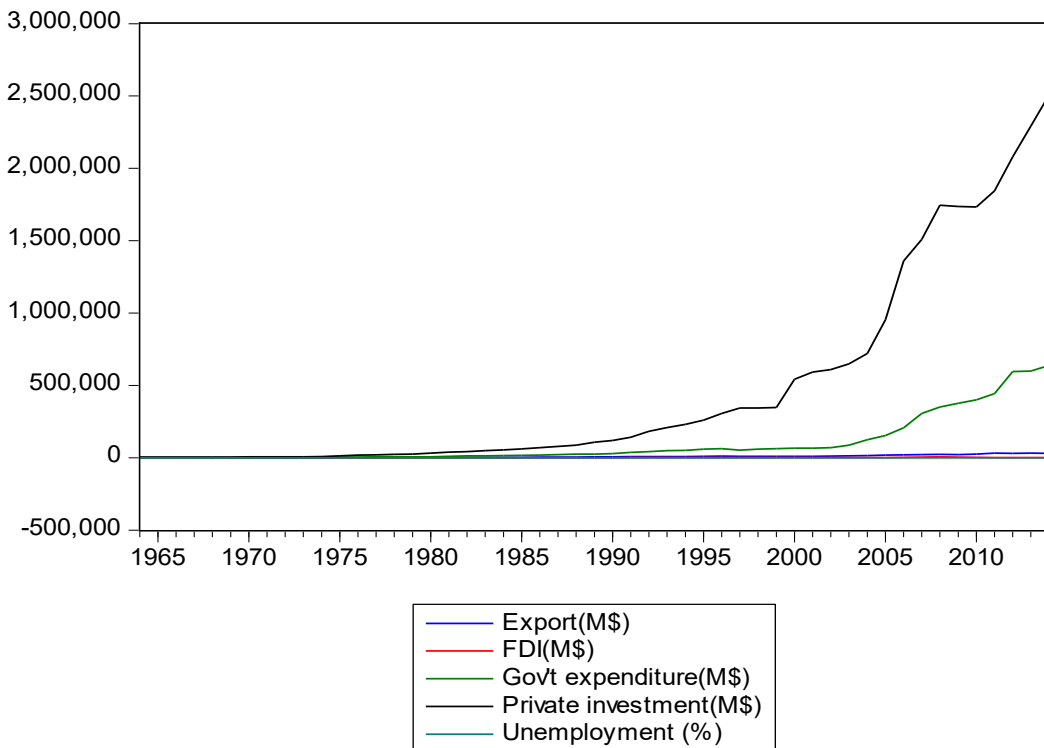
We have used the "ADF test" to empirically test the model and check the presence of "unit root" in the data set. The ADF equation is presented below:

$$\Delta^{yt} = \alpha^0 + \alpha^1 \, y^{t-1} + \Sigma \,^{\alpha \Delta y} + U^t$$
$$\Delta y_t = \alpha_0 + \alpha_1 \, y_{t-1} + \Sigma \alpha_1 \Delta y_i + \delta_t + U_t$$

Where.
y is a time series
t is linear time trends
Δ is the first difference operator
α_0 is constant
n is the optimum number of lags
U is the random error term

We also used a Vector Auto Regression (VAR) model to "examine the effect of FDI, exports, government expenditure ad private investment on the unemployment rate." The results suggest that all "the variables used in the model are endogenous," and it will be appropriate to explore the interrelationships.

VAR model is as follow;

$$Y_t = \alpha t + \beta_1 Y_{t-1} + \beta 2 Y_{t-2} + \ldots\ldots\ldots + \beta n \, Y_{t-n} + E_t$$

Where
Yt = unemployment
And Yt -1 to Yt-n are all independent variables

For checking the long-term association between predictors and dependent variables, we examined their cointegration. Since the results show no cointegration, we have inferred that there are no long-term relationships between the study variables. To investigate the effect of independent variables on unemployment, we have used the "Granger causality test."

Results and Analysis

ADF Unit Root and Intermediate ADF Tests
Tables 1 and 2 show the summary of results related to the ADF Unit Root test and Intermediate Root Test.

Table 1: ADF Unit Root Test (At level)

Method	Statistic	Prob.**
ADF - Fisher Chi-square	0.00119	1.0000
ADF - Z-stat	12.3300	1.0000

** Probabilities for Fisher tests are computed using an asymptotic Chi-Square distribution. Other test assumes. Asymptotic Normality.

Table 2: Intermediate ADF Test Results

Series	Prob.	Lag	Max Lag	Obs
Export	0.9999	0	10	50
FDI	1.0000	9	10	41
Govt. Expenditure	1.0000	10	10	39
Private Investment	1.0000	9	10	40
Unemployment	0.9995	0	10	49

**Probability for Fischer Tests are computed asymptotic Chi-Square distribution. Other test assumes Asymptotic Normality.

Table 1 and Table 2 show the results related to the stationarity of the variables. The variables are not stationary at level 95% confidence level.

Table 3: Individual Unit Root Process at First Difference

Method	Statistic	Prob.**
ADF - Fisher Chi-square	113.000	0.0000
ADF - Z-stat	-8.72412	0.0000

**Probability for Fischer Tests are computed asymptotic Chi-Square distribution. Other test assumes Asymptotic   Normality.

Table 4: ADF Test Results

Series	Prob.	Lag	Max Lag	Obs
Export	0.0000	3	10	45
FDI	0.0000	9	10	39
Govt-Expenditure	0.0009	10	10	37
Private Investment	0.1684	7	10	40
Employment	0.0000	1	10	46

The results in Table 3 and Table 4 show that the variables are stationary at the first level. Our results do not support the null hypothesis as each time series is significant at the 95% confidence level. Thus, it is safe to infer that at the first difference, each time series is stationary.

VAR Estimates

The results related to the "Vector Auto Regression (VAR)" are presented in Table 5.

Table 5: Vector Auto Regression Estimates

Variables	Coefficient
Unemployment t-1	4.45628*
Unemployment t-2	-1.62210*
Export t-1	0.70337
Export t-2	1.00683
FDI t-1	0.58953
FDI t-2	-1.90595*
Govt. Expenditure t-1	-2.07112*
Govt. Expenditure t-2	1.02822
Private Investment t-1	-1.36033
Private Investment t-2	2.45046*
C	1.26082
F Stats	116.8090
Adj. R2	0.960999

*Significant at 5% Level

The results suggest that at lag 2, FDI affects the unemployment in Pakistan. These findings are similar to another study undertaken in Poland (Balcerzak & Zurek, 2011). Zeb, Qiang & Sharif (2014) based on the historical data from 1995 to 2011, used the ordinary least square method and concluded that FDI is a significant predictor of unemployment in Pakistan. Mohamed (2018) studied the Sudanese economy and found no association between FDI and unemployment. One of the factors contributing to this insignificant association are the US economic sanctions on Sudan.

Our results suggest that government expenditure and private investments at lag one and lag two, respectively, significantly affect unemployment. The t-statistics at lag one and lag two are 2.07 and 2.45, respectively. Onuoha and Moses- Oyeyemi, (2019), based on panel data analysis, found a significant association between government expenditure and unemployment. Maqbool et al. (2003) found that private investment is not a significant predictor of Pakistan's unemployment. Our results do not support the association between private investment and unemployment. These findings are in line with the studies of Aktar and Ozturk (2009).

Furthermore, we did not find any association between exports and unemployment.

These findings are consistent with Aktar and Ozturk (2009) and Ozughalu & Ogwumike (2013). On the other hand, Doğan (2012) found a negative relationship between export and unemployment. Pakistan mainly exports agricultural products or semi-finished products. The international prices of these products are very competitive. Pakistan needs to diversify its exports by exporting non-conventional and finished goods. These measures will not only increase exports in value terms but may also stimulate job opportunities in Pakistan.

Fully Modified Least Squares

The "fully modified least square technique" designed by Kwiatkowski, Phillips, Schmidt and Shin (1992) provides better empirical estimates of regressions. This technique also addresses the adjusted serial correlation and endogeneity issues. Comparatively, least-square estimates do not take account of non-stationary data series. The results are presented in Table 6.

Table 6: Fully Modified Least Squares Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Export	0.000182	2.73E-05	6.651846	0.0000
FDI	-0.000672	8.64E-05	-7.780349	0.0000
Govt. Expenditure	-1.21E-05	2.00E-06	-6.067314	0.0000
Private Investment	3.36E-06	7.39E-07	4.540309	0.0000
Constant	0.289716	0.101523	2.853694	0.0066
R-squared	0.899930	Mean dependent variance	1.744286	
Adjusted R-squared	0.890832	S.D. dependent variance	1.433215	
S.E. of regression	0.473542	Sum squared residency	9.866646	
Durbin-Watson stat	1.503450	Long-run variance	0.140715	

Fully Modified Least Squares Regression (FMLSR) results presented in Table 6 show that the association between independent variables and unemployment is statistically significant in the long run. As already discussed earlier, the results show a positive association between exports and unemployment. Factors such as the depreciation of the local currency and low exports have failed to create Pakistan's job opportunities. Similarly, the study also found that FDI has a negative association with unemployment and government spending.

Pairwise Granger Causality Tests

We tested the causal relationships between the variables through the Granger causality tests, presented in Tables 7 to 10.

Table 7: Granger Causality Test Results (Unemployment and Exports)

Null Hypothesis:	Obs	F-Statistic	Prob.
Unemployment does not Granger Cause Export	48	1.16037	0.3230
Export does not Granger Cause Unemployment		9.21221	0.0005

Table 7 shows the results from the Granger causality test applied to exports and unemployment. The results suggest that unemployment has no causal impact on exports, while exports have a causal effect on unemployment. The results also indicate that the poor quality of exports has contributed to the deteriorating economy of Pakistan.

Table 8: Granger Causality Test Results (FDI and Unemployment)

Null Hypothesis:	Obs	F-Statistic	Prob.
FDI does not Granger Cause Unemployment	48	1.95743	0.1536
Unemployment does not Granger Cause FDI		9.89142	0.0003

Table 8 shows the results from the Granger causality test applied to FDI and unemployment. The results indicate that FDI has no causal impact on unemployment, while unemployment has a causal effect on FDI. Thus, the relationship is uni-directional.

Table 9: Granger Causality Test Results (Government Expenditure and Unemployment)

Null Hypothesis:	Obs	F-Statistic	Prob.
Govt. Expenditure does not Granger Cause Unemployment	48	6.62514	0.0031
Unemployment does not Granger Cause Govt. Expenditure		8.64760	0.0007

Table 9 shows the results from the Granger causality test applied to government expenditure and unemployment. The results indicate that government expenditure and unemployment have a causal impact on each other. This implies that due to poor governance, inefficient government planning, and exorbitant government expenditures,

Pakistan cannot generate adequate economic growth and employment.

Table 10: Granger Causality Test Results (Private Investment and Unemployment)

Null Hypothesis:	Obs	F-Statistic	Prob.
Private Investment does not Granger Cause Unemployment	48	5.13167	0.0100
Private Investment does not Granger Cause Unemployment		3.55825	0.0372

Table 10 shows the results from the Granger causality test applied to private investment and unemployment. The results suggest that private investment and unemployment have a bi-directional causal association. This implies that the private sector is mostly investing in non-productive industries like real estate. This has not only increased the cost of property exorbitantly but has adversely affected the economy.

Conclusion

Like other developing countries, Pakistan has poor government policy measures, which has contributed to a severe unemployment problem. Consequently, its economic development lags behind several countries. We, based on historical data, have analyzed macroeconomic factors that affect unemployment. Our results suggest that "foreign direct investment, government expenditure, and private investment" are crucial for job creation and reducing unemployment. These findings are consistent with many earlier studies (Young & Pedregal, 2000; Arsalan & Zaman, 2014; Mehmet & Demirsel, 2013). Historical data also suggests that exports do not affect unemployment. Thus, the country has to diversify its exports to create more employment. The private investment in Pakistan is not encouraging. Therefore, the GOP needs to develop and implement policy measures to promote and encourage the private sector to invest in productive areas. In the long run, all five economic factors appear to have stimulated employment except exports and FDI (Christiano, Eichenbaum, & Trabandt, 2016; Bovenberg, & Van-der-Ploeg, 1996).

The results will help policymakers to adopt macroeconomic policies for stimulating employment. The government should not only focus on enhancing FDI but also ensure that FDI has spillover effects on the economy. The government should also seek technology transfer from foreign investors. Policymakers should also encourage foreign investors to collaborate with local firms for expanding exports in non-conventional sectors. Private investment is critical for economic development and job creation. As the government neither has the capacity nor resources for providing jobs, policymakers should focus on gaining the private sector's confidence. Additionally, while developing policy measures, the government should take input from the private sector. Policies

designed in collaboration with the private sector would be more sustainable.

The study has focused on five macroeconomic factors, i.e., "FDI, private investment, exports and government expenditure, and unemployment." Future studies may incorporate other variables such as "competitiveness of the economy, governance, exchange rate, social development factors like population growth." The undocumented economy is another issue that has severe consequences in an economy. This aspect can also be covered in future studies.

References

Abaid, A., Furceri, D. Topalova, P (2016). The macroeconomic effects of public investment: evidence from advance economies [Available]. https:// www. imf.org/external/pubs/ ft/wp/2015/wp1595.pdf

Abdelkader, B., Cheikh, S., & Sofiane, M. (2017). The Impact of the Public Expenditure on Employment and Income in Algeria: An Empirical Investigation. *American. Journal of Economics*, *7(3)*, 155-161.

Aftab, A., & Parikh, D. (2018). Comparative Analysis of Impact of Foreign Direct Investment, Exports and Employment on Growth of Manufacturing Industries in India. *Asian Economic and Financial Review*, *8*(9), 1196-1210.

Agrawal, A. K., & Matsa, D. A. (2013). Labor unemployment risk and corporate financing decisions. *Journal of Financial Economics*, *108(2)*, 449-470.

Aktar, I., & Ozturk, L. (2009). Can unemployment be cured by economic growth and foreign direct investment in Turkey? *International Journal of Finance and Economics, 1(27)*, 203-211.

Arsalan, M., & Zaman, R. (2014). Unemployment and its determinants: Study of Pakistan economy. *Journal of Economics and Sustainable Development, 5(13)*, 20-24.

Azam, M., Khan, A. Q., & Bakhtyar, B. (2017). Surveying sources of economic growth: empirical evidence from Malaysia. *Problems and perspectives in Management*, *15(3)* 114-123.

Balcerzak, A. P., & Zurek, M. (2011). Foreign direct investment and unemployment: VAR analysis for Poland in the years 1995-2009. *European Research Studies, 14(1)*, 1-13

Babatunde, M. A., Oyeranti, O. A., Bankole, A. S., & Olawale, E. O. (2012). Export trade, employment and poverty reduction in Nigeria. *International Journal of Social Economics, 39(11)*, 875-899.

Bagchi, A., & Paul, J. A. (2018). Youth unemployment and terrorism in the MENAP (Middle East, North Africa, Afghanistan, and Pakistan) region. *Socio-Economic Planning Sciences*, *64*, 9-20.

Blanchard, O. (2007). A Review of Richard Layard, Stephen Nickell, and Richard Jackman's *Unemployment: Macroeconomic Performance and the Labour Market*. *Journal of Economic Literature*, *45(2)*, 410-418.

Borensztein, E., De-Gregorio, J., & Lee, J. W. (1998). How does foreign direct investment affect economic growth? *Journal of International Economics*, *45(1)*, 115-135.

Bovenberg, A. L., & Van-der-Ploeg, F. (1996). Optimal taxation, public goods and environmental policy with involuntary unemployment. *Journal of Public Economics*, *62(1)*, 59-83.

Chang, S.-C. (2005). The dynamic interaction among foreign direct investment, economic groeth, export and unemployment: evidence from Taiwan. *Economic Change and Restructuring, 38(3),* 235-256.

Christiano, L. J., Eichenbaum, M. S., & Trabandt, M. (2016). Unemployment and business cycles. *Econometrica*, *84(4)*, 1523-1569.

Cosculluela-Martínez, C. (2020). Sustainable Knowledge Investment Increases Employment and GDP in the Spanish Agricultural Sector More Than Other Investments. *Sustainability, 12(8)*, 3127.

Craigwell, R., & Maurin, A. (2002). Production and Unemployment Cycles in the Caribbean: The Case of Barbados and Trinidad and Tobago. unpublished, Research Department, Central Bank of Barbados. [Available], http://citeseerx.ist .psu.edu/ viewdoc/ download ?doi=10 .1.1.586.2234&rep=rep1&type=pdf

Daly, V., Ullah, F., Rauf, A., & Khan, G. Y. (2017). Globalization and unemployment in Pakistan. *Asian Economic and Financial Review*, *7*(7), 634-649.

Dogan, T. T. (2012). Macroeconomic variables and unemployment: the case of Turkey. *International Journal of Economics and Financial Issues, 2(1)*, 71-78.

Driver, c. (2010). Capital investment and unemployment in Europe: neutrality or not. *Journal of Macroeconomics, 32(1)*, 492-496.

Fujita, S., & Moscarini, G. (2017). Recall and unemployment. *American Economic Review*, *107(12),* 3875-3916.

Joshua, U., Bekun, F. V., & Sarkodie, S. A. (2020). New insight into the causal linkage between economic expansion, FDI, coal consumption, pollutant emissions and urbanization in South Africa. *Environmental Science and Pollution Research*, 1-12.

Karim, B. A., Karim, Z. A., & Nasharuddin, M. N. (2019). Corruption and Foreign Direct Investment (FDI) in ASEAN-5: A panel evidence. *Economics and Finance in Indonesia*, *64(2),* 145-156.

Kwiatkowski, D., Phillips, P. C., Schmidt, P., & Shin, Y. (1992). Testing the null hypothesis of stationarity against the alternative of a unit root. *Journal of Econometrics*, *54(1-3)*, 159-178.

Liang, F. H. (2017). Does foreign direct investment improve the productivity of domestic firms? Technology spillovers, industry linkages, and firm capabilities. *Research Policy*, *46(1),* 138-159.

Liobikienė, G., & Butkus, M. (2018). The challenges and opportunities of climate change policy under different stages of economic development. *Science of the Total Environment*, *642*, 999-1007.

Liobikienė, G., & Butkus, M. (2019). Scale, composition, and technique effects through which the economic growth, foreign direct investment, urbanization, and trade affect greenhouse gas emissions. *Renewable Energy*, *132*, 1310-1322.

Maqbool, M. S., Mahmood, T., Sattar, A., &Bhalli, M. N. (2013). Determinants of unemployment: Empirical evidences from Pakistan. *Pakistan Economic and Social Review*, *51(2),*191-208.

McDonald, F., Tuselmann, H. J., & Heise, A. (2002). Foreign direct investment and employment in host regions. *Europian Business Review, 14(1),* 40-55.

Mehmet, M., & Demirsel, M. T. (2013). The effect of foreign direct investment on unemploymeny: Evidence from pannel data for seven developing countries. *Journal of Business Economics & Finance, 2(3),* 53-66.

Meo, M. S., Khan, V. J., Ibrahim, T. O., Khan, S., Ali, S., & Noor, K. (2018). Asymmetric impact of inflation and unemployment on poverty in Pakistan: new evidence from asymmetric ARDL cointegration. *Asia Pacific Journal of Social Work and Development*, *28(4)*, 295-310.

Mohamed, O. A. S. (2018). Vector Autoregressive Analysis-VAR Foreign Direct Investment and Unemployment: Sudan, 1990-2016 *Global Journal of Economic and Business*, *4(2)*, 224-235.

Mkombe, D., Tufa, A. H., Alene, A. D., Manda, J., Feleke, S., Abdoulaye, T., & Manyong, V. (2020). The effects of foreign direct investment on youth unemployment in the Southern African Development Community. *Development Southern Africa*, 1-16.

Obayori, J. B. (2016). Fiscal policy and unemployment in Nigeria. *The International Journal of Social Sciences and Humanities Invention*, *3(2)*, 1887-1891.

Ogunkola, E. O., & Jerome, A. (2006). Foreign direct investment in Nigeria: Magnitude, direction and prospects. *Foreign Direct Investment*.[Available], https://media. africaportal.org/documents/FDI_papers_booklength_volume.pdf#page=158.

Onaran Ö. (2009) The Effect of Trade and FDI on Employment in Central and Eastern European Countries: A Country-Specific Panel Data Analysis for the Manufacturing Industry. In: Tondl G. (eds) The EU and Emerging Markets. Schriftenreihe der Österreichischen Gesellschaft für Europaforschung (ECSA Austria) / *European Community Studies Association of Austria Publication Series, Vol. 12.* Vienna: Springer.

Onuoha, F. C., & Moses-Oyeyemi, A. (2019). Impact of Disagregated Public Expenditure on Unemployment Rate of Selected African Countries: A Panel Dynamic Analysis. *Journal of Economics, Management and Trade*, *24(5),* 1-14.

Ozughalu, U. M., & Ogwumike, F. O. (2013). Can economic growth, foreign direct investment and export provide the desired panacea to the problem of unemployment in Nigeria? *Journal of Economics and Sustainable Development, 4(1),* 36-51.

Pi, J., & Chen, X. (2016). The impacts of capital market distortion on wage inequality, urban unemployment, and welfare in developing countries. *International Review of Economics & Finance*, *42*, 103-115.

Popkova, E. G., Bogoviz, A. V., Pozdnyakova, U. A., & Przhedetskaya, N. V. (2018). Specifics of economic growth of developing countries. In *Management of Changes in Socio-Economic Systems* (pp. 139-146). Springer, Cham.

Qazi, W., Raza, S. A., & Sharif, A. (2017). Higher Education Development and Unemployment in Pakistan: Evidence from Structural Break Testing. *Global Business Review*, *18*(5), 1089-1110.

Rahman, M., Mustafa, M., Islam, A., & Kumar, K. (2006). Grrowth and employment emprics of Bangladesh. *The Journal of Developing Areas, 4(1)*, 99-114.

Sekuloska, J. D. (2018). Causality between foreign direct investment in the automotive sector and export performance of Macedonian economy. *Equilibrium. Quarterly Journal of Economics and Economic Policy*, *13(3),* 427-443.

Sever, E., & İğdeli, A. (2018). The determining factors of youth unemployment in developing countries: The Case of Turkey. *International Journal of Social and Economic Sciences (IJSES)*, *8(1)*, 75-83.

Su, W., Zhang, D., Zhang, C., Abrhám, J., Simionescu, M., Yaroshevich, N., & Guseva, V. (2018). Determinants of foreign direct investment in the Visegrad group countries after the EU enlargement. *Technological and Economic Development of Economy*, *24(5)*, 1955-1978.

Subramaniam, T. (2008). The dynamic interaction among foreign direct investment, unemployment, economic growth and exports:evidence from Malaysia. *Journal of South East Asian Studies, 13*, 35-48.

Tsaurai, K. (2018). Exploring the employment effect of FDI in BRICS: Does conditionalities matter?. *Acta Universitatis Danubius. Œconomica*, *14(3),* 86-103.

Tsitouras, A. (2016). What can trigger the resumption of economic growth in a small open economy like Greece: Exports or inward FDI?. *International Economic Journal*, *30(4)*, 504-526.

Yavas, B. F., & Malladi, R. K. (2020). Foreign direct investment and financial markets influences: Results from the United States. *The North American Journal of Economics and Finance*, *53*, 101182.

Young, P. C., & Pedregal, D. J. (2000). Macro-economic Relativity: Government spending, privateinvestment and unemployment in USA. *Structural Change and Economic Dynamics, 10,(3-4)*, 359-380.

Zeb, N., Qiang, F., & Sharif, M. S. (2014). Foreign direct investment and unemployment reduction in Pakistan. *International Journal of Economics and Research*, *5(2)*, 10-17.