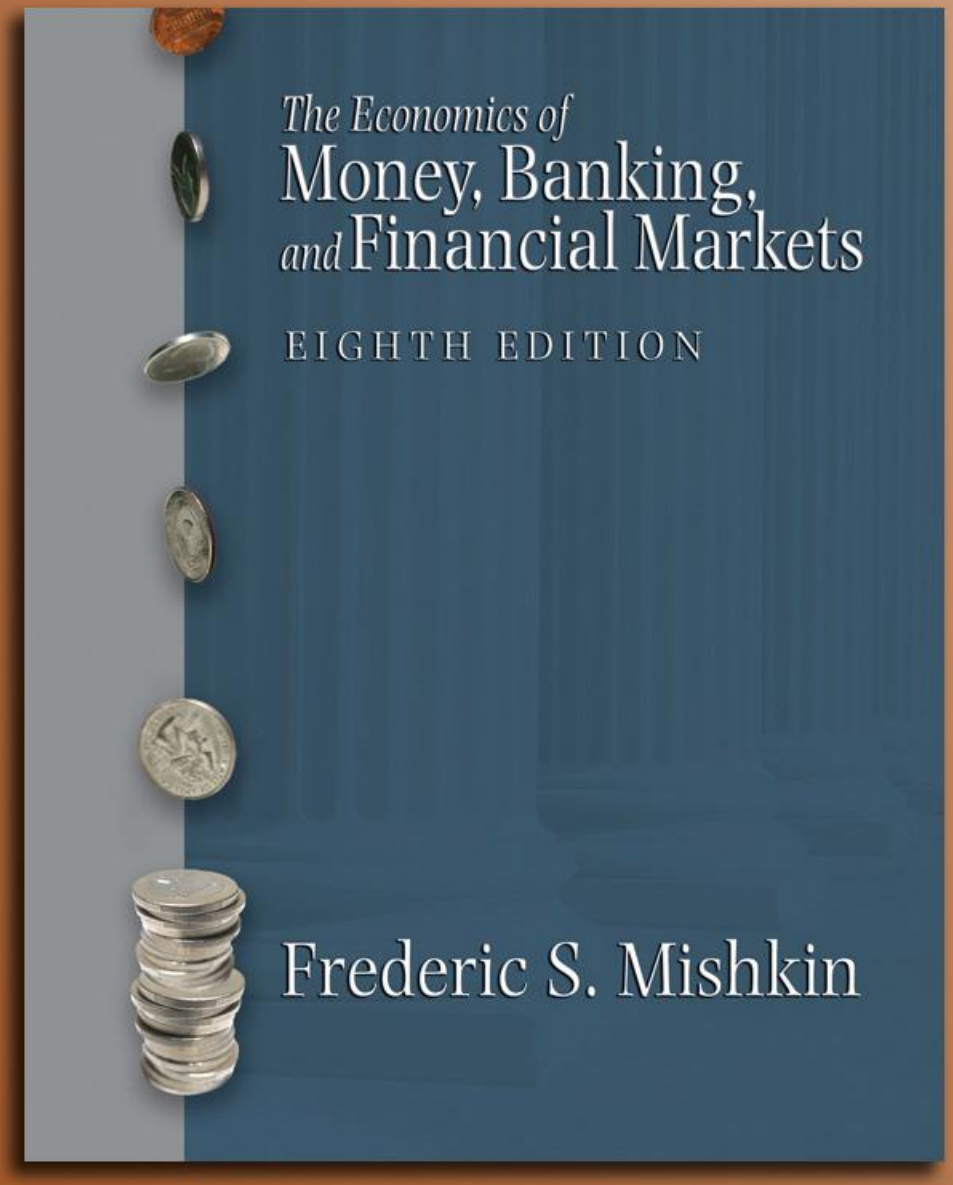

Chapter 23

Transmission Mechanisms of Monetary Policy: The Evidence

PEARSON Addison Wesley

Structural Model

- Examines whether one variable affects another by using data to build a model that explains the channels through which the variable affects the other
- Transmission mechanism
  - The change in the money supply affects interest rates
  - Interest rates affect investment spending
  - Investment spending is a component of aggregate spending (output)

Reduced-Form

- Examines whether one variable has an effect on another by looking directly at the relationship between the two
- Analyzes the effect of changes in money supply on aggregate output (spending) to see if there is a high correlation
- Does not describe the specific path

Structural Model
Advantages and Disadvantages

- Possible to gather more evidence⇒ more confidence on the direction of causation
- More accurate predictions
- Understand how institutional changes affect the links
- Only as good as the model it is based on

Reduced-Form Advantages and Disadvantages

- No restrictions imposed on the way monetary policy affects the economy
- Correlation does not necessarily imply causation
  - Reverse causation
  - Outside driving factor

Early Keynesian Evidence

- Monetary policy does not matter at all
- Three pieces of structural model evidence
  - Low interest rates during the Great Depression indicated expansionary monetary policy but had no effect on the economy
  - Empirical studies found no linkage between movement in nominal interest rates and investment spending
  - Surveys of business people confirmed that investment in physical capital was not based on market interest rates

Objections to Early Keynesian Evidence

- Friedman and Schwartz publish a monetary history of the U.S. showing that monetary policy was actually contractionary during the Great Depression
- Many different interest rates
- During deflation, low nominal interest rates do not necessarily indicate expansionary policy
- Weak link between nominal interest rates and investment spending does not rule out a strong link between real interest rates and investment spending
- Interest-rate effects are only one of many channels

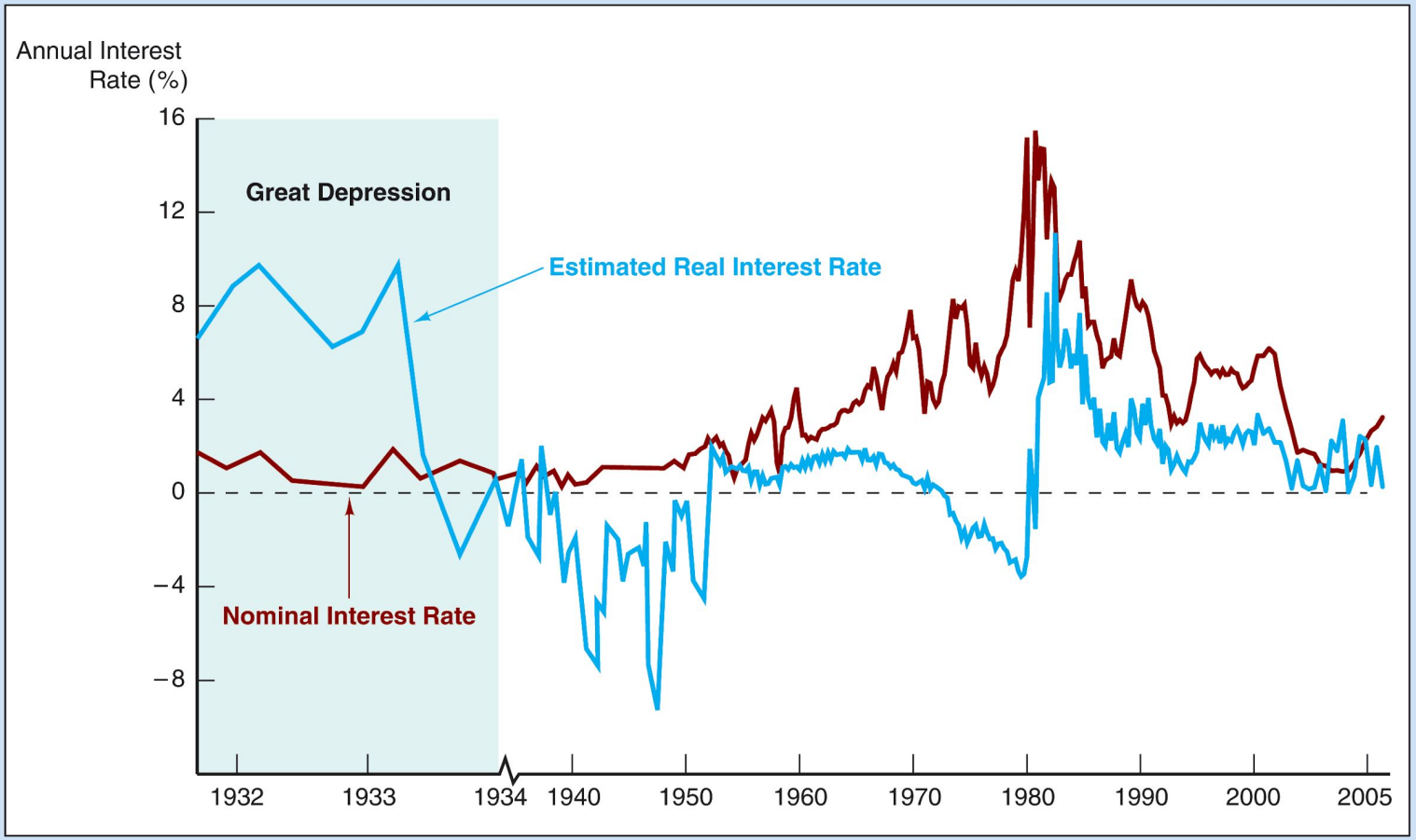

FIGURE 1 **Real and Nominal Interest Rates on Three-Month Treasury Bills, 1931–2005**

Sources: Nominal rates from www.federalreserve.gov/releases/h15/update/. The real rate is constructed using the procedure outlined in Frederic S. Mishkin, "The Real Interest Rate: An Empirical Investigation," *Carnegie-Rochester Conference Series on Public Policy* 15 (1981): 151–200. This involves estimating expected inflation as a function of past interest rates, inflation, and time trends and then subtracting the expected inflation measure from the nominal interest rate.

Timing Evidence of Early Monetarists

- Money growth causes business cycle fluctuations but its effect on the business cycle operates with “long and variable lags”
- Post hoc, ergo propter hoc
  - Exogenous event
  - Reduced form nature leads to possibility of reverse causation
  - Lag may be a lead

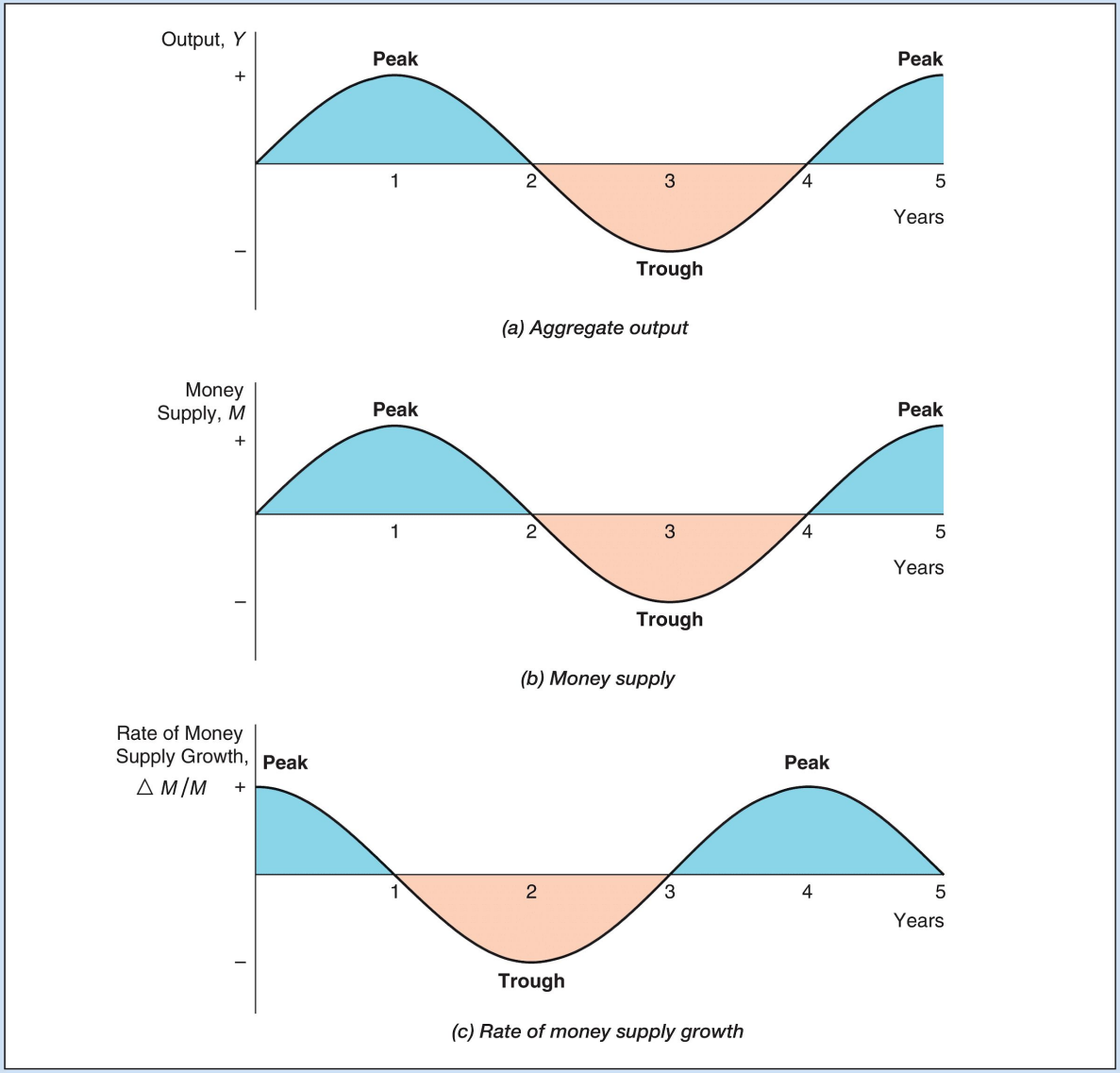

FIGURE 2 **Hypothetical Example in Which Money Growth Leads Output**

Statistical Evidence

- Autonomous expenditure variable equal to investment spending plus government spending
  - For Keynesian model AE should be highly correlated with aggregate spending but money supply should not
  - For Monetarist money supply should be highly correlated with aggregate spending but AE should not
- Neither model has turned out be more accurate than the other

Historical Evidence

- If the decline in the growth rate of the money supply is soon followed by a decline in output in these episodes, much stronger evidence is presented that money growth is the driving force behind the business cycle
- *A Monetary History* documents several instances in which the change in the money supply is an exogenous event and the change in the business cycle soon followed

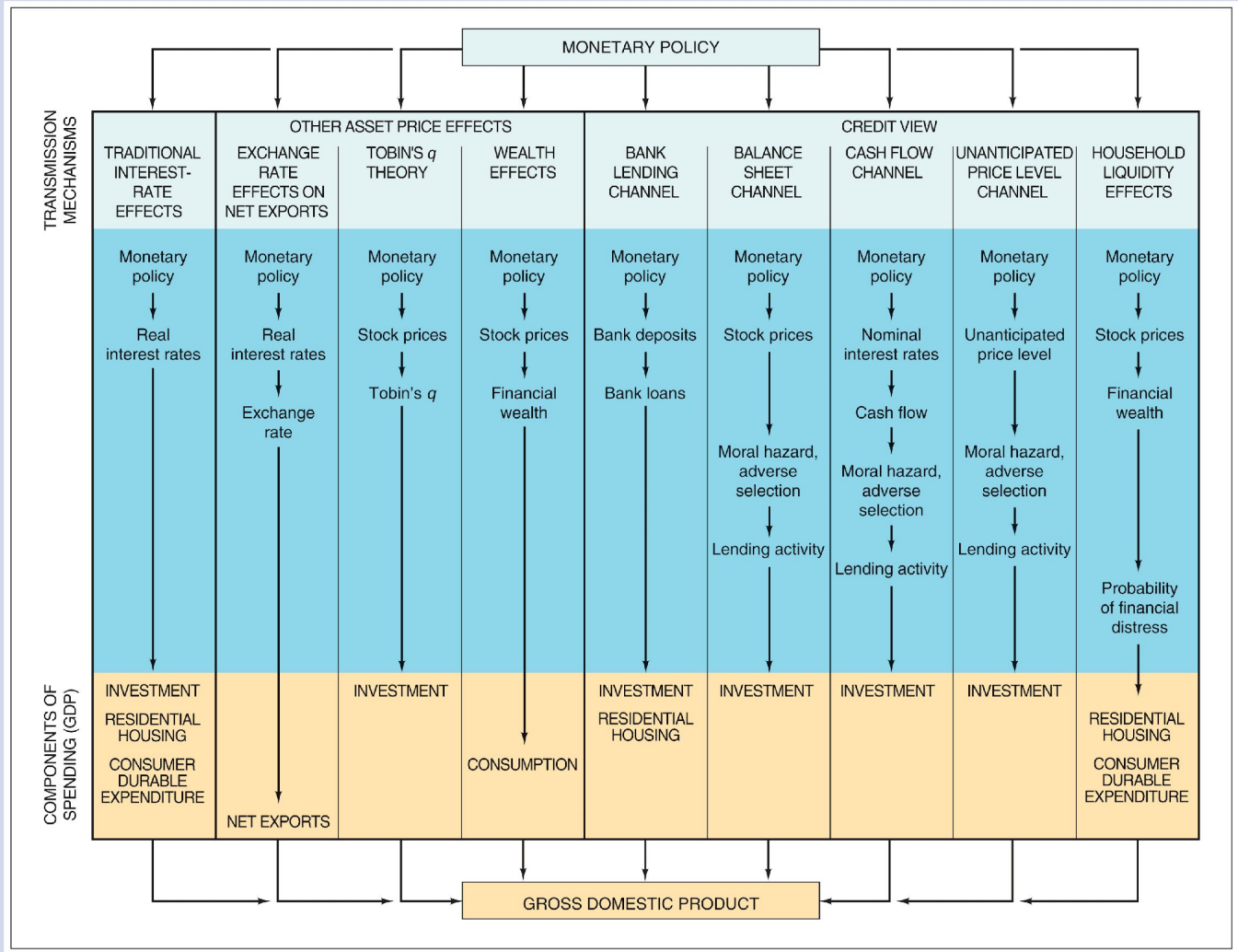

FIGURE 3 **The Link Between Monetary Policy and GDP: Monetary Transmission Mechanisms**

Lessons for Monetary Policy

- It is dangerous always to associate the easing or the tightening of monetary policy with a fall or a rise in short-term nominal interest rates
- Other asset prices besides those on short-term debt instruments contain important information about the stance of monetary policy because they are important elements in various monetary policy transmission mechanisms

Lessons for Monetary Policy (cont'd)

- Monetary policy can be highly effective in reviving a weak economy even if short-term interest rates are already near zero
- Avoiding unanticipated fluctuations in the price level is an important objective of monetary policy, thus providing a rationale for price stability as the primary long-run goal for monetary policy