

FED BALANCE SHEET

FED		BANK	
Bonds + \$100	Reserve +100	Bonds \$100	Customer's Deposits 1000
		Reserve \$100	
		Loans \$800	
		Change	
		Bonds -100	
		Reserve +100	

FED purchase \$100 in Bonds from BANK

FED creates \$100 additional Reserves

Bank now has \$100 in Excess

Reserve that it can use to make loans.

BANK (after changes)

Bonds 0	Deposits \$1000
Reserve \$200	
Loans \$800	

OTHER ITEMS ON FED'S BALANCE SHEET

Private Securities (unusual)

Loans to Banks (usual)

Loans to other Financial Institutions (unusual)

Currency

Loans to Banks & Other Financial
Institutions \equiv "Discount Loans"

The interest rate charged \equiv "discount rate"

Informal Name for "Place" \equiv "discount window"
This is done

FED is sometimes referred to as
the LENDER OF LAST RESORT.

It is where Banks and other financial
institutions go when they cannot
borrow ~~at~~ ~~from~~ from other BANKS.

Examples of Other Financial Inst.

AIG Insurance

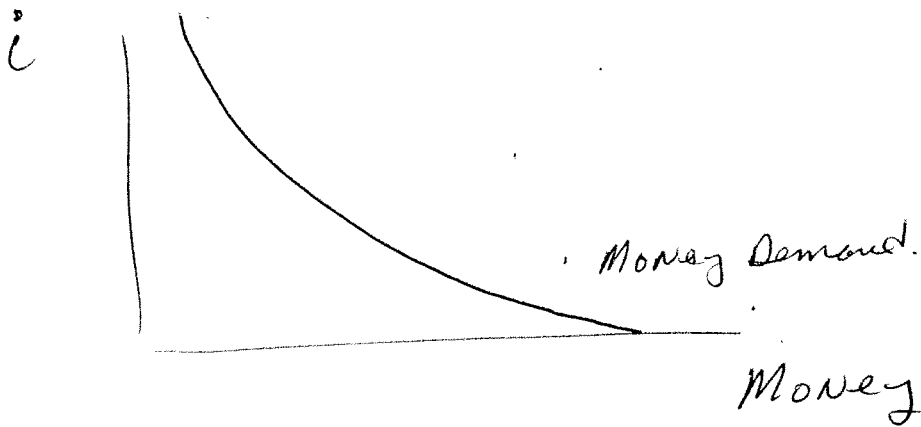
$$\text{Monetary Base} = \frac{\text{Currency} + \text{Reserves}}{\text{Monetary Base}}$$

Liabilities of FED

MARKET FOR MONEY (currency + deposits)

4

Demand - Relationship between interest rate (nominal) and the Amount of Money People hold.
(NEGATIVE)

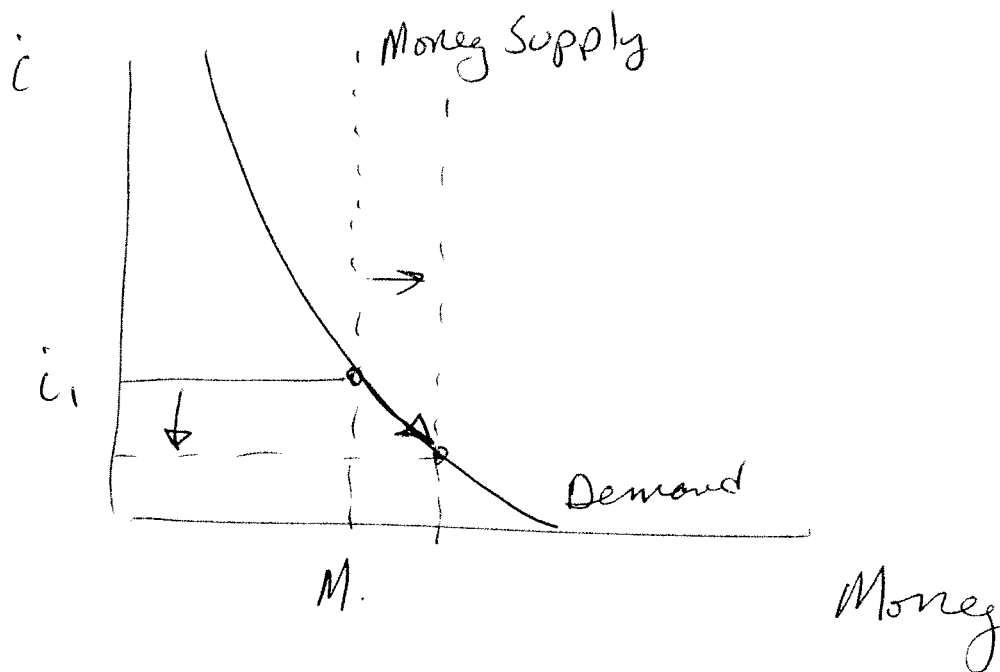


As interest rates rise, holding currency and money in your checking account get more expensive. since neither of these earn interest.

with high i people sweep more out of their demand deposit accounts and into something that earns interest.

i is the opportunity cost of holding money.

Given a STABLE Demand for Money, The FED can manipulate the ~~the~~ nominal interest rate By changing Money Supply (which is a multiple of The Monetary Base)



Increasing Money Supply will lower interest rates. OR, ~~lowering~~ open market purchase of bonds increases reserves in deposits (M) and is expected to lower interest rates.

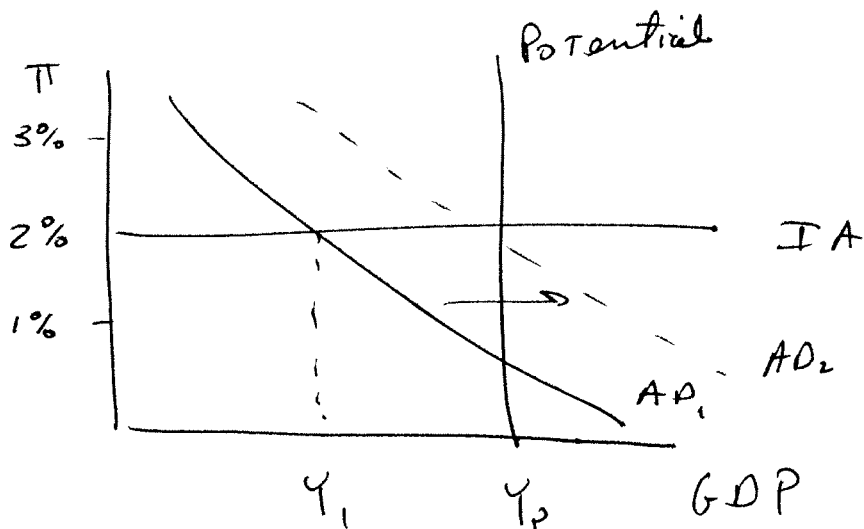
What happens when $i \geq 0$
like it is now?

Quantitative Easing

QE1 \$1.25T Mortgage Backed Securities
 + \$300B Long-term Treas debt
 QE2 - \$600 B Treasury debt
 QE3 → "unlimited"

Monetary Policy

Recession $GDP < \text{Potential GDP}$

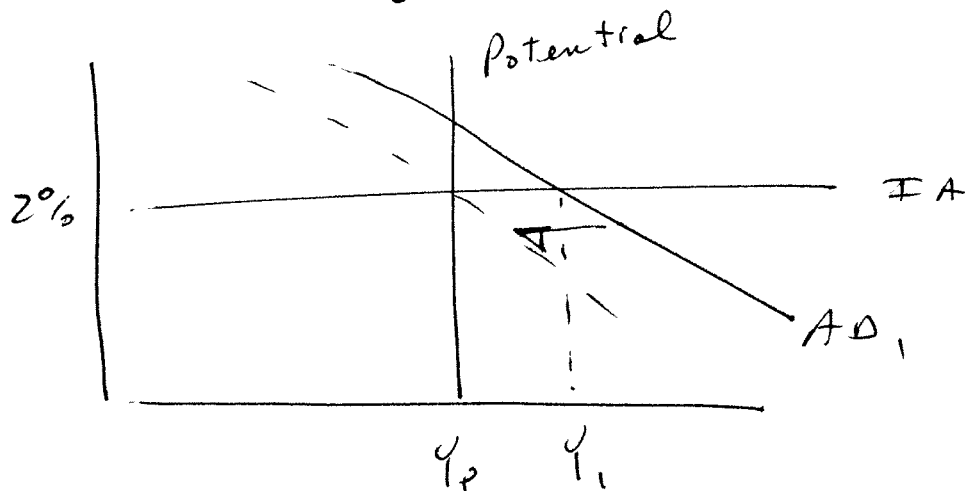


As long as interest rates > 0

FED can lower interest rates,
then pushing AD to right

As investment, NX, and $C \uparrow$

Boom $GDP > \text{Potential}$



Raising real interest rate should
reduce AD.

Taylor Rule

$$i - \pi = 1.5 + \frac{1}{2}(\pi - \pi^*) + \frac{1}{2}\left(\frac{Y - Y^*}{Y^*}\right)$$

i = nominal interest rate
(FED Funds Rate)

π = actual inflation

π^* = Desired Inflation

Y = Real GDP

Y^* = Potential GDP

$\pi - \pi^*$ "INFLATION GAP"

$\pi > \pi^* \Rightarrow$ Inflation is higher than desired.

This leads FED to increase i

$\pi < \pi^*$ if inflation is less than desired.

FED will lower the nominal interest rate.

$$\frac{Y - Y^*}{Y^*}$$

OUTPUT GAP
(as % of Potential GDP)

Recession: $Y < Y^*$ GDP < Potential

$$\frac{Y - Y^*}{Y^*} < 0 \Rightarrow i \downarrow$$

This GAP is negative
which means FED
will lower interest
Rates.

Boom: $Y > Y^*$

$$\frac{Y - Y^*}{Y^*} > 0 \Rightarrow i \uparrow$$

GDP > Potential
GAP is positive and
FED will increase
~~the~~ nominal interest
Rates

Predictable FED policy helps to keep inflationary expectations relatively constant. In the long-run this has beneficial impact on potential GDP as firms and consumers can make long-term plans with more certainty of fulfillment.

Some central banks follow a policy rule like the Taylor Rule. Ours did, but has recently deviated from it. This makes FED less predictable and the effect on our economy has ~~the~~ prob. been negative. Following the rule may have prevented the housing bubble that caused our recession 2007-2009.