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## A Study on Gdp, Unemployment and Okun's Law: Evidence From India

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### Abstract:

Nowadays the world faces with major economic and financial problems, including among others the problem of unemployment and insufficient economic growth. Increasing the army of the unemployed is a very debatable issue everywhere around the world, not excluding even the developed economies. The economic growth and the unemployment rate are the key indicators that simultaneously are monitored by both the policy makers and the public as they create a clear picture about the economic development of a country. Moreover, the linkage between unemployment rate and economic growth as a relevant macroeconomic issue cover a wide area of theoretical and empirical research. It is a widely accepted view in economics that higher growth rate of the GDP of an economy increases employment and reduces unemployment. This theoretical proposition relating output and unemployment is known as “Okun’s Law”. This relation is among the most prominent in macroeconomics theory and has been found to be hold for several countries and regions mainly, in developed countries. One of the largest problems that most developing countries face is unemployment. Unemployment can be regarded as the cause of poverty and economic dispersion. Okun’s law defines an inverse association between cyclical fluctuations in the output gap and the unemployment gap, where the values of coefficients vary from country to country and time to time (Lal et al, 2010).

**Keywords:** Employment, Unemployment, Macroeconomics, GDP, Economic Growth

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### Introduction:

Nowadays the world faces with major economic and financial problems, including among others the problem of unemployment and insufficient economic growth. Increasing the army of the unemployed is a very debatable issue everywhere around the world, not excluding even the developed economies. The economic growth and the unemployment rate are the key indicators that simultaneously are monitored by both the policy makers and the public as they create a clear picture about the economic development of a country. Moreover, the linkage between unemployment rate and economic growth as a relevant macroeconomic issue cover a wide area of theoretical and empirical research. It is a widely accepted view in economics that higher growth rate of the GDP of an economy increases employment and reduces unemployment. This theoretical proposition relating output and unemployment is known as “Okun’s Law”. This relation is among the most prominent in macroeconomics theory and has been found to be hold for several countries and regions mainly, in developed countries.

One of the largest problems that most developing countries face is unemployment. Unemployment can be regarded as the cause of

poverty and economic dispersion. Okun’s law defines an inverse association between cyclical fluctuations in the output gap and the unemployment gap, where the values of coefficients vary from country to country and time to time (Lal et al, 2010). The subject of unemployment is a pervading challenge in developing economies. With the incidence of the global economic crisis, the increasing rate of unemployment extends even in developed nations of the world. The high incidence of unemployment implies inefficient use of the labour resources available in the country or region under study. However, full employment, one of the primary macroeconomic goals of the government of a country, implies effective maximization of its resources.

Okun’s law is a key relationship in macroeconomics and it was proposed by the American economist Okun (Caraiani, 2010). In its original form, the relationship implies that a GDP growth by 3% leads to a 1% decrease in unemployment.

It is the feature of supply side economics, as output increases in a recovery phase resulting in unemployed workers being hired. If output falls in a recession phase consequently workers are laid off from their jobs (Mossa, 2008).

Employment-Unemployment Situation in India

The unemployment rate was estimated to be 5.0 per cent at the All India level under the UPS approach or in other words 5.0 per cent of the persons aged 15 years and above who were available for work could not get work during the reference period. In rural sector, unemployment rate was 5.1 per cent whereas in urban sector, the unemployment rate was 4.9 per cent under the UPS approach. The unemployment rate was significantly higher among females as compared to males. At the All India level, the female unemployment rate was estimated to be 8.7 per cent, whereas for males it was 4.0 per cent (under the UPS approach). In urban areas, the female unemployment rate was estimated to be 12.1 per cent at the All India level under the UPS approach as compared to 3.3 per cent for males and 10.3 per cent for transgenders. At the All India level, 46.6 per cent of the workers were found to be self employed under the Usual Principal Status Approach followed by 32.8 per cent as casual labour. Only 17 per cent of the employed persons were wage/salary earners and the rest 3.7 per cent were contract workers. 60.6 per cent of the persons aged 15 years and above who were available for work for all the 12 months during the reference period were able to get work throughout the year, at the All India level. In rural areas, 52.7 per cent of the persons aged 15 years and above who were available for work for all the 12 months during the reference period were able to get work throughout the year at the All India level, whereas the corresponding figure for urban areas was 82.1 per cent. Unemployment rate in India has shot up to a five-year high of 5 per cent in 2015-16, with the figure significantly higher at 8.7 per cent for women as compared to 4.3 per cent for men, says a report by Labour Bureau. Unemployment rate was 4.9 per cent in 2013-14, 4.7 per cent (2012-13), 3.8 per cent (2011-12) and 9.3 per cent (2009-10). Labour Bureau did not bring out any such report for 2014-15.

#### Statement of the Problems:

The Unemployment means a person willing to work but unable to find a qualified job. Our country is facing many problems but one of the serious problem is of unemployment. Many graduates, doctors, engineers, scientist are unemployed or working underemployed. Due to unemployment we are wasting our country's human resource. The unemployed rate in between age group 15- 29 has been increased since 2009-2010. According to the Global Employment Trends 2014 the unemployment rate has raised to 3.8%, last year it was 3.7%. With Population of 1.20 billion in our country the unemployment rate is increasing day by day. The problem of unemployment is rising but still many industries are facing the problem of skilled candidate for their company. The present study

discusses the Okun law, unemployment and output or GDP in Indian context.

#### Review of Literature:

Sheehan and Zahn (1980) Majority of the works done on the relationship between unemployment and output growth focused on the development economies relativity, few have focused on unemployment and output growth in developing countries. In view of that, the most recent of these works was done by Orji U.(2011) but he failed to capture the effect of structural adjustment programme in his work. He equally included inflation and real gross domestic product which are not supposed to enter into his model at the same time.

Gordon (1984): This comment on Ball et al (2014) compares their findings on the role of Okun's Law in forecasts and fully revised data with real-time data for the G7 countries plus Australia and New Zealand. Ball et al find that the Okun's Law relationship in Consensus forecasts is consistent with that in fully revised data. We show that the same relationship is weaker in the initial releases as recorded in the OECD real-time database.

Evans (1989) unemployment is a negative phenomenon in any human society as it adversely affect in different dimensions and directions. In addition, it refers to an economic defect affecting the community structure. However, the theoretical analysis does not always confirm this relationship as it focuses on unemployment as economical phenomenon resulting from imbalance in the economic policies of a certain country. The theoretical analysis of unemployment reveals the size of labor employment as a human force associated with the extent of success factors related to economic growth.

Barreto and Howland, (1993 ) this study is an attempt to investigate the relationship between unemployment and GDP growth in Arab countries for the period of 1994 to 2010 using unit root testes methodology and Pooled EGLS (Cross-section SUR). We find that the economic growth has negative and significant effect upon the unemployment rate it means that 1% increase in economic Growth will decrease the unemployment rate by 0.16

Prachowny (1993) it answer the question "Does Okun's Law exist?" Yes, Okun's Law can be applied to explain the Malaysian condition. Any attempts to reduce unemployment will result in increasing the growth rate of the GDP. But knowing the existence of these relationships alone will not solve the problem of unemployment in the country. The problem must be tackled from both sides of the labour market, from the job seekers' point of view as well as from the employers' point of view.

Villaverde and Maza (1993) analyzed that Okun's law came from noticing that more labor used in production the more output in economy, this idea was the motive behind this relationship. In this study we used are verse relationship represents how changes in the unemployment rate behave under the influence of output change. The increasing output growth rate is leads to decreasing unemployment rate, and visa versa.

Prachowny (1993) it is important to highlight the relationship between unemployment and economic growth, which reveals the available opportunities for developing the economy. It also reveals the social development and who to deal with efficiently and effectively to contribute to increasing economic growth rates. The high rates of economic growth and the decline in the unemployment rate do not confirm the existence of strong relationship between growth and unemployment.

Objectives:

- To study the employment growth and development in India
- To find out the relationship between GDP and unemployment in Indian Context.

**Methodology:**

In this study of Okun's law is based on the gap version. The argument for the gap version is that it provides a better explanation of unemployment and GDP relationship compared to

the dynamic version. The gap version of Okun strives to show the difference between actual and potential output and assume that there will be maximum production level under full employment condition with no pressure of inflation. The data used in this paper consists of quarterly time series from first quarter 1991 to third quarter of 2014. The data on the unemployment rate and economic growth are provided by World Bank.

Need of the Study:

It is one of the urgent essential study why because of we have to find out the unemployment situation in every economy. Without these kind of the studies we are not finalizing the exact situation in economic growth and unemployment. Thus it is one the needy concept to find out the exact situation in unemployment filed.

Contribution to Policy:

This study is very essential issue why because it finds relationship between shortfalls in gross national product (GNP) below its potential level and the national unemployment rate is one of the most commonly used statistics in assessments of the macro economy. It will more helpful to society especially those who are conducting study on labour economics as well as development economics and one more thing is that, it gives appropriate picture on impact of unemployment and economic growth emerging country like India.

**Table 1:- State wise unempoloyemt rate in selected states  
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Arabhinda acharya,Nilachala Acharya.Dr Aditya kumar Patra**

India/states	1961	1971	1981	1991	2001	2011	2021
<b>India</b>	16.68	16.52	18.26	18.31	18.47	20.11	17.12
<b>Andra Pradesh</b>	9.16	16.34	18.99	18.24	19.05	19.58	15.49
<b>Assam</b>	16.7	16.1	Na	18.98	18.48	20.98	17.54
<b>Bihar</b>	15.69	15.6	16.26	16.37	16.28	21.91	19.64
<b>Gujarth</b>	19.29	20.49	75.24	20.14	20.21	21.06	17.07
<b>Himachal Pradesh</b>	15.59	17.77	20.28	19.63	17.67	19.1	16.58
<b>Karnataka</b>	17.03	17.13	18.84	19.9	18.26	18.86	15.42
<b>Kerala</b>	16.96	17.17	18.72	18.88	20.1	19.23	15.64
<b>Madhya Pradesh</b>	16.53	20.27	22.11	21.7	18.12	15.85	14.12
<b>Maharashtra</b>	16.96	15.16	17.48	17.67	19.26	20.65	18.53
<b>Odessa</b>	16.54	16.62	18.12	18.26	17.99	19.23	16.47
<b>Punjab</b>	17.04	15.11	17.88	18.44	20.12	19.69	15.49
<b>Rajasthan</b>	16.71	18.99	21.04	19.87	19.21	19.38	18.8
<b>Tamil Nadhu</b>	17.29	16.15	17.63	17.86	17.66	21.31	14.16
<b>Uttar Pradesh</b>	16.31	17.33	19.08	17.5	19.43	21.36	18.54
<b>West Bengal</b>	17.2	15.53	19.84	18.53	18.33	19.89	15.86

Above table explained that Unemployment Rate If State wise unempoloyemt rate in selected statesin the year of 1961 to 2021 the ten year cences the year of 1961 the unemployment ratio in the highest of the Tamil Nadhu if 17.29 percent as per the lowest in the state of Andra Pradesh if 9.16

percent and also the 1991 cences Madhya Pradesh is the highest If the 21.7 percent and Bihar is the lowest rate if 16.37 percent,And also the 2011 cences the highest is Bihar if 21.90 percent and lowest is Himachal Pradeshif 19.1 percent.

**Table 2: Unemployment Ratio and Number of unemployment: Expert Group (Lakdawala) Method.**

Year	Unemployment ratio (%)			Number of unemployment (million)		
	Rural	Urban	Total	Rural	Urban	Total
1973-74	56.4	49	54.9	261.3	60	321.3
1977-78	53.1	45.2	51.3	264.3	64.6	328.9
1983	45.7	40.8	44.5	252	70.9	322.9
1987-88	39.1	38.2	38.9	231.9	75.2	307.1
1993-94	37.3	32.4	36	244	76.3	320.3
2004-05 (URP)	28.3	25.7	27.5	220.9	80.8	301.7

**Source: NSS Report No.554: Employment and Unemployment Situation in India, 2011-12**

Above table explained that Unemployment Rate at Ratio and Number of unemployment: Expert Group (Lakdawala) Method. If in the year of 1973 to 2004-05. In the year of rural area year of 1973-74 rural area 56.4 percent of and 1977-78 53,1

percent of the were unemployed ratio and 2004-05 , 28,3 percent . and urban area is 1973-74 if 49 percent of people having and 2004-05 if 25.7 percent in the unemployment ratio in india.

**Table 3:-Unemployment Rate at usual status as per education level for 2011-12**

General Education Level	Unemployment rate(15-29)			
	Rural		Urban	
	Male	Female	Male	Female
Illiterate	2.3	0.8	2.5	1.6
Literate & up to primary	3.2	0.6	4.8	4.3
Middle school	4.2	4.6	5.1	5.8
Secondary	4.6	8	5.5	15.1
Higher secondary	6.5	13.8	12	14.6
Diploma	15.9	30	12.5	17.3
Graduates	19.1	29.6	16.3	23.4
All	5	4.8	8.1	13.1

**Source:Resarve Bank of india.**

Above table explained that Unemployment Rate at usual status as per education in India. In rural area 2.3 percent of male and 0.8 percent of the female were illiterate unemployed labour, 3.2 percent of the male and 0.6 percent of people having

up to primary education. Overall 5 percent of the male and 4.8 percent females were unemployed labour in 2011-12. Likewise, in urban level overall 8.1 percent of the male and 13.1 percent of the female were unemployed in India.

**Table 4**  
**State-wise unemployment rete in Rural and Urban areas for 2011-12**  
**-based on Proposed Methodology**

S.No	States/UTs	Unemployment ratio	
		Rural	Urban
1	Andhra Pradesh	1031.74	1370.84
2	Arunachal Pradesh	1151.01	1482.94
3	Assam	1006.66	1420.12
4	Bihar	971.28	1229.3
5	Chhattisgarh	911.8	1229.72
6	Delhi	1492.46	1538.09
7	Goa	1200.6	1470.07
8	Gujarat	1102.83	1507.06
9	Haryana	1127.82	1528.31
10	Himachal Pradesh	1066.6	1411.59
11	Jammu & Kashmir	1044.48	1403.25
12	Jharkhand	904.02	1272.06
13	Karnataka	975.43	1373.28
14	Kerala	1054.03	1353.68

15	Madhya Pradesh	941.7	1340.28
16	Maharashtra	1078.34	1560.38
17	Manipur	1185.19	1561.77
18	Meghalaya	1110.67	1524.37
19	Mizoram	1231.03	1703.93
20	Nagaland	1229.83	1615.78
21	Orissa	876.42	1205.37
22	Punjab	1127.48	1479.27
23	Rajasthan	1035.97	1406.15
24	Sikkim	1126.25	1542.67
25	Tamil Nadu	1081.94	1380.36
26	Tripura	935.52	1376.55
27	Uttar Pradesh	889.82	1329.55
28	Uttarakhand	1014.95	1408.12
29	West Bengal	934.1	1372.68
30	Puducherry#	1130.1	1382.31
31	Andaman & Nicobar Islands#	1314.98	1797.69
32	Chandigarh#	1303.17	1481.21
33	Dadra & Nagar Haveli	1008.39	1540.81
34	Daman & Diu#	1200.6	1434.93
35	Lakshadweep#	1327.77	1458.69
	All India	972	1407

**Source: RBI**

Evident from the above table explained State-wise unemployment rate in Rural and Urban areas during 2011-12 in India. In rural and urban unemployment ratio was 972 and 1407 respectively. And highest unemployment ratio is in rural area of Lakshadweep and lowest of the unemployment

ratio the state was in the rural area West Bengal is 934.1 of the 2011-2012. And urban area highest in the state of Andaman and Nicobar in 1797.69 percent and lowest in the state of Bihar is 1229.0 in the selected year of the India

**Table 5**  
**Unemployment rate(in labour force)according to usual status**

Round	Year	Rural		Urban	
		Female	male	Female	male
27th	1972-73	0.5	1.2	6	4.8
32th	1977-78	2	1.3	12.4	5.4
38th	1983	0.7	1.4	4.9	5.1
43th	1987-88	2.4	1.8	6.2	5.2
50th	1993-94	0.9	1.4	6.1	4.1
55th	1999-00	1	1.7	5.7	4.5
61th	2004-05	1.8	1.6	6.9	3.8
66th	2009-10	1.6	1.6	5.7	2.8
68th	2011-12	1.7	1.7	5.2	3

**Source: Reserve bank of India report**

**Findings:**

1. Above table explained that Unemployment Rate If State wise unemployment rate in selected states in the year of 1961 to 2011 the ten year censuses the year of 1961 the unemployment ratio in the highest of the Tamil Nadu if 17.29 percent as per the lowest in the state of Andhra Pradesh if 9.16 percent and also the 1991 censuses Madhya Pradesh is the highest if the 21.7 percent and Bihar is the lowest rate if 16.37 percent, And also the 2011 censuses the highest is Bihar if 21.90 percent and lowest is Himachal Pradesh if 19.1 percent.

2. Above table explained that Unemployment Rate at Ratio and Number of unemployment: Expert Group (Lakdawala) Method. If in the year of 1973 to 2004-05. In the year of rural area year of 1973-74 rural area 56.4 percent of and 1977-78 53.1 percent of the were unemployed ratio and 2004-05, 28.3 percent. and urban area is 1973-74 if 49 percent of people having and 2004-05 if 25.7 percent in the unemployment ratio in India.

3. Above table explained that Unemployment Rate at usual status as per education in India. In rural area 2.3 percent of male and 0.8 percent of the

female were illiterate unemployed labour, 3.2 percent of the male and 0.6 percent of people having up to primary education. Overall 5 percent of the male and 4.8 percent females were unemployed labour in 2011-12. Likewise, in urban level overall 8.1 percent of the male and 13.1 percent of the female were unemployed in India.

4. Evident from the above table explained State-wise unemployment rate in Rural and Urban areas during 2011-12 in India. In rural and urban unemployment ratio was 972 and 1407 respectively. And highest unemployment rate is in rural area if Lakshadweep and lowest of the unemployment ratio the state was in the rural area we4st Bengal is 934.1 of the 2011-2012. And urban area heist in the state of abdomen and nikobar in 1797.69 percent and lowest in the state of bihar is 1229.0 in the selected year of the India
5. Above table explained that Unemployment Rate at usual status as per rbi rounds in India . In the year of 1972-73 to 2011-12 period is he rural area of round 27 th 0.5 of females and 1.2 of male peoples of unemployment and 2011-12 the round of 68<sup>th</sup> the unemployment ratio in 1.7 of the females and also 1.7 males in unemployment's in the rural areas. And urban areas same to the 1972-73 in 27<sup>th</sup> round in 6 percent of the females and 4.8 of the males in unemployed in the censuses of the rbi round is expresses in India
6. Above table explained that of labour Force, work opportunities and Unemployment in the Twelfth & thirteenth plan in India . In the year of 2011-12 to 2012-13 period is expressed the Labour force, employed and unemployed rates in the NSS reports.as per the labour force the year of 2011-12 is the 378.21 units and also the year of 2012-13 is 428.9 units and also same the employed and unemployed rates elebtete in the India.
7. Above table explained that of Unemployment Rate In various NSS rounds.in India . In the year of 1972-73 to 2009-10 n the period is expressed the unemployed rates as per the labor force in India the year of 1972-73 in unemployment rate is 8.35 and the highest unemployment rate in year of 1983 in this year 9.22 percent and also the lowest unemployment rates in the year of 2009-10 if 6.53 percent in the censuses of reserve bank of India

#### Conclusion:

unemployment is a pervading challenge in developing economies. With the incidence of the global economic crisis, the increasing rate of unemployment extends even in developed nations of the world. The high incidence of unemployment implies inefficient use of the labour resources

available in the country or region under study. However, full employment, one of the primary macroeconomic goals of the government of a country, implies effective maximization of its resources. Okun's law is a key relationship in macroeconomics and it was proposed by the American economist Okun (Caraiani, 2010). In its original form, the relationship implies that a GDP growth by 3% leads to a 1% decrease in unemployment. It is the feature of supply side economics, as output increases in a recovery phase resulting in unemployed workers being hired. If output falls in a recession phase consequently workers are laid off from their jobs (Mossa, 2008).

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