Chapter 10: Economic Fluctuations

Key points:

- Business cycle facts
- Aggregate supply, aggregate demand model
- Understand shocks to AS/AD and how stabilization policy can be used

Business Cycle Facts:

- Defining Business Cycles:
  - Dates are given from peak to trough (so when “over”, really at bottom starting to climb out)
  - No hard and fast rule
  - Usually multiple quarters or GDP decline and increases in unemployment

- Volatility of GDP and components:
  - Volatility of $C < \text{Volatility of } Y$
  - Volatility of $Y < \text{Volatility of } I$

- Okun’s Law
  - GDP and unemployment move in opposite directions
  - Relationship: \( \%\Delta Y = 3\% - 2 \times \%\Delta U \)

Big picture:

- Long run: prices perfectly flexible (this is what we’ve been studying)
- Short run: prices “sticky”
  - Like reason for structural unemp we talked about
  - Lead to less output, lower employment in short run as response to negative shocks
- Key to short run fluctuations will be these sticky prices
- Because sticky prices lead to bad outcomes, there is a role for government policy (monetary and fiscal)

Aggregate Demand:

- Relates total demand for output and price levels
- DRAW AD function - vertical axis is P, horizontal Y - it slopes downward
- Slopes downward:
– Not because of substitution effects (which is why an individual market’s demand curve slopes downward)
– It slopes downward because of stuff we’ll talk about shortly
– Think of it this way: $MV = PY$
  * Along the $AD$ curve, $M$ fixed
  * $V$ is constant
  * Thus, if $P$, $Y$ ↓
  * e.g., imagine have fixed number of dollars in wallet. Go to bar → find beer is 2x as much as yesterday → buy less

• If $M \uparrow$, shift $AD$ outward
  – DRAW AD1 and AD2 where AD2 is shifted out b/c M increases...

• There are other reasons that AD would shift
  – E.g. a shift in $V$ as people hold more/less money
  – This may be a good explanation for the Great Recession
    * There was a large contraction in credit
    * Which means that $V \downarrow$
    * Which means that $AD$ shifts down and left

Aggregate Supply:

• Long run:
  – $L$ and $K$ fixed
  – DRAW P and Y axes and vertical $\bar{Y} = F(\bar{K}, \bar{L})$
  – Classical dichotomy holds → in long run, prices don’t affect output (i.e., nominal variables don’t affect real variables)
  – If price level falls, so do factor prices, but output unchanged
  – See with $AD$:
    * DRAW AD1 and AD2 (shift out AD1). Have LRAS curve - show how prices adjust, but output does not

• Short run:
  – Prices fixed (this is the extreme case)
  – Firms hire enough to meet demand
  – $AS$ horizontal
    * DRAW P and Y axes and horizontal SRAS curve
  – With $AD$:
    * DRAW AD1 and AD2 (shift in AD1). Have SR AS curve - show how prices fixed, so change in AD affects output
    * Output falls b/c demand falls and prices do not move

From Short Run to Long Run:
• DRAW AD with SRAS and LRAS curves

• Intersection of \( AD \) and \( LRAS \) is eq’m

• B/c prices are at eq’m level, \( SRAS \) intersects as well

• Now consider a shift in \( AD \) from this eq’m:
  – DRAW picture above, but shift in \( AD \) to \( AD2 \). Note points: \( A \) = original eq’m, \( B \) intersection of \( AD2 \) and \( SRAS \), \( C \) intersection of \( AD2 \) and \( LRAS \)
  – What happens:
    1. Go from \( A \) to \( B \) b/c fall in demand ⇒ lower output in the short run
    2. Go from \( B \) to \( C \) b/c prices adjust ⇒ only price level affected in long run

**Stabilization Policy:**

• Sources of fluctuations - exogenous shocks
  – Supply shocks (e.g. oil price spike, natural disaster) (NOTE: these are adverse shocks and shift \( SRAS \) curve up)
  – Demand shocks (e.g. stock mkt crash, introduction of credit cards) (NOTE: these shift \( AD \) in and out, respectively)

• Stabilization policy - policy to reduce severity of short run fluctuations

• Demand Shock:
  – Introduce credit cards ⇒ \( V \uparrow \Rightarrow AD \uparrow \)
  – DRAW AD1 and AD2 shifted out. Note that at fixed SRAS output increases

• Supply Shock:
  – High oil prices → adverse supply shock - prices increase
  – DRAW SRAS1 and SRAS2 shifted up. Note that moved along AD curve to new higher price and lower output

• Stabilization policy in response to supply shock
  – DRAW adverse supply shock as above. Show AD shift out with M increase (or tax cut) so that no change in \( Y \)