Trade and Location: A Moving Example Motivated by Japan's Location

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Motivation

- Trade costs matter
- Distance matters
- Japan’s unusual location.
  - Far from other developed countries
  - Close to many developing countries
- Does this matter for its trade?

Plan

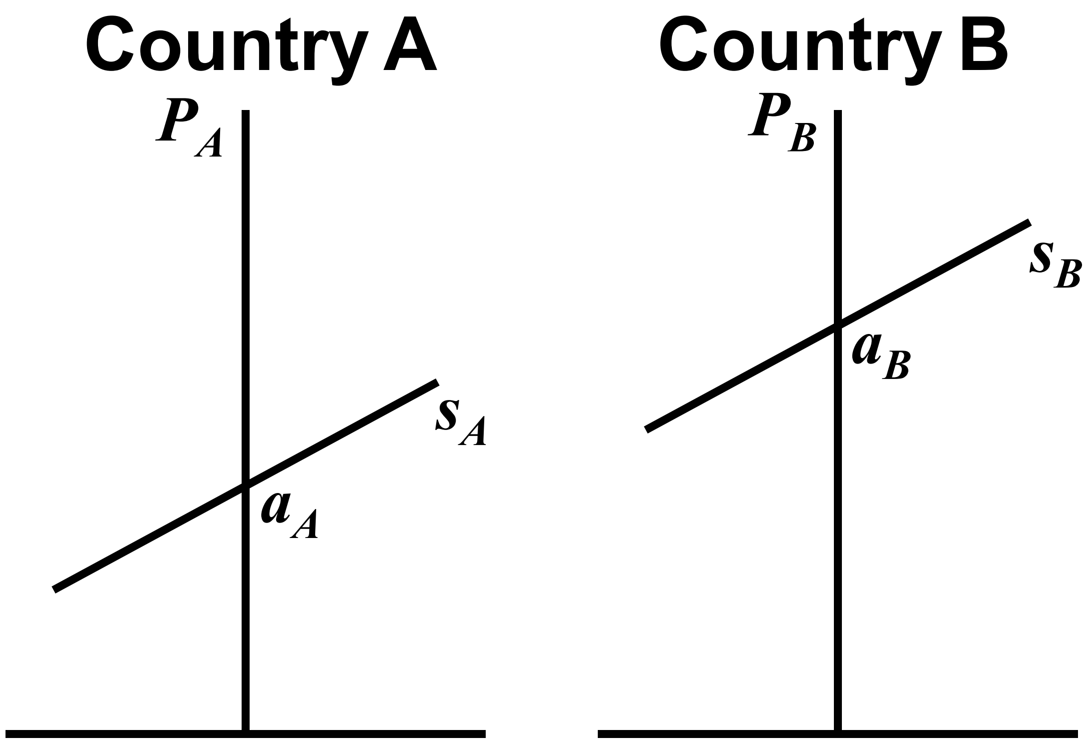
- Work through a partial equilibrium model of three countries, varying the location of one to see how its location matters for its trade.

Outline

- 2-country preview
- 3-country Model
- Analytical solution
- Graphical representation
- Implications

Preview

- Consider 2-country partial equilibrium



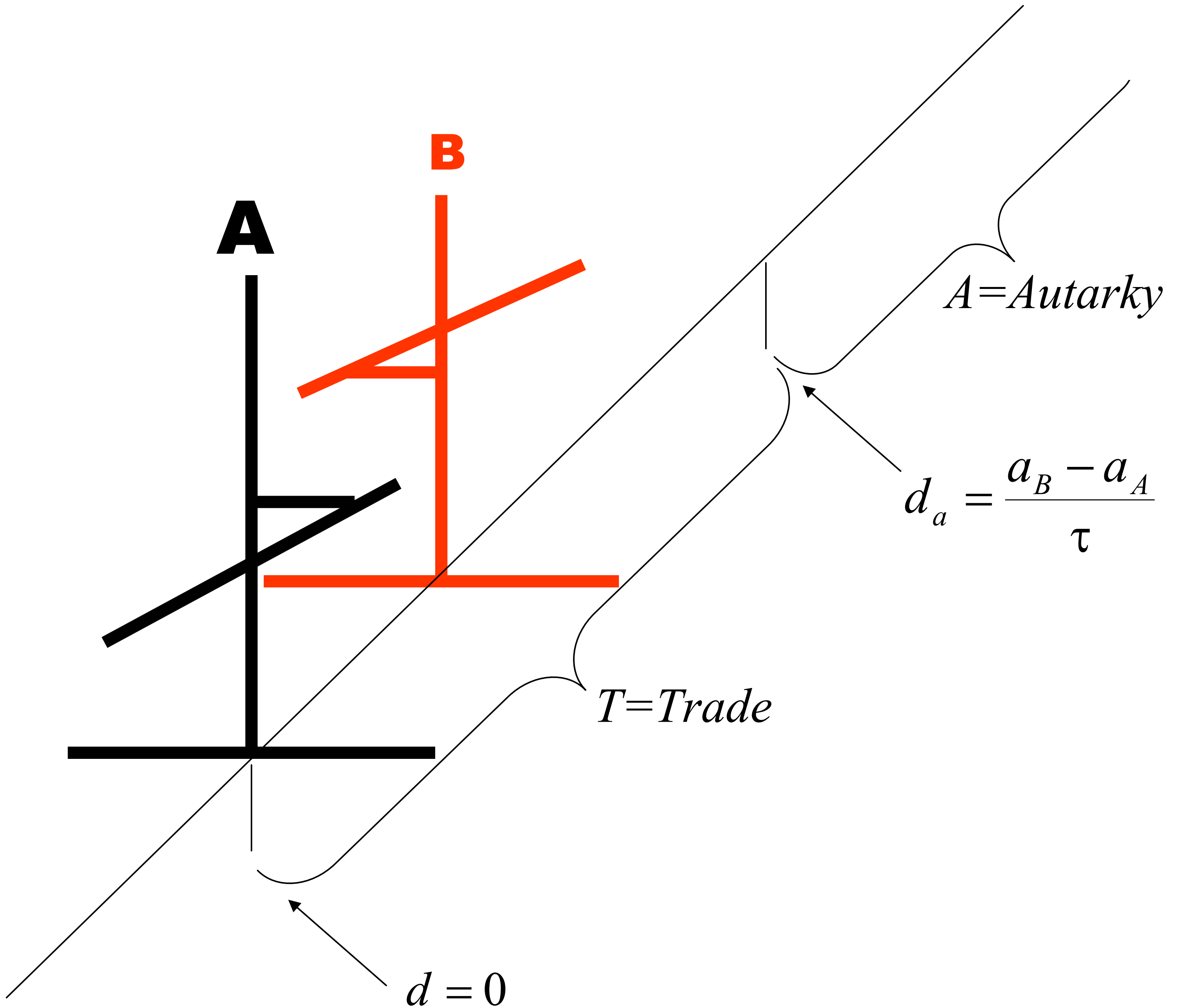
Preview

- Assume trade cost, t, is proportional to distance, $\tau\, d$.
- Type of equilibrium depends on the distance between the countries.

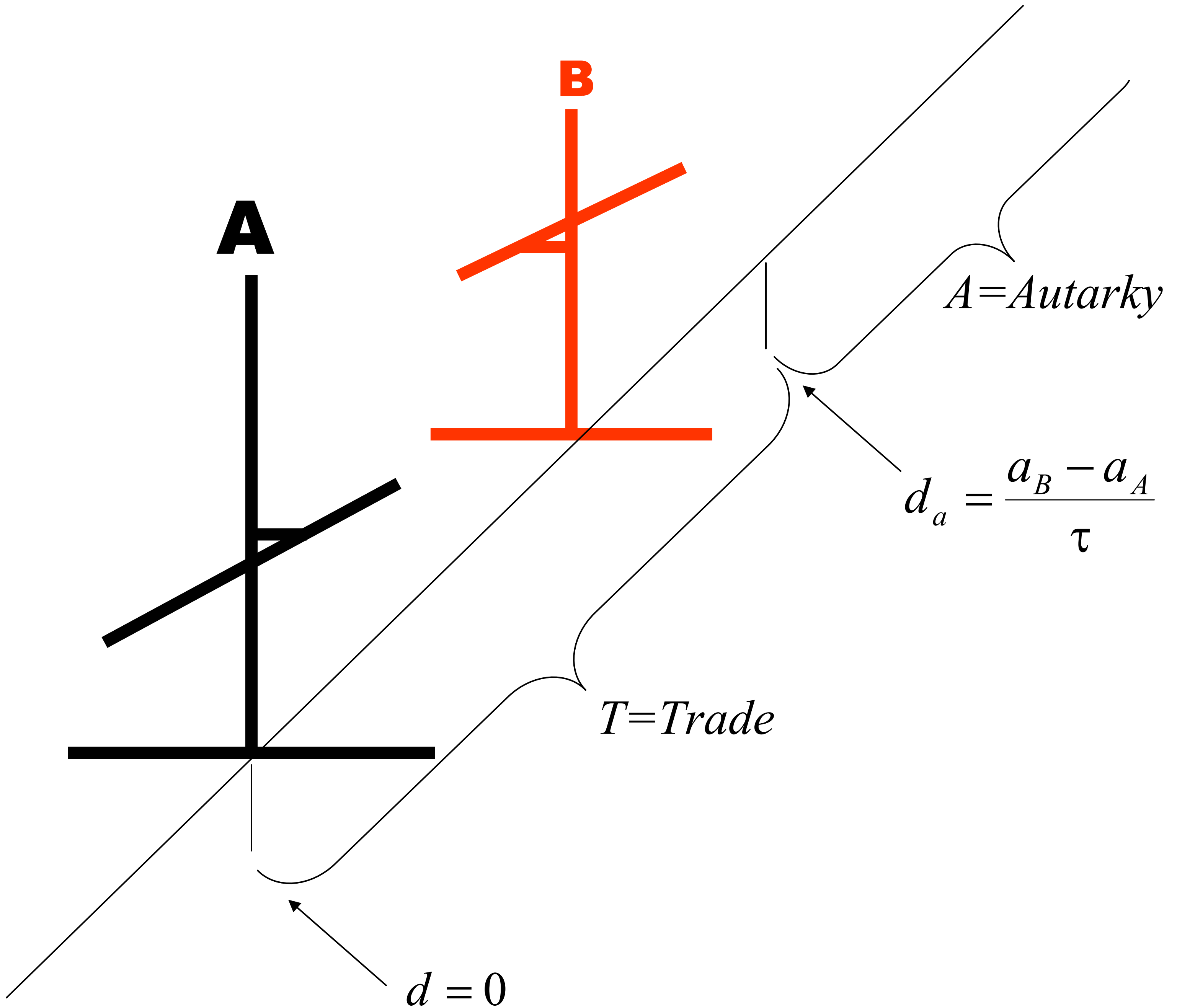
  – ***A*:** Autarky if $\tau d > a_B - a_A$

  – ***T*:** Trade otherwise

- Imagine the two countries arranged along a line…



B
A
A=Autarky
$d_a = \frac{a_B - a_A}{\tau}$
T=Trade
$d = 0$



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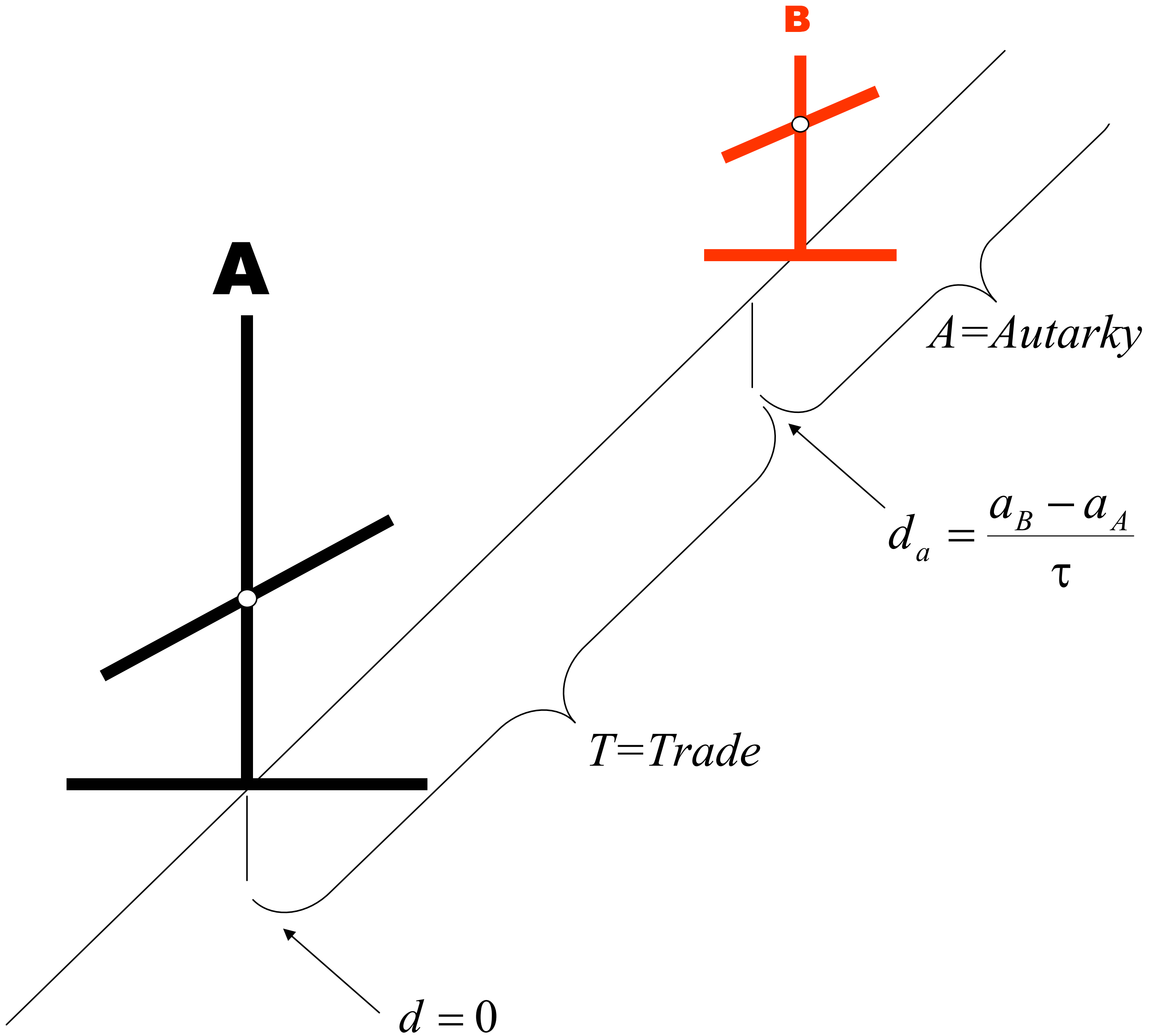

A
B
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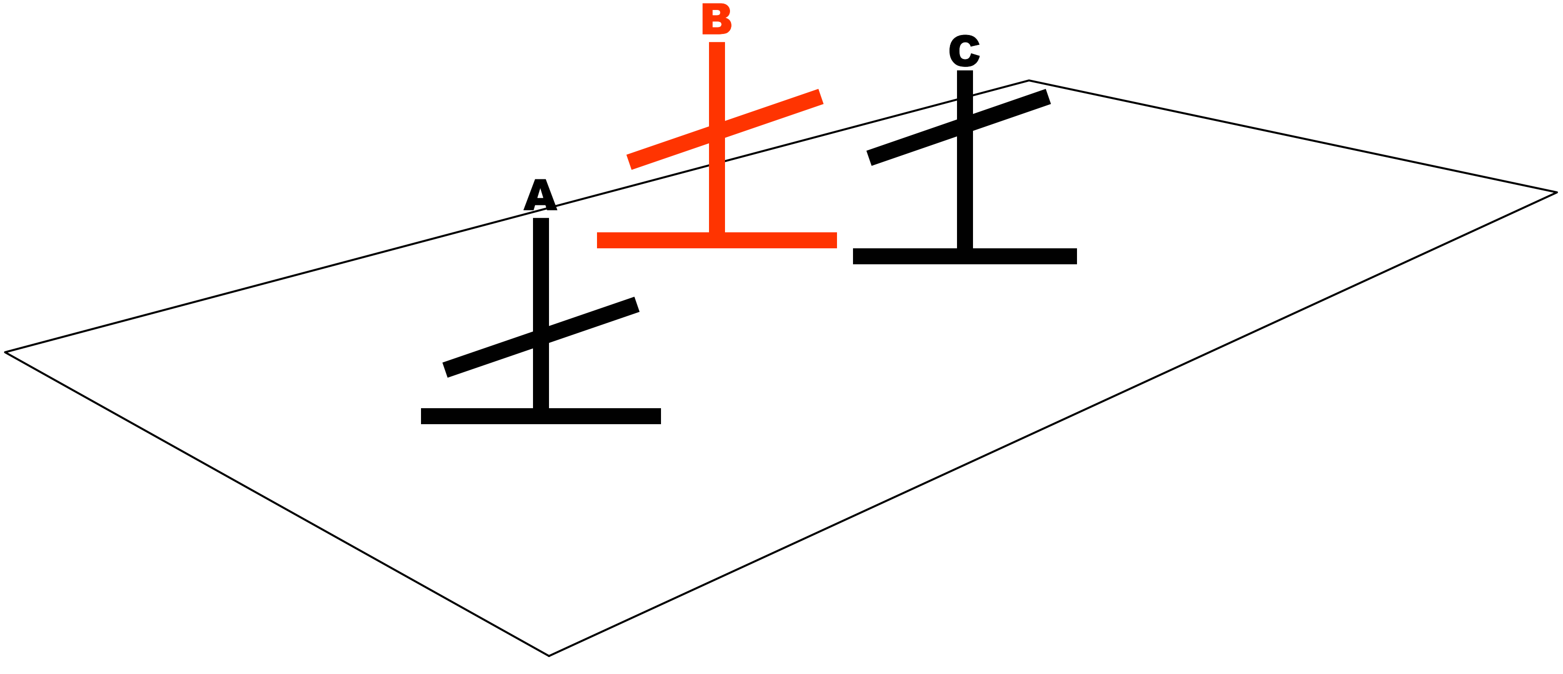
Preview

- The object here: To do the same with 3 countries.
- Location now must be in two dimensions:



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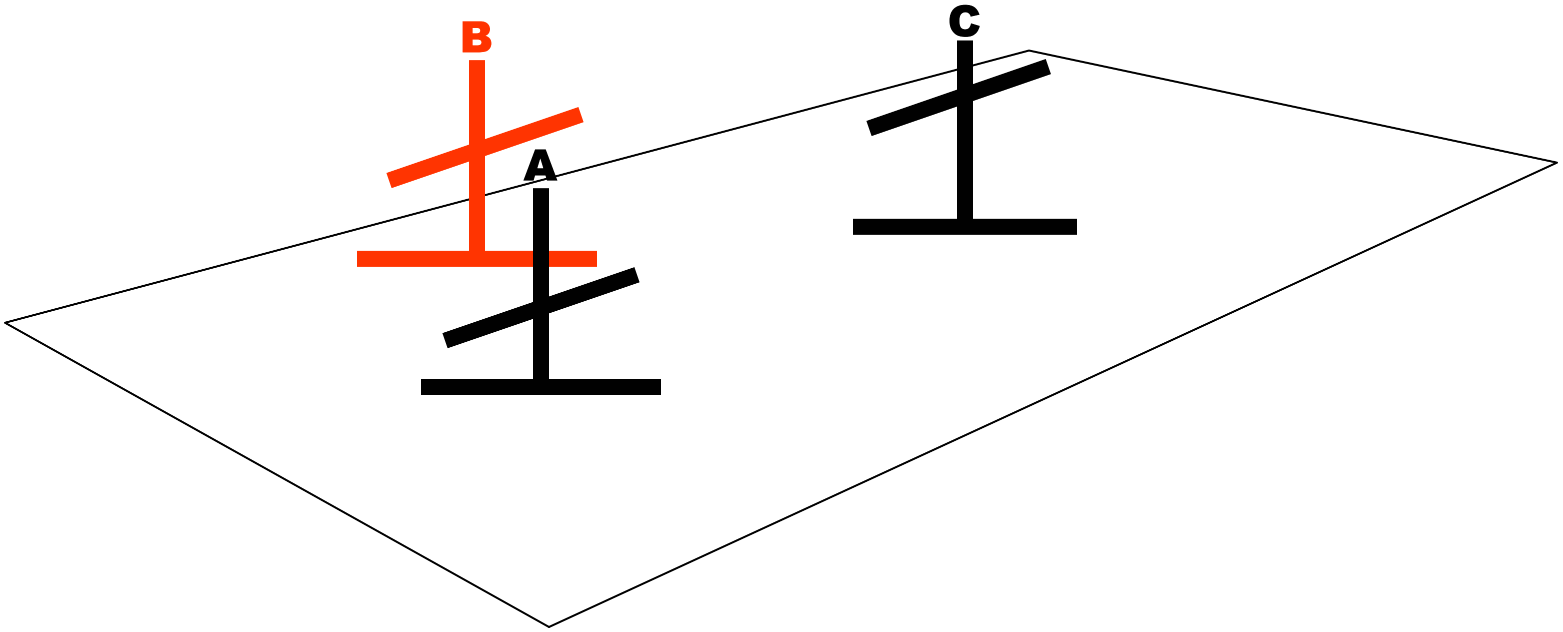
- Location now must be in two dimensions:



Preview

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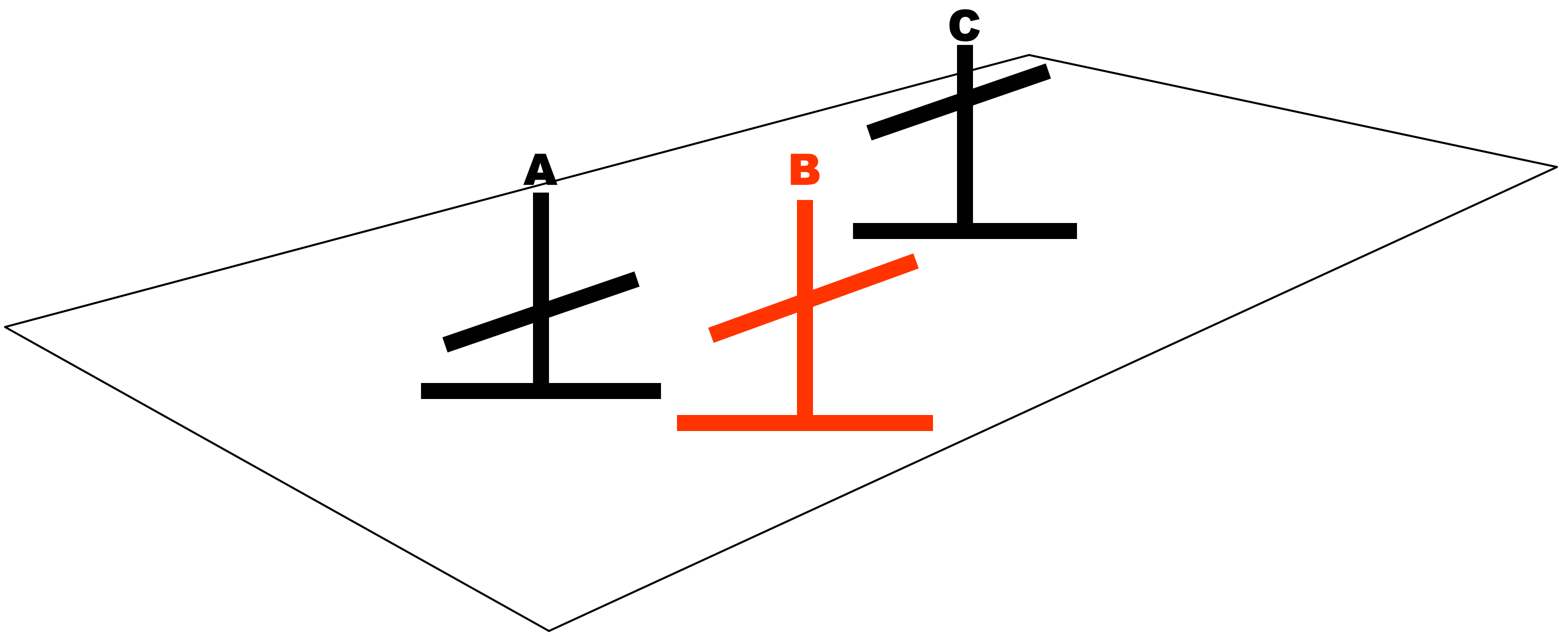
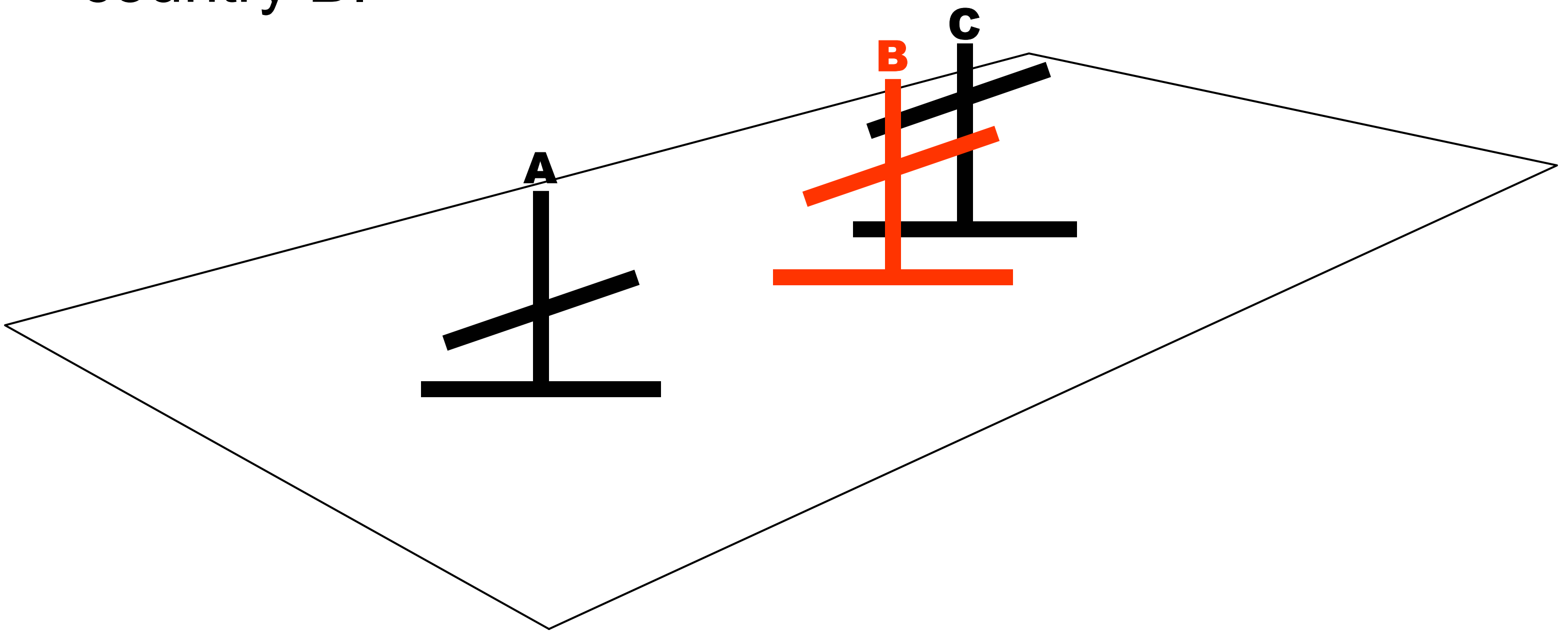
- Location now must be in two dimensions:



Preview

- The object here: To do the same with 3 countries
- Location now must be in two dimensions:
- ➢ Find the trade pattern for each possible location of country B.



The Model

- 3 Countries of equal size: $c = A, B, C$
- Excess supplies: $s_c = p_c - a_c \quad \forall c$
- Thus autarky prices: $a_c \quad \forall c$
- Trade, distance, trade costs: $x_{cc'}, d_{cc'}, t_{cc'} = \tau d_{cc'} \quad \forall c \neq c'$
- Assume:

$$a_A < a_B < a_C$$

$$d_{cc'} = d_{c'c} \Rightarrow t_{cc'} = t_{c'c} \quad \forall c \neq c'$$

$$d_{cc''} < d_{cc'} + d_{c'c''} \quad \forall c \neq c' \neq c''$$

The Model

- Equilibrium: $p_c \; \forall c, \quad x_{cc'} \; \forall c \neq c'$

  such that

$$s_c = p_c - a_c = \sum_{c' \neq c} x_{cc'} - \sum_{c' \neq c} x_{c'c} \quad \forall c$$

$$(p_c + t_{cc'} - p_{c'}) \geq 0, \quad x_{cc'} \geq 0, \quad (p_c + t_{cc'} - p_{c'}) x_{cc'} = 0 \quad \forall c \neq c'$$

The Model

Types of Equilibrium ("Regimes"):

0. Autarky: No trade by any country

- A-autarky: Country A does not trade; B exports to C
- B-autarky: Country B does not trade; A exports to C
- C-autarky: Country C does not trade; A exports to B
- Int-BX: Integrated equilibrium with B exporting
  (Both A and B export to C)
- Int-BM: Integrated equilibrium with B importing
  (A exports to both B and C)

The Model: Solution

Regime 0. Autarky: No trade by any country

$$p_A = a_A, \quad s_A = 0$$

$$p_B = a_B, \quad s_B = 0$$

$$p_C = a_C, \quad s_C = 0$$

$$x_{AB} = x_{AC} = x_{BC} = 0$$

Requires:

$a_A + t_{AB} > a_B$ to prevent A exporting to B

$a_A + t_{AC} > a_C$ to prevent A exporting to C

$a_B + t_{BC} > a_C$ to prevent B exporting to C

The Model: Solution

Regime 1. A-autarky: No trade by A

$$p_A = a_A, \quad s_A = x_{AB} = x_{AC} = 0$$

$$p_B = (a_B + a_C - t_{BC})/2$$

$$p_C = (a_B + a_C + t_{BC})/2$$

$$s_B = -s_C = x_{BC} = (a_C - a_B - t_{BC})/2$$

Requires:

$a_A + t_{AB} > (a_B + a_C - t_{BC})/2$ to prevent A exporting to B

$a_A + t_{AC} > (a_B + a_C + t_{BC})/2$ to prevent A exporting to C

$a_C > a_B + t_{BC}$ to permit B to export to C

The Model: Solution

Regime 2. B-autarky: No trade by B

$$p_A = (a_A + a_C - t_{AC})/2$$

$$p_B = a_B, \quad s_B = x_{AB} = x_{BC} = 0$$

$$p_C = (a_A + a_C + t_{AC})/2$$

$$s_A = -s_C = x_{AC} = (a_C - a_A - t_{AC})/2$$

Requires:

$(a_A + a_C - t_{AC})/2 + t_{AB} > a_B$ to prevent A exporting to B

$a_B + t_{BC} > (a_A + a_C + t_{AC})/2$ to prevent B exporting to C

$a_C > a_A + t_{AC}$ to permit A to export to C

The Model: Solution

Regime 3. C-autarky: No trade by C

$$p_A = (a_A + a_B - t_{AB})/2$$

$$p_B = (a_A + a_B + t_{AB})/2$$

$$p_C = a_C, \quad s_C = x_{AC} = x_{BC} = 0$$

$$s_A = -s_B = x_{AB} = (a_B - a_A - t_{AB})/2$$

Requires:

$(a_A + a_B - t_{AB})/2 + t_{AC} > a_C$ to prevent A exporting to C

$(a_A + a_B + t_{AB})/2 + t_{BC} > a_C$ to prevent B exporting to C

$a_B > a_A + t_{AB}$ to permit A to export to B

The Model: Solution

Regime 4. Integrated World, B Exports

$$p_A = (a_A + a_B + a_C + t_{BC} - 2t_{AC})/3$$

$$p_B = (a_A + a_B + a_C + t_{AC} - 2t_{BC})/3$$

$$p_C = (a_A + a_B + a_C + t_{AC} + t_{BC})/3$$

$$s_A = x_{AC} = (-2a_A + a_B + a_C + t_{BC} - 2t_{AC})/3$$

$$s_B = x_{BC} = (a_A - 2a_B + a_C + t_{AC} - 2t_{BC})/3$$

Requires:

$a_A + t_{AC} < (a_B + a_C + t_{BC})/2$ to permit A to export to C

$a_B + t_{BC} < (a_A + a_C + t_{AC})/2$ to permit B to export to C

The Model: Solution

Regime 5. Integrated World, B Imports

$$p_A = (a_A + a_B + a_C - t_{AB} - t_{AC})/3$$

$$p_B = (a_A + a_B + a_C + 2t_{AB} - t_{AC})/3$$

$$p_C = (a_A + a_B + a_C - t_{AB} + 2t_{AC})/3$$

$$s_B = -x_{AB} = (a_A - 2a_B + a_C + 2t_{AB} - t_{AC})/3$$

$$s_C = -x_{AC} = (a_A + a_B - 2a_C - t_{AB} + 2t_{AC})/3$$

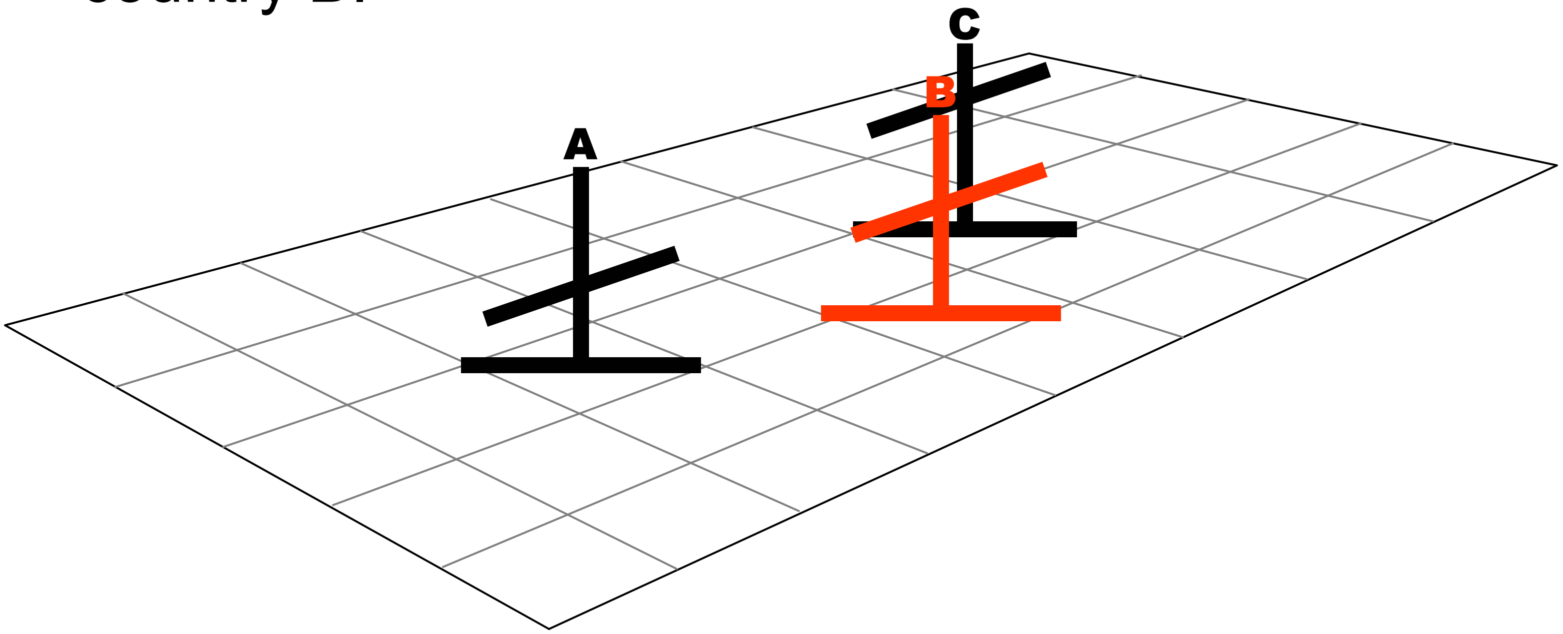
Requires:

$a_B - t_{AB} > (a_A + a_C - t_{AC})/2$ to permit A to export to B

$a_C - t_{AC} > (a_A + a_B - t_{AB})/2$ to permit A to export to C

Mapping Regimes

- Divide plane into cells
- Fix positions of countries A and C
- Find the trade regime for each possible location of country B.



Benchmark Case: B's Trade (B's production cost at midpoint)

Parameters	
τ =	0.9
a_A =	1
a_B =	1.5
a_C =	2

Regimes	
	s_B
Aut	
A-aut	+
B-aut	
C-aut	-
Int-BX	+
Int-BM	-

y:																															
2.0																															
1.9																															
1.8																															
1.7																															
1.6																															
1.5											-										+										
1.4								-	-	-	-	-	-	-				+	+	+	+	+	+								
1.3							-	-	-	-	-	-	-	-	-		+	+	+	+	+	+	+	+							
1.2							-	-	-	-	-	-	-	-	-		+	+	+	+	+	+	+	+	+						
1.1							-	-	-	-	-	-	-	-	-		+	+	+	+	+	+	+	+	+						
1.0							-	-	-	-	A	-	-	-	-	+	+	+	+	+	C	+	+	+	+						
0.9							-	-	-	-	-	-	-	-	-		+	+	+	+	+	+	+	+	+						
0.8							-	-	-	-	-	-	-	-	-		+	+	+	+	+	+	+	+	+						
0.7								-	-	-	-	-	-	-				+	+	+	+	+	+	+							
0.6									-	-	-	-	-						+	+	+	+	+								
0.5																															
0.4																															
0.3																															
0.2																															
0.1																															
0.0																															
x:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0

Figure 1

Net Trade of Country B at location (x,y)

Benchmark Case: Regimes B’s cost at midpoint

Parameters	
τ =	0.9
a_A =	1
a_B =	1.5
a_C =	2

Regimes	
	s_B
Aut	
A-aut	1
B-aut	.
C-aut	3
Int-BX	4
Int-BM	5

y: \ x:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0
2.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
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1.8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
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1.4	.	.	.	.	.	.	.	5	5	5	5	5	5	5	.	.	.	4	4	4	4	4	4	.	.	.	.	.	.	.	.
1.3	.	.	.	.	.	.	5	5	5	3	3	3	5	5	5	.	4	4	4	1	1	1	4	4	.	.	.	.	.	.	.
1.2	.	.	.	.	.	.	5	5	3	3	3	3	3	5	5	.	4	4	1	1	1	1	1	4	4	.	.	.	.	.	.
1.1	.	.	.	.	.	.	5	3	3	3	3	3	3	3	5	.	4	1	1	1	1	1	1	1	4	.	.	.	.	.	.
1.0	.	.	.	.	.	.	5	3	3	3	A	3	3	3	5	4	4	1	1	1	C	1	1	1	4	.	.	.	.	.	.
0.9	.	.	.	.	.	.	5	3	3	3	3	3	3	3	5	.	4	1	1	1	1	1	1	1	4	.	.	.	.	.	.
0.8	.	.	.	.	.	.	5	5	3	3	3	3	3	5	5	.	4	4	1	1	1	1	1	4	4	.	.	.	.	.	.
0.7	.	.	.	.	.	.	.	5	5	3	3	3	5	5	.	.	.	4	4	1	1	1	4	4	.	.	.	.	.	.	.
0.6	.	.	.	.	.	.	.	.	5	5	5	5	5	.	.	.	.	.	4	4	4	4	4	.	.	.	.	.	.	.	.
0.5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
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0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
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Figure 2

Regimes with Country B at location (x,y)

Effects of Production Cost: B’s cost below average

Parameters	
τ =	0.9
a_A =	1
a_B =	1.4
a_C =	2

Regimes	s_B
Aut	
A-aut	1
B-aut	.
C-aut	3
Int-BX	4
Int-BM	5

y: \ x:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0
2.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
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1.3	.	.	.	.	.	.	.	.	5	5	5	5	5	.	.	4	4	1	1	1	1	1	1	1	4	4	.	.	.	.	.
1.2	.	.	.	.	.	.	.	5	5	5	3	5	5	5	.	4	4	1	1	1	1	1	1	1	4	4	.	.	.	.	.
1.1	.	.	.	.	.	.	.	5	5	3	3	3	5	5	4	4	1	1	1	1	1	1	1	1	1	4	4	.	.	.	.
1.0	.	.	.	.	.	.	.	5	3	3	A	3	3	5	4	4	1	1	1	1	C	1	1	1	1	4	4	.	.	.	.
0.9	.	.	.	.	.	.	.	5	5	3	3	3	5	5	4	4	1	1	1	1	1	1	1	1	1	4	4	.	.	.	.
0.8	.	.	.	.	.	.	.	5	5	5	3	5	5	5	.	4	4	1	1	1	1	1	1	1	4	4	.	.	.	.	.
0.7	.	.	.	.	.	.	.	.	5	5	5	5	5	.	.	4	4	1	1	1	1	1	1	1	4	4	.	.	.	.	.
0.6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	4	4	1	1	1	4	4	4	.	.	.	.	.	.
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Figure 3

Regimes with Country B's cost below average of A and C.

Effects of Production Cost: B’s cost above average

Parameters	
τ =	0.9
a_A =	1
a_B =	1.6
a_C =	2

Regimes	s_B
Aut	
A-aut	1
B-aut	.
C-aut	3
Int-BX	4
Int-BM	5

y: 2.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
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1.5	.	.	.	.	.	.	.	5	5	5	5	5	5	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.4	.	.	.	.	.	.	5	5	5	3	3	3	5	5	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.3	.	.	.	.	.	5	5	3	3	3	3	3	3	3	5	5	.	.	4	4	4	4	4	.	.	.	.	.	.	.	.
1.2	.	.	.	.	.	5	5	3	3	3	3	3	3	3	5	5	.	4	4	4	1	4	4	4	.	.	.	.	.	.	.
1.1	.	.	.	.	5	5	3	3	3	3	3	3	3	3	3	5	5	4	4	1	1	1	4	4	.	.	.	.	.	.	.
1.0	.	.	.	.	5	5	3	3	3	3	A	3	3	3	3	5	5	4	1	1	C	1	1	4	.	.	.	.	.	.	.
0.9	.	.	.	.	5	5	3	3	3	3	3	3	3	3	3	5	5	4	4	1	1	1	4	4	.	.	.	.	.	.	.
0.8	.	.	.	.	.	5	5	3	3	3	3	3	3	3	5	5	.	4	4	4	1	4	4	4	.	.	.	.	.	.	.
0.7	.	.	.	.	.	5	5	3	3	3	3	3	3	3	5	5	.	.	4	4	4	4	4	.	.	.	.	.	.	.	.
0.6	.	.	.	.	.	.	5	5	5	3	3	3	5	5	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.5	.	.	.	.	.	.	.	5	5	5	5	5	5	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.4	.	.	.	.	.	.	.	.	.	5	5	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
x:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0

Figure 4

Regimes with Country B's cost above average of A and C.

Benchmark;
then raise trade costs…

Parameters	
τ =	0.9
a_A =	1
a_B =	1.5
a_C =	2

Regimes	
	s_B
Aut	
A-aut	1
B-aut	.
C-aut	3
Int-BX	4
Int-BM	5

y: 2.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.5	.	.	.	.	.	.	.	.	.	.	5	.	.	.	.	.	.	.	.	.	4	.	.	.	.	.	.	.	.	.	.
1.4	.	.	.	.	.	.	.	5	5	5	5	5	5	5	.	.	.	4	4	4	4	4	4	.	.	.	.	.	.	.	.
1.3	.	.	.	.	.	.	5	5	5	3	3	3	5	5	5	.	4	4	4	1	1	1	4	4	.	.	.	.	.	.	.
1.2	.	.	.	.	.	.	5	5	3	3	3	3	3	5	5	.	4	4	1	1	1	1	1	4	4	.	.	.	.	.	.
1.1	.	.	.	.	.	.	5	3	3	3	3	3	3	3	5	.	4	1	1	1	1	1	1	1	4	.	.	.	.	.	.
1.0	.	.	.	.	.	.	5	3	3	3	A	3	3	3	5	4	4	1	1	1	C	1	1	1	4	.	.	.	.	.	.
0.9	.	.	.	.	.	.	5	3	3	3	3	3	3	3	5	.	4	1	1	1	1	1	1	1	4	.	.	.	.	.	.
0.8	.	.	.	.	.	.	5	5	3	3	3	3	3	5	5	.	4	4	1	1	1	1	1	4	4	.	.	.	.	.	.
0.7	.	.	.	.	.	.	.	5	5	3	3	3	5	5	.	.	.	4	4	1	1	1	4	4	.	.	.	.	.	.	.
0.6	.	.	.	.	.	.	.	.	5	5	5	5	5	.	.	.	.	.	4	4	4	4	4	.	.	.	.	.	.	.	.
0.5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
x:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0

Figure 2

Regimes with Country B at location (x,y)

Effects of Higher Trade Cost: Trade cost too high for A-C trade

Parameters	
τ =	1.1
a_A =	1
a_B =	1.5
a_C =	2

Regimes	
Aut	
A-aut	1
B-aut	.
C-aut	3
Int-BX	4
Int-BM	5

y: 2.0																															
1.9																															
1.8																															
1.7																															
1.6																															
1.5																															
1.4									3	3	3	3	3						1	1	1	1	1								
1.3								3	3	3	3	3	3	3				1	1	1	1	1	1	1							
1.2							3	3	3	3	3	3	3	3	3		1	1	1	1	1	1	1	1	1						
1.1							3	3	3	3	3	3	3	3	3		1	1	1	1	1	1	1	1	1						
1.0							3	3	3	3	A	3	3	3	3		1	1	1	1	C	1	1	1	1						
0.9							3	3	3	3	3	3	3	3	3		1	1	1	1	1	1	1	1	1						
0.8							3	3	3	3	3	3	3	3	3		1	1	1	1	1	1	1	1	1						
0.7								3	3	3	3	3	3	3				1	1	1	1	1	1	1							
0.6									3	3	3	3	3						1	1	1	1	1								
0.5																															
0.4																															
0.3																															
0.2																															
0.1																															
0.0																															
x:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0

Figure 5

Regimes with trade costs too high for A and C to trade.

Effects of Higher Trade Cost: Trade cost even higher

Parameters	
τ =	1.8
a_A =	1
a_B =	1.5
a_C =	2

Regimes	
Aut	
A-aut	1
B-aut	.
C-aut	3
Int-BX	4
Int-BM	5

y: \ x:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0
2.0																															
1.9																															
1.8																															
1.7																															
1.6																															
1.5																															
1.4																															
1.3																															
1.2										3	3	3								1	1	1									
1.1									3	3	3	3	3						1	1	1	1	1								
1.0									3	3	A	3	3						1	1	C	1	1								
0.9									3	3	3	3	3						1	1	1	1	1								
0.8										3	3	3								1	1	1									
0.7																															
0.6																															
0.5																															
0.4																															
0.3																															
0.2																															
0.1																															
0.0																															

Figure 6

Regimes with trade costs even higher.

Benchmark;
Then lower trade costs…

Parameters	
τ =	0.9
a_A =	1
a_B =	1.5
a_C =	2

Regimes	
	s_B
Aut	
A-aut	1
B-aut	.
C-aut	3
Int-BX	4
Int-BM	5

y: \ x:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0
2.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.5	.	.	.	.	.	.	.	.	.	.	5	.	.	.	.	.	.	.	.	.	4	.	.	.	.	.	.	.	.	.	.
1.4	.	.	.	.	.	.	.	5	5	5	5	5	5	5	.	.	.	4	4	4	4	4	4	.	.	.	.	.	.	.	.
1.3	.	.	.	.	.	.	5	5	5	3	3	3	5	5	5	.	4	4	4	1	1	1	4	4	.	.	.	.	.	.	.
1.2	.	.	.	.	.	.	5	5	3	3	3	3	3	5	5	.	4	4	1	1	1	1	1	4	4	.	.	.	.	.	.
1.1	.	.	.	.	.	.	5	3	3	3	3	3	3	3	5	.	4	1	1	1	1	1	1	1	4	.	.	.	.	.	.
1.0	.	.	.	.	.	.	5	3	3	3	A	3	3	3	5	4	4	1	1	1	C	1	1	1	4	.	.	.	.	.	.
0.9	.	.	.	.	.	.	5	3	3	3	3	3	3	3	5	.	4	1	1	1	1	1	1	1	4	.	.	.	.	.	.
0.8	.	.	.	.	.	.	5	5	3	3	3	3	3	5	5	.	4	4	1	1	1	1	1	4	4	.	.	.	.	.	.
0.7	.	.	.	.	.	.	.	5	5	3	3	3	5	5	.	.	.	4	4	1	1	1	4	4	.	.	.	.	.	.	.
0.6	.	.	.	.	.	.	.	.	5	5	5	5	5	.	.	.	.	.	4	4	4	4	4	.	.	.	.	.	.	.	.
0.5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Figure 2

Regimes with Country B at location (x,y)

Effects of Trade Cost: Slightly Lower *t*

Parameters	
τ =	0.8
a_A =	1
a_B =	1.5
a_C =	2

Regimes	
Aut	
A-aut	1
B-aut	.
C-aut	3
Int-BX	4
Int-BM	5

y: 2.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.5	.	.	.	.	.	.	.	.	.	.	5	.	.	.	.	.	.	.	.	.		.	.	.	.	.	.	.	.	.	.
1.4	.	.	.	.	.	.	.	5	5	5	5	5	5	5	.	.	.	4	4	4	4	4	4	.	.	.	.	.	.	.	.
1.3	.	.	.	.	.	.		5	5	5	5	5	5	5		.	4	4	4	4	4	4	4	4	.	.	.	.	.	.	.
1.2	.	.	.	.	.	.	5	5	5	5	5	5	5	5	5	.	4	4	4	4	4	4	4	4	4	.	.	.	.	.	.
1.1	.	.	.	.	.	.	5	5	5	5	3	5	5	5	5	.	4	4	4	4	1	4	4	4	4	.	.	.	.	.	.
1.0	.	.	.	.	.	.	5	5	5	3	A	3	5	5	5		4	4	4	1	C	1	4	4	4	.	.	.	.	.	.
0.9	.	.	.	.	.	.	5	5	5	5	3	5	5	5	5	.	4	4	4	4	1	4	4	4	4	.	.	.	.	.	.
0.8	.	.	.	.	.	.	5	5	5	5	5	5	5	5	5	.	4	4	4	4	4	4	4	4	4	.	.	.	.	.	.
0.7	.	.	.	.	.	.	.	5	5	5	5	5	5	5	.	.	.	4	4	4	4	4	4	4	.	.	.	.	.	.	.
0.6	.	.	.	.	.	.	.	.	5	5	5	5	5	.	.	.	.	.	4	4	4	4	4	.	.	.	.	.	.	.	.
0.5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
x:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0

Figure 7

Regimes with trade costs slightly lower.

Effects of Trade Cost: Much Lower *t*

Parameters	
τ =	0.2
a_A =	1
a_B =	1.5
a_C =	2

Regimes	
Aut	
A-aut	1
B-aut	.
C-aut	3
Int-BX	4
Int-BM	5

y:																															
2.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.5	.	.	.	.	.	.	.	.	.	.		.	.	.	.	.	.	.	.	.		.	.	.	.	.	.	.	.	.	.
1.4	.	.	.	.	.	.	.		5	5	5	5	5		.	.	.		4	4	4	4	4		.	.	.	.	.	.	.
1.3	.	.	.	.	.	.		5	5	5	5	5	5	5		.		4	4	4	4	4	4	4		.	.	.	.	.	.
1.2	.	.	.	.	.	.	5	5	5	5	5	5	5	5	5	.	4	4	4	4	4	4	4	4	4	.	.	.	.	.	.
1.1	.	.	.	.	.	.	5	5	5	5	5	5	5	5	5	.	4	4	4	4	4	4	4	4	4	.	.	.	.	.	.
1.0	.	.	.	.	.		5	5	5	5	A	5	5	5	5		4	4	4	4	C	4	4	4	4	.	.	.	.	.	.
0.9	.	.	.	.	.	.	5	5	5	5	5	5	5	5	5	.	4	4	4	4	4	4	4	4	4	.	.	.	.	.	.
0.8	.	.	.	.	.	.	5	5	5	5	5	5	5	5	5	.	4	4	4	4	4	4	4	4	4	.	.	.	.	.	.
0.7	.	.	.	.	.	.	.	5	5	5	5	5	5	5	.	.		4	4	4	4	4	4	4	.	.	.	.	.	.	.
0.6	.	.	.	.	.	.	.	.	5	5	5	5	5	.	.	.	.		4	4	4	4	4	.	.	.	.	.	.	.	.
0.5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
x:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0

Figure 8

Regimes with trade costs much lower.

Effects of Trade <u>and</u> Production Costs: B's cost lower and low *t*

Parameters	
τ =	0.4
a_A =	1
a_B =	1.4
a_C =	2

Regimes	
Aut	
A-aut	1
B-aut	.
C-aut	3
Int-BX	4
Int-BM	5

y:																															
2.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	4	4	4	4	.	.	.	.	.	.	.	.
1.6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	4	4	4	4	4	4	4	4	.	.	.	.	.	.
1.5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	4	4	4	4	4	4	4	4	4	4	.	.	.	.	.
1.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	4	4	4	4	4	4	4	4	4	4	4	4	.	.	.	.
1.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	4	4	4	4	4	4	4	4	4	4	4	4	.	.	.	.
1.2	.	.	.	.	.	.	.	.	.	5	5	5	.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	.	.	.
1.1	.	.	.	.	.	.	.	.	5	5	5	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	.	.	.
1.0	.	.	.	.	.	.	.	.	5	5	A	5	5	4	4	4	4	4	4	4	C	4	4	4	4	4	4	4	.	.	.
0.9	.	.	.	.	.	.	.	.	5	5	5	5	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	.	.	.
0.8	.	.	.	.	.	.	.	.	.	5	5	5	.	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	.	.	.
0.7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	4	4	4	4	4	4	4	4	4	4	4	4	.	.	.	.
0.6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	4	4	4	4	4	4	4	4	4	4	4	4	.	.	.	.
0.5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	4	4	4	4	4	4	4	4	4	4	.	.	.	.	.
0.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	4	4	4	4	4	4	4	4	.	.	.	.	.	.
0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	4	4	4	4	.	.	.	.	.	.	.	.
0.2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
x:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0

Figure 9

Regimes with low production cost in B <u>and</u> low trade cost.

Trade Volume in the Benchmark Case (×100)

Param.	
τ =	0.9
a_A =	1
a_B =	1.5
a_C =	2

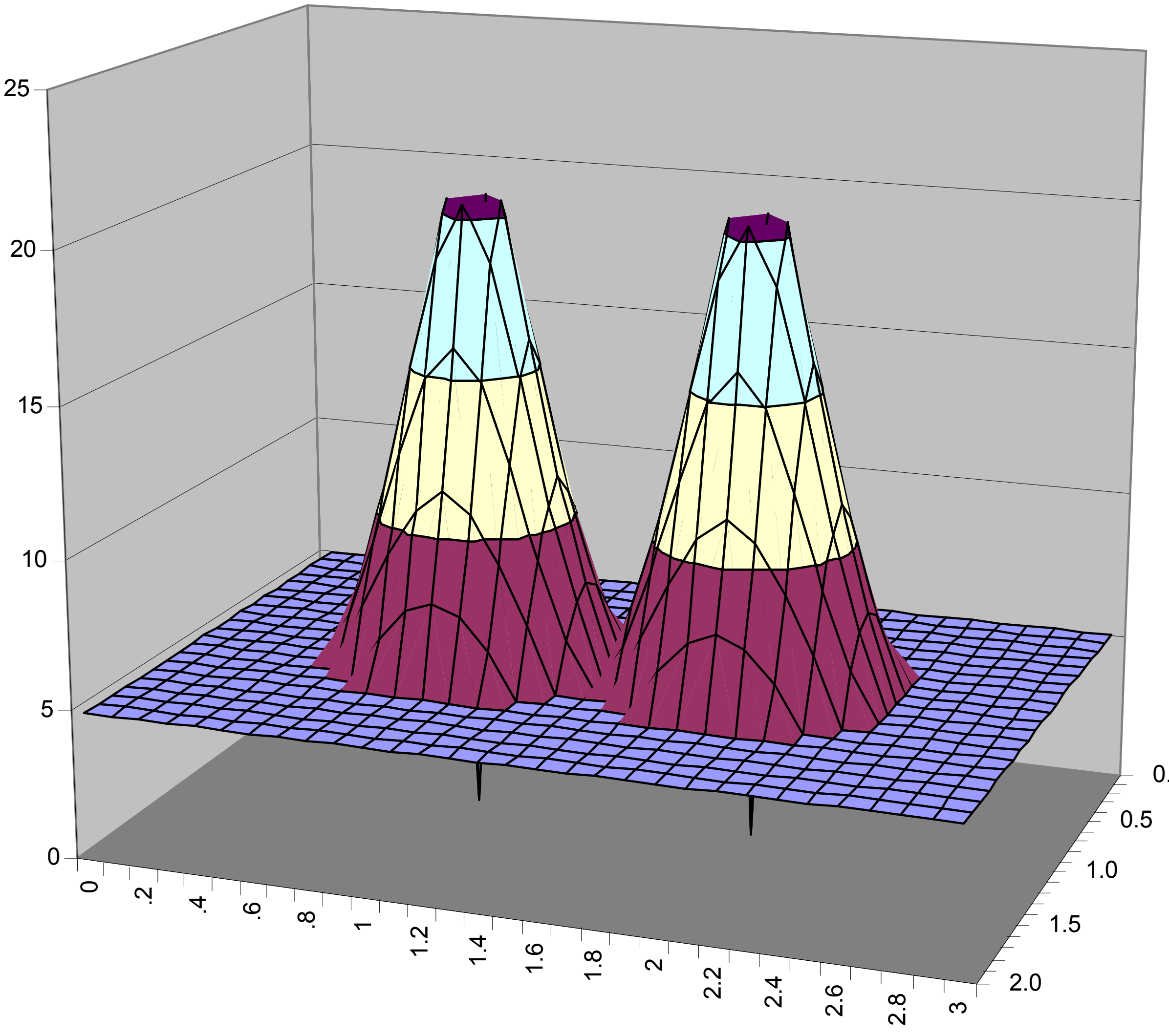
Trade	
A	
B	
C	
All	«

y:																															
2.0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
1.9	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
1.8	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
1.7	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
1.6	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
1.5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
1.4	5	5	5	5	5	5	5	5	7	8	8	8	7	5	5	5	5	5	7	8	8	8	7	5	5	5	5	5	5	5	5
1.3	5	5	5	5	5	5	5	7	9	11	12	11	9	7	5	5	5	7	9	11	12	11	9	7	5	5	5	5	5	5	5
1.2	5	5	5	5	5	5	7	9	12	15	16	15	12	9	7	5	7	9	12	15	16	15	12	9	7	5	5	5	5	5	5
1.1	5	5	5	5	5	5	8	11	15	19	21	19	15	11	8	5	8	11	15	19	21	19	15	11	8	5	5	5	5	5	5
1.0	5	5	5	5	5	5	8	12	16	21	A	21	16	12	8	5	8	12	16	21	C	21	16	12	8	5	5	5	5	5	5
0.9	5	5	5	5	5	5	8	11	15	19	21	19	15	11	8	5	8	11	15	19	21	19	15	11	8	5	5	5	5	5	5
0.8	5	5	5	5	5	5	7	9	12	15	16	15	12	9	7	5	7	9	12	15	16	15	12	9	7	5	5	5	5	5	5
0.7	5	5	5	5	5	5	5	7	9	11	12	11	9	7	5	5	5	7	9	11	12	11	9	7	5	5	5	5	5	5	5
0.6	5	5	5	5	5	5	5	5	7	8	8	8	7	5	5	5	5	5	7	8	8	8	7	5	5	5	5	5	5	5	5
0.5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
0.4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
0.3	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
0.2	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
0.1	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
0.0	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
x:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0

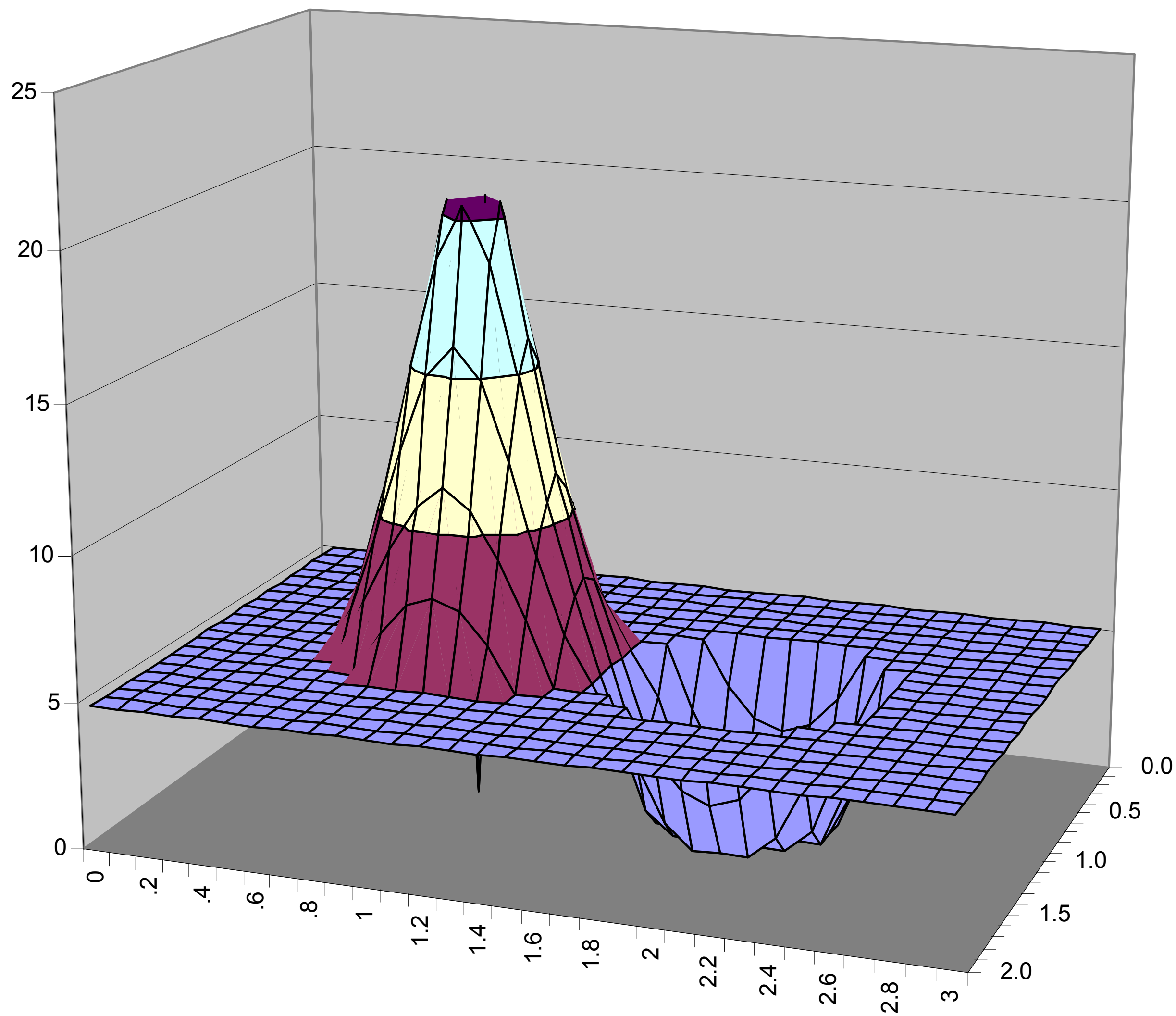
Figure 10

Total Exports of A and B

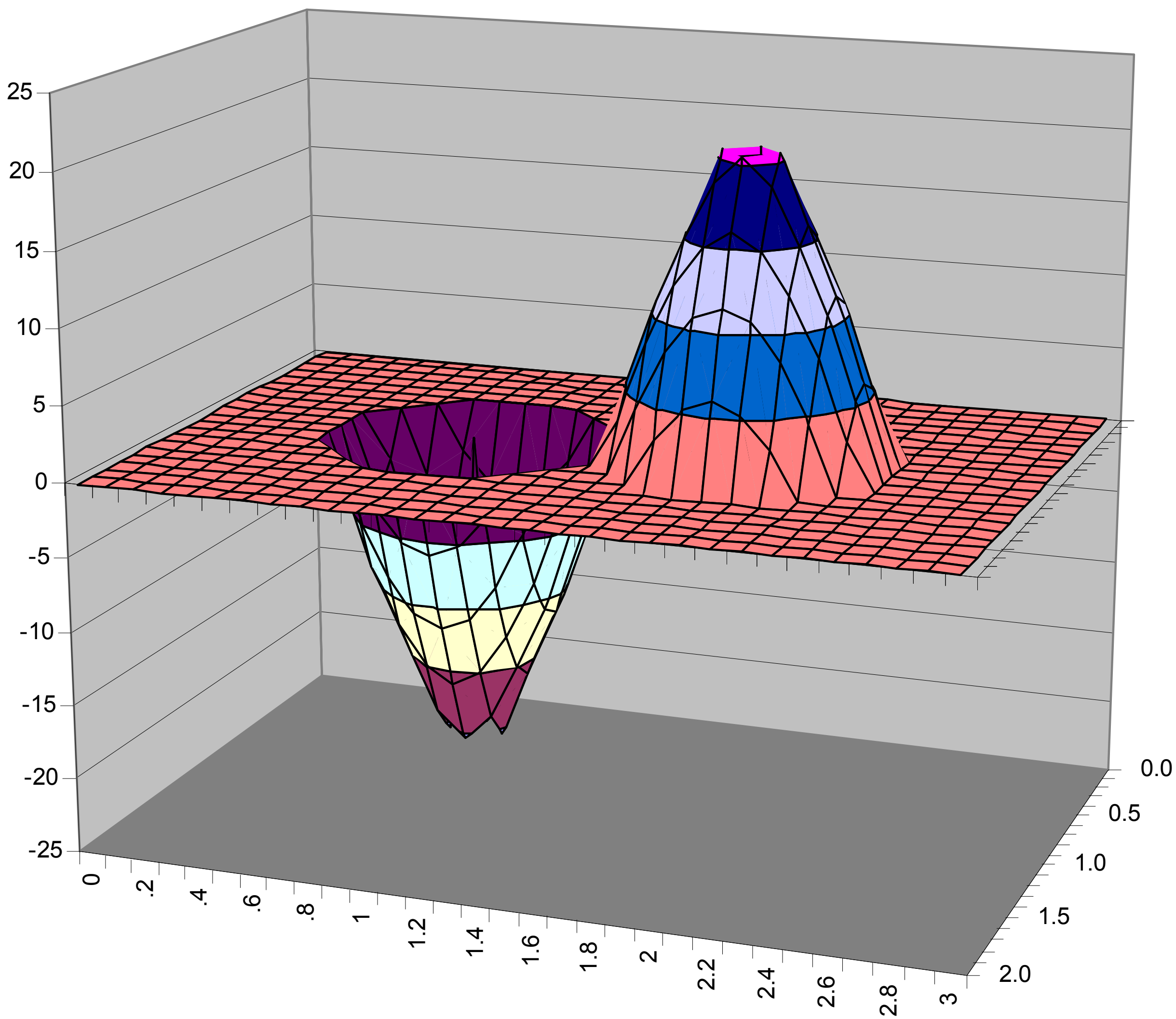
Total Trade



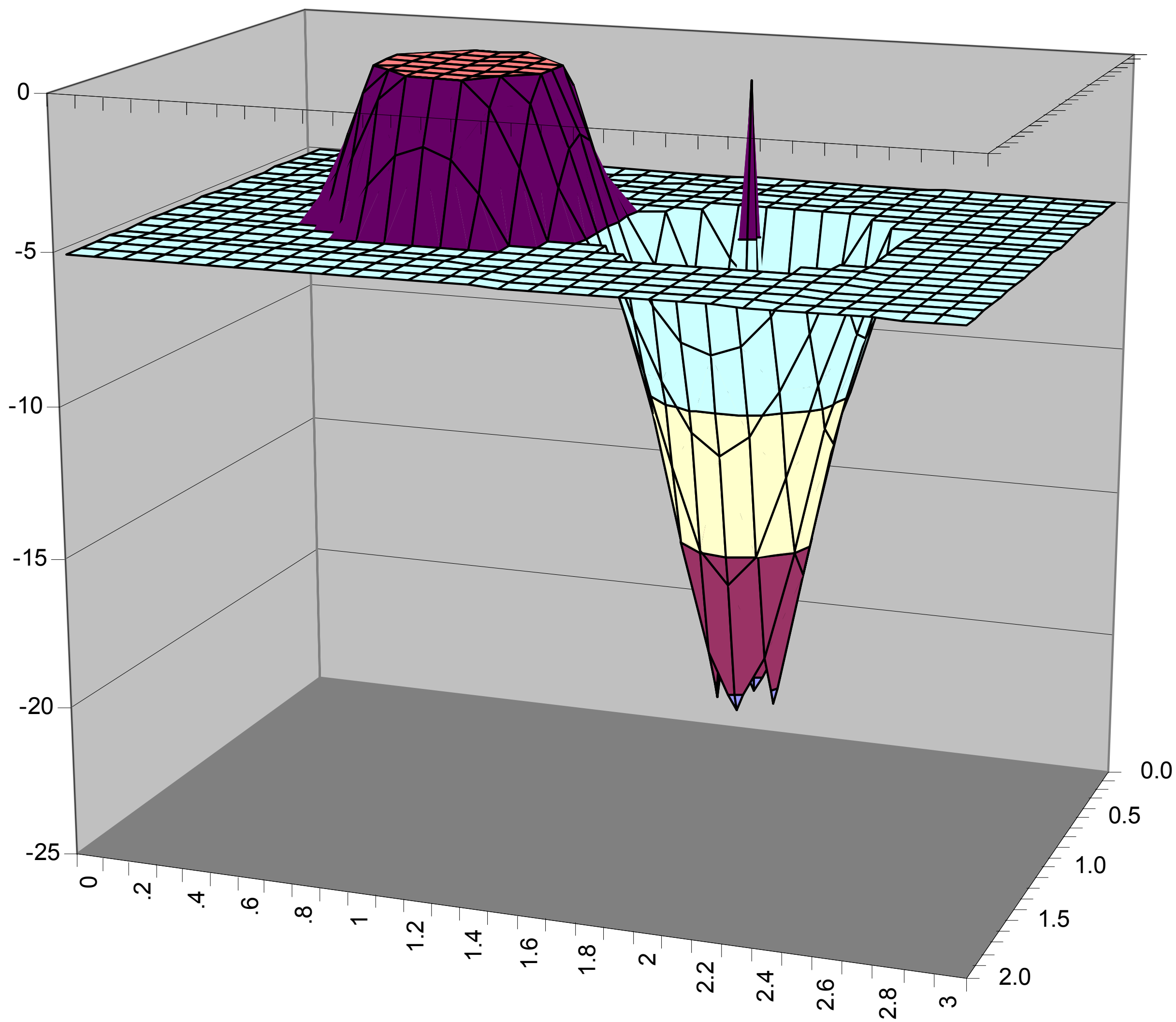
Trade of Country A



Trade of Country B



Trade of Country C



Implications

For comparative advantage:

- Except for the two extreme countries, direction of trade depends on location.
- One country's ability to trade with another may depend on the location of a third.
- Lower production cost expands locations from which exports are possible.

Implications

For the role of trade costs:

- High trade cost contracts locations across which trade is possible.
- Once other countries are trading, low trade cost does <u>not</u> expand the distance from which a country can trade. It only increases the trade volume.

Implications for Japan

- For a capital intensive good
    - A=DCs
    - B=Japan
    - C=LDCs
        - With a_B low and B close to C
- ➢ Japan should block the DCs from the LDC market by selling exports cheaper.
- Illustration in the model…

Parameters	
τ =	0.9
a_A =	1
a_B =	1.2
a_C =	2

Regimes	
Aut	
A-aut	1
B-aut	.
C-aut	3
Int-BX	4
Int-BM	5

y: \ x:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0
2.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	4	4	4	4	.	.	.	.	.	.	.	.
1.7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	4	4	4	4	4	4	4	4	.	.	.	.	.	.
1.6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	4	4	1	1	1	1	1	4	4	4	.	.	.	.	.
1.5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	4	1	1	1	1	1	1	1	1	1	4	4	.	.	.	.
1.4	.	.	.	.	.	.	.	.	.	.	.	.	.	4	4	1	1	1	1	1	1	1	1	1	1	1	4	4	.	.	.
1.3	.	.	.	.	.	.	.	.	.	.	.	.	.	4	4	1	1	1	1	1	1	1	1	1	1	1	4	4	.	.	.
1.2	.	.	.	.	.	.	.	.	.	.	.	.	4	4	1	1	1	1	J	1	1	1	1	1	1	1	1	4	4	.	.
1.1	.	.	.	.	.	.	.	.	.	5	5	5	4	4	1	1	1	1	1	1	1	1	1	1	1	1	1	4	4	.	.
1.0	.	.	.	.	.	.	.	.	.	5	A	5	4	4	1	1	1	1	1	1	C	1	1	1	1	1	1	4	4	.	.
0.9	.	.	.	.	.	.	.	.	.	5	5	5	4	4	1	1	1	1	1	1	1	1	1	1	1	1	1	4	4	.	.
0.8	.	.	.	.	.	.	.	.	.	.	.	.	4	4	1	1	1	1	1	1	1	1	1	1	1	1	1	4	4	.	.
0.7	.	.	.	.	.	.	.	.	.	.	.	.	.	4	4	1	1	1	1	1	1	1	1	1	1	1	4	4	.	.	.
0.6	.	.	.	.	.	.	.	.	.	.	.	.	.	4	4	1	1	1	1	1	1	1	1	1	1	1	4	4	.	.	.
0.5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	4	1	1	1	1	1	1	1	1	1	4	4	.	.	.	.
0.4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	4	4	1	1	1	1	1	4	4	4	.	.	.	.	.
0.3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	4	4	4	4	4	4	4	4	.	.	.	.	.	.
0.2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	4	4	4	4	4	.	.	.	.	.	.	.	.
0.1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Figure 11

Trade of Japan in a capital-intensive good. (A=DCs, C=LDCs)

Implications for Japan

- For a labor-intensive good
    - A=LDCs
    - B=Japan
    - C=DCs
        - With a_B high and B close to A
  - ➢ Japan should block the DCs from the LDC market by paying more for imports.
- Illustration in the model…

Parameters	
τ =	0.9
a_A =	1
a_B =	1.8
a_C =	2

Regimes	
Aut	
A-aut	1
B-aut	.
C-aut	3
Int-BX	4
Int-BM	5

y: 2.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.8	.	.	.	.	.	.	.	.	5	5	5	5	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.7	.	.	.	.	.	.	5	5	5	5	5	5	5	5	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.6	.	.	.	.	.	5	5	5	3	3	3	3	3	5	5	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.5	.	.	.	.	5	5	3	3	3	3	3	3	3	3	3	5	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.
1.4	.	.	.	5	5	3	3	3	3	3	3	3	3	3	3	3	5	5	.	.	.	.	.	.	.	.	.	.	.	.	.
1.3	.	.	.	5	5	3	3	3	3	3	3	3	3	3	3	3	5	5	.	.	.	.	.	.	.	.	.	.	.	.	.
1.2	.	.	5	5	3	3	3	3	3	3	3	3	J	3	3	3	3	5	5	.	.	.	.	.	.	.	.	.	.	.	.
1.1	.	.	5	5	3	3	3	3	3	3	3	3	3	3	3	3	3	5	5	4	4	4	.	.	.	.	.	.	.	.	.
1.0	.	.	5	5	3	3	3	3	3	3	A	3	3	3	3	3	3	5	5	4	C	4	.	.	.	.	.	.	.	.	.
0.9	.	.	5	5	3	3	3	3	3	3	3	3	3	3	3	3	3	5	5	4	4	4	.	.	.	.	.	.	.	.	.
0.8	.	.	5	5	3	3	3	3	3	3	3	3	3	3	3	3	3	5	5	.	.	.	.	.	.	.	.	.	.	.	.
0.7	.	.	.	5	5	3	3	3	3	3	3	3	3	3	3	3	5	5	.	.	.	.	.	.	.	.	.	.	.	.	.
0.6	.	.	.	5	5	3	3	3	3	3	3	3	3	3	3	3	5	5	.	.	.	.	.	.	.	.	.	.	.	.	.
0.5	.	.	.	.	5	5	3	3	3	3	3	3	3	3	3	5	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.4	.	.	.	.	.	5	5	5	3	3	3	3	3	5	5	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.3	.	.	.	.	.	.	5	5	5	5	5	5	5	5	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.2	.	.	.	.	.	.	.	.	5	5	5	5	5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
0.0	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
x:	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0

Figure 12

Trade of Japan in a labor-intensive good. (A=LDCs, C=DCs)

Concluding Questions

- What if countries differ in size?
- Would general equilibrium change much?
- Would more countries add any insights?
- Is this the most useful model?
  (Alternative: differentiated products.)
- Is this issue worth pursuing?