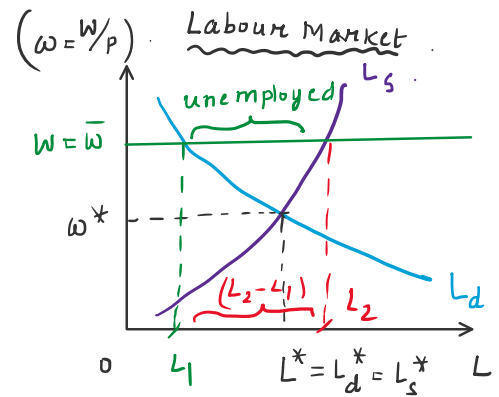


Extension of AD-AS Model  
 (Under Post-Keynesian Macroeconomics)

(i) Unemployment -

$MP_L$  is the Labour demand curve &  
 $L_d = MP_L = f\left(\frac{W}{P}\right), f' < 0$ .

From the labour supply theory (Labour-leisure choice) :  $L_s = g\left(\frac{W}{P}\right), g' > 0$ .



If nominal wage is rigid i.e.  $W = \bar{W}$ , above the mkt clearing wage rate, then unemployment is the economy. This is known as "structural unemployment" / "Involuntary Unemployment".

Voluntary Unemployment is not considered under economic labour force.

Define:  $N$  = Employed Labour.

$U$  = Unemployed Labour

$V$  = No. of vacancies in the labour mkt.

$L$  = Total Labour force.

$\therefore$  Full-employment in labour mkt  $\Rightarrow N + V = L = N + U$

$$\Rightarrow \cancel{N} + V = \cancel{N} + U \Rightarrow \boxed{V = U}$$

full-employment condition

$\therefore$  There is always some unemployment at the point of full-employment. <sup>(i.e.  $V \neq 0$ )</sup> The rate of unemployment at the level of full-employment is known as the "Natural Rate of Unemployment ( $u_n$ )"

[Rate of unemployment  $u = U/L$ ]

"natural rate of unemployment ( $u_n$ )"

$$\left[ \text{Rate of unemployment } u = \frac{U}{L} \right]$$

& the corresponding level of output in the economy is known as "Natural Rate of Output / GDP" ( $\bar{Y}$ )

$$\text{i.e. } u = u_n \Rightarrow Y = \bar{Y}$$

(ii) How is  $N = \bar{N}$  determined?

Wage are rigid due to the contractual nature of work prevalent in modern industries.

Trade unions engage in "Collective Bargaining" with owners of firms to negotiate on the wage rate.

Since the rigid wage is to be determined before the contract begin, the rigid wage rate is determined on the basis of "expected price level" ( $P^e$ ) for the future.

Suppose labour has a target real wage  $\omega = \bar{\omega}^*$ .

$$\therefore \text{Nominal wage: } W = \bar{\omega}^* P^e \text{ ---- (i)}$$

$$\text{Now, Labour demand } L_d = f\left(\frac{W}{P}\right), f' < 0$$

$$\text{Given (i), } \frac{W}{P} = \bar{\omega}^* \cdot \left(\frac{P^e}{P}\right) \text{ --- (ii)}$$

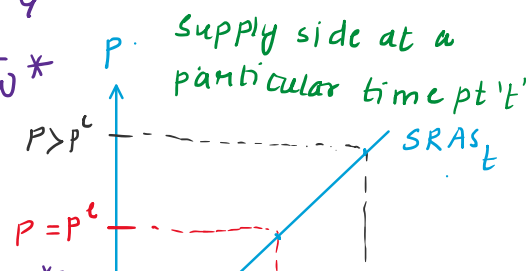
$$\text{Case I: If } P = P^e: \frac{W}{P} = \bar{\omega}^*$$

Labour neither becomes costlier / nor cheaper, i.e.  $u = u_n, Y = \bar{Y}$

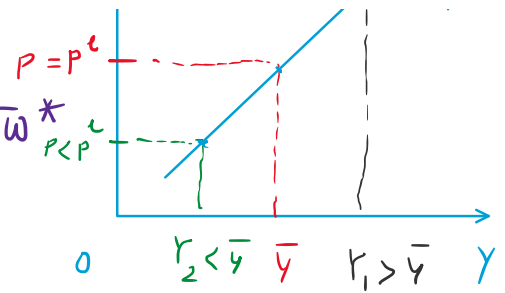
$$\text{Case II: If } P > P^e \Rightarrow \left(\frac{P^e}{P}\right) < 1 \Rightarrow \frac{W}{P} < \bar{\omega}^*$$

$$\Rightarrow L_d \uparrow \Rightarrow Y \uparrow \Rightarrow Y > \bar{Y}$$

$$\text{Case III: If } P < P^e \Rightarrow \left(\frac{P^e}{P}\right) > 1 \Rightarrow \frac{W}{P} > \bar{\omega}^*$$



$\text{Case III: } \text{If } P < P^e \Rightarrow \left(\frac{P^e}{P}\right) < 1 \Rightarrow \frac{W}{P} > \bar{w}^* \Rightarrow$   
 $\Rightarrow \text{Labour becomes costlier}$   
 $\Rightarrow L_d \downarrow \Rightarrow u \uparrow \Rightarrow Y \downarrow \Rightarrow Y < \bar{Y}$



$\therefore$  SRAS is +vely sloped under price expectations.

SRAS can be represented by:  $Y - \bar{Y} = \alpha(P - P^e), \alpha > 0$

Okun's Law: Unemployment rate & output level are negatively correlated  $\Rightarrow u \uparrow \Rightarrow Y \downarrow$ .

This relationship can be represented by:

$$Y - \bar{Y} = -\beta(u - u_n), \beta > 0.$$

Phillip's Curve: