

The relationship between output and unemployment



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Nowadays, the important issue in developing economies is unemployment. This means that with high unemployment of labour resources that are not being used efficiently. This been states that the negative relationship between movements of unemployment rate and real GDP can be determined. This paper examines the existing of relationship between output and unemployment in the Malaysian economy. The modes understudied are based on Ordinary Least Square (OLS) and Granger model. In addition, Granger model are used to performed the determined the relationship between output and unemployment. The empirical results show that the negative relationship between output and unemployment is present in the Malaysia economy. In other words, output has no direct negative impact towards unemployment in Malaysia.

Keyword: GDP Growth, Unemployment rate, Ordinary Least Square (OLS), Granger model, Causal Relationship

CHAPTER 1

INTRODUCTION

1. 0 Background of Study

TITLE: THE RELATIONSHIP BETWEEN OUTPUT AND UNEMPLOYMENT

The backgrounds of study are more focuses to the relationship between the output and unemployment in Malaysia to see how important it is. In this study, the dependent variables is unemployment rate, which it's contains another independent variables which is Gross Domestic Product (GDP) and under of it consists of agriculture, livestock, forestry and fishing,

construction, manufacturing, mining and quarrying and services. Both of these dependent and independent variables will be used for analysis and to ensure it as an evidence of an existing relationship between output and unemployment in this research.

According to Arthur Okun, 1962, he found that during the post-war time, the average on each extra percentage point to unemployment rate that showed above four percent (through the estimation made by Arthur of what we refer to as the natural rate of unemployment) has been associated with about a three percent decrement in real GNP. During the 1930s, the largest feature of unemployment is because of its high persistence. However, regardless of the social and economic consequences related with the high unemployment rates, some additional issues still remain unresolved.

Both output and unemployment are changing and it is given to the influence of larger or more point decline in the business cycle, expected long-term relationship between these variables exists. In countries with high rates of growth in state production will focus on reducing unemployment. In the other word, when there is restriction on the expansion of production, unemployment moved towards the opposite direction. The theoretical relationship between output and unemployment are called Okun's Law (Okun 1962), and it is among the most popular in the macroeconomic theory. Based on the basis empirical Okun's Law allows a better implementation of appropriate economic policies to decrease unemployment. However, according to Lee (2000) and Vir'en (2001), they both found that a number of studies have investigated empirically the relationship between output and unemployment.

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Problem statement

According Okun, 1962, he found that the output have negative relationship on the unemployment. Over thirty years of a period, there is several of an economist found that it having a strong empirical regularity in this common relationship. In addition, he also said that general belief on this relationship is dominated by Law Okun, which predicts a fall in the normal output growth accompanied by development of a significant but smaller unemployment. However, the facts are opposed by Jim Malley and Hassan Molana, 2007, that they are not so clear if these variables occur positively related.

Other than that, GDP growth is dominated by productivity progress and the employment-relevant part of aggregate demand is too low to reduce the high level of unemployment substantially. However, the unemployment rates and GDP growth rates were higher for most years (EU Commission, 2004). According Aghion and Howitt (2), they said that perhaps come closest to the problem they address. They have developed a model to explain it that they recognize explicitly that endogenous growth factors have the consequences of unemployment. Their model “ uncovers, and examines the relative strength of, two competing effects of growth on unemployment” (2, p. 478).

However, the problem statement in this study is when the high unemployment increase this will cause of labour resources is not used efficiently. When unemployment rates soared, it will affect the development due to the world-wide recession which is involve of the domestic manufacturing sector. Beside that, if the unemployment is high it will affect the output that less productive. Other than that, with high unemployment it will lead to lower profits and the economy rate will be reduced.
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Context of problem

For more detail of this study objective based on theoretical framework which is will cover all the dependent and independent variable.

The objective of this study:

To determine whether Okun's law exist or not in this research.

To know whether significant or not between the independent and dependent variable.

To determine whether unemployment will give effect to the output according to the test from econometric.

1. 3 Scope and limitation of the study

In my scope of study, it will cover the data from 1970 until 1999 which is 30 year's data. These data all from Malaysian data that contains the dependent variable which is unemployment rate and independent variables is gross domestic product (GDP) that consists of agriculture, livestock, forestry and fishing, construction, manufacturing, mining and quarrying and services (Department Statistic Malaysia and Bank Negara Malaysia A. K. A BNM). This is to evaluate that how unemployment affected on the independent data.

1. 4 Significance of the problem

The significance from my study is unemployment will give impact to the output because of the labor resources are not being used efficiently. When the econometric tests do for the Output and unemployment, the independent variable show that the variable is significance means that

decrease the unemployment rate it will give impact to the Gross Domestic Product (GDP).

2. 0 CHAPTER 2

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2. 1 Introduction

This article describes the remaining unemployment should be avoided to keep the economy expanding. Output and unemployment are decomposed into their trend and cyclical components, using a variety of detrending methods. From this article explains that it may have biased previous estimates related on the omission of capital and labor inputs. There is a relationship between output and unemployment because output is when an organization or firm needs workers to produce products. For example, if the number of the workers is increases at the same time the number of the produce products will increases too. Unemployment is people that have no job or not able to find a job. The consequence of this is that circumstances exist in which market imperfections could pose serious obstacles to the smooth working of expansionary and/or stabilisation policies and a positive demand shock might have adverse effects on employment.

According Lindbeck (1992), he said that unless we have a clear understanding of how such policies work, their implementation may produce unexpected consequences: ‘ In the circumstance of a non-market-clearing labour market, it is certainly reasonable to regard unemployment, in particular highly persistent unemployment, as a major macroeconomic

distortion. In this paper, the common belief regarding this relationship was conquered by the Okun's Law, which it predicts that the decline in output growth is usually accompanied by a significant but smaller increase in unemployment. These predictions and policy implications direct the display when output and unemployment in a systematic negative relationship with one another outside the trends and cyclical variations.

Base on (Okun's, 1962) states that one percentage point of reduction in the unemployment rate will increase the output for approximately 3 percent. Therefore, to prevent wastage of unemployment, the economy should continue to expand. Okun's Law is the name of Arthur Okun which is the economist in the year of 1962 who was the first makes the detailed observations about the relationship between output and employment. This is about the relationship between increases in unemployment and decreases in a country's gross domestic product (GDP). For every one percent increase in unemployment it will affect the GDP where it fell from two to four percent from its potential.

2. 2 Literature Review or Matrix Form

2. 2. 1 The relationship between output and unemployment

For a panel of ten industrial countries which are use new development in trend/cycle decomposition to test Okun's law (Freeman, 2001). The three points of real GDP growth for each one percent reduction in the unemployment rate now averages at just under two points of real GDP growth for the sample countries that he found the Okun's original estimate for the U. S. from the article, they argue about the forgone output was the

major cost of unemployment and it will lead to high recession if the loss is very high (Dornbusch et. al, 2001).

The relationship between unemployment and capacity utilization is not stable for the long-term period (Watts and Mitchell, 1991). Increasing labour resource utilization weakens the estimations of Okun's Law factors. The results will cause the changes in efficiency of production found that changes in output (Prachowny, 1993). The amount of time worked and exploitation of facility space are the other important determinants of output. The assumption of zero correlation for the within-series correlation of real GDP was appropriate that estimated a restricted bivariate model of output and the unemployment rate (Clark, 1989).

However, to see whether there are circumstances under which an increase in the rate of unemployment can lead to an increase in the level of output, and develop a theoretical model that shows that such a result can be obtained when labour and goods markets operate under certain conditions. According to Acemoglu and Shimer (2000), they focus on the effect of raising unemployment insurance within a search model and conclude that more generous welfare programmes can in fact raise output and welfare despite giving rise to higher unemployment.

2. 2. 1. 1 Review of GDP Growth

From the article explains that unemployment might effects on GDP which is supported the Okun's view (Freemen, 2001) and (Dornbusch et. al, 2001).

From the argued explains that cost of unemployment is the major of forgone output and if the loss is very high it can lead to recession. Article explains

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that an empirical which is an unemployment and capacity utilization is not stable based on the long-term relationship (Watts and Mitchell, 1991) that also supported the Okun's law.

From this article explains that increasing labour resource utilization weaken the estimations is the factors of Okun's law. The efficiency of production might effects the changes in output (Prachowny, 1993). The amount of time worked and exploitation of facility space are including in the other important determinants of outputs. He argued that the relationship between unemployment and GDP is only a partial measure gives by Okun's law. In the Okun's law have the several studies that have been highlighted the limitations. Okun's framework conclude that such as labour force participation, productivity and production functions are not take into consideration factors that are important to influenced the changes in output and unemployment.

However, the cyclical fluctuations in output and the level of or change in unemployment rates economists have long been aware of an inverse relationship. For this relationship it shows an obvious feature of the supply side of the macroeconomy: in the absence of shocks to productivity, as output rises in a cyclical recovery, some unemployed workers are hired to produce it. On the other hand, as output falls in recession, some workers are no longer needed and temporarily lose their jobs. According to Okun (1962), he said that the search for a quantifiable relationship suitable for policy analysis emerged comparatively recently in the long history of business cycle research.

2. 2. 1. 2 Review of Unemployment rate

Base on this article, it explains that as additional variables of the unemployment rates where the real GDP are not qualitatively (Morley, Nelson and Zivot, 2003). The relationship between movements of the unemployment rate and the real gross domestic product (GDP) were found that Okun's Law postulates a negative (Leopold Soegner and Alfred Stiassny, 2002).

When considering the linkages between output and unemployment, there has three components of unemployment which is consists of: structural, frictional and cyclical unemployment. Cyclical unemployment will rise due to the deficient aggregate demand, while microeconomic labour market imperfections give rise to frictional and structural unemployment (Grant, 2002: 98). A structural change, unemployment becomes less responsive to output a change which is found that okun's relationship undergoes. In the certain sectors of economy, particularly, the labour market that more particularly which are the policy makers must place more emphasis on deregulating (Nicholas Apergis and Anthony Rezitis, 2003).

However, the relationship between the unemployment rate and economic growth will face more further complicates because of the affecting the economy due to the type of shock(s), as pointed out by Weber (1995: 435). The expected negative relationship between unemployment and growth will only hold if the economy is affected by demand shocks; in the presence of supply shocks (stagflation) this expected negative relationship breaks down. With low unemployment rates that are despite high output losses in other

countries can be partially explained by early retirement schemes and emergency measures by the government.

2. 3 Draw theoretical framework

Aggriculture, livestock, forestry and fishing construction, manufacturinmining and quarrying and services

Construction

Output

Unemployment Rate

Manufacturing and quarrying

Services

Unemployment rate = Output + Aggriculture, livestock, forestry and fishing + Construction + Manufacturing and quarrying + Services

2. 4 Summary chapter

As a conclusion, both the output and employment have a strong relationship. Any attempts to reduce unemployment will result in increasing the growth rate of the GDP. Between the usages of labour intensive techniques of production as well as high technology capabilities for incentives must be given to encourage a balanced blend. For the people that less skilled labour still can find suitable jobs.

The permanent component for the innovations and the transitory component for both output and the unemployment rate are negatively correlated. Both of permanent innovations to real GDP and the unemployment rate have the negative correlation and indicate that real GDP and the unemployment rate

are strongly linked through permanent movements than through the transitory movements. In some developing countries do not support the implications of Okun's Law because of asymmetric problems which is Okun's Law may not be applicable in developing countries. The government can assured that foreign investors about political calm environment.

3. 0 CHAPTER 3

3. 1 INTRODUCTION

This paper examines the relationship between unemployment and economic growth using time series data. Annual time series data was used in our empirical analysis. The data was from 1970 to 1999. In this study the Augmented Dickey Fuller test (ADF) which was proposed by Said and Dickey (1984) and the Phillips-Perron Unit Root Test, Phillips-Perron (1988) were applied to both variables to detect if these variable are stationary or non stationary. The results proved that both variables are non-stationary and so the regression test was applied to the first difference. Since unemployment is expressed in percentages, and GDP is presented in billions of Ringgit Malaysia, we had regressed first difference of logarithm of GDP on first difference of logarithm of unemployment rate to standardize the scales.

3. 2 DATA AND METHODOLOGY