

Did

9-11

- B.C.

- F.O.V.A.L.U.E

- CLOSE ECONOMY C.E

- SMALL OPEN ECON C.E

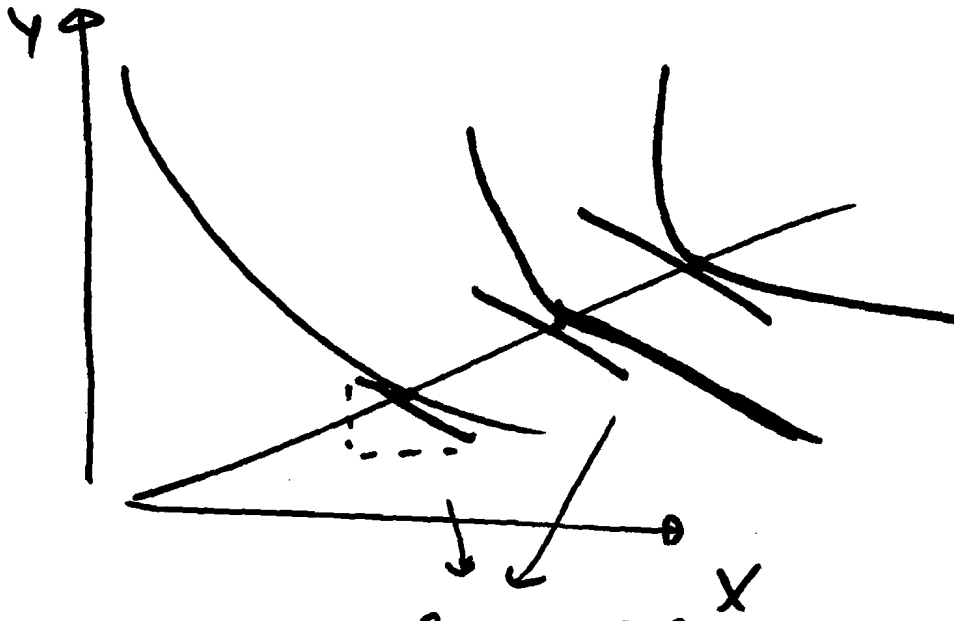
NEXT

GAINS FROM TRADE

9-11-08

# PREFERENCES

"NICE"



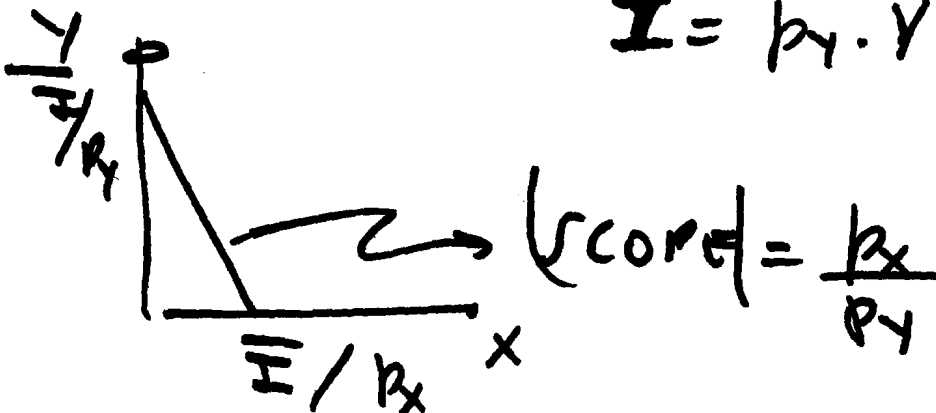
SAME SCOPE

"LINEAR EXPANSION PATH"

$$MAS = \left| \frac{\text{SCOPE}}{\text{INDIFF. CURVE}} \right|$$

## BUDGET CONSTRAINT

$$\bar{I} = p_Y \cdot Y + p_X \cdot X$$

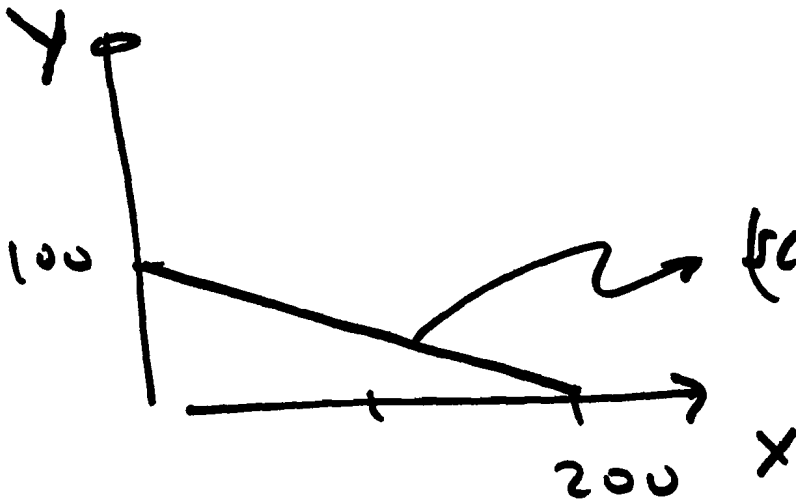


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ISOREVENUE      LINE

$$\nabla \text{ REVENUE VALUE} = p_x X + p_y Y$$

Ex:  $\nabla = 200$        $p_x = 1$        $p_y = 2$



$$|\text{slope}| = \frac{\frac{\nabla}{p_y}}{\frac{\nabla}{p_x}} = \frac{p_x}{p_y}$$



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How to FIND C.E.?

FIGURE OUT  $\frac{P_X}{P_Y}$  & THEN

WHOSE NUMERAIKE ( $P_X=1 \Rightarrow P_Y \dots$ )

CALCULATE  $w, r$  USING PROFIT MAX:

$$w = MPL \cdot p$$

$$r = MPK \cdot p$$

OR USE

$$P_X = AC_X(w, r)$$

$$P_Y = AC_Y(w, r)$$

### SMALL OPEN ECONOMY (FT)

TAKING WORLD PRICE AS GIVEN

FIND  $w, r$ , OUTPUT / CONSUMPTION AMOUNTS:

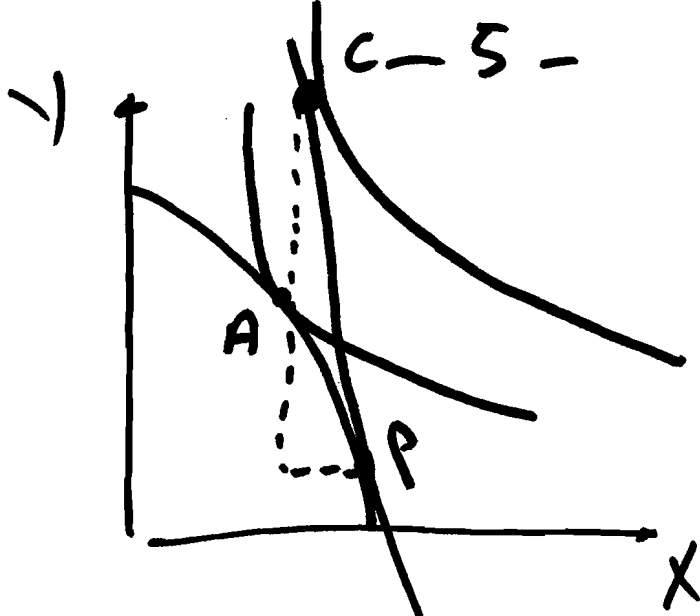
(1) CONSUMERS ..... (SAME AS IN AUTARKY)

(2) <sup>FIRM</sup> PROFITS MAXIMIZE ..... ( " " " )

(3) TRADE BALANCE

$$\underbrace{P_X^{FT} X^P + P_Y^{FT} Y^P}_{\text{VALUE PROD}} = \underbrace{P_X^{FT} X^C + P_Y^{FT} Y^C}_{\text{VALUE CONS.}}$$

$$\Rightarrow P_X^{FT} (X^P - X^C) = P_Y^{FT} (Y^C - Y^P)$$



HERE

$$\left(\frac{P_x}{P_y}\right)^{FT} > \left(\frac{P_x}{P_y}\right)^{AUT.}$$

IMPORTS  
 EXPORTS

TRADE TRIANGLE

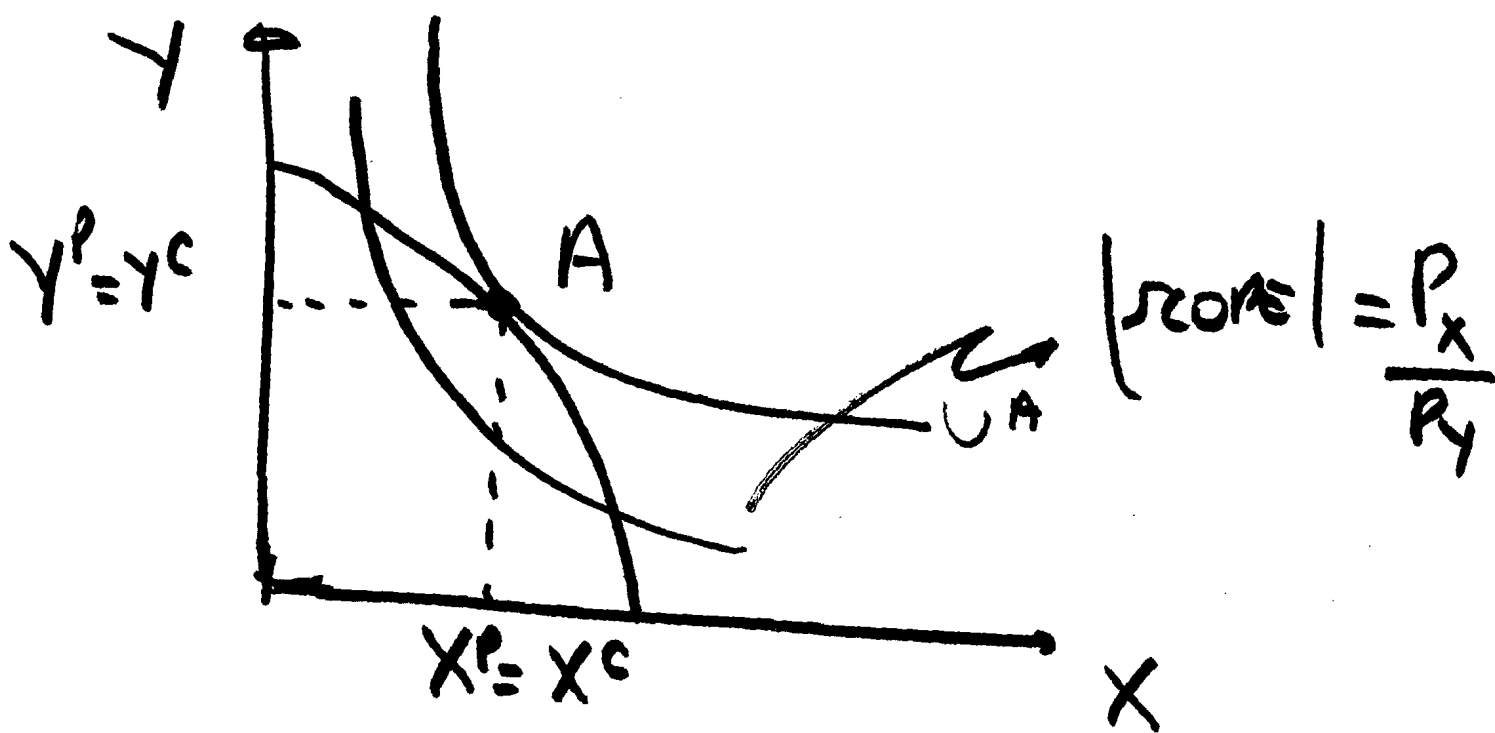
9-16-08

- GAINS FROM TRADE
- RICARDO MODEL

- 2 -  
CLOSED ECONOMY  

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(AUTARKY)



2 GOODS  $X, Y$   
2 FACTORS :  $K, L$   
ENDOWMENTS :  $\bar{K}, \bar{L}$   
AGENTS WITH RICE PREFERENCES  
C. E.

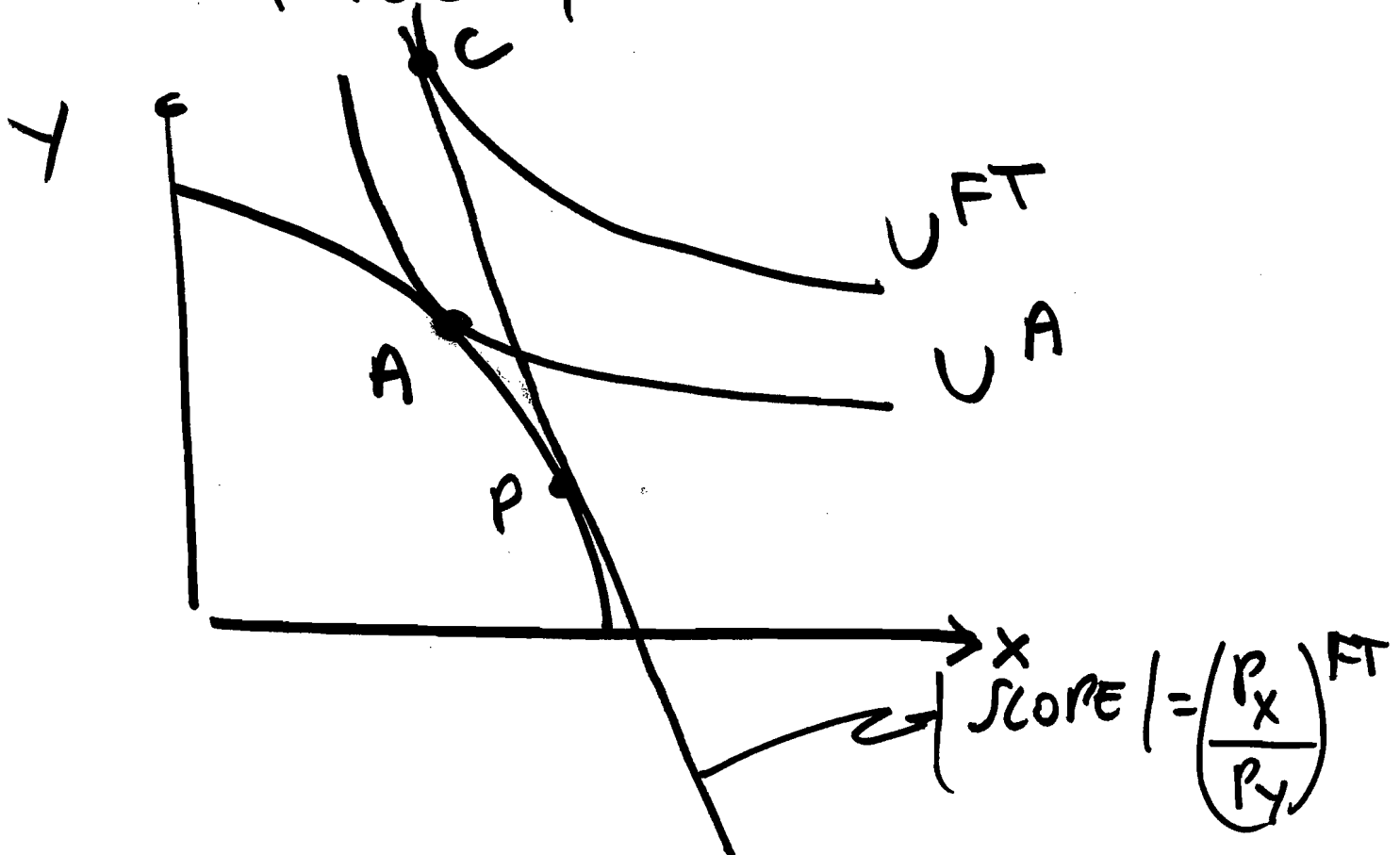
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# SMALL OPEN ECONOMY

COUNTRY TAKES  
WORLD PRICES AS  
GIVEN

$$\left( \frac{P_X}{P_Y} \right)^{FT}$$

AND TRADES  
FREELY



$U^{FT} > U_A \Rightarrow$  GAINS FROM TRADE.

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## TWO COUNTRY CASE

ASSUME AUTARKY

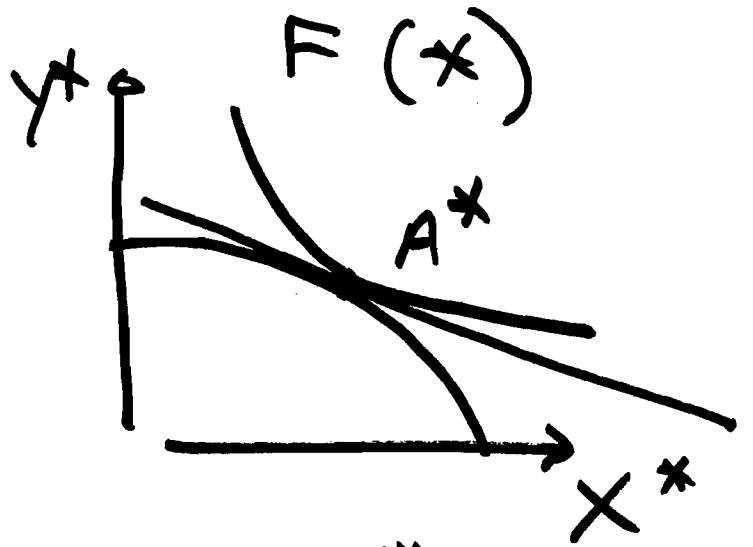
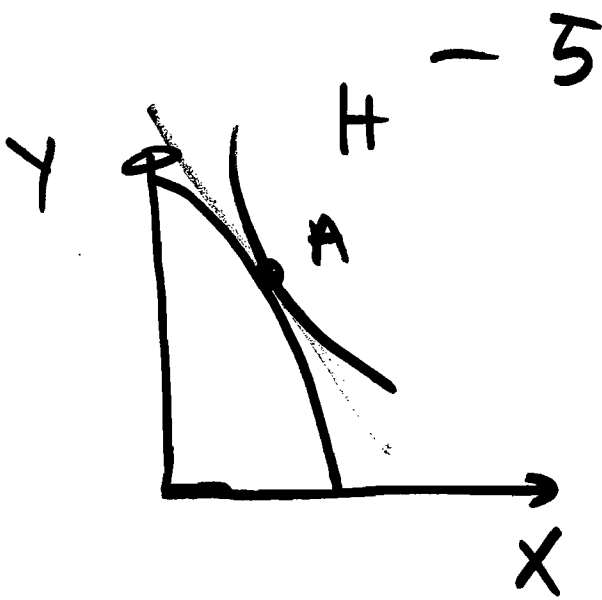
PRICES ARE  $\neq$

IN THE 2 COUNTRIES

$\Rightarrow$  TRADE EQUILIBRIUM  
IS FEASIBLE

$\Rightarrow$  EQUIL. WORLD PRICE  
CAN BE "CALCULATED"  
(i.e. WORLD MARKETS  
CLEAR)

AND IS SOMEWHERE IN  
BETWEEN THE TWO  
AUTARKY PRICES



$$\left(\frac{p_x}{p_y}\right)^A > \left(\frac{p_x}{p_y}\right)^{A^*}$$

F.T      WORLD PRICE

$$\Rightarrow \left(\frac{p_x}{p_y}\right)^A > \left(\frac{p_x}{p_y}\right)^{F.T} > \left(\frac{p_x}{p_y}\right)^{A^*}$$

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# RICARDO MODEL

2 COUNTRIES: H, F(\*)

2 GOODS: S, T

LINEAR TECHNOLOGIES

SINGLE FACTOR: LABOR (L)

"NICE" PREFERENCES

	H	F*
SOY	$2 = a_{LS}$	$3 = a_{LS}^*$
TEXTILES	$1 = a_{LT}$	$6 = a_{LT}^*$
ENDW	$\bar{L} = 60$	$\bar{L}^* = 60$

UNIT  
LABOR  
COEFF.

IN THIS CASE:

HOME:  $S = \frac{1}{2} L_S$

$$T = \frac{1}{1} \cdot L_T = L_T$$

$$\Rightarrow MPL_S = APL_S = \frac{1}{2}$$

$$MPL_T = APL_T = 1$$

FOREIGN:  $S^* = \frac{1}{3} \cdot L_S^*$

$$T^* = \frac{1}{6} \cdot L_T^*$$

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## ABSOLUTE ADVANTAGE (A.A)

⇒ LOWER  $a$  (UNIT LABOR COEFF.)

H HAS AN A.A IN THE PRODUCTION OF BOTH COMMODITIES SINCE:

$$a_s < a_s^*$$

$$a_t < a_t^*$$

## COMPARATIVE ADVANTAGE (C.A)

A COUNTRY HAS A C.A. IN THE PRODUCTION OF SOY ~~IRON PENS OR TEXTILES~~

IF THE OPPORTUNITY COST OF SOY IN TERMS OF

TEXTILES IS SMALLER THAN IN THE OTHER COUNTRY.

→  $a_s/a_t$

# RICARDO

9-18-08

TRADE DUE TO  $\neq$  IN  
TECHNOLOGIES

	H	F (*)
SOY	2	3
TEXTILES	1	6

$$\bar{L} = \bar{L}^* = 60$$

AA: HOME HAS AN A.A. IN  
THE PRODUCTION OF BOTH  
COMMODITIES

$$a_{LS} = 2 < a_{LS}^* = 3$$

$$a_{LT} = 1 < a_{LT}^* = 6$$

C.A :

HOMG HAS A C.A. IN THE PRODUCTION OF TEXTILES BECAUSE :

$$\frac{a_T}{a_S} = \frac{1}{2} < \frac{a_T^*}{a_S^*} = \frac{6}{3}$$

⇒

$$\frac{a_T}{a_T^*} = \frac{1}{6} < \frac{a_S}{a_S^*} = \frac{2}{3}$$

FOREIGN HAS A C.A. IN THE PRODUCTION OF SOY :

$$\frac{a_S^*}{a_T^*} = \frac{3}{6} < \frac{a_S}{a_T} = \frac{2}{1}$$

⇒

$$\frac{a_S^*}{a_S} = \frac{3}{2} < \frac{a_T^*}{a_T} = \frac{6}{1}$$

- 3 -  
RICARDO  
STEPS

- CA

- AUTARKY FOR COUNTRIES.

-  $(P_S/P_T)^A$

- CONSUMPTION / PROD POINT  
(APPROX.)

-  $\frac{W}{P_S}$  ,  $\frac{W}{P_T}$

- CHOOSE NUMERAIRE &  
CALCULATE OTHER PRICE  
& WAGE.

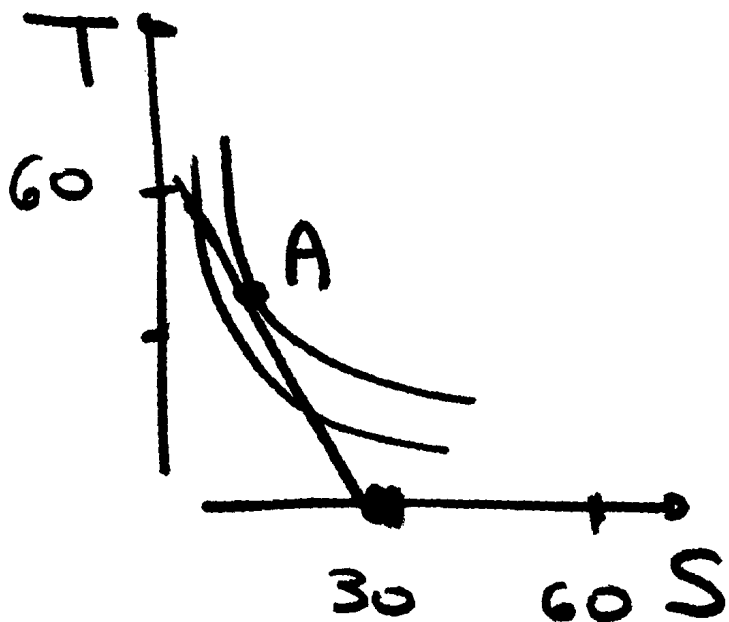
- CALCULATE AV. COSTS

$$AC_S = Q_S \cdot W$$

$$AC_T = Q_T \cdot W$$

PPF'S

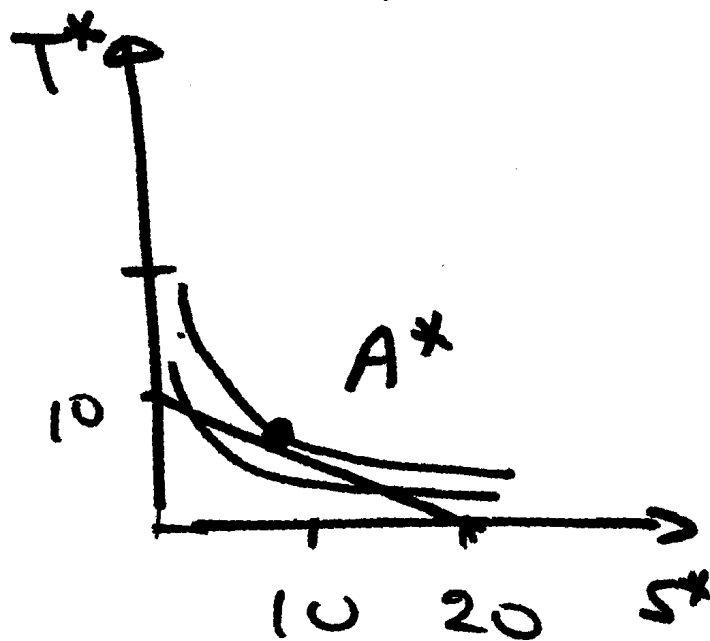
H



$$|\text{SLOPE PPF}| = 2$$

$$\left(\frac{P_S}{P_T}\right)^A = 2$$

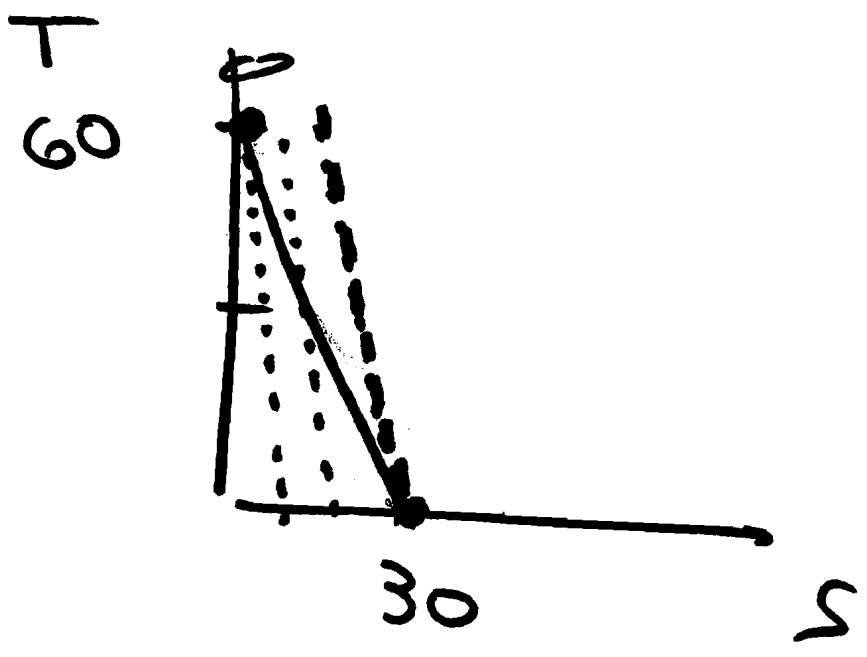
F (\*)



$$|\text{SLOPE PPF}| = \frac{1}{2}$$

$$\left(\frac{P_S}{P_T}\right)^{A^*} = \frac{1}{2}$$

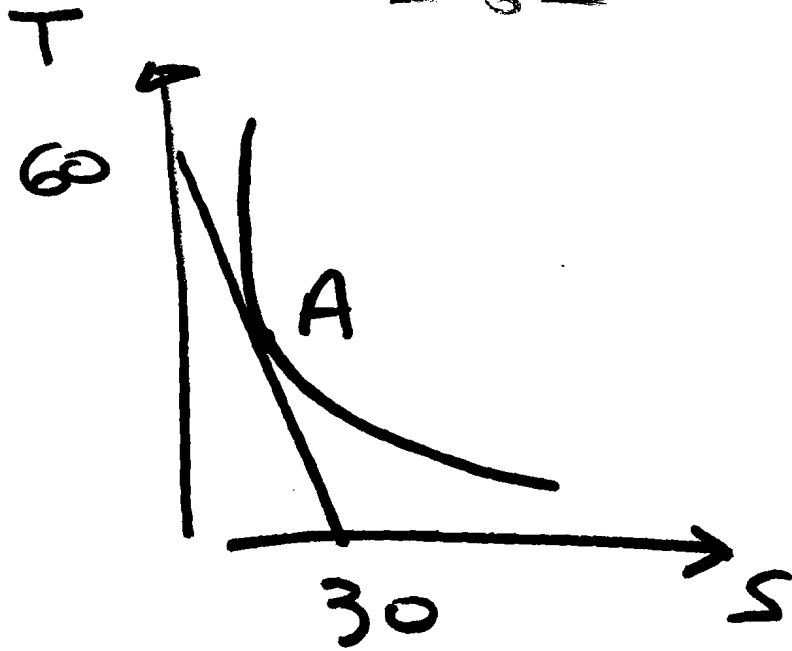
AUTARKY HOME  
PRODUCER'S PROBLEM



IF  $\frac{P_S}{P_T} = 2 \Rightarrow$  ANYWHERE  
ALONG  
PPF IS  
PROFIT MAX

IF  $\frac{P_S}{P_T} < 2 \Rightarrow$  ONLY TEXTILES  
ARE PRODUCED

IF  $\frac{P_S}{P_T} > 2 \Rightarrow$  ONLY SOY  
IS  
PRODUCED



$$\frac{w}{p_T} ? \quad \frac{w}{p_S} ?$$

SINCE BOTH S AND T  
ARE PRODUCED  $\Rightarrow$

$$w = MPL_S \cdot p_S$$

$$w = MPL_T \cdot p_T$$

$$\Rightarrow \boxed{\frac{w}{p_S}} = MPL_S = \frac{1}{a_S} = \boxed{\frac{1}{2}}$$

$$\boxed{\frac{w}{p_T}} = MPL_T = \frac{1}{a_T} = \boxed{1}$$

DEFINITION

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NUMERAIRE:

LET  $P_T = 1$

SINCE  $\left(\frac{P_S}{P_T}\right)^A = 2$

$\Rightarrow P_S = 2$

FROM PAGE - 6 -

$$\frac{W}{P_S} = \frac{1}{2} \quad \frac{W}{P_T} = 1$$

WE CAN USE EITHER  
ONE & GET

$$W = 1$$

AVERAGE COSTS

$$AC_S = Q_S \cdot W = 2 \cdot 1 = 2$$

$$AC_T = Q_T \cdot W = 1 \cdot 1 = 1$$

- 2  
DO THE SAME FOR  
FOREIGN HUMANITY

$$\left(\frac{P_S}{P_T}\right)^{A^*} = \frac{1}{2}$$

$$\boxed{\frac{W}{P_T} = \frac{1}{6}}$$

$$P_T = 1$$

$$W = 1/6$$

$$AC_T = 1$$

$$\boxed{\frac{W}{P_S} = \frac{1}{3}}$$

$$P_S = 1/2$$

$$AC_S = 1/2$$

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FT

ASSUME FT  
PRICES ARE:

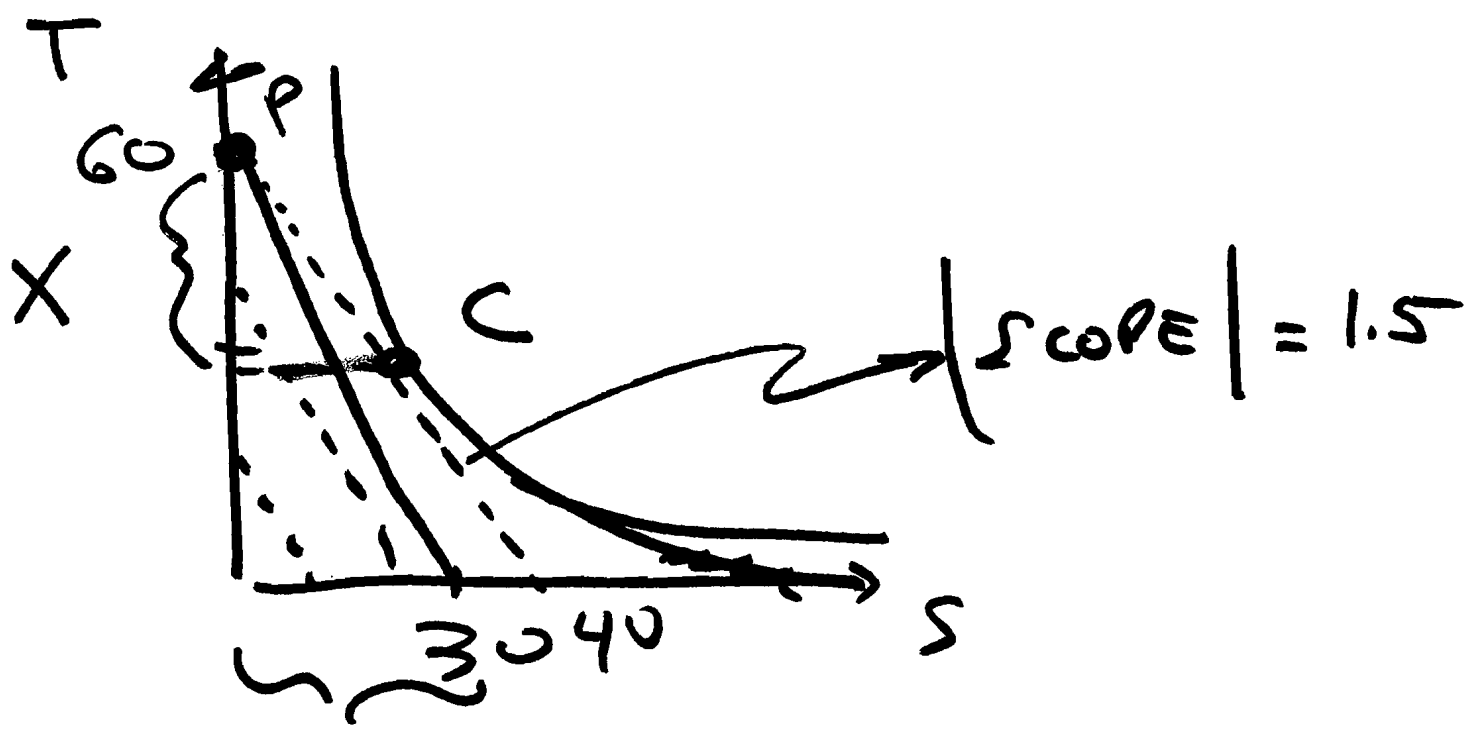
$$\left(\frac{p_S}{p_T}\right)^{FT} = 1.5$$

NOTICE

$$\left(\frac{p_S}{p_T}\right)^A = 2 > \left(\frac{p_S}{p_T}\right)^{FT} > \left(\frac{p_S}{p_T}\right)^{A^*} = \frac{1}{2}$$

HOME IN FT

- PROD. BUNDLE
- CONS. BUNDLE
- $\frac{W^{FT}}{p_S^{FT}}$        $\frac{W^{FT}}{p_T^{FT}}$
- NUMERAIKE CHOSEN
- $W^{FT}$  CALCULATED
- $AC_S^{FT}$ ,  $AC_T^{FT}$  CALCULATED



M  
TP = 60  
SP = 0

COUNTRY EXPORTS T & IMPORTS S