Interdependence and International Policy coordination

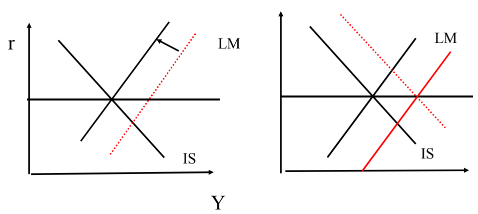
Lecture 4
LIUC 2011

Is policy coordination desirable?

- Interactions between governments acting independenty can give suboptimal outcomes because of the spillover effects of a country's policy on other countries.
- Let's prove this statement by steps

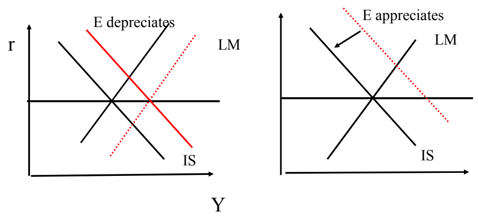
Monetary and Fiscal policy in a "small" open economy

- Fixed exchange rate (objective: $\uparrow$Y)
  - M is ineffective
  - G is effective



Monetary and Fiscal policy in a "small" open economy

- Flex exchange rate (objective: $\uparrow Y$)
  - M is effective
  - G is ineffective

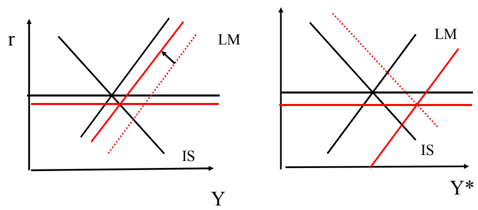


Monetary and Fiscal policy in a "large" open economy - Interdependence

- Fix exchange rate
  - M ↑ Y and d Y*

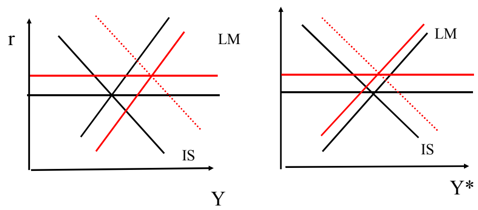
Country 1 (Y)

Country 2 (Y*)



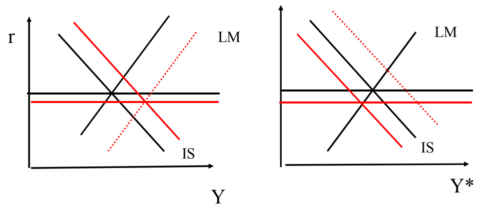
Monetary and Fiscal policy in a "large" open economy - Interdependence

- Fix exchange rate
  - G ↑ Y and Y*



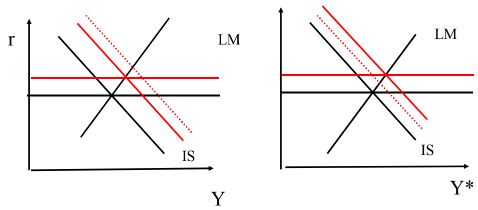
Monetary and Fiscal policy in a "large" open economy - Interdependence

- Flex exchange rate
  - M ↑ Y but ↓Y* : negative transmission of M



Monetary and Fiscal policy in a "large" open economy - Interdependence

- Flex exchange rate
  - G ↑ Y and Y*



Monetary and Fiscal policy in a "large" open economy - Interdependence

- Fixed exchange rate
  - Monetary and fiscal policy are transmitted positively to the foreign country
  - Capital immobility does tend to weaken the spill-over effects of the mp relative to fp
- Flexible exchange rate
  - Fiscal policy is trasmitted positively
  - Monetary polity is trasmitted negatively
  - With capital immobility no negative spill-over effects of mp

Interaction and game theory

Recognition by gov of interdependence can lead to strategic behaviour in setting economic policies as each country considers the effects of own policy on other countries

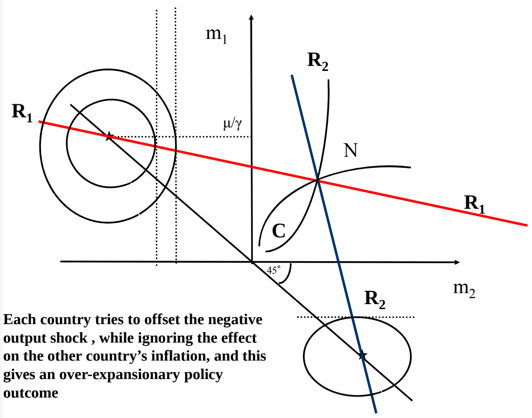
Prisoners' Dilemma

Player 1's strategies

Player 2's strategies		Confess	Do not confess
	Confess	Payoff player 1: −5 Payoff player 2: −5	Payoff player 1: −10 Payoff player 2: 0
	Do not confess	Payoff player 1: 0 Payoff player 2: −10	Payoff player 1: −2 Payoff player 2: −2

An application of game theory (Hamada's Diagram)

- $L_i = y_i^2 + \pi_i^2 \quad i = 1,2,\ y_i=Y_i-\bar{Y},\ \pi_i=\Pi_i-\bar{\Pi}$
- $\pi = \frac{1}{2}\,(m_1+ m_2)$
- $y_i = \gamma\, m_i-\mu$
- $L_i = (\gamma\, m_i-\mu)^2 + \frac{1}{4}\,(m_1+ m_2)^2$



Each country tries to offset the negative output shock , while ignoring the effect on the other country's inflation, and this gives an over-expansionary policy outcome