Topics for Today

1.) The "Natural Rate of Unemployment"

2.) The Costs of Inflation

3.) Reducing Inflation
   - Credible vs. Non-Credible Disinflations
   - The "Sacrifice Ratio"

4.) The Mechanics of Monetary Policy
   - Fractional Reserve Banking
   - The Money Multiplier and the Monetary Base
The Natural Rate of Unemployment

- According to the Natural Rate Hypothesis, the unemployment rate tends to gravitate towards the "natural rate". Only unanticipated changes in inflation (due perhaps to unanticipated changes in AD) cause the unemployment rate to deviate from the natural rate.

- In terms of the Phillips Curve, the NRH says that in the long-run (when $\pi = \pi^e$), the Phillips Curve is vertical.
• But what exactly is this natural rate? Is it really "natural"? How do you measure it? Can policy influence it?

• In a sense, we've already addressed these questions. The natural rate can be interpreted as the unemployment rate that is consistent with the "full employment" level of output (FE Line).

\[ (Y - \overline{Y}) \uparrow \iff (u - \overline{u}) \downarrow \]

• However, this just changes the question to what determines \( \overline{Y} \). Moreover, changes in the labor force participation rate can lead to independent changes in \( Y \) and \( \overline{u} \).

• Therefore, it is useful to have separate measures of \( \overline{Y} \) and \( \overline{u} \).
There are 2 general approaches to measuring $\bar{U}$

1.) Statistical Methods

$$\Pi_t + \Pi_{t-1} = \beta_1 (U_t - \bar{U}) + \epsilon_t$$

Suppose $\Pi_t = \Pi_{t-1}$ (adaptive expectations)
Then run regression

$$\Delta \Pi_t = \beta_0 + \beta_1 U_t + \epsilon_t \quad [\Delta \Pi_t = \Pi_t - \Pi_{t-1}]$$

Then notice $\beta_0 = -\beta_1 \bar{U}$, so $\bar{U} = -\beta_0 / \beta_1$

2.) Theoretical Methods

Develop an explicit theoretical model of the labor market which incorporates all the relevant institutional features of the labor market.
Determinants of the Natural Rate

1.) Demographics

2.) Technology

3.) Labor Market Institutions
   (e.g., EI, job training programs etc.)

4.) The recent history of unemployment itself (hysteresis)