KOM Ch. 8 Problems *for Parsons' YNU class Spring 2024*

Home

1) $D=100-20P$

$S=20+20P$

$D=S$

$100-20P=20+20P$

$80=40P$

$\$2=P \quad \Rightarrow \quad \underline{Q=60}$ with NO TRADE

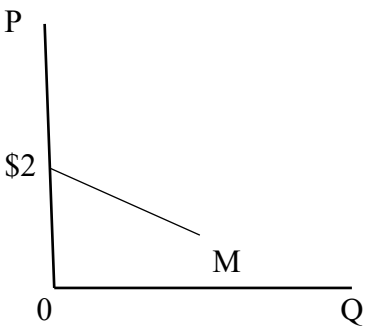
Import Demand Curve?

$D-S$

$M=(100-20P)-(20+20P)$

$M=80-40P$

At P=$2 M=0



Foreign

2) $D^*=80-20P$

$S^*=40+20P$

NO TRADE EQUILIBRIUM?

$D^*=S^*$

$80-20P=40+20P$

$40=40P^*$

$\$1=P^*$

$\underline{Q^*=60}$

EXPORT SUPPLY?

2a) $S^*-D^* \quad \Rightarrow \quad (40+20P)-(80-20P)$

$X=-40+40P$

2b) WORLD PRICE?

M = X

$80-40P=-40+40P$

$120=80P$

$\frac{120}{80}=P$

$\frac{3}{2}=P \Rightarrow$ P=$1.50

Foreign X should equal Home's M. Check:

M : $80-40P$

M : $80-40(1.5) \Rightarrow 80-60=20$

X : $-40+40(P) \Rightarrow -40+60=20$

Home Imports 20 from Foreign

3) with 0.5 TARIFF BY HOME

$M=80-40(P)$

But with tariff, becomes:

$M^T=80-40(P+0.5)$

$M^T=X$

$80-40(P+0.5)=-40+40(P)$ *(note: that the "X" function does not change, only the import demand function)*

Solve:

$80-40P-20=-40+40P$

$100=80P$

$\frac{100}{80}=P$

$P=1.25

Price Exporter gets is $1.25. Lower than free trade price of $1.5.

Price Consumers in Home pay: $1.25+0.5=$1.75

1.75>1.50 (pre-tariff)

New $M^T=X$ is how much?

$M^T=80-40(1.75)=80-70$

$M^T=10$

$X=-40+40(1.75)=10$

So with free trade there was 20 exports; now with the tariff, international trade (exports) are reduced to only 10.

4. Now with Foreign being much larger:

D* = 800 – 200P S*= 400 + 200P

So, Export Supply function is: 400 + 200P – (800 -200P) or X= -400+400P

Set X=M
-400+400P = 80-40P
440P= 480 or

Free trade equilibrium price is P= 480/440 or $1.09

Now with import tariff of $0.5

-400+400P = 80-40(P+0.5)

-400 + 400P = 80-40P -20
440P= 460
P with Tariff is now 460/440 or $1.045.

Note: this is the price that Foreign exports (sells) it at. AFTER the tariff, consumers in Home pay: 1.045+0.5= $1.545

Compare this to the first tariff when both Countries were about the same size.
In the first case, the free trade price was 1.5, then, after the tariff, Foreign LOWERED its export price to 1.25…then, Home added the tariff, so that Home consumers pay 1.25+0.5= $1.75.
In the first case, BOTH HOME and FOREIGN shared the burden of HOME's tariff "50-50" (half-half).

Now, in the second case when Home is VERY SMALL relative to FOREIGN, FOREIGN does not change its export price very much. It was $1.09, then they lowered is a bit, to 1.045.
So Foreign's share of the 0.5 tax burden was $0.045 and HOME's burden was 1.09→1.545 or +$0.45.
So, here, the SMALL importing country shares MOST of the tax burden.

If the exporting country is much larger, they share very little of the "pain" and burden of the tax.

**** What if the HOME country was very large, the FOREIGN country was very small? Who would share more of the burden? Home or Foreign?**