Open Economy Macroeconomics

Unit 7

Fixed versus Floating Exchange Rates

Aim: How to choose between fixed and floating exchange rates

Which is the most preferred exchange rate regime depends on:

- The type of shock that is impinging upon the economy (for simplicity, all shocks are considered to be transitory)
- The specification of the objective function of the authorities
- The structural parameters of the economy

- Arguments for fixed exchange rates

  - Fixed exchange rates promote international trade and investment
  - Fixed exchange rates provide discipline for macroeconomic policies
  - Fixed exchange rates promote international cooperation
  - Speculation under floating rates is likely to be destabilizing

- Arguments for floating exchange rates

  - Floating exchange rates ensure BP equilibrium
  - Floating exchange rates ensure monetary autonomy
  - Floating exchange rates insulate economies
  - Floating exchange rates promote economic stability
  - Speculation under floating rates is stabilizing

Objective function:

$$O(P,Y) = \omega \cdot \left(Y - Y_n\right)^2 + \left(1-\omega\right) \cdot \left(P - P_n\right)^2 \qquad 0 \le w \le 1$$

Money demand function:

$$M_t^d = P_{It} + nY_t - \sigma r_t + u_{t_1}$$

$$P_{It} = \alpha P_t + \left(1-\alpha\right) \cdot \left(s_t + P_t^*\right) \qquad 0 < \alpha < 1$$

Aggregate demand function

$$Y_t^d = \theta \cdot \left(s_t + P_t^* - P_t\right) - \beta \cdot \left(r_t + P_t - P_{t+1/t}\right) + \pi Y_n + u_{t_2}$$

Aggregate supply function:

$$Y_t^s = \varphi \cdot \left(P_t - W_t \right) + u_{t_3}$$ or

$$Y_t^s = Y^s \left(L_t \right)$$

where $\delta Ys_t / \delta L_t > 0$ and $\delta^2 Ys_t / \delta^2 L_t < 0$

UIP condition:

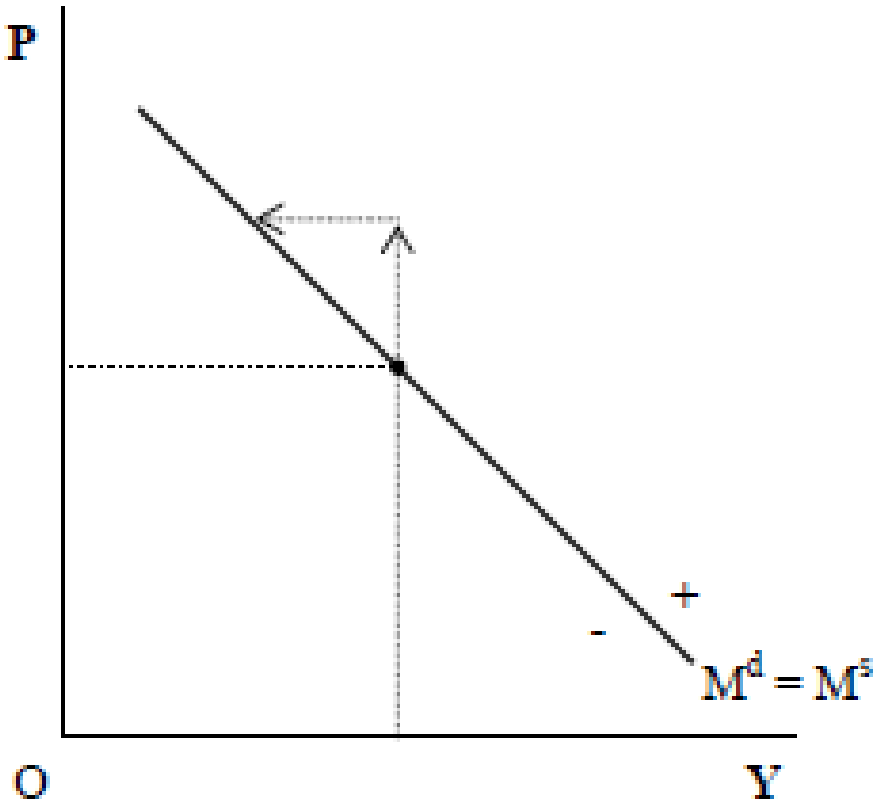
$$r_t = r_t^* + \left(S_{t+1/t} - S_t \right)$$

Equilibrium equations:

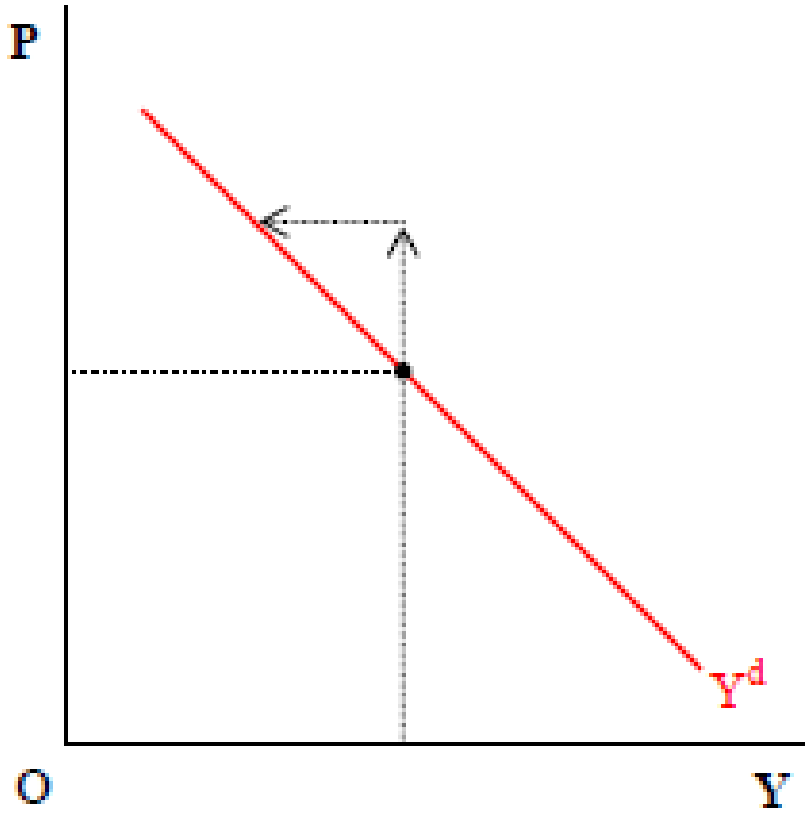
$$W_t = W_{t*} \quad \rightarrow \quad Y_t = Y_n$$

$$Ms_t = Md_t \qquad Ys_t = Yd_t$$

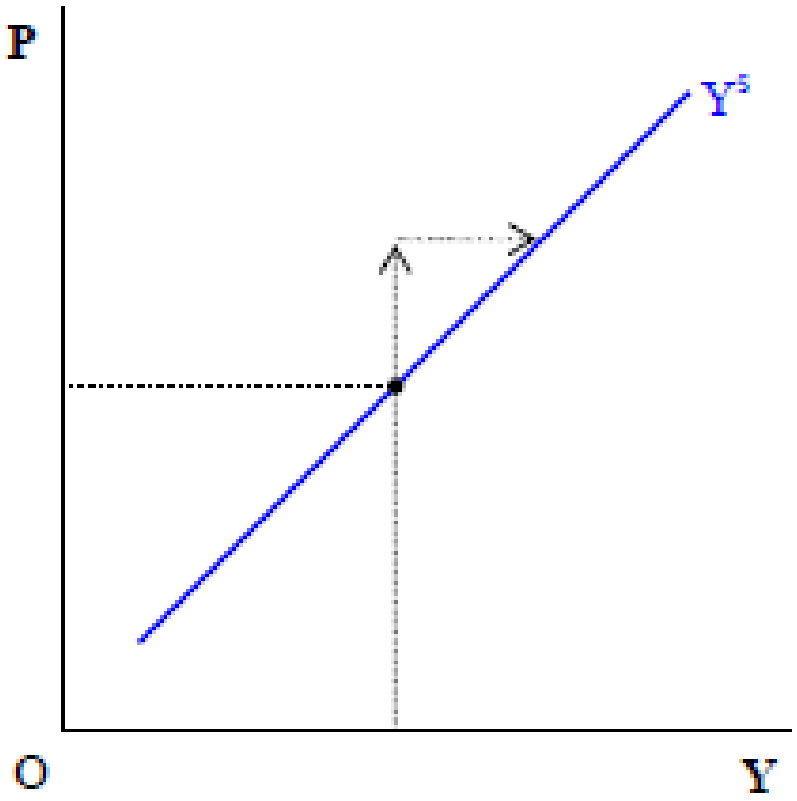
Equilibrium of the money market



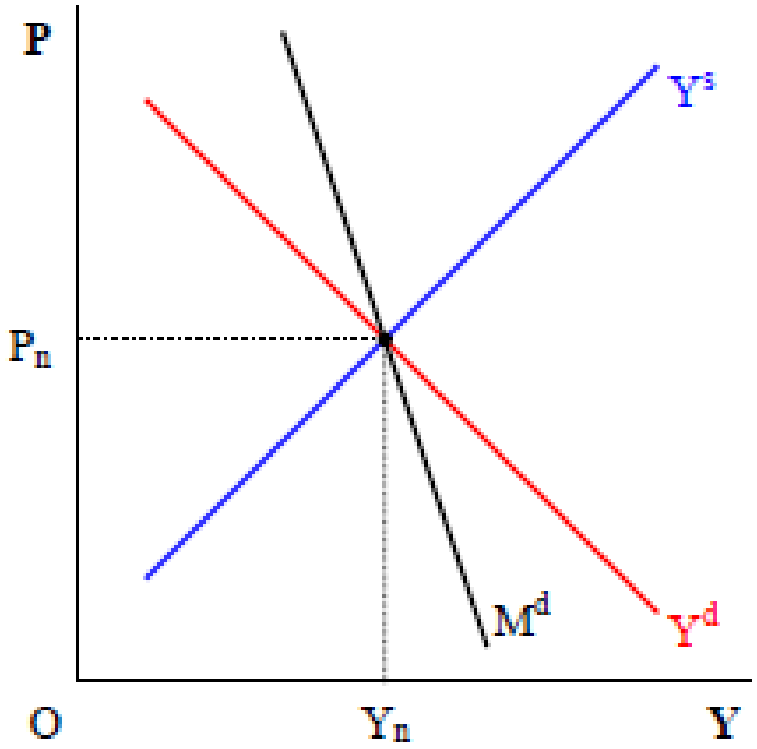
Aggregate demand curve



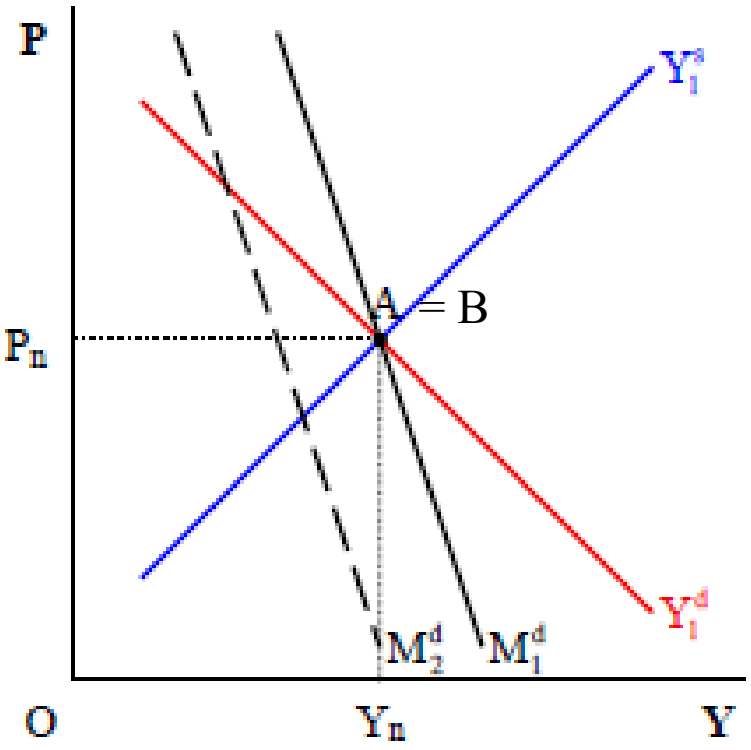
Aggregate supply curve



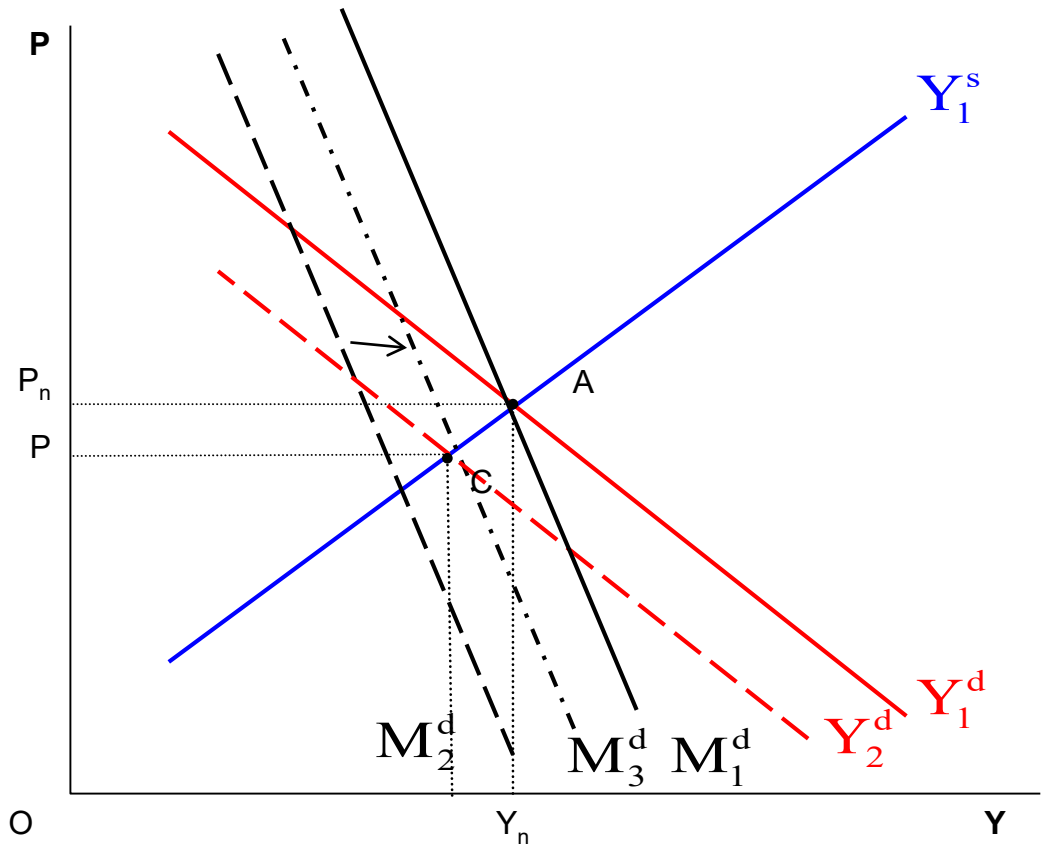
Equilibrium of the model



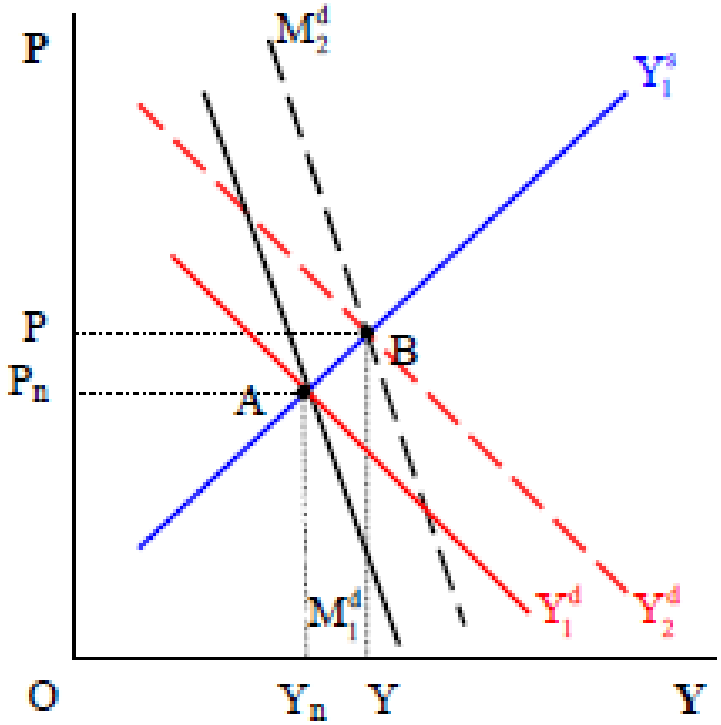
Money demand shock: Fixed exchange rate regime



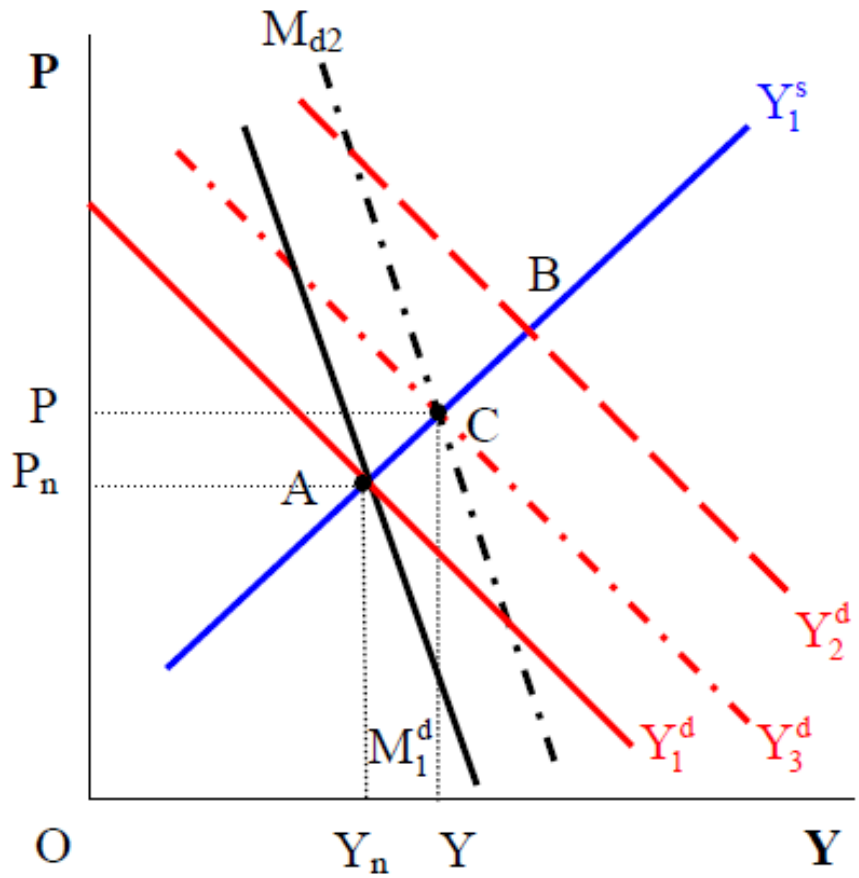
Money demand shock: Floating exchange rate regime



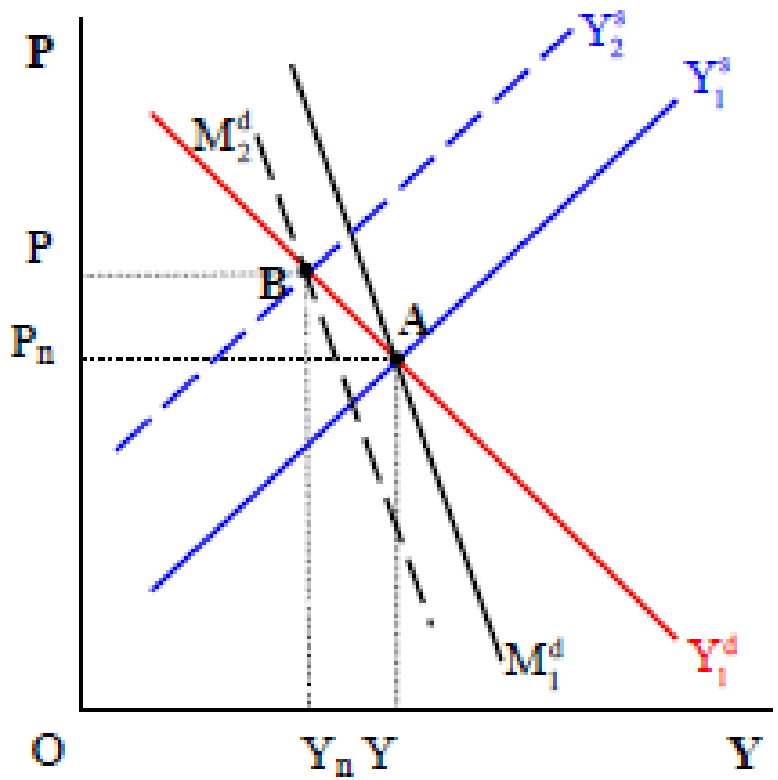
Aggregate demand shock: Fixed exchange rate regime



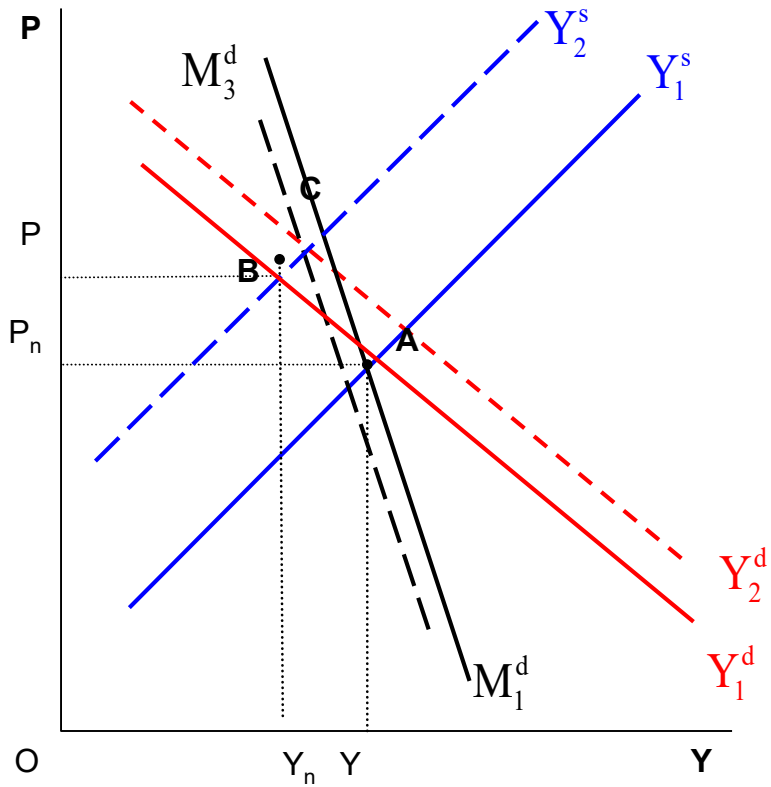
Aggregate demand shock: Floating exchange rate regime



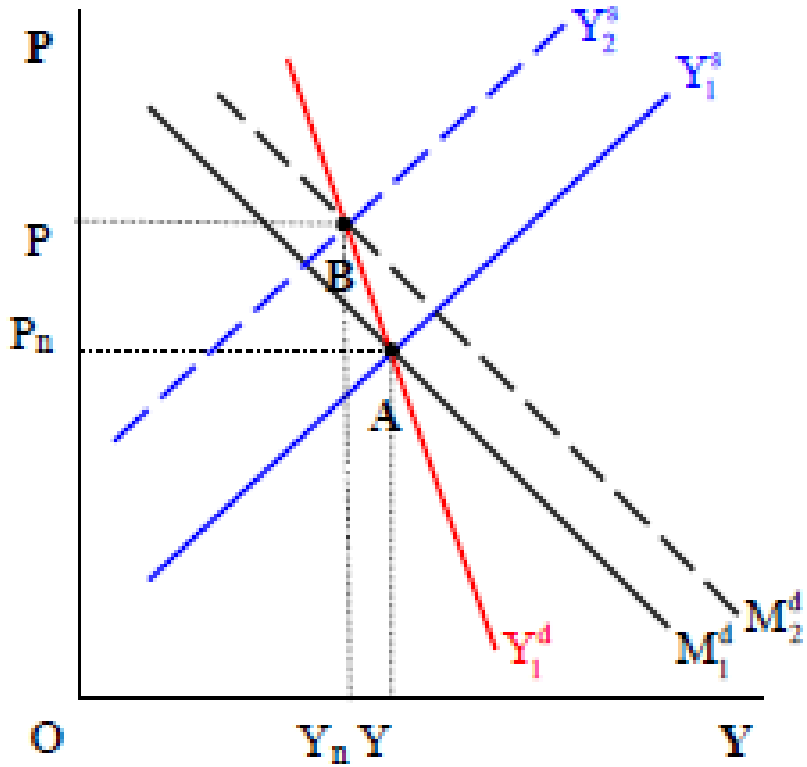
Aggregate supply shock with fixed exchange rates. Case 1: *Md* schedule is steeper than the *Yd* schedule, i.e. $\eta(\theta + \beta) > \propto$



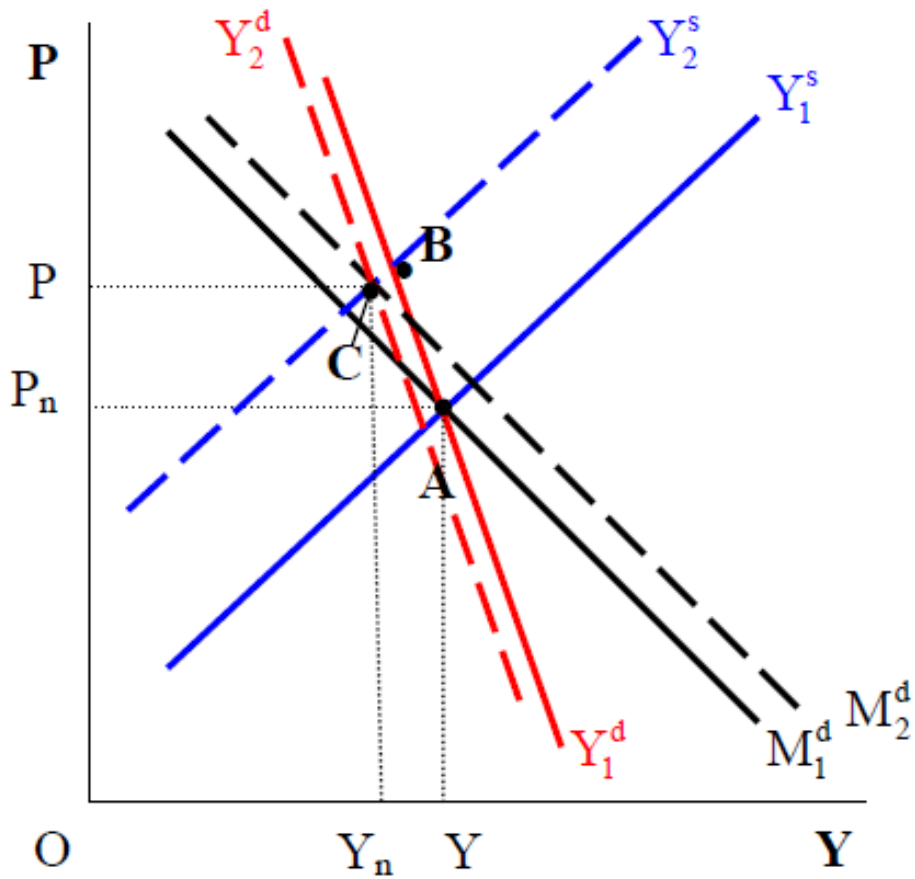
Aggregate supply shock with floating exchange rates. Case 1: *Md* schedule is steeper than the *Yd* schedule, i.e. $\eta(\theta + \beta) > \propto$



Aggregate supply shock with fixed exchange rates. Case 2: *Yd* schedule is steeper than the *Md* schedule, i.e. $\eta(\theta + \beta) < \propto$



Aggregate supply shock with floating exchange rates. Case 2: *Yd* schedule is steeper than the *Md* schedule, i.e. $\eta(\theta + \beta) < \propto$



Summary of the results under fixed and floating rates

Transitory shock	Floating rates		Fixed rates	
	Price stability	Output stability	Price stability	Output stability
Money demand	X	X	✓	✓
Aggregate demand	✓	✓	X	X
Aggregate supply *Md* steeper than *Yd*	X	✓	✓	X
Aggregate supply *Yd* steeper than *Md*	✓	X	X	✓

Note: ✓ – indicates performs best, X – indicates performs worst.

Source: Pilbeam: “International Finance”