

# Economic Growth and Unemployment Rate: An Empirical Study of Nepalese Economy

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**Abstract** - This paper investigates the relationship between the unemployment rate and economic growth in Nepal. Gross Domestic Product (GDP) at constant price has been used as an indicator of economic growth. The data regarding GDP and unemployment rate were collected from World Bank database for the study. Correlation and Regression analysis were used to study the nature and degree of effect of economic growth on unemployment rate. It was found that there is a strong negative correlation between economic growth and unemployment rate. Also, it was found that GDP accounts for 48.6% of cause of change in unemployment rate. The findings are in line with the Okun's law.

**Index Terms**— Unemployment; Economic Growth; Gross Domestic Product; Okun's Law.

## INTRODUCTION

Persistent increment in unemployment rates have become burning issues for most of the developing economies today. However, unemployment is pervasive and is experienced by all economies of the world in some form and degree. While looking at the global scenario, unemployment statistics show that 4-6 per cent of the total working population of the USA, UK, Japan, China and India are unemployed. In the Middle East and North Africa, unemployment remains the highest (Acharya, 2014). According to the ILO (2018), 192 million workers are jobless in the world, and the numbers are rising much faster than new jobs are being created. Besides, after the recent Global crisis, there are strong doubts about that unemployment is related to economic growth such that economic growth does not create employment as much as it did before [Barışık et al. (2010) and Demirgil (2010) as retrieved from Aksoy (2013)]. Unemployment rate is often seen as an indicator of the efficiency and effectiveness of an economy to absorb its labor force and of the performance of the labor market. (ILO, 2013). Thus, reducing unemployment and achieving a high rate of

economic growth have become the foremost priorities of each developed and developing economies currently.

According to Nepal Labor Force Survey- 2017/18, for a person to be considered unemployed, three criteria must be met simultaneously: the person must be completely without work, currently available to work, and taking active steps to find work (National Planning Commission Central Bureau of Statistics, 2019). The unemployment rate is calculated by expressing the number of unemployed persons as a percentage of the total number of persons in the labor force. And the labor force, also known as the economically active population, is the sum of the number of persons employed and the number of person unemployed (International Labour Organization, 2013). Thus, the measure of the unemployed percent needs the measure of both employed and unemployed. Economic growth is another indicator of welfare of a country. According to Phan (2006) economic growth is an increase in overall output of an economy in a given period. Thus, it can be understood as an increase in GDP or GNP or personal income in a given period. Economic growth reflects a quantitative change in an economy.[as retrieved from Manh et al. (2014)]

If employment and growth rates are considered, Nepal is seen performed poorly on both growth and employment indicators. Growth in the last 35 years (1975-2010) has been merely 4 per cent on average, with agricultural and non-agricultural sectors growing at a rate of 2.5 and 5.6 per cent respectively (Khanal et al., 2012). During the last three years (2010-2013), the growth rate has remained almost the same, with further deceleration in the growth of the non-agricultural sector at 4.8 per cent on average (NPC, 2013). The performance of the employment sector has been even poorer. Unlike the growth of employment at a rate of 2.7 per cent during the period of 1981 to 1991, such a growth rate has decelerated to just 0.66 percent during the period 2001-2011 (CBS, 2012).

Nepal is seen putting in a lot of effort to decrease unemployment.. When a new government comes to power, the main agenda becomes creation of employment opportunities.

Unemployment is a headache to all governments. (Acharya, 2014) Prioritization of employment generation in different national plans, policies and program such as Karnali One Family One Employment-2006, Youth Self-Employment - 2008 and Prime Minister Employment-2019, establishment of employment notice centers, provision of sector-specific and micro-level skills and enterprise development, focused group training and income generation program, etc are some of the few to mention. The irony, however, is that despite the increased focus on productive employment in recent years, unemployment and underemployment have emerged as the biggest problems today (ILO, 2013). When the facts are analyzed, no progress on the line can be seen. National Labor Force Survey (NLFS)-I estimated that 1.8 percent or 178.0 thousand people aged 15 years and above were unemployed in the year 1998/99 whereas it was estimated to have increased to 2.1 percent or a total of 252.8 thousand during NLFS-II for the year 2008/09. And now the latest labor force survey indicates the unemployment rate has risen to 2.3 percent with semi-unemployment rate of 30 percent. Similarly, the youth underemployment rate is 35.8 percent. (National Planning Commission Central Bureau of Statistics, 2019). With such increment in the unemployment situation, it is quite difficult to manage the economy. Adverse labor market conditions have resulted in very high labor mobility and migration, both internal and external, in search of jobs and employment opportunities. One in each four households (25.42%; 1.38 million households) reported that at least one member of their household is absent or is living out of country. Total number of absent population is found to be 1,921,494 against 0.76 million in 2001. The highest proportion (44.81 percent) of absent population is from the age group 15 to 24 years (CBS, 2012). Gil-Alana (2010) has identified that public attitude is positively influenced by governmental responsibility. It has also been described that due to higher long term unemployment rate, people have more negative attitude towards governmental provision for unemployment.

Thus, this study is conducted with aim to study the effect of economic growth on unemployment rate in Nepal post 1960. Also, the study will test whether the case of negative relationship between economic growth and unemployment, as stated by the Okun's law holds true for Nepalese context or not.

## II. LITERATURE REVIEW

Based on a number of country case studies, there is a growing realization that job creation is necessary for boosting living standards, raising productivity and fostering social cohesion, leading to a country's overall development (WB, 2012). Many recent studies have broadly concluded that the pattern of growth taking place in most of developing countries has been detrimental to enhancing employment led inclusive growth and development. (Khanal D. R., 2015) It has also been

conceded that job creation and inclusive growth are imperatives that resonate today in every country in the world - be it small, large, advanced, emerging, developing, post-conflict or resource rich (IMF, 2013)

With respect to studies regarding the relationship, Okun's Law stands as the strongest dominant foundation. Okun (1962) established a relationship between economic growth and unemployment and put forward: GDP decrease by 3 percent point as unemployment rate increase 1 percent point over the natural rate of unemployment. And till date, Okun's Law has gained wide acceptance in the literature too.

Seyfried (2003) when examined the nature of the relationship between employment and economic growth in the ten largest states of United States, found that though economic growth has a positive and significant impact on employment growth, some of the effects take a few quarters to be fully felt. It is because persistence in employment growth plays a major role as well. Thus, economic growth may have to occur for a period of time before it can have a noticeable impact on the labor market.

Akter (2017) tested the relation between unemployment and economic growth using a panel data covering four South-Asian countries (India, Pakistan, Nepal and Bhutan) including Bangladesh for the time period 1990-2010. The study found that the economic growth has significant effect on unemployment and there is a negative relationship between economic growth and unemployment.

In a similar study conducted in Belgium, it was estimated that, in terms of deviation from their respective trends, a 1 % rise in GDP brings a 0.5 % increase in employment. (Burggraev et al., 2015).

Another study's findings from Turkey showed that the relationship between growth and employment varied within the industries and supported the jobless growth phenomenon. The results showed the economic growth in Turkey only creates employment in the manufacturing, and the tourism and commerce industries. Also the findings point out that employment increase creates economic growth rather than economic growth creates employment. (Aksoy, 2013).

A research results in Vietnam also showed that there really exists a relationship between employment and economic growth. The results also revealed that the employment elasticity of economic growth are -0.49; 0.55 and 0.66 for agriculture, manufacturing and service sectors respectively and 1.71 for Vietnamese economy as a whole in the period. (Mạnh et al., 2014)

Apart from foreign literatures, the study in Nepalese economic perspective reveals the similar findings to the study. To mention, few of them are:

Acharya (2014) cited that there exists a positive relationship between economic growth rate and creation of employment

opportunities. As economic growth increases, employment also increases.

After empirical study in Nepalese perspective, Khanal (2015) states : in parallel, with a decelerated average growth rate in sectors such as manufacturing, trade, restaurants and hotel perceived as high employment generating sectors, employment elasticity has reduced to 0.18 (2001-2011) from 0.60 (1991-2001). The decomposition analysis also shows that during 1991-2001, changes in both, employment and labor productivity played a key role in the growth process. During 2001-2011, however, declining employment contributed to an increase in labor productivity and thereby growth to some extent. Quantitative analysis examining each sector’s contribution to the level of employment growth and rate changes further reveals that during 1991-2001 the rate of change in employment growth was higher (4.5 percent) as against growth in levels (2.7 per cent). However, during 2001-2011, the employment rate change declined by 10.5 percentage points as against growth in employment levels by 0.6 per cent. The results thus show that with employment becoming precarious in recent years, people have been compelled to seek foreign employment.

III. RESEARCH METHODOLOGY

This study aims to study the effect of economic growth on unemployment rate in Nepal post 1960. This study is based on exploratory research design. Data for the study has been collected from secondary sources such as: different National and International survey reports, Census reports, previous articles, news, etc. For the purpose of the study, the data on economic growth and unemployment rate has been considered. Okun’s Law is tested to check the effect of unemployment on economic growth. Correlation and Regression techniques are applied for studying relationship between unemployment and economic growth. SPSS v20 was used for the analysis of the data.

The following model is considered for the study:

$$\text{unemp rate} = \beta_0 + \beta_1 \text{ecogwth} + \varepsilon$$

where,

unemp rate is the dependent variable and ecogwth is the independent variable. Here, unemp rate indicates the annual unemployment rate and ecogwth indicates the annual Gross Domestic Product at constant price. Likewise,  $\beta_0$  is the y-intercept;  $\beta_1$  the slope and  $\varepsilon$  is the error term.

As per Okun’s Law, following hypothesis is proposed for the study:

**H1:** There exists negative relationship between unemployment rate and economic growth.

IV. RESULTS

Table I: Descriptive Statistics

	N	Minimum	Maximum
<b>GDP</b>	59	103878795300.00	881798253100.00
<b>UER</b>	28	1.25300	1.88699
	N	Mean	Std. Deviation
<b>GDP</b>	59	330058579747.45	220461847404.88
<b>UER</b>	28	1.60917	.18374

GDP: Gross Domestic Product, UER: Unemployment Rate

The above table-I illustrates the descriptive characteristics of the data. The minimum value of GDP is 103878795300.00 while the maximum is 881798253100.00. Similarly, the minimum rate of unemployment is 1.25300 and the maximum is 1.88699. The mean GDP, indicator of economic growth is 330058579747.45 and standard deviation is 220461847404.88. Likewise, the average Unemployment rate is 1.60917 with standard deviation of 0.18374.

Table II: Test of Correlation between GDP and UER

		GDP	UER
<b>GDP</b>	Pearson Correlation	1	-.697**
	Sig. (2-tailed)		.000
	N	59	28
<b>UER</b>	Pearson Correlation	-.697**	1
	Sig. (2-tailed)	.000	
	N	28	28

\*\* . Correlation is significant at the 0.01 level (2-tailed).

Table-2 shows the correlation between dependent variable, GDP and independent variable, UER. It shows that there exists a negative correlation (-0.697) between GDP and UER at 1% level of significance. This implies that increment in value of GDP results in decrement in unemployment rate and vice-versa. Thus, it proves the alternative hypothesis is valid.

Regression analysis was performed with GDP as an independent variable and unemployment rate as a dependent variable to test the degree of impact of economic growth on unemployment rate. Based on the findings of regression analysis, as shown in Table 3.3, R-square is 0.486. This means the model is capable of explaining about 48.6% of the variability of Unemployment Rate. This result is

complimented by adjusted R square value of 0.466 i.e. 46.6% which is in essence the proportion of total variance that is explained by the model.

Table III: Regression Analysis

Model Summary						
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate		
1	.697 <sup>a</sup>	.486	.466	.1342854410692 10		
a. Predictors: (Constant), GDP						
Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.990	.081		24.590	.000
	GDP	-7.646E-013	.000	-.697	-4.955	.000
a. Dependent Variable: Unemployment rate						

Here, p-value of Gross Domestic Product coefficient is 0.000 which is less than 0.01. So, hypothesis is accepted at 1 percent level of significance. This indicates that the economic growth has a negative significant impact on Unemployment rate of Nepal.

V. CONCLUSION

This paper has examined the relationship between economic growth and unemployment rate in Nepal through use of correlation and regression analysis. The empirical analysis shows that economic growth has a negative impact of on unemployment rate. The finding is in line with the Okun’s law too. An implication of the finding is that in order to bring down the problem of unemployment in an economy, the focus should be on boosting the economic growth.

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