MONETARY POLICY AND THEORY

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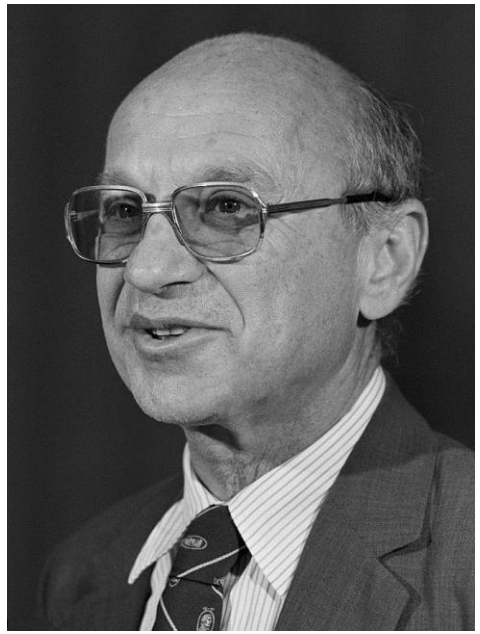

THE ROLE OF MONETARY POLICY*

By MILTON FRIEDMAN**

There is wide agreement about the major goals of economic policy: high employment, stable prices, and rapid growth. There is less agreement that these goals are mutually compatible or, among those who regard them as incompatible, about the terms at which they can and should be substituted for one another. There is least agreement about the role that various instruments of policy can and should play in achieving the several goals.

- **Goals and nominal anchor**
- Practical monetary policy design
  - Difficulties
  - Goals v.s. targets
- Alternative monetary policy targeting

Reading: Chapter 16. 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 PRICE STABILITY GOAL

- Over the past few decades, policy makers throughout the world have become increasingly aware of the **social and economic costs** of inflation and more concerned with **maintaining a *stable price level* as a goal of economic policy.**

- **Price stability:** Price moves in a **predictable manner**, and **low volatility**

- Practically, this is associated with **low and stable inflation.**

WHY INFLATION IS BAD?

- **Anticipated inflation**
  - Shoe-leather effect
  - Menu cost
  - Relative price distortion
  - Tax distortion
- **Unanticipated inflation**
  - Increased uncertainty
  - Inflation variability is high when inflation is high

THE PRICE STABILITY GOAL AND THE NOMINAL ANCHOR

- In practice, achieving price stability generally requires the introduction of **nominal anchor**.

- The role of a **nominal *anchor***: a nominal variable, such as the inflation rate or the money supply, which **ties down** the price level to achieve price stability

- Benefits of having nominal anchor: an explicit **commitment**; avoiding the **time-inconsistency** problem; enhance the **credibility of policy**

OTHER GOALS OF MONETARY POLICY

- Five other goals are continually mentioned by central bank officials when they discuss the objectives of monetary policy:

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

SHOULD PRICE STABILITY BE THE *PRIMARY* GOAL OF MONETARY POLICY?

- Hierarchical Versus Dual Mandates:
  - **Hierarchical mandates** put the goal of price stability first, and then say that as long as it is achieved other goals can be pursued
  - **Dual mandates** are aimed to achieve two *coequal* objectives: price stability and maximum employment (output stability)

- Price Stability as the Primary, Long-Run Goal of Monetary Policy
  - Either type of mandate is acceptable as long as it operates to **make price stability the primary goal in the long run but not the short run**.

- Goals and nominal anchor
- **Practical monetary policy design**
  - **Difficulties**
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TEXTBOOK V.S. PRACTICAL: PROBLEM

- Standard textbook: ’s recommendation to the conduct of monetary policy.
  - If the economy entered into a recession, then lower the interest rate.
  - If the inflation is now high, raise interest rate.

- Well, #thanks. But, that was too late!!!!
  - Standard textbook’s view toward the role of monetary policy is naïve – i.e. **offer “solution” to “fix” the problem that had already occurred.**

TEXTBOOK V.S. PRACTICAL: WAY TO GO

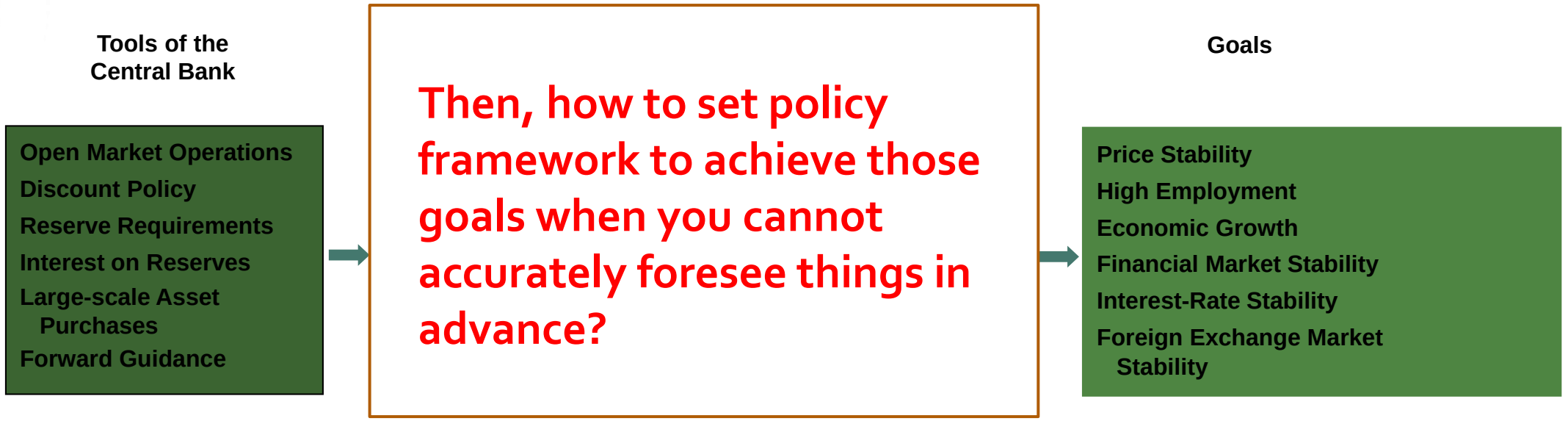
- Real-world monetary policy: setting policy tools today to achieve goals in **the future**?
  - Making sure that everything stays on course
- Ex-ante view: hope to avoid the instability
  - Pre-emptive action is required
  - Prompt corrective actions
- How about **practical design**?

TEXTBOOK V.S. PRACTICAL: DIFFICULTIES

- Lags and timing
  - Lags effect of policy

- Uncertainty and Shocks
  - What types of shocks?
  - How big are they?
  - Unpredictable?

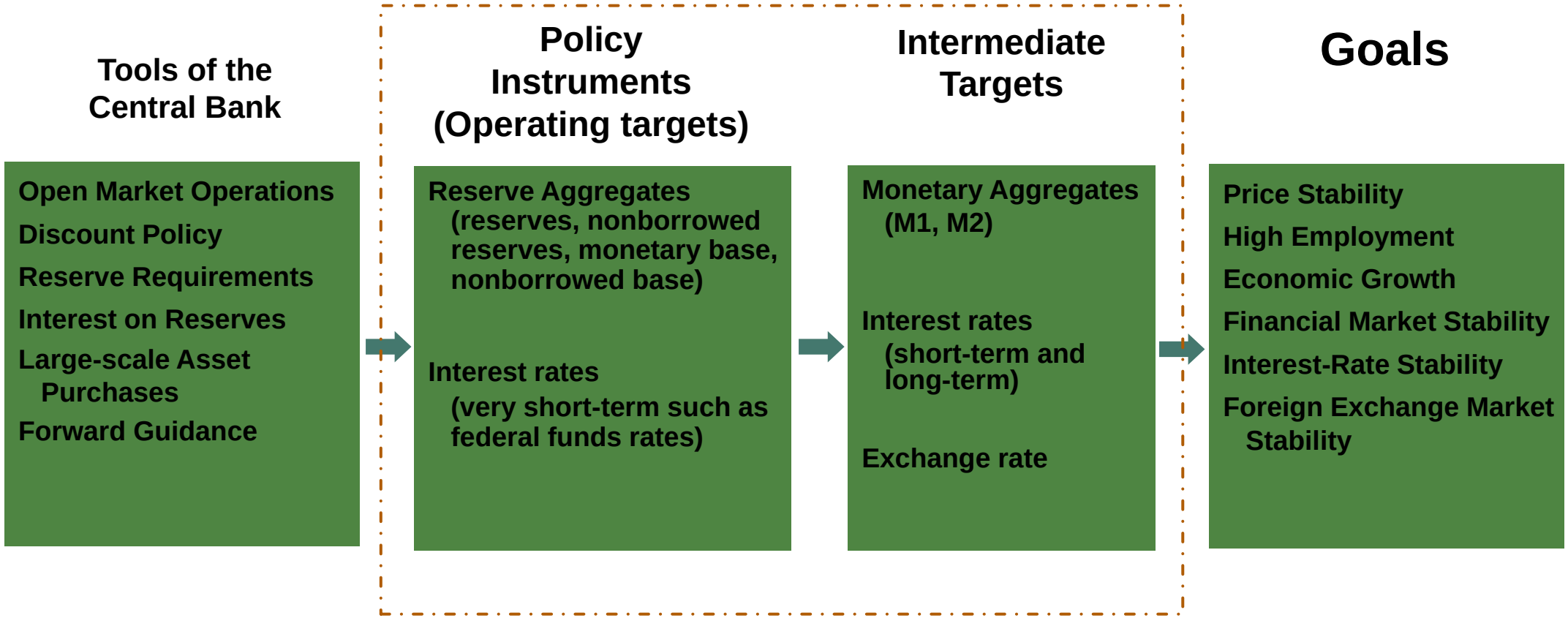
TEXTBOOK V.S. PRACTICAL: *STRATEGIC FRAMEWORK*



monetary policy framework must be strategized, i.e. to exploit everything that central can do to serve the best purposes/objectives.

Monetary policy conduct is involved with *monetary policy targeting*: selection of target variables at various layers of targeting process

FIGURE 2 LINKAGES BETWEEN CENTRAL BANK TOOLS, POLICY INSTRUMENTS, INTERMEDIATE TARGETS, AND GOALS OF MONETARY POLICY



INTERMEDIATE TARGET

- As the ultimate target can be observed in a lag fashion, some indicative variables must be selected as an anchor.

- Intermediate target is the **anchor**.

- Choice of selection of intermediate target variables
  - **Closely tied (with predictability)** to ultimate targets
  - Can be **monitored** whether target variables are being hit.
  - Having stable relationship with **Policy instruments**.

POLICY INSTRUMENTS

- Also known as: **operating targets**.
  - Financial variables, tight relationship with policy tools;
  - High controllability with "precision"
  - Closedly tied with intermediate targets (predictable effect on goals)

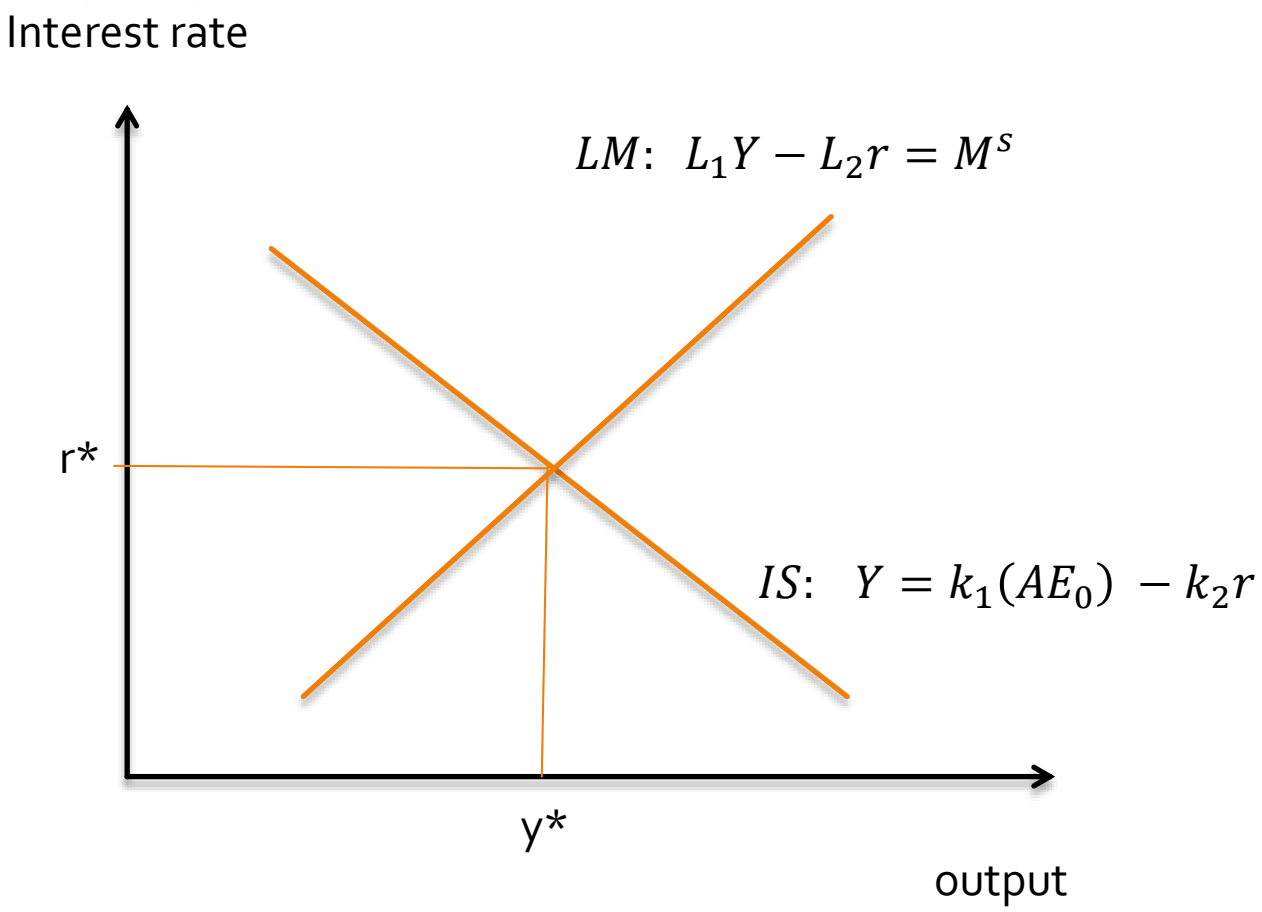
  E.g. **Monetary base (Non-borrowed Reserve) / Short-run Interest rate**

POLICY INSTRUMENTS: DOES THE CHOICE OF INSTRUMENT MATTER?

- Should we use "**reserve**" or "**interest** rate"?
  - Quantity v.s. Price doctrine!

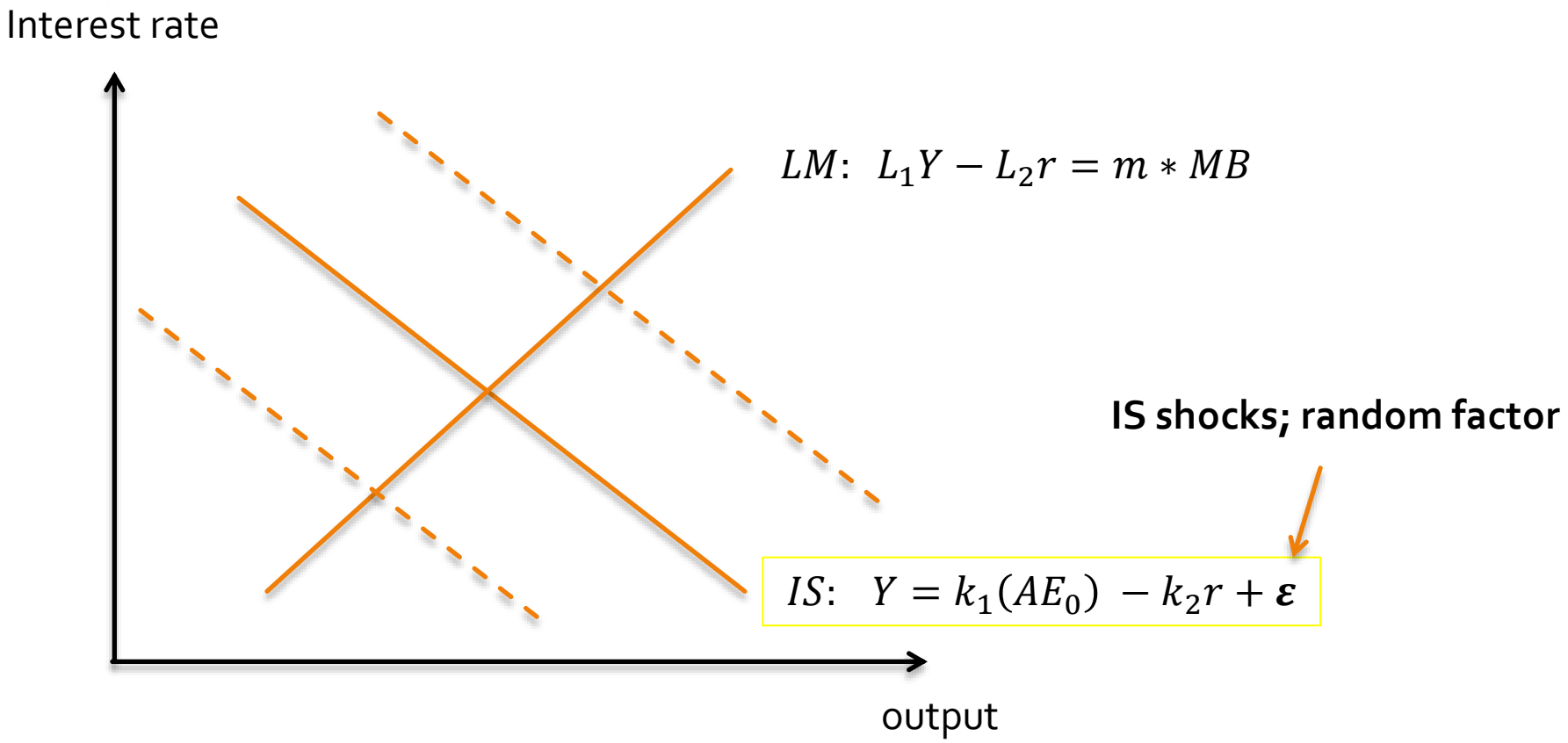
- William pool (1971):
  - No, under the certain world
  - **Yes, under the presence of uncertainty**.

IS-LM MODEL WITH CERTAINTY



- Choice of the operating instrument does not matter.
- If target r*, we only adjust the Ms so as to hit the r*
- If we set the Ms, we allow r to adjust.

IS-LM MODEL WITH UNCERTAINTY

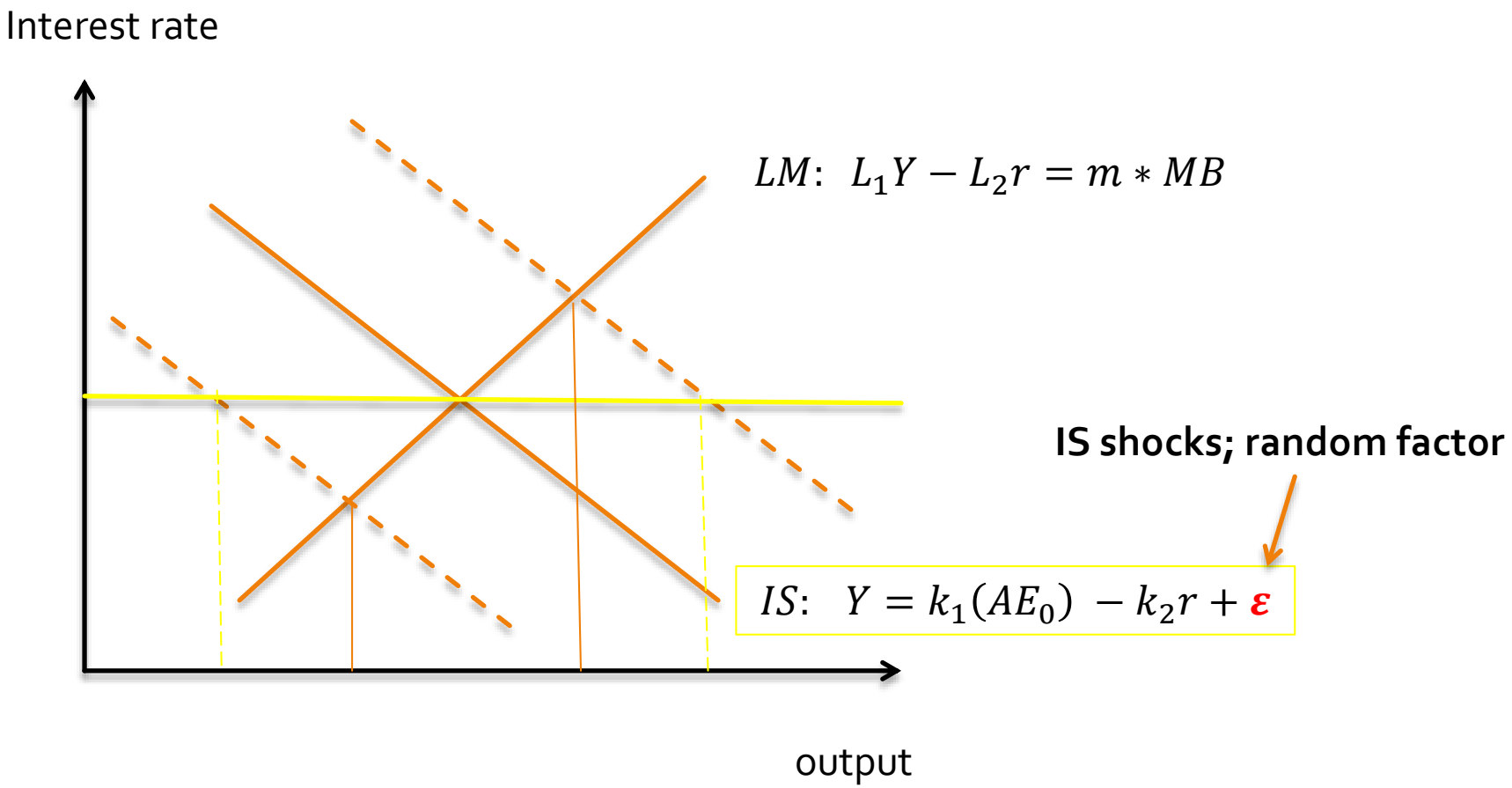


$LM: \ L_1 Y - L_2 r = m * MB$

IS shocks; random factor

$IS: \ Y = k_1(AE_0) - k_2 r + \boldsymbol{\varepsilon}$

IS-LM MODEL WITH UNCERTAINTY: MONETARY BASE V.S. SHORT-RUN INTEREST RATE



IS-LM MODEL WITH UNCERTAINTY: MONETARY BASE V.S. SHORT-RUN INTEREST RATE

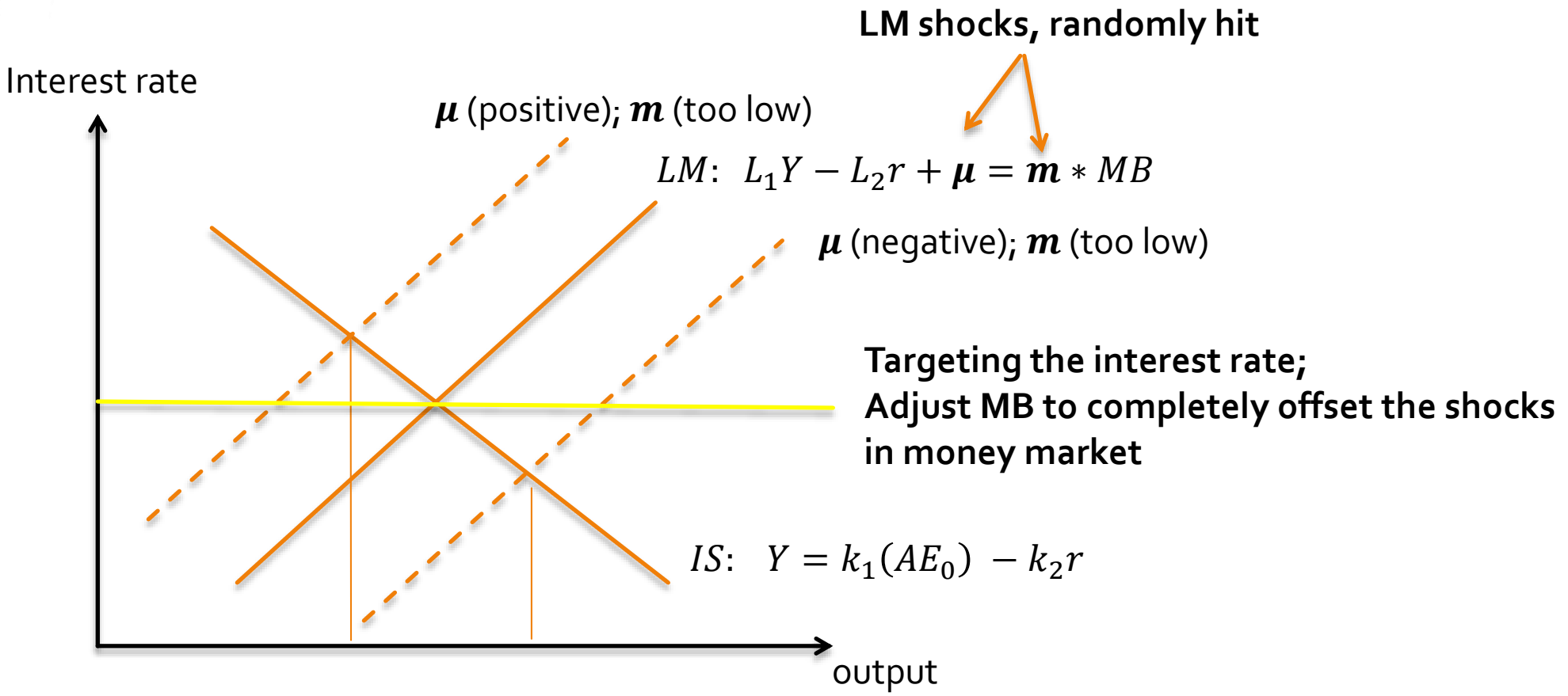


FIGURE 3 RESULT OF TARGETING ON NONBORROWED RESERVES

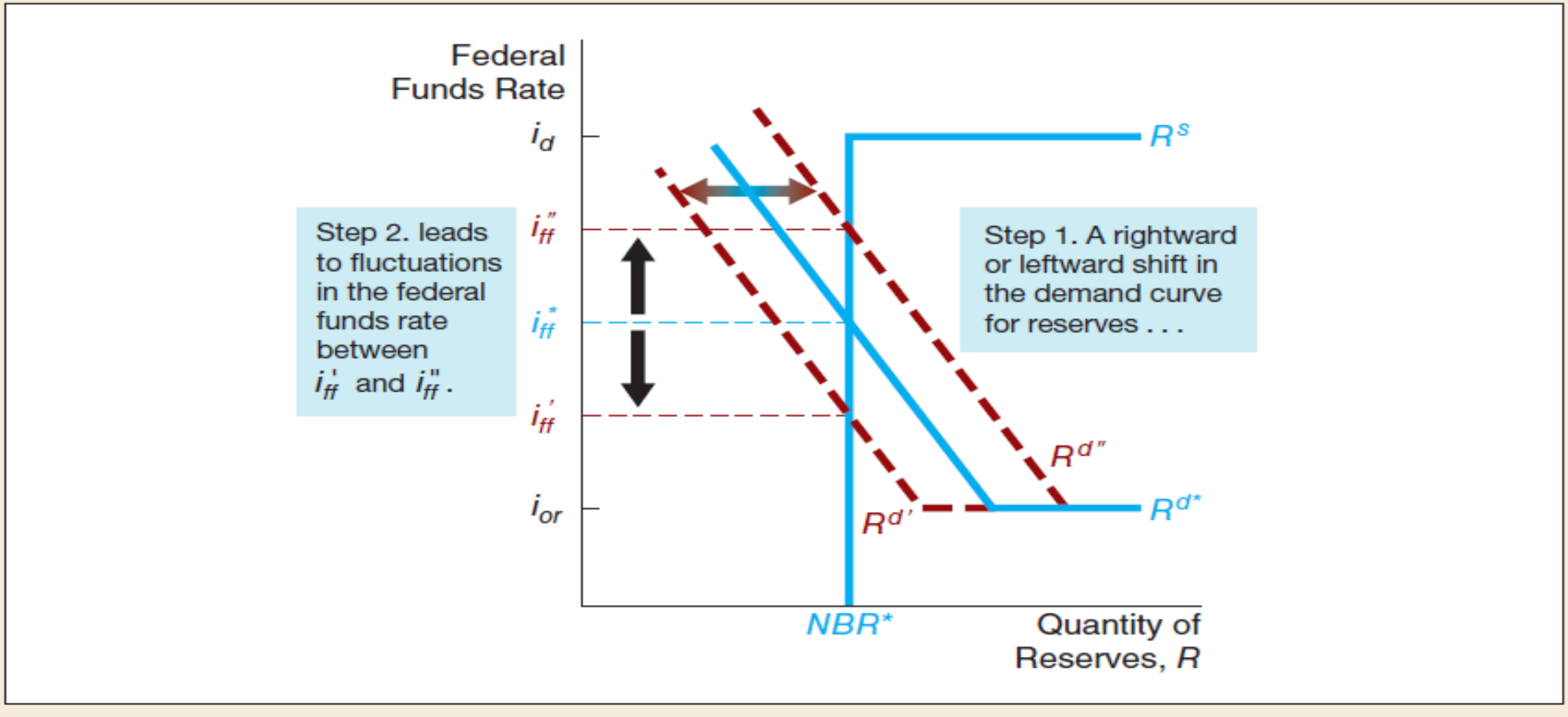
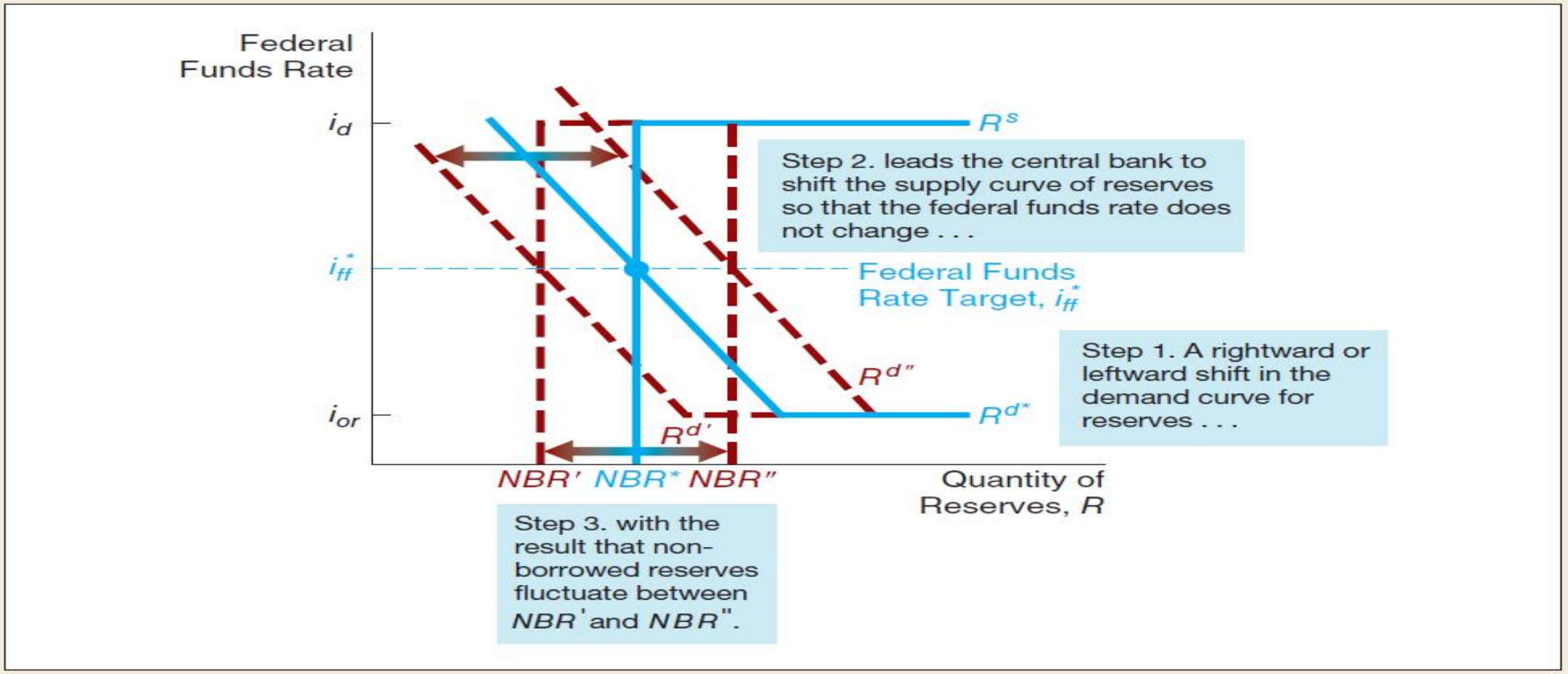


FIGURE 4 RESULT OF TARGETING ON THE FEDERAL FUNDS RATE



AGENDA

- Goals and nominal anchor
- Practical monetary policy design
  - Difficulties
  - Goals v.s. targets
- **Alternative monetary policy targeting**

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VARIOUS MONETARY POLICY TARGETING

- Exchange rate targeting
- Monetary targeting
- Inflation targeting

EXCHANGE RATE TARGETING

- **Oldest version:** Mint ratio, currency backed by gold, gold standard
- **Newer version:**
  - Bretton Woods system (after the World War II)
  - Gold exchange standard: fixed to USD.
- **Modern version:**
  - Currency backed by foreign currency (hard currency) – e.g. Hongkong

EXCHANGE RATE TARGETING

- Advantage
  - Domestic currency is fully backed up by foreign currency
  - **Central bank can't just print out the money!**
  - Inflation expectation is well anchored; and **hence low inflation is easily attained**

EXCHANGE RATE TARGETING

- Disadvantages:
  - Loose the power to do the stabilization when the economy is hit by negative shocks.
  - **Impossibility trinity issue:** fixed exchange rate, capital mobility, controlling interest rate (monetary policy) can not be achieved together.
  - Most emerging countries had been trapped into this impossibility before they ended up with financial crisis

MONETARY TARGETING

- Having received a great influence from a mastermind in monetary policy, **Milton Friedman**.

- He advocates the central bank to hand-off from any intervention, and recommends the central bank to keep monitoring the level of **money supply growth**.
  - The famous constant money supply growth rule – i.e. x% money growth rule.

MONETARY TARGETING

- Idea stems from the quantity theory of money.
  - Inflation is always and everywhere a monetary phenomenon. (Friedman)

- Historical lesson learnt by country that had confronted the episode of hyperinflation before.
  - Bundesbank's policy doctrine is to **monitor M2 growth**.

MONETARY TARGETING

- Why passive rule?
  - **Lags' problem**: Don't be another source of instability.
  - Don't try to be outsmart!

- Subsequent approach is to adopt the active feedback rule, e.g. **more information-inclusive**.

MONETARY TARGETING

- 1980s onwards : fail! / abandoned
  - **Harder to control money supply**; financial innovations in the banking system
  - Relationship between **Money growth** and **nominal GDP growth** break down.
    - They abandoned us, not we abandoned them

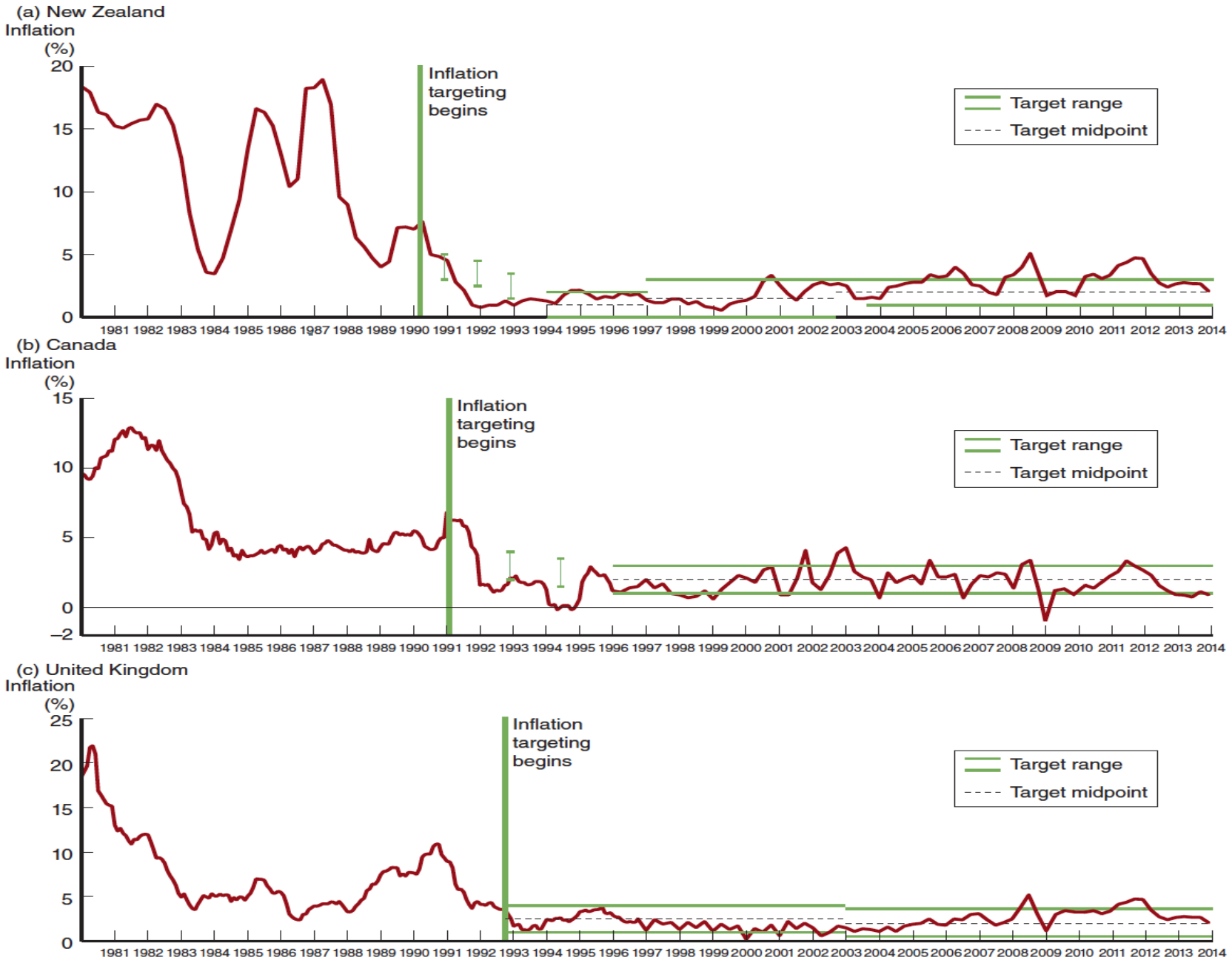
INFLATION TARGETING

- Public announcement of **medium-term numerical target for inflation**
- Institutional **commitment to price stability** as the primary, long-run goal of monetary policy and a **commitment to achieve the inflation goal**
- **Information-inclusive approach** in which many variables are used in making decisions – **i.e. active rule**.
- Increased transparency of the strategy – i.e. **inflation report / press release / communication**
- Increased **accountability** of the central bank

INFLATION TARGETING

- New Zealand (effective in 1990)
  - Inflation was brought down and remained within the target most of the time.
  - Growth has generally been high and unemployment has come down significantly.
- Canada (1991)
  - Inflation decreased since 1991; some costs in term of unemployment
- United Kingdom (1992)
  - Inflation has been close to its target.
  - Growth has been strong and unemployment has been decreasing.

FIGURE 1 INFLATION RATES AND INFLATION TARGETS FOR NEW ZEALAND, CANADA, AND THE UNITED KINGDOM, 1980–2014



INFLATION TARGETING

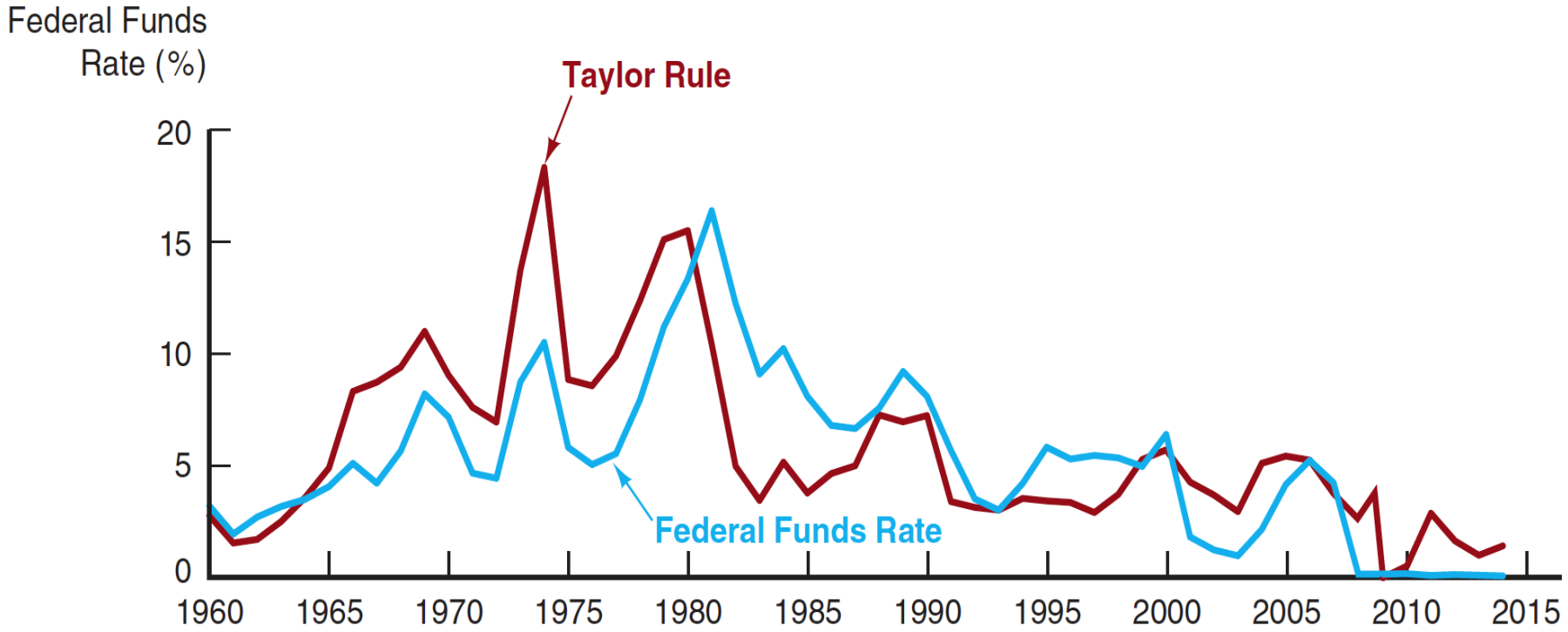
- Advantages:
  - Does not rely on one variable to achieve target
  - Easily understood
  - Reduces potential of falling in time-inconsistency trap
  - Stresses transparency and accountability
- Disadvantages:
  - Delayed signaling
  - Too much rigidity
  - Potential for increased output fluctuations
  - Low economic growth during disinflation

TACTICS: THE TAYLOR RULE UNDER INFLATION TARGETING

$$\text{Federal funds rate target} = \text{inflation rate} + \text{equilibrium real fed funds rate} + 1/2\,(\text{inflation gap}) + 1/2\,(\text{output gap})$$

- **An inflation gap and an output gap**
  - Stabilizing real output is an important concern
  - **Output gap** is an indicator of future inflation as shown by Phillips curve
- **NAIRU**
  - Rate of unemployment at which there is no tendency for inflation to change

FIGURE 5 THE TAYLOR RULE FOR THE FEDERAL FUNDS RATE, 1970–2014



Source: Federal Reserve Bank of St. Louis, FRED database: http://research.stlouisfed.org/fred2/.