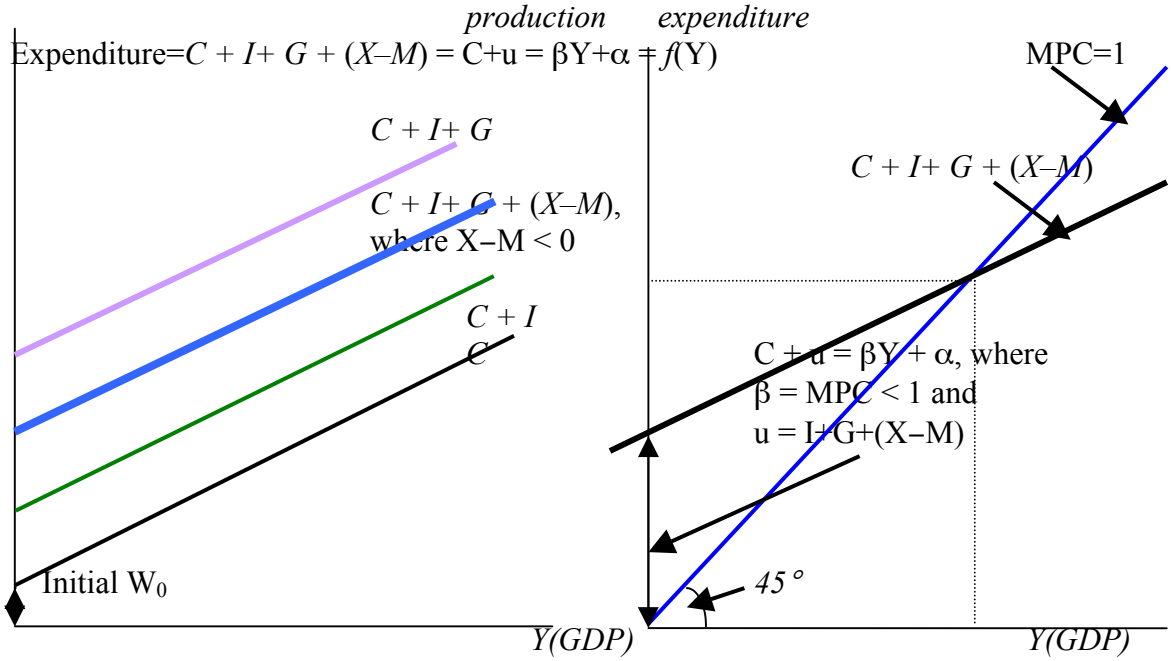
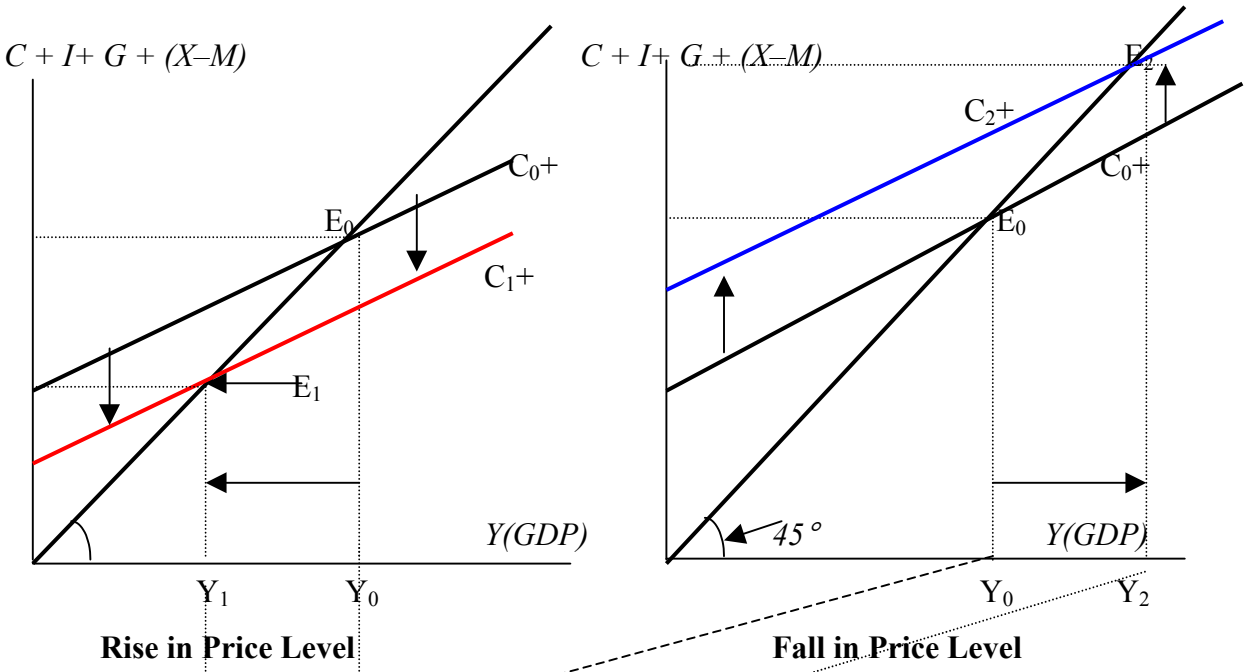
Week 4. Demand-Side Equilibrium

1. **Demand Side is in Eqm** if Income=*Y(GDP)* = *C + I+ G + (X–M)*=AD
production *expenditure*

Expenditure=*C + I+ G + (X–M)* = C+u = βY+α = *f*(Y)



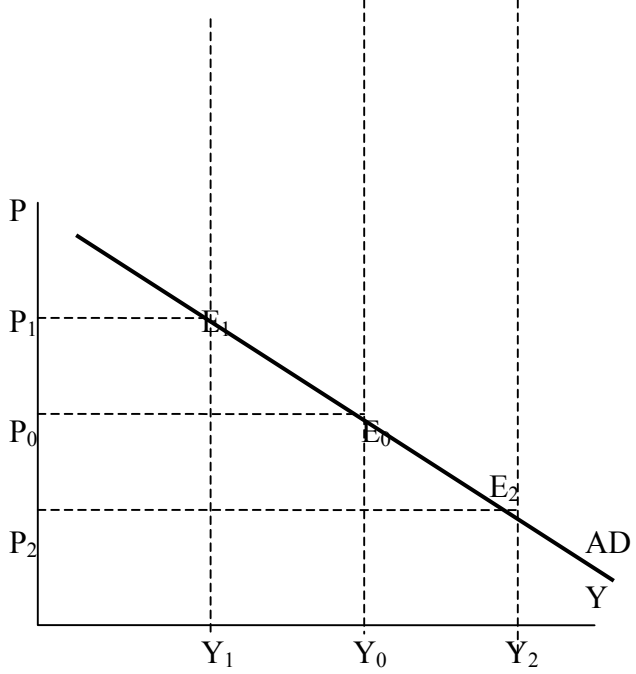
2. **Effect of price Level on Eqm AD**



Rise in Price Level **Fall in Price Level**

3. **AD Curve Derivation**

Cf) D-skdl in Micro is derived from MU



4. **Circular Flow**

$Y_t = C_t + I_t + G_t + (X - M)_t \rightarrow Y_{t+1} = C_{t+1} + I_{t+1} + G_{t+1} + (X - M)_{t+1}$

If $I_t > S_t \rightarrow \dot{k} - \delta > 0 \rightarrow Y_{t+1} > Y_t$.

If $I_t = S_t \rightarrow \dot{k} - \delta = 0 \rightarrow Y_{t+1} = Y_t$

If $I_t < S_t \rightarrow \dot{k} - \delta < 0 \rightarrow Y_{t+1} < Y_t$.

5. **Coordination of Saving & Investment**

Full-employment income will be maintained only if the investing by investors exactly balances the saving done by consumers. That is, the economy will reach an E_{qm} at full employment only if the amount to save out of full-employment income equals the amount to invest. (Remember S = I)

i) if S > I at full-employment, total demand (C+I+G+X-M) < total output (Y_F), because the added investment spending will not be enough to replace the leakage to saving → (underinvesting) → recessionary gap ($Y_F > Y$).

ii) if S < I at full-employment, total demand > total output, and production will rise above the full-employment level → (overinvesting) → inflationary gap.

iii) Coordination usually fails due to the fact that investors are not exactly the savers, and due to the self-fulfilling prophecy. (*cf.* P75 Box)

5. **Simple Algebraic Eqm Income Determination** (p177)

Let $C = a + bYd = a + b(Y–T)$ (1)

We know from NIAI that $Y = C + I + G + (X–M)$ (2)

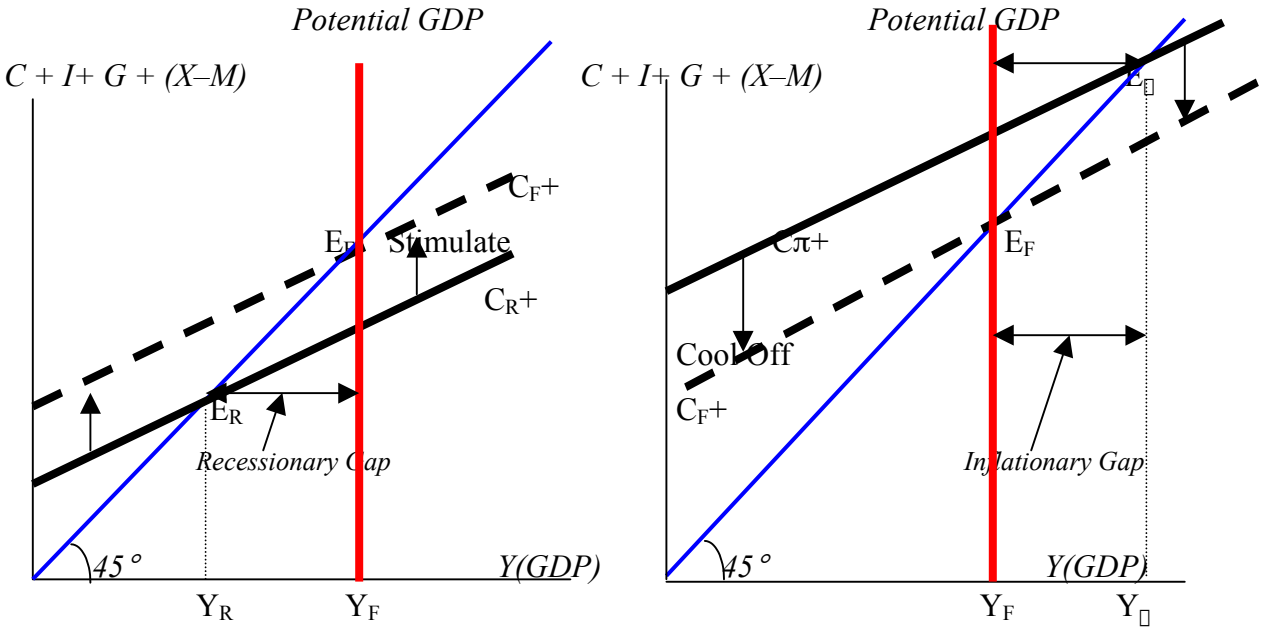
Plug (1) into (2), $Y = (a + bYd) + I + G + (X–M)$

$= a - bT + bY + I + G + (X–M)$ (3)

Collecting like terms $(1–b)Y = a - bT + I + G + (X–M)$ (4)

Dividing through by $(1–b)Y$ gives $Y = \dfrac{a - bT + I + G + (X - M)}{1 - b}$ (5)

6. **Demand-Side Eqm & Full Employment**



A. Recessionary Gap happens when i) consumers or investors are unwilling to spend more at normal rates, ii) government spending is low, iii) foreign demand is weak.
To eliminate recessionary gap, government must ↑ total expenditure (spending skdl) through:

a. Sufficiently large drop in price,
   i) Which is not very realistic b/c price can be determined only by the market;
   ii) Fiscal policy can possibly achieve it through lowering tax;
   iii) Sustained lower price can lead to deflation and recession;
b. Expansionary fiscal policy (*i.e.* deficit spending)
   i) Finance public works w/ proceeds from bond sales, where multiplier effect from ↑G must > multiplier effect from ↓C & ↓I.
   ii) Apart from fluctuations in Investment (∵ Sell more bonds → Pb↓ → *i*↑ → I↓), deficit spending creates more jobs that would add to ↑Y.
c. Expansionary monetary policy (*i.e.* ↓*i*).

B. Inflationary Gap happens when i) consumer/investor spending is unusually bouyant, ii) foreign demand is particularly strong, iii) gov't spends too much, iv) low price level pushes expenditure skdl upward. (*i.e. C+I+G+(X–M)* curve)
To correct the inflationary gap, government must ↓total expenditure through

a. Sufficiently large increase in price,
b. Contractionary fiscal policy (↑T, ↓Subsidies),
c. Contractionary monetary policy (*i.e.* ↑*i*)