AS-AD Model
Chapter 9 (cont)
1. Potential output and LRAS

2. Derivation of AD curve

3. Shifts in AD curve

4. Classical model

5. Keynesian model and SRAS

6. IS-LM and AS-AD analysis of shocks
1 Potential Output and LRAS with price on vertical axis

- Labor market equilibrium implies $\bar{N}$

- Production function with a capital stock determined by last period’s decisions implies $\bar{Y}$

- LRAS is vertical at $\bar{Y}$

- Same as FE in IS-LM graph and shifts are identical
2 Aggregate Demand Curve: Derivation

- Combinations of price and output which yield equilibrium in goods \((I = S)\) and money markets \(\left(\frac{M}{P} = L(Y, i)\right)\) \(P, Y\) plane.

- In the IS-LM diagram, choose a value for initial price, \(P_0\) implying a position for the LM curve, and locate equilibrium \(Y_0\). Plot this combination of \(P_0\) and \(Y_0\) in the \(P, Y\) plane.

- Let \(P\) increase to \(P_1\), shifting the LM curve left. Locate the corresponding equilibrium \(Y_1\). Plot this in the \(P, Y\) plane.

- Connect the points to obtain the AD curve.
Why does an increase in price reduce output demanded?

– not the same reason as in micro when the price of a good increases all other prices held constant

– when \( P \) increases, real money falls, raising the real interest rate decreasing aggregate demand
3 Shifts in Aggregate Demand

- Anything which changes equilibrium output for a given price level.

- Since IS=LM determines equilibrium output, this is equivalent to anything which shifts IS or LM other than the price level.

- Examples
4 Classical Model

- AD curve and the LRAS curve

- Price always adjust to keep output at full employment
5 Keynesian model and SRAS

- Assume that price does not adjust quickly enough to maintain full employment.

- Assume more specifically that price is fixed for the current period.

- Price rises if output exceeds potential and falls if output is less than potential.

- Example
6 IS-LM AS-AD analysis of shocks - Keynesian model in SR and LR

- Note in LR, Keynesian model is the Classical model

- Increase in the money supply (monetary neutrality?)

- Transitory increase in government spending

- Transitory increase in lump-sum taxes

- Increase in the price of imported oil
7 Summary

- LRAS (long-run aggregate supply) is vertical at $\bar{Y}$ and shifts when $\bar{Y}$ changes as does FE

- SRAS (short-run aggregate supply) is horizontal at the current price level and exists only in Keynesian model

- AD (aggregate demand) summarizes information in IS and LM
  - AD shows that as price rises, output demanded falls
  - Reason: as price rises, real money falls, increasing equilibrium interest rate and reducing aggregate demand
– Shifts right when equilibrium output in IS-LM rises for given price

* Increases in consumption, investment or government spending not created by $Y$ or $r$

* Increases in money or reduction in money demand not created by $Y$ or $r$

• Classical model has equilibrium along LRAS

• Keynesian model can have short-run equilibrium away from LRAS but long-run is along LRAS