M.A. ECONOMICS SEM-II,

CC-8 -3 MODULE

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PHILLIPS CURVE:

Introduction:

In his seminal article, A.W. Phillip , a British economist and a Professor at London School of Economics , examined the relationship between Unemployment and inflation(change in money wage rates) in the British economy over the period of 1861-1957. He found that wage rates roses rapidly when employment was low, decreased when it was high and ; remained unchanged when about 5.5% of labour force were out of job. The relationship between unemployment and inflation (the change in money wage rate) , according to Phillip , is both inverse and non-linear . This empirical study was formed by a curve , which is known as Phillips curve (1958). Thus,

Phillips Curve shows inverse relationship between inflation (money wage rate) and level of unemployment i.e. lower the unemployment in an economy , higher the inflation (money wage rate) and vice – versa.

The Inverse Nature of Inlation (Wage rates) and Unemployment may be due to the following factors:

1. Generalised excess demand for labour

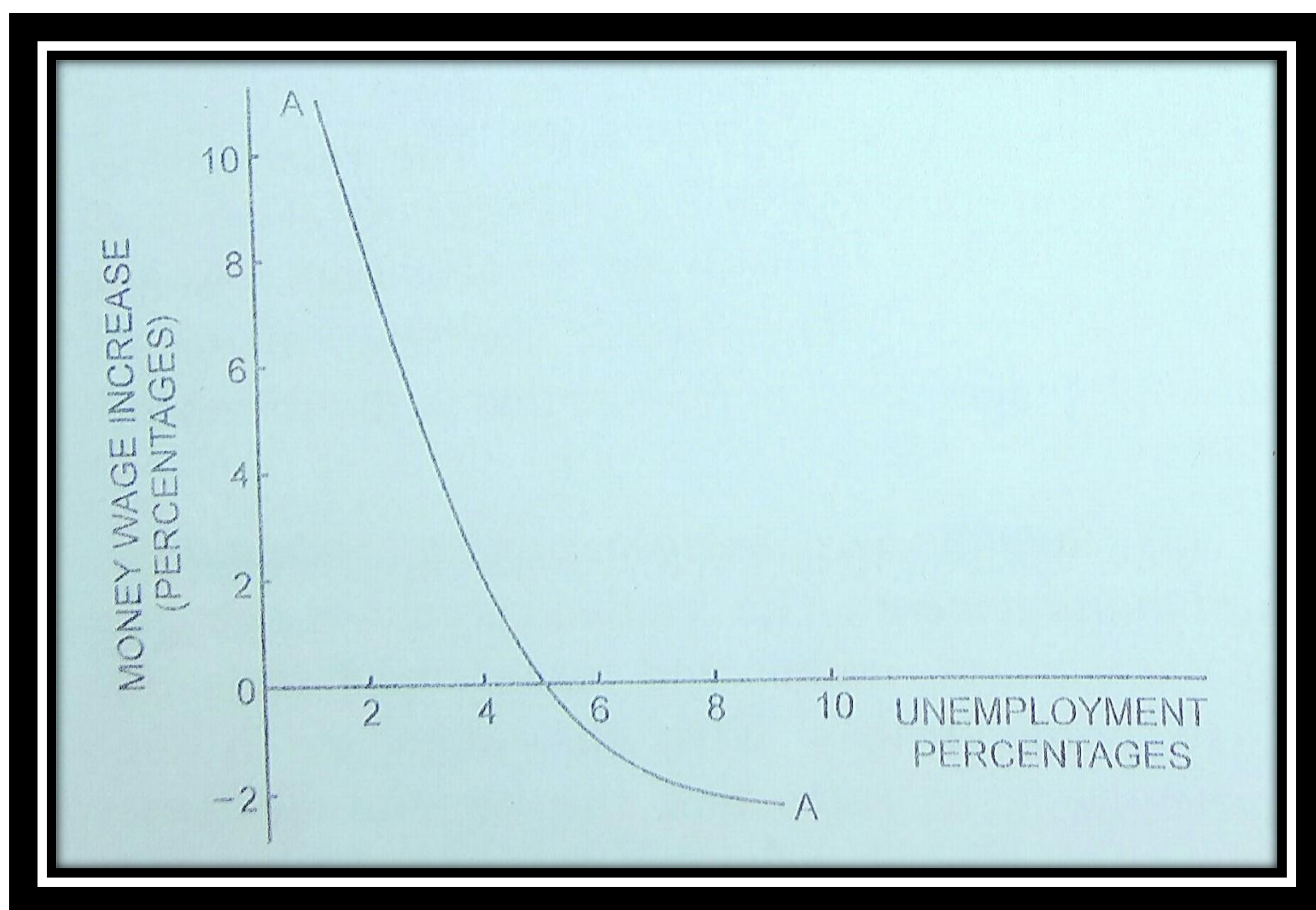
explained in the following lines “when the demand for labour is high and there are very few unemployed we should expect employers to bid wage rates up quite rapidly , each firm and each industry being continually tempted to offer a little above the prevailing rates to attract the most suitable labour from other firms and industry , as the wage cost increases , producers are compelled to

increase their selling price, consequently higher rates of inflation are generally associated with lower rate of unemployment.

2. Wage push factor

In the 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 union will be reluctant to accept wage cut during such period. Consequently, employers are forced to dismiss workers, thereby leading to high rate of unemployment. Thus when the labour market is depressed, a small reduction in wages would lead to large increase in unemployment(wage rigidity) .

<u>The Phillips Curve:</u>



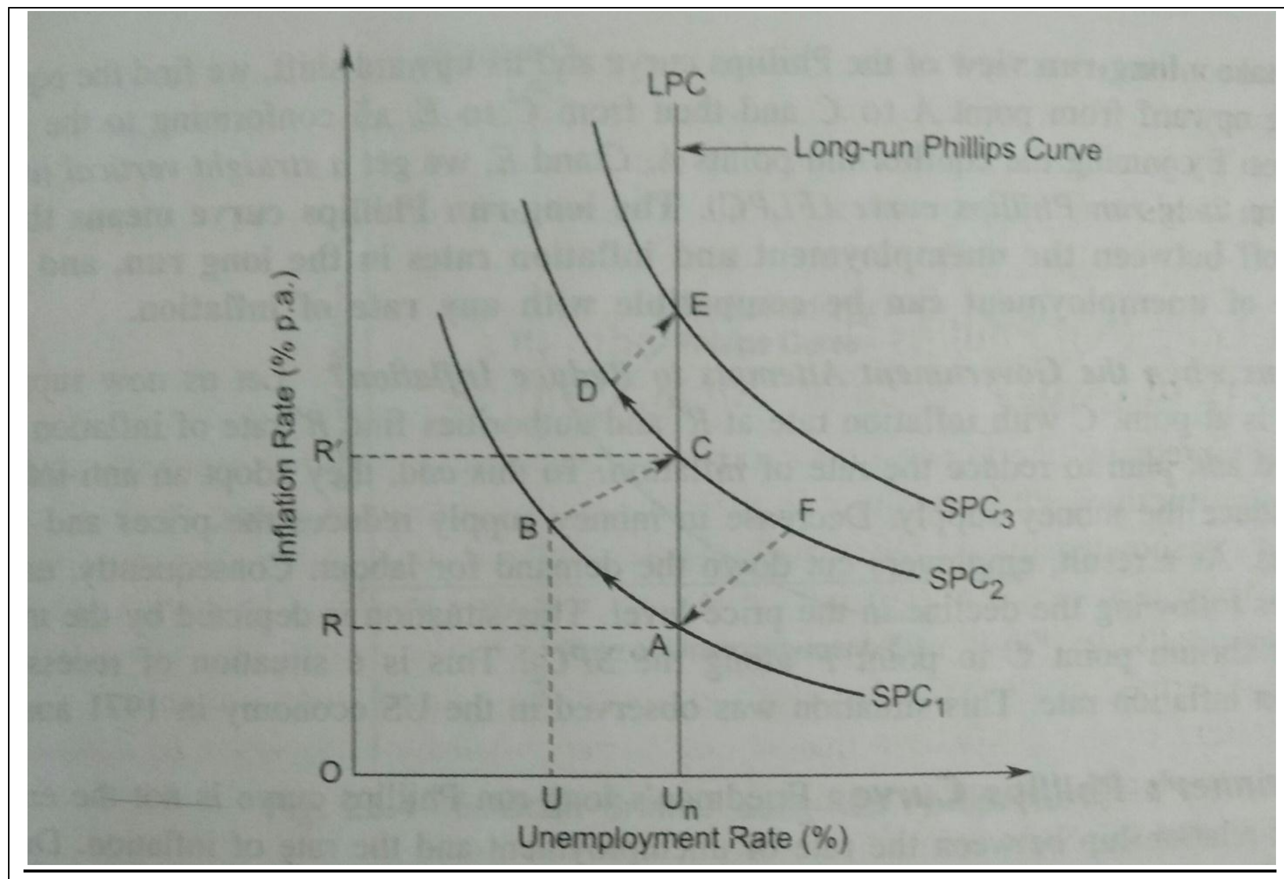
Long –run Phillips curve:

On the basis of theoretical work of Edmund Phelps and Milton Friedman, along with statistical test of actual history, macroeconomists developed the modern theory of inflation, which distinguishes between the long –run and the short-run Philips curve and integrated the logic of short-run Phillips curve into the macroeconomic theory and explained the spiralling Phillips curve. They argued that the downward sloping

Phillips curve holds only in short-run and it does not remain stable while in the long-run Phillips curve is vertical.

Friedman argued that in the long –run there is always some rate of unemployment whatever the rate of inflation, he called it the natural rate of unemployment. The natural rate of unemployment was subsequently termed as the “non-accelerating-inflation rate of unemployment” (NAIRU). Further he argued that NAIRU can be eliminated permanently by means of expansionary monetary and fiscal policy of the govt. The expansionary policies may only accelerate the rate of inflation and cause an upward shift in Phillips curve showing a higher level of inflation and unemployment .

<u>Long –run Phillips Curve :</u>



Suppose the economy is at point A with unemployment rate of u_n and inflation rate of R and that this rate is consistent with potential level of output. Now the policy makers consider U_n to be a high rate of unemployment and plan to reduce it by means of expansionary policies. Since the economy is at potential level of output, any expansionary policy will only push up the price level. When the price level rises , the real wages go down .As long as the workers are confused by situation or do not realize the decline in real wages or have money illusion, real wages continues to decline .Under these conditions money wages lag behind the price rise and real wages decreases. As a result of fall in real wages , employers increase their demand for labour, employment increases and unemployment decreases. With rising prices and decreasing unemployment the trade-off point A moves to point B along the short-run Phillips curve $SPC_{1.}$ This shows a decline in the unemployment rate from U_n to U.

At point B the workers eventually feel the decline of real in their real wages and begin to anticipate a further fall in their real income so they begin to demand for higher money wage matching with the expected price rise. As a result, real wage begins to rise .The rise in real wage rate causes a decline in the demand for labour. Consequently ,the labour market begin to move towards a higher equilibrium points as shown by the path of movement from point B towards point C. This mark a shift in the Phillips curve from SPC_1 to $SPC_{2.}$ As a result the rate of unemployment rises back to its natural level, U_n ,the rate of inflation rises from R to R’. This is virtually a situation of stagflation.

At point C , again if the policy makers decide to reduce the natural rate of unemployment(following the above process) the economy will reach at point D and then from D to point E after a lapse of time.

NOTE: The attempt to reduce the natural rate of unemployment through the expansionary policy results only into an upward shift in the Phillips curve without reducing the natural rate of unemployment permanently.

From above , we find equilibrium point shifting from point A to C and then from C to E, all confirming to short –run Phillips curve. By joining these equilibrium points A, C, and E we get a vertical straight line – which is Friedman Long-run Phillips Curve (FLPC).Thus,

The Long-run Phillips Curve means that there is no trade-off between the unemployment and inflation rates in the long-run, and the Natural Rate of Unemployment can be compatible with any rate of inflation.

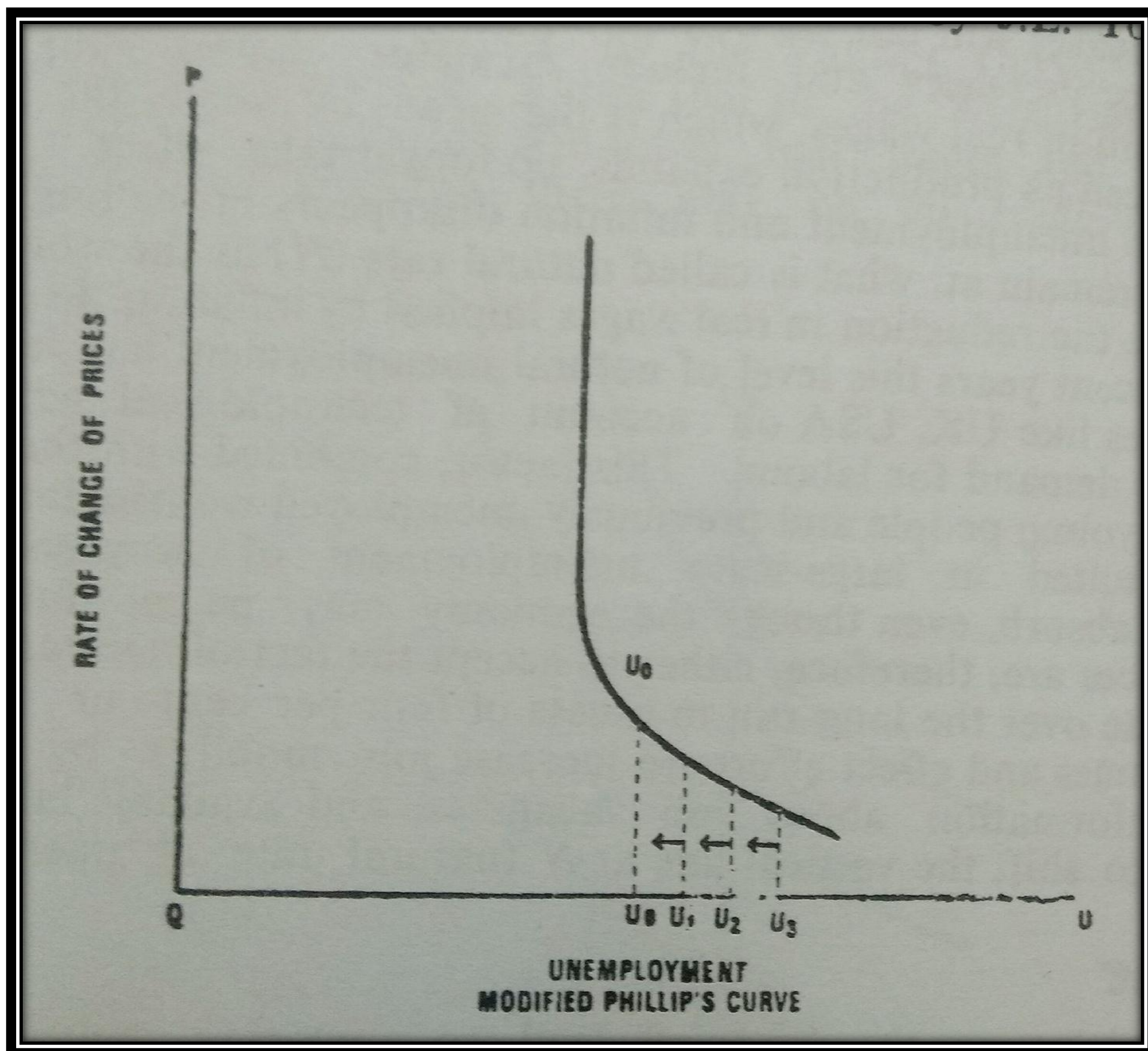
TOBIN'S MODIFIED PHILLIPS CURVE:

James Tobin modified the Phillips curve in 1972, where he suggested a compromise between the traditional negatively sloping Phillips curve and the Accelerationist view i.e. a vertical curve corresponding to Natural Rate of Unemployment discussed by Friedman. Therefore according to Tobin the Phillips curve may be partly vertical and partly negatively sloped.

Negatively sloped Phillips Curve represents ---Higher level of unemployment and associated with possibility of trade –off between inflation and unemployment.

Vertical Phillips curve represents---lower level of unemployment and with no possibility of trade-off.

The vertical part of the curve occurs due to imperfection in labour market. At a quite high rate of unemployment , excess supply of labour may cause a floor limit to wages, consequently,the wage percentage may not decline to zero. As the wage level is above the floor limit ,any attempt to raise aggregate demand through expansionary fiscal and monetary policies will result in a reduction in in unemployment and a rise in wage and price percentage. In such a situation ,inverse relation holds valid. It is in this specified range that the Phillips curve slope negatively.



From the diagram, at high unemployment rate U_3,accelerating inflation will reduce involuntary unemployment U_3 to U_0. As unemployment falls ,however the trade –off disappear and the change in rate of inflation become an ineffective means of affecting the level of unemployment.