



HOW FAR UNEMPLOYMENT AFFECTED BY CAPITAL EXPENDITURE & GROWTH DURING POST ECONOMIC REFORM PERIOD IN INDIA

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Article History

Received : 20 July 2022; Revised : 18 August 2022; Accepted : 19 September 2022; Published : 29 December 2022

Abstract: The study examined the impact of the government expenditure disaggregated into capital expenditure and recurring expenditure, and private investment on the unemployment rate in India and its implication for economic development for the post-economic reform period 1990-2021, based on the model that assumes unemployment as the function of government spending segregated into capital and recurrent expenditure, real GDP growth rate, Gross Capital Formation as a percentage of real GDP, and private investment. The stationary test of the time series employed in the study was investigated through the application of the Augmented Dickey-Fuller (ADF) test. Capital expenditure, both in the short-run and long-run, catalyzes the reduction of unemployment malaise, while recurrent expenditure is not statistically strong enough to do the same. The study makes the recommendations: i) systematically reduction in recurrent expenditure, to free more resources for capital spending to help generate employment; ii) carefully remove price control and structural rigidities to encourage competition and by extension private sector investment; iii) sustainable subsidies towards production to encourage private sector investment; and (iv) design comprehensive incentive packages for key employment generation sectors: Agriculture, Transportation, Energy Production, Telecommunication, and Manufacturing & Mining for the substantial reduction in unemployment.

Keywords: Unemployment; Capital Expenditure; Recurring Expenditure; Real DDP Growth rate; Private Investment.

JEL Classification Codes: E24; J21; O47.

INTRODUCTION

The Indian economy has been growing smartly at an average of over six percent per annum during the last three decades when much-needed economic reform

To cite this paper:

Jitendra Kumar Sinha (2022). How far Unemployment Affected by Capital Expenditure & Growth during Post Economic Reform Period in India. *International Journal of Applied Business and Management Sciences*. 3(2), 161-174. [https://DOI: 10.47509/IJABMS.2022.v03i01.02](https://doi.org/10.47509/IJABMS.2022.v03i01.02)

was introduced, yet unemployment has been surging alarmingly within that period. This paradoxical situation has led to several studies aimed at providing explanations and solutions to the phenomena. As with macroeconomics, an increase in unemployment reduces output and consequently retard growth. On the social side, it provides ideal minds and hands for indulging in criminal activities. Meanwhile, a reduction in the unemployment rate justifies public expenditure in social and economic infrastructure like education, health, transport, and communication because it is believed that this reduction has the potential of contributing positively to the performance of the economy and promoting higher productivity. Public expenditure has an active role to play in reducing regional disparities, creating infrastructure for economic growth in the form of transport and communication, education and training, growth of capital goods industries, basic and key industries, research and development, and many others. Economic growth comes from technological progress, which is essentially the ability of an economic organization to utilize its productive resources, especially manpower more effectively over time. The underlying reason for government intervention in the country is based on the recognition that the market mechanism, which is supposed to guide the private economic agents, has several inadequacies. One of the major purposes of public sector investment is to guarantee an economic climate in which the labor needed to produce goods and services will be fully employed in various sectors of the economy.

The goal of achieving employment is the most important among the macroeconomic goals in India, where unemployment and underemployment have been major causes and consequences of widespread poverty. Despite the high-sounding electioneering promises of political leaders, the achievement of employment remains a mirage. The high rate of unemployment and poverty among the other miseries of the populace are the order of the day. Economic growth generally ameliorates unemployment concerns. India pushed the economy to grow at a faster rate by suitably structured policy to help employ its millions of workforce every year. Economic reforms introduced in 1991 were seen as a breakthrough in this strategy. Even while all growth indicators including the gross domestic product (GDP) imply a strong economic improvement, unemployment in the country continues to rise. While major economic indicators point to a fast rebound, the employment market as a whole is struggling hard and has not helped to alleviate its unemployment problem.

2. ECONOMIC REFORM & UNEMPLOYMENT

Unemployment in India is attributed to the negative development of economic activities; the substitution of labor for capital; and an increase in workforce supply. The country was facing the challenge as early as the 1980s when it was operating under a 'one-sector growth model. India took initiative in the 1990s in the form of Economic Reforms that characterized pro-market orientation that includes: (i) fiscal policy reforms, aimed at rationalization of the tax structure, and reduction of subsidies & fiscal deficit; (ii) financial sector reforms that included liberalization of interest rates, relaxation of controls on capital issues, freer entry for domestic and private foreign banks, and opening up of insurance sector; (iii) liberalization of industrial policies and abolition of industrial licenses; (iv) reforms in foreign trade and investment, liberalizing foreign trade in goods, services, and technology, eliminating import licensing, reducing non-tariff barriers and liberalizing foreign direct and portfolio investment; (v) infrastructure sector reforms, encouraging private investment in infrastructure and telecommunication; and (vi) reforms in agriculture, relating mainly to both internal and external trade in agricultural commodities. Thus, the thrust of the reforms had been to open the Indian market to international competition, reduce government control, encourage private investment & participation, liberalize access to foreign capital and attract foreign capital. These reforms were aimed to curb the problem of capital inadequacy in the country for the stagnant growth, but the implication of these policies lagged behind the economic and employment growth leading to more unemployment, which economists are more concerned to portray the recent experience of one of the jobless growth (Padder, 2018). Michael, Emeka, & Emmanuel (2016) provides results regarding Granger causality between economic growth and unemployment in Nigeria. However, it has been found that the unidirectional relationship between unemployment and economic growth with causality runs from the real gross domestic product (RGDP) to unemployment. Rosin & Rosin (2014) examined that unemployment and economic growth have strong negative relations in the U.S.A over the period 1977-2011.

3. LITRERATURE REVIEW

The government's role in the economy is debatable for a long time. One school of economists believes that government actions and participations are essential to steer the economy to save it from prolonged recessions and massive rates of unemployment, while others argue against the larger role of the government.

All these have made the public expenditure for unemployment eradication and economic growth debatable.

The classical economists explain the concept of employment and unemployment on the Walrasian general equilibrium model {Sodipo & Ogunrinola, 2011} based on the two broad features: i) the assumption of full employment of labor and other productive resources; and ii) the flexibility of prices and wages to bring about the full employment {Islam, 2002} in the event of any deviations from the original deviations. Classical economists see that labor and other resources are always fully employed and thereby ruling out overproduction and general unemployment. However, if there is unemployment, it is assumed as a temporary or abnormal phase, which is not persistable for a long period as the other economic factors work towards bringing about equilibrium. Therefore, classical economists assume that the major reason for unemployment is intervention by the government or private monopoly, wrong calculation, artificial resistance, and inaccurate decision [Walterskirchen, 1999]. The economy is self-adjusting and would work its way back to full employment equilibrium in a perfectly competitive economy where the relative values of goods and services are determined by the general relation of demand and supply. The pricing system, therefore, serves as the planning mechanism. The second assumption of full employment by classical economists is the flexibility of prices and wages, which automatically brings full employment. Consequently, if there is overproduction resulting in low demand and unemployment, prices would fall as a result of which demand would increase, prices would rise and production activity will be stimulated and unemployment would tend to disappear (Islam, 2002). The belief of the classical economists that unemployment would be cured by cutting down wages to increase the demand for labor and to stimulate economic activities and employment was rejected by the Keynesian School and supported by the inability of the market forces to normalize employment and output level during the period of Great Depression of the 1930s.

The Keynesian School suggested that the government should, whenever necessary, intervene in the management of the economy using appropriate policies. Government policies can influence aggregate demand in the form of increased government expenditure on public works. Accordingly, taxation should be devised to promote and sustain consumption and investment; the budget should be in deficit spending to raise the level of effective demand and overcome depression. Public expenditure should be planned to finance

public work programs and provide social security measures; direct taxes should be lowered to encourage savings and investments to further create more employment opportunities, and large-scale productive borrowings to finance productive public expenditure {Somashkhar, 2003}. Once full employment is achieved, it has to be constantly maintained by adopting appropriate fiscal policy from time to time.

Friedman (1969) criticized Keynes's analysis on two points: i) Keynes's theory does not consider the influence of money supply on spending and the government fiscal policy alone cannot affect the aggregate demand if the money supply is low to encourage private investment through the high-interest rates. Friedman felt that the use of fiscal policy to control the economy may be alleviated through the use of monetary policy, i.e., to keep an eye on the money supply and let the market take care of itself. This implies that markets without government interference through fiscal policy are more efficient in dealing with unemployment. ii) Keynesian theory of unemployment assumes a centrality of planned economy, i.e., the government is expected to spend funds to reverse recession, which implies what is best for the economy as a whole. This is far from the truth and may even be misleading as recessions are caused by micro-economic factors. Besides, centralized planning is fraught with inefficiencies of capital allocation and is prone to capital volatility. In practice, the temporary government interventions became permanent which ends up suppressing the private sector and civil society.

Despite doubts about the relationship between government expenditure and employment, policymakers tend to be optimistic about the efficacy of fiscal policy in solving the unemployment problem {Monacelli, Perolli & Trigari (2010); Ramey (2012)}. Gbosi (2005) posits that by changing the taxation and fiscal policy, the government can change the amount of cash in the hands of consumers and by extension, the direction of aggregate demand for goods and services. It is believed that the increase in the tax and reduction in government expenditure will lead to a decline in demand, while the tax cuts and increase in government expenditure will stimulate aggregate demand, which needs to be regulated to balance the production of goods and services with consumption. Battaglini & Coates (2011) observed that the use of government expenditure as a tool for aggressively fighting unemployment is tempered by the high level of indebtedness based on a model of mitigating unemployment through tax cuts and increasing public expenditure. It believes that in the presence of unemployment, reducing taxes increases private-sector

hiring, while increasing public production creates public-sector jobs. Thus, tax cuts and increase in public production reduce unemployment but these actions are costly for the government as bonds and long-term indebtedness accumulates, which adversely affect the economic health over time. Empirical studies {Fatas & Mihov (1998); Feldmann (2006); Abrams (1999); Bruckner & Pappa (2011)} from the developed countries have contributed to the debate on the effect of government expenditure on unemployment.

Schclarek(2007) examined the impact of fiscal policy on private consumption and employment using annual panel data over the period 1970-2000 for 40 countries using the VAR model and found that government investment and employment shocks have Keynesian effects for both the industrialized and developed countries. Steiner & Sparrman (2012) investigated the effect of government purchases on unemployment for 20 OECD countries over the period 1980-2007 and found that increased government purchases led to lower unemployment; and that the effect is greater in a fixed exchange rate regime than under a floating regime. Bruckner and Pappa (2010,2012) showed that actually not only that fiscal policy is not the best instrument for reducing unemployment, but it can also go against the original scope and intentions. Genius (2013) revealed that government recurrent expenditure and tax have a positive impact on unemployment, while government capital expenditure negatively affects unemployment.

India's macroeconomic challenges continue to be stagnant economic growth and high unemployment. According to the latest employment data, employment growth in India slowed dramatically from 2012 to 2016, while an absolute decline in employment was recorded for the first time from 2013-14 to 2015-16. Kannan & Raveendran (2019) who conducted an independent survey reported a net decline in employment and an increase in unemployment. United Nations (ILO) also reported an increment in unemployment in India from 17.6 million in 2016 to 18.0 million in 2018. Economists point out that the reason behind this scenario was not to link economic growth with proportionate employment expansion. The expansion of the Indian economy has created just a limited number of well-paying employments. India's workforce increased by 63 million between 1990- 2000, while employment in the organized sector fell by three million, and twenty-two million of the workforce became unorganized workers in the organized sector. India's labor force participation rate was 58.3% in December 1990, which declined to a record low of 36.9% in December 2018, though increased to 41.6% in

December 2021. Lack of job possibilities may strife long-term economic growth by lowering the purchasing power of the common people, which would lead to a drop in their consumption demand. Sinha (2022) used a log linearized model to reveal that the employment elasticity of economic growth was negative and significant which indicates the notion of jobless growth applied to the Indian economy during the post-economic reform period. The high level of unemployment currently experienced in India can be attributed to the low employment intensity of GDP growth. The negative relationship between the level of employment and GDP growth rate is a pointer that investments are capital-intensive that needs to be reversed with a policy of labor-intensive investment to contribute significantly to employment generation. Thus, unemployment has been a challenging phenomenon in the Indian economy. This study, therefore, seeks to determine to the extent government spending can go to alleviate the problem of unemployment.

4. MODEL SPECIFICATION

The theoretical model used in this study assumes that unemployment is the function of government spending segregated into capital and recurrent expenditure, real GDP growth rate, Gross Capital Formation as a percentage of real GDP, and private investment.

$$U = f(C, R, P, G, F) \quad (1)$$

Where U: Unemployment rate; C: Capital Expenditure;

R: Recurring Expenditure; G: Real GDP growth rate

F: Gross Capital Formation as a percentage of real GDP

P: Private Investment.

The Linear version of the model could be expressed as:

$$U = \alpha + \beta_0 C + \beta_1 R + \beta_2 P + \beta_3 G + \beta_4 F + \eta \quad (2)$$

Taking the natural log of the variables U, C, R, & P Equation (2) takes the dynamic econometric form of

$$\ln U = \alpha + \beta_0 \ln C + \beta_1 \ln R + \beta_2 \ln P + \beta_3 \ln G + \beta_4 \ln F + \eta \quad (3)$$

Where (ln) represents the Natural logarithms of the respective variables.

The relevant data were taken from the MOSPI and various related concerned Departments of the Government of India from 1990-91 to 2020-21 (31 observations). Table 1 shows the variables that are used in the study.

Table 1: Description of variables

<i>Acronym of variable</i>	<i>Variable</i>	<i>Measurement of variable</i>
PINV	Private Investment	Private Investment
RGDP	Real GDP	The annual percentage growth rate of GDP at market prices is based on constant price.
UNEMPL	Unemployment Rate	The unemployment rate refers to the percentage of the labor force that is without work but available for and seeking employment.
CEXP	Capital Expenditure	Capital Expenditure as a percentage of total public expenditure
REXP	Recurring Expenditure	Recurring Expenditure as a percentage of total public expenditure
KAPSTC	Capital Stock	KAPSTC is estimated as the gross fixed capital formation.

Source: Researchers' compilations (MOSPI & Related Government Departments).

5. RESULTS & DISCUSSION

5.1. Descriptive Statistics

Characteristics of the variables were worked out using mean and standard deviation to assess how the series is distributed which is presented in Table 2.

Table 2: Descriptive Statistics of the variables

<i>Sr. No.</i>	<i>ln of Variables</i>	<i>Mean</i>	<i>Standard Deviation</i>
1.	Private Investment	5.293	2.278
2.	Real GDP growth rate	6.526	1.229
3.	Unemployment Rate	9.712	7.265
4.	Capital Expenditure	4.625	0.970
5.	Recurring Expenditure	5.116	2.253
6.	Capital Stock	4.773	1.374

Source: Researcher's Computation.

The table above reveals that the unemployment rate has the highest mean value, while capital expenditure has the least mean value. Mean values of private investment, real GDP growth rate, recurring expenditure, and gross fixed capital formation fall between these values. Also, the standard deviation shows that unemployment is the most volatile variable, while capital expenditure is the least volatile variable. The volatility of private investment, real GDP growth rate, recurring expenditure, and gross fixed capital formation falls between these

values. This implies that capital expenditure is more closely distributed around its mean and hence shows less variability compared to private investment, real GDP growth rate, recurring expenditure, gross fixed capital formation, and unemployment. The capital expenditure shown to have the smallest mean value implies that its observations are more widely spread about the mean compared to unemployment, recurring expenditure, and private investment.

5.2. Stationarity & Cointegration

The stationary test of the time series employed in the study was investigated through the application of the Augmented Dickey-Fuller (ADF) test, the results of which are depicted in Table 3.

Table 3: Augmented Dickey-Fuller (ADF) test result

Variables	Level form			At Difference form			Order of Integration
	ADF Stat.	Lag	5% Level	ADF Stat.	Lag	5% Level	
Private Investment	-0.287	1	2.98	-3.716	1	2.99	I(1)
Real GDP growth rate	-2.132	1	2.99	-3652	1	2.99	I(1)
Unemployment Rate	0.164	2	2.99	-3.703	2	2.99	I(1)
Capital Expenditure	-1.320	2	2.99	-3.842	1	2.99	I(1)
Recurring Expenditure	-0.957	1	2.99	-4.671	1	2.99	I(1)
Capital Stock	-2.324	1	2.99	-3602	1	2.99	I(1)
Errors	-2.233	0	-1.950	Not Applicable	Not Applicable	Not Applicable	I(0)

Source: Researcher's Computation.

It appears from Table 3 that all the variables were integrated of order (1), that is, the variables are I(1) as the computed values of the Augmented Dickey-Fuller (ADF) statistic were significant as compared to the tabulated value at 5% level of significance. Given that the variables are integrated into order one, there is suspicion that the model could be cointegrated. The study, therefore, proceeded to examine the presence of cointegration among the variables to confirm this. It is shown in the table that the ADF calculated for the residuals is greater than the ADF calculated. This means that the null hypothesis for the unit root is rejected for the residuals. Therefore, there is a long-run relationship

among the variables in the model, which indicates that the linear combination of the variables in the model was found to be stationary and cointegrated.

Autocorrelation Test: The Durban-Watson statistic (DW= 2.15) reveals the absence of an auto-correlation problem. This validates the assumption of serial independence among the residual of the regression model.

Heteroscedasticity Test: Whit's test for

H_0 : Homoscedasticity; against, H_1 : unrestricted heteroscedasticity leads to $\chi^2 (14)=15.97$; Prob.> $\chi^2 =0.3152$.

This result indicates the absence of heteroscedasticity in the data used, given the probability value of the test. Thus, it could be concluded that the homoscedastic assumption in the analysis has not been violated,i.e., variance remained constant over time.

5.3. Regression Analysis

The regression model of equation (3) was used to study the relationship between unemployment as the dependent variable and five independent variables, viz., real GDP growth rate, capital expenditure, recurring expenditure, private investment, and gross capital formation as a percentage of real GDP. The regression model was estimated by the ordinary least square method. The estimated long-run results are presented in Table 4.

Table 4: Regression long-run results with unemployment as the dependent variable

<i>Variables</i>	<i>Coefficient</i>	<i>Standard Error</i>	<i>t-value</i>	<i>Probability</i>
Real GDP growth rate	-0.279	0.0899	-5.37	0.000**
Capital Expenditure	-0.398	0.1409	-4.96	0.000**
Recurring Expenditure	-0.381	1.3442	-0.27	0.791
Private Investment	-0.348	0.9986	-3.456	0.012*
%GCFof real GDP	-0.438	0.7655	-2.564	0.000**
Constant	-3.109	0.162	-2.68	0.032*

Source: Researcher's Computation.

**Indicates significance at 1%; * Indicates significance at 5%.

Table 4 above shows that all the dependent variables considered in the model have a negative relationship with unemployment, meaning thereby that an increase in any of them will reduce unemployment. The significance test on the parameters suggested rejecting the null hypothesis that the real GDP growth rate has no impact on unemployment because the probability

value is very small and even passed the one percent level test. This means that the real GDP growth rate has a significant impact on unemployment during the study period. This table also reveals that a one percent increase in real GDP growth rate lowers unemployment by about 28 percent; a one percent increase in capital expenditure lowers unemployment by about 40 percent; a one percent increase in private investment lowers unemployment by about 35 percent, and One percent increase in the proportion of capital expenditure to real GDP lowers unemployment by about 44 percent. The coefficient of recurring expenditure is not significant because the probability is greater than the 5% level, and hence it is presumed to have zero impact on unemployment in the long run. Short-run estimated results are indicated in Table 5.

Table 5: Regression short-run results with unemployment as the dependent variable

<i>Variables</i>	<i>Coefficient</i>	<i>Standard Error</i>	<i>t-value</i>	<i>Probability</i>
Real GDP growth rate	-3.279	0.899	-5.37	0.004**
Capital Expenditure	-3.182	1.140	-3.964	0.003**
Recurring Expenditure	0.881	1.244	0.771	0.491
Private Investment	1.348	2.986	0.452	0.512
% GCF of real GDP	-3.438	0.655	-4.564	0.006**
Constant	0.709	0.662	1.683	0.322*
Error	-0.201	0.138	-1.854	0.271

Source: Researcher's Computation.

**Indicates significance at 1%; * Indicates significance at 5%.

Table 5 shows that the real GDP growth rate, government capital expenditure, and gross capital formation as a percentage of real GDP are negatively related to the unemployment rate. Therefore, an increase in these variables reduces the unemployment rate in the short run. Given that the associated probability with these variables is small enough in the short run, these variables are significantly associated with a fall in unemployment. The recurring expenditure and the private investment are positively signed but exert no significant on unemployment in the short run. The coefficient of the first leg of the residual, which is known as the adjustment parameter indicated that about 20 percent discrepancy between dependent and independent variables was being adjusted within the same period.

Coefficient of Determination: The adjusted R^2 is strong at 0.64; the total amount of variations in regression is explained by the regressors to the tune of 64%.

The F- Test: The result of the F-test, since the probability value is less than 5%, it could be concluded that the overall regression is statistically significant at a 5% significance level.

6. CONCLUSION

The study examined the impact of the government expenditure disaggregated into capital expenditure and recurring expenditure, and private investment on the unemployment rate in India and its implication for economic development for the period 1990-2021. It was found that capital expenditure, both in the short-run and long-run, catalyzes the reduction of the unemployment malaise, while recurrent expenditure is not statistically strong enough to do the same. This supports the finding of Fedderke, Perkins, & Luiz (2006) that public sector finances on infrastructure lead to output growth and more employment and the creation of more new jobs.

The short-run results showed that recurrent expenditure and unemployment relate positively, meaning that India is more consumption prone such that any increase in recurrent expenditure will raise the unemployment rate and tends towards dampening economic bliss.

The impact of private investment on unemployment in India is statistically significant and effects are conducive to employment generation given their inverse relationship offering the possibilities of filling the output gap.

7. RECOMMENDATIONS

The study makes the following recommendations: i) The Government should design the budget to systematically reduce the recurrent expenditure, to free more resources for capital spending that is found to help generate employment. ii) The Government should carefully remove price control and structural rigidities to encourage competition and by extension private sector investment. iii) Sustainable subsidies towards production should be adopted to encourage private sector investment, hence, the substantial reduction in unemployment. iv) The Government should design suitable incentive packages for key employment generation sectors, prominently Agriculture, Transportation, Energy Production, Telecommunication, Manufacturing & Mining.

References

Abrams, B. (1999): *The effect of government size on the unemployment rate*. Kluwer Academic Publications.

- Battaglini, M. & S. Coates (2011): Fiscal Policy and Unemployment. National Bureau of Economic Research (NBER), Working Paper 17562.
- Bruckner, M. & E. Pappa (2010): Fiscal Expansion affect unemployment but they may increase it, CEPR Discussion Paper, 7766.
- Bruckner, M. & E. Pappa (2012): Fiscal Expansion, Unemployment, and Labor Force Participation, *International Economic Review*, 54(4), pp 1205-1229.
- Fatas, A. and Mihov, I. (1998): The effects of fiscal policy in consumption and employment, *Theory & Evidence. European Summer Symposium on International Macroeconomics*, Tarragona.
- Fedderke, J., Parkin, P. & Luiz, J. (2006): Infrastructural investment in long-run economic growth in Africa, 1875-2001, *World Development*, Vol.34, pp. 1037-1059.
- Feldmann, H. (2006): Government size and unemployment. Evidence from Industrial Countries, *Public Choice*, Vol.127, pp3-4.
- Friedman, M. (1969): *The natural rate of unemployment*. Chicago, Aldine.
- Gbosi, A.N. (2005): The dynamics of managing chronic unemployment in Nigeria's depressed economy. Inaugural Lecture (Series No.47), Presented to University of Port Court, 3 June.
- Genius, M., Choga, I. Marezda A. & Mavetera, N. (2013): Fiscal policy and unemployment in South Africa 1980-2010, *Mediterranean Journal of Social Science*, Vol.4(6).
- International Labour Organisation (2001): Key Indicators of Labour Market (KILM), 2001-2, ILO-UNDP.
- Islam, M. (2002): Macroeconomics. A handbook for the department of finance, www.academia.edu/1749565/macro-economics.
- Kannan, K.P. & Raveendran, G.(2019): From Jobless to Job loss Growth, Gainers and Losers During 2012-18, *Economic & Political Weekly*, 38-44.
- Michael, E.O., Emika, A. & Emmanuel, E.N.(2016): The Relationship between Unemployment and Economic Growth in Nigeria: Granger Causality Approach, *Research Journal of Finance and Accounting*, 153-162.
- Monacelli, J. Pirolli, R. & Trigari, A. (2010): Unemployment fiscal multipliers, monetary and fiscal policy instruments: Some structural estimates, *Journal of Econometrics*, Vol.2(2).
- Padder, A.H.(2018): Changing Pattern of Economic Development and Employment in India: An Interstate Analysis, *Social Sciences and Humanities Internationals*, 1-29.
- Remey, V.A. (2012): Government spending and private activity. In *Fiscal policy after the financial crisis*, National Bureau of Economic Research (NBER) Chapters, Inc.

- Rosie, L.& Rosoiu, A. (2014): The Relation between Unemployment Rate and Economic Growth in U.S. A, *International Journal of Economic Practices & Theories*, 162-167.
- Schelarek, A. (2007): Fiscal policy and private consumption in industrial and developing countries, *Journal of Macroeconomics*, Vol.29, pp.912-939.
- Sinha, J.K. (2022): Unemployment, Public Expenditure & Economic Growth in India during Post Economic Reform Period. *Journal of Economic Research and Review*, Vol. 5(2).
- Sodipo, O.A. & Ogurinola, O.I. (2011): Employment and Economic Growth Nexus in Nigeria, *International Journal of Business and Social Science*, Vol. 2(2), pp232-239.
- Someshekhar, N.T. (2003): Development and Environmental Economics, New Age International Private Ltd. Publication, New Delhi.
- Steiner, H. & Sparrmann, V. (2012): Do Government purchases affect unemployment? www.sv.uio.no/esop/english/research/publications/workingpaper,2012.
- Walterskirchen, E. (1999); The relationship between Growth, Employment, and unemployment in the EU. European Economists for an alternative economic policy (TSER NETWORK) Workshop in Barcelona.