



Monetary Policy Part I

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 Money Market

- The price of money (as with all goods) is determined by the supply and demand of money.
- The **interest rate** is the price paid for the use of money.



Money Balances

- Most of the money in the money supply (M1 and M2) is in the form of bank balances.
- **Money Supply (M1)** – currency held by the public, plus balances in transaction accounts
- **Money Supply (M2)** - M1 plus balances in most saving accounts and money market mutual funds



The Price of Money

Foregone interest is the opportunity cost (price) of money people choose to hold.

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The Demand for Money

- The **demand for money** is the quantities of money people are willing and able to hold at alternative interest rates, *ceteris paribus*.
- A **portfolio decision** is the choice of how (where) to hold idle funds.



The Demand for Money

- Although holding money provides little or no interest, there are reasons for doing so:
 - transaction demand
 - precautionary demand
 - speculative demand



The Demand for Money

- **transaction demand for money** – money held for the purpose of making everyday market purchases
- **precautionary demand for money** – money held for unexpected market transactions or for emergencies



The Demand for Money

speculative demand for money – money held for speculative purposes, for later financial opportunities

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The Market-Demand Curve

The quantity of money that people are willing and able to hold (demand) increases as interest rates fall (*ceteris paribus*).

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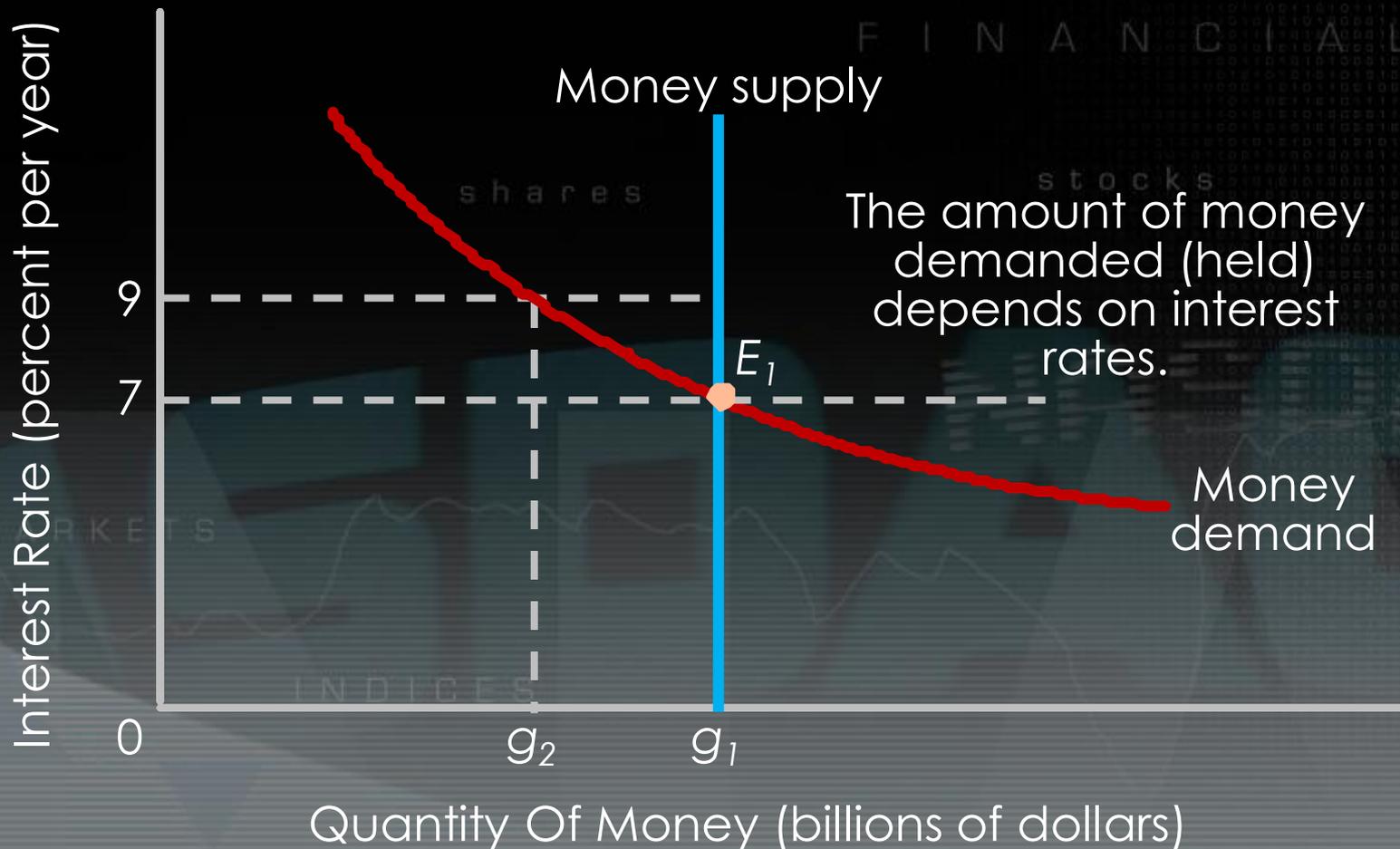
Equilibrium



- The equilibrium rate of interest occurs at the intersection of the money-demand and money-supply curves.
- The **equilibrium rate of interest** is the interest rate at which the quantity of money demanded in a given time period equals the quantity of money supplied.



Chart: Money Market Equilibrium

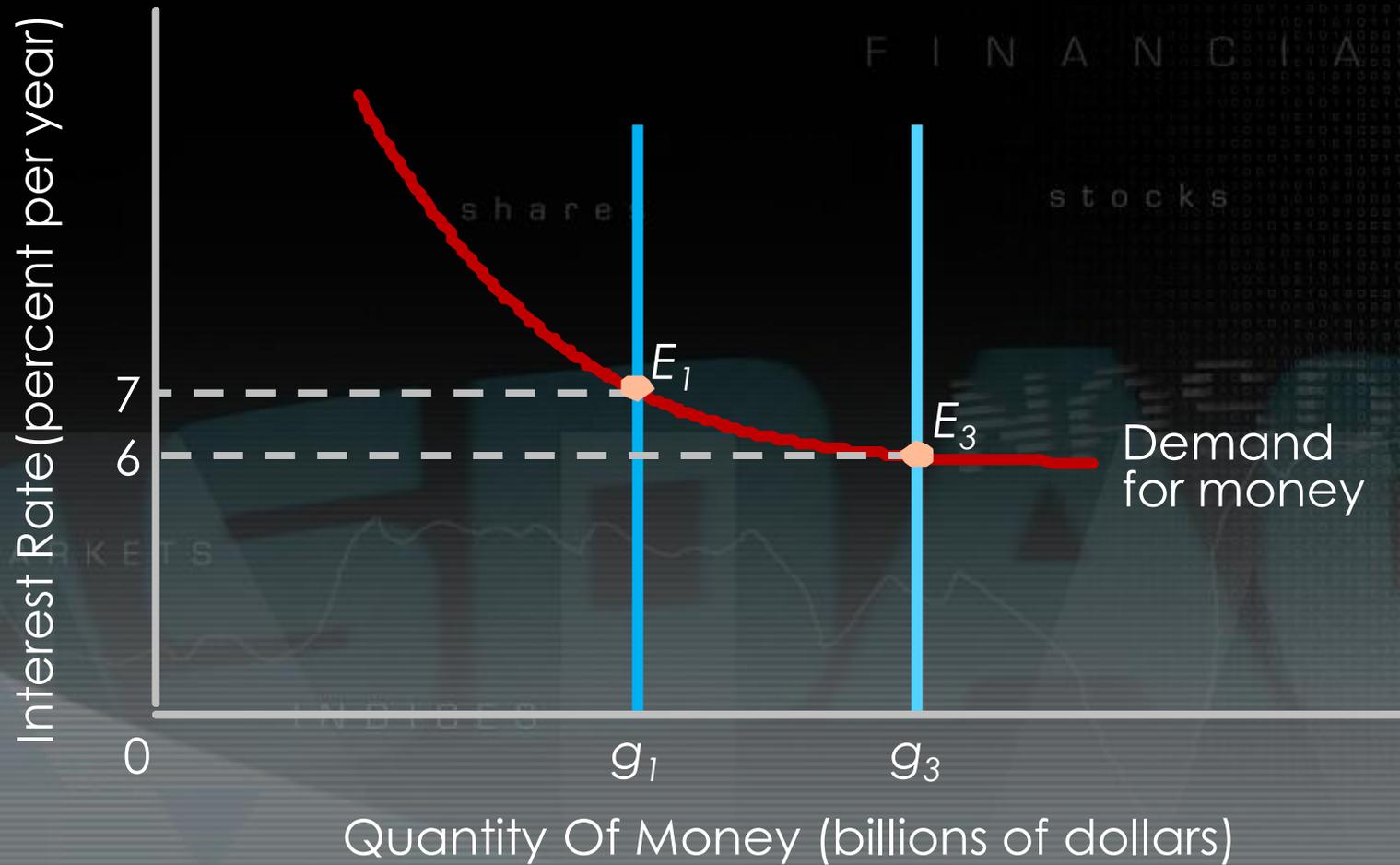




Changing Interest Rates

- The Fed tends to lower the equilibrium rate of interest when it increases the money supply.
- People are willing to hold larger money balances only at lower interest rates.

Chart: Changing Interest Rates





Federal Funds Rate

- When the Fed injects or withdraws reserves from the banking system, the federal funds rate is most directly affected.
- The federal funds rate reflects the cost of funds for banks.
 - **federal funds rate** – the interest rate for inter-bank reserve loans



Interest Rates and Spending

Changes in interest rates affect consumer, investor, government and net export spending.

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Monetary Stimulus

- The goal of MONETARY STIMULUS is to increase aggregate demand.
 - **aggregate demand** – the total quantity of output demanded at alternative price levels in a given time period, *ceteris paribus*



Investment

- Lowering interest rates lowers the cost of borrowing which encourages investment.
- Increased investment injects new spending into the circular flow.
- The multiplier effect causes an even larger increase in aggregate demand.



Aggregate Demand

- The Fed's objective of stimulating the economy is achieved in three steps:
 - an increase in the money supply
 - a reduction in interest rates
 - an increase in aggregate demand

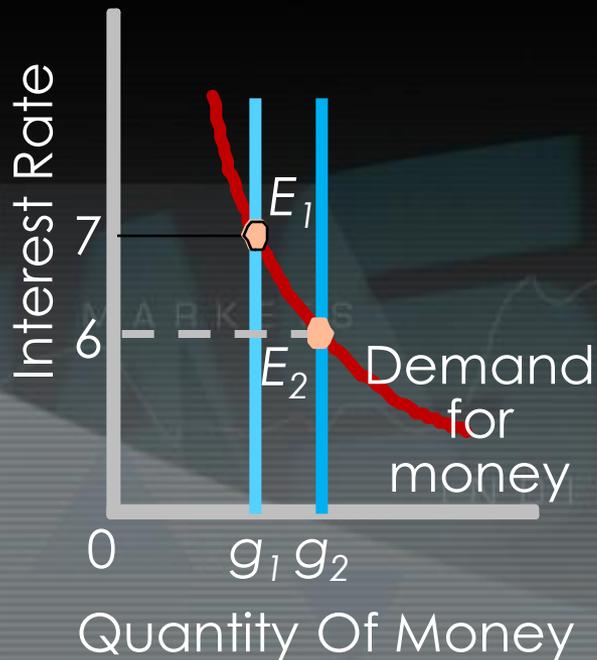
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Charts: Monetary Stimulus

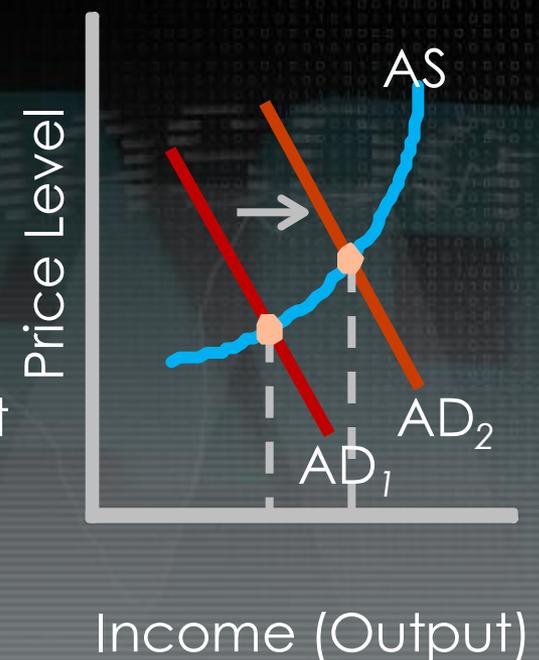
An increase in the money supply lowers the rate of interest.



A reduction in the rate of interest stimulates investment.



More investment increases aggregate demand (including multiplier effects).



Quantitative Impact



- Former Fed Chairman Alan Greenspan's policy guide:
 - A 1/10 of a point reduction in long-term interest rates equals \$10 billion of new government spending.

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Monetary Restraint



To lessen inflationary pressures, the Fed will apply a policy of **MONETARY RESTRAINT**.

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Higher Interest Rates

A Fed policy of higher interest rates is an attempt to reduce aggregate demand.

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Reduced Aggregate Demand



- Monetary restraint is achieved with:
 - a decrease in the money supply.
 - an increase in interest rates.
 - a decrease in aggregate demand.

Policy Constraints



Monetary policy doesn't always work as well as predicted.

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Constraints on Monetary Stimulus

Several constraints can limit the Fed's ability to alter the money supply, interest rates or aggregate demand.

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Short- vs. Long-Term Rates

The success of Fed intervention depends in part on how well changes in long-term interest rates mirror changes in short-term interest rates.

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Reluctant Lenders

- Banks themselves must expand the money supply by making new loans.
- Banks may be unwilling to make new loans even though the Fed is injecting excess reserves into the banking system.



Liquidity Trap

- The **liquidity trap** is the portion of the money-demand curve that is horizontal.
- People are willing to hold unlimited amounts of money at some (low) interest rate.



Low Expectations

- Gloomy expectations deter people from borrowing and spending in spite of lower interest rates.
- Investment demand that is slow to respond to lower interest rates is said to be **inelastic**.



Time Lags

There is always a time lag between interest-rate changes and investment responses.

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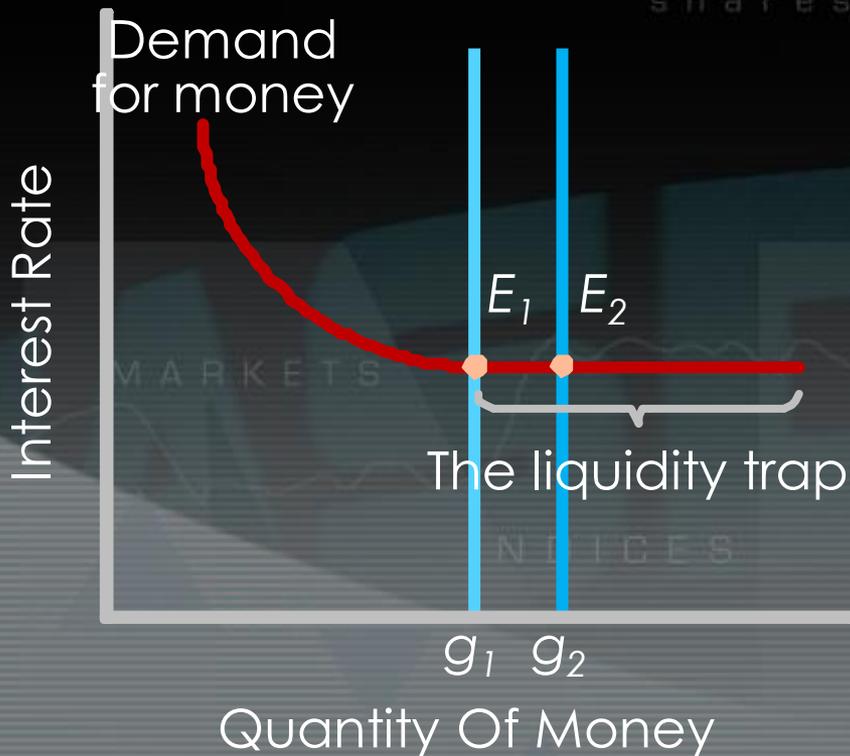
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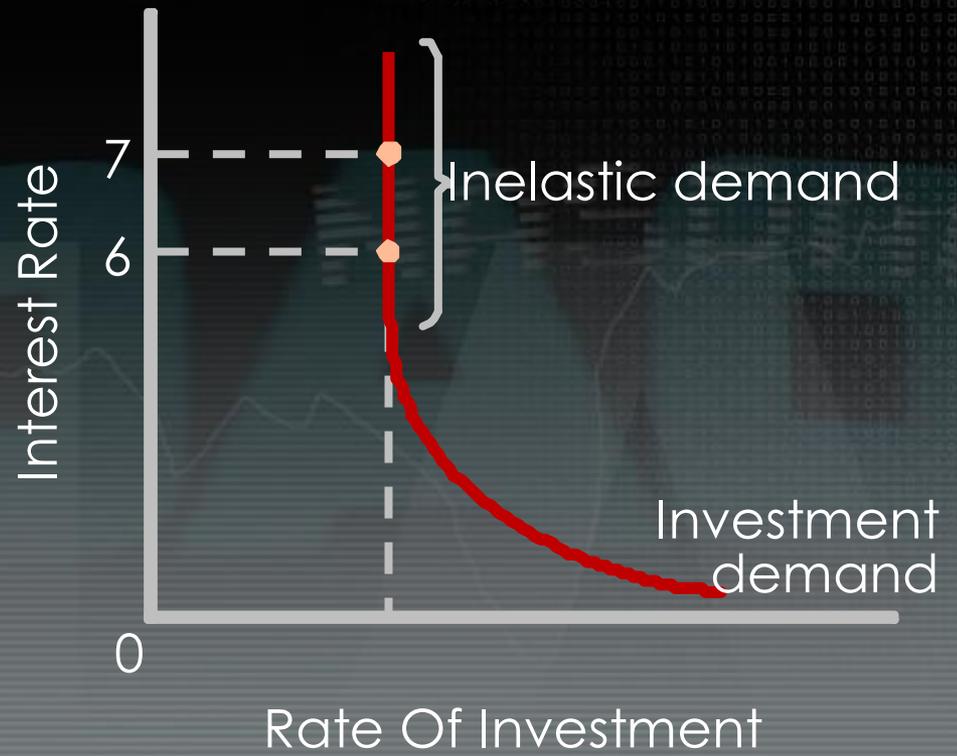
Charts: Constraints on Monetary Stimulus



A liquidity trap can stop interest rates from falling.



Inelastic investment demand can also impede monetary policy.





Limits on Monetary Restraint

- Two factors make it harder for the Fed to restrain aggregate demand.
 - expectations
 - global money

Expectations



Optimistic consumers and investors may continue borrowing even though interest rates are higher.

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Global Money



US borrowers might tap global sources of money or local non-bank lenders not regulated by the Fed.

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How Effective?

- Keynes believed that monetary stimulus policy would not be effective at ending a deep recession.
- However, the limitations on monetary restraint are not considered as serious.



The Monetarist Perspective

- *Keynesians* believe that changes in the money supply affect macro outcomes primarily through changes in interest rates.
- *Monetarists* believe monetary policy cannot effectively fight the short-run business cycle but is a powerful tool for managing inflation.



The Equation of Exchange

- Monetarists use the equation of exchange to express the potential of monetary policy.
- According to the equation of exchange, the money supply (M) times the velocity of circulation (V) equals the level of aggregate spending ($P \times Q$).

$$MV = PQ$$



The Equation of Exchange

The **income velocity of money** (V) is the number of times per year, on average, a dollar is used to purchase final goods and services.

$$\text{Income velocity of money } (V) = \frac{PQ}{M}$$



CONTINUED IN MONETARY POLICY PART II

