



# Monetary Policy Part II

The phrase 'perception is reality' is overused generally. But perception can be reality in monetary policy. The market doesn't act merely on what it sees. It acts on what it expects of the Fed or the government.

Amity Shlaes



# The Equation of Exchange

The quantity of money in circulation and the velocity with which it travels (changes hands) in product markets will always equal the value of total spending and income (nominal GDP).

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# The Equation of Exchange

The equation implies that if  $M$  (the money in circulation) increases, then prices ( $P$ ) or output ( $Q$ ) must rise or velocity ( $V$ ) must fall.

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# Stable Velocity

- Monetarists assume that the velocity of money ( $V$ ) is stable.
- Accordingly, total spending must rise if the money supply ( $M$ ) grows and ( $V$ ) is stable.



# Money-Supply Focus

- As Monetarists see it, changes in the money supply must alter total spending, regardless of how interest rates move.
- The Fed should not try to manipulate interest rates, but should focus on the money supply itself (hence the label *monetarists*).



# Natural Unemployment

- Some monetarists claim that  $Q$ , as well as  $V$ , is stable.
- If true, changes in the money supply ( $M$ ) affect only prices ( $P$ ).



# Natural Unemployment

The **natural rate of unemployment** is the long-term rate of unemployment determined by structural forces in labor and product markets.

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# Natural Unemployment



The most extreme monetarist perspective concludes that changes in the money supply affect prices only.

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# Monetarist Policies

- Monetarists and Keynesians disagree on how to stabilize the economy.
  - *Keynesians* concentrate on how the money supply affects interest rates which affect spending which affects output.
  - *Monetarists* use the simple equation of exchange ( $MV=PQ$ ) to produce straightforward monetary policy.



# Fighting Inflation

Monetarists argue that Keynesian anti-inflation policies will cause high nominal interest rates to go down, not up.

(And lower interest rates are not what's needed to fight inflation!)

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# Real vs. Nominal Interest

- Monetarists distinguish between nominal and real interest rates.
  - The **real interest rate** is the nominal rate of interest minus the anticipated inflation rate.

$$\text{Real interest rate} = \text{nominal interest rate} - \text{anticipated inflation rate}$$



# Real vs. Nominal Interest

Monetarist believe that real interest rates are stable so that changes in the nominal interest rate reflect changes in anticipated inflation.

$$\text{nominal interest rate} = \text{real interest rate} + \text{anticipated inflation rate}$$



# Short- vs. Long-Term Rates (again)

Rather than risking upsetting long-term decisions, monetarists advocate steady and predictable changes in the money supply.

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# Fighting Unemployment

- The *Keynesian* cure for unemployment is to expand  $M$  and lower interest rates.
- *Monetarists* fear that an increase in  $M$  will lead, via the equation of exchange, to higher  $P$ .



# Fighting Unemployment

- From a monetarist perspective, expansionary monetary policies are not likely to lead us out of a recession.
- In fact, such policies might double our burden by heaping inflation on top of our unemployment woes.



# The Concern for Content

Monetary policy, like fiscal policy, can affect the *content* of GDP as well as its level.

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# The Mix of Output

- Some industries, like the residential housing market, are more susceptible to monetary policy than others.
- Large corporations are more likely to get loans when money is tight than are smaller ones.



# Income Redistribution

Monetary policy redistributes money  
between lenders and borrowers.

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# Which Lever to Pull?

Success in managing the macro economy of tomorrow depends on pulling the right policy levers at the right time.

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# The Policy Levers

What Keynesians and Monetarists argue about is which of the policy levers –  $(M)$  or  $(V)$  – is likely to be effective in altering aggregate spending.

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# The Policy Levers

- *Monetarists* point to the money supply as the principal lever.
- *Keynesians* must rely on changes in velocity because tax and spending policies have no direct impact on the money supply.

# Crowding Out



If velocity is constant, changes in total spending can come about only through changes in the money supply.

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# Crowding Out

- If the government raises taxes or borrows more money, it effectively crowds out consumers and investors who would otherwise be spending or borrowing.
  - **crowding out** – a reduction in private-sector borrowing and spending caused by increased government borrowing

# How Fiscal Policy Works: Two Views



How well *fiscal policy* works depends on how much the velocity of money can be changed by government tax and spending decisions.

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# How Fiscal Policy Works: Two Views



- *Keynesians* assert that aggregate spending will be affected as the velocity of money ( $V$ ) changes.
- *Monetarists* say that won't happen because ( $V$ ) won't change.



# Table: How Fiscal Policy Matters

Do changes in G or I affect:

Monetarist View

Keynesian View

Aggregate demand?

No  
(stable V causes crowding out)

Yes  
(V changes)

Prices?

No  
(aggregate demand not affected)

Maybe  
(if at capacity)

Real output?

No  
(aggregate demand not affected)

Yes  
(output responds to demand)

Nominal interest rates?

Yes  
(crowding out)

Maybe  
(may alter demand for money)

Real interest rates

No  
(determined by real growth)

Yes  
(real growth and expectations may vary)

# How Monetary Policy Works: Two Views



- *Monetarists* say a change in  $M$  must alter total spending because  $V$  is stable.
- *Keynesians* assert that  $V$  may vary, so they aren't convinced that monetary policy will always work.



# Table: How Money Matters

Do changes in M affect:	Monetarist View	Keynesian View
Aggregate demand?	Yes (V stable)	Maybe (V may change)
Prices?	Yes (V and Q stable)	Maybe (V and Q may change)
Real output?	No (rate of unemployment determined by structural forces)	Maybe (output responds to demand)
Nominal interest rates?	Yes (but direction unknown)	Maybe (liquidity trap)
Real interest rates	No (depends on real growth)	Maybe (real growth may vary)

# Is Velocity Stable?



The critical question of monetary policy appears to be whether  $V$  is stable or not.

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# Long-Run Stability

- The velocity of money turns out to be quite stable over long periods of time.
- The historical pattern justifies the monetarist assumption of a stable  $V$ .

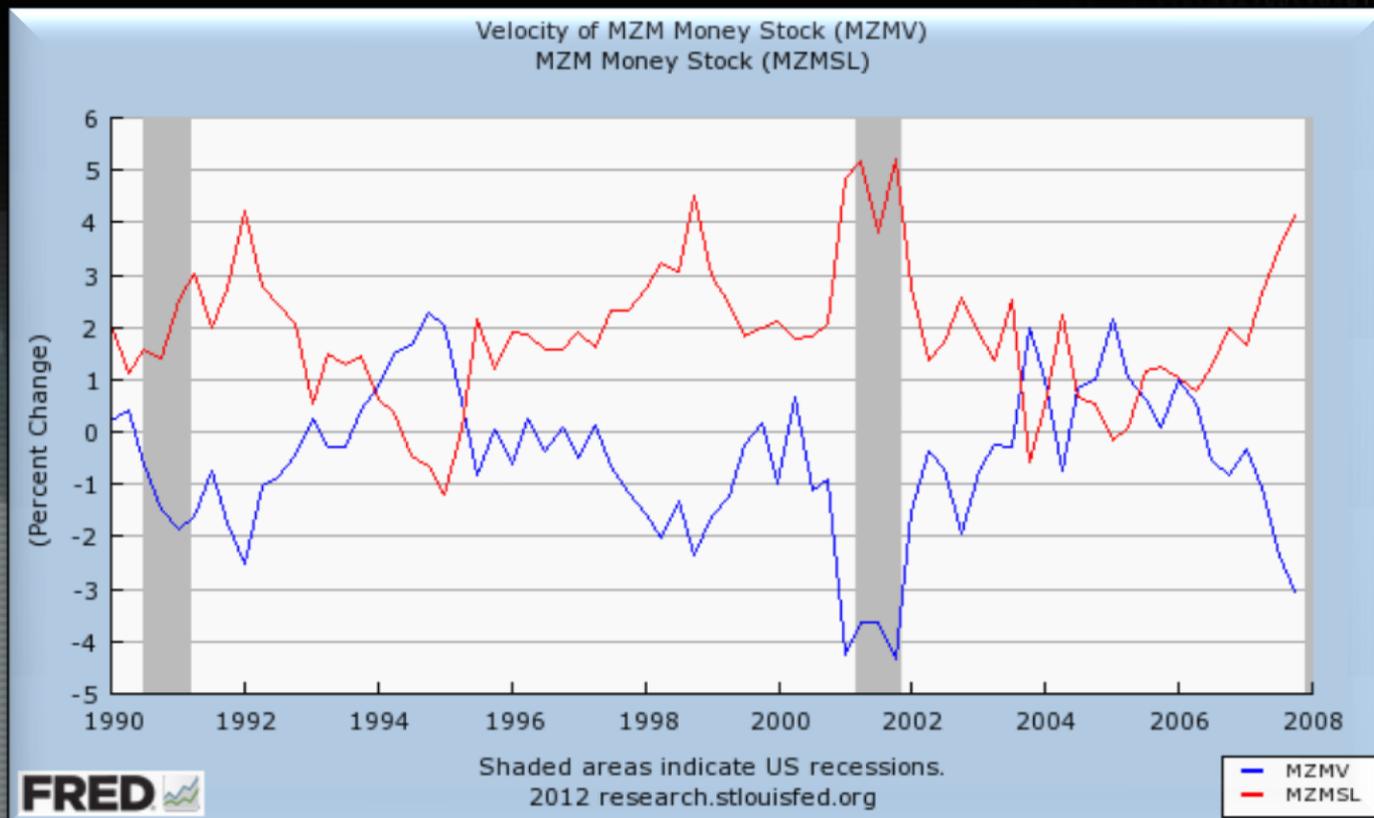
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# Stability and Expectations

Stability isn't surprising ...  $V$  is a function of expectations of future growth in  $M$  and those expectations are determined by what monetary policy is in place.



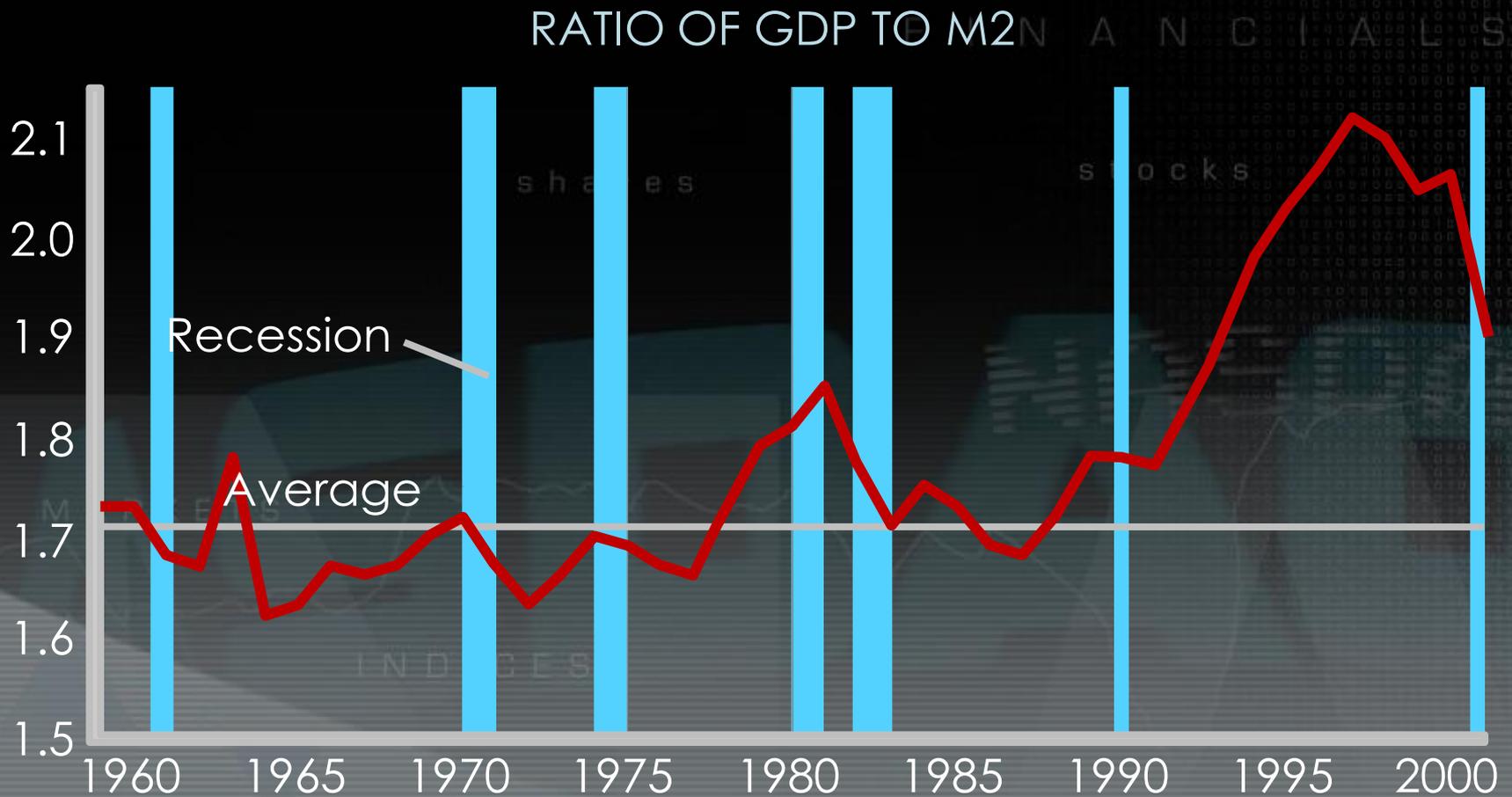


# Short-Run Instability

- There is a pattern of short-run variations in velocity.
- Velocity tends to decline in recessions.



# Chart: The Velocity of M2





# Money Supply Targets

The differing views of Keynesians and Monetarists clearly lead to different conclusions about which policy lever to pull.

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# Monetarist Advice



Monetarists favor fixed money supply targets.

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# Keynesian Advice

- Keynesians reject fixed money supply targets.
- Keynesians advocate targeting interest rates, not the money supply.



# The Fed's Eclecticism

- From 1979-1982, the Fed adopted the monetarist policy of fixed money supply targets.
- From 1982-1993, the Fed adopted an eclectic mixture of monetarist and Keynesian policies in place of a strict monetarist approach.

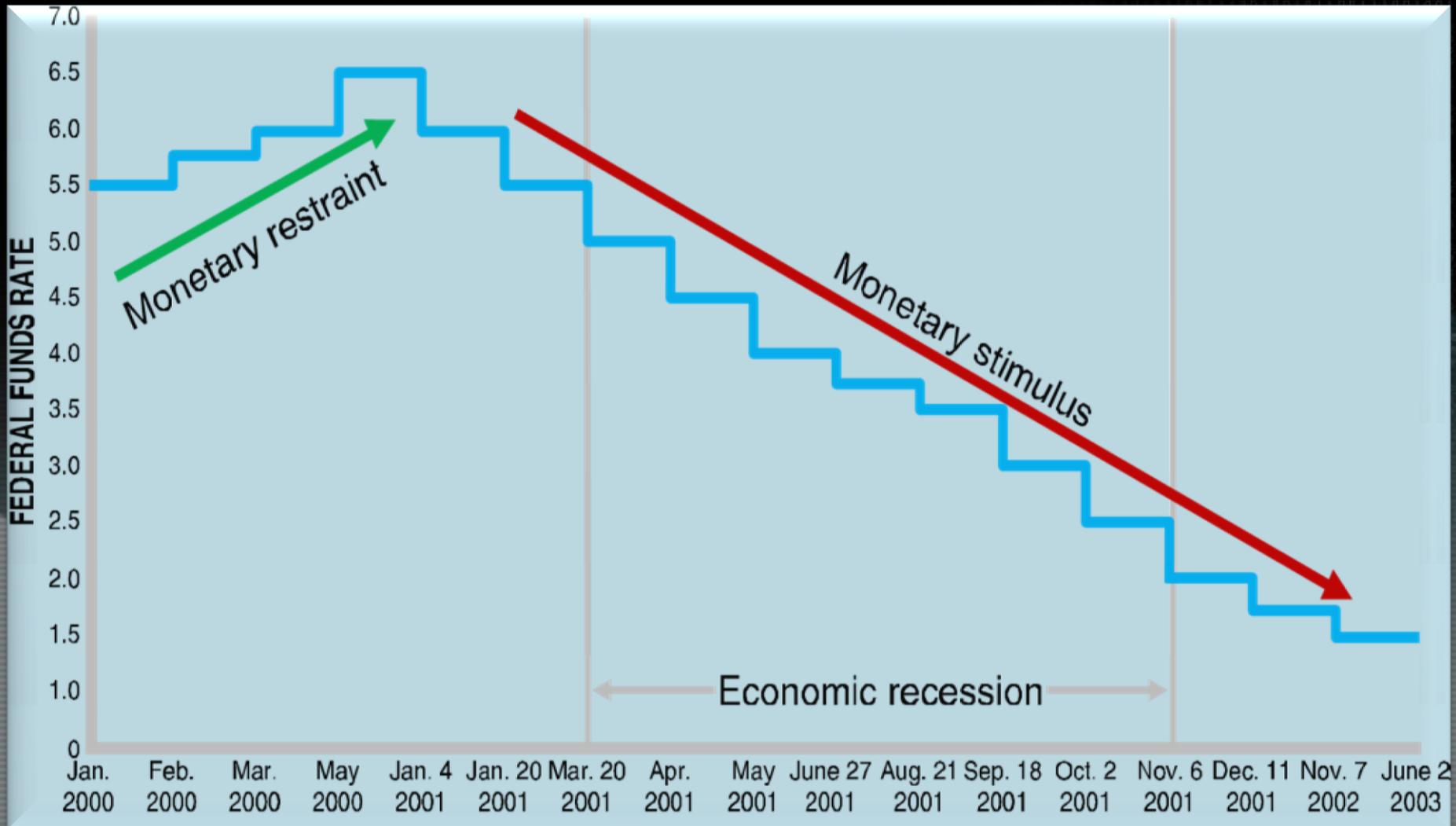


# Focus on Federal Funds Rate

- Since 1993, money-supply targets have all but been abandoned by the Fed.
- Fed governors now assess the state of the economy and make necessary adjustments to the federal funds rate through open-market operations.



# Chart: Policy Reversals





The End