In previous chapters, we assumed the price level $P$ was “stuck” in the short run.
  ◦ This implies a horizontal SRAS curve.

Now, we consider a prominent model of aggregate supply in the short run:
  ◦ “Sticky-price” model
Both models imply:

\[ Y = \bar{Y} + \alpha (P - EP) \]

- Other things equal, \( Y \) and \( P \) are positively related, so the SRAS curve is upward sloping.
The sticky-price model

- Reasons for sticky prices:
  - long-term contracts between firms & customers
  - menu costs
  - firms not wishing to annoy customers with frequent price changes

- Assumption:
  - Firms set their own prices (e.g., as in monopolistic competition).
The “sticky price” model implies an upward sloping SRAS curve.

\[ Y = \bar{Y} + \alpha (P - EP) \]
Inflation, Unemployment, & Phillips curve

The **Phillips curve** states that $\pi$ depends on

- expected inflation, $E\pi$
- **cyclical unemployment**: the deviation of the actual rate of unemployment from the natural rate
- supply shocks, $\nu$

$$\pi = E\pi - \beta (u - u^n) + \nu$$

where $\beta > 0$ is an exogenous constant.
Comparing SRAS and the Phillips curve

SRAS: \[ Y = \bar{Y} + \alpha(P - EP) \]

Phillips curve: \[ \pi = E\pi - \beta(u - u^n) + \nu \]

- **SRAS curve:**
  Output is related to unexpected movements in the price level.

- **Phillips curve:**
  Unemployment is related to unexpected movements in the inflation rate.
In the short run, policymakers face a tradeoff between $\pi$ and $u$.

The short-run Phillips curve is given by the equation:

$$\pi = E\pi - \beta(u - u^n) + \nu$$
Shifting the Phillips curve

People adjust their expectations over time, so the tradeoff only holds in the short run.

*E.g.*, an increase in $E\pi$ shifts the short-run P.C. upward.

\[
\pi = E\pi - \beta(u - u^n) + \nu
\]
The natural-rate hypothesis

Changes in aggregate demand affect output and employment only in the short run (Chaps. 10-12).

In the long run, the economy returns to the levels of output, employment, and unemployment described by the classical model (Chaps. 3–9).