

Lecture 12: Building the Aggregate Supply

- Current Events
- Wage and price determination
- The natural rate of U
 - From natural U to natural Y
- Aggregate Supply

Building the Aggregate Supply

- The labor market
- Simple markup pricing
- Long run (Natural rate: Aggregate demand factors don't matter for Y)
- Short run
 - Impact: Same as before but P also change (partial)
 - Dynamics (go toward Natural rate)

Wage Determination

- Bargaining and efficiency wages

$$W = P^e F(u, z)$$

Real wages
Nominal wage setting

Bargaining power
Fear of unemployment

Unemployment insurance
Hiring rate (reallocation)
Bargaining

Price Determination

- Production function (simple)

$$Y = N$$

\Rightarrow

$$P = (1+\mu) W$$

The Natural Rate of Unemployment

- “Long Run” $P = P^e$
- The wage and price setting relationships:

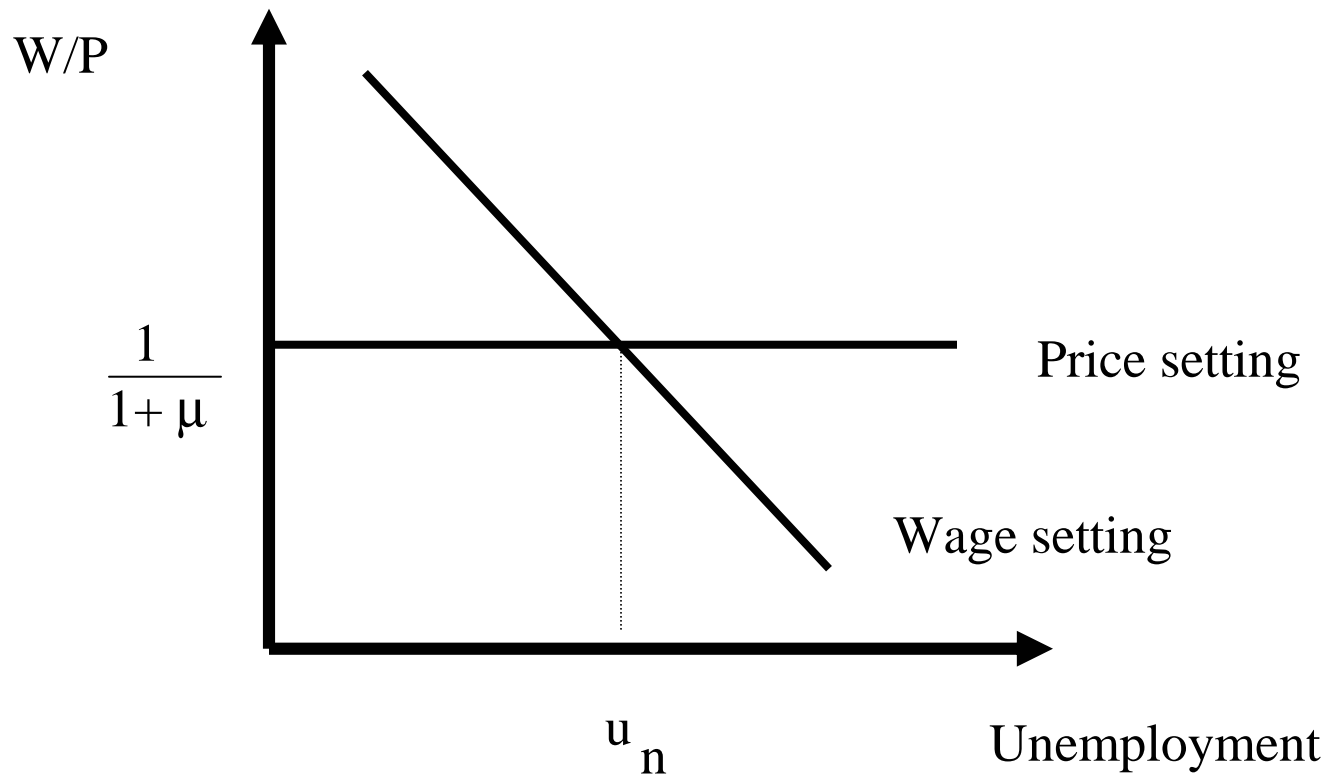
$$\frac{W}{P} = F(u,z)$$

$$\frac{P}{W} = 1 + \mu$$

=>

The natural rate of unemployment

$$F(u,z) = \frac{1}{1 + \mu}$$

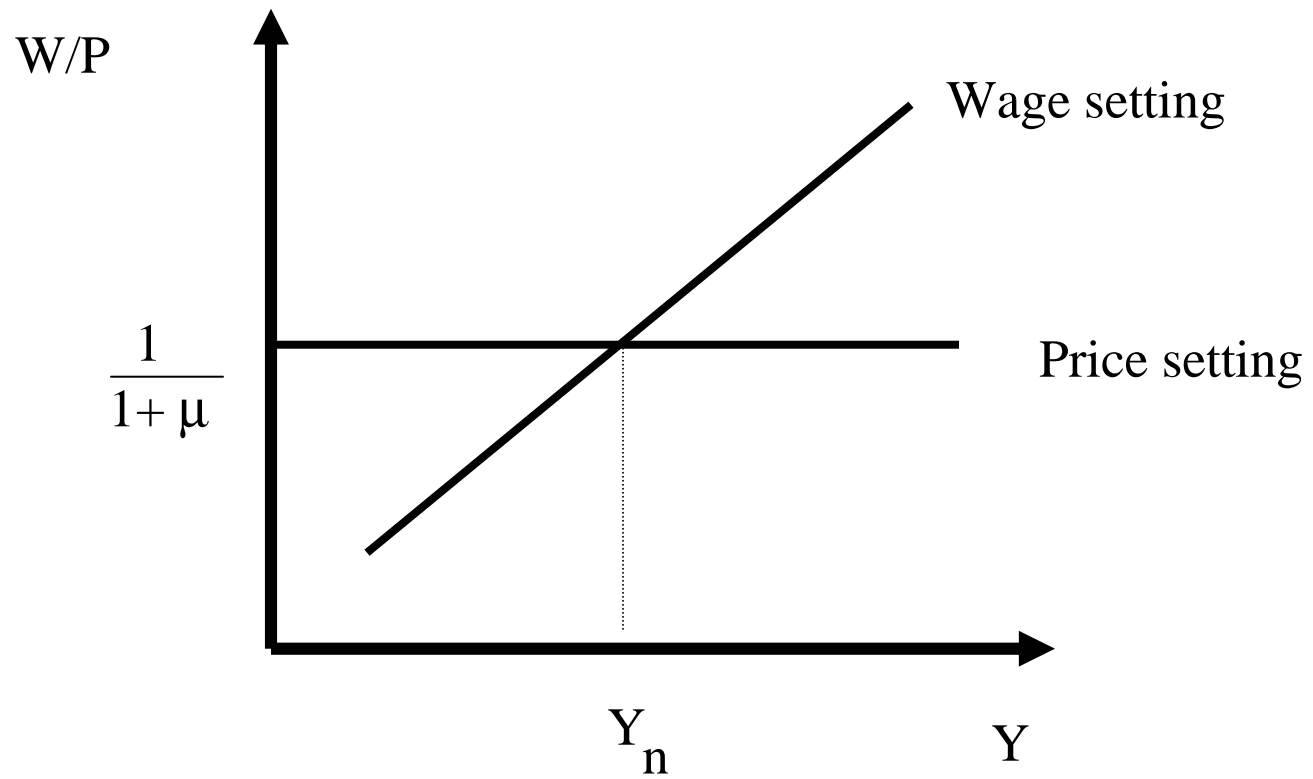


z , markup

From u_n to Y_n

$$u = \frac{U}{L} = \frac{L - N}{L} = 1 - \frac{N}{L} = 1 - \frac{Y}{L}$$

$$F(1 - Y_n/L, z) = \frac{1}{1 + \mu}$$



z , markup

Aggregate Supply

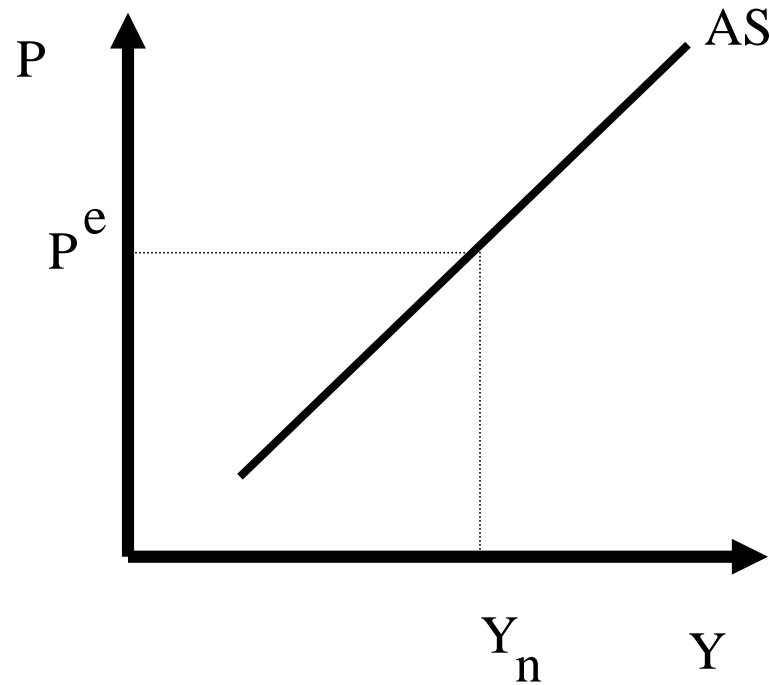
$$W = P^e F(1-Y/L, z)$$

$$P = (1 + \mu) W$$

\Rightarrow

$$\mathbf{P = P^e (1 + \mu) F(1-Y/L, z)}$$

$$\mathbf{P} = \mathbf{P}^e (1 + \mu) \mathbf{F}(1 - \mathbf{Y}/\mathbf{L}, \mathbf{z})$$



$$P^e(t) = P(t-1) \quad [\text{for now}] \quad \Rightarrow$$

$$\mathbf{AS:} \quad \mathbf{P(t)} = \mathbf{P(t-1)} (1 + \mu) \mathbf{F(1 - Y(t)/L, z)}$$