Outline AS-AD.

1. Aggregate supply (AS)
   a. curve.
   b. shifting curve.
2. Aggregate Demand (AD)
   a. curve.
   b. shifting curve.
3. Putting curves together.
   (a.) Medium run equilibrium 4-8 years.
   (b) Short run. 1-3 years.
   (c) Disequilibrium dynamics
   (d) → Shocks to AD curve
   - ⇕ Businesses pessimistic about their investments.
   - ⇕ Crowding out IMF view "sort of" supported in medium run.

Oil shock ~ 1970's, jump in oil prices.

AS.

Price setting

$$P = (1+\mu) W$$

↑ markup

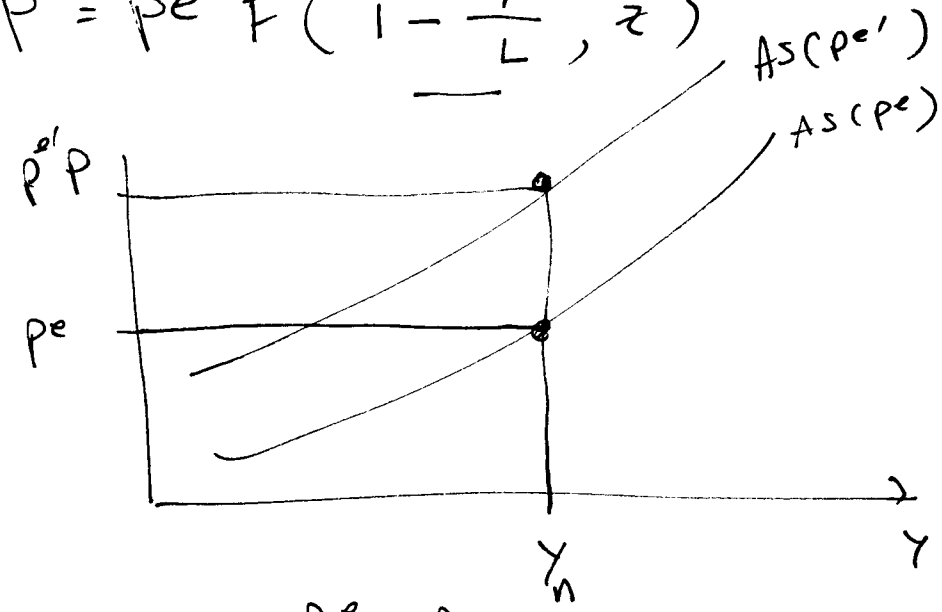
Bargaining

$$W = P^e F(u, z).$$

$$u = 1 - \frac{Y}{L} \qquad Y = N$$

↖ labor force which does not move much.

$$P = P^e F\left(1 - \frac{Y}{L}, z\right)$$



Medium run: $P^e = P$

medium run. price markup

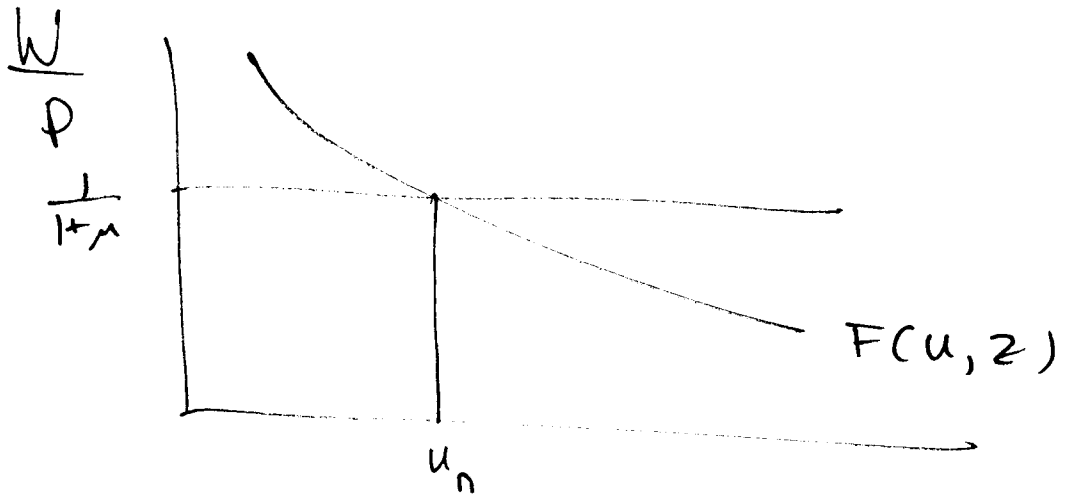
$$F(u,z) \overset{\downarrow}{=} \frac{W}{P} \overset{\downarrow}{=} \frac{1}{1+\mu}$$

Disequilibrium dynamics:

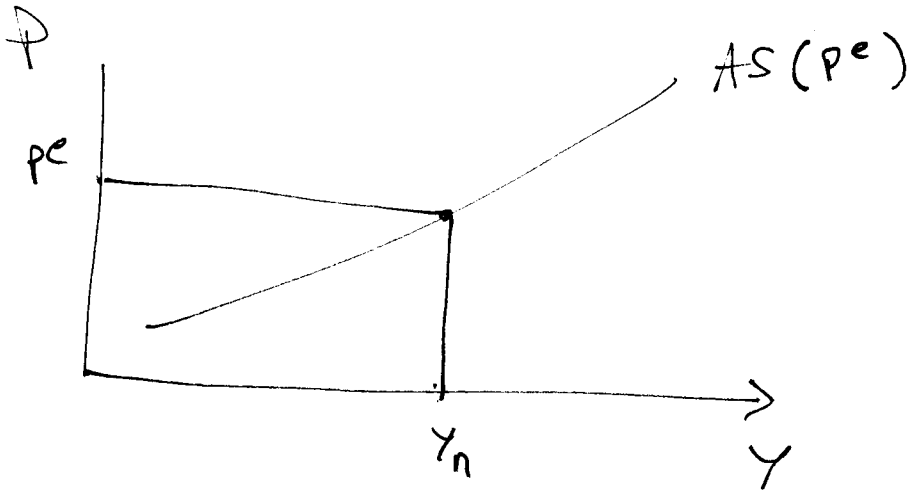
$P > P^e$ $P^e \uparrow$

$P < P^e$ $P^e \downarrow$

Medium Run



$$u_n = 1 - \frac{Y_n}{L}$$



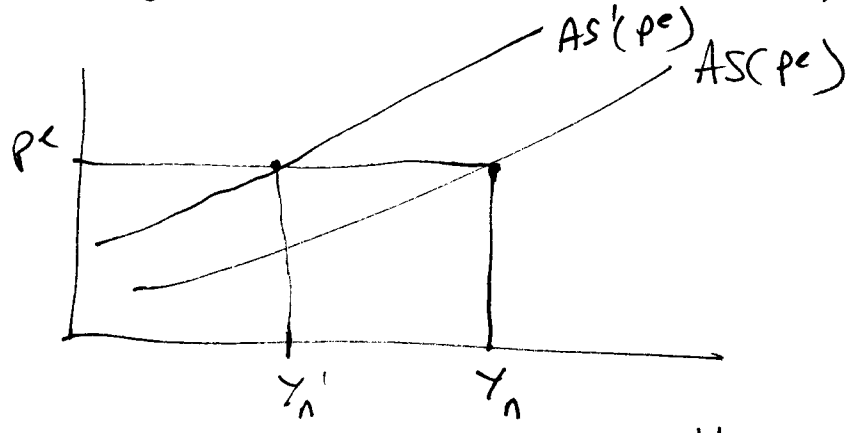
Expectations (p^e) adjust in medium run.

1970s 1980's.

Prices rise sharply

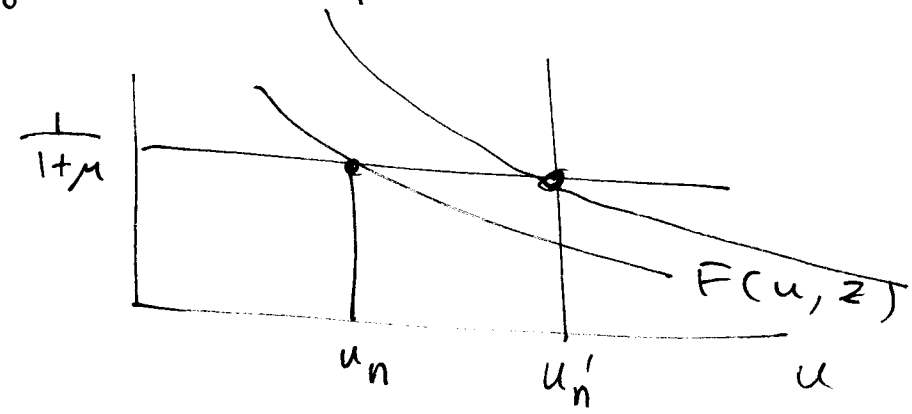
Prices cool down in 1980

Other variables that shift AS : z.

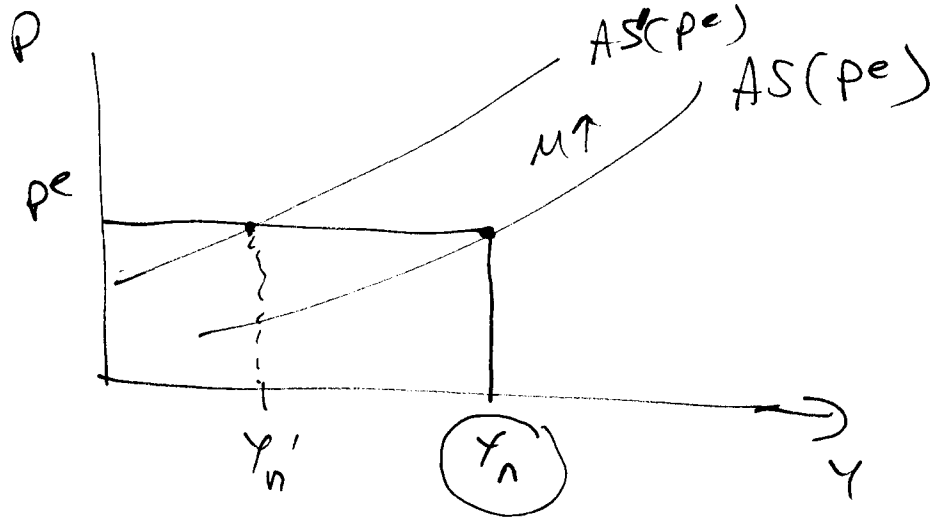


$u_n = 1 - \frac{Y_n}{L}$

Unemployment ins. improves.



$Y_n \downarrow$.



μ↑.

$P = C(1+\mu)W$

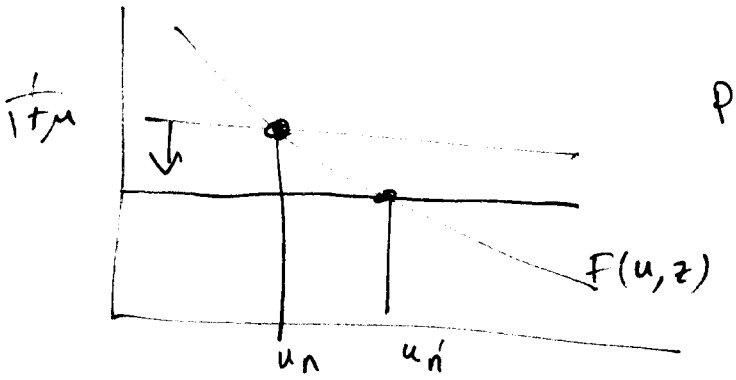
$W = P^e F(u, z)$

$u = 1 - \frac{Y}{L}$

$P = (1+\mu) P^e F(1 - \frac{Y}{L}, z)$

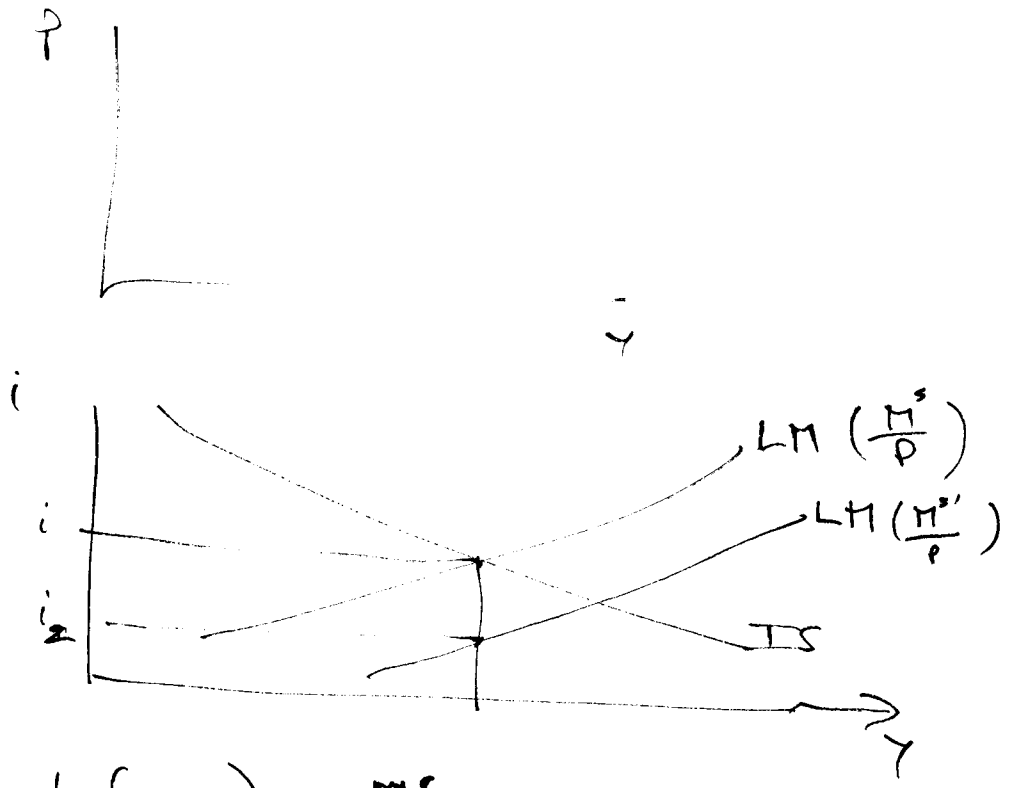
Medium run $P = P^e$

$\frac{1}{1+\mu} = F(1 - \frac{Y}{L}, z)$



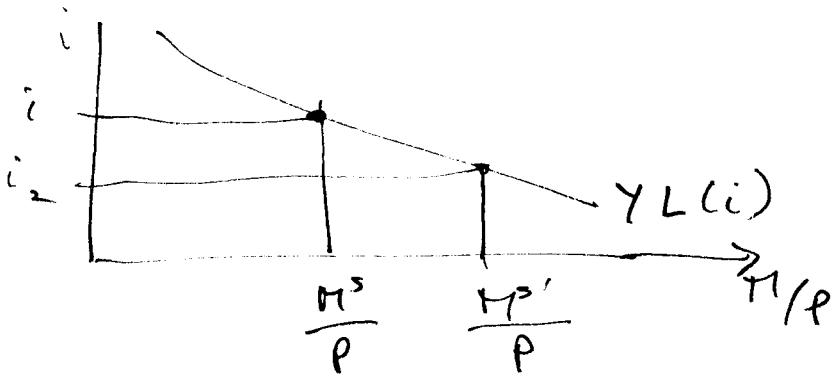
oil price rise ⇒ μ↑.

Aggregate Demand

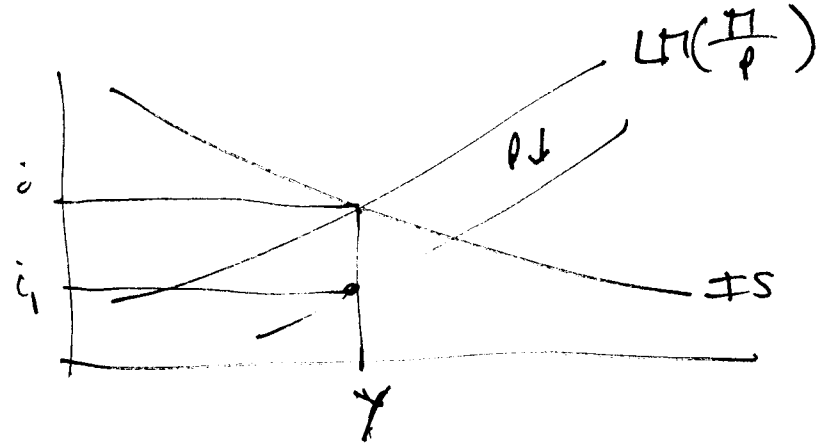


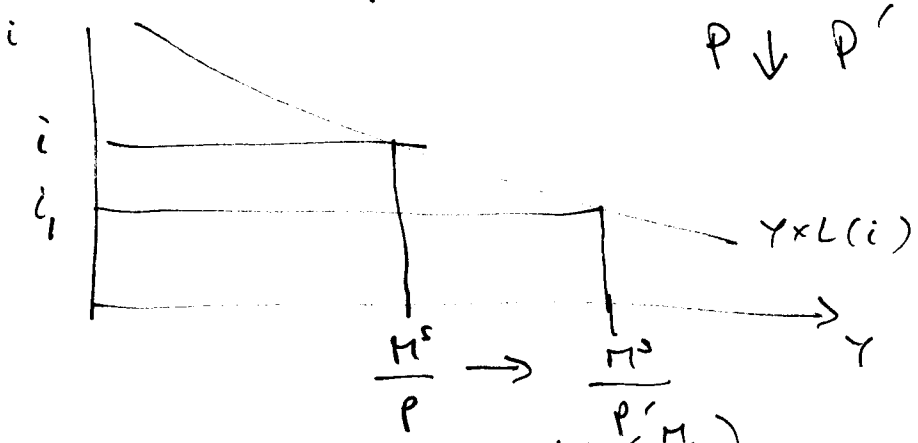
LM: comb. (i, y) $\quad \frac{M^s}{P} = Y \times L(i)$

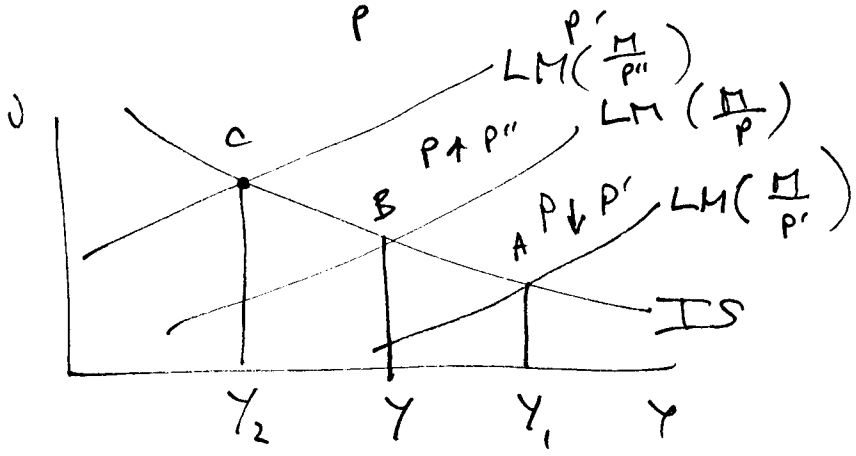
$M^s \uparrow$

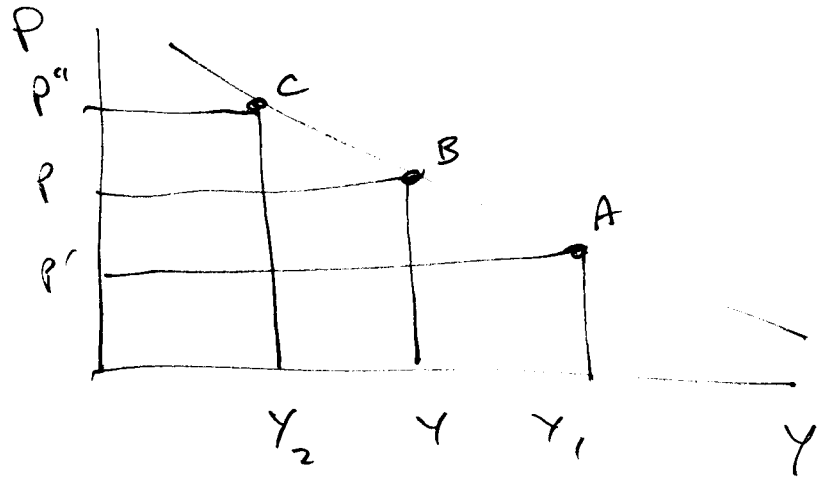


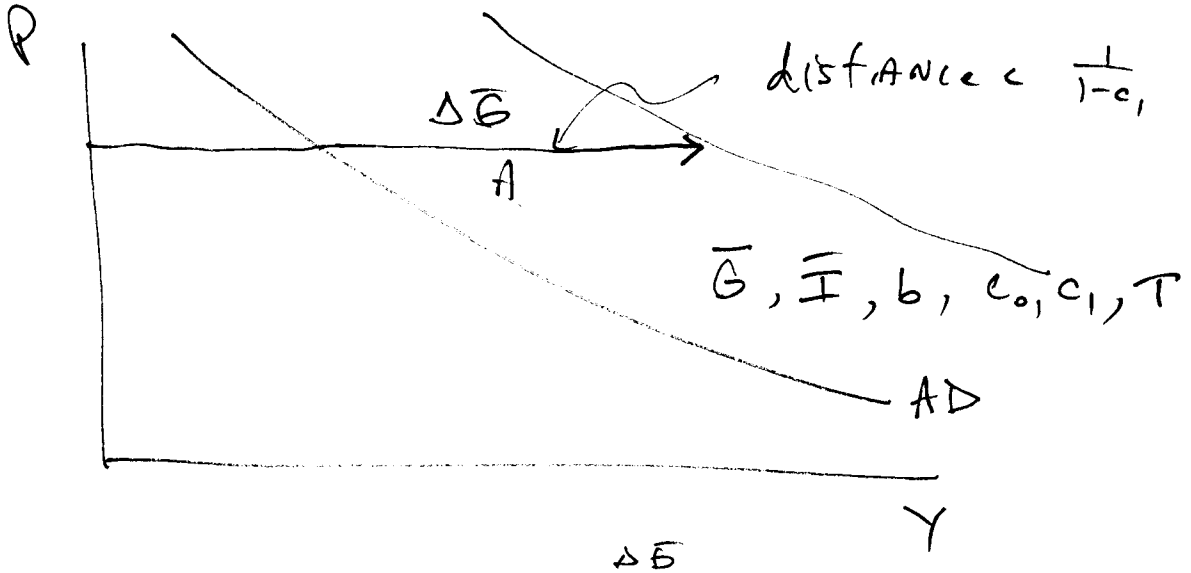
Reduce P.

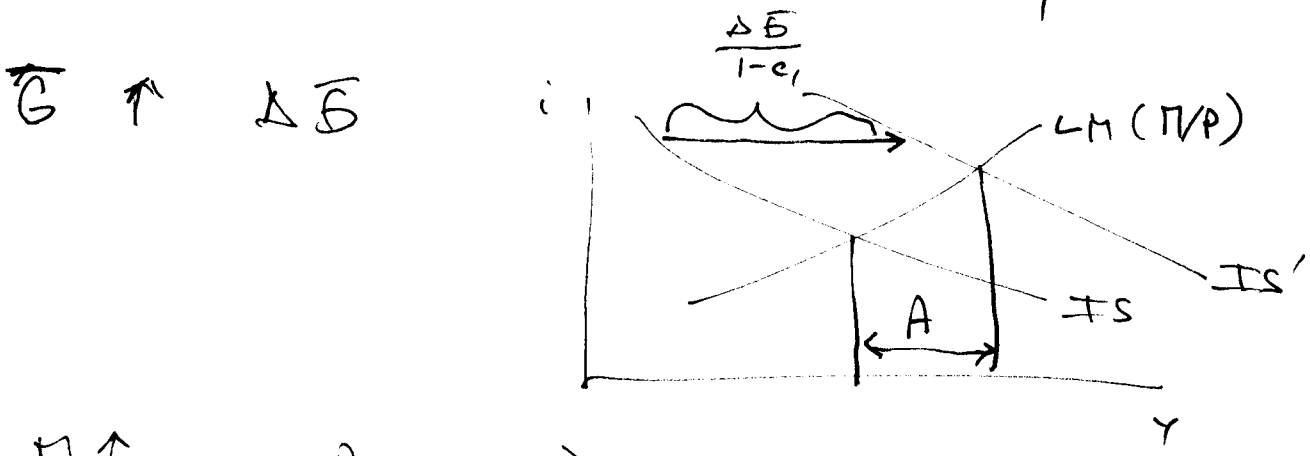

LM(M/P)
P↓
i
i1
IS
Y

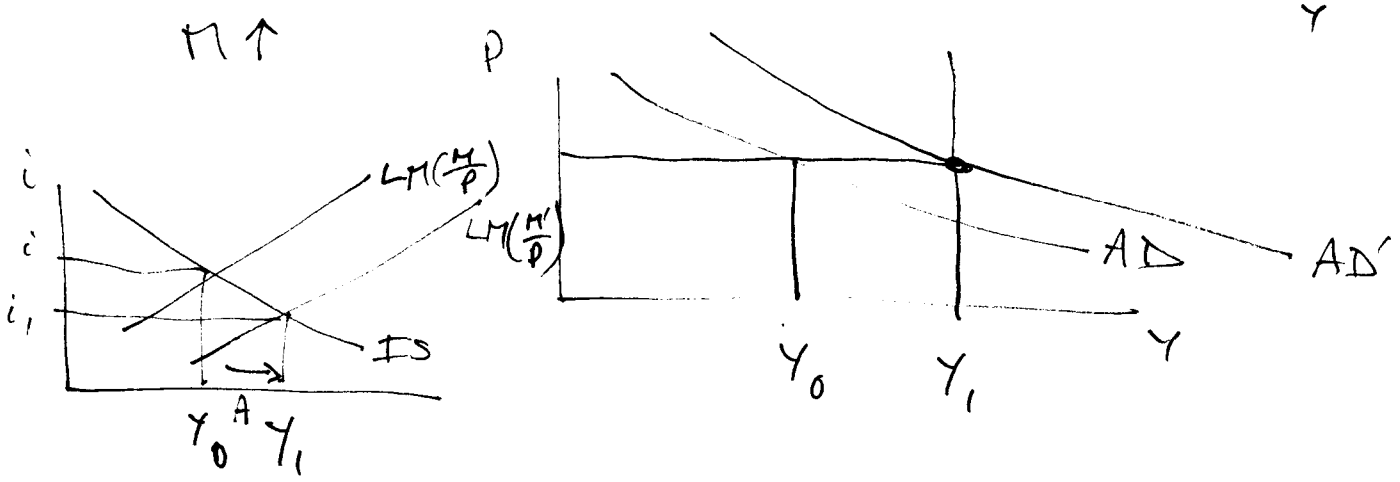

i
P↓ P'
i
i1
Y×L(i)
Y
Ms/P → Ms/P'


LM(M/P'')
LM(M/P)
LM(M/P')
C
B
A
P↑P''
P↓P'
IS
Y2
Y
Y1
Y

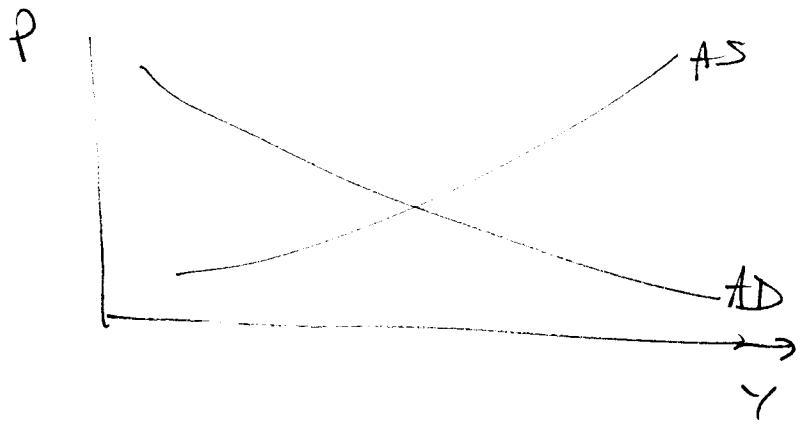

P
P''
P
P'
C
B
A
AD curve.
Y2
Y
Y1
Y


P
ΔḠ
distance < 1/(1-c1)
A
Ḡ, Ī, b, c0, c1, T
AD
Y


Ḡ ↑ ΔḠ
ΔḠ / (1-c1)
i
LM (M/P)
IS'
IS
A
Y


M ↑
i
i'
i1
LM(M/P)
LM(M'/P)
IS
Y0
A
Y1
P
AD
AD'
Y

Shocks to AD, AS

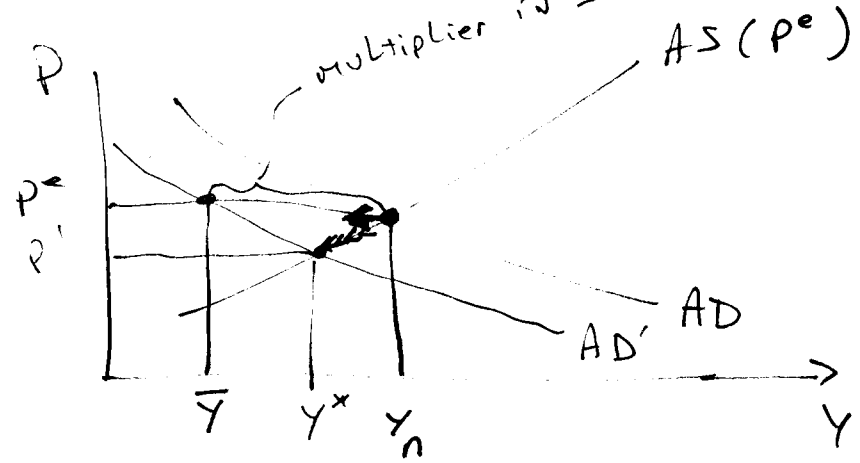


Y ↑ how to tell if AD, AS?

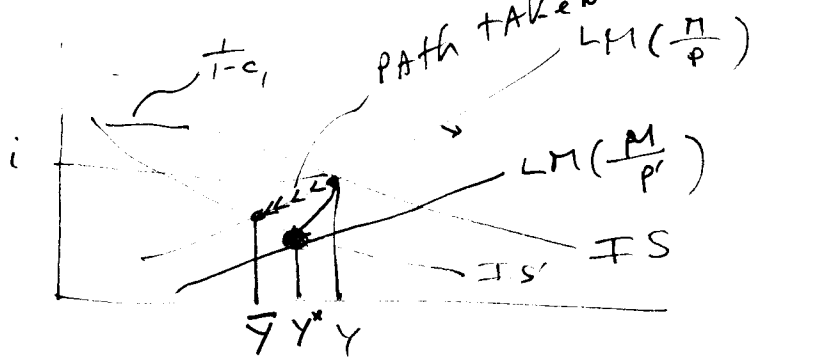
↑ AD ⇒ then P ↑

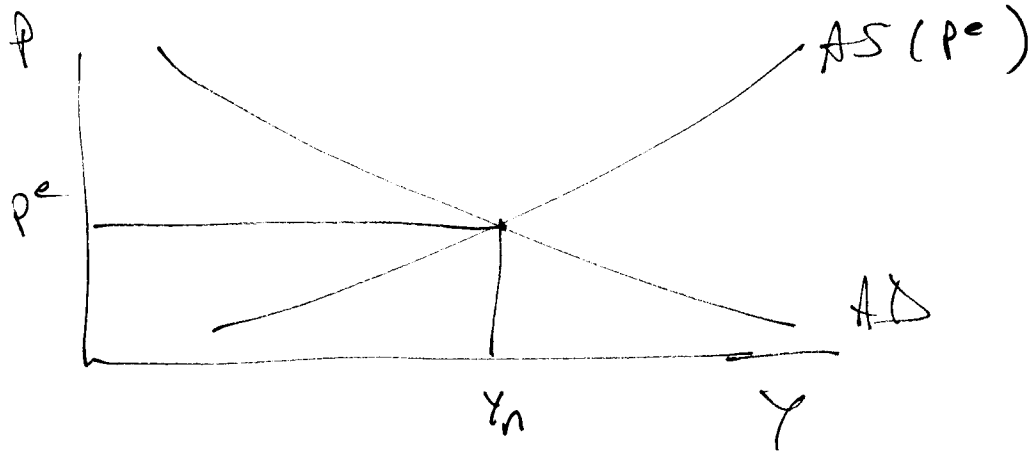
AS then P ↓.

$\bar{G}$ ↓.



Short run, Medium run.



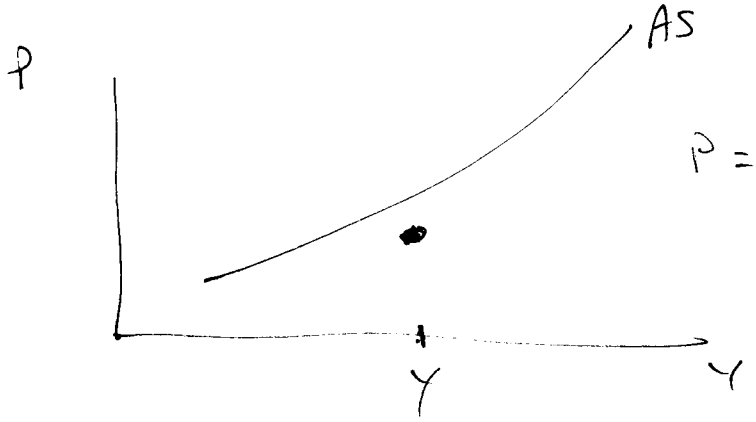


Medium run equilibrium.

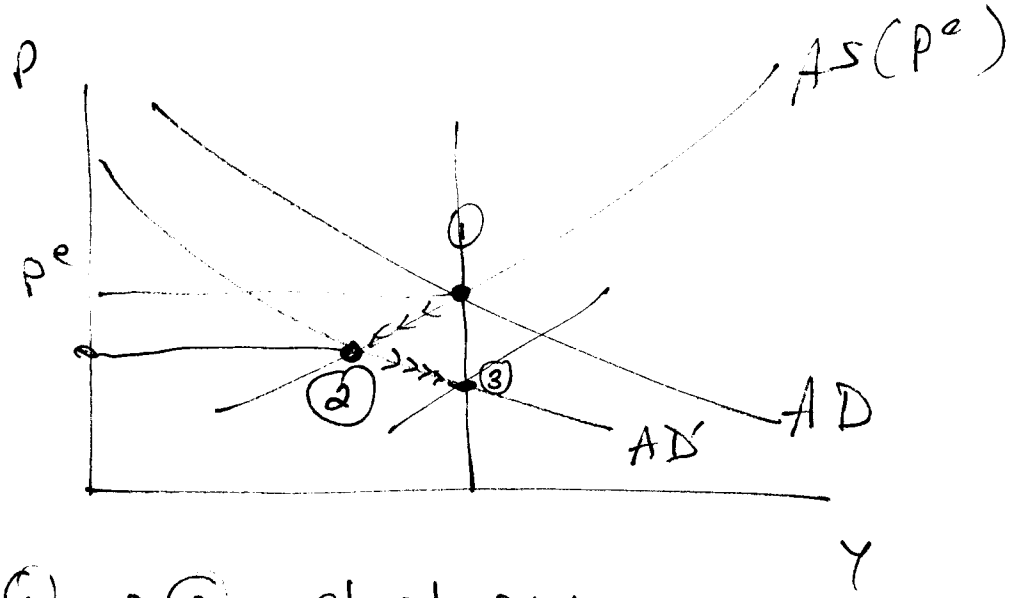
short run equilibrm. → {Goods, Asset markets in equil. (i.e. AD)
{Price/Wage setting equations satisfied (i.e. AS)

$P^e = P$

Disequilibrium dynamics.
→ If off AS curve, P moves towards AS curve (slow)
Goods market $Z > Y \Rightarrow Y \uparrow$ (slow)
Asset market $\left(\frac{M}{P}\right)^d > \left(\frac{M}{P}\right)^s$ $i \uparrow$ (immediately).
Short run: P^e fixed.
Medium run: $P > P^e \Rightarrow P^e \uparrow$
$P < P^e \Rightarrow P^e \downarrow$.



$P = (1+\mu) W$
$W = P^e F(1 - \frac{Y}{L}, z)$



① → ② short run.

② → ③ in medium run.

medium equilibrium.

G ↑, Y nothing,

C + I + G = Y

nothing ↑ ↓ nothing