Outline

best grade of two midterms

1. **Keynesian Cross Model** (Goods Markets)

   (a) Setup of Model.

   Equilibrium, Disequilibrium

   Disequilibrium Dynamics, exogenous variable, endogenous variable.

   (b) Multiplier.

   Household pessimism after Gulf War.

   (c) Paradox of thrift.

   (d) Tax multiplier, Other shocks.

2. Financial Markets.

   (a) Motivation.

   (b) Demand for Money.

KC

Closed economy.

exogenous

$$Y = C + I + G$$

MPC, 3/4

$$C^d = c_0 + c_1 (Y - T)$$

exogenous.

parameters.

endogenous variable

$$I^d = \bar{I}$$

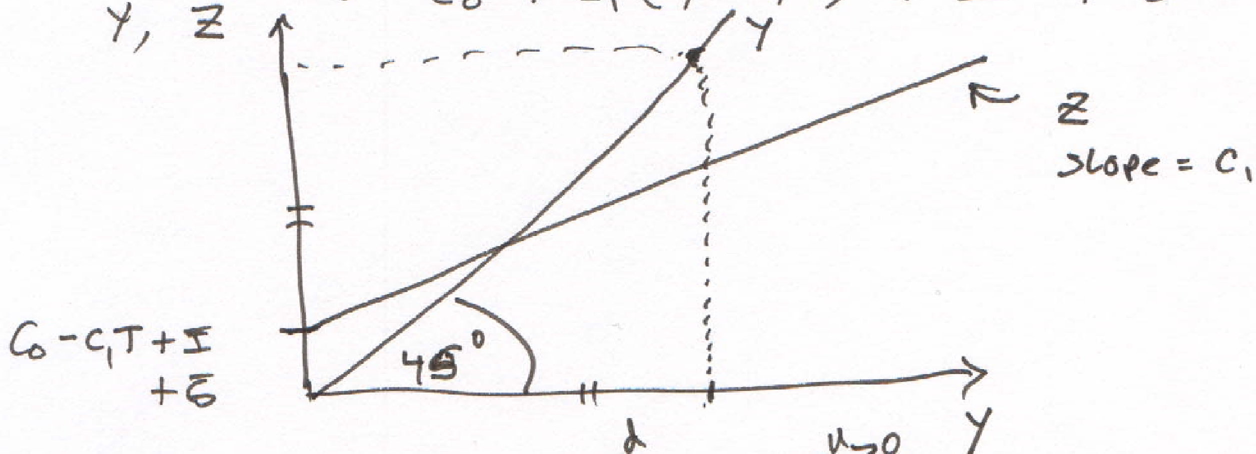
exogenous variable

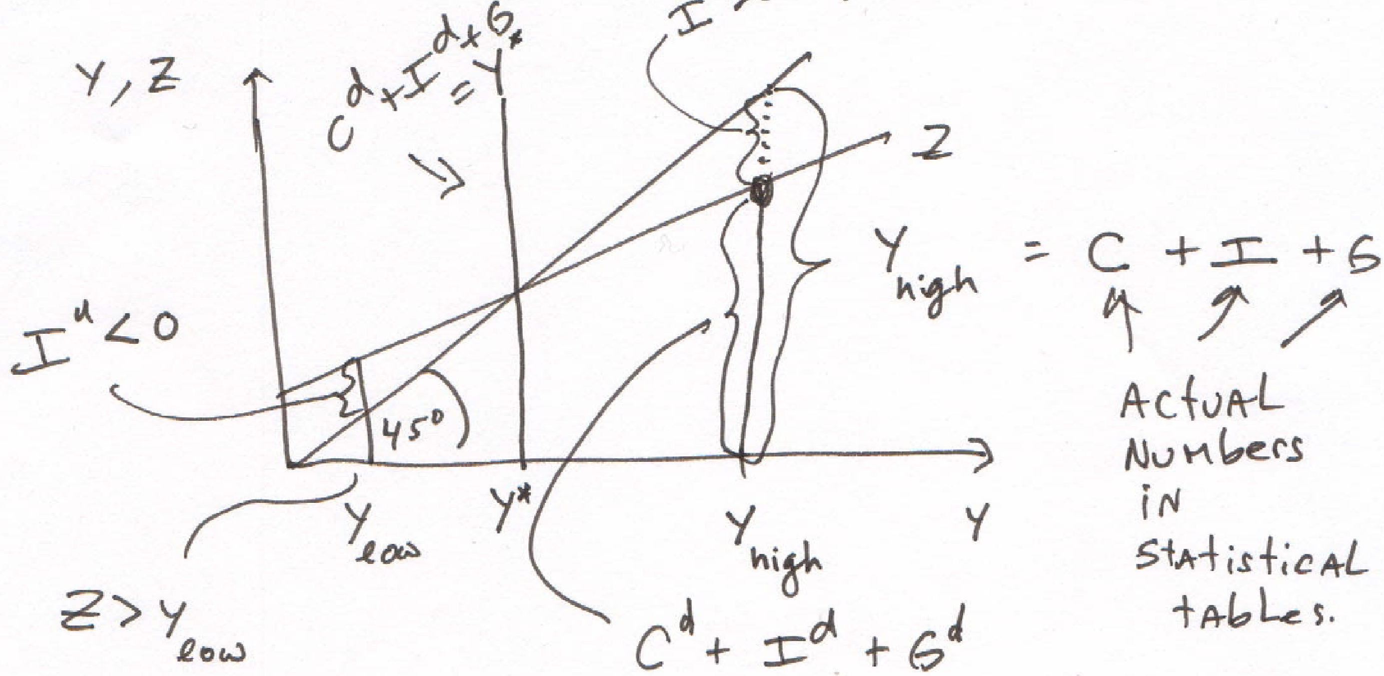
$$G^d = \bar{G}$$

exogenous variables $\rightarrow$ Model $\rightarrow$ endogenous variables.

$$Z = C^d + I^d + G^d$$

$$= c_0 + c_1(Y - T) + \bar{I} + \bar{G}$$





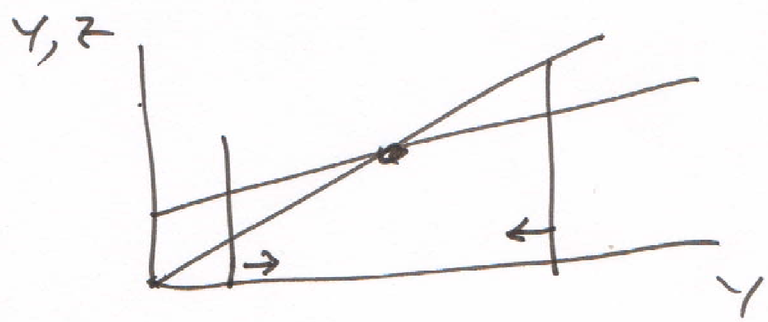
$$C^d = C, \quad G^d = G, \quad I^d \neq I$$

$Z < Y$ desired spending less than actual output, $I^u > 0$. (business sees inventories pile up).

Suppose firms order less from suppliers, they lay off workers, $Y \downarrow$.

Disequilibrium dynamics.

$Z > Y$ $I^u < 0$ firms call suppliers + order more stuff. Hire more people + $Y \uparrow$.

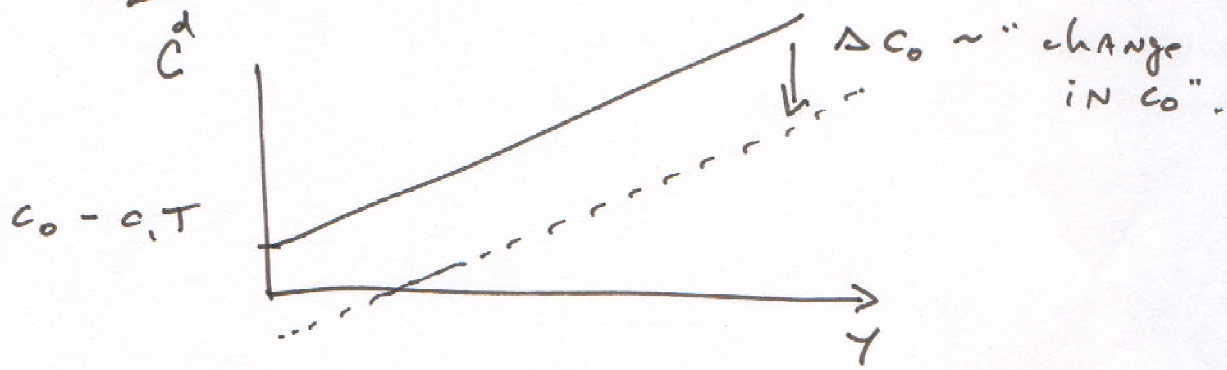


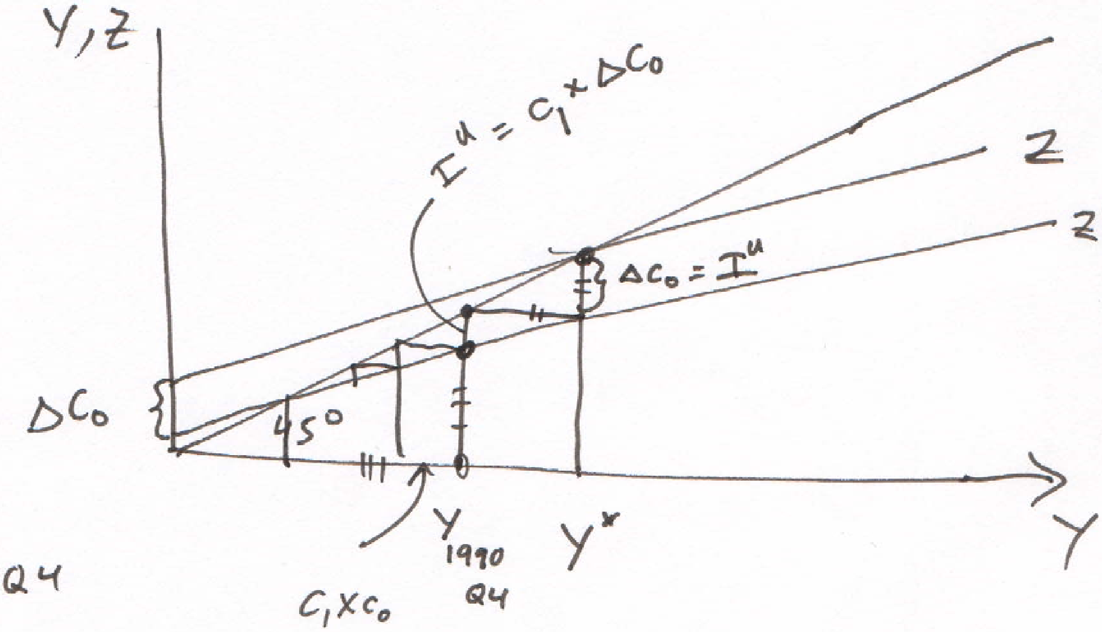
August 1990 Gulf war starts
stops 100 hours
later.

Belief that war would lead to recession had impact on households.

$c_1 \downarrow$ one possibility.

$\boxed{c_0 \downarrow}$





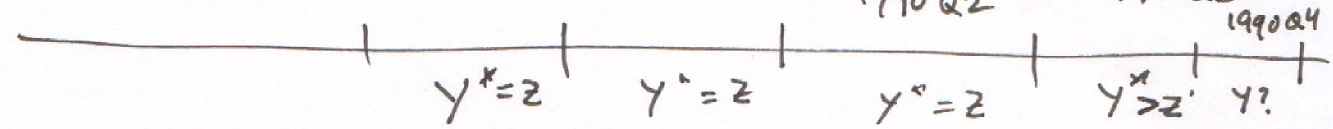
1990Q4

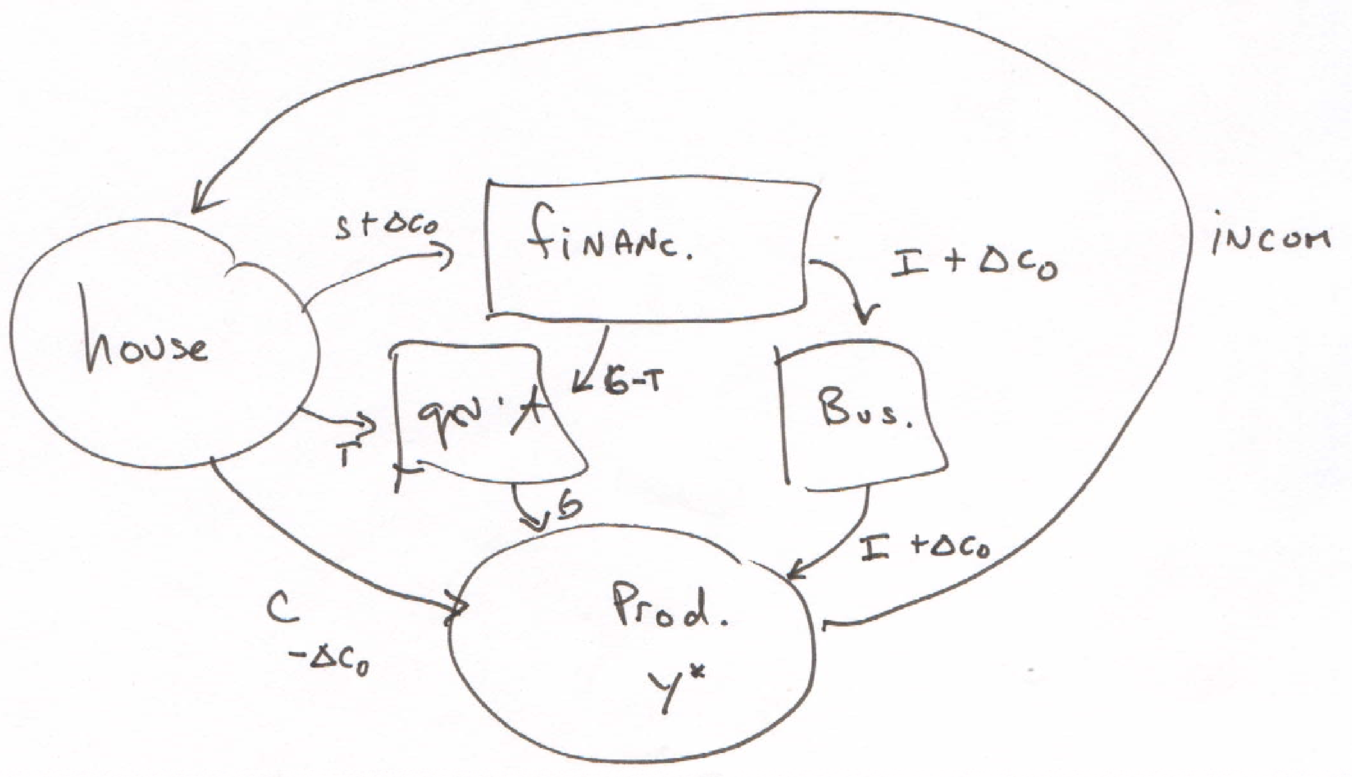
$c_1 \times c_0$

$$\Delta C_0 + c_1 \Delta C_0 + c_1^2 \Delta C_0 + c_1^3 \Delta C_0 + \cdots$$

$$= \frac{1}{1-c_1} \Delta C_0 > \Delta C_0 \qquad 4 \times \Delta C_0 .$$

multiplier.





Paradox of thrift.

At household level: more saving leads to good things.

Paradox ~ when whole economy "tries" to save more, just bad things happen.

$$Y \overset{-T}{=} C + I + G - T$$

$$\underbrace{Y - T - C}_{\text{private saving}} = \underbrace{I}_{\text{investment}} - \underbrace{(T - G)}_{\text{public saving}}$$

1990Q3: $+\Delta C_0$ $\quad$ $+\Delta C_0$

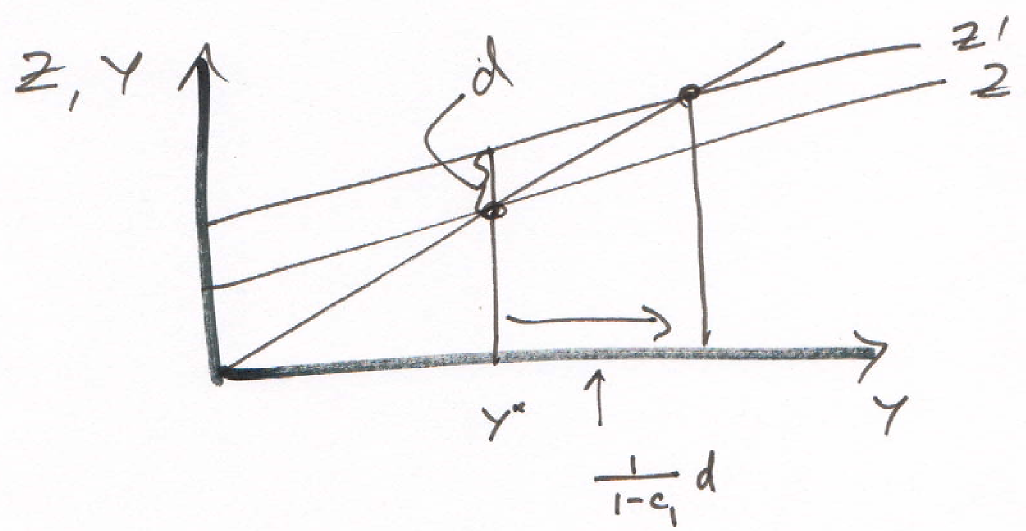
What happens to saving in new equilibria

Planned private saving

$$\underbrace{-C_0}_{\uparrow \text{ up by } \Delta C_0} + (1-c_1)(Y-T) = \underbrace{\bar{I} - (T - \bar{G})}_{\text{does not change.}}$$

$$\downarrow \frac{\Delta C_0}{1-c_1}$$

in KC model increase in desire to save triggers a recession big enough that in the end there is no change in saving.



$\Delta \bar{I}$

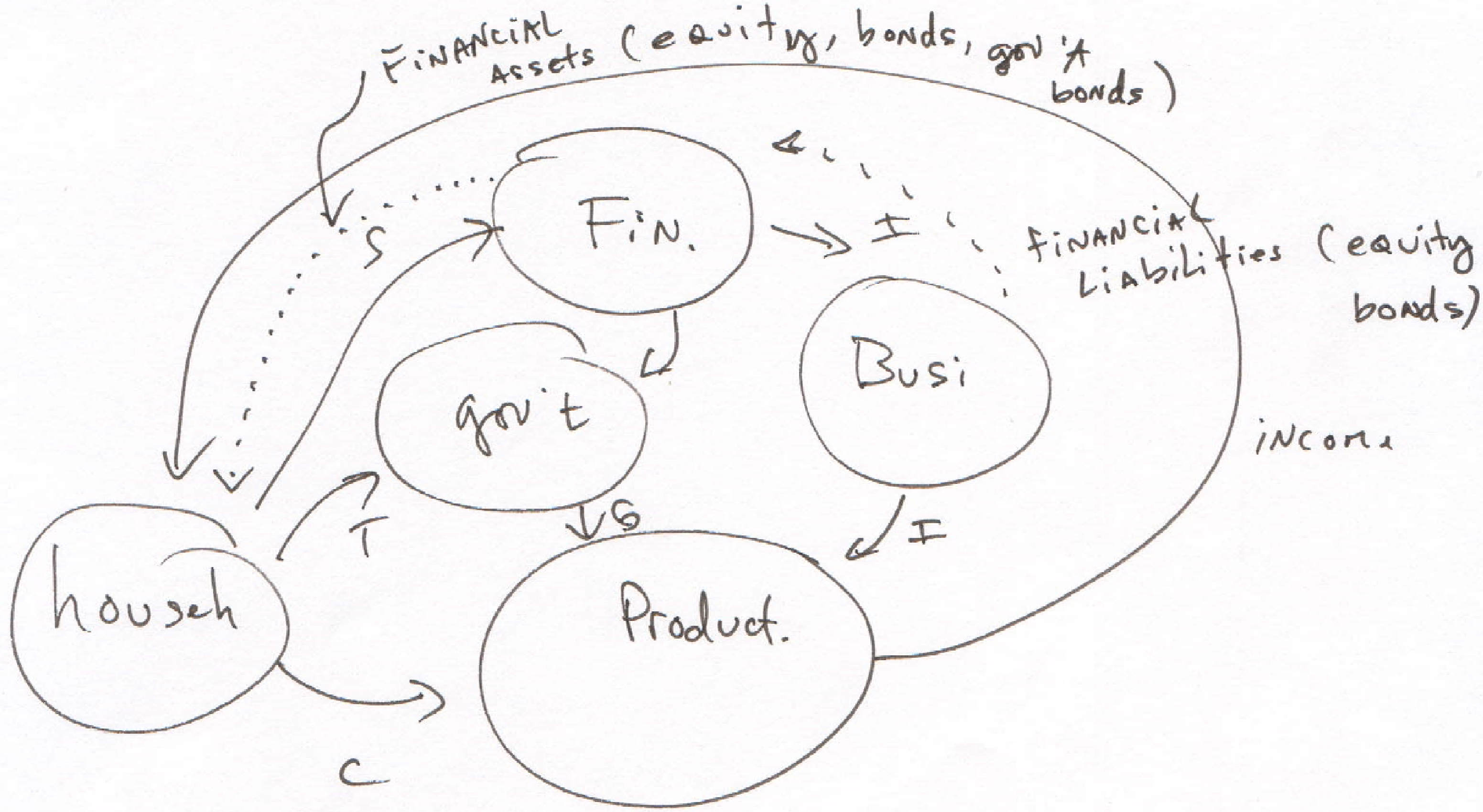
Δc_0

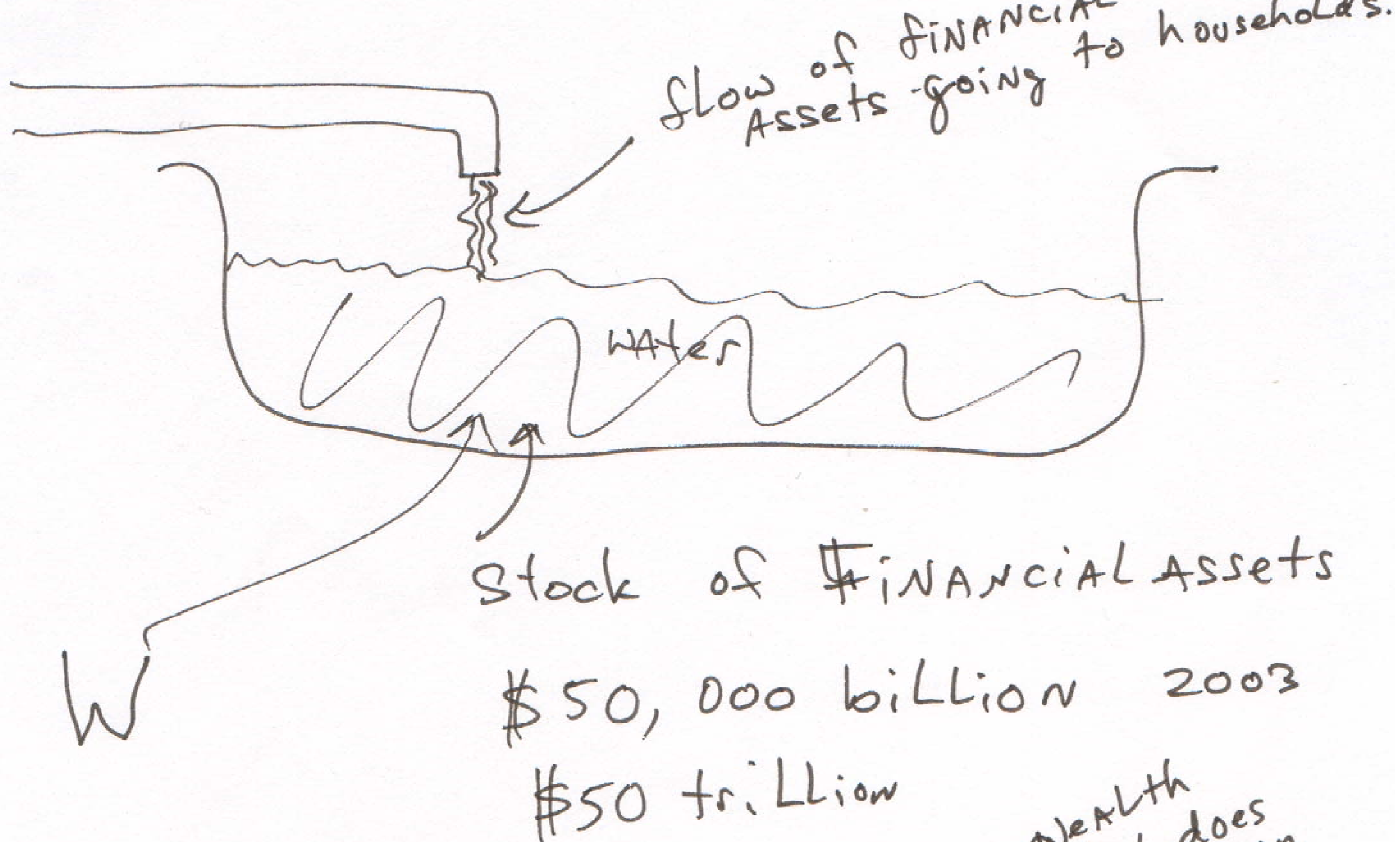
ΔG

Taxes? $T \downarrow$ by $\Delta T = d$

$\Rightarrow$ increase in $Y \cancel{=} \frac{\Delta T}{1-c_1}$

Tax multiplier: $\frac{c_1}{1-c_1}$





$50,000 billion 2003

$50 trillion

Why do people hold
ANY M?