Aggregate Demand, Aggregate Supply, and the Self-Correcting Economy

Aggregate Demand and Supply
• Flexible Prices and the AD Curve
  – Effect of Changing Prices on the LM Curve
    • Assume constant M(s) and allow P to change
      » Figure 7-1
    • The AD curve: all possible Y and P consistent with
      – a fixed M(s)
      – a fixed IS curve
    • AD curve slopes downward to the right
      – all points are equilibrium in money & commodity market
    • AD curve is curved because
      – a decline in P boost M(s)/P by more the lower is P

Aggregate Demand and Supply
• Shifting the AD Curve with Monetary and Fiscal Policy
  – Effects of a Change in the Nominal M(s)
    » Figure 7-2
  • Where is the new equilibrium?

Aggregate Demand and Supply
• The Role of Aggregate Demand & Supply
  – Endogenizing the Price Level
    • Inflation
    • Deflation
    • Price Stability
  – The Aggregate Demand Curve
    • Relates Y and P
    • Derived from the IS-LM model when prices change
  – The (Short-run) Aggregate Supply Curve

Figure 7-1
Effect on Real Income of Different Values of the Price Level

Figure 7-2
The Effect on the AD Curve of a Doubling of the Nominal Money Supply
Aggregate Demand and Supply

- Shifting the AD Curve with Monetary and Fiscal Policy (continued)
  - Effects of a Change in Autonomous Spending
    - Consumer or business confidence
    - G, T(a), or t
    - NX(a)
      - Figure 7-3
    - Where is the new equilibrium?

Aggregate Demand and Supply

- Alternative Shapes of the Short-Run Aggregate Supply Curve
  - SAS Curve shows how businesses what businesses are willing to produce at different P
  - How an increase in AD is divided between Y and P depends on the shape of the SAS curve
    - Figure 7-4
  - Comparative statics versus dynamics

Aggregate Demand and Supply

- The AS Curve When the Nominal Wage Rate is Constant
  - The Short-Run AS Curve
    - Figure 7-5
      - The demand for labor with fixed factors of production
        - Land, capital, materials, energy, and technology
      - The production function with fixed productivity
      - The Short-run Aggregate Supply Curve
        - Upward sloping
        - Assumes fixed W, therefore short-run
Aggregate Demand and Supply

- How the Wage Rate is Set
  - The Equilibrium Real Wage Rate
    - Distinguishing the nominal and real wage rates
      » Figure 7-6
  - Determinants of the equilibrium real wage rate
    - The Demand for and Supply of Labor
      » Figure 7-7
    - Factors that shift the labor supply curve
  - Disequilibrium dynamics
    » Figure 7-7

Figure 7-6  The Short-Run Aggregate Supply Curve for Two Different Values of the Wage Rate, $W_0$ and $W_1$

Figure 7-7  Determination of the Equilibrium Real Wage Rate

Aggregate Demand and Supply

- Fiscal and Monetary Expansion in the Short and Long Run
  » Figure 7-8
  - Initial Short-Run Effect of a Fiscal Expansion
    - The effect on the Price level
    - The effect on the multiplier

Aggregate Demand and Supply

- Fiscal and Monetary Expansion in the Short and Long Run (continued)
  » Figure 7-8
  - The Rising Nominal Wage Rate and the Arrival at Long-Run Equilibrium
Aggregate Demand and Supply

- Fiscal and Monetary Expansion in the Short and Long Run (continued)
  - Figure 7-8
  - The Long-Run Aggregate Supply Curve (LAS)
    - Vertical at Y(n)
    - W/P = W/P(e)

Aggregate Demand and Supply

- Fiscal and Monetary Expansion in the Short and Long Run (continued)
  - Short-Run and Long-Run Equilibrium
    - Short-Run Equilibrium
      - Y = E(p), i.e. anywhere on the AD curve
      - P is sufficient to generate output, i.e. anywhere on the SAS curve for a specified W(0)
      - AD = SAS
    - Long-Run Equilibrium
      - W/P = W/P(e)
      - AD = SAS = LAS
  - The Process of Dynamic Adjustment

Aggregate Demand and Supply

- Fiscal and Monetary Expansion (continued)
  - Interpretations of the Business Cycle
    - Real World Problems with Theory
      - How to get workers off labor supply curve
      - Countercyclical real wage movement
      - Different labor markets internationally
    - Puzzling questions
      - How does the adjustment mechanism work?
      - How stupid are workers?
      - Will monetary and fiscal policy remain effective?

Aggregate Demand and Supply

- Classical Macroeconomics: The Quantity Theory of Money and the Self-Correcting Economy
  - Based on flexible wages and prices
  - The Quantity Equation and the Quantity Theory of Money
    - M(s) * V = P * Y
    - True by definition because
    - \[ V = \frac{M(s)}{P \times Y} \]

Aggregate Demand and Supply

- Classical Macroeconomics (continued)
  - The Quantity Theory (continued)
    - Key assumption: V is fixed
    - Key assumption: Y = Y(n)
    - Then M(s) is proportional to P

Aggregate Demand and Supply

- Classical Macroeconomics (continued)
  - Self-Correction in the AD-AS Model
    - There is no SAS curve
    - Figure 7-9
    - Adjustment dynamics in response to changes in AD
    - Conclusion: because there would be no significant movement of Y from Y(n), business cycles would not appear
      - Monetary and fiscal policy ineffective
Aggregate Demand and Supply

The Keynesian Revolution: The Failure of Self-Correction

- Monetary Impotence and the Failure of Self-Correction in Extreme Cases
  - Unresponsive expenditures: The vertical IS curve
    - Changes in M(s) are impotent
    - Changes in P are impotent; AD curve is vertical
    - Figure 7-10
  - The liquidity trap: A horizontal LM curve
    - Changes in P are impotent; AD curve is vertical

Aggregate Demand and Supply

- The Keynesian Revolution (continued)
  - Fiscal Policy and the Real Balance Effect
    - Introduction
      - Fiscal policy can be used with a vertical IS curve
      - Keynes effect: changes in M/P affect r
      - Pigou effect: changes in M/P directly influence spending
        » AD curve must be negatively sloped
    - Destabilizing effects of falling prices
      - The expectations effect
        » May offset Pigou effect
      - The redistribution effect
        » From high spending debtors to low spending savers

Aggregate Demand and Supply

- Classical Macroeconomics (continued)
  - Classical View of Unemployment and Output Fluctuations
    - Unemployment was transitory and due to nominal wage inflexibility

Aggregate Demand and Supply

- The Keynesian Revolution (continued)
  - Nominal Wage Rigidity
    - Nominal wage rigidity implies little price deflation
    - Keynes, Pigou, expectations and redistribution effects become irrelevant
    - Disequilibrium dynamics
    » Figure 7-11
Aggregate Demand and Supply

- The Keynesian Revolution (continued)
  - Nominal Wage Rigidity (continued)
    - Failure to attain equilibrium in the labor market
      - Explains persistent unemployment
    - Why would nominal wages be rigid?
      - Is this a realistic assumption? Is the SAS fixed?
      - Can disequilibrium persist? Market-clearing versus non-market clearing
    - What about countercyclical wage movements?

Aggregate Demand and Supply

- What Caused the Great Depression?
  - Introduction
    - Was aggregate demand so low because of monetary policy impotent or a failure of self-correction?
    - Did aggregate supply shift to generate self-correction or were nominal wages rigid?
    - Were nominal wages rigid? Did real wages fluctuate countercyclically?

Aggregate Demand and Supply

- The Great Depression (continued)
  - Explanations of Weak Aggregate Demand
    - Investment spending collapsed
    - Real money supply soared
    - Vertical IS curve or horizontal LM curve?
      - Vertical IS requires changes in r not to stimulate I
      - Horizontal LM requires changes in M/P not to affect r
    - Monetary versus non-monetary factors

Figure 7-12  The Price Level (P) and the Ratio of Actual to Natural Real GDP (Y/YN) During the Great Depression, 1929–41