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Magadh Mahila College

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M A Economics
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Paper: Macroeconomics (CC 08)
Topic: Phillips Curve
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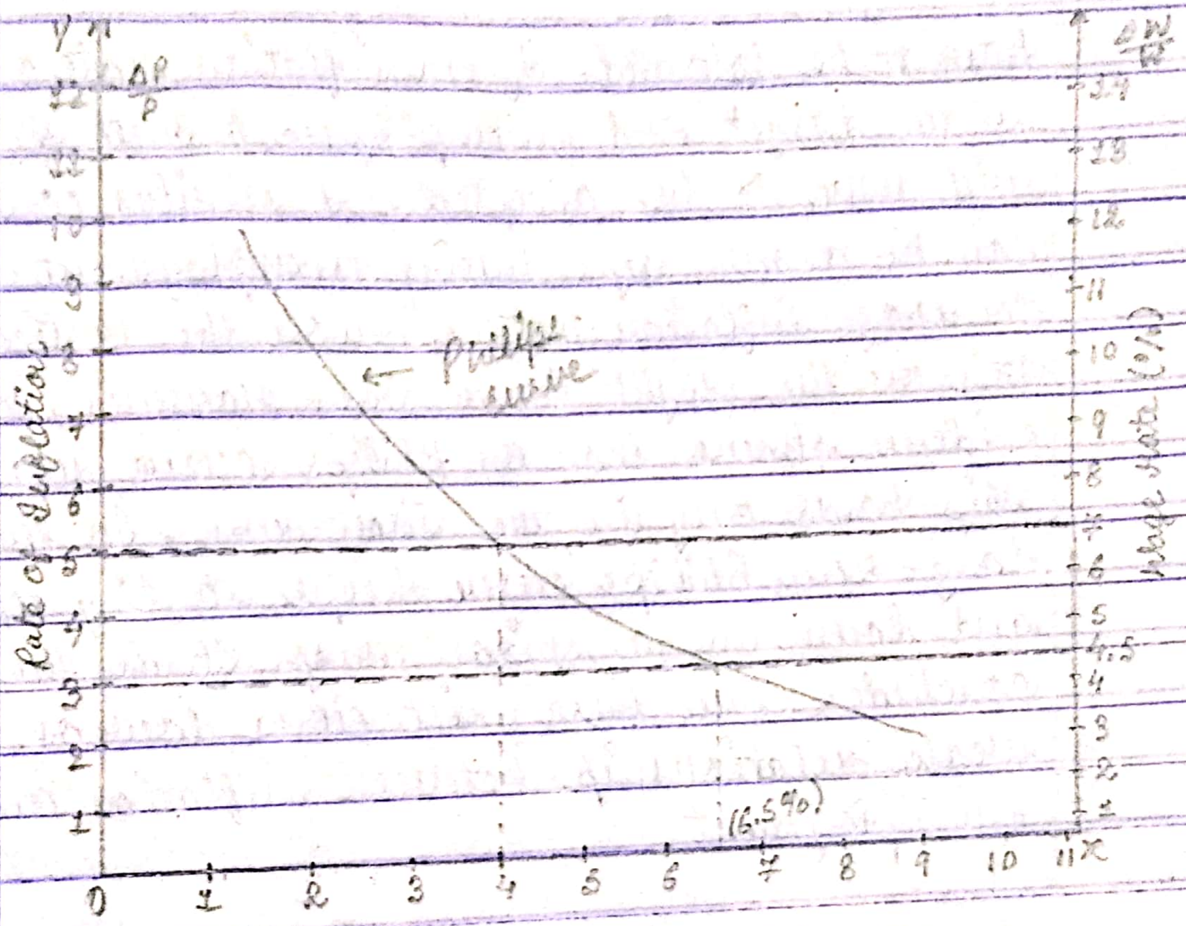
3. Q. What is Phillips curve? How does it explain inflation?

→ **Introduction** :- The relationship between inflation and unemployment has been a controversial issue. The neo-classical economist held the view that inflation does not affect the level of unemployment. However, in 1958 A.W. Phillips, a British Economist a professor at London School of Economist brought out a study of relationship between unemployment and the change in money wage rates or inflation. Phillips found an inverse relationship between the rate of changes in the money wage rate and the rate of unemployment. He presented the inverse relationship between the change in inflation and the rate of unemployment in the form of a curve called "Phillips curve". The general conclusion that is drawn from Phillips empirical finding is that a rise in money wage rate or inflation reduces the rate of unemployment and a fall in money wages or inflation increases the rate of unemployment. From policy point of view, the Phillips curve implies that there exist a trade off between rate of unemployment and the inflation i.e. a lower rate of unemployment can be achieved only by increased rate of inflation.

The trade-off means that a certain rate of inflation can be treated for some rate of unemployment or in other words, a lower rate of unemployment can be achieved only at the cost of higher rate of inflation. The Phillips curve provides a large number of such trade off points. The trade off between inflation and unemployment has a very important policy implication. Given the inflation and unemployment rate, combination policy makers get a number of trade off points between inflation and unemployment to choose from.

A widely used form of the theoretical and hypothetical phillips curve is given in the figure below:-



Unemployment Rate

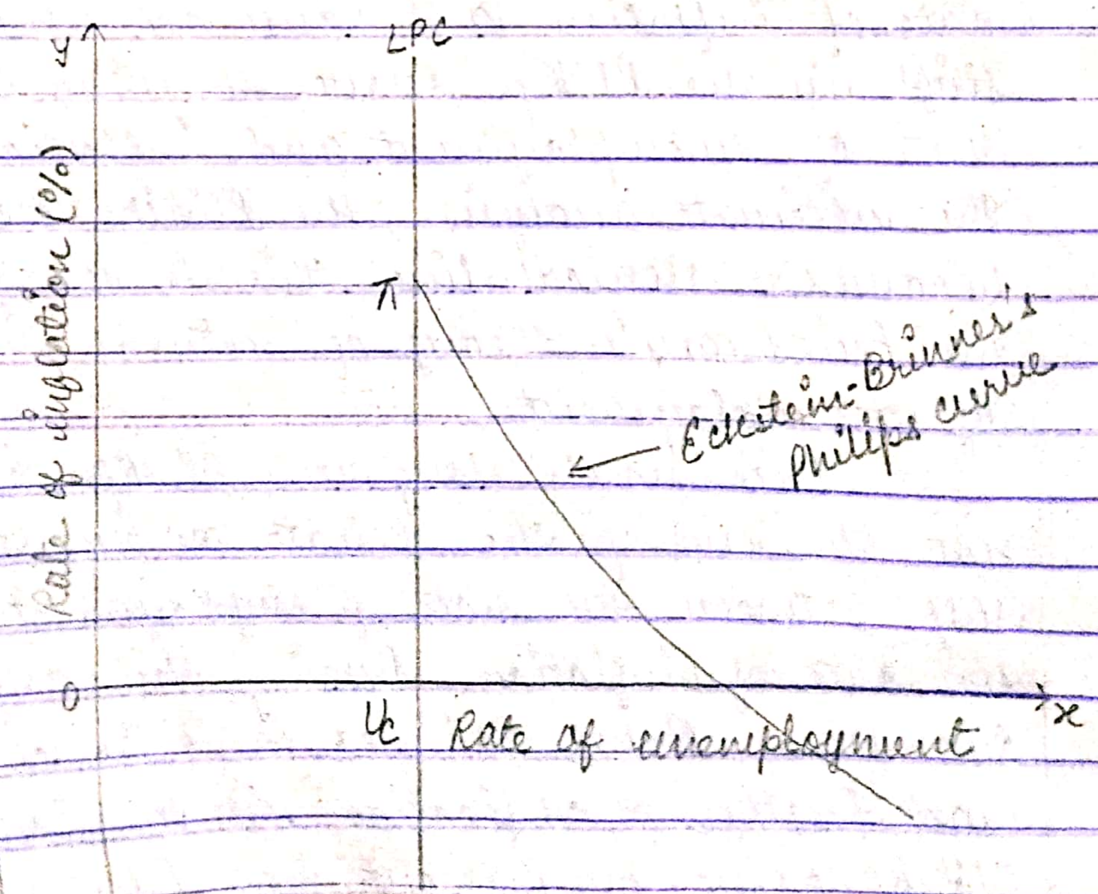
The vertical axis on the left measures the annual rate of inflation and the horizontal axis measures the rate of unemployment. The vertical axis on the right measures the annual percentage rise in the wage rate. In the figure, the trade-off between the unemployment and the inflation rate can be easily found. It means from policy point of view that if unemployment rate is intended to be reduced from 6.5% to 4%, A rise in inflation rate from 3% to 5% will have to be tolerated. If an inflation rate of 3% is the target and unemployment rate of 6.5% will have to be accepted. A similar conclusion can be drawn by linking unemployment rate to wage inflation rate given on the vertical axis on the right hand side. However, recent evidence shows that the Philips curve relationship holds only in the short run. In the long-run, Philips curve keeps shifting up and down in a spiral way. It is therefore concluded that there exist either loose or a weak relationship between inflation and unemployment.

The LONG RUN PHILIPS CURVE:- FRIEDMAN'S, ECKSTEIN, BRINNER'S Theory of NATURAL RATE OF UNEMPLOYMENT :-

Milton Friedman integrated the logic of the short run Phillips curve into macroeconomic theory and explained the spirally Phillips curve. In the process, he constructed a long run Phillips curve. Friedman began by showing that Phillips curve holds only in the short run. In the long-run, he argues there is only one rate of unemployment whatever the rate of inflation. This rate of unemployment he calls the natural rate of unemployment. The natural rate of unemployment was subsequently termed as the "Non Accelerating Inflation Rate of Unemployment" (NAIRU). Friedman argues that NAIRU cannot be eleminated permanently by means of expansionary, monetary and fiscal policies of the govt. The expansionary policies may only accelerate the rate of inflation and cause an upward shift in the Phillips curve showing higher rate of unemployment and inflation. In the ultimate analysis, the Phillips curve becomes a vertical line. This is the gist of the Friedman's theory of natural rate of unemployment.

Friedman's long run Phillips curve is not the end of the debate on the relationship between the rate of employment and the rate of inflation. During the early 1970s Otto Stean, Rober Brinner and James Tobby made further modification in the long run Phillips curve. We present here Eckstein, Brinner long run Phillips curve. Although the economist agree with Friedman proposition that there is no trade off between unemployment rate and inflation rate below critical rate of unemployment.

However, they content that beyond the critical rate of unemployment and below a certain rate of inflation, there, thus exist a trade off between unemployment and inflation. Their theory is presented in the given figure.



In this figure, Uc marks Friedman's

natural rate of unemployment which is same as Eckstein Brinner's critical rate of unemployment. The line LPC is Friedman's long run Phillips curve. Eckstein - Brinner agreed that at the critical rate of unemployment U_c and beyond a certain rate of inflation i.e., π, there is no trade off between the rate of unemployment beyond U_c and the rate of inflation π. However, according to them, there does exist a rate of unemployment beyond U_c and the rate of inflation below π.

POLICY IMPLICATIONS OF THE LONG RUN PHILIPS CURVE :-

The theory of natural rate of unemployment or Friedman's long run Phillips curve has two important policy implications :-

1. There is a minimum level of unemployment which an economy will have to tolerate in the long run. This unemployment cannot be reduced in the long run through policy measures. It can be reduced for a short

while only at the cost of inflation.

2. Secondly, the efforts to contain unemployment below its natural rate and inflation rate below one associated with the natural rate of unemployment have a great chance of providing unproductives. Such effort instead first make the economy go through a phase of low rate of unemployment and high rates of inflation and then a high rate of unemployment and high rates of inflation.

POLICY DILEMMA :- WHAT IS DESIRABLE INFLATION OR UNEMPLOYMENT?

The Controversy on the slope of Phillips curve, the economists generally agree that there is a trade off between unemployment and inflation in the short run. It means that inflation and unemployment cannot be controlled simultaneously. If inflation is controlled, it may lead to an increase in unemployment and if unemployment is controlled, it may cause inflation. This situation creates a dilemma for the policy makers as to what to choose ~~below~~ between the two great economic evils - inflation and unemployment. In other words of Samuelson and Nordhaus "the search for a way to resolve the cruel dilemma of needing high unemployment to contain inflation continues to be one of the most pressing concerns of modern macro-economics."

CRITICISMS :-

The accelerationist ~~theory~~ hypothesis of Friedman has been criticised on the following grounds :-

1. The vertical long-run Phillips curve relates to steady rate of inflation. But this is not a correct view because the economy is always passing through a series of disequilibrium positions with little tendency to approach a steady state.
2. Friedman does not give a new theory of how expectations are formed that would be free from theoretical and statistical bias. This makes his position unclear.
3. The vertical long-run phillips curve implies

that all expectations are satisfied and that people correctly anticipate the future inflation rates. Critics point out that people do not anticipate inflation rates correctly, particularly when some prices are almost certain to rise faster than others.

4. Friedman accepts the possibility that the long-run phillips curve might not just be vertical, but could be positively sloped with increasing doses of inflation leading to increasing unemployment.

5. Some economists have argued that wage rates have not increased at a high rate of unemployment.

6. It is believed that workers have a money illusion. They are more concerned with the increase in their money wage rates than real wage rates.

7. Some economists regard the natural rate of unemployment as a mere abstraction because Friedman has not tried to define it in concrete terms.

8. Saul Hyman has estimated that the long-run Phillips curve is not vertical but is negatively sloped. According to Hyman, the

unemployment rate can be permanently reduced if we are prepared to accept an increase in inflation rate.

CONCLUSION :-

The decision makes it clear that the policy makers in developed countries are faced with a cruel dilemma in their efforts to find an acceptable combination of inflation and unemployment. The logical conclusion that follows it is that attempt should be, to keep the unemployment rate close to its natural rate but the concept of the natural rate of unemployment itself is a fuzzy concept. Too many economist accepted that the term natural rate of unemployment is misleading and and the natural rate of unemployment is in no way natural. It, thus vary from country to country, from time to time and from condition to condition and also at the same point of time in the same country. It keeps changing following the demographic changes in the labour forced, the historical level of unemployment, the govt. policy towards social welfare and so on. Some economist suggest to keep the unemployment rate close to its optimum level of unemployment is an equally fuzzy concept. Some economist suggest that it is adviseible to learn to live with certain level of inflation or unemployment.