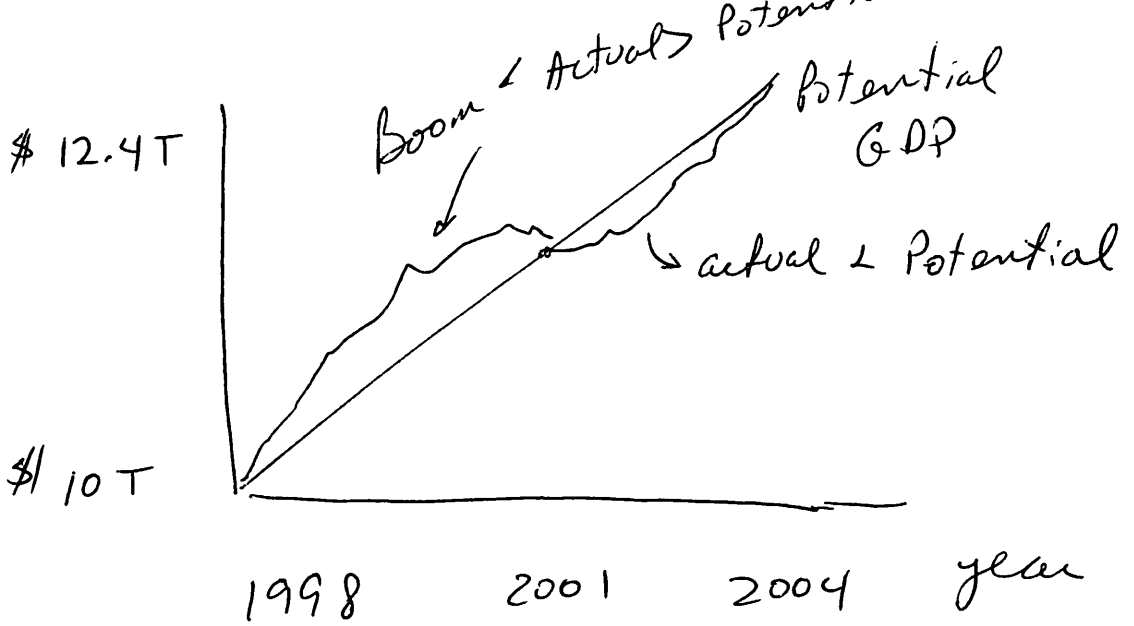
Economic Fluctuations

Potential GDP – Economy's long-term ability to produce goods & services. This is determined, as we've seen, By the available supply of capital, labor and technology.

Real GDP fluctuates around this potential. The main cause being changes in aggregate demand.

Aggregate demand – total amount that consumers, business, government, and foreigners are willing to spend on goods & services in the economy.



Actual GDP can be above or Below the long-run Trend.

Capacity Utilization – most firms carry excess capacity. Respond to increases in Demand by
- having workers work more
  part-time → fulltime
  fulltime → overtime.

Normal Capacity Utilization ≈ 80% (80-7)
During Booms this usually exceeds this.
(now it is about 78.2%)

In Recessions, firms cut Back and Cap Util. falls.

June 2009 66.8% Lowest.

Aug 2012 78.8% Close to Normal

When actual GDP > Potential, Then unemployment falls Below the Natural Rate. When Actual GDP < Potential the unemployment Rate Rises above the Natural Rate.

Real Business Cycle – in their view fluctuations in Real GDP are due to shifts in Potential – usually caused by Δ's in Technology.

Experience suggests that GDP fluctuates more than we would expect if this theory were the only cause of GDP fluctuations.

$$\therefore Y = C + I + G + NX$$

We are going to build a simple model of how these components of GDP fluctuate in short-run. The first model is very simple, but we will build a more complicated version as we go

Starting with <u>Consumption</u>

C is the largest component of GDP ≈ 70%

$$C = C(Y)$$

consumption depends on income (GDP)

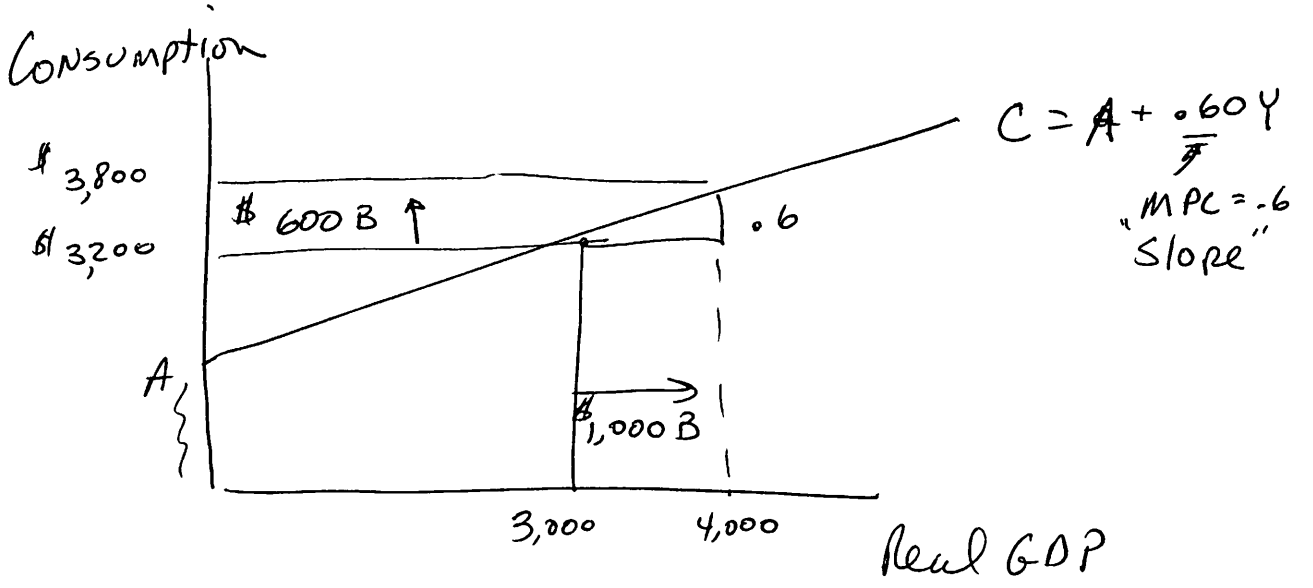
As income rises, consumers spend more
As income falls, " spend less.

ORDINARILY, consumers only spend a portion of additional income.

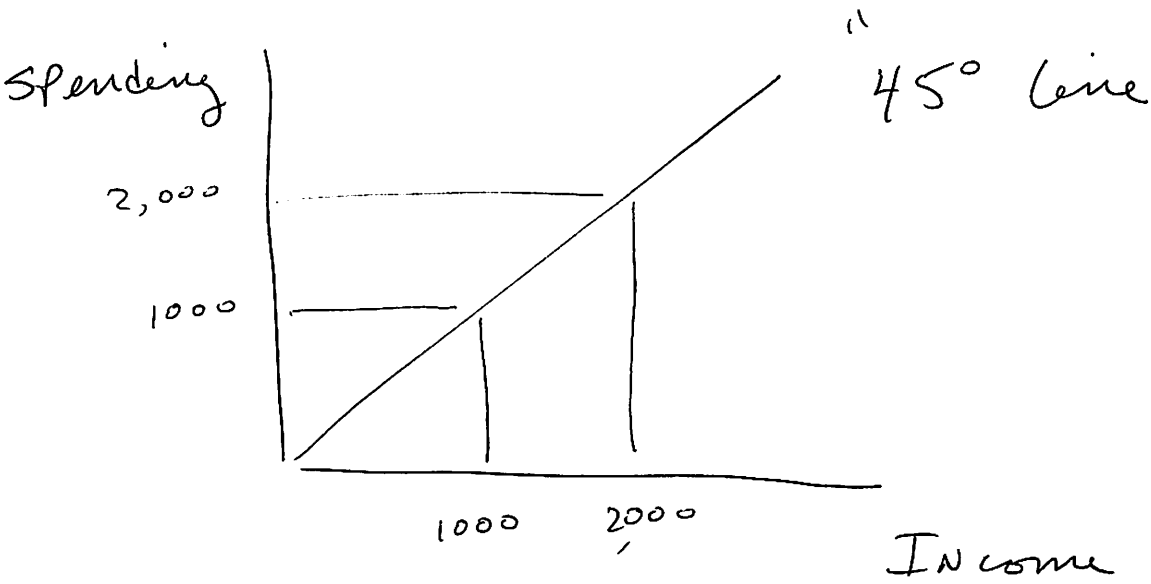
The change in consumption you get from a 1 UNIT CHANGE in income is called Marginal propensity to consume.

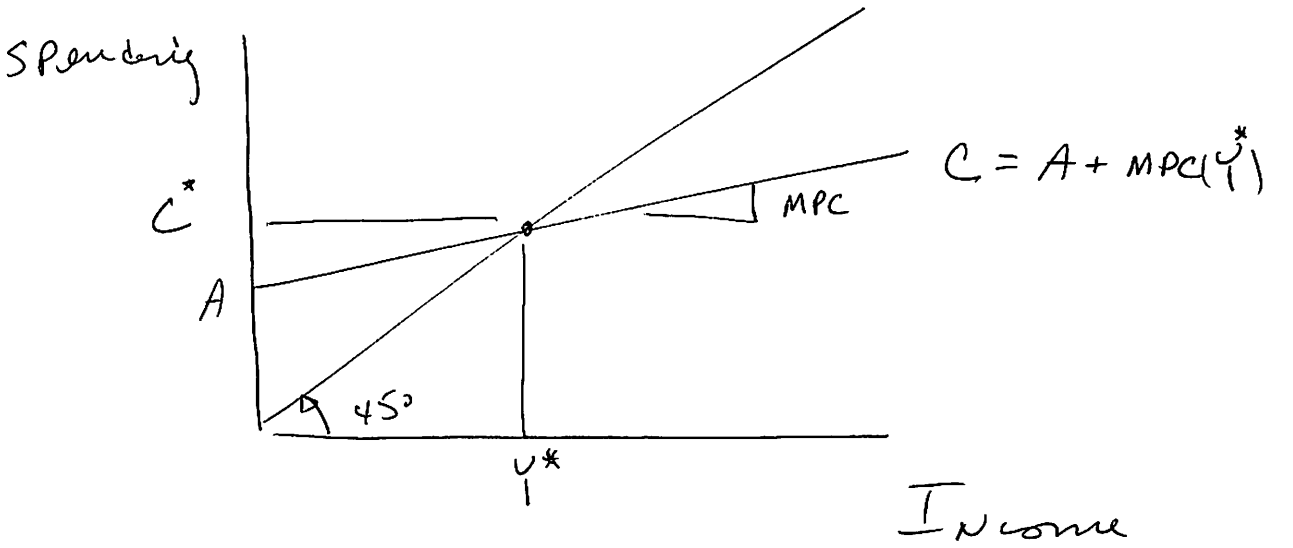
$$MPC = \frac{\Delta C}{\Delta Y}$$

Usually this is about .6



Real GDP ≈ Aggregate Income





Point at which

Spending = Income AND $C = A + MPC(Y)$

is where C^* spend and Y^* ~~economy~~

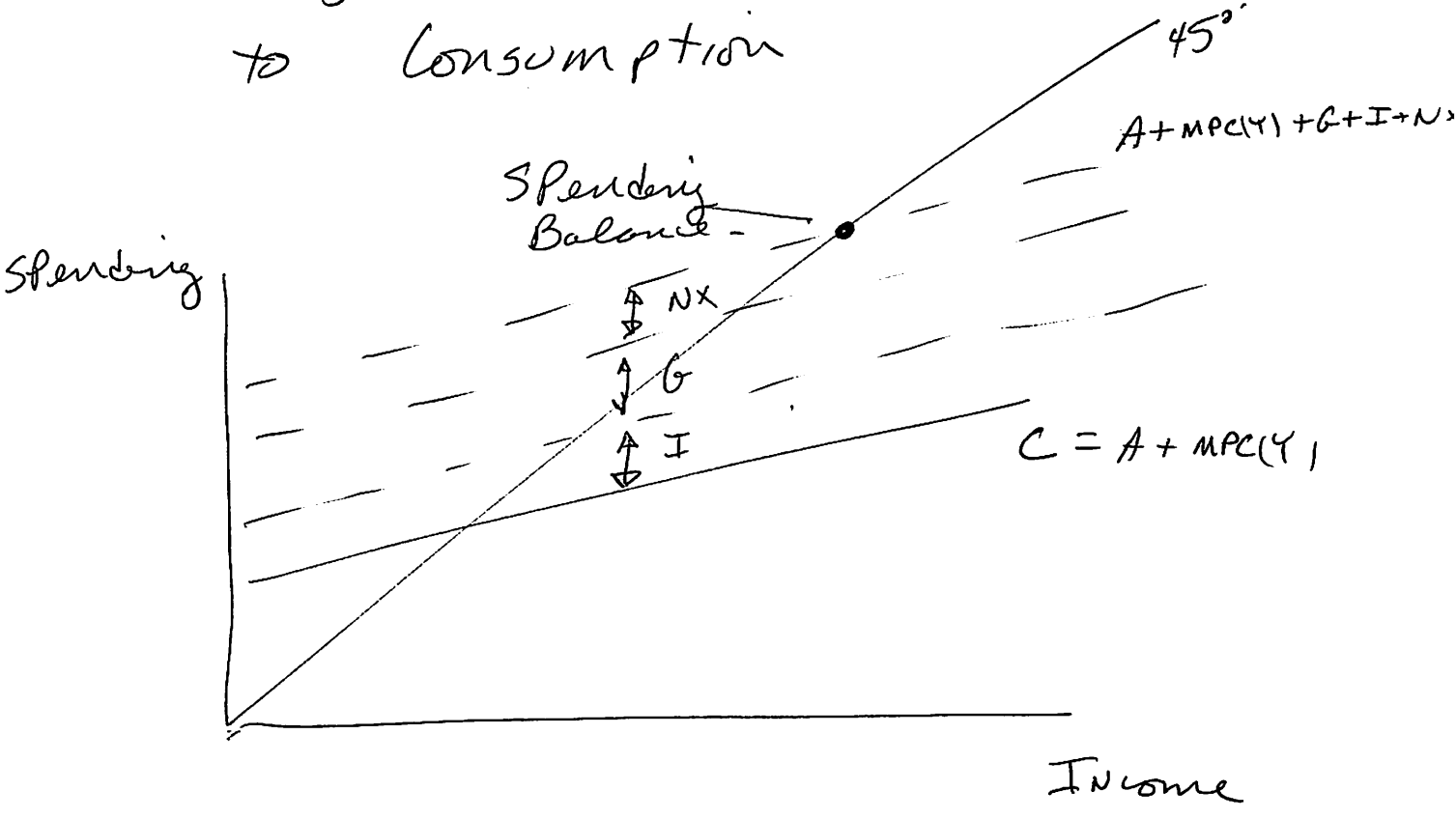
For the moment, assume that

Investment (I)

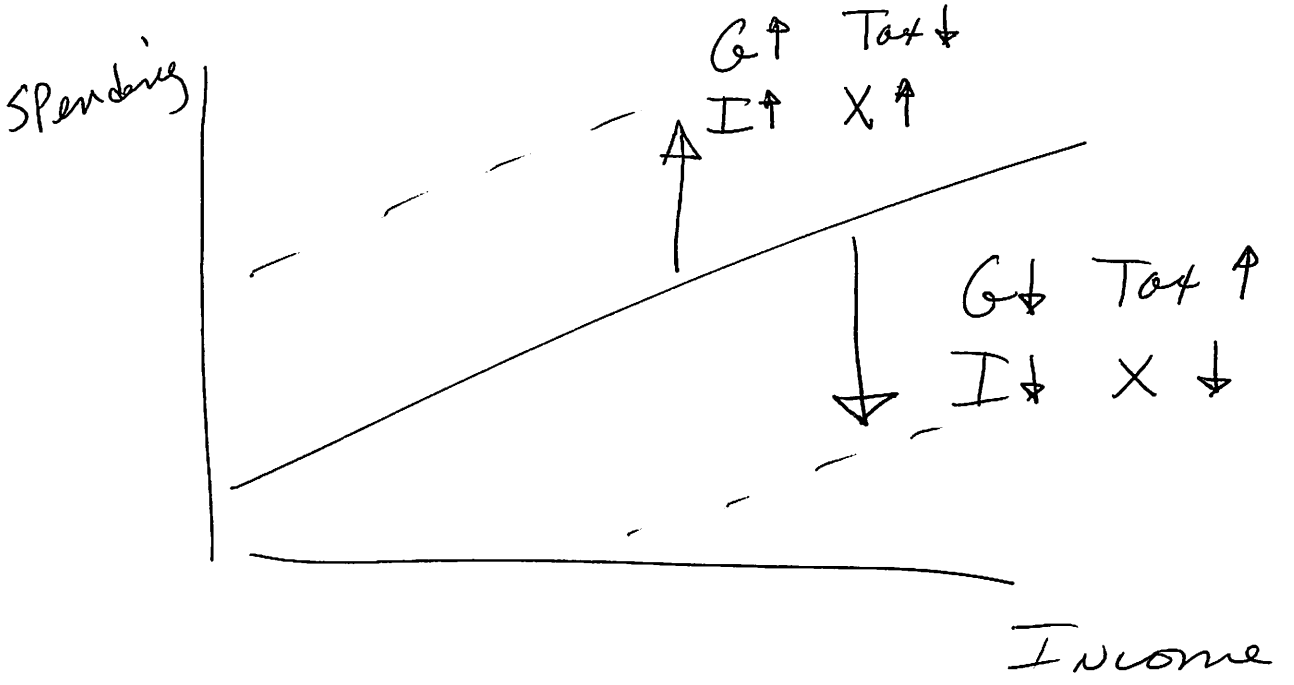
Govt purchases (G)

Net Exports (NX)

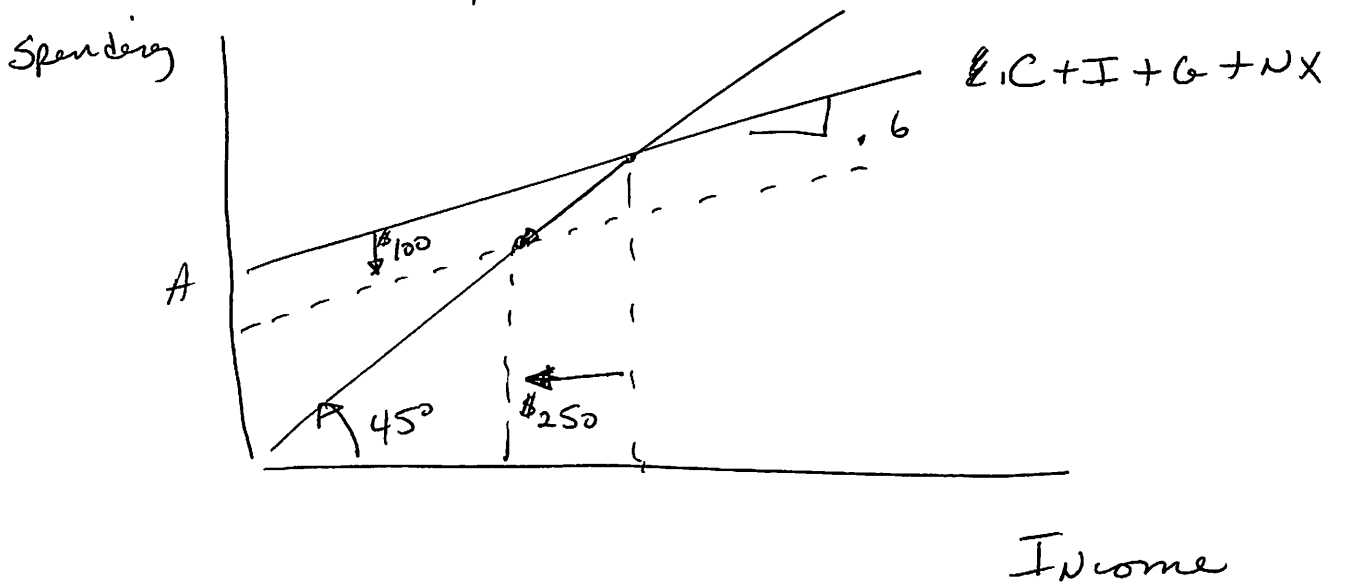
don't depend on (Y). In this case they just add constant amounts to consumption



Expenditure line has slope MPC and lies above the Consumption Exp. Line



Example: Taxes increase AT end of year. By $100



Multiplier

Δ in Real GDP will Be Larger Than The initial Δ in Consumption due to Tax increase.

(1) $Y = C + I + G + NX$ By definition

(2) $\Delta Y = \Delta C + \Delta I + \Delta G + \Delta NX$ Take Changes.

Pretend $\Delta I = \Delta NX = 0$

(3) $\Delta Y = \Delta C + \Delta G$

$C = A + MPC(Y)$ Consumption:

(4) $\Delta C = MPC \cdot \Delta Y$ Δ consumption

substitute into (3)

$\Delta Y = MPC \cdot \Delta Y + \Delta G$

$\Delta Y - MPC \cdot \Delta Y = \Delta G$

$(1 - MPC)\Delta Y = \Delta G$

$\Delta Y / \Delta G = 1/(1 - MPC)$

So, \$100 ↑ in G leads to a

$\frac{1}{(1 - .6)} = 2.5$ increase in GDP.

In the real world, these multipliers are much smaller.

And can even be < 1 depending on what else gets modeled.

Explains why the "stimulus" did very little to curb the downturn in GDP in last recession.