An Empirical Study of Inflation, Unemployment, Exchange Rate and Growth in India

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Abstract-The study attempts to investigate the relationship between unemployment, GDP growth rate inflation rate and exchange rate in India.The study cover the period from 1990 to 2013.To analyse the data of four variables Unemployment, GDP growth rate, Exchange rate and inflation Rate the study used the ordinary least square method or simple linear regression model. The results of empirical regression analysis shows that Inflation rate and exchange rate are significantely affects the unemployment in India**.**

Key Words- Unemployment, Gross Domestic Product, Exchange rate, Inflation rate, Regression Analysis.

Introduction-

Unemployment is major problem of India which is a developing country. Unemployment is a situation in which a person or an individual wants to work at existing or previling wage rate but he did not get it.India is a developing economy mainly based on agriculture but the percentage share of agriculture is declining after independence.Now the dependency is also increasing on others sectors also like service sector and industrial sector.The main causes of unemployment in india are the poor economic condition, corruption and population. According to annul Employment and unemployment survey repot 2012-13 realised by the Labour bureau Under Union Ministry of Labour and Employment, the overall Employment rate of the country is 4.7 percent and unemployment in rural areas is 4.4 percentwhile the rate of unemployment in urban area is 5.7 percent.there is decrease in the growth of the economy after October 2008 recession. October 2008 Recession was the major causes decline in employment in all the world. According to economic theory there is positive relation between employment and economic growth of any economy.Unemployment is negatively related to the growth rate of the economy. The Okun's law states the relationship between unemployment and economic growth. It states that there is trade off between real GNP and Unemployment. The relationship between unemployment and Inflation is known as phillips curve which is given by A.W.H. Phillips in 1958.

Review of Literature

Mahmoud Abdelaziz Touny (2013), analysis the long run relationship between unemployment and inflationin Egypt from Period 1974 to 2011 with using the Johanse cointegration test and VECM model. The study analysed the both of the series are integrated of order one i.e. there is positive relationship between unemploument and inflation in the long run.

Oleg kitov (2011), studies an empirical model of inflation and Unemployment rate in Switzerland.

In the model variables are cointegrated. The study estimate legged linear deterministic relationship with cumulative curves and boundary methods.

El-Agrod et al. (2010), investigate the unemployment in Egypt and impacts of Unemployment on GDP. The study analysed that the volume of nationaland agricultural unemployment have been growing at statistically significant annul amounts estimated at 64 and 22 thousand persons during 200-2007. The results shows that the most important variable which is contributing to the rising volume of national unemployment are privatization and inflation.

Ali Sigal Ghamz (2013), analyse the growth rate and unemployment rate relationship in SAARC countries from 1990-2010. The study is based on panel data technique. The study find that there are some evidence for employment in SAARCcountries. The study also shows that the relationship between these two variables vary from country to country.

Katria Sagar, study the trade off between unemployment and inflation in SAARC countries. The study is based on unbalance panel data. The results shows that there is negative relationship between inflation and unemployment rate in SAARC countries.

Chor Foon Tang (2009), analysed the link among inflation, unemployment and crime rates in Malaysia. The study is based on period from 1970-2006. The Bertlet test has been used for analysis purpose. The study find that inflation and unemployment are positively related to crime rates. The results shows that the causality direction is running from inflation and unemployment to crime.

Al-Zeaud Hussein, (2014) studies the trade off between inflation and unemployment in Jorden from period 1984-2011. The study adopted granger causality test for analysis of both the variables. The study found the there is no trade off between unemployment and inflation in Jorden. The study also shows that there is no evidence of causality in

both directions. The findings of the study support to the Milton fridmen thoughts.

Muhammad Auwal Abubakar et at.(2013), investigate the two macroeconomic variables i.e. inflation and unemployment which are influencing the wages. To analyse the objective the research study used ordinary least square method, Augument dickey fuller techniques and Granger causality test. The study found that the unemployment is positively and significantly effects the wage rate where as inflation rate is affecting the wage rate positively but not significantly. The result of Unit root revealed that both the variables are stationary. The results of Granger causality test suggests that unemployment Granger causes wage rates but not inflation.

Objective of the study

1. To examine the impact of Growth Rate of Gross Domestic product on unemployment in India.
2. To analyse the impact of Exchange Rate on unemployment in India.
3. To Study the impact of inflation Rate on unemployment in India.

Hypothesis –

1. Growth rate of Gross Domestic Product have Significant Impact on Unemployment in India.
2. Inflation Rate have Significant Impact on Unemployment in India
3. Exchange Rate has Significant Impact on Unemployment in India.

Methodology

The study is based on secondary data collected from World Bank, Reserve bank and Economic Survey of India from 1990 to 2013.

The ordinary least square and simple linear regression model has been used for analysis of data.

The specification of linear regression Model –

$UNEP = B0 + B1\ GDPR + B2\ EXR + B3\ INFR + Ut$

Where

UNEP - Unemployment Rate

GDPR – Growth Rate of Gross Domestic Product

EXR – Exchange Rate

INFR – Inflation Rate

Results and Empirical Analysis

Table 1. Regression Results-

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	33.947	2.184		15.547	.000
	GDP	-.052	.116	-.046	-.448	.659
	INF	-.483	.132	-.489	-3.670	.002
	EXR	-.306	.036	-1.170	-8.519	.000

Dependent Variable: UNEP
Source- Author's estimation.
The results of Regression given in table No. 1 indicate that the all the coefficients of independent variables have expected signs. GDP Growth Rate, Inflation and Exchange rate has Negative impact on Unemployment in India. The Coefficients of GDPR, Inflation rate and exchange rate are -.052,-.483 and -.306 and the only Inflation rate and Exchange rate are statistically significant at 5 percent level. The estimated Regression Equation is given bellow-
$UNEP = 33.947 -.052\ GDPR -.306EXR - .483INFR + Ut$
Table 2. Model Summery-

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.908[a]	.825	.798	1.19985	1.249

a. Predictors: (Constant), EXR, GDP, INF
b. Dependent Variable: UNP

Table No. 2 indicate that the R Square value of the model is .90 it states that the model is very well fit to the data. R square explains that the 90 percent of variation in dependent variable i.e. in Unemployment is due to Independent variables (GDPR, EXR and INFR).

Table No. 3. ANNOVA-

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	135.480	3	45.160	31.369	.000[b]
1	Residual	28.793	20	1.440		
	Total	164.272	23			

a. Dependent Variable: UNP

b. Predictors: (Constant), EXR, GDP, INF

The F-value is 31.69 which are significant at 5 percent level of significance. So F value indicates that R square is statistically significant means that the impact of all independent variable on dependent variable is significant. So it can conclude that the overall model is significant.

Conclusion-

The study analyse the relationship between unemployment, exchange rate, Growth rate and inflation rate from period 1990-2013 with the use of simple linear regression analysis. The study found that there is negative and significant impact of inflation rate and exchange rate on unemployment where as the GDP growth rate effect negatively to unemployment but it is not significant. The study found that there is trade off between unemployment and inflation but more research work is needed for further analysis of these variables.

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