Chapter 14: Inflation: A Monetary Phenomenon

- **Inflation** - A continuing increase in the price level
- **Deflation** - A continuing decrease in the price level
  - This is NOT a one-time change
  - Does not mean every price is changing

**Measuring Inflation**

- **GDP Deflator** - Weighted average of the prices of all final goods and services produced in the economy
  - Broadest measure of the nation’s price level
  - Considered to be the best measure of inflation but is not the most widely used
Measuring Inflation

- **Consumer Price Index (CPI)** - Weighted average of the prices of goods and services purchased by a typical urban household.
  - Most widely measure of inflation
  - Is used as the basis for cost-of-living adjustment clauses
  - Has problems
    - Not accurate for atypical households
    - Overstates inflation because it denies substitution effects
      - Consumers naturally shift to lower cost options when prices rise
      - CPI keeps the same basket every year
    - Does not account for changes in quality
  - Calculation:
    \[ \text{Inflation} = \frac{\text{Current price level} - \text{Past price level}}{\text{Past price level}} \times 100 \]
The GDP Deflator and Its Annual Change: 1979-2005

![Graph showing the GDP Deflator and Inflation Rate from 1979 to 2005.](image-url)
Effects of Inflation

- Redistribution of Income and Wealth
  - Wages and salaries don’t always exceed inflation
    - Redistribution from workers to firms
  - Asset prices don’t always rise with inflation
    - Redistribution from asset sellers to asset buyers
  - Interest rates may not include unanticipated inflation
    - Redistribution from lenders to borrowers
  - Inflation can decrease production of goods and services
    - People devote resources to combating inflation instead of production
  - Anticipated inflation will be reduce the redistribution
    - Interests rates will rise to include inflation estimates
    - Workers will demand raises equal to or higher than inflation
    - Sellers will sell assets before inflation adversely affects profits
Effects of Inflation

- Inflation and government
  - Unanticipated inflation benefits government
    - Government is a large debtor
    - Tax revenues rise as incomes rise
      - Inflation causes incomes to rise
    - Tax revenues rise as asset values rise
      - Taxes on capital gains - even if the capital gain was only due to inflation
      - Increased assessments on property raise property taxes
    - Marginal tax rates are no longer a factor due to indexed tax brackets
      - Before inflation boosted wages could put you in a higher tax bracket
  - If inflation benefits government, what incentive does government have to reduce or eliminate inflation?
Effects of Inflation

• Inflation and Net Exports
  • Unanticipated inflation can cause net exports to fall
    • Makes exports more costly abroad and imports cheaper here

• Other inflation effects
  • With high inflation rates, more resources are devoted to predicting inflation instead of used for production
  • High and variable inflation may cause firms to only consider short term projects which may be less beneficial
  • High inflation may pull dollars away from capital base investments and into speculative investments like gold, art, real estate, etc.
  • Ultimately a companies monetary system can collapse
Money and the Money Supply

- Money serves the following functions:
  - **Unit of Account** - Relative measure of value for all goods
  - **Medium of Exchange** - Convenient to means to pay
  - **Store of Value** - Vehicle of savings

- The Money Supply
  - **Money** - anything generally accepted as final payment
  - **Money Supply** - Nation’s currency, travelers’ checks, demand deposits, and other checkable deposits
    - This is known as **M1** - largest component of the money supply
    - Expanded definitions are M2, M3, and L

- The Federal Reserve is the U.S. central bank
  - Controls money supply and conducts monetary policy
The Money Supply and Its Components: December 2005

<table>
<thead>
<tr>
<th>Component</th>
<th>Amount (Billions of Dollars(^a))</th>
<th>Relative Importance (Percent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Currency</td>
<td>722.3</td>
<td>52.9</td>
</tr>
<tr>
<td>Traveler’s checks</td>
<td>7.3</td>
<td>0.5</td>
</tr>
<tr>
<td>Demand deposits</td>
<td>320.7</td>
<td>23.4</td>
</tr>
<tr>
<td>Other checkable deposits</td>
<td>314.7</td>
<td>23.1</td>
</tr>
<tr>
<td>Totals</td>
<td>1201.3</td>
<td>100.0</td>
</tr>
</tbody>
</table>

\(^a\) Average of daily figures (seasonally adjusted).

Causes of Inflation

**Quantity Theory of Money**

- Emphasizes that the money supply determines nominal GDP
- Focuses on the equation of exchange: \( M \times V = P \times GDP \)
  - \( V \) is the *velocity of money* = number of times dollars change hands
  - \( P \) is the price level determined by the GDP Deflator
  - GDP is real GDP
- Assumes the velocity of money is constant over time
  - Only changes in \( M \) result in changes in \( P \) and GDP
  - Inflation is equal to the growth rate of the money supply minus the growth rate of GDP: \( \Delta P = \Delta M - \Delta GDP \)
  - If the money supply grows at the same rate as GDP, then the price level will be stable.
  - If the money supply grows faster than GDP, then the economy will experience inflation.
Causes of Inflation

- Inflation is considered to be a monetary phenomenon
  - Inflation is caused by monetary policy

- Two caveats
  - If output growth is not constant, the relationship between inflation and the money supply is not as strong
    - Even if money supply is constant, variable output growth can lead to varying levels of inflation
  - If the income velocity of money is not constant, the relationship between money supply and inflation is not as strong
    - If the growth rate in velocity is not constant, inflation will vary even though the money supply is constant
Aggregate Demand, Aggregate Supply, and the Price Level

![Graph showing Aggregate Demand (AD) and Aggregate Supply (AS) curves.](image)

- **Price Level (GDP Deflator)**
  - **Real GDP**
  - **AS1, AS2, AS3**
  - **AD1, AD2, AD3**

The graph illustrates the relationship between the price level and real GDP, with different aggregate supply and demand curves demonstrating shifts and changes in the economy.
Aggregate Demand, Aggregate Supply, and Inflation
Causes of Inflation

- **Labor Unions, Monopolies, and Inflation**
  - Some argue that unions drive up wages and firms raise prices to compensate BUT
    - Many unions lack that kind of bargaining power
    - Only 15% of nonagricultural labor belong to unions
    - Higher union wages lead to less union employees
    - Firms cannot raise prices at will if they have competition
  - Some argue that monopolies contribute to inflation by restricting output and raising prices to maximize profits
    - Monopolists will indeed raise prices to the profit maximizing point, but no further
    - Inflation is an ongoing rising of price levels - not a one time increase
    - Monopoly may actually bring stability to price levels
Inflation and Policy

- **Monetary Policy**
  - The growth rate in the money supply must decrease if the rate of inflation is to fall
  - Decreasing the rate of inflation can result in a redistribution of income and wealth if unexpected
  - Decreasing the growth rate in the money supply can increase unemployment

- **Fiscal Policy**
  - In the short run, contractionary fiscal policy can reduce the rate of inflation
    - In the long run, inflation is tied to the money supply so impacts are temporary
    - Governments cannot continually raise taxes or decrease spending
Inflation and Policy

• Supply-Side Policies
  • Increase the growth rate of aggregate supply, thereby reducing the rate of inflation
  • It takes massive efforts to increase aggregate supply even a percentage point so this is not very effective

• Incomes Policies
  • Government policies to control wages, prices, or income
  • Based on the view that inflation is caused by the exercise of monopoly power by labor unions and firms
  • Not endorsed by economists
    • Ineffective, costly to administer
    • Distort the allocation of resources and my result in inequities
Final Thoughts

- How has inflation affected you?

- What are some things you would do if you knew inflation was going to rise significantly?

- What are some things you would do if you knew inflation was about to go away?
Homework

- Chapter 14 Review Questions
- Answer numbers: 2, 4, 7, & 9