



# JAYOTI VIDYAPEETH WOMEN'S UNIVERSITY, JAIPUR

Government of Rajasthan established

[Through ACT No. 17 of 2008 as per UGC ACT 1956](#)

[NAAC Accredited University](#)

## Faculty of Education and Methodology

**Faculty Name-** JV'n Dr. Md Meraj Alam

**Program-** BA (Hons) Economics 2nd Semester

**Course – Macroeconomics II**

**Digital session name – Philips Curve**

The Phillips curve examines the relationship between the rate of unemployment and the rate of money wage changes. Known after the British economist A. W. Phillips who first identified it, it expresses an inverse relationship between the rate of unemployment and the rate of increase in money wages. Basing his analysis on data for the United Kingdom, Phillips derived the empirical relationship that when unemployment is high, the rate of increase in money wage rates is low.

This is because “workers are reluctant to offer their services at less than the prevailing rates when the demand for labour is low and unemployment is high so that wage rates fall very slowly.” On the other hand, when unemployment is low, the rate of increase in money wage rates is high. This is because, “when the demand for labour is high and there are very few unemployed we should expect employer to bid wage rates up quite rapidly.”

The second factor which influences this inverse relationship between money wage rate and unemployment is the nature of business activity. In a period of rising business activity when unemployment falls with increasing demand for labour, the employers will bid up wages. Conversely, in a period of falling business activity when demand for labour is decreasing and unemployment is rising, employers will be reluctant to grant wage increases.

Rather, they will reduce wages. But workers and unions will be reluctant to accept wage cuts during such periods. Consequently, employers are forced to dismiss workers, thereby leading to high rates of unemployment. Thus when the labour market is depressed, a small reduction in wages would lead to large increase in unemployment. Phillips concluded on the basis of the above arguments that the relation between rates of unemployment and a change of money wages would be highly non-linear when shown on a diagram. Such a curve is called the Phillips curve.

The PC curve in Figure 6 is the Phillips curve which relates percentage change in money wage rate ( $\dot{W}$ ) on the vertical axis with the rate of unemployment ( $U$ ) on the horizontal axis. The curve is convex to the origin which shows that the percentage change in money wages rises with decrease in the employment rate.

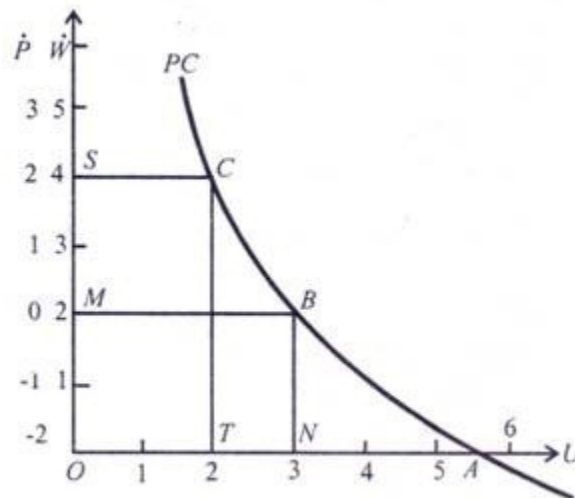


Fig. 6

Source: Internet

In the figure, when the money wage rate is 2 per cent, the unemployment rate is 3 per cent. But when the wage rate is high at 4 per cent, the unemployment rate is low at 2 per cent. Thus there is a trade-off between the rate of change in money wage and the rate of unemployment. This means that when the wage rate is high the unemployment rate is low and vice versa.

The original Phillips curve was an observed statistical relation which was explained theoretically by Lipsey as resulting from the behaviour of labour market in disequilibrium through excess demand. Several economists have extended the Phillips analysis to the trade-off between the rate of unemployment and the rate of change in the level of prices or inflation rate by assuming that prices would change whenever wages rose more rapidly than labour productivity.

If the rate of increase in money wage rates is higher than the growth rate of labour productivity, prices will rise and vice versa. But prices do not rise if labour productivity increases at the same rate as money wage rates rise.

This trade-off between the inflation rate and unemployment rate is explained in Figure 6 where the inflation rate ( $p$ ) is taken along with the rate of change in money wages ( $W$ ). Suppose labour productivity rises by 2 per cent per year and if money wages also increase by 2 per cent, the price level would remain constant.

Thus point B on the PC curve corresponding to percentage change in money wages ( $M$ ) and unemployment rate of 3 per cent ( $N$ ) equals zero ( $O$ ) per cent inflation rate ( $p$ ) on the vertical axis. Now assume that the economy is operating at point B. If now, aggregate demand is increased, this lowers the unemployment rate to  $OT$  (2%) and raises the wage rate to  $OS$  (4%) per year.

If labour productivity continues to grow at 2 per cent per annum, the price level will also rise at the rate of 2 per cent per annum at  $OS$  in the figure. The economy operates at point C. With the movement of the economy from B to C, unemployment falls to  $T$  (2%). If points B and C are connected, they trace out a Phillips curve PC.

Thus money wages rate increase which is in excess of labour productivity leads to inflation. To keep wage increase to the level of labour productivity ( $OM$ ) in order to avoid inflation,  $ON$  rate of unemployment will have to be tolerated.

The shape of the PC curve further suggests that when the unemployment rate is less than 5 ½ per cent (that is, to the left of point A), the demand for labour is more than the supply and this tends to increase money wage rates. On the other hand, when the unemployment rate is

more than 5 ½ per cent (to the right of point A), the supply of labour is more than the demand which tends to lower wage rates. The implication is that the wage rates will be stable at the unemployment rate OA which is equal to 5 ½ per cent per annum.

It is to be noted that PC is the “conventional” or original downward sloping Phillips curve which shows a stable and inverse relation between the rate of unemployment and the rate of change in wages.

**Course Outcome:** The goal of this paper will be to expose the students to the basic principles of macroeconomics. The emphasis will be on thinking like an economist and course will illustrate how economic concepts can be applied to analyse real-life situations. In this course, the students are introduced to money and interest, theories of inflation, rate of interest, trade cycle and growth models.