Inflation Agenda

• Inflation
  ➢ Definitions
• The Costs and Benefits of Inflation
• The “Simple” Phillips Curve

Inflation: Definitions

• Definition
  \[ \pi(t) = \left\{ \frac{(P(t) - P(t-1))}{P(t-1)} \right\} \times 100 \]
  • \( \pi \) is dynamic and, therefore, more complicated than the \( P \) level, which is static.

Inflation: Definitions

• Inflation
  ➢ A sustained rise in the general level of prices.

• Accelerating Inflation
  ➢ A rising inflation rate.

• Disinflation
  ➢ A slowing inflation rate.

Inflation: Definitions

• Deflation
  ➢ A sustained fall in the general level of prices.

• Hyperinflation
  ➢ An inflation rate of 50% per month or more.
    • More than 1% per day.
    • 100-fold increase in prices per year.
    • 2 million-fold increase in prices over 3 years.

Costs of Inflation

• Inflation can be either:
  ➢ Anticipated or
  ➢ Unanticipated
    • Incorrectly anticipated
Costs of Inflation

- Costs of inflation
  - Arbitrary redistribution of income
    - Creates winners and losers
    - Information and Uncertainty costs
      - Reduces information and increases uncertainty
  - Institutional and Constitutional costs
    - Degrades institutions and conventions
  - Shoe-Leather and Menu costs
    - Absorbs resources from productive activities

Costs of Inflation

- Arbitrary Redistribution of Income
  - from those who do not, or cannot, raise their prices
  - to those who can, and do, raise their prices
    - and still sell their goods
- Contracts can prevent price increases
  - Mortgages and other fixed interest rate contracts
    - Redistribution from lenders to borrowers if inflation rises
  - Wage contracts
    - Redistribution from employees to businesses if inflation rises
  - Fixed pensions
    - Redistribution from retirees to pension plans if inflation rises

Costs of Inflation

- Informational and Uncertainty Costs
  - Informational costs: relative prices become less meaningful the faster is inflation
    - Leads to Money Illusion
    - Higher inflation reduces the time period for which price information is valuable
  - Uncertainty costs: higher inflation generally leads to more variable inflation. More variability leads to less certainty
    - Which can reduce economic growth

Costs of Inflation

- Institutional and Constitutional Costs
  - Very high inflation undermines institutions and conventions based on relatively fixed prices
  - Reflected in erosion of faith in government, the economy, and money

Costs of Inflation

- Shoe-Leather and Menu Costs
  - Higher inflation increases the cost of doing business by requiring resources to be devoted to adjusting to rapid price changes
    - Shoe-leather costs: Resources used by increased cash management practices
    - Menu costs: Costs associated with frequent price changes
Costs of Inflation

- High inflation will reduce long-term growth
  - Diverts resources away from production
  - Distorts and/or delays expenditures by consumers and businesses
    - Because of higher interest rates
    - Because of greater uncertainty
  - Devalues institutions and the use of money
- Lower inflation may boost long-term growth
  - This has led to mandates for central bank independence and exclusive focus on inflation

Benefits of Inflation

- Benefits of inflation
  - Facilities relative price changes
  - Money illusion
    - Facilitates real wage adjustment
  - Negative real interest rates
    - Important for macroeconomic policy
  - Seignorage
    - Revenue derived from money creation

Costs of Hyperinflation

- Shoe-leather costs become very serious
- Menu costs are substantially higher
- Relative price signals are meaningless
- Microeconomic inefficiencies skyrocket
- Tax distortions become huge
- Massive inconvenience
- Becomes intolerable

Costs of Deflation

- The real burden of debt rises.
- Generates a self-perpetuating economic contraction by delaying expenditures by consumers and businesses.
- Renders monetary policy totally ineffective.
- Arbitrary redistribution of income.
  - From borrowers to lenders.
    - Who have lower mpc’s.

Inflation and Policy

- What is an appropriate level for inflation?
  - High inflation is “undoubtedly bad”
    - But how high is “high” inflation?
      - Hyperinflation is clearly too high
  - Deflation is also “undoubtedly bad”
  - Zero inflation also imposes costs
  - Low inflation is likely “best”
    - But how low is “low” inflation?
    - How high is “low” inflation?

Inflation and Policy

- What is an appropriate level for inflation?
  - Reducing inflation has costs
    - Reduced output
    - Slower growth
    - Higher unemployment
The Phillips Curve

• Observations
  ➢ When inflation is high, unemployment tends to be low
  ➢ When inflation is low, unemployment tends to be high

The Phillips Curve

• The inverse relationship between inflation and unemployment is called “the Phillips Curve”
  ➢ The core of many models of the economy
    • Tells policy makers the conditions for effective policy, i.e., what the trade-offs are.

The Phillips Curve

• Position and slope are important
  ➢ Position identifies the attainable goals
    • Points off the curve are not attainable
  ➢ Slope identifies the trade-off
    • Steep curve => big change in inflation for small change in unemployment
    • Flat curve => small change in inflation for big change in unemployment

The Phillips Curve

• Instability of the Phillips Curve
  ➢ The actual relationship between inflation and unemployment has been unstable.
    • Hypothetical shape valid only for short time periods
    • Shifts generally due to supply shocks
The Phillips Curve

- Long-Run and Short-Run Phillips Curves
  - In the short-run, there **may** be a trade-off.
    - A difficult policy tool because of potential shifts.
    - Still one of the most relied on short-term decision making tools.
  - In the long-run, there is no trade-off.
    - The Phillips curve is vertical at the natural rate.