# REVIEW: MULTIPLIER ANALYSIS

$Z = C+I+G$

$Z=Y$ in equilibrium

$C = c + c (Y-T)$

Result: 45-degree diagram

IMPLICATIONS:

1. Spending good, saving bad

2. Fiscal policy (G or T) can be used to stimulate economy

But is this right?

1. Economy is limited by capacity – the *supply side* matters. More on this later in the course.

2. Spending depends on more than income. *Financial markets* play a crucial role, too.

3. There is another lever of policy: *Monetary policy*

FINANCIAL ASSETS: A PARTIAL LIST

1. Stocks: ownership claims on companies, entitling owner to a share of profits
2. Bonds: entitles owner to a steady flow of interest payments
3. Money

Individuals hold a *portfolio* of different assets; reallocate their wealth among assets based on market returns, expectations, etc.

*Monetary policy* involves changing the quantity of money. Monetary, not fiscal policy is actually the main tool used to fight recessions and rein in booms.

To understand the role of money and monetary policy, we ignore stocks and imagine an economy in which bonds and money are the only two assets.

BONDS: Think of one-period bond. You buy it for $1, get $(1+*i*) one year later

Actual bonds are often multi-period. E.g., you buy for $1, receive $*i* each year for next 10 years, then get your $1 back. Typical maturities range from 1 day (Fed funds rate), to 90 days (Treasury bills), to 30 years (Long term gov't bonds)

What happens if there is news *after* a bond is issued, changing peoples' demands? The *price* of a bond rises or falls, in order to make the *effective yield* match the market.

Bond price up = interest rate down
Bond price down = interest rate up

THE ROLES OF MONEY

1. Money is a *medium of exchange*: sell goods for money, use money to buy goods; barter (direct swapping of goods is rare)

2. Money is a *unit of account*: prices are quoted in money terms

3. Money is a *store of value*: it is one way to carry over wealth from present to future

So what is money? Money and wealth are *not* the same things. (You can't give the clerk at 7-11 a share in Yahoo!) Conventional definition is wealth that can serve as medium of exchange. This definitely includes:

1. Currency (green stuff)
2. Checkable deposits

It could include other things – e.g. deposits with limited checking, money-market funds, even credit-card limits. Usually in practice we use M1 – currency + checkable deposits – or M2, which is a broader "monetary aggregate"

# THE DEMAND FOR AND SUPPLY OF MONEY

Why hold money? Convenience, a.k.a. liquidity

Why *not* hold money? It pays little or no interest

This tradeoff determines the demand for money.

What determines the supply of money? Alan Greenspan!

THE FEDERAL RESERVE AND THE MONEY SUPPLY

The Federal Reserve is America's *central bank*. It has the unique right to create U.S. dollars. Counterparts abroad: the Bank of Japan, the Bundesbank, the Bank of England, etc.. Jan. 1 the Bundesbank, Banque de France, Banca d'Italia will cede their roles to the new European Central Bank.

A central bank's balance sheet (simplified):

| Assets | Liabilities |
|---|---|
| Government bonds | Money |

In an *open-market operation* the CB prints money to buy more bonds, putting more money into circulation – or sells bonds to withdraw money from circulation. This affects the interest rate – and because the interest rate affects spending, it affects the economy as a whole.