Lecture 4: Basic Aggregate Demand Model (cont.)

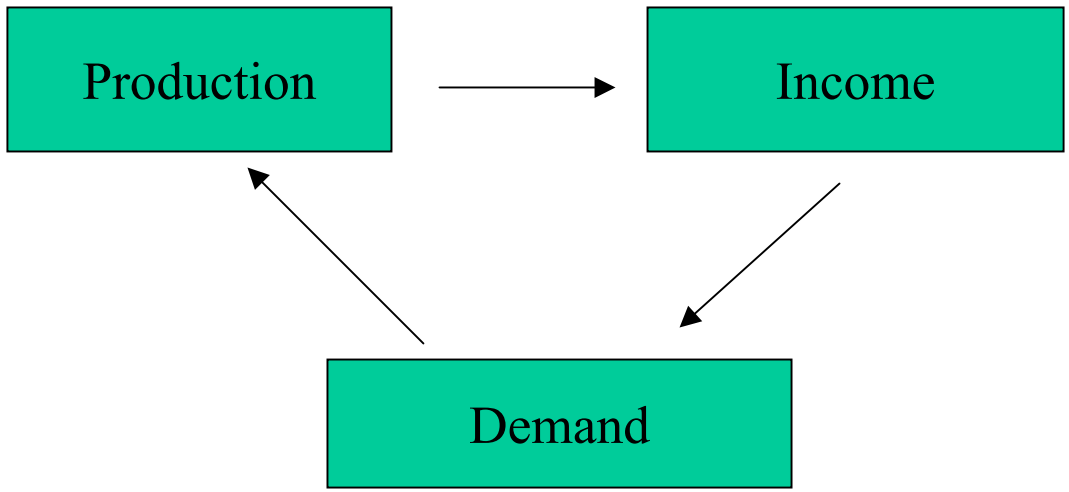
- The Federal Reserve, in a bold bid to keep markets functioning, cut interest rates by half a percentage point Monday in an effort to support a weakening U.S. economy in the wake of terrorist attacks in New York and Washington last week. The move was followed by a similar interest rate reduction by the European Central Bank. (09/17/01)

- Review Lecture 3

Basic Aggregate Demand Model

- Goal: Determine equilibrium output
- Short-run
- A bit more complex than standard micro demand and supply
  - **Feedback**
- Shortcuts (isolate one effect)

First Model: The Goods Market



Demand Determined Output

- Aggregate demand (Z):
  - $Z = C + I + G + (X-Q)$
- Aggregate supply:
  - fixed P
  - as much as needed to satisfy demand
- Model:
  - behavioral equations
  - equilibrium conditions

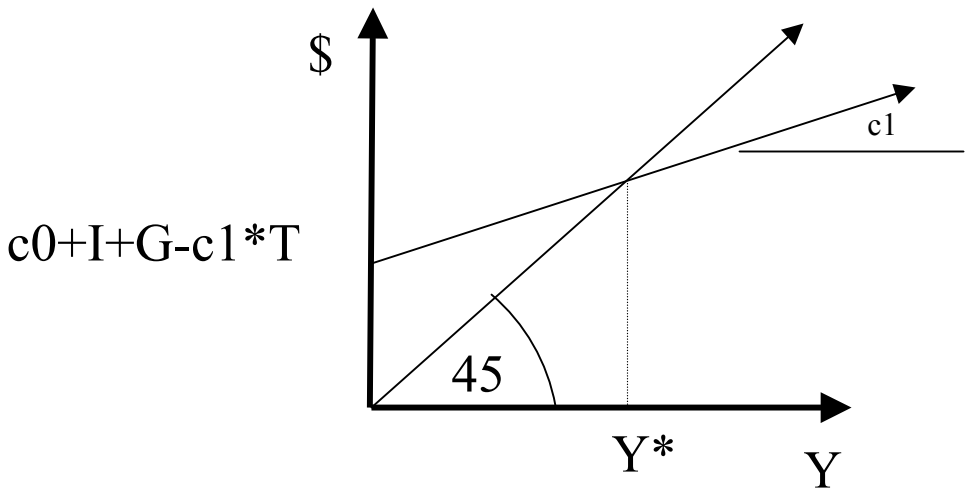
Behavioral Equations

- X-Q = 0 (for now)
- G and I: constant
- C = c0 + c1*YD; c0>0 ; 0<c1<1
- YD = Y - T, T constant

$$Z = (c0 - c1*T + I + G) + c1*Y$$

Equilibrium

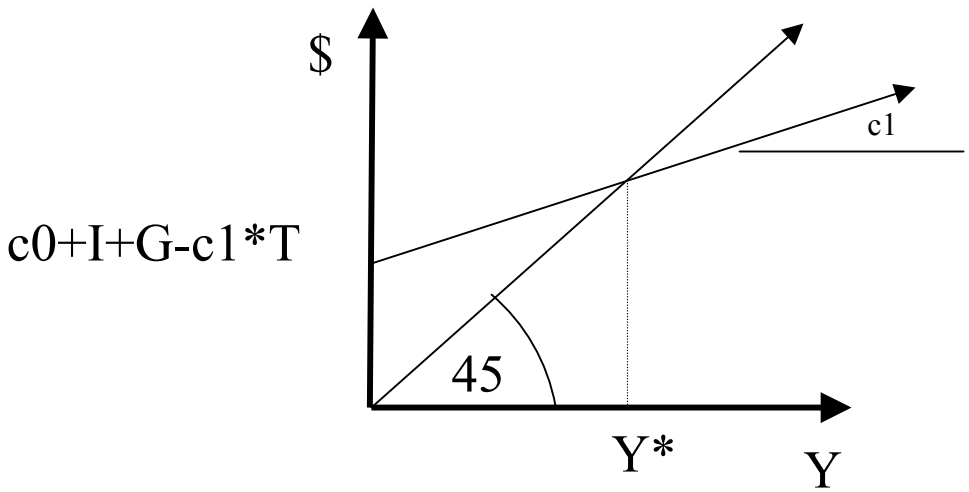
$$Z(Y) = Y$$



$$Y^* = \underbrace{(1/(1-c1))}_{\text{multiplier}} * \underbrace{(c0-c1*T+I+G)}_{\text{autonomous spending}}$$

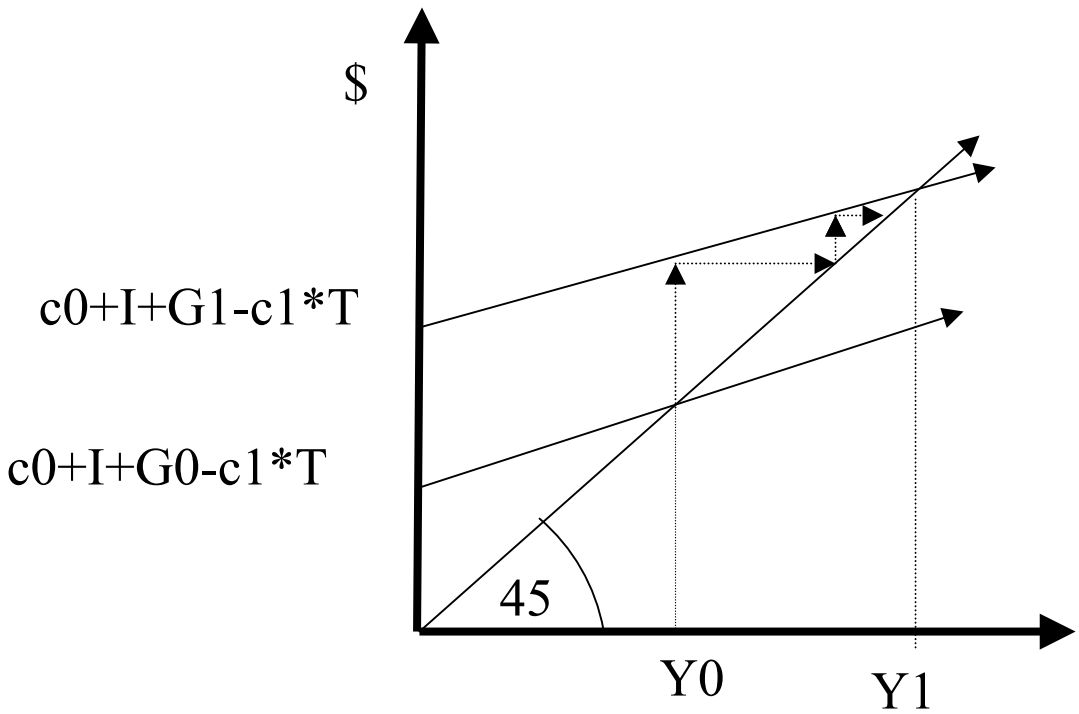
Comparative Statics

Fiscal contraction; consumption boom (stock market)



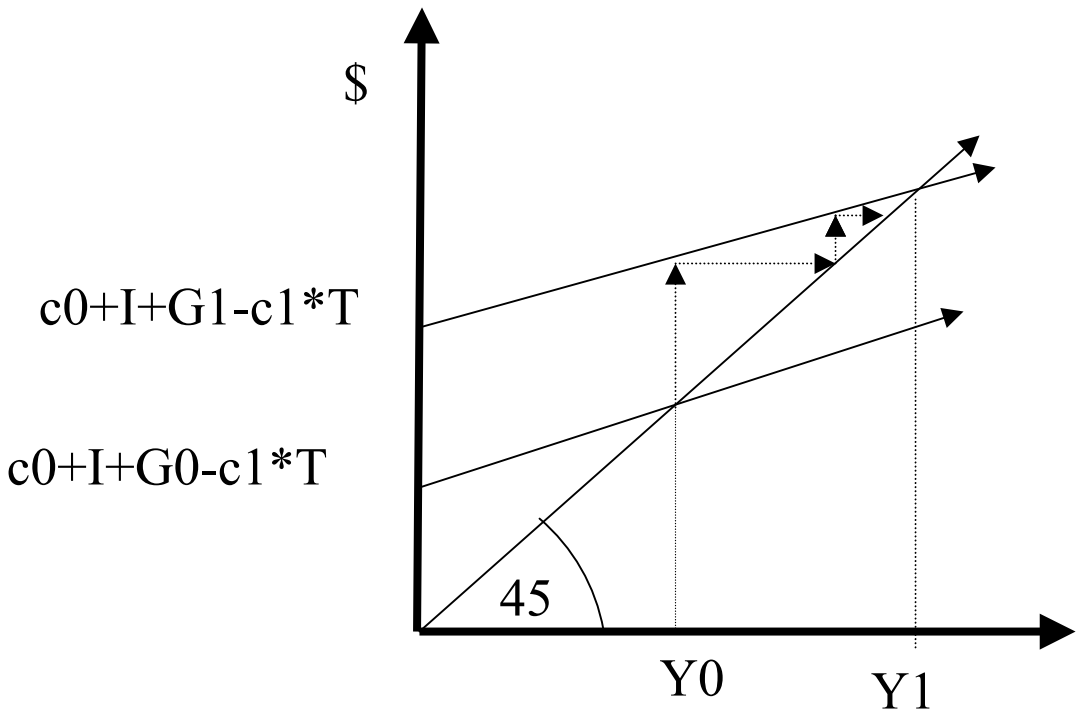
$$Y^* = (1/(1-c1)) * (c0-c1*T+I+G)$$

Dynamics I: Comparative Statics Steps



G1 > G0

Dynamics



Y(t+1) = Z(t) => (inventories)

Other: C(t) = c0+0.5*c1* (Y(t)+Y(t-1))

Macroeconomic policy is tricky… lags and leads

Second Ingredient: Financial Markets

- Goal: Determine equilibrium *interest rate*
- Short run
- Main cyclical instrument (Central Bank)
- Monetary policy (as opposed to fiscal policy) -- both are (primarily) aggregate demand policies

Financial Assets

- Money, bonds, stocks, mutual funds, derivatives…
- Reduce to two:
  - *Money*: transaction (liquidity) role.
  - *Bond:* investment -- pays an interest rate: ***i***
- Key question: How much of each?
  - Tradeoff: transaction services vs return.

Money Demand

Fix (nominal) wealth at: PWealth

$$M^d + B^d = PWealth$$

=> determine only one of them

$$M^d = P\ Y\ L(i)$$

Money Demand Diagram