Econ 205 - Midterm Review

Stephen Ayerst

October 10, 2012

Outline

1. Format
2. Macro
   - Tinbergen Model
   - IS-LM
3. Micro
   - Gains from Trade
   - GRIM Theory
4. Questions

Format

- Exam will be on October 11th during regular class time
- 4 short answer type questions with multiple sections
- Choose and complete 3 of these questions
- Some questions will have a bonus part
- No opinion / normative type questions

Question 1: Given $\mu = .2$, $\beta = .3$ and $X = 50$

a) Set A so that $Y = 200$
b) Set A so that $Y = 300$
c) What is D in (a)? in (b)?
d) If the government can now set X as well, find the levels of A and X such that $Y = 200$ and there is no deficit. Why might the government not increase Y above 200?

Tinbergen

Tibergen Model

- $Y = E + (X - M)$
- $E = A + \beta Y$
- $M = \mu Y$
- $D = M - X$

(a): Set A so that $Y = 200$

Using given information and the above formulas
$M = (.2)(200) = 40$
$E = A + (.3)(200) = A + 60$
$X = 50$
$Y = 200 = (A + 60) + (50 - 40)$
$A = 130$

(b): Set A so that $Y = 300$

$M = (.2)(300) = 60$
$E = A + (.3)(300) = A + 90$
$X = 50$
$Y = 300 = (A + 90) + (50 - 60)$
$A = 220$

(c): What is D in (a)? in (b)?

$D = 40 - 50 = -10$ when $Y = 200$
$D = 60 - 50 = 10$ when $Y = 300$

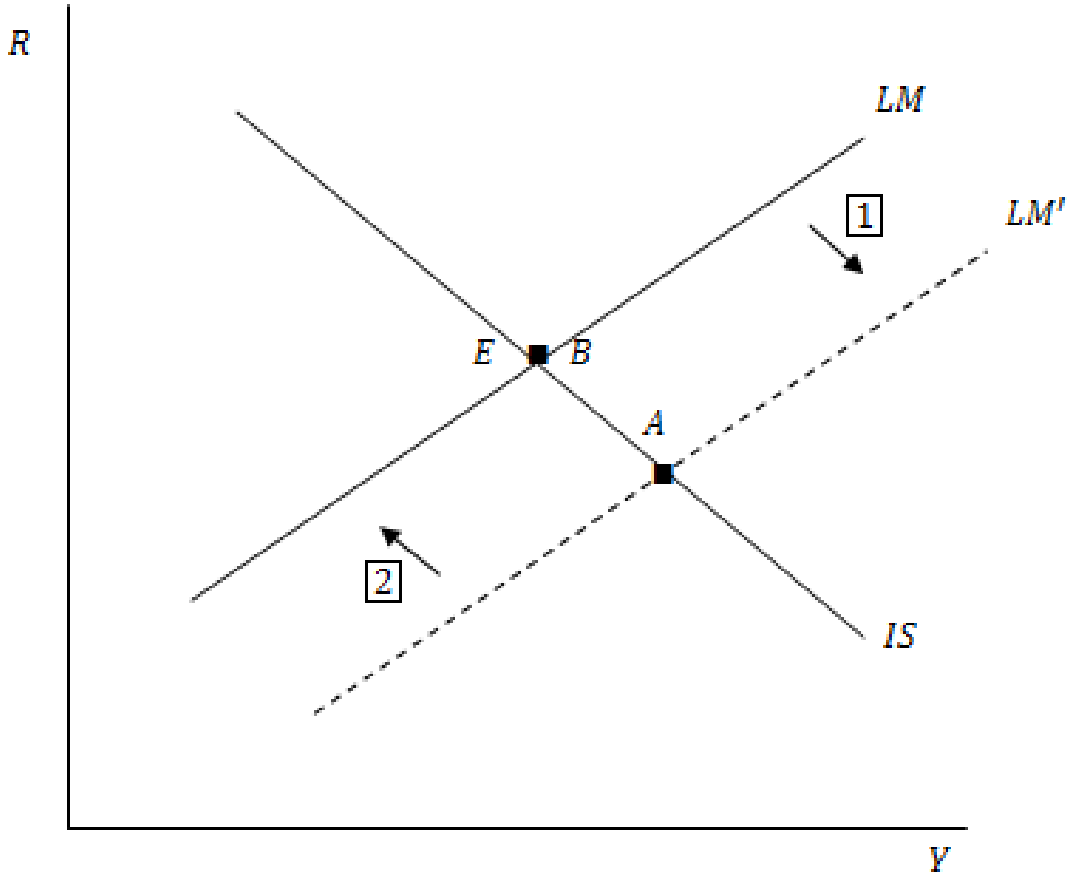
(d): If the government can now set X as well, find the levels of A and X such that $Y = 300$ and there is no deficit. Why might the government not increase Y above 300?

$M = \mu Y = (.2)(300) = 60$
$D = M - X$
$0 = 60 - X$
$X = 60$
$E = A + (.3)(300) = A + 90$
$Y = 300 = E + (X - M) = (A + 90) + (60 - 60)$
$300 = A + 90$
$A = 210$

Question 2: Using the IS-LM Model, show the short-term and long-term effects of an increase in the Money Supply on,

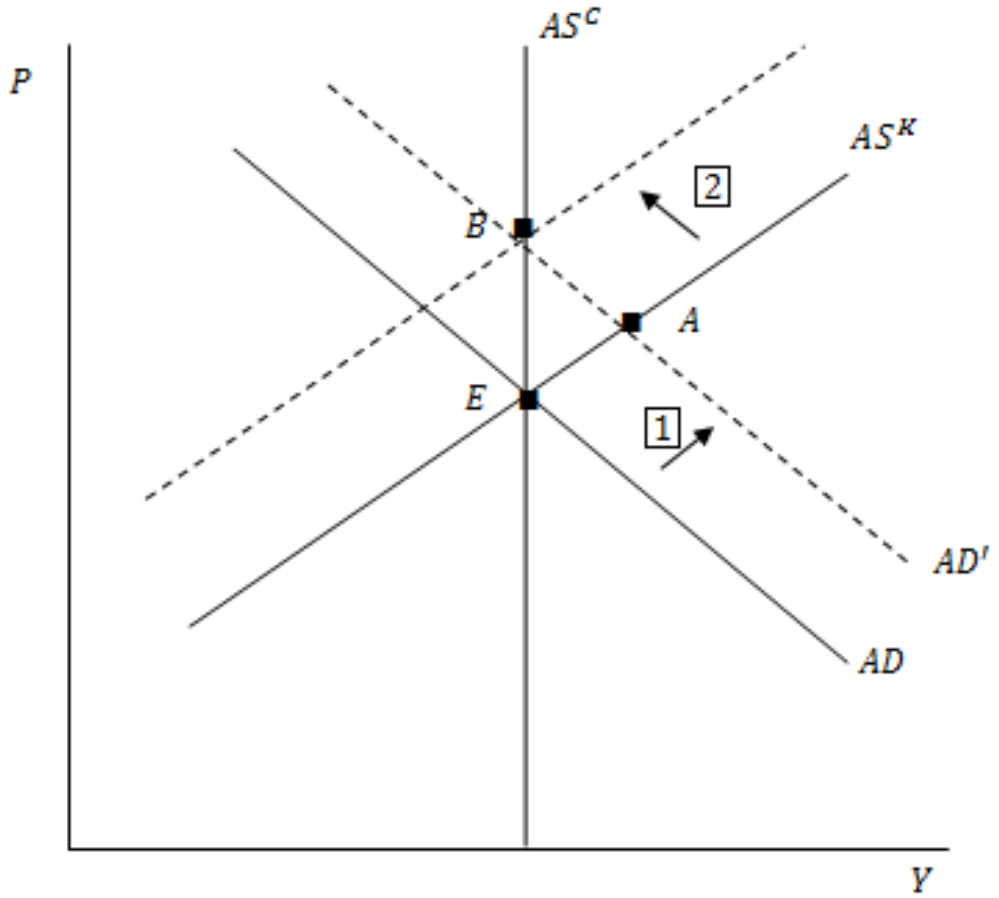
a) Income
b) Interest Rates
c) Prices
d) Employment

IS-LM Curves



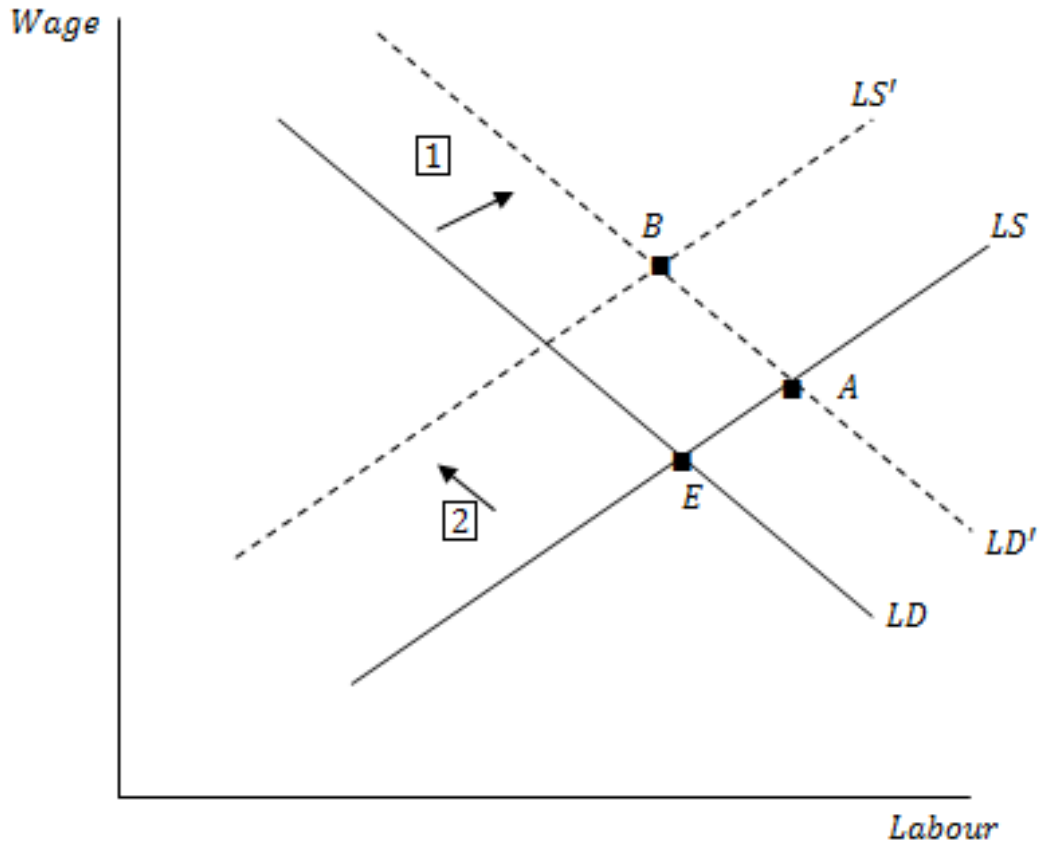
1. Increase in Money Supply causes LM curve to shift to the right.
2. Increase in Prices causes LM curve to shift to the left.

AS-AD Curves



1. Increase in Money Supply stimulates AD shifting to the right.
2. Supply slowly falls in response to increased prices shifting AS^K towards AS^C.

Labour Supply & Demand Curves



1. Increase in Price, lowers Real Wages, shifting LD to the right.
2. LS adjusts to new prices, shifts LS to the left.

Notes on Graphs

- First shift is denoted by 1, second shift is denoted by 2
- Initial equilibrium is denoted by E, short-term equilibrium is denoted by A, long-term equilibrium is denoted by B
- Dotted lines and ' denote a shifted curve

Answers

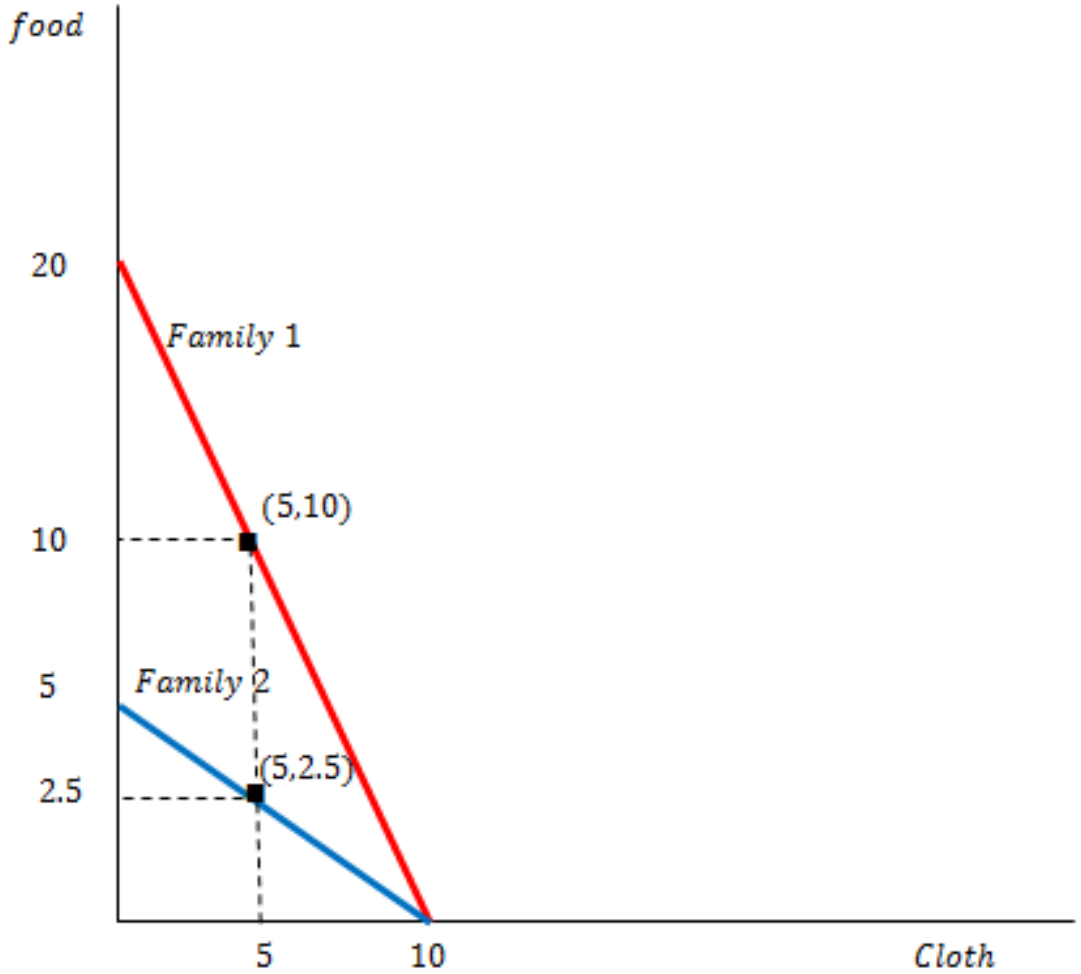
- (a) Employment: Short-term - increases , Long-term - remains the same
- (b) Interest Rates: Short-term - decrease , Long-term - remains the same
- (c) Income: Short-term - increase , Long-term - remains the same
- (d) Prices: Short-term - increase , Long-term - increase

Gains from Trade

Question 3: Given, family 1 can produce a max of 20 food or 10 cloth and family 2 can produce a max of 5 food or 10 cloth, answer the following.

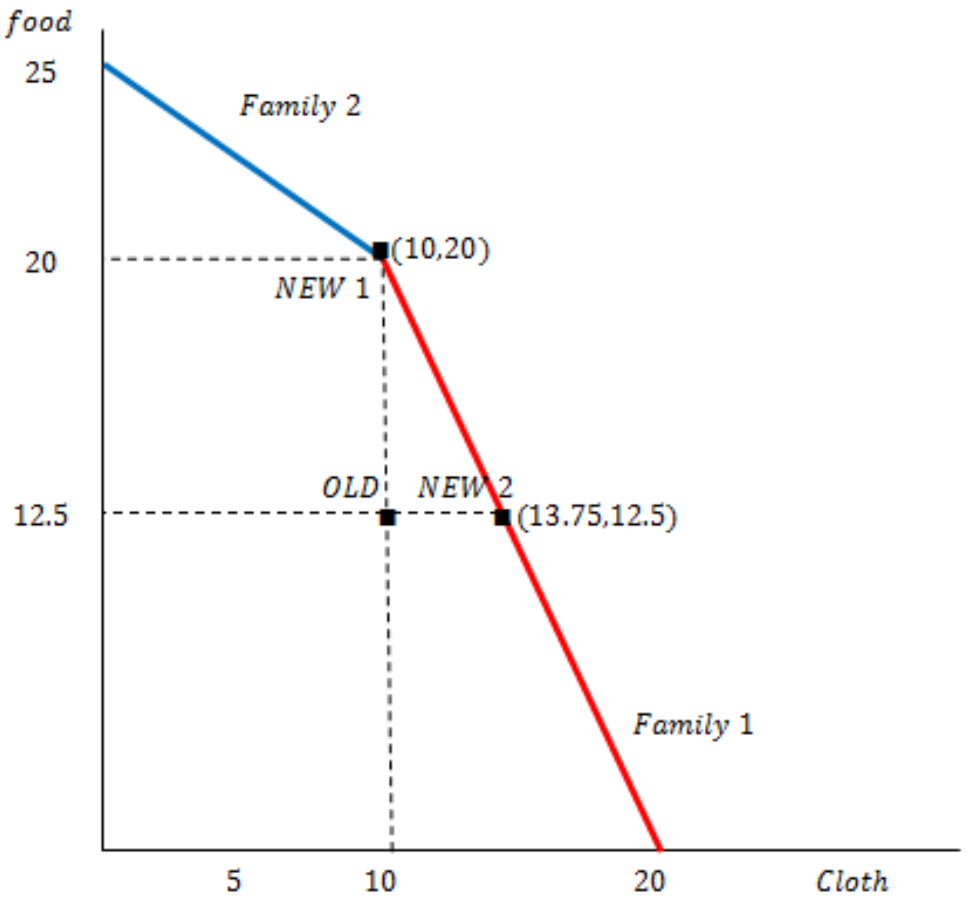
a) If each family consumes at their midpoint, what is the consumption of family 1? of family 2? of the market?
b) Can consumption be improved with trade? Show graphically?
c) Who has an advantage in production of food? of cloth?

Gains from Trade



(a): Family 1 consumes at (5,10), Family 2 consumes at (5,2.5), market consumption is at (10,12.5)

Gains from Trade



(b): (10,12.5) is inside the production frontier. Consumption can be strictly improved by moviing to (10,20) or (13.75,12.5)

Gains from Trade

(c)

Family 1 has a comparative advantage in Food, since they can produce 2 units of food for every 1 unit of Cloth they give up. Family 2 has a comparative advantage in Cloth, since they can produce 2 units of Cloth for every 1 unit of Cloth they give up.

GRIM Theory

Question 4: Given,

- Boss with initial income of \$3,000 per year
- Employee with initial income of \$5,000 per year
- If the Boss and Employee work together they can produce and sell goods worth \$10,000 (split \$4,000 to Boss and \$6,000 to Employee).

Using GRIM Theory, answer the following,

a) What extra profits does the Boss receive from cooperating? the employee?
b) What does the Boss gain from cheating? the employee?
c) When will the Boss cheat?

GRIM Theory

(a): What extra profits does the Boss receive from cooperating? the employee?

Both the Boss and the Employee receive \$1,000 extra by cooperating over what they would receive if they did not have the option to cooperate (Boss = \$4,000 - \$3,000 = \$1,000 , Employee = \$6,000 - \$5,000 = \$1,000).

(b): What does the Boss gain from cheating? the employee?

The Boss receives \$10,000 from cheating and \$7,000 over his original income.

The Employee receives nothing from cheating, since the employee does not have the ability to sell the assets.

(c): When will the Boss cheat?

Boss will cheat when the value from cheating is higher than the value from cooperating

Value from Coop $= \frac{1000}{i}$
Value from Cheating $= 7,000$

When is the Boss indifferent between the two options?

$\frac{1000}{i} = 7,000$
$i = \frac{1,000}{7,000} \approx 14.3\%$

Will the Boss cheat when the rate is above or below 14.3% ?

Above - Test interest rates above and below to find out why. Or think about what happens to the future value of money when the interest rate increases.

End

Questions?