

# CHAPTER 26

## Transmission Mechanisms of Monetary Policy: The Evidence

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## Two Types of Empirical Evidence

### Structural Model Evidence (Keynesians)

$$M \longrightarrow i \longrightarrow I \longrightarrow Y$$

### Reduced Form Evidence (Monetarists)

$$M \longrightarrow ? \longrightarrow Y$$

### Structural Model Evidence

#### Advantages:

1. Understand causation because more information on link between  $M$  and  $Y$
2. Knowing how  $M$  affects  $Y$  helps prediction
3. Can predict effects of institutional changes that change link from  $M$  to  $Y$  (e.g., regulation  $Q$ )

#### Disadvantages:

1. Structural model may be wrong, negating all advantages

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## Reduced Form Evidence

#### Advantages:

1. No restrictions on how  $M$  affects  $Y$ ; better able to find link from  $M$  to  $Y$

#### Disadvantages:

1. Reverse causation possible
2. Third factor may produce correlation of  $M$  and  $Y$

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## Early Keynesian Evidence

Evidence:

1. Great Depression:  $i \downarrow$  on T-bonds to low levels  $\Rightarrow$  monetary policy was "easy"
2. No statistical link from  $i$  to  $I$
3. Surveys: no link from  $i$  to  $I$

Objections to Keynesian evidence

Problems with structural model

1.  $i$  on T-bonds not representative during Depression:  $i$  very high on low-grade bonds: Figure 1 in Ch. 6
2.  $i_r$  more relevant than  $i$ :  $i_r$  high during Depression: Figure 1
3.  $M^s \downarrow$  during Depression (Friedman and Schwartz): money "tight"
4. Wrong structural model to look at link of  $i$  and  $I$ , should look at  $i_r$  and  $I$ : evidence in 1 and 2 suspect

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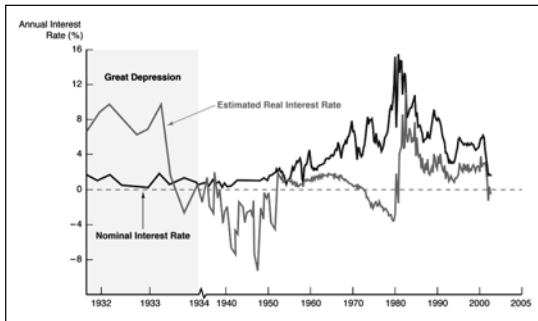
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## Real and Nominal Interest Rates



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## Early Monetarist Evidence

**Monetarist evidence is reduced form**

**Evidence: Timing, Statistical and Historical**

### 1) Timing Evidence

(Friedman and Schwartz)

1. Peak in  $M^s$  growth 16 months before peak in  $Y$  on average
2. Lag is variable

**Criticisms:**

1. Uses principle: *Post hoc, ergo propter hoc*
2. Principle only valid if first event is exogenous: i.e., if have controlled experiment
3. Hypothetical example (Fig 2): Reverse causation from  $Y$  to  $M$  and yet  $M^s$  growth leads  $Y$

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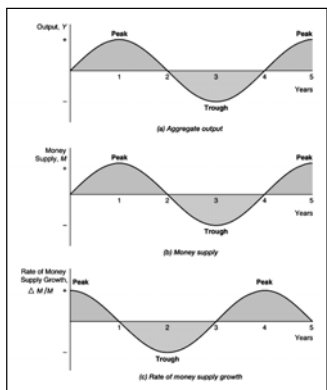
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## Hypothetical Example in Which $\Delta M/M$ leads Y



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## 2) Statistical Evidence

**Horse race: correlation of  $A (=I+G)$  vs  $M$  with  $(Y-A)$ ; Friedman and Meiselman,  $M$  wins**

### Criticisms:

1. Reverse causation from  $Y$  to  $M$ , or third factor driving  $M$  and  $Y$  are possible
  2. Keynesian model used too simple, unfair handicap
  3. A measure poorly constructed
- Postmortem with different measures of  $A$ : no clear-cut victory

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## 3) Historical Evidence

Friedman and Schwartz: *Monetary History of the U.S.*

1. Important as criticism of Keynesian evidence on Great Depression
  2. Documents timing evidence
- More convincing than other monetarist evidence:  
**Episodes are almost like “controlled experiments”**
1. *Post hoc, ergo propter hoc* applies
  2. History allows ruling out of reverse causation and third factor: e.g., 1936–37 rise in reserve requirements and 1937-38 recession

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## Monetary Transmission Mechanisms

### Traditional Interest-Rate Channels

$M \uparrow, i_r \downarrow, I \uparrow, Y \uparrow$   
 $M \uparrow, P^e \uparrow, \pi^e \uparrow, i_r \downarrow, I \uparrow, Y \uparrow$

### Other Asset Price Channels

#### International Trade

$M \uparrow, i \downarrow, E \downarrow, NX \uparrow, Y \uparrow$

#### Tobin's $q$

$M \uparrow, P_s \uparrow, q \uparrow, I \uparrow, Y \uparrow$

#### Wealth Effects

$M \uparrow, P_s \uparrow, W \uparrow, C \uparrow, Y \uparrow$

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## Credit View

### Bank Lending

$M \uparrow, \text{deposits} \uparrow, \text{bank loans} \uparrow, I \uparrow, Y \uparrow$

### Balance-Sheet

$M \uparrow, P_e \uparrow, \text{adverse selection} \downarrow, \text{moral hazard} \downarrow, \text{lending} \uparrow,$   
 $I \uparrow, Y \uparrow$

### Cash Flow

$M \uparrow, i \downarrow, \text{cash flow} \uparrow, \text{adverse selection} \downarrow, \text{moral hazard} \downarrow,$   
 $\text{lending} \uparrow,$   
 $I \uparrow, Y \uparrow$

### Unanticipated Price Level

$M \uparrow, \text{unanticipated } P \uparrow, \text{adverse selection} \downarrow, \text{moral hazard} \downarrow,$   
 $\text{lending} \uparrow, I \uparrow, Y \uparrow$

### Liquidity Effects

$M \uparrow, P_e \uparrow, \text{value of financial assets} \uparrow, \text{likelihood of financial}$   
 $\text{distress} \downarrow, \text{consumer durable and housing expenditure} \uparrow, Y \uparrow$

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## Lessons for Monetary Policy

1. Dangerous to associate easing or tightening with fall or rise in nominal interest rates.
2. Other asset prices besides short-term debt have information about stance of monetary policy.
3. Monetary policy effective in reviving economy even if short-term interest rates near zero.
4. Avoiding unanticipated fluctuations in price level important: rationale for price stability objective.

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