

# chapter 25

## Transmission Mechanisms of Monetary Policy: The Evidence

15-1

### Two Types of Empirical Evidence

#### Structural Model Evidence

$M \rightarrow i \rightarrow I \rightarrow \dots \rightarrow Y$

#### Reduced Form Evidence

$M \rightarrow ? \rightarrow Y$

#### Structural Model Evidence

#### Advantages:

1. Understand causation because more info on link between  $M$  and  $Y$
2. Knowing how  $M$  affects  $Y$  helps prediction
3. Can predict affects of institutional changes that change link from  $M$  to  $Y$

#### Disadvantages:

1. Structural model may be wrong, negating all advantages

15-2

## 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  $Y$

15-3

## Early Keynesian Evidence

### Evidence:

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

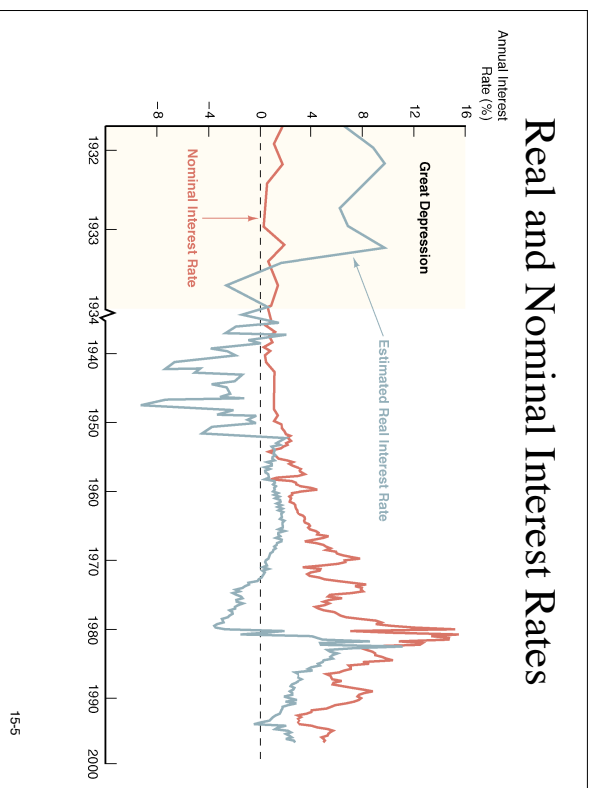
### Objections to Keynesian evidence

#### *Problems with structural model*

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

15-4

## Real and Nominal Interest Rates



15-5

## Early Monetarist Evidence

**Monetarist evidence is reduced from**

### *Timing Evidence*

(Friedman and Schwartz)

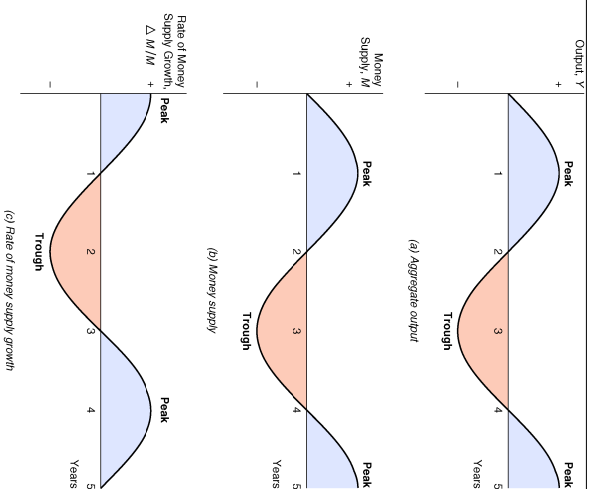
1. Peak in  $M^1$  growth 16 months before peak in  $Y$  on average
2. Lag is variable

### *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  $M^1$  growth leads  $Y$

15-6

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



## Statistical Evidence

**Horse race: correlation of  $A$  vs  $M$  with  $Y$ ; 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 too simple, unfair handicap
3. A measure poorly constructed

Postmortem with different measures of  $A$ : no clear-cut victory

15-8

## 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

15-9

## Monetary Transmission Mechanisms

### Traditional Interest-Rate Channels

$M \downarrow, i \uparrow, I \downarrow, Y \downarrow$

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

### Other Asset Price Channels

#### *International Trade*

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

#### *Tobin's q*

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

#### *Wealth Effects*

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

15-10

## Credit View

### Bank Lending

$M \uparrow$ , deposits  $\uparrow$ , bank loans  $\uparrow$ ,  $I \uparrow$ ,  $Y \uparrow$

### Balance-Sheet

$M \uparrow$ ,  $P_e \uparrow$ , adverse selection  $\square$ , moral hazard  $\square$ , lending  $\uparrow$ ,  
 $I \uparrow$ ,  $Y \uparrow$

### Cash Flow

$M \uparrow$ ,  $i \square$ , adverse selection  $\square$ , moral hazard  $\square$ , lending  $\uparrow$ ,  
 $I \uparrow$ ,  $Y \uparrow$

### Unanticipated Price Level

$M \uparrow$ , unanticipated  $P \uparrow$ , adverse selection  $\square$ , moral hazard  $\square$ ,  
lending  $\uparrow$ ,  $I \uparrow$ ,  $Y \uparrow$

### Liquidity Effects

$M \uparrow$ ,  $P_e \uparrow$ , value of financial assets  $\uparrow$ , likelihood of financial distress  $\square$ ,  
consumer durable and housing expenditure  $\uparrow$ ,  $Y \uparrow$

15-11

## 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 info 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.

15-12