The Conduct of Monetary Policy: Strategy and Tactics

Chapter 16

Econ 351 – Monetary Economics

University of Tennessee, Knoxville

August 24, 2026

Preview

This chapter examines the goals of monetary policy and then considers one of the most important strategies for the conduct of monetary policy: **inflation targeting**.

The Fed's long-run inflation goal is **2%**. This chapter asks how a central bank should be set up so that it actually delivers on such a goal.



Trimmed-mean PCE inflation, 2000–2026: close to the Fed's 2% goal except for the 2021–23 surge.

Source: FRED, Federal Reserve Bank of St. Louis

Outline

Goals of Monetary Policy and Nominal Anchors

Hierarchical vs. Dual Mandates

Inflation Targeting

The Evolution of Federal Reserve Policy

Lessons from the Global Financial Crisis

Monetary Policy and Asset-Price Bubbles

Choosing a Policy Instrument

The Price Stability Goal and the Nominal Anchor

Price stability means **low and stable inflation**.

- Reduces economic uncertainty
- Supports efficient financial decision-making
- Prevents hyperinflation

A **nominal anchor** is a variable (such as the inflation rate or money supply) used to maintain price stability.

- Helps maintain price stability
- Anchors inflation expectations
- Prevents excessive monetary expansion

The Time-Inconsistency Problem

Policy Incentives

Policymakers may be tempted to use **expansionary monetary policy** to achieve short-term gains.

Economic Consequences

- Leads to **higher inflation** without long-term increases in output.
- Firms and workers adjust wages and prices upward.
- Political pressure can make it difficult to resist expansionary policies.

Example: Inflation–Output Trade-off (1/4)

- Suppose that the bank likes output (y_t) and price stability (no inflation $\Rightarrow x = 0$)
- Its preferences are given as follows:

$$W = -\omega x^2 + y \tag{1}$$

- where x is inflation and ω is a constant coefficient
- We use this example for two reasons:
  - (i) simplicity
  - (ii) the functional form has been used in the original paper by Kydland and Prescott
- Output is determined by the Phillips curve:

$$y = \bar{y} + \beta(x - x^e) \tag{2}$$

- Substituting (2) into (1), we get:

$$W = -\omega x^2 + \bar{y} + \beta(x - x^e) \tag{3}$$

Example: Inflation–Output Trade-off (2/4)

- **Non-Discretionary Bank (Strong Bank):**
- With pre-commitment the bank announces the policy and carries it out, and the private sector believes it all the time. Thus, $x = x^e$
- From (3) we get:

$$W = -\omega x^2 + \bar{y}$$

- Now, maximize with respect to x to get $x = 0$
- Hence, we get $x_P = x^e = 0$ and $W_P = \bar{y}$
- The Phillips curve (under this situation):

$$y = \bar{y}$$

Example: Inflation–Output Trade-off (3/4)

- **Discretionary Bank (Weak Bank):** the zero-inflation policy will not be carried out
- The bank promises a zero-inflation policy and the private sector believes it and sets $x^e = 0$
- Now, the discretionary bank will maximize (3) with $x^e = 0$. The welfare function becomes:

$$W = -\omega x^2 + \bar{y} + \beta x$$

- First-order condition:

$$2\omega x + \beta = 0 \Rightarrow x = x_f = \frac{\beta}{2\omega}$$

-

$$W_f = \bar{y} + \frac{\beta^2}{4\omega}$$

- The Phillips curve (under this situation):

$$y = \bar{y} + \beta x \quad \Rightarrow \quad x = \frac{1}{\beta}(y - \bar{y})$$

Example: Inflation–Output Trade-off (4/4)

- A rational private sector anticipates the surprise inflation. Bank sets:

$$x = \frac{\beta}{2\omega}$$

- Private sector sets:

$$x^e = \frac{\beta}{2\omega}$$

- We get:

$$W_s = \bar{y} - \frac{\beta^2}{4\omega}$$

- Note that: $W_s < W_P < W_f$
- Moreover, by not being able to commit to a zero-inflation policy (time-consistent policy), the discretionary bank suffers a loss: $W_P - W_s = \frac{\beta^2}{4\omega}$

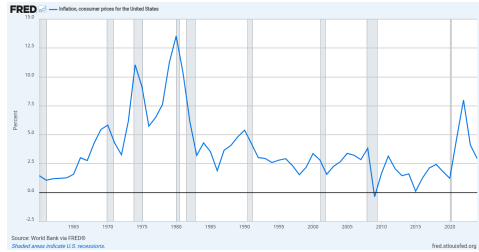
The Great Inflation of the 1970s

What Happened?

- Policymakers increased the money supply to boost employment and growth.
- Goal: reduce unemployment and stimulate the economy.
- Firms and workers adjusted expectations, leading to higher wages and prices.

Consequences

- Inflation exceeded **10%** by the late 1970s.
- Expansionary policies did not generate sustained long-run growth.
- The Federal Reserve lost credibility and inflation expectations became unanchored.



U.S. CPI inflation, 1960–2024: the twin peaks above 10% in 1974 and 1980 are the Great Inflation.

Source: FRED, Federal Reserve Bank of St. Louis

Fixing the Time-Inconsistency Problem

The Volcker Disinflation (1980s)

Paul Volcker, Chairman of the Federal Reserve, implemented a strong anti-inflation policy.

Policy Actions

- The Fed raised interest rates sharply.
- The policy restored credibility to monetary policy.

Economic Outcome

- Led to a severe recession (1981–1982).
- Successfully broke inflation expectations.
- Inflation returned to stable levels.



Paul Volcker, Fed Chairman 1979–1987, who broke the Great Inflation.

Wikimedia Commons, Public domain

Other Goals of Monetary Policy

Central banks pursue several goals besides price stability

1. High employment and output stability
2. Economic growth
3. Financial market stability
4. Interest-rate stability
5. Stability in foreign exchange markets

In the **long run** price stability supports these other goals; in the **short run** they can conflict – raising interest rates to control inflation may temporarily reduce output and employment.

High Employment and Output Stability

Economic Importance

High employment reduces economic hardship and ensures efficient use of resources.

Key Concepts

- Full employment does **not** mean zero unemployment.
- Frictional and structural unemployment always exist.
- The **natural rate of unemployment** occurs when labor demand equals labor supply.

Policy Objective

Central banks aim to stabilize output around **potential GDP**.

Economic Growth

Relationship with Monetary Policy

Economic growth is closely linked to:

- Employment
- Investment
- Capital accumulation

Policy Role

- Low unemployment encourages firms to invest.
- Monetary stability promotes savings and investment.
- These factors support long-run economic growth.

Financial Market Stability

Importance

Stable financial markets ensure efficient allocation of capital and reduce the risk of financial crises.

Economic Consequences

- Financial instability can collapse economic activity.
- Stable financial institutions promote confidence in the financial system.

Historical Example

The Federal Reserve System was created after the **banking panic of 1907**.

Interest Rate and Exchange Rate Stability

Interest-Rate Stability

- Reduces uncertainty for consumers and firms.
- Helps industries such as housing and construction plan long-term investments.
- Prevents large capital losses for financial institutions holding long-term bonds.

Stability in Foreign Exchange Markets

- Prevents sharp currency fluctuations.
- Exchange rate volatility can disrupt international trade.
- Stable exchange rates help firms plan global transactions.

Outline

Goals of Monetary Policy and Nominal Anchors

Hierarchical vs. Dual Mandates

Inflation Targeting

The Evolution of Federal Reserve Policy

Lessons from the Global Financial Crisis

Monetary Policy and Asset-Price Bubbles

Choosing a Policy Instrument

Should Price Stability Be the Primary Goal of Monetary Policy?

Long-Run vs. Short-Run

Long Run

- Price stability supports economic growth.
- Promotes employment and financial stability.

Short Run

- Pursuing price stability may conflict with output and interest-rate stability.

Example

Raising interest rates to control inflation may temporarily reduce output and increase unemployment.

Hierarchical vs. Dual Mandates

Hierarchical Mandate

- **Price stability is the primary objective.**
- Other goals (employment, growth) are pursued only if price stability is not compromised.

Countries Using a Hierarchical Mandate

- European Central Bank (ECB)
- Bank of England
- Bank of Canada
- Reserve Bank of New Zealand

Implication

Ensures strong long-run inflation control but may not prioritize short-run economic stability.

Dual Mandate

Dual Mandate Approach

- Price stability and maximum employment are treated as **equal objectives**.
- This is the framework used by the **Federal Reserve**.

Advantages

- Provides flexibility to respond to short-term economic fluctuations.
- Allows policymakers to support employment and growth.

Potential Risk

- May lead to overly expansionary policy.
- Could create inflation concerns.

Which Mandate Is Better?

Hierarchical Mandate

- Avoids inflation bias.
- Strong commitment to long-run price stability.
- But may neglect short-term economic conditions.

Dual Mandate

- Provides greater flexibility.
- Helps stabilize employment and output.
- But may create time-inconsistency problems.

Best Practical Approach

Price stability should be the **long-run goal**, while policymakers also consider **short-run output and employment stability**.

Outline

Goals of Monetary Policy and Nominal Anchors

Hierarchical vs. Dual Mandates

Inflation Targeting

The Evolution of Federal Reserve Policy

Lessons from the Global Financial Crisis

Monetary Policy and Asset-Price Bubbles

Choosing a Policy Instrument

Inflation Targeting

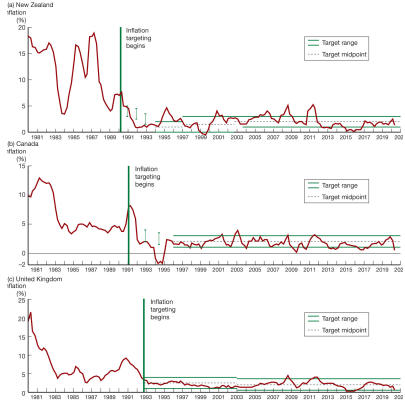
- Public announcement of a **medium-term numerical inflation target**.
- Institutional commitment to **price stability as the primary long-run goal** of monetary policy.
- Policymakers use an **information-inclusive approach**, considering many economic variables when making decisions.
- Increased **transparency** in monetary policy strategy.
- Greater **accountability** of the central bank.

Inflation Targeting Around the World

Countries Adopting Inflation Targeting

- **New Zealand (1990)**
  - Inflation was reduced and remained within the target range most of the time.
  - Economic growth increased and unemployment declined.
- **Canada (1991)**
  - Inflation fell significantly after adoption.
  - Some short-term unemployment costs occurred.
- **United Kingdom (1992)**
  - Inflation remained close to the target.
  - Economic growth strengthened and unemployment declined.

Inflation and Targets: NZ, Canada, UK, 1980–2020



Inflation and targets in New Zealand, Canada, and the UK: inflation fell after targets were adopted and mostly stayed in range.

Mishkin, The Economics of Money, Banking, and Financial Markets

Advantages and Disadvantages of Inflation Targeting

Advantages

- Reduces the risk of the **time-inconsistency problem**.
- Provides a **clear and easily understood policy framework**.
- Promotes **transparency and accountability** in monetary policy.
- Consistent with **democratic principles** because the public can evaluate policy outcomes.
- Evidence suggests **improved macroeconomic performance** in many countries.

Disadvantages

- **Delayed signaling**: inflation responds slowly to policy changes.
- **Too much rigidity**: strict targets may limit policy flexibility.
- Possible **greater output fluctuations**.
- Economic growth may slow during periods of **disinflation**.

Outline

Goals of Monetary Policy and Nominal Anchors

Hierarchical vs. Dual Mandates

Inflation Targeting

The Evolution of Federal Reserve Policy

Lessons from the Global Financial Crisis

Monetary Policy and Asset-Price Bubbles

Choosing a Policy Instrument

Evolution of the Fed's Monetary Policy Strategy

U.S. Monetary Policy Experience

- The United States achieved strong macroeconomic performance (low and stable inflation) before the Global Financial Crisis.
- This success occurred **without an explicit nominal anchor** such as a formal inflation target.

Historical Developments

- **1975**: The Fed began publicly announcing targets for money supply growth.
- **1979 (Volcker)**: Policy focused on controlling **nonborrowed reserves**.
- **1993 (Greenspan)**: The Fed stopped using monetary aggregates as a primary guide for monetary policy.

The Fed's "Just Do It" Monetary Policy Strategy

Key Idea

The Federal Reserve did not adopt a formal inflation target but instead relied on flexible policy decisions based on a wide range of economic information.

Advantages

- Uses many different sources of economic information.
- Has historically produced good macroeconomic outcomes.

Disadvantages

- Limited transparency and accountability.
- Less consistent with democratic oversight.

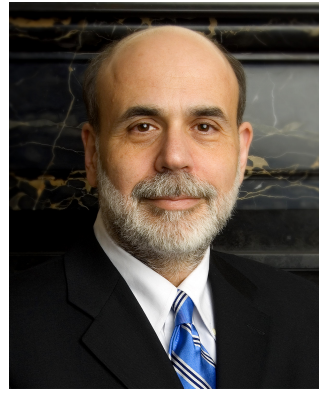
Inside the Fed: Bernanke and Inflation Targeting

Bernanke's Argument

- While a professor at Princeton, Ben Bernanke argued that the Federal Reserve should adopt **inflation targeting**.
- He believed this framework would improve economic outcomes and policy transparency.

Inside the Federal Reserve

- Bernanke served as a Federal Reserve governor from **2002 to 2005**.
- During this time, he continued to advocate the adoption of an inflation target.



Ben Bernanke, Fed Chair 2006–2014; under him the Fed adopted the explicit 2% inflation goal in 2012.

Wikimedia Commons, United States Federal Reserve, Public domain

Outline

Goals of Monetary Policy and Nominal Anchors

Hierarchical vs. Dual Mandates

Inflation Targeting

The Evolution of Federal Reserve Policy

Lessons from the Global Financial Crisis

Monetary Policy and Asset-Price Bubbles

Choosing a Policy Instrument

Lessons from the Global Financial Crisis

1. **Financial markets matter.**
   Developments in the financial sector can have a large impact on economic activity.
2. **The zero lower bound is a serious constraint.**
   Interest rates cannot fall below zero easily, limiting the power of traditional monetary policy.
3. **Financial crises are extremely costly.**
   Cleaning up after a financial crisis imposes large economic costs.
4. **Macroeconomic stability does not guarantee financial stability.**
   Low inflation and stable output do not prevent financial crises.

Implications for Inflation Targeting

Policy Debates

- Raising inflation targets is controversial:
  - Higher targets may reduce the zero-lower-bound problem.
  - But they may increase long-run inflation risks.
- The Federal Reserve has adopted **Average Inflation Targeting (AIT)**, which allows inflation to run above 2% temporarily after periods of low inflation.
- Modern inflation targeting increasingly incorporates **financial stability concerns**.

Outline

Goals of Monetary Policy and Nominal Anchors

Hierarchical vs. Dual Mandates

Inflation Targeting

The Evolution of Federal Reserve Policy

Lessons from the Global Financial Crisis

Monetary Policy and Asset-Price Bubbles

Choosing a Policy Instrument

Should Central Banks Respond to Bubbles?

Asset-Price Bubble

An **asset-price bubble** occurs when asset prices rise far above their fundamental values and eventually collapse.

Examples

- Housing bubble before the **2008 financial crisis**
- Dot-com bubble in the **late 1990s**

The "Lean vs. Clean" Debate

- **Lean Approach**: act **before bubbles burst** to prevent financial instability.
- **Clean Approach**: respond **after bubbles burst** by stabilizing inflation and output.

Types of Asset-Price Bubbles

Credit-Driven Bubbles (High Risk)

- Driven by **excessive lending and credit expansion**.
- Rising asset prices increase borrowing capacity, creating a **feedback loop**.
- When the bubble bursts, the financial system is damaged.

Example: 2008 U.S. housing bubble

Its burst triggered the global financial crisis.

Irrational Exuberance Bubbles (Lower Risk)

- Driven by **overly optimistic investor expectations**; **not fueled by credit expansion**.

Example: dot-com bubble (1990s)

Asset prices collapsed, but the **financial system remained stable**.

Arguments in the Debate

"Clean" Approach

- Difficult to identify bubbles in real time.
- Interest rate hikes may not stop bubbles.
- Monetary policy is a blunt tool affecting the entire economy.
- Raising interest rates may slow economic growth.

"Lean" Approach

- Credit-driven bubbles can cause severe financial crises.
- Price and output stability do not guarantee financial stability.
- Monitoring credit growth can help identify dangerous bubbles.

Outline

Goals of Monetary Policy and Nominal Anchors

Hierarchical vs. Dual Mandates

Inflation Targeting

The Evolution of Federal Reserve Policy

Lessons from the Global Financial Crisis

Monetary Policy and Asset-Price Bubbles

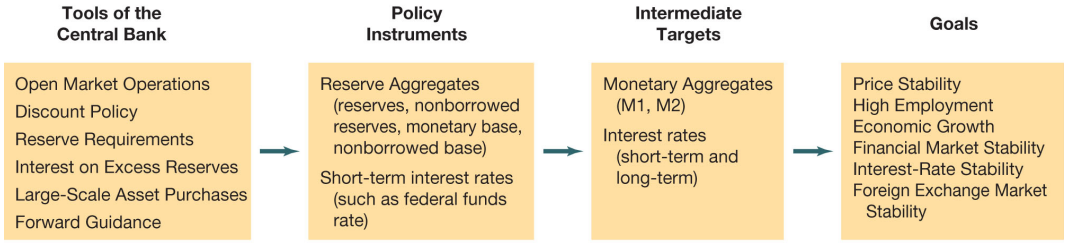
Choosing a Policy Instrument

Choosing the Policy Instrument

Criteria

1. **Observability**
   The central bank must be able to observe the variable quickly and accurately.
2. **Measurability**
   The variable must be measured precisely and reliably.
3. **Controllability**
   The central bank must be able to influence the variable directly.
4. **Predictable Effect on Goals**
   Changes in the instrument should have a predictable impact on policy goals such as inflation, output, and employment.

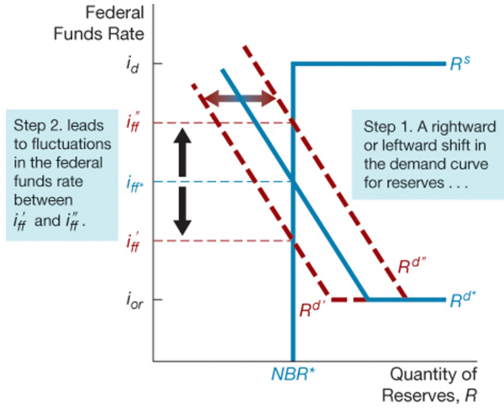
Linkages: Tools, Instruments, Targets, and Goals



The Fed's tools work through policy instruments and intermediate targets to reach the goals of monetary policy.

Mishkin, The Economics of Money, Banking, and Financial Markets

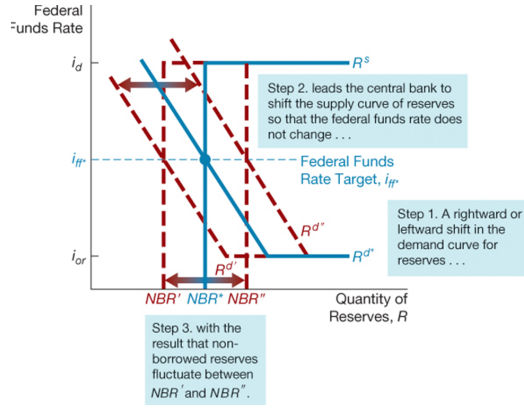
Result of Targeting on Nonborrowed Reserves



Targeting nonborrowed reserves: shifts in reserve demand make the federal funds rate fluctuate between i'' and i'.

Mishkin, The Economics of Money, Banking, and Financial Markets

Result of Targeting on the Federal Funds Rate



Targeting the federal funds rate: the Fed adjusts nonborrowed reserves to keep i_{ff} at target when demand shifts.

Mishkin, The Economics of Money, Banking, and Financial Markets

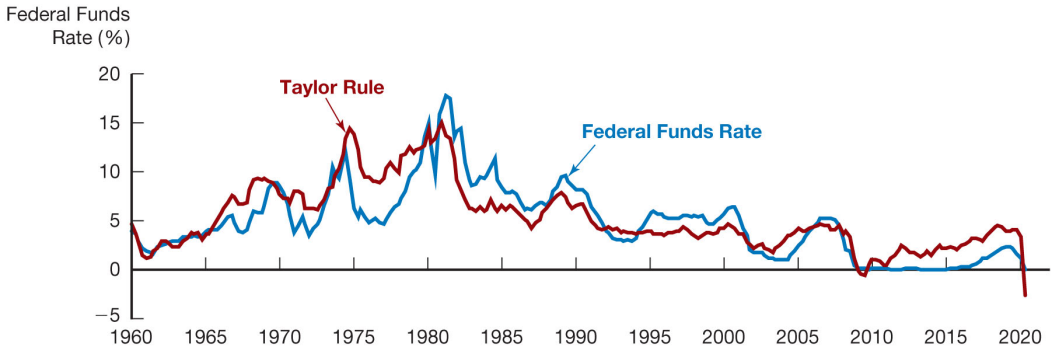
The Taylor Rule

The Federal Reserve's target federal funds rate can be approximated by:

$$i_t = \pi_t + r^* + \frac{1}{2}(\pi_t - \pi^*) + \frac{1}{2}(y_t - y_t^*)$$

- i_t : target federal funds rate
- π_t : current inflation rate
- r^* : equilibrium real interest rate
- $\pi_t - \pi^*$: inflation gap
- $y_t - y_t^*$: output gap

The Taylor Rule for the Federal Funds Rate, 1960–2020



The Taylor rule tracks the actual federal funds rate fairly closely over 1960–2020.

Mishkin, The Economics of Money, Banking, and Financial Markets

Inside the Fed: The Fed's Use of the Taylor Rule

Role of the Taylor Rule

- The Taylor rule provides a **systematic guideline** for setting the federal funds rate.
- It links interest-rate decisions to **inflation** and the **output gap**.

Limitation

- Putting monetary policy on **autopilot** using fixed coefficients is problematic.
- Economic conditions change, so policymakers must retain flexibility.

Conclusion

The Taylor rule is best viewed as a **guide for policy decisions**, not a strict rule that central banks must always follow.

Chapter summary

- A **nominal anchor** (such as an inflation target) ties down expectations and counters the **time-inconsistency problem**: discretionary policy delivers inflation $\beta/2\omega$ with no output gain.
- Beyond price stability, central banks care about employment, growth, and stability of financial markets, interest rates, and exchange rates; mandates may be **hierarchical** (ECB) or **dual** (Fed).
- **Inflation targeting** (New Zealand 1990, Canada 1991, UK 1992) brings transparency and accountability, at the cost of delayed signaling and possible rigidity; the Fed moved from "just do it" to a 2% goal (2012) and average inflation targeting (2020).
- Credit-driven bubbles are far more dangerous than irrational-exuberance bubbles – the heart of the "lean vs. clean" debate.
- A good policy instrument is observable, measurable, controllable, and predictably linked to goals; the **Taylor rule** describes how the funds-rate target responds to inflation and output gaps.