The Conduct of Monetary Policy

This lecture examines the strategies and tactics central banks use to conduct monetary policy.

Price Stability, a Nominal Anchor, and the Time-Inconsistency Problem

A. Price Stability and a Nominal Anchor

   1. Central bankers define <u>price stability</u> as low and stable inflation.

   2. Price stability is a main goal of monetary policy because inflation creates uncertainty and hampers economic growth.

   3. A <u>nominal anchor</u> is a nominal variable, such as the inflation rate or the money supply, which the central bank targets to achieve price stability.

4. Adherence to a nominal anchor encourages price stability by promoting low and stable inflation expectations.

B. The Time-Inconsistency Problem

1. A time-inconsistency problem is when short-run goals do not line up with long-run goals, so we have a tendency to abandon the long-run goals (ex., a diet).

2. Central banks have an incentive to pursue a monetary policy that is more expansionary than individuals or firms would expect because it will boost economic growth.

3. Such a policy, however, will likely lead to higher inflation.

4. Even though monetary policymakers are aware of this problem, a central bank might push such a policy because politicians are pressuring them to boost output.

5. A nominal anchor provides the central bank a rule to resist the temptation to deviate from long-run objectives.

Other Goals of Monetary Policy

A. High Employment and Output Stability

   1. Monetary policymakers desire output to be at its potential and unemployment to be at the natural rate of unemployment.

   2. The natural rate of unemployment is not zero (it ranges from 4.5% to 6%) because there is always some frictional, structural, and seasonal unemployment in the economy.

   3. When the economy is at the natural rate of unemployment, the economy is considered to be at full employment, which is the level of employment where labor demand and labor supply intersect.

   4. Uncertainty, however, exists on the exact values for the natural rate of unemployment and potential output.

5. High unemployment is undesirable because it causes human suffering, and it leaves factories and workers idle, which results in lost output.

B. The <u>stability of financial markets</u> is a key goal because financial crises can lead to large contractions in output.

C. <u>Interest-rate stability</u> is desirable because interest rate fluctuations can create uncertainty and make it harder to plan for the future.

D. <u>Stability in foreign exchange markets</u> is important because changes in the value of the U.S. dollar impact net exports and output.

Should Price Stability be the Primary Goal of Monetary Policy?

A. In the long run, no trade off exists between price stability and the other goals of monetary policy.

    1. Higher inflation cannot increase potential output and cannot lower the natural rate of unemployment.

    2. Long-run price stability will also generate long-run stability in interest rates.

B. In the short-run, price stability can conflict with the output stability and low unemployment goals.

C. Most central banks have one of the following two mandates.

    1. A <u>hierarchical mandate</u> defines price stability as the primary goal with other mandates, such as output stability, as the secondary goal, so long as price stability is achieved.

a. This mandate recognizes price stability as the long-run goal of monetary policy, but it also recognizes that monetary policy should help stabilize output in the short run, so long as long-run price stability is not compromised.

b. Most central banks other than the Fed have a hierarchical mandate.

2. A <u>dual mandate</u> makes price stability and output stability coequal objectives.

a. This mandate recognizes that strict adherence to price stability can cause unnecessary output fluctuations in the short run.

b. The Fed is the only major central bank in the world with a dual mandate.

Inflation Targeting

A. Inflation targeting involves setting a medium-term goal for inflation and then engaging in a policy committed to achieving that inflation goal.

B. Many central banks set an inflation target because it is a useful nominal anchor that helps the central bank achieve its price stability objective.

C. Inflation targeting has been used successfully in New Zealand, Canada, and the United Kingdom in reducing the level and volatility of inflation.

D. Advantages of Inflation Targeting

1. It <u>reduces the time inconsistency problem</u> by focusing the political debate on what the central bank can do in the long run–controlling inflation–rather than what it cannot do–increasing long-run economic growth.

2. Inflation targeting <u>increases transparency</u> of monetary policy because individuals easily understand the objective of the central bank.

3. A specific inflation target <u>increases the accountability</u> of the central bank to the public and the government.

4. Central banks with inflation targets have been quite good at lowering the inflation rate beyond what would have likely occurred in the absence of the inflation target.

E. Disadvantages of Inflation Targeting

1. Inflation targeting does not send out a reliable signal about the stance of monetary policy because monetary policy impacts inflation with a long lag.

2. Some economists believe inflation targeting limits the ability of the central bank to respond to unforeseen economic events.

3. If policymakers solely focus on inflation targeting, then there is a potential for increased output fluctuations.

4. Another concern is that inflation targeting will lead to lower economic growth. Evidence, however, suggests that output is unaffected by inflation targeting once low levels of inflation are achieved.

The Evolution of the Fed's Monetary Policy Strategy

A. From the 1980s to 2006, the Fed was able to achieve excellent macroeconomic performance.

1. While the Fed had no explicit nominal anchor over much of that time period, it was able to achieve its main goal of preventing inflation from getting started.

2. The Fed's forward-looking behavior, periodic "preemptive strikes," and emphasis on price stability discouraged overly expansionary monetary policy.

3. The Fed, however, created uncertainty by not being very transparent.

B. The Road to Inflation Targeting at the Fed

1. Fed chair Alan Greenspan (1987-2006) was not a strong advocate of transparency or inflation targeting.

2. Ben Bernanke who had previously advocated for inflation targeting became the Fed chair in 2006.

3. Over the next six years, the Fed increased transparency and slowly moved toward establishing an explicit inflation target.

4. In January 2012, the Fed explicitly set a 2% inflation objective for the personal consumption expenditure deflator but stated that objective would be pursued in a flexible form consistent with its dual mandate.

Lessons for Monetary Policy from the 2008 Financial Crisis

A. Four Lessons Learned from the 2008 Financial Crisis

1. Developments in the financial sector can have a great impact on economic activity.

2. When the federal funds rate falls near zero, the Fed must use unconventional tools to stimulate the economy. Those tools, however, have a much more uncertain impact on the economy.

3. Financial crises usually are followed by deep recessions and slow recoveries.

4. Just because the Fed has achieved output and price stability does not ensure that it will have financial stability.

B. Implications for Inflation Targeting

   1. Since short-term interest rates cannot fall below zero, some economists have suggested raising the inflation target from 2% to 4%, so the Fed has more room to drop interest rates in case of a financial crisis.

   2. The drawback of raising the inflation rate target is that it imposes more economic costs on the economy, while only benefiting the economy when it suffers from a financial crisis, which fortunately does not occur very often.

   3. The experience of the financial crisis suggests the Fed should follow a "flexible inflation target" that allows it to promote output and financial market stability in addition to price stability.

How Should Central Banks Respond to Asset-Price Bubbles?

A. Asset price bubbles occur when asset prices rise above fundamental values and eventually burst leading to an economic downturn.

B. There are two types of asset-price bubbles.

   1. <u>Credit-driven bubbles</u> occur when a credit boom drives asset prices higher.

      a. When these bubbles burst, a sizable portion of the easy credit driving the boom defaults, which leads to a collapse in investment and a deep recession.

      b. Those negative effects provide policymakers a strong motive to burst these bubbles before they get too big.

   2. <u>Bubbles driven solely by irrational exuberance</u> occur when expectations become overly optimistic. When such a bubble bursts, the economy can slide into a mild recession.

C. Should central banks try to pop asset-price bubbles?

1. These are some arguments why central banks should not pop bubbles but instead, just clean up the resulting mess.

    a. Asset price bubbles are nearly impossible to identify. [If central banks know a bubble exits, market participants also know.]

    b. While raising interest rates might diminish asset-price bubbles, they could also cause the bubble to burst more severely and thus, do more damage to the economy.

    c. Monetary policy aimed at a particular asset market may cause unintended consequences to other asset markets.

    d. Actions to burst a bubble may also harm the economy.

    e. If policymakers act in a timely manner, aggressively easing monetary policy after a bubble burst can contain its harmful effects. [Greenspan favored this approach.]

2. There are also some arguments why central banks should pop bubbles.

   a. An asset price bubble, particularly one driven by a credit boom, can cause a severe recession and be very hard to clean up.

   b. Bubbles are easier to identify when credit and asset prices are rising rapidly at the same time.

D. Monetary policy can restrain asset-price bubbles in two ways.

   1. Macroprudential policies use regulatory policies, such as higher capital requirements during booms, to curb excess risk taking associated with credit booms.

   2. Monetary policy can be used to reduce risk by raising interest rates in order to shut down the credit boom. Nonetheless, the argument why central banks should not burst asset-price bubbles is still valid.

Choosing the Central Bank's Policy Instrument

A. Tools of the Central Bank

   1. Open market operations

   2. Discount rate

   3. Interest rate on reserves

   4. Large-scale asset purchases

   5. Forward guidance

B. Policy Instruments of the Central Bank

   1. Reserves target (ex., total reserves, nonborrowed reserves, or the monetary base)

   2. Interest-rate target (ex., federal funds rate)

C. A Reserves Target or an Interest Rate Target: Which Should a Central Bank Choose?

1. Why a reserves target will lead to interest rate fluctuations

Suppose the central bank targets nonborrowed reserves. An increase in the demand for reserves will cause the interest rate to rise.
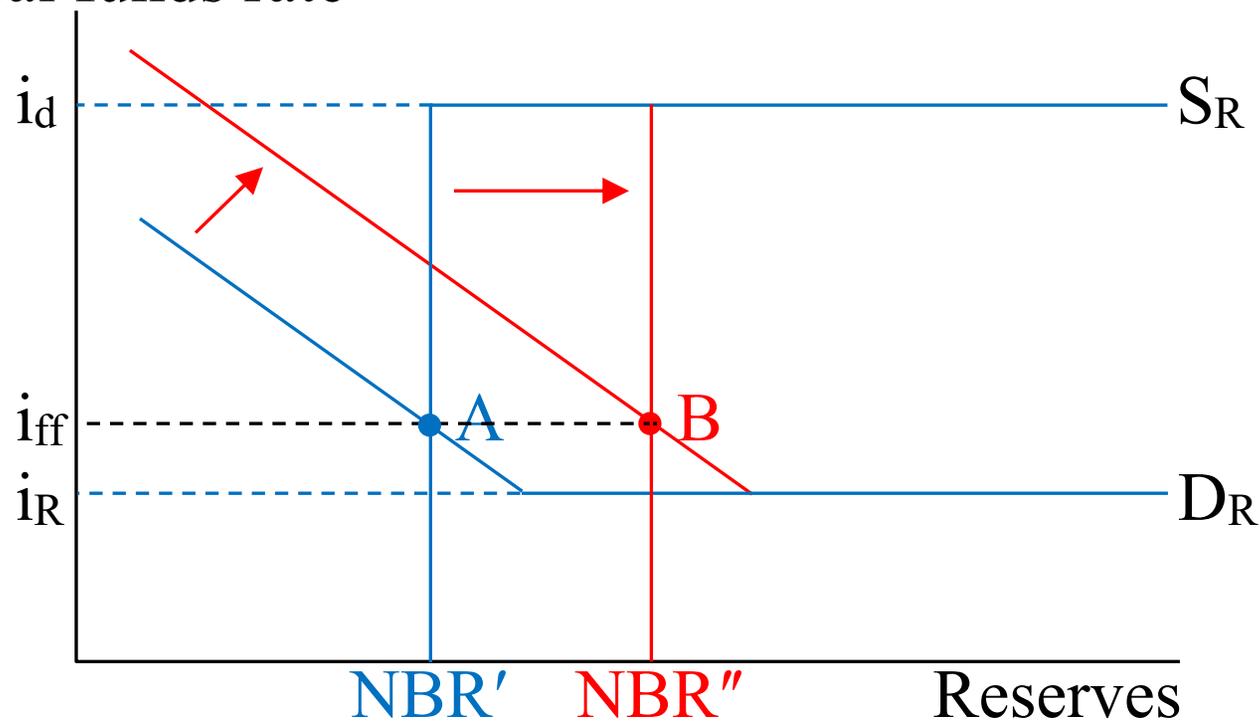
Federal funds rate
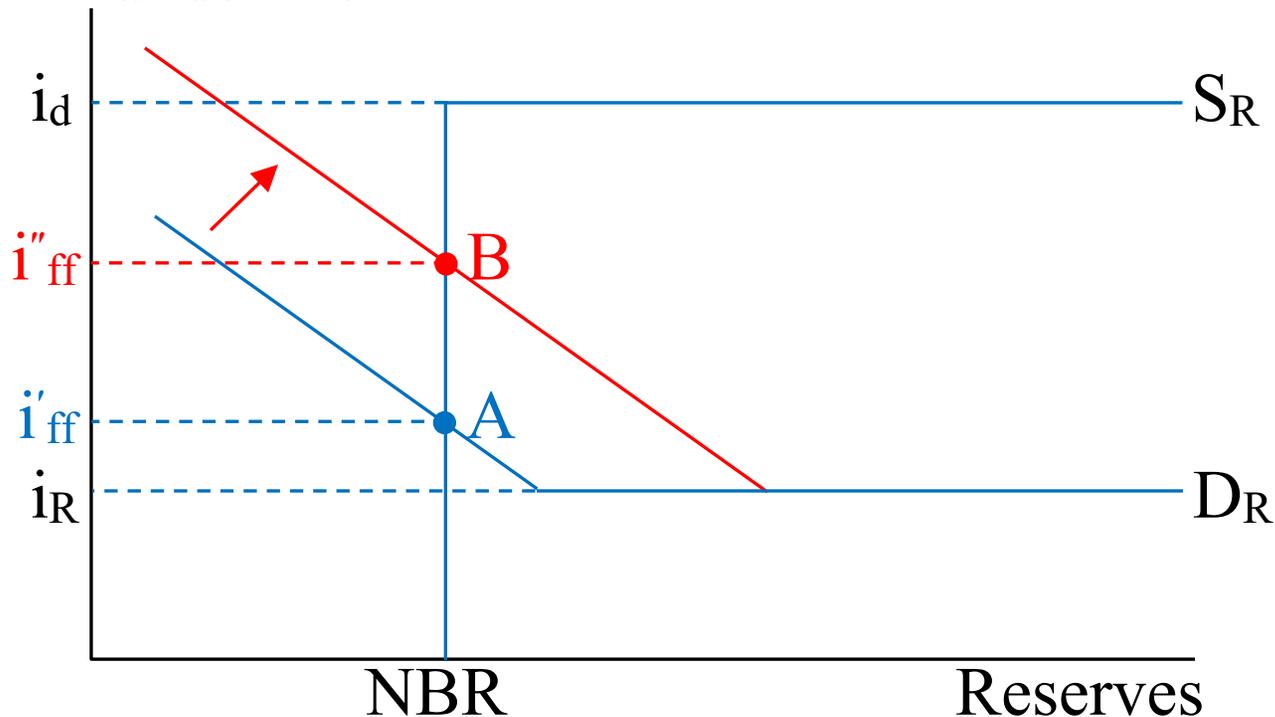
2. Why an interest rate target will lead to fluctuations in reserves

Suppose the central bank targets the federal funds rate. The central bank will respond to an increase in the demand for reserves by increasing nonborrowed reserves, so the interest rate will remain at its target.

Federal funds rate

D. Criteria for Choosing the Policy Instrument

1. The policy instrument must be observable and measurable.

    a. Reserves are easy to measure and observed with only a two-week delay.

    b. Interest rates are easy to measure and immediately observable.

2. The central bank must be able to control the policy instrument.

    a. Movements in and out of currency and discount window lending make nonborrowed reserves and total reserves not completely controllable.

    b. The Fed can easily control the federal funds rate.

3. The policy instrument must have predictable effects on the goals of monetary policy (price and output stability).

   a. Research indicates interest rate rules have a stronger link to price and output stability than reserves based on targeting reserves.

   b. As a result, most central banks use a short-term interest rate as their policy instrument.

The Taylor Rule

A. John Taylor of Stanford University developed a rule for setting a federal funds rate target that is called the Taylor rule

$$R = r + \pi + 0.5 \times (\pi - \pi^*) + 0.5 \times [(Y - Y^*)/Y^*],$$

where
R is the federal funds rate target
r is the equilibrium real federal funds rate
π is the actual inflation rate
π^* is the target inflation rate
$(Y - Y^*)/Y^*$ is the percent deviation of output from its potential

B. Example: Suppose r = 2%, π = 3%, π^* = 2%, and $[(Y - Y^*)/Y^*]$ = 1%. Calculate the federal funds rate target implied by the Taylor rule.

$$R = 2\% + 3\% + 0.5 \times (3\% - 2\%) + 0.5 \times 1\%$$
$$R = 6\%$$

C. The presence of both the output gap and the inflation gap in the Taylor rule represents the Fed's dual mandate for both price and output stability.

D. The Taylor rule does a good job of explaining the Fed's targeting of the federal funds rate since 1987.

Percent

Federal Funds Rate and the Taylor Rule

—— Federal Funds Rate   — ·Taylor Rule