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The Impact of Consumption and Investment on Unemployment in Pakistan

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ABSTRACT

The aim of this study is to inspect the effect of investment and consumption on unemployment rate (UEM) in Pakistan and used the data from 1975-2020 and ARDL techniques to estimate the long run (LR) and short run (SR) results. This study found that the GDP growth (GDPG), gross capital formation (GCF), final consumption expenditure (PCE), and inflation rate (INF) have a significant and negative effects on UEM in the long-run. However, the GDPG, GCF, final consumption expenditure, and inflation rate have an insignificant consequence on UEM in the short run. Furthermore, the FDI has a significant and negative effect on unemployment rate in the LR and SR. Similarly, the granger causality test results indicated that there is no causality exist in between UEM and GDPG, unemployment rate and GCF, and UEM and final consumption expenditure, while, there is two-way causality exist in between UEM and GDP growth. There is unidirectional causality exist in between UEM and inflation rate, running from unemployment to inflation rate. Therefore, this study concluded that increase in the investment and consumption has significantly decreased the unemployment rate in Pakistan. This study recommended that government increase the employment opportunities to increase investment and consumption expenditure.

Keywords: *Consumption; Investment; Inflation; ARDL; Pakistan*

INTRODUCTION

Generally, the word employment refers to the work of the individual in order to get some income for meeting his/her daily requirement. Prior to employment, the individual face the stage of unemployment, where he/she is mentally and physically ready to work at the existing level of income of a competitive market (Maqbool *et al.*, 2013). Unemployment is a main issue among the macroeconomic issues

prevailing in almost all countries. Economic Survey of Pakistan 2010-2011 has presented unemployment as a situation in which an individual is ready and capable to do work at the existing level of income but he/she could not get a job (Cheema & Atta, 2014). Unemployment leads to poverty, increase in rate of crimes and also to political and social disorders therefore it is an issue of great concern(Aqil *et al.*, 2014). In Under-developed countries, some of the factors of unemployment are the changes in technology, demographic structure and the production of electricity in rural areas instead of cities (Tunah, 2010).

In Pakistan too, it is a growing trend. In 1990s, the rate of unemployment increased due to budget constraint, low level of growth of economy and also some other determinants (Cheema & Atta, 2014). By utilizing the existing productive resources, the government should concentrate on providing opportunities of employment. In developing countries, increase in population gives rise to many socio-economic issues in which the most serious issue is the unemployment. If the individual could not find a job in his/her homeland, he/she will try to get job in some other country and this is a risky situation for future of any country, specifically if the foreign country is attracting a country's skilled people (Maqbool *et al.*, 2013). Unemployment in the under-developed countries is caused by the scarcity of capital, shortage of skilled labor force, low investment and saving and also due to high rate of population (Haydar *et al.*, 2019). Some other reasons for the unemployment rate in under-developed countries are variations in the technology, demographic structure, the migration of electricity from rural areas to towns (Tunah, 2010). One of the important factors of increasing unemployment rate is the slow growth of agriculture sector in which there is the usage of low quality of seeds, use of smaller amount of fertilizers and pesticides, lack of skilled labor due to the improvement of technology (Akhtar & Shahnaz, 2005). Economic growth is essential for the continuous development of an economy. In the absence of economic growth, the developing countries could not improve the standard of life of their increasing population and to achieve the GDPG, basic infrastructure, stimulate the external and internal investment, and also should improve the agriculture sector. To fulfill these requirements, there will be need of government investment (Saad & Kalakech, 2009).

A country's economic growth can be measured by the unemployment rate. An economy is said to be strong if it could be in a position to employ everybody at some wage rate because a jobless individual is considered to be unproductive for a society(Rotheim, 2007). Unemployment could have a shocking influence on welfare of society, crime and society's instability(Kyei & Gyekye, 2011). In the growing economies of the world, the contribution of government intervention in the GDPG has been a relevant argument. Some believe that there is a very substantial effect of government intervention on the growth of an economy while, the other believe the opposite. However, the contribution of government in the development of an economy can be neglected as government make policies which respond to many economic conditions and boost the economic growth. The most important policy of government is the fiscal policy through which it control its expenditure and taxation(Fosu, 2019). After the 2nd world war in 1945, the governments of the countries have become more prominent in both the advanced and developing countries because it is the governments which endow with social services and also provide an income supplement in addition to the provision of food, control the economy and make investments in capital (Shonchoy, 2010).

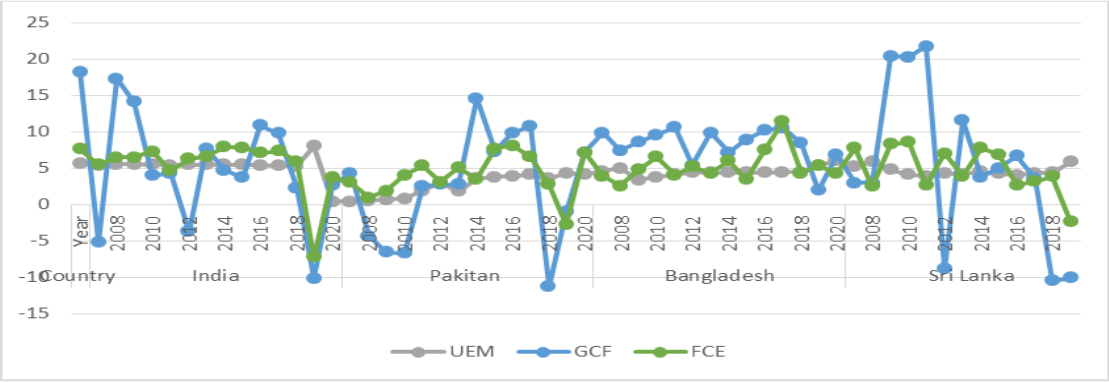
Government investment plays an important role in provision of advantageous impact on an economy such as building of new and fine roads, facilities of basic infrastructure, reduction in poverty and also provision of jobs. It also reduces the unwanted impacts on an economy such as lack of education, health care, shelter, food, the increase in poverty. Government investment is the powerful tool to overcome the unemployment rate (Obisike *et al.*, 2020). A productive public expenditure, especially in the basic infrastructure, i.e. education, health, housing and transportation can significantly contribute to enhancing the growth of an economy and also in increasing private investment(Fedderke *et al.*, 2006). In macroeconomic researches, the bond between consumption spending and GDPG has a very important

place for the policymakers and economists. On one side, Keynesian economists believe consumption spending as a function of income. On the other hand, there is significant number of economists who consider consumption spending as a factor of stimulating GDPG. However the bond between the consumption and output is very important from both theoretical and policy point of view(Test, 2011).

The consumption of government is composed of two basic mechanisms. The first one is spending on manufactured goods and second one is on the salaries and its increments (Cavallo, 2005). In regulating the unfavorable economic phases, the government consumption expenditure plays a vital role but, while selecting the fiscal and monetary policy, the governments always support the fiscal policy, as it is the most frequent instrument which guarantee the recovery from the recession and also restore the private investor's confidence level. Fiscal policy is very important for the growth of an economy specifically for the under-developed countries (Shonchoy, 2010). The governments of under-developed countries are constantly facing higher fiscal deficit, as they have countless duties such as spending on health, education, reduction of unemployment. For the under-developed countries government expenditure means growth of the economy (NEPRAM *et al.*, 2021).

The prior literature shows mixed results like Onodugo *et al.* (2017), found that government spending (GE) and private outlay have optimistic effect on unemployment. Similarly, Ahmad and Khan (2018), found that FDI, INF, and GE all had a substantial influence on UEM in Pakistan. Holden and Sparrman (2018), and Fosu (2019) found an inverse bond between increase in public purchases lowers the unemployment rate in a country. Similarly Radulescu *et al.* (2019), concluded that GDPG has been auspiciously inclined by consumption and saving but the employment has not been supported by them whereas, the link between consumption expenditure and output growth has been found negative but positive link between employment and government expenditure was found. Similarly, Ankomah (2019), concluded that unemployment rate has been negatively affected by consumption expenditure and positively affected by government capital spending. Boehm (2020), found that government investment components might not be as useful at motivating the aggregate demand as usually considered. Gachari and Korir (2020), concluded that fiscal policy has a positive link with the unemployment. However, Abouelfarag and Qutb (2020), concluded that there is a adverse impact of GE on the rate of unemployment and this might be due to high spending on interest payment, subsidies and employee compensation. Pasara and Garidzirai (2020b), found a significant and favorable association between unemployment and investment. Baker (2020), concluded that the expenditure policy has a key contribution in decreasing rate of unemployment. Dachito *et al.* (2021), concluded that GE has a significant adverse effect on graduate UEM.

Figure 1: Comparison of Unemployment, Investment and Consumption in South Asian Countries



Source: World Development Indicators (2022)

Among the macroeconomic goals of a country, one of the most important goals is to decrease unemployment. As unemployment is the main social problem, especially for the under-developed countries and the economic growth of these countries has been hampered by the increasing rate of unemployment by lowering the standard of living. Government of Pakistan has been introduced various measures to overcome this issue but the problem is still not solved. The government introduced small business and finance corporation (SBFC) and it proved to be beneficial in reducing the unemployment rate, it employed 28,149 people. The government employed 104,000 people through the overseas employment schemes and the government also played a significant role in improving the infrastructure (Mahmood & Khalid, 2013). Here the Question is doing the public spending and purchases increase the economic growth? Many analyses have been done and the researchers find that a huge public spending measured as a percentage of NI results in more unemployment but this result is opposite the common belief which is held in many other countries that public spending is essential in solving the problem of unemployment and also in solving in many other economic problems. In developing countries, the governments have countless duties; they have to invest in education, infrastructure, in reducing employment and health. For achieving higher economic growth they have to spend more (Nepram *et al.*, 2021). The increasing rate of government expenditure has been attracted many researchers to find out the link among government consumption, investment and unemployment. Therefore, various studies have been conducted to find out the main reasons of unemployment in these countries in spite of the government expenditure. The present study has been carried out to find the role of government consumption and investment in decreasing the rate of unemployment.

Pakistan is one of the agricultural countries so; most of its population is employed in this sector but unfortunately in each year most of the time they remain unemployed because they only find employment in the harvesting time. The present study will help the policy makers to adopt such policies which can improve the employment rate. It will help the government to spend on such projects which can improve the standard of life by providing appropriate employment opportunities. Therefore, this study conducted to investigate the effect of investment and consumption expenditure on unemployment in Pakistan.

EMPIRICAL LITERATURE

Schclarek (2007), studied the link between fiscal policy and private consumption (PC) and UEM in the forty selected countries of the world from 1970-2000 by using regression model and VAR model. He found that in both the industrialized and less developed countries, public spending and employment shocks have the Keynesian effects. Karanassou *et al.* (2008), scrutinized the consequence of formation of capital on the unemployment in Australia for 1993 to 2006 by using CRT approach. They concluded that GCF is an important factor in regulating the UEM activities. Leigh and Neill (2009), inspected the effect of GE on UEM by using change in unemployment as a dependent variable from 2001-2004. The researcher applied Ordinary Least Square technique and found an encouraging effect of GE on UEM. Bruckner and Pappa (2010), investigated the link between fiscal expansions and UEM in several OECD countries from 1990:1 to 2008:4 by using VAR model. They concluded that fiscal expansion leads to a significant rise in providing employment and insignificant rise in the tightness of labor market. Shonchoy (2010), studied the pattern of FCE in one hundred and eleven under-developed countries from 1984-2004 by using OLS technique. The result showed that the political and institutional variable along with governance variables significantly affects public spending. Furthermore, corruption has also an influential effect on government spending in these countries.

Sodipe and Ogunrinola (2011), studied the link between UEM and GDPG of Nigeria from 1981-2006 by using OLS model. They concluded that there is an encouraging link between level of employment and economic growth. Whereas, an adverse link between growth of employment and growth of GDP. The researchers suggested that the strategies which rise labor-promoting investment should be adopted by the

government. Yongjin (2011), analyzed the link among GE, GDPG and unemployment in thirty-two developed and fifty-one under-developed countries from 1996 to 2006 and concluded that a huge government size has an encouraging effect on unemployment and argued that this positive effect is more in under-developed countries as compared to developed countries. Yasin (2011), studied the influence of public spending on the GDPG of Sub-Saharan Africa from 1987-1997 by using aggregate production function. The researcher concluded that public expenditure and private investment both has an encouraging effect on the GDPG. Dao (2012), studied the effect of government expenditure on the economic growth of twenty-eight under-developed countries by using OLS. They concluded that in these GDPG has been positively influenced by GCF. Furthermore, the effect of GE on the GDPG was also found to be optimistic.

Farmer and Plotnikov (2012), analyzed the effect of GE on the PC and reduction of unemployment by using old Keynesian Model. They concluded that the fiscal policy boosts the GDPG and decrease UEM. Salih (2012), studied the link between GE and GDPG of Sudan from 1970-2017 by applying ECM and co-integration Causality. The result of the study supports the Wagner hypothesis. Ofori-Abebrese (2012), studied the effect of inflation, Gross Domestic Product, population and trade openness on the consumption in Ghana from 1977 to 2007 by applying co-integration method. They concluded that the inflation, rise in GDP and trade openness decrease the public consumption spending whereas, higher price level and population growth increase public consumption spending. Mahmood and Khalid (2013), studied the link between GE and UEM in Pakistan from 1980-2010 by applying Johansen co-integration technique and VECM. They concluded that public spending and inflation has a positive impact on unemployment and FDI, tax revenue has an adverse effect on unemployment. Bande and Riveiro (2013), examined the influence of FCE on UEM of Spain for 1980-2007 by using Vector Autoregressive Distributed Lag model. They argued that in the present recession a decrease in consumption might create a powerful influence on the rate of unemployment via the accumulated first and second round impacts (through investment). Maqbool *et al.* (2013), inspected the link among UEM, population, FDI, GDPG, INF and foreign borrowings of Pakistan for 1976 to 2012 by applying ARDL model. The researchers concluded that GDPG, INF, and FDI are the important determinants of unemployment.

Murwirapachena *et al.* (2013), analyzed the link between UEM and fiscal policy in South Africa from 1980-2010 by applying Vector Error Correction model. They concluded that the persistent public spending and tax has a favorable effect on reducing unemployment. Instead, public capital spending has an adverse effect on unemployment. Agalega and Acheampong (2013), analyzed the impact of INF, public spending and policy rate on GDP of Ghana from 1980-2010 by applying VECM for analysis. The researchers concluded that there is a favorable link between policy rates with real GDP and public spending has an adverse effect on real GDP. The researchers suggested that the Bank of Ghana should combine with other government and should adopt good monetary and fiscal policy which must reduce and stabilize micro and macro economy.

Bermperoglou *et al.* (2013), analyzed the shocks in public spending, investment and employment in the US, Canada, Japan and UK from 1970-2007 by using structural VAR. They concluded that government wage cuts raise supply of labor in the private sector. It can remove the adverse impact of the tightening. On the other hand government vacancy cuts decrease it. Kamran *et al.* (2014), investigated the determinants of UEM in Pakistan for 1981 to 2010 by applying OLS model. They concluded that the FDI has a adverse effect on UEM. The researchers argued that the opportunities of employment are more in the urban areas because of the establishment of industries in these areas. Nwosa (2014), studied the link between public spending, UEM in Nigeria from 1981 to 2011 by using Ordinary Least Square. He concluded that there is a optimistic link between GE and unemployment and consequently it has a negative and insignificant impact on poverty. Steinar and Sparrman (2014), studied the link between public purchases and UEM in twenty OECD countries from 1980 to 2007. They concluded that the public

purchases decrease the unemployment in a country. Gehrke and Hartwig (2015), also examined the impact of public work (PW) programmes has positive influence UEM. Párraga and Villacís (2015), examine the consequence of FDI and Public investment on unemployment in Ecuador by using OLS method from 2003 to 2013. They concluded that the effect of GE is momentous and positive on UEM while FDI has no effect on the reduction of UEM.

Obayori (2016), analyzed the link between fiscal policy and UEM in Nigeria from 1980-2013 by using ADF test and ECM. The researcher concluded that Government expenditure has an adverse impact on the unemployment. Furthermore, fiscal policy is effectual in decreasing unemployment. Aslam (2017), analyzed the impact of consumption expenses on the output growth of Sri Lanka from 1975-2014 by using multiple regression analysis. He concluded that the consumption spending has an affirmative link with the output growth. The researcher suggested that the policy maker must adopt consumption encouragement policy as consumption spending play an imperative role in boosting the output growth. Onodugo *et al.* (2017), studied economy of Nigeria during the period of 1980-2013 by using OLS model and they have found a positive GE on unemployment. Holden and Sparrman (2018), used the data twenty OECD countries from 1960 to 2007 and found an inverse bond between FCE and UEM. Fosu (2019), studied the effect of GE on UEM in thirty-four Sub-Saharan African countries from 1990-2017 and concluded that the FCE has an inverse link with the UEM. Furthermore, there is a favorable effect of private investment. Radulescu *et al.* (2019), scrutinize the impact of some exogenous factors on the GDPG in eight CEE countries finding that whether the consumption or investment boost the GDPG of a country and also, they analyzed the contribution of these factors in increasing the employment by applying the Pool Least Square method from 2004 to 2017. They concluded that GDPG has been auspiciously inclined by PC and saving but the employment has not been supported by them whereas, the link between consumption expenditure and output growth has been found negative but positive link between employment and government expenditure was found.

Selase (2019), studied the effect of disaggregated government spending on unemployment in selected African countries for the duration of 2000-2017 by using GMM technique. The researcher concluded that spending on infrastructure decrease unemployment by 9% and 1.83%. The researcher advised that the government should adopt adequate policies for the progress of education sectors to decrease unemployment in these countries.Ankomah (2019), analyzed the influence of GE on unemployment in Ghana for the duration of 1980-2016 by applying ARDL. The researcher concluded that unemployment rate has been negatively affected by consumption expenditure and positively affected by government capital spending. Moreover, they argued that inflation, foreign and internal debts are the main factors of UEM in Ghana. Boehm (2020), inspected the multiplier effect of GE and consumption in OECD countries by using Quarterly panel data from 2003-2016. The researcher recommended that the government investment components might not be as useful at motivating the aggregate demand as usually considered.

Abouelfarag and Qutb (2020), studied the effect of government size on rate of UEM in Egypt from 1980 to 2017 and concluded that there is a adverse impact of GE on the rate of unemployment. Pasara and Garidzirai (2020b), studied the causality association among unemployment, GCF and GDPG of South Africa from 1980-2018 by using VAR model. They concluded that there is a LR favorable link between GCF and GDPG. Furthermore, they found a significant and favorable association between unemployment and gross capital formation. Singh and Shastri (2020), investigated the link between government spending and rate of unemployment in India during 1987 to 2017 by applying ARDL bound test. They concluded that there is a negative link between educational attainment at secondary level and unemployment. Baker (2020), analyzed the effect of GE on UEM in Iraq during 2003-2019 by applying Breusch-Pagan-Godfrey test. The researcher concluded that GE key contribution in decreasing rate of UEM. Ngiik *et al.* (2021), studied the influence of GE, and UEM on the GDPP of Malaysia for the duration of 1988-2017 by using

VECM test. The researchers concluded that the economic growth has been positively affected by public spending. Dachito *et al.* (2021), investigated the effect of public education expenditure on the UEM in Ethiopia from 1991 to 2019 by using VECM test. They concluded that GE has a significant adverse effect on UEM.

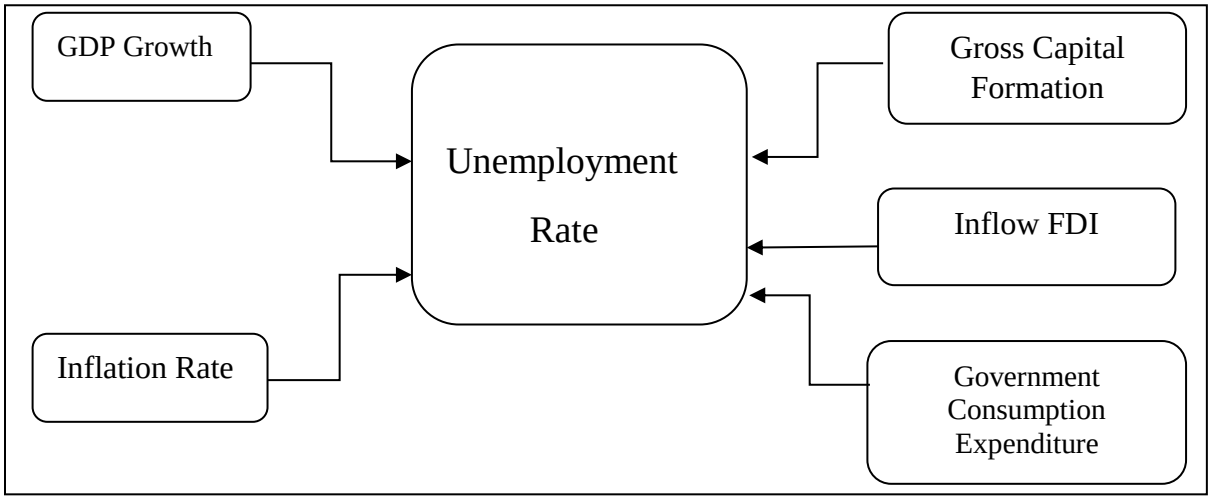
In the above literature the different scholars have their own views about the effect of GE and consumption on the rate of unemployment and GDPG. Like, Ankomah (2019), concluded that unemployment rate has been negatively affected by consumption expenditure and positively affected by government capital spending. Mazher *et al.* (2020), indicated that both FDI and international remittances have a noteworthy role in lowering UEM in Pakistan. Abouelfarag and Qutb (2020), concluded that there is a adverse impact of GE on the rate of unemployment. Pasara and Garidzirai (2020b), concluded that there is a LR favorable link between investment and economic growth. Baker (2020), concluded that the expenditure policy approved by the government has a key contribution in decreasing rate of unemployment. Ngiik *et al.* (2021), concluded that the economic growth has been positively affected by public spending. Dachito *et al.* (2021), concluded that GE has a negative effect on graduate UEM. Therefore, this study examines the effect of government consumption expenditure and investment on UEM in Pakistan. Secondly, this study extends the data to 2020. Thirdly, this study used the ARDL techniques for estimation to overcome the problem of endogeneity etc. Some of them have found an encouraging relationship between the two variables but most of them have found a negative relationship but this relationship in context of Pakistan is not very clear.

Table 1: Summary of the Literature

Author	Data/country	Methodology	Result
Devarajan et al. (1996)	1970-1990/ forty-three under-developed countries	Applied OLS model	A positive link between consumption and output growth and then employment.
Guseh (1997)	1960-85/ 59 developing countries	Applied Regression analysis	An inverse link between current public expenditure and output growth and then employment.
Fedderke et al. (2006)	1976-2002/ South Africa	Applied VECM	An encouraging link between current spending in infrastructure and employment
Salih (2012)	1970 to 2017/Sudan	Applied ECM and co-integration Causality	The GDP growth has uni-directional link with the contribution of expenditure to GDP
Mahmood and Khalid (2013)	1980-2010/Pakistan	Applied Johansen co-integration technique and VECM	Public spending and inflation have a positive impact on unemployment
Agalega and Acheampong (2013)	1980-2010/ Ghana	Applied VECM, unit root test and co-integration analysis	Public spending has an adverse effect on real GDP
Nwosa (2014)	1981-2011 /Nigeria	Applied Ordinary Least Square method	Public spending has a positive impact on unemployment
Párraga and Villacís (2015)	2003- 2013/Ecuador	Applied OLS method	Public spending has a positive influence on unemployment

Obayori (2016)	1980-2013/ Nigeria	Applied Augmented Dickey-Fuller test and ECM	Government expenditure has an adverse impact on the unemployment
Aslam (2017)	1975-2014/Sri Lanka.	Applied multiple regression analysis	Consumption spending has a constructive link with the output growth and then employment.
Ahmad and Khan (2018)	1991-2016 /Pakistan	Applied OLS method	In Pakistan, government spending has a considerable influence on unemployment.
Fosu (2019)	1990-2017/34 Sub-Saharan African countries.	Applied OLS technique	Government investment expenditure has an inverse link with the unemployment rate
Ankomah (2019)	1980-2016/ Ghana	ARDL	Unemployment rate has been negatively affected by consumption expenditure and positively affected by government capital spending.
Selase (2019)	2000-2017/ African countries	GMM technique	Spending on infrastructure decrease unemployment by 9% and 1.83% in the short run
Gachari and Korir (2020)	1985-2017/ Kenya.	Applied regression analysis, Augmented Dickey-Fuller and Philips-Perron tests	Fiscal policy has a positive link with the unemployment
Ngiik et al. (2021)	1988-2017/Malaysia	Applied VECM and Granger Causality test	The output growth has been absolutely precious by public spending.
Dachito et al. (2021)	1991-2019/ Ethiopia	Applied ADF, Johansen co-integration test and VECM.	Government education expenditure has a momentous and harmful effect on graduate unemployment.

Figure 2: Conceptual Framework



DATA AND METHODOLOGY

This research is quantitative in nature; it investigates the influence of GE and investment on the UEM in Pakistan and used the data from 1975 to 2020 based on the availability of data and has been collected from World Development Indicators (2022).

Model Specification

The variable GDP growth was used by Aghion and Howitt (1994), Hussain *et al.* (2006), Soylu *et al.* (2018), Kreishan (2011), and Alrayes and Wadi (2018), and the gross capital formation were used by Driver and Muñoz-Bugarin (2010), Alrayes and Wadi (2018), Makaringe and Khobai (2018) and Pasara and Garidzirai (2020a) to determine the employment rate. Similarly, the FDI was used Balcerzak and Zurek (2011), and (Hisarciklilar *et al.*, 2014), the final consumption expenditure was used by Ankomah (2019), Dachito *et al.* (2021), Párraga Ramírez and Villacís Aveiga (2015), and Ngiik *et al.* (2021) and the inflation rate was used by Furuoka and Munir (2014) and Onwachukwu (2016) to determine the employment rate. This study used the following modified model. The same model was used by Mazher *et al.* (2020), Rehman *et al.* (2015), Rehman *et al.* (2018), Rehman *et al.* (2020), Ahmad *et al.* (2024) and Yildirim and Yildirim (2017).

$$UEM_t = \beta_0 + \beta_1 GCF_t + \beta_2 GCE_t + \beta_3 GDPG_t + \beta_4 FDI_t + \beta_4 INF_t + \mu_t \ldots (1)$$

Where $\beta_0,\ \beta_1, \beta_2, \beta_3, \beta_4,\ and\ \beta_4\ are\ parameter\ and\ \mu\ is\ error\ term.$

Table 2: Descriptions of Variables

Sr. No	Variable	Measurement	Symbol
1	Unemployment, (% of labor force)	Percentage	UEM
2	GDP growth (annual %)	Percentage	GDPG
3	Gross capital formation (annual % growth)	Percentage	GCF
4	Final consumption expenditure (annual % growth)	Percentage	FCE
5	Net inflow Foreign direct investment, (% of GDP)	Percentage	FDI
6	Inflation, consumer prices (annual %)	Percentage	INF

Econometrics Techniques

This study used ARDL for estimations because it overcomes many problems like endogeneity and outliers etc.

Equation 1 in ARDL form as follow

$$UEM_t = \beta_0 + \sum_{i=1}^{n} \beta_{1i} UEM_{t-1} + \sum_{i=0}^{n} \beta_{2i} GCF_{t-1} + \sum_{i=0}^{n} \beta_{3i} GCE_{t-1} + \sum_{i=0}^{n} \beta_{4i} GDPG_{t-1} + \sum_{i=0}^{n} \beta_{5i} FDI_{t-1} + \sum_{i=0}^{n} \beta_{6i} INF_{t-1} + \mu_t \ldots\ldots (2)$$

Equation 1 in ARDL Bound form as follow

$$\Delta UEM_t = \beta_0 + \sum_{i=1}^{n} \beta_{1i} \Delta UEM_{t-1} + \sum_{i=0}^{n} \beta_{2i} \Delta GCF_{t-1} + \sum_{i=0}^{n} \beta_{3i} \Delta GCE_{t-1} + \sum_{i=0}^{n} \beta_{4i} \Delta GDPG_{t-1} + \sum_{i=0}^{n} \beta_{5i} \Delta FDI_{t-1} + \sum_{i=0}^{n} \beta_{6i} \Delta INF_{t-1} + \gamma_1 GCF_t + \gamma_2 GCE_t + \gamma_3 GDPG_t + \gamma_4 FDI_t + \gamma_5 INF_t + \mu_t \ldots\ldots (3)$$

Descriptive Statistics and Correlation Matrix

The mean value of the unemployment series is greater than series of FDI while less than the rest of variables. Similarly, the median value of the unemployment series is greater than series of FDI and FCE while less than the rest of variables. The Slandered deviation value of the unemployment series is greater

than series of FDI while less than the rest of variables. This means that the variation in the unemployment series is greater than FDI series while less than the rest of variables. The highest variation is found in the series GCF while lowest variation is found in the FDI series. The unemployment series skewness value is 0.0898 while less than 0.5, then the unemployment series is approximately symmetric. Similarly, the GDP growth series skewness value is 0.0861 while less than 0.5, and then the GDP growth series are approximately symmetric. The gross capital formation and final consumption expenditure series are also approximately symmetric. The CPI series is moderately skewed while the FDI series is highly skewed. The series unemployment, GDP growth, and final consumption expenditure series platykurtic, Kurtosis while FDI and CPI series are leptokutic, Kurtosis. However, all the variables kurtosis value is positive and have heavy tails.

Table 3: **Summary of Descriptive Statistics**

	UEM_t	$GDPG_t$	GCF_t	FDI_t	FCE_t	CPI_t
Mean	3.8041	4.7620	4.2125	0.8211	4.1654	8.4194
Median	3.9750	4.8397	4.1540	0.6157	3.6661	7.8827
Maximum	7.8300	10.2157	18.5319	3.6683	10.1028	20.9045
Minimum	0.4000	0.5255	-11.5310	0.0624	-2.0061	2.5293
Std. Dev.	2.0449	2.1190	6.2751	0.7728	2.6528	4.0408
Skewness	0.0898	0.0861	-0.2885	2.2867	0.1858	0.9955
Kurtosis	2.3115	2.8121	3.2169	8.1845	2.8618	4.4823

The GDP growth, gross capital formation, FDI, final consumption expenditure, and CPI series have negative correlation with unemployment. The gross capital formation, FDI, final consumption expenditure, have positive while CPI series has negative correlation with GDP growth. The FDI, and CPI have negative and FCE has positive correlation with gross capital formation. The CPI and final consumption expenditure have positive correlation with FDI. While, there is negative correlation between CPI and final consumption expenditure.

Table 4**: Correlation Matrix**

	UEM_t	$GDPG_t$	GCF_t	FDI_t	FCE_t	CPI_t
UEM_t	1					
$GDPG_t$	-0.1164	1				
GCF_t	-0.0445	0.5532	1			
FDI_t	-0.2683	0.2181	-0.0246	1		
FCE_t	-0.0079	0.4530	0.3128	0.1057	1	
CPI_t	-0.4397	-0.2551	-0.1422	0.2582	-0.1334	1

Unit Root Tests Results

The series unemployment rate is not stationary at level while stationary at 1st-difference (1(1)). The series GDP growth is stationary at level (1(0)). Similarly, the series gross capital formations, FDI, final consumption expenditure, CPI are stationary at level and have 1(0). The ADF test shows the mixed order of integration that some variables have I(0) while other have I(1).

Table 5: **Unit Root Tests**

Variables	ADF Test		Order of Integration
	At level	1st Diff	
UEM_t	-2.3697	-6.6363*	I(1)
	(0.1558)	(0.0000)	
$GDPG_t$	-4.0016*	----	I(0)
	(0.0032)		
GCF_t	-5.5018*	----	I(0)
	(0.0000)		
FDI_t	-3.1182**	----	I(0) & I(1)
	(0.0324)		
FCE_t	-5.4325*	----	I(0)
	(0.0000)		
CPI_t	-4.7044*	----	I(0)
	(0.0004)		

Note: * and ** indicated that noteworthy at 1% and 5% level.

Regression Analysis

Table 6 demonstrations the ARDL technique results, these results shows that the GDP growth has a significant and adverse effect on unemployment rate in the LR. A percent rise in the GDP growth will reduce the unemployment by 0.25% in the LR. In line with Aghion and Howitt (1994), Hussain *et al.* (2006), Soylu *et al.* (2018) and opposite with Kreishan (2011), and Alrayes and Wadi (2018). The GCF has a significant and adverse effect on UEM in the long-term. A % rise in the gross capital formation will reduce UEM by 0.12 percent in the LR. This results are in line with the findings of Driver and Muñoz-Bugarin (2010), Alrayes and Wadi (2018), and Makaringe and Khobai (2018) and opposite with the findings of Pasara and Garidzirai (2020a).

The FDI has a significant and adverse effect on UEM in the LR. A percent rise in the FDI will reduce the unemployment by 0.89% in the LR. In line with Balcerzak and Zurek (2011), and opposite with Hisarciklilar *et al.* (2014). The FCE has a significant and adverse effect on unemployment rate in the long-term. A % rise in the final consumption expenditure will reduce UEM by 0.21% in the LR. This results are in line with the findings of Ankomah (2019), and Dachito *et al.* (2021) and opposite with the findings of Párraga Ramírez and Villacís Aveiga (2015), and Ngiik *et al.* (2021). The INF has a significant and negative effect on unemployment rate in the LR. A % rise in the inflation rate will decrease the unemployment by 0.16% in the LR. In line with Furuoka and Munir (2014) and Onwachukwu (2016).

Furthermore, the GDP growth has no effect on UEM in the SR. Similarly, the gross capital formation also has no effect on unemployment rate in the SR. The FDI has a significant and adverse effect on unemployment rate in the SR. A % rise in the FDI will reduce the unemployment by 1.21% in the SR. The final consumption expenditure has an no effect on unemployment rate in the SR. The inflation rate has no effect on unemployment rate in the SR. Furthermore, the ECM value is found negative and significant, which means that is 53% speed of adjustment from short-term to long-term equilibrium. Similarly, the ARDL-Bound techniques indicate that there exists the long-term cointegration among the variables.

To sum up all the regression results shows that GDP growth, gross capital formation, final consumer expenditure, and inflation rate all have substantial and negative influence on UEM in the LR, but have no

effect on UEM in the SR. However, both in the long and short run, FDI has a negative and significant impact on UEM.

Table 6: ARDL Results

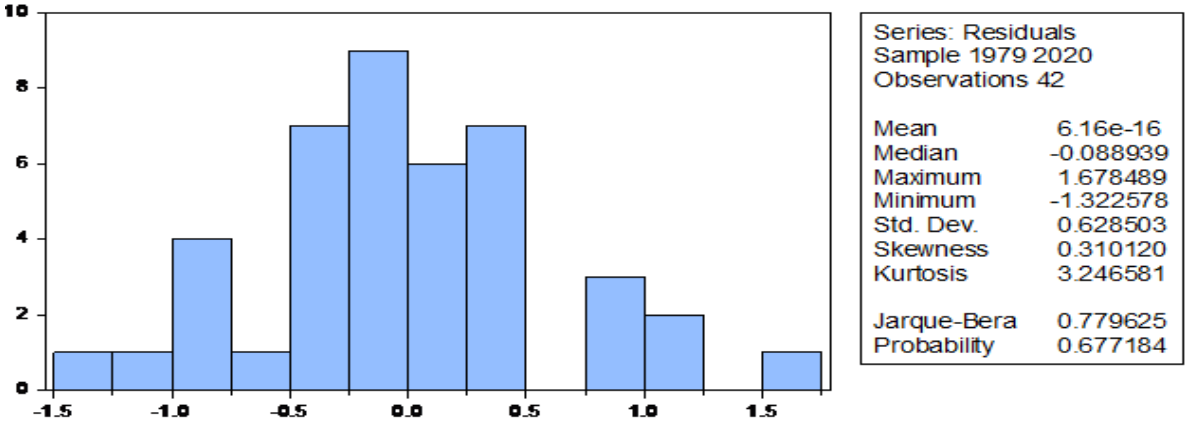
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
Long run Coefficients				
$GDPG_t$	-0.2470***	0.1280	-1.9293	0.0656
GCF_t	-0.1181*	0.0378	-3.1262	0.0046
FDI_t	-0.8883**	0.4266	-2.0823	0.0481
FCE_t	-0.2134***	0.1225	-1.7424	0.0942
CPI_t	-0.1634**	0.0620	-2.6341	0.0145
C	8.2277*	1.4387	5.7187	0.0000
Short run Coefficients				
$D(GDPG_t)$	0.0698	0.0627	1.1133	0.2727
$D(GCF_t)$	0.0217	0.0169	1.2804	0.2084
$D(FDI_t)$	-1.2136*	0.3007	-4.0356	0.0003
$D(FCE_t)$	0.0192	0.0411	0.4658	0.6441
$D(CPI_t)$	0.0336	0.0415	0.8098	0.4232
ECM_t	-0.5347*	0.0716	-7.4637	0.0000
ARDL Bound Test (F-Statistics)			6.0136*	
Critical Values		Significance	I0 Bound	I1 Bound
		5%	2.62	3.79
		2.5%	2.96	4.18
		1%	3.41	4.68

Note: *,** and *** indicated that significant at 1% 5% and 10% level.

Normality Analysis

Figure 2 shows Jarque-Bera test results, which shows that the residuals are normally distributed.

Figure 3: Jarque-Bera Test Results



Diagnostic Test Results

Table 7 shows diagnostic tests results, that no serial correlation, no Hetroskedasticity and no specification error in model and stable.

Table 7: **Diagnostic Test Results**

Test	Statistics	Statistic Value	p-value
Breusch-Godfrey Serial Correlation LM test	F-Statistics	0.0085	0.9915
Breusch-Pagan-Godfrey Hetroskedasticity Test	-do-	0.4917	0.9323
Ramsey RESET test	t-Statistic	0.0645	0.9491
	F-Statistics	0.0042	0.9491

Figure 4: **CUSUM Test**

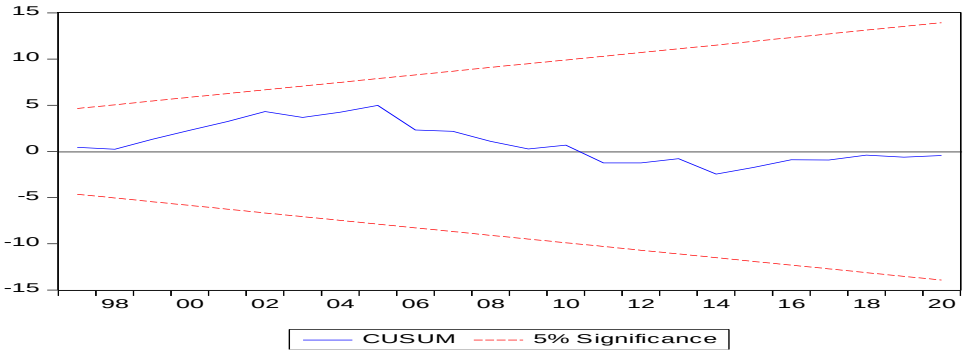
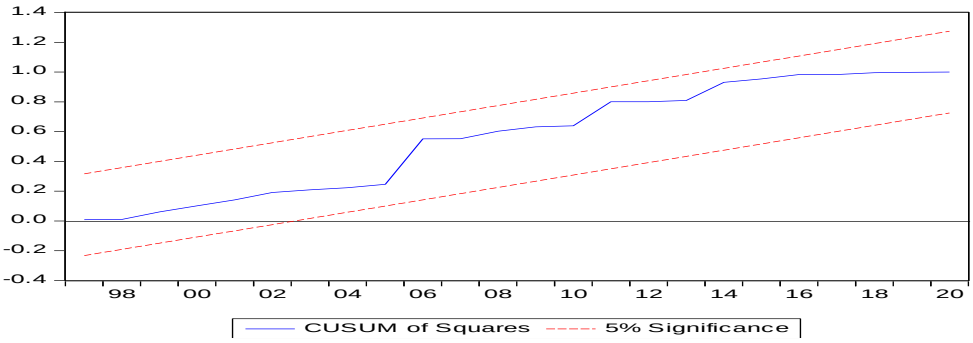


Figure 5: **CUSUM of square Test**



Granger causality Test Results

The findings of the granger causality test revealed that there is no causation between unemployment rate and GDP growth, unemployment rate and gross capital creation, or unemployment rate and final consumption expenditure, however there is a two-way causality between unemployment rate and GDP growth. Between the unemployment rate and the inflation rate, there is unidirectional causation that runs from unemployment to inflation rate.

Table 8**: Granger Casualty Test Results**

Variables	UEM_t	$GDPG_t$	GCF_t	FDI_t	FCE_t	CPI_t
UEM_t	---	0.8495	1.6539	7.0354	2.1761	2.8310***
		(0.3620)	(0.2055)	(0.0112)	(0.1476)	(0.0999)
$GDPG_t$	2.1281	---	9.1724*	5.2296**	5.2902**	0.1067
	(0.1521)		(0.0042)	(0.0273)	(0.0265)	(0.7455)
GCF_t	2.1921	1.8640	----	5.0837**	3.0890***	0.3319
	(0.1462)	(0.1794)		(0.0294)	(0.0861)	(0.5676)

FDI_t	4.0063***	4.6989**	1.0643	---	0.6463	8.2622*
	(0.0518)	(0.0359)	(0.3082)		(0.4260)	(0.0063)
FCE_t	2.7372	2.3836	1.3681	3.0276	---	0.1442
	(0.1055)	(0.1301)	(0.2487)	(0.0892)		(0.7061)
CPI_t	0.7654	0.3827	0.9092	4.9937**	2.7365	----
	(0.3866)	(0.5395)	(0.3458)	(0.0308)	(0.1055)	

Note:

*,** and *** indicated that substantial at 1% 5% and 10% level.

Ho: does not Granger Cause

The p-value inside the (-)

CONCLUSION AND RECOMMENDATIONS

This study selects the most important macroeconomic indicator namely government consumption expenditure and investment to check the influence on unemployment rate in Pakistan and used the data set from 1975 to 2020 and the ARDL techniques for estimation. This study found that the GDPG, GCF, final consumption expenditure, and inflation rate have a significant and adverse effects on UEM in the LR while have an insignificant effect on unemployment rate in the SR. However, The FDI has a significant and adverse effect on unemployment rate. The findings of the granger causality test revealed that there is no causation between unemployment rate and GDP growth, unemployment rate and gross capital creation, or unemployment rate and final consumption expenditure, however there is a two-way causality between unemployment rate and GDP growth. Between the unemployment rate and the inflation rate, there is unidirectional causation that runs from unemployment to inflation rate. Therefore, this study concluded that increase in the investment and consumption has significantly decreased the unemployment rate in Pakistan.The government must be focused to increase the investment, consumption, GDPG, and FDI to increase the employment opportunities. This was limited to Pakistan and only focused on the annual data and ignored the monthly and quarterly data due non-availability of data and also missed some explanatory variables which may have effect on unemployment rate due time constraint.

REFERENCES

Abouelfarag, H. A., & Qutb, R. (2020). Does government expenditure reduce unemployment in Egypt? *Journal of Economic and Administrative Sciences*.

Agalega, E., & Acheampong, P. (2013). The Impact of Inflation, Policy Rate and Government Consumption Expenditure on GDP Growth in Ghana: A Co-Integration Approach. *European Journal of Business and Management, 3*(2).

Aghion, P., & Howitt, P. (1994). Growth and Unemployment. *The Review of Economic Studies, 61*(3), 477-494.

Ahmad, A., & Khan, F. (2018). Investigating the Determinants of Youth Unemployment in Pakistan. *Pakistan Journal of Humanities & Social Science Research, 1*(1), 1-12.

Ahmad, H., Rehman, Z. U., Tariq, A., & Ahmad, S. (2024). The effects of military expenditure and inflation on the unemployment in Pakistan. *Journal of Humanities, Social and Management Sciences (JHSMS), 5*(1), 67-93.

Akhtar, S., & Shahnaz, L. (2005). Understanding the youth unemployment conundrum in Pakistan: Preliminary empirical macro-micro analysis. *Indian Journal of Labour Economics, 49*(2), 233-248.

Alrayes, S. E., & Wadi, R. M. A. (2018). Determinants of unemployment in Bahrain. *International Journal of Business and Social Science, 9*(12), 64-74.

Ankomah, A. (2019). *Public expenditure and unemployment: evidence from Ghana.* University of Cape Coast,

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

Aslam, A. (2017). Does consumption expenditure induce the ecomonic growth? An empirical evidence from Sri Lanka. *World Scientific News, 81*(2), 221-234.

Baker, J. A. (2020). MEASURING THE EFFECT OF PUBLIC SPENDING ON REDUCING UNEMPLOYMENT IN IRAQ FOR THE PERIOD 2003-2009. *PalArch's Journal of Archaeology of Egypt/Egyptology, 17*(8), 1005-1027.

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), 3-14.

Bande, R., & Riveiro, D. (2013). The consumption-investment-unemployment relationship in Spain: An analysis with regional data. *Theoretical and Practical Research in Economic Fields, 4*(1 (7)), 5-24.

Bermperoglou, D., Pappa, E., & Vella, E. (2013). Spending cuts and their effects on output, unemployment and the deficit. *European University Institute mimeo*.

Boehm, C. E. (2020). Government consumption and investment: Does the composition of purchases affect the multiplier? *Journal of Monetary Economics, 115*, 80-93.

Bruckner, M., & Pappa, E. (2010). Fiscal expansions affect unemployment, but they may increase it.

Cavallo, M. (2005). Government consumption expenditures and the current account. *FRB of San Francisco Working Paper*(2005-03).

Cheema, A. R., & Atta, A. (2014). Economic determinants of unemployment in Pakistan: Co-integration analysis. *International journal of business and social science, 5*(3).

Dachito, A. C., Alemu, M., & Alemu, B. (2021). The Impact of Public Education Expenditures on Graduate Unemployment: Cointegration Analysis to Ethiopia. *International Journal of Commerce and Finance, 7*(1), 1-17.

Dao, M. Q. (2012). Government expenditure and growth in developing countries. *Progress in Development Studies, 12*(1), 77-82.

Devarajan, S., Swaroop, V., & Zou, H.-f. (1996). The composition of public expenditure and economic growth. *Journal of Monetary Economics, 37*(2), 313-344.

Driver, C., & Muñoz-Bugarin, J. (2010). Capital investment and unemployment in Europe: Neutrality or not? *Journal of Macroeconomics, 32*(1), 492-496.

Farmer, R. E., & Plotnikov, D. (2012). Does fiscal policy matter? Blinder and Solow revisited. *Macroeconomic Dynamics, 16*(S1), 149-166.

Fedderke, J. W., Perkins, P., & Luiz, J. M. (2006). Infrastructural investment in long-run economic growth: South Africa 1875–2001. *World development, 34*(6), 1037-1059.

Fosu, G. A. (2019). Government Expenditure and Unemployment: Empirical Investigation of Sub-Saharan African (SSA) Countries.

Furuoka, F., & Munir, Q. (2014). Unemployment and inflation in Malaysia: Evidence from error correction model. *Malaysian Journal of Business and Economics (MJBE), 1*(1), 35-45.

Gachari, J. M., & Korir, J. K. (2020). Effect of Fiscal Policy on Unemployment in Kenya. *Journal of Economics and Finance (IOSR-JEF), 11*(1), 19-31.

Gehrke, E., & Hartwig, R. (2015). *How can public works programmes create sustainable employment?* : Discussion Paper.

Guseh, J. S. (1997). Government size and economic growth in developing countries: a political-economy framework. *Journal of Macroeconomics, 19*(1), 175-192.

Haydar, K., DUNDER, E., & Tuba, K. (2019). Multivariate Adaptive Regression Splines (Mars) Method For Unemployment in OECD Countries. *Erciyes Üniversitesi Fen Bilimleri Enstitüsü Fen Bilimleri Dergisi, 35*(3), 46-51.

Hisarciklilar, M., Gultekin-Karakas, D., & Asici, A. A. (2014). *Can FDI be a panacea for unemployment?: The Turkish case*. Paper presented at the Labor and employment relations in a globalized world.

Holden, S., & Sparrman, V. (2018). Do government purchases affect unemployment? *The Scandinavian Journal of Economics, 120*(1), 124-158.

Hussain, T., Siddiqi, M., & Iqbal, A. (2006). A coherent relationship between economic growth and unemployment: An empirical evidence from Pakistan. *Hand, 44*, 41.42.

Kamran, A., Shujaat, S., Syed, N. A., & Ali, S. N. (2014). *A study on determinants of unemployment in Pakistan*. Paper presented at the Proceedings of the Seventh International Conference on Management Science and Engineering Management.

Karanassou, M., Sala, H., & Salvador, P. F. (2008). Capital accumulation and unemployment: new insights on the Nordic experience. *Cambridge Journal of Economics, 32*(6), 977-1001.

Kreishan, F. M. (2011). Economic growth and unemployment: An empirical analysis. *Journal of Social Sciences, 7*(2), 228-231.

Kyei, K. A., & Gyekye, K. B. (2011). Determinants of unemployment in Limpopo province inSouth Africa: exploratory studies. *Journal of Emerging trends in Economics and Management sciences, 2*(1), 54-61.

Leigh, A., & Neill, C. (2009). Does Fiscal Policy Reduce Unemployment? Evidence from Pork-Barrel Spending. *Evidence from Pork-Barrel Spending (June 6, 2009)*.

Mahmood, H., & Khalid, S. (2013). Fiscal Policy for growth and employment generation in Pakistan. *Academic Research International, 4*(6), 372.

Makaringe, S. C., & Khobai, H. (2018). The effect of unemployment on economic growth in South Africa (1994-2016). *Munich Personal RePEc Archive (MPRA), MPRA Paper No. 85305*, 1-15.

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

Mazher, M., Mukhtar, T., & Sohail, S. (2020). Impact of Foreign Direct Investment and Foreign Remittances on Unemployment in Pakistan: A Time Series Analysis. *IIIE Journal of Economics and Finance, 1*(1), 65-83.

Murwirapachena, G., Choga, I., Maredza, A., & Mavetera, N. (2013). Fiscal policy and unemployment in South Africa: 1980–2010. *Mediterranean Journal of Social Sciences, 4*(6), 579-579.

NEPRAM, D., SINGH, S. P., & JAMAN, S. (2021). The Effect of Government Expenditure on Unemployment in India: A State Level Analysis. *The Journal of Asian Finance, Economics and Business, 8*(3), 763-769.

Ngiik, T. I., Kueh, J., Yau, J., & Liwan, A. (2021). Impact of Government Expenditure, Exchange Rate and Unemployment Rate on Economic Growth of Malaysia. *Global Business & Management Research, 13*(2).

Nwosa, P. I. (2014). Government expenditure, unemployment and poverty rates in Nigeria. *Journal of Research in National Development, 12*(1), 77-84.

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

Obisike, N. E., Okoli, U. V., Onwuka, I. N., & Mba, S. E. (2020). Impact of government expenditure on unemployment in Nigeria: Evidence from social expenditure. *International Journal of Social Sciences and Management Research, 6*(1), 65-76.

Ofori-Abebrese, G. (2012). A co-integration analysis of growth in government consumption expenditure in Ghana. *Journal of African Development, 14*(1), 47-62.

Onodugo, V. A., Obi, K. O., Anowor, O. F., Nwonye, N. G., & Ofoegbu, G. N. (2017). Does public spending affect unemployment in an emerging market. *Risk governance & control: Financial markets & institutions, 7*(1), 32-40.

Onwachukwu, C. I. (2016). Determinants of the Rate of Unemployment in Nigeria. *International Journal of Information Research and Review, 4*(1), 3593-3595.

Párraga Ramírez, C., & Villacís Aveiga, A. (2015). The relations between foreign direct investment, government investment and unemployment (Ecuador 2003-2013).

Párraga, R. C., & Villacís, A. A. (2015). The relations between foreign direct investment, government investment and unemployment (Ecuador 2003-2013). *Retos, 5*(9), 39-53.

Pasara, M. T., & Garidzirai, R. (2020a). Causality effects among gross capital formation, unemployment and economic growth in South Africa. *Economies, 8*(2), 1-12.

Pasara, M. T., & Garidzirai, R. (2020b). Causality effects among gross capital formation, unemployment and economic growth in South Africa. *Economies, 8*(2), 26.

Radulescu, M., Serbanescu, L., & Sinisi, C. I. (2019). Consumption vs. Investments for stimulating economic growth and employment in the CEE Countries–a panel analysis. *Economic research-Ekonomska istraživanja, 32*(1), 2329-2352.

Rehman, Z. U., Khan, A. U., & Wahid, F. (2015). Measuring the Effects of Pakistan's Fiscal Policy over Inflation: An Analysis for the Period of 1980-2014. *Journal of Managerial Sciences, 9*(2), 244-255.

Rehman, Z. U., Khan, M. A., & Tariq, M. (2020). Government Expenditure Composition and Economic Growth: Empirical Evidence from Pakistan. *Journal of Managerial Sciences, 14*(1), 54-64.

Rehman, Z. U., Tariq, M., & Khan, M. A. (2018). The Role of Human Capital in Economic Development in the Selected Central Asian Countries. *Dialogue (Pakistan), 13*(3), 235-244.

Rotheim, R. (2007). Notes on Employment and Unemployment: A main stream perspective. *Skidmore College. New York*.

Saad, W., & Kalakech, K. (2009). The nature of government expenditure and its impact on sustainable economic growth. *Middle Eastern Finance and Economics, 1*(4), 39-47.

Salih, M. A. R. (2012). The relationship between economic growth and Government expenditure: Evidence from Sudan. *International Business Research, 5*(8), 40.

Schclarek, A. (2007). Fiscal policy and private consumption in industrial and developing countries. *Journal of Macroeconomics, 29*(4), 912-939.

Selase, A. E. (2019). Impact of Disaggregated Public Expenditure on Unemployment Rate of Selected African Countries: A Panel Dynamic Analysis Approach [PDAA]. *American Journal of Public administration, 1*.

Shonchoy, A. S. (2010). Determinants of government consumption expenditure in developing countries: A panel data analysis. *Institute of Developing Economies (IDE) Discussion Paper*(266).

Singh, D., & Shastri, S. (2020). Public expenditure on education, educational attainment and unemployment nexus in India: an empirical investigation. *International Journal of Social Economics*.

Sodipe, O. A., & Ogunrinola, I. (2011). Employment and economic growth nexus in Nigeria. *International journal of business and social science, 2*(11).

Soylu, Ö. B., Çakmak, İ., & Okur, F. (2018). Economic growth and unemployment issue: Panel data analysis in Eastern European Countries. *Journal of International Studies, 11*(1), 93-107. doi:10.14254/2071-8330.2018/11-1/7

Steinar, H., & Sparrman, V. (2014). Do government purchases affect unemployment. In.

Test, C. (2011). Causal relationship between consumption expenditure and economic growth in Bangladesh. *World, 1*(2), 158-169.

Tunah, H. (2010). The analysis of unemployment in Turkey: Some empirical evidence using cointegration test. *European Journal of Social Sciences, 18*(1), 18-38.

World Development Indicators. (2022). World Development Indicators (WDI), The World Bank, Retrieved from https://databank.worldbank.org/source/world-development-indicators.

Yasin, M. (2011). Public spending and economic growth: empirical investigation of Sub-Saharan Africa. *Southwestern Economic Review, 30*, 59-68.

Yildirim, M. O., & Yildirim, A. E. (2017). The influence of consumption and investment on unemployment in Turkey: A SVAR approach. *Ekonomika, 96*(1), 74-92.

Yongjin, S. (2011). Government size, economic growth and unemployment: Evidence from advanced and developing economy countries (a time series analysis, 1996–2006). *International Review of Public Administration, 16*(2), 95-116.