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}
$\frac{1}{1+\mu}$

Price setting

Wage setting

$u_n$

Unemployment

$z$, markup
From $u_n$ to $Y_n$

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

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

Wage setting

Price setting

$Y_n$

$Y$

$z$, markup
Aggregate Supply

\[ W = P^e F(1-Y/L, z) \]

\[ P = (1 + \mu) W \]

\[ \Rightarrow \]

\[ P = P^e (1 + \mu) F(1-Y/L, z) \]
\[ P = P^e (1 + \mu) F(1-Y/L,z) \]

**AS:**

\[ P(t) = P(t-1) (1 + \mu) F(1-Y(t)/L,z) \]