

A graphical presentation of monetary policy impacts

What we saw in our last class:

- **Fractional reserve banking system**
- **How the CB the Money Supply:** Monetary policy and monetary policy tools
- Open market operations
- Discount policy
- Reserve requirements
- The CB cannot completely control the money supply: the role of nonbank public and banks.

The Quantity Theory of Money

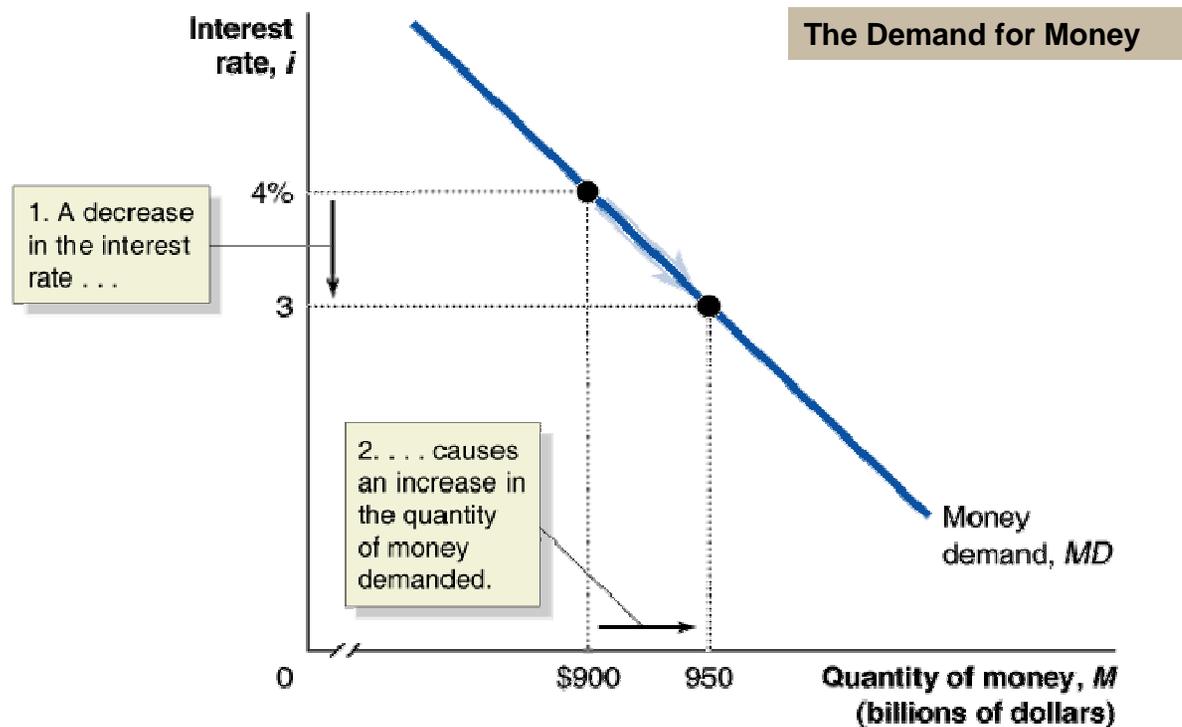
- A theory of the connection between money and prices that assumes that the velocity of money is constant.

$$M \times V = P \times Y$$

- Inflation rate = Growth rate of the money supply + Growth rate of velocity – Growth rate of real output
- If the velocity is constant:
- Inflation rate = Growth rate of the money supply – Growth rate of real output
- In the long run, inflation results from the money supply growing at a faster rate than real GDP.
- Hyperinflation and how it comes.

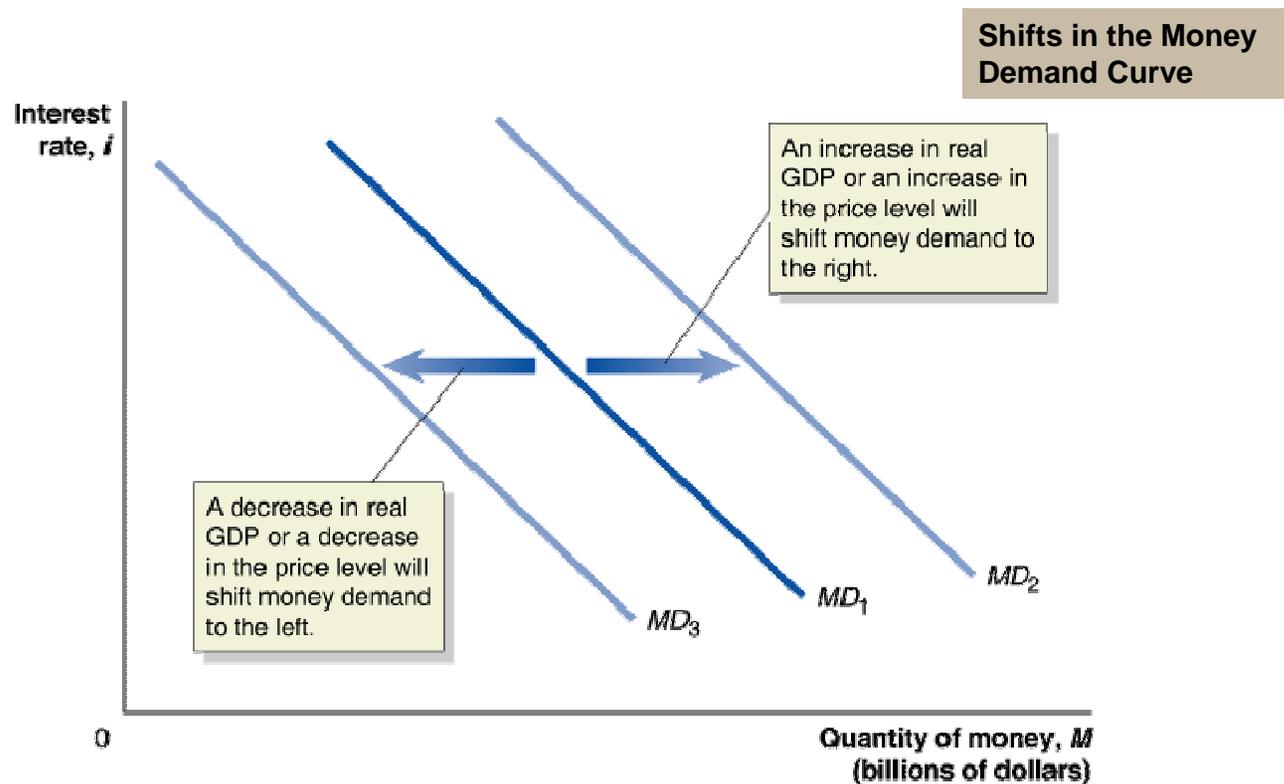
The Money Market and the CB's Choice of Monetary Policy Targets

The Demand for Money



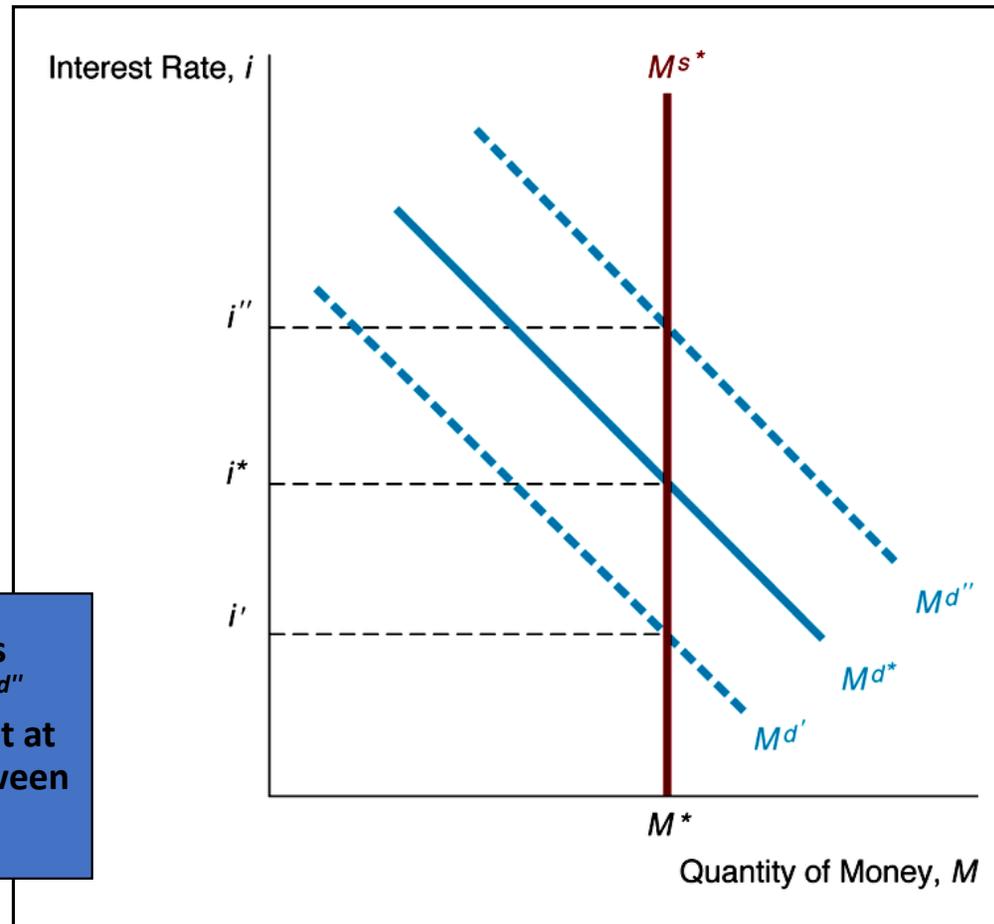
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Shifts in the Money Demand Curve



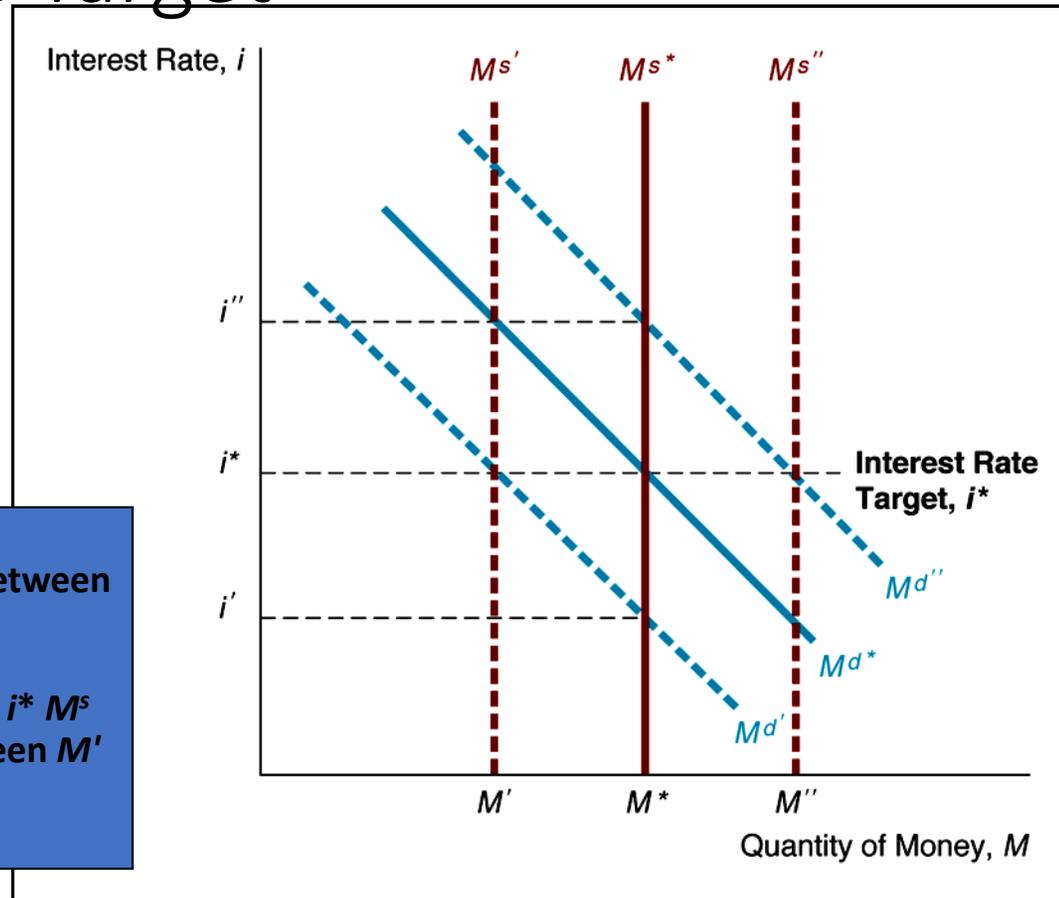
Money Supply Target

1. M^d fluctuates between $M^{d'}$ and $M^{d''}$
2. With M -target at M^* , i fluctuates between i' and i''



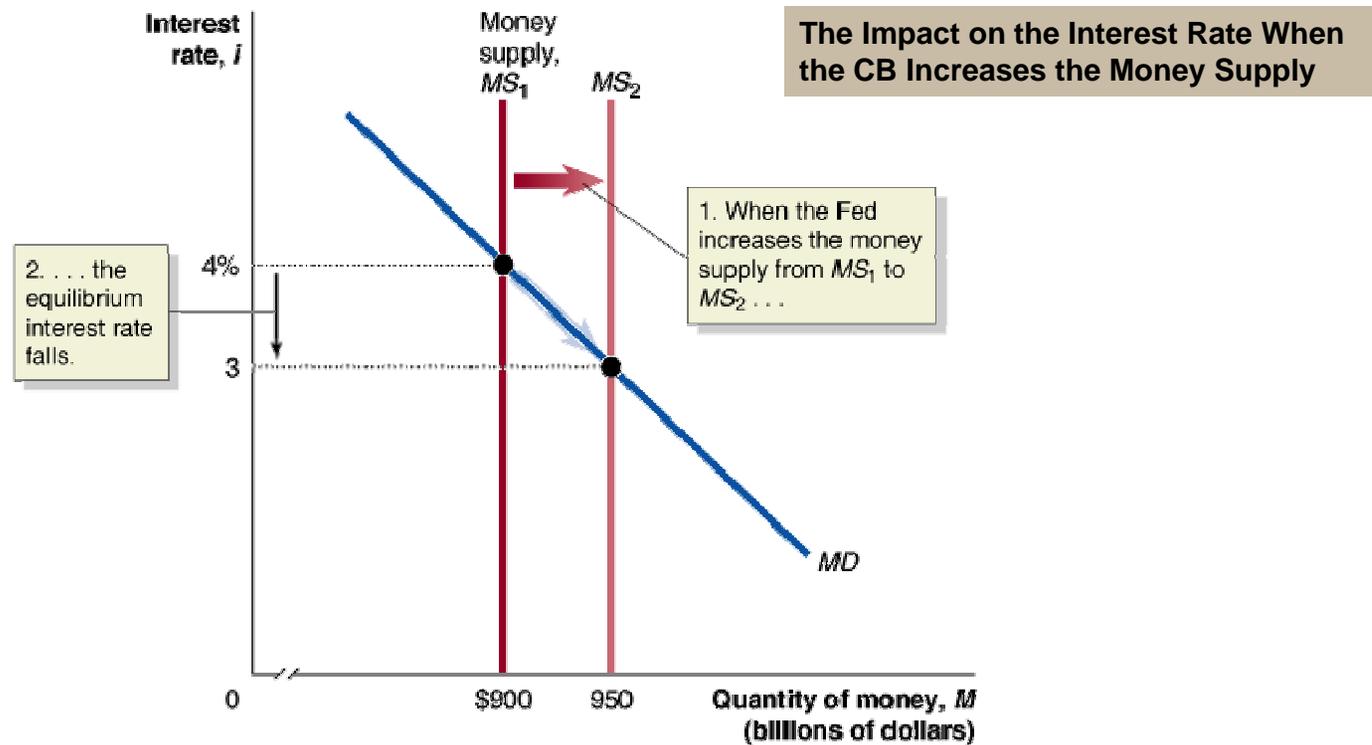
Interest Rate Target

1. M^d fluctuates between $M^{d'}$ and $M^{d''}$
2. To set i -target at i^* M^s fluctuates between M' and M''



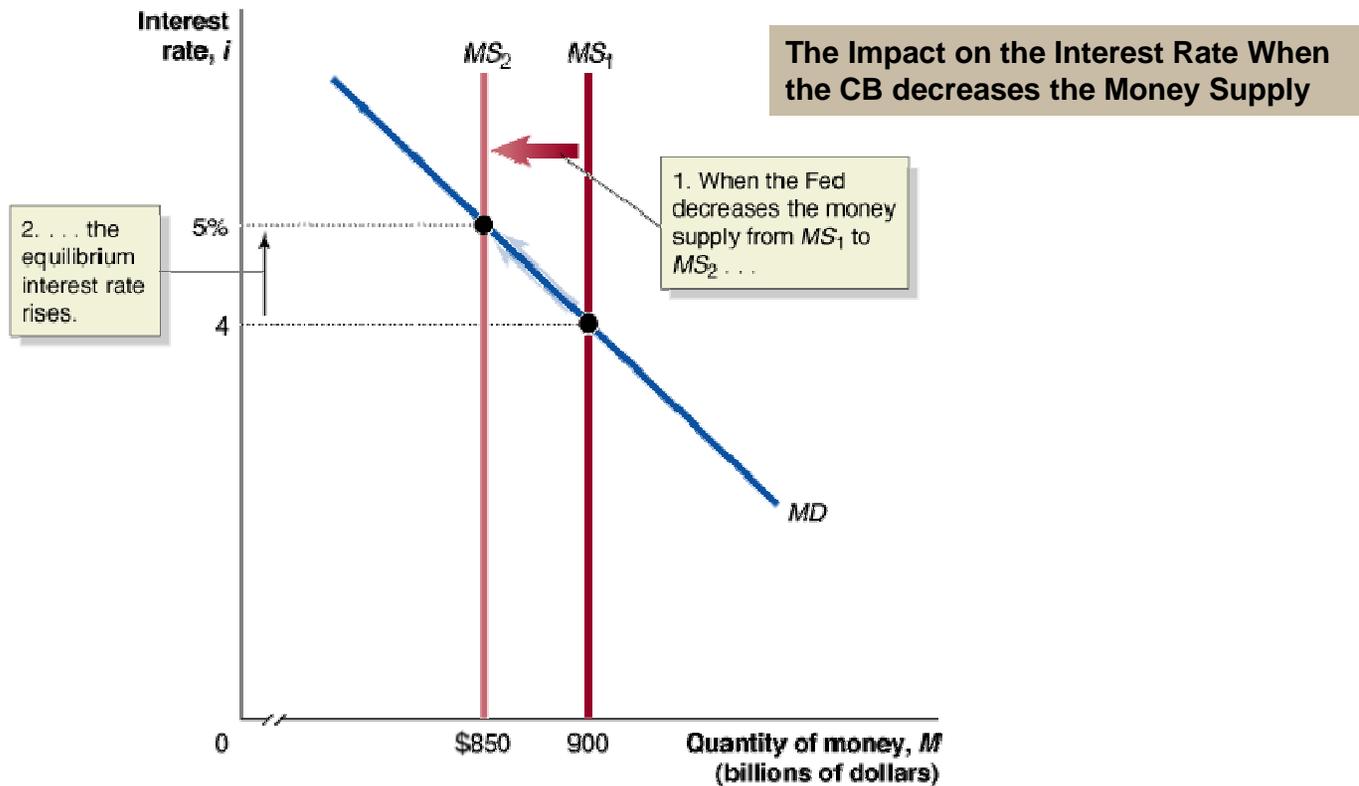
The Money Market and the CB's Choice of Monetary Policy Targets

How the CB Manages the Money Supply: A Quick Review *Equilibrium in the Money Market*



The Money Market and the CB's Choice of Monetary Policy Targets

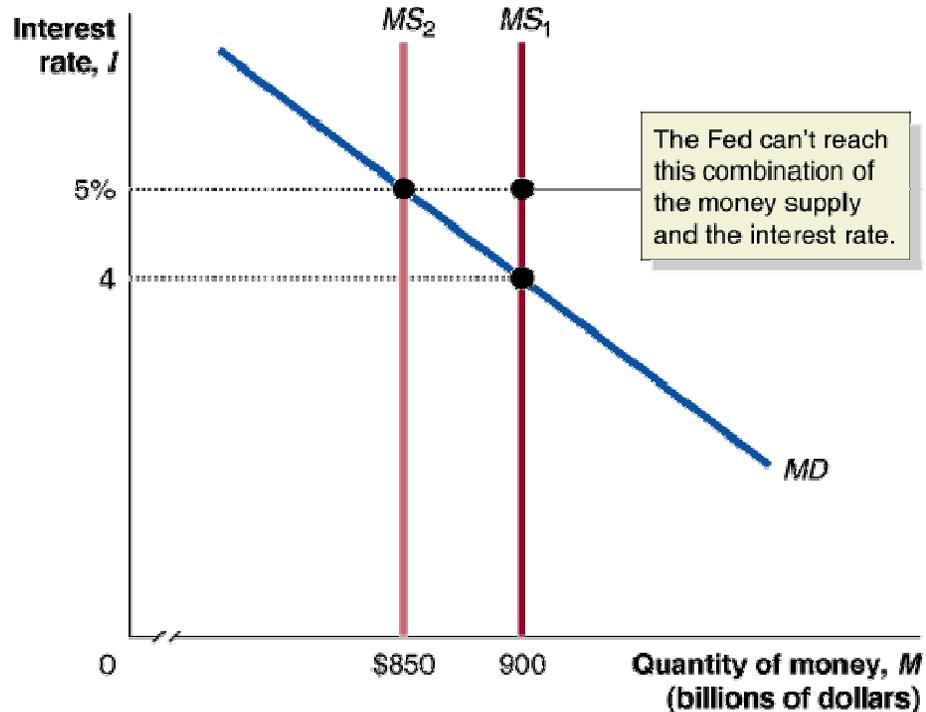
Equilibrium in the Money Market



A Closer Look at the CB's Setting of Monetary Policy Targets

Why Doesn't the CB Target Both the Money Supply and the Interest Rate?

The CB Can't Target Both the Money Supply and the Interest Rate



Monetary Policy and Economic Activity

How Interest Rates Affect Aggregate Demand

Changes in interest rates will not affect government purchases, but they will affect the other three components of aggregate demand in the following ways:

- Consumption
- Investment
- Net exports

Monetary Policy and Economic Activity

The Effects of Monetary Policy on Real GDP and the Price Level: An Initial Look

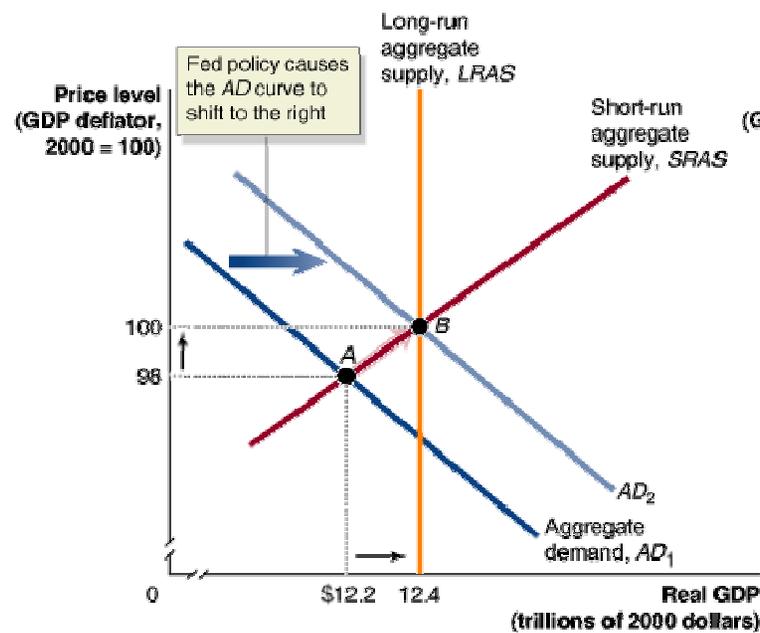
Expansionary monetary policy The Federal Reserve's increasing the money supply and decreasing interest rates to increase **real GDP**.

Contractionary monetary policy The Federal Reserve's adjusting the money supply to increase interest rates to **reduce inflation**.

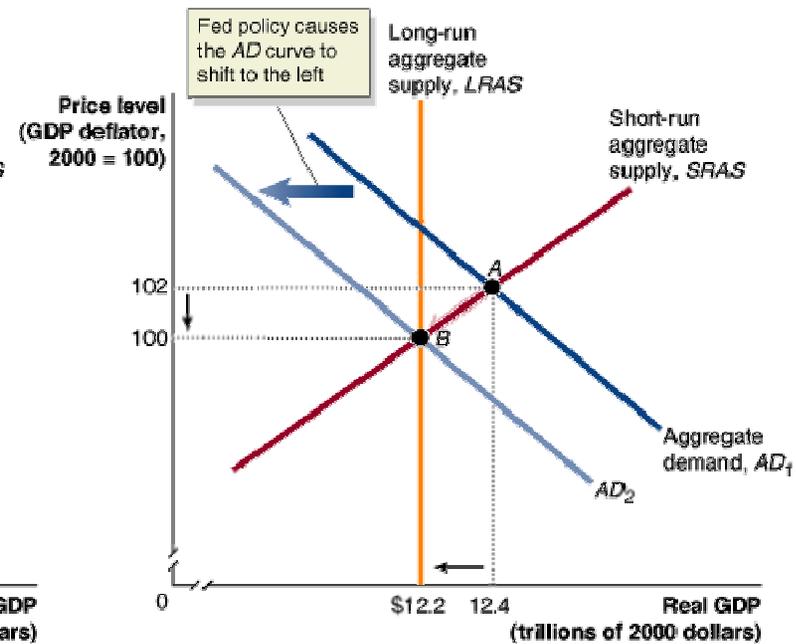
Monetary Policy and Economic Activity

The Effects of Monetary Policy on Real GDP and the Price Level: An Initial Look

Monetary Policy



(a) Expansionary monetary policy



(b) Contractionary monetary policy

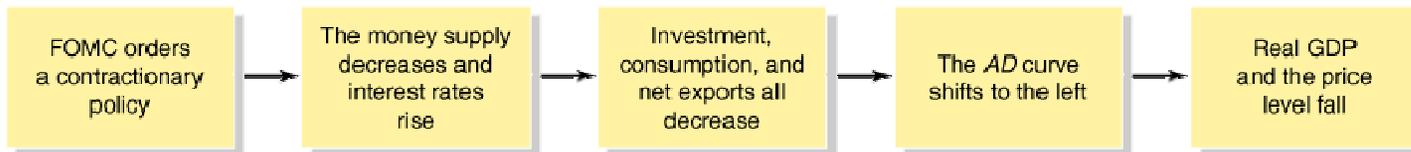
Monetary Policy and Economic Activity

A Summary of How Monetary Policy Works

Expansionary and Contractionary Monetary Policies



(a) An expansionary policy



(b) A contractionary policy

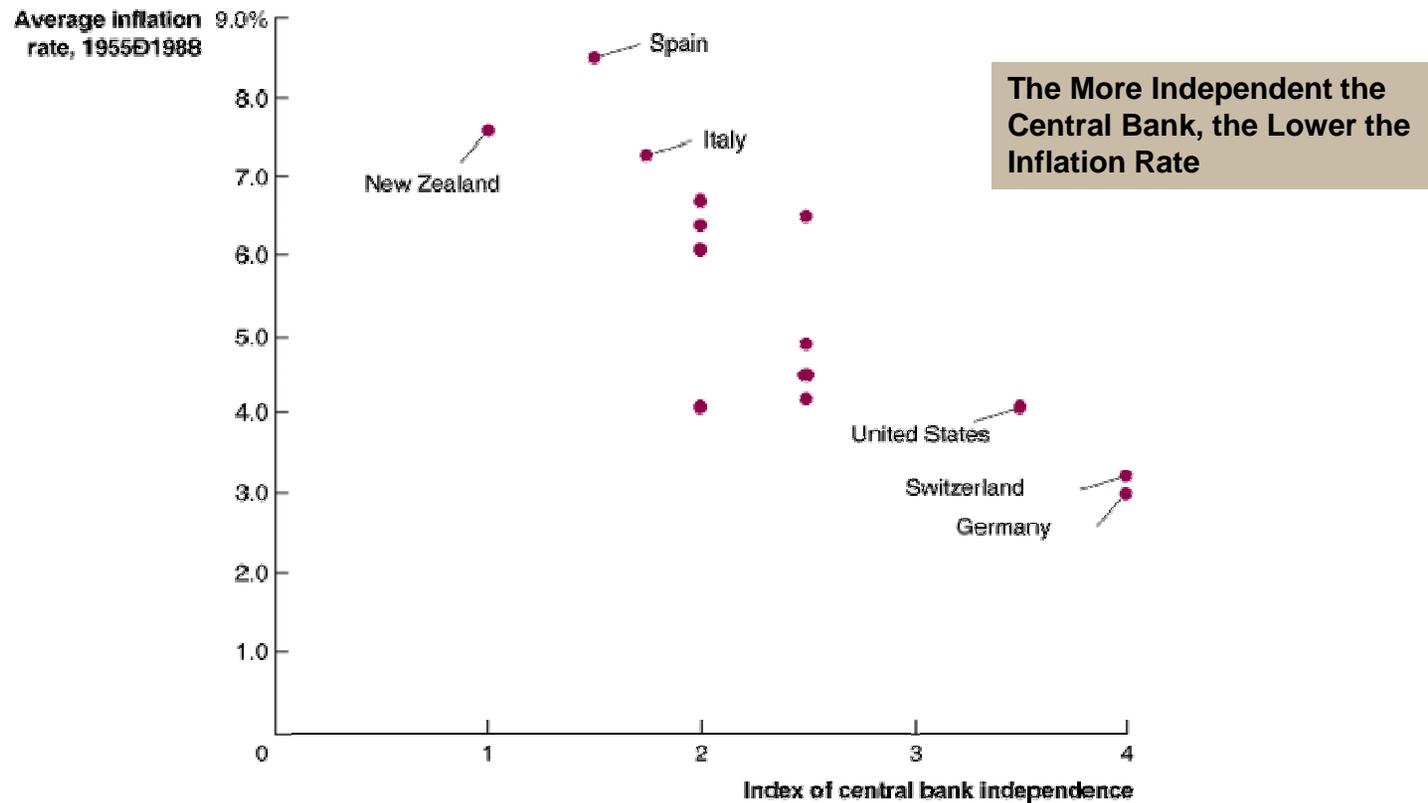
A Closer Look at the CB's Setting of Monetary Policy Targets

Should the CB Target Inflation?

Inflation targeting Conducting monetary policy so as to commit the central bank to achieving a publicly announced level of inflation.

Is the Independence of the CB a Good Idea?

The Case for Fed Independence



Is the Independence of the CB a Good Idea?

The Case against CB Independence

- In democracies, elected representatives usually decide important policy matters. In the United States, and the Eurozone however, monetary policy is not decided by elected officials. Instead, it is decided by the unelected FOMC.
- Because those deciding monetary policy do not have to run for election, they are not accountable for their actions to the ultimate authorities in a democracy: the voters.

The Taylor Rule

How the target i_{or} is chosen?

Overnight rate = inflation +
equilibrium real overnight rate +
1/2 (inflation gap) +
1/2 (output gap)

The presence of both an inflation gap and an output gap in the Taylor rule indicates that the Bank cares not only about keeping π low but also about minimizing business cycle fluctuations of y around its potential. This is consistent with many statements of Bank officials that controlling π and stabilizing y are important concerns of the Bank.

An Example of the Taylor Rule

Suppose that the equilibrium real overnight rate is 2%, that $\pi^* = 2\%$ and $\pi = 3\%$, leading to a positive inflation gap of $\pi - \pi^* = 1\%$ ($= 3\% - 2\%$). Also assume that real GDP is 1% above its potential, resulting in a positive output gap of 1%.

Then the Taylor rule suggests that the overnight rate should be set at

$$i_{or} = 3\% + 2\% + \frac{1}{2} (1\% \text{ inflation gap}) \\ + \frac{1}{2} (1\% \text{ output gap}) = 6\%.$$