Unemployment and Inflation, Part 2

Agenda
• The Problem of Unemployment.
• The Problem of Inflation.

The Problem of Unemployment
• The costs of unemployment:

➢ Loss in output from idle resources:

  • If full-employment output is $15 trillion, each percentage point of unemployment sustained for one year costs $300 billion according to Okun’s Law
  – Each percentage point of cyclical unemployment is associated with a loss equal to 2% of full-employment output.

The Problem of Unemployment
• The costs of unemployment:

➢ Loss in output from idle resources:

  • Workers lose income.
  • Business firms lose profits.
  • Government loses tax revenues.
  – And increases spending for unemployment benefits and other transfer payments.
The Problem of Unemployment

• The costs of unemployment:
  ➢ Personal or psychological cost to workers and their families.
    • Especially important for those with long spells of unemployment.

The Problem of Unemployment

• The benefits of unemployment:
  ➢ There are some offsetting factors:
    • Unemployment leads to increased job search and acquiring new skills, which may lead to increased future output.
    • Unemployed workers have increased leisure time, though most wouldn’t feel that the increased leisure compensated them for being unemployed.

The Problem of Unemployment

• Long-term behavior of the unemployment rate:
  ➢ The changing natural rate:
    • How do we calculate the natural rate of unemployment?
    • CBO’s estimates: 5% to 5½% today, similar to 1950s and 1960s; over 6% in 1970s and 1980s.
    • Why did the natural rate rise in the late 1970s?
      – Partly demographics as more teenagers and women with higher unemployment rates entered the workforce.

The Problem of Unemployment

• Long-term behavior of the unemployment rate:
  ➢ The changing natural rate:
    • Since 1980, demographic forces have reduced the natural rate of unemployment.
      – The proportion of the labor force aged 16–24 years fell from 25% in 1980 to 16% in 1998.
      – This is one of the main reason for the fall in the natural rate of unemployment.
The Problem of Unemployment

• Long-term behavior of the unemployment rate:

  ➢ The changing natural rate:

    • Some economists think the natural rate of unemployment is now 4.5% or even lower:
      - The labor market has become more efficient at matching workers and jobs, reducing frictional and structural unemployment.
      - Temporary help agencies have become prominent, helping the matching process and reducing the natural rate of unemployment.

  ➢ Measuring the natural rate of unemployment:

    • Policymakers need a measure of the natural rate of unemployment to use the unemployment rate for setting policy.
    • Economists disagree about how to measure the natural rate of unemployment and the CBO has often revised its measure.
The Problem of Unemployment

• Long-term behavior of the unemployment rate:
  ➢ Measuring the natural rate of unemployment:
    • Staiger, Stock, and Watson found that the natural rate cannot be measured precisely with econometric methods because the confidence interval is very large.

• What should policymakers do in response to uncertainty about the natural rate of unemployment?
  – They may want to be less aggressive with policy than they would be if they knew the natural rate more precisely.
  – The rise of inflation in the 1970s can be partly blamed on bad estimates of the natural rate.

The Problem of Inflation

• The costs of inflation:
  ➢ Perfectly anticipated inflation:
    • No effect if all prices and wages keep up with inflation.
    • Even returns on assets may rise exactly with inflation.

  ➢ Shoe-leather costs: People spend resources to economize on currency holdings.
    – The estimated cost of 10% inflation is 0.3% of GNP.
  
  ➢ Menu costs: the costs of changing prices.
    – May be mitigated somewhat by technology.
The Problem of Inflation

• The costs of inflation:

➢ Unanticipated inflation, when \( \pi - \pi^e \neq 0 \):
  • Realized real returns differ from expected real returns:
    – Expected \( r': r' = i - \pi' \).
    – Actual \( r = i - \pi \).
    – Actual \( r \) differs from expected \( r \) by \( \pi' - \pi \).
  • Similar effect on wages and salaries.

• Result: unanticipated transfer of wealth.
  – From lenders to borrowers when \( \pi > \pi^e \).
  – From borrowers to lenders when \( \pi < \pi^e \).

• People want to avoid the risk of unanticipated inflation.
  – They spend resources to forecast inflation.

➢ The costs of hyperinflation:
  • Hyperinflation is a very high, sustained inflation
    – Generally, 50% or more per month.
    – Hungary in August 1945 had inflation of 19,800% per month.
    – Bolivia had annual rates of inflation of 1281% in 1984, 11,750% in 1985, 276% in 1986.
The Problem of Inflation

• The costs of inflation:
  ➢ The costs of hyperinflation:
    • There are large shoe-leather costs because people minimize cash balances.
    • People spend many resources getting rid of money as fast as possible.

• Fighting inflation:
  ➢ The role of inflationary expectations:
    • If rapid money growth causes inflation, why do central banks allow the money supply to grow rapidly?
      – Developing or war-torn countries may not be able to raise taxes or borrow, so they print money to finance spending.
      – Industrialized countries may try to use expansionary monetary policy to fight recessions, then not tighten monetary policy enough later.

• The costs of hyperinflation:
  • Real tax collections fall because people pay taxes with money whose value has declined sharply.
  • Prices become worthless as signals, so markets become extremely inefficient.

• Disinflation is a reduction in the rate of inflation.
  – But disinflations may lead to recessions.
  – An unexpected reduction in actual inflation leads to a rise in unemployment along the Phillips curve.

• The costs of disinflation could be reduced if expected inflation fell at the same time actual inflation fell.
The Problem of Inflation

• Fighting inflation:

➢ The role of inflationary expectations:

  • Rapid versus gradual disinflation:
    
    ➢ The classical prescription for disinflation is cold turkey—a rapid and decisive reduction in money growth.
    
    ➢ Proponents argue that the economy will adjust fairly quickly, with low costs of adjustment, if a credible policy is announced well in advance.

  • Keynesians disagree with rapid disinflation:
    
    ➢ Price stickiness due to menu costs and wage stickiness due to labor contracts make adjustment slow.
    
    ➢ Cold turkey disinflation would cause a major recession.
    
    ➢ The strategy might fail to alter inflation expectations.
    
    ➢ If the costs of the policy are high, the government might reverse the policy.

➢ The Keynesian prescription for disinflation is gradualism:

  ➢ A gradual approach gives prices and wages time to adjust to the disinflation.

  ➢ Such a strategy will be politically sustainable because the costs are lower than going cold turkey.

➢ When unanticipated tight monetary and fiscal policies are used to reduce inflation, they reduce output and employment for a time, a cost that must be weighed against the benefits of lower inflation.
The Problem of Inflation

- The sacrifice ratio:
  - The sacrifice ratio is a measure of the costs of lowering inflation:
    - The sacrifice ratio is the number of percentage points of output lost in reducing inflation by one percentage point.
      - In the early 1980s, U.S. inflation fell by 8.83 percentage points with a loss in output of 16.18 percent of the nation’s potential output.
      - Sacrifice ratio = 16.18 / 8.83 = 1.832

- Sacrifice ratios vary substantially across countries and at different times, from less than 1 to almost 3.
  - One factor affecting the sacrifice ratio is the flexibility of the labor market.
    - Countries with slow wage adjustment have higher sacrifice ratios.

The Problem of Inflation

- Wage and price controls:
  - Pro: Controls would hold down inflation, thus lowering expected inflation and reducing the costs of disinflation.
  - Con: Controls lead to shortages and inefficiency; once controls are lifted, prices will rise again.
The Problem of Inflation

• Wage and price controls:
  - The outcome of wage and price controls may depend on what happens with fiscal and monetary policy.
    • If policies remain expansionary, people will expect renewed inflation when the controls are lifted.
    • If tight policies are pursued, expected inflation may decline.

The Problem of Inflation

• Wage and price controls:
  - The Nixon wage-price controls from August 1971 to April 1974 led to shortages in many products.
    • The controls reduced inflation when they were in effect, but prices returned to where they would have been soon after the controls were lifted.

The Problem of Inflation

• Credibility and reputation:
  - A key determinant of the costs of disinflation is how quickly expected inflation adjusts.
  - This depends on the credibility of the disinflation policy.
    • If people believe the government and if the government carries through with its policy, expected inflation should drop rapidly.

The Problem of Inflation

• Credibility and reputation:
  - Credibility can be enhanced if the government gets a reputation for carrying out its promises.
  - Also, having a strong and independent central bank that is committed to low inflation provides credibility.
The Problem of Inflation

• The U.S. disinflation of the 1980s and 1990s:
  ➢ Fed chairmen Volcker and Greenspan gradually reduced the inflation rate in the 1980s and 1990s.
    • They sought to eliminate inflation as a source of economic instability.
    • They wanted people to be confident that inflation would never be very high again.

To judge the Fed’s success, look at inflation expectations.

• Inflation expectations were erratic before 1990.
• Inflation expectations fell gradually from 1990 to 1998 and have been stable since then.

Expected inflation rate, 1971 to 2006

• The U.S. disinflation of the 1980s and 1990s:
  ➢ Inflation expectations were slow to decline initially (in the late 1970s and early 1980s) because Volcker and the Fed lacked credibility.
  ➢ But as inflation continued to fall, the Fed’s credibility increased, and inflation expectations declined gradually.