

# Model Summary

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Econ520

April 29, 2021

# Topics

- ▶ We have seen a variety of models with different assumptions.
- ▶ The following is a synthesis.
- ▶ For each case, we will work through a rise in  $G$

# IS/LM

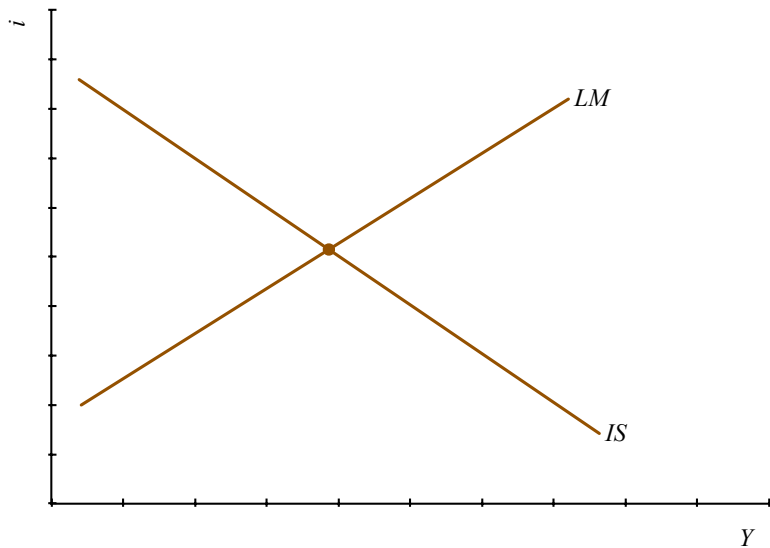
Assumptions:

1.  $P$  is fixed
2. supply constraints do not bind (e.g. deep recession)
3. closed economy

IS:  $Y = C(Y - T) + I(Y, i) + G$

LM:  $M/P = YL(i)$

## IS/LM Analysis



# AS/AD

Assumptions:

1.  $P$  is endogenous
2. supply constraints do bind
3. expectation effects not important

$$\text{AS: } P = (1 + m)P^e F(1 - Y/L, z)$$

$$\text{AD: } Y = C(Y - T) + G + I(Y, i)$$
$$M/P = YL(i)$$

# AS/AD: Analysis

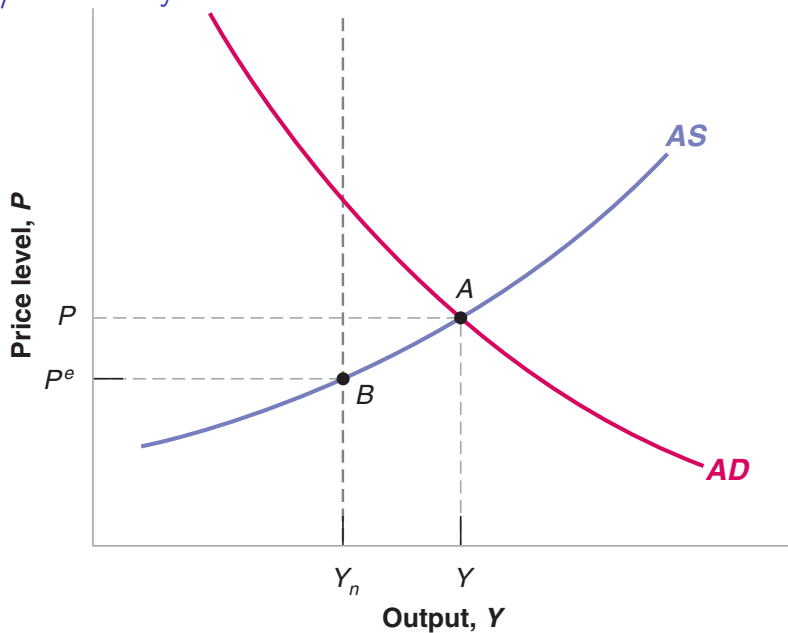
Short run:  $P^e$  given

- ▶ AS/AD jointly determine  $Y, P$

Medium run:  $P^e \rightarrow P$

- ▶ vertical AS  $F(1 - Y_n/L, z) = 1/(1 + m)$  determines  $Y_n$
- ▶ AD determines  $P$

## AS/AD: Analysis



## Expectations of Future $Y, r$

Assumptions:

- ▶ no inflation expectations
- ▶ short run only
- ▶ supply constraints do not bind

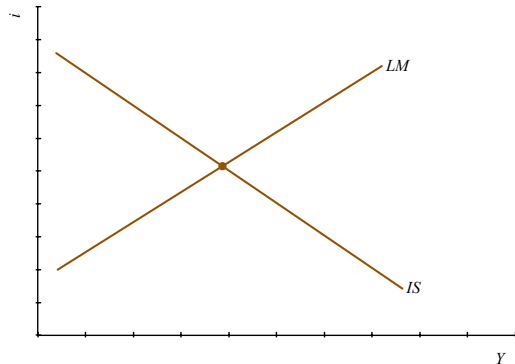
IS/LM model with one modification

- ▶  $Y', r'$  shift IS

Note: We have not done this, but one could easily built this into the AS/AD analysis as well.



## Expectations: Analysis



1. Direct effect (e.g.  $G \uparrow$ )
2. Indirect effect  
(expectations shift IS)

# Open Economy IS/LM

Assumptions:

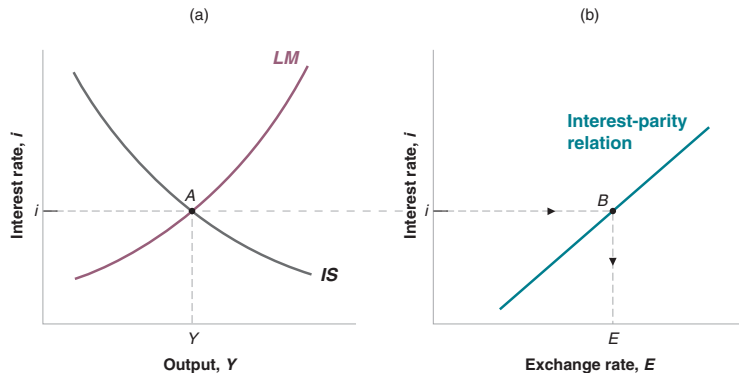
1. no supply constraints, no expectations
2.  $P$  fixed
3. floating exchange rate
4. perfect capital mobility

$$IS : Y + C(Y - T) + I(Y, i) + G + NX \left( Y, Y^*, \frac{1+i}{1+i^*} E^e \right) \quad (1)$$

$$LM : M/P = YL(i) \quad (2)$$

$$UIP : E = \frac{1+i}{1+i^*} E^e \quad (3)$$

# Open IS/LM Analysis



Looks like closed economy IS/LM with additional shifters of IS (e.g.  $Y^*$ )

# Open Economy AS/AD

Assumptions:

1. supply constraints bind
2. fixed exchange rate
3. perfect capital mobility
4. no expectations

# Open AS/AD: Analysis

Analysis is the same as in closed economy AS/AD

- ▶ but different shifters of AD

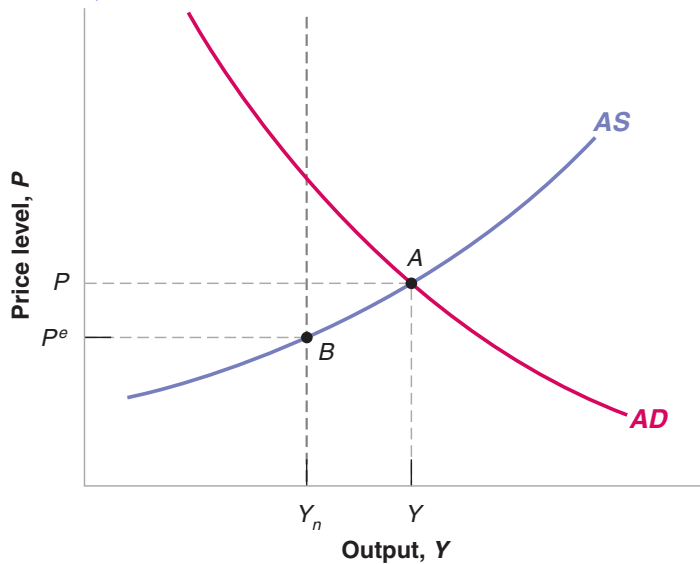
Short run:

- ▶ AS as before with fixed  $P^e$
- ▶ UIP  $i = i^*$
- ▶ IS + LM = AD:  $Y = Y(\bar{E}P/P^*, G, T)$

Medium run:

- ▶  $P^e = P$ : vertical AS fixes  $Y = Y_n$ .
- ▶ AD determines  $P$

## Open AS/AD: Analysis



Adjustment looks like closed economy

# Tips

- ▶ You don't have to remember equations
  - ▶ Each exam question will clearly state the model assumptions
- ▶ Let the model tell you the answer
  - ▶ There is a shock
  - ▶ Figure out how it shifts each curve
  - ▶ Get the new equilibrium
  - ▶ Then think about intuition / does the answer make sense?