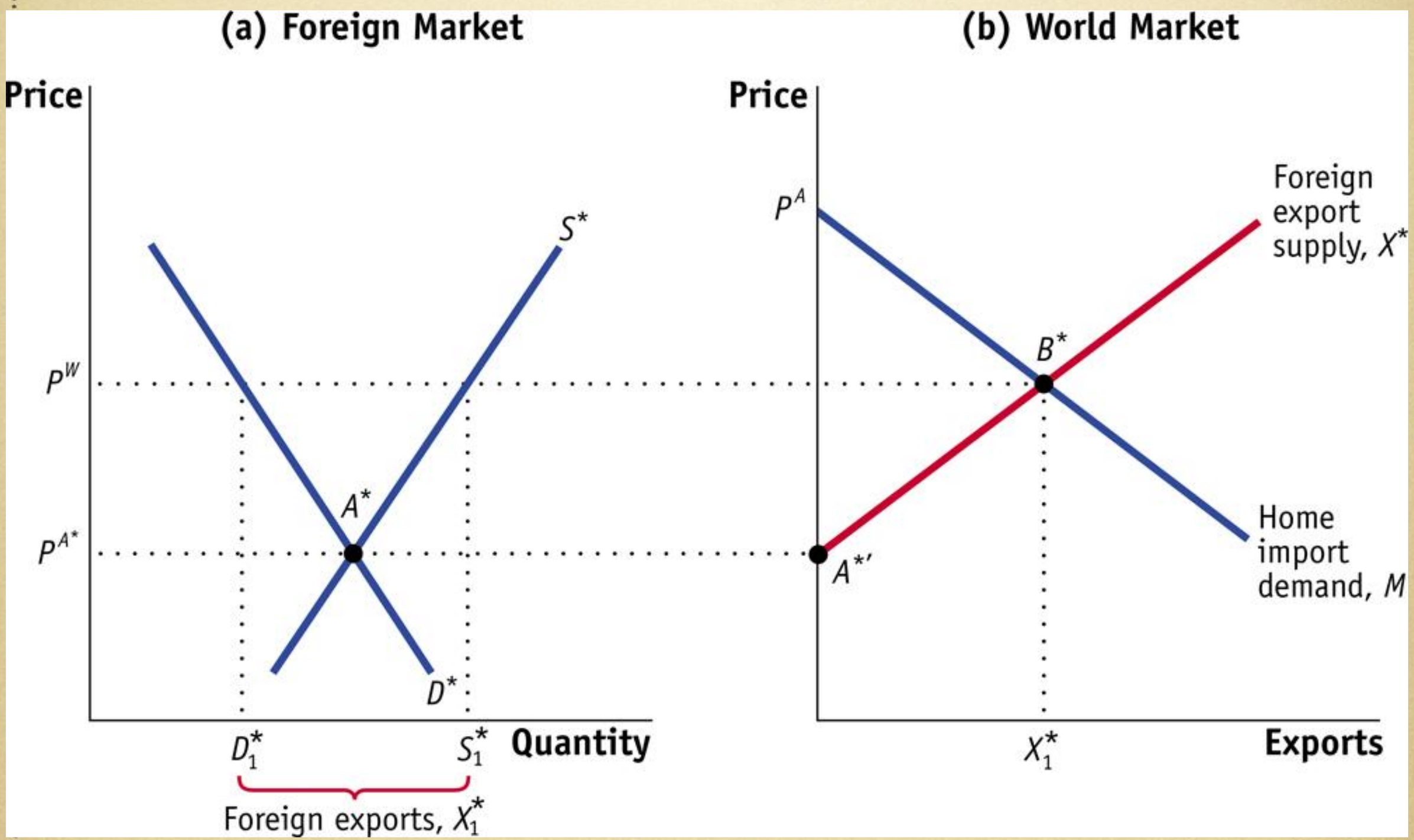
Trade Policy

part 2

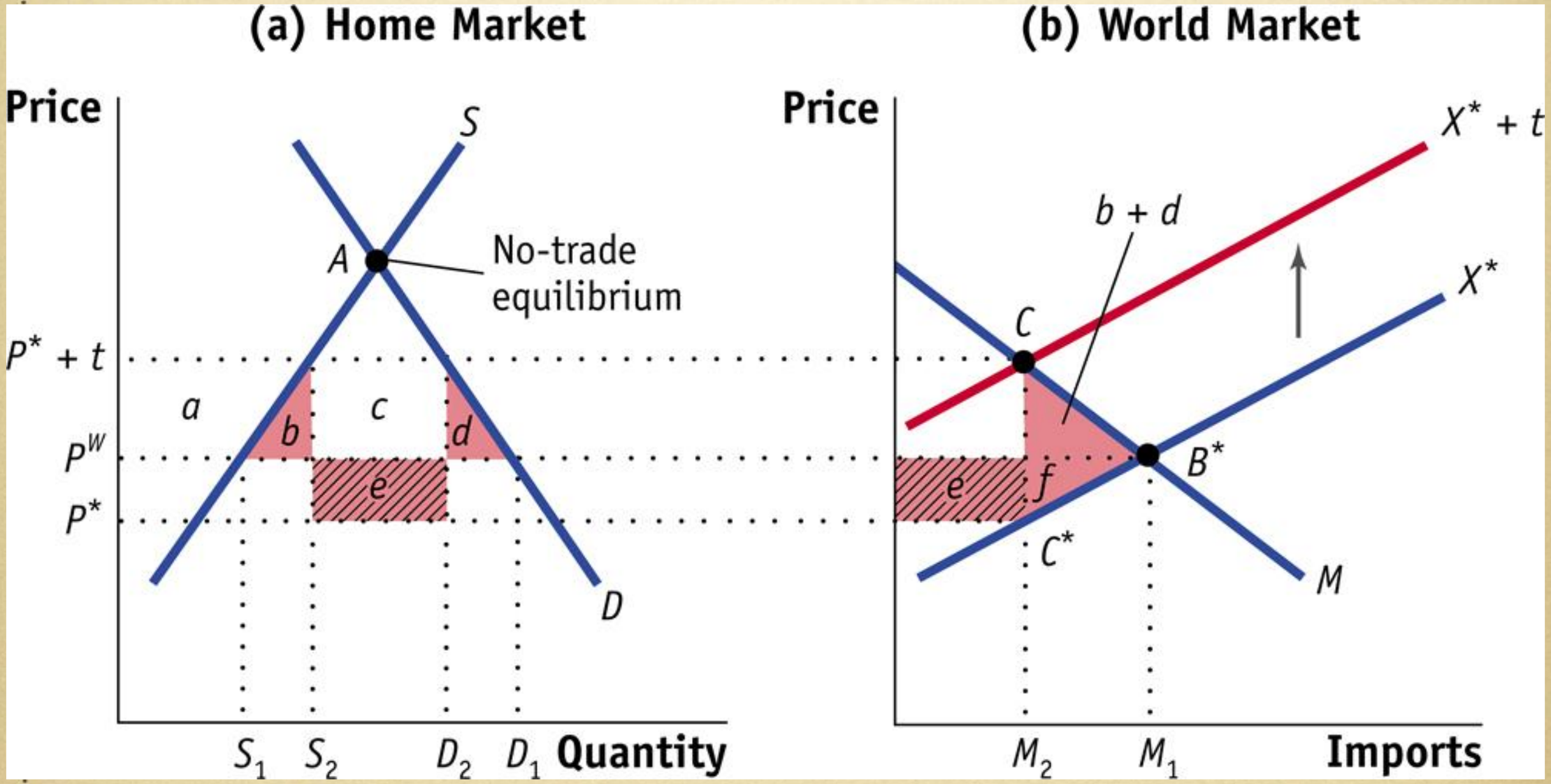
Import Tariff in a large country

Next: Large Country

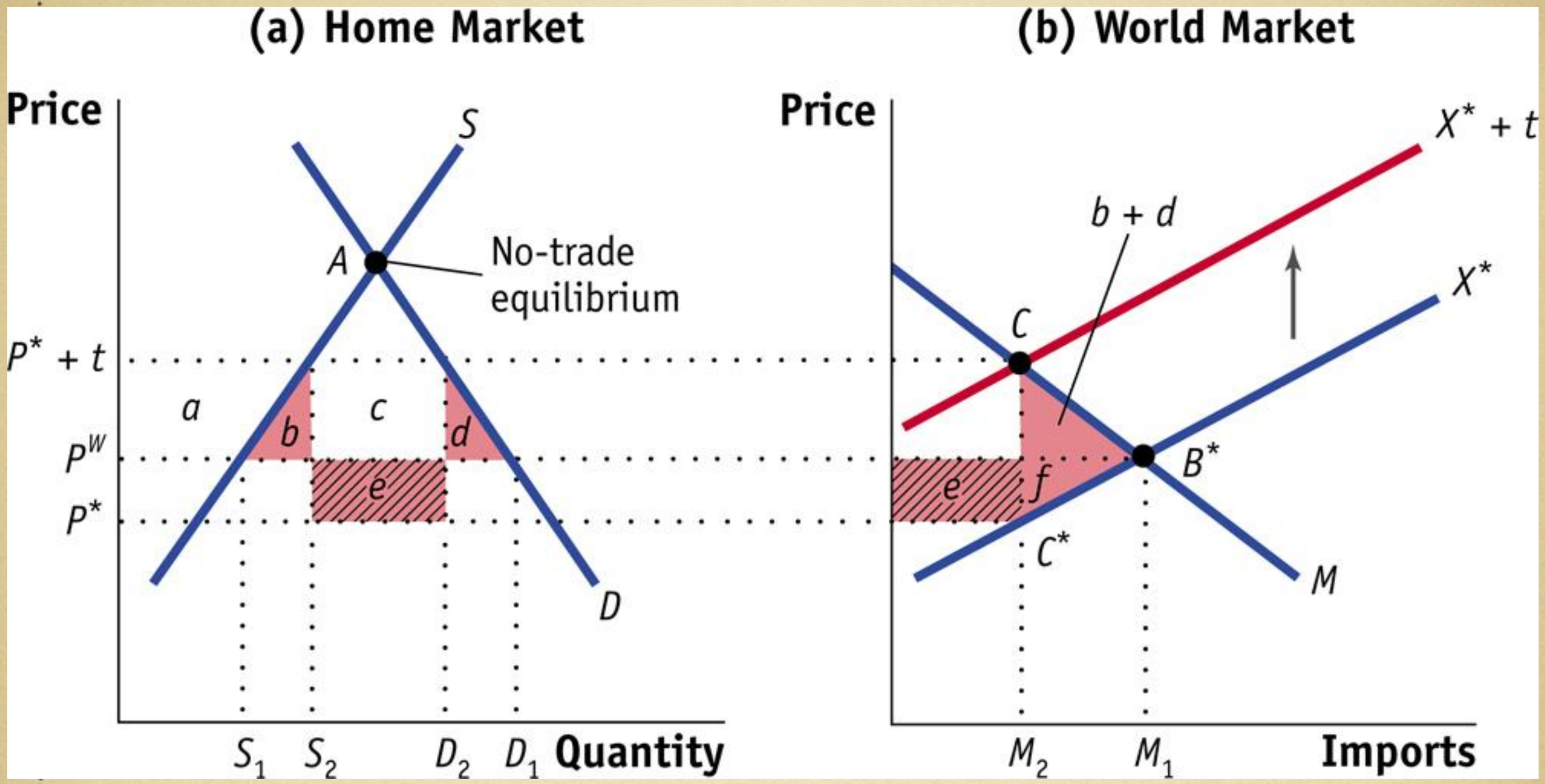
- If we consider a large enough importing country, then we might expect that its tariff will change the world price
- Then the Foreign export supply curve X* is no longer horizontal at the world price P^W


(a) Foreign Market
Price
S^*
P^W
A^*
P^{A*}
D^*
D_1^*
S_1^*
Quantity
Foreign exports, X_1^*
(b) World Market
Price
P^A
Foreign export supply, X^*
B^*
Home import demand, M
$A^{*\prime}$
X_1^*
Exports

- Home tariff increases the cost to Foreign producers of supplying to the Home market
- Foreign export supply curve shifts up by exactly the amount of the tariff, shifting from X* to X*+t


(a) Home Market
Price
S
A
No-trade
equilibrium
$P^* + t$
a
b
c
d
P^w
e
P^*
D
S_1
S_2
D_2
D_1
Quantity
(b) World Market
Price
$X^* + t$
$b + d$
X^*
C
B^*
e
f
C^*
M
M_2
M_1
Imports

- However, notice that the price that Foreign producers receive, P*, ends up below the original free trade price
- The price Home pays for its imports P*+t rises by less than the amount of the tariff, t, as compared to the initial world price, P^W
- Foreign producers are essentially "***absorbing***" a part of the tariff, by lowering their price from P^W to P*


(a) Home Market
(b) World Market
Price
Price
S
D
A
No-trade equilibrium
$P^* + t$
P^W
P^*
a
b
c
d
e
S_1
S_2
D_2
D_1
Quantity
$X^* + t$
X^*
b + d
C
B^*
f
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C^*
M
M_2
M_1
Imports

Home Welfare

- The higher Home price, makes consumers worse off by lowering consumer surplus:

  - (a+b+c+d)

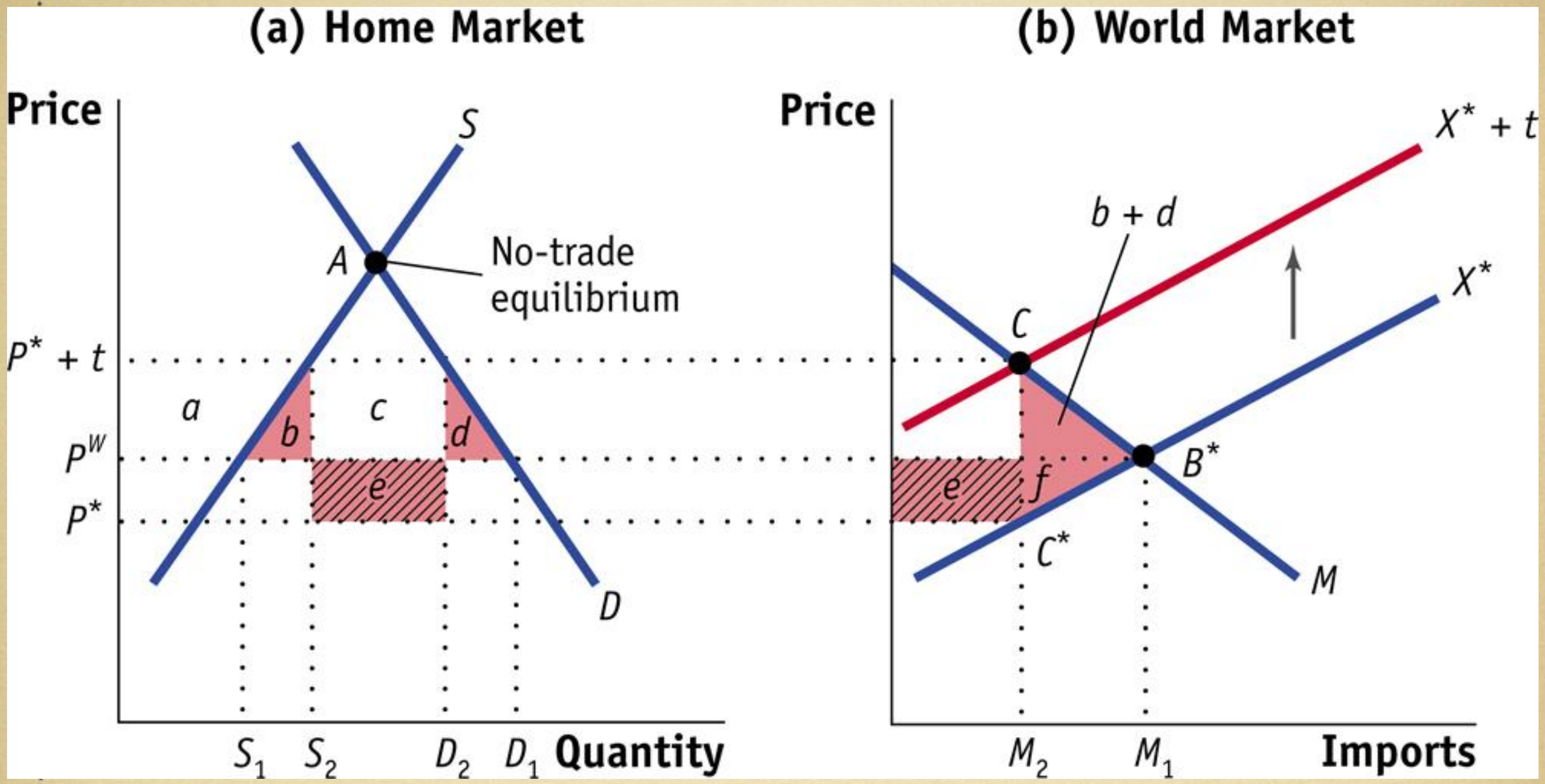
- Home firms are better off with the higher price and increased surplus: *+a*

- Revenue collected from the tariff equals the amount of the tariff times the new amount of imports

  +(c+e)

Home Welfare

Fall in consumer surplus	-(a+b+c+d)
Rise in producer surplus	+a
Rise in government revenue	+(c+e)
Net effect on Home welfare	e–(b+d)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b + d
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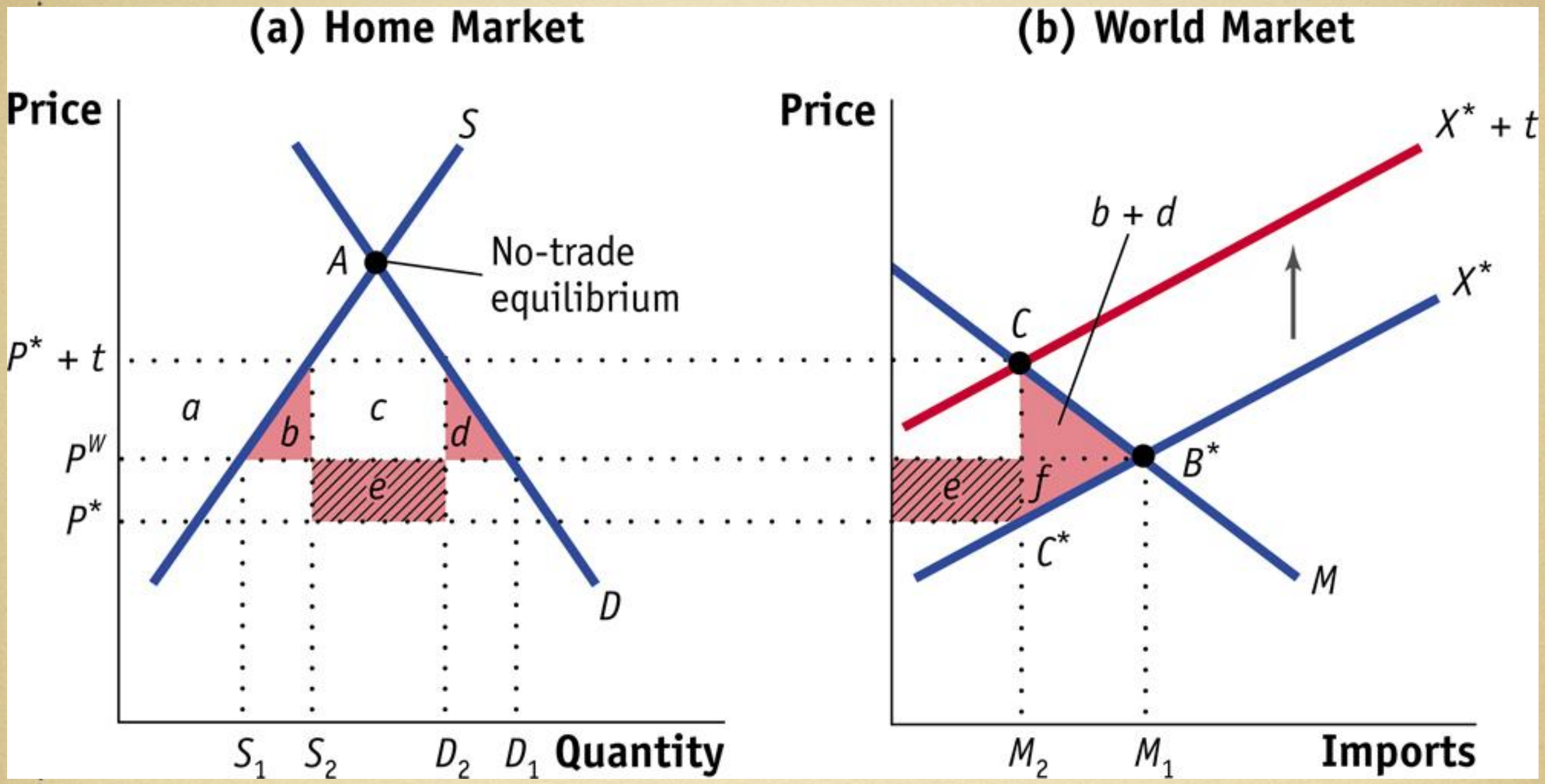
C^*
M
M_2
M_1
Imports

Home Welfare

- The triangle (b+d) is the ***deadweight loss***
- But notice, there is a source of gain
  - $e=(P^W - P^*)\, M_2$
  - ***Terms-of-trade gain***

- If *e > (b+d),* then Home is better off
- If *e < (b+d),* then Home is worse off

- We see that a large importer might gain due to the application of a tariff
- However, for the large country, any net gain due to the tariff comes at the expense of the Foreign exporters
- Although Home might gain from the tariff, Foreign definitely loses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Price
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D
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D_2
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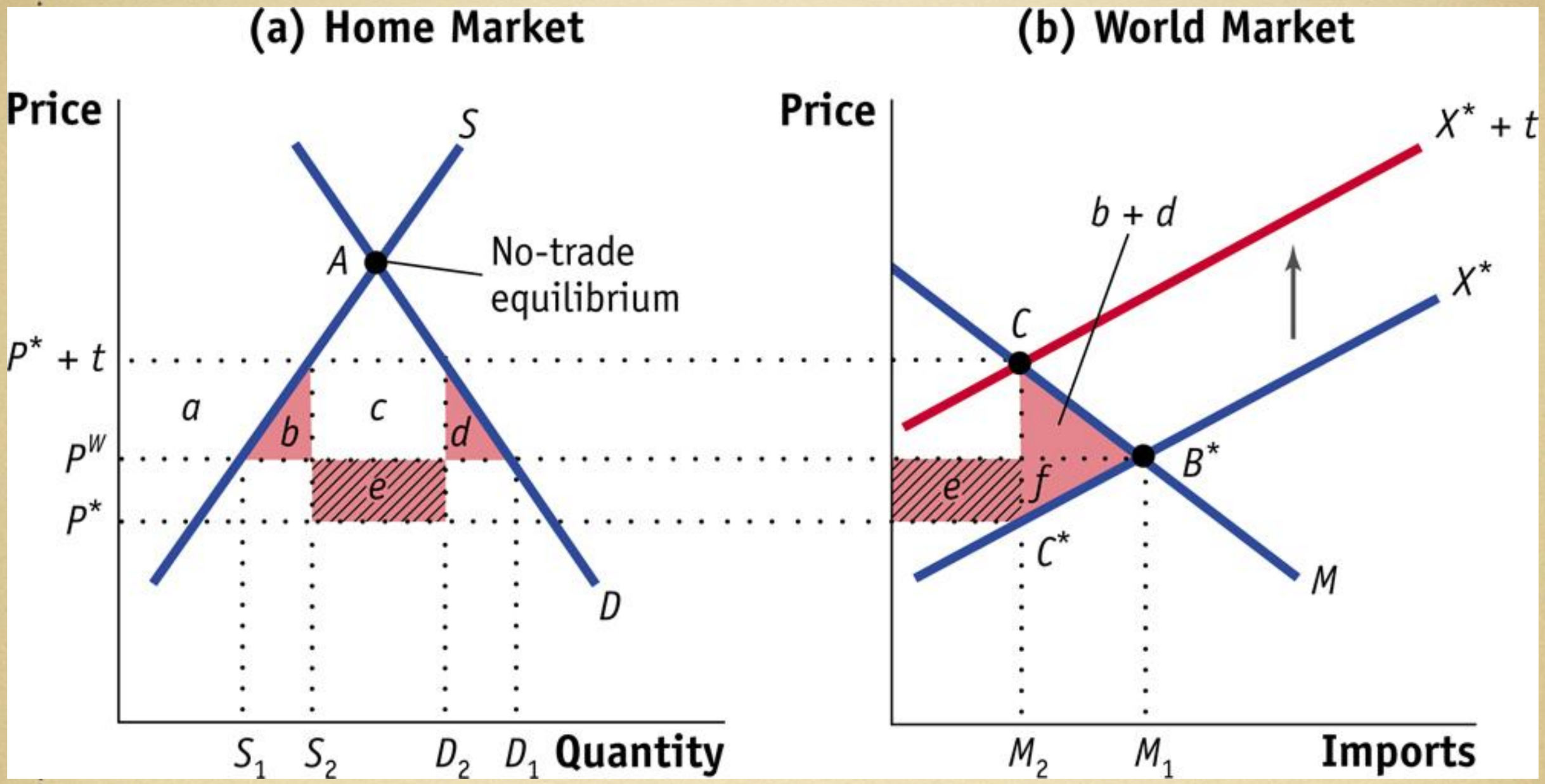
Quantity
$X^* + t$
X^*
b + d
C
B^*
f
e
C^*
M
M_2
M_1
Imports

Foreign country loses

- e - terms-of-trade loss
  - The world price of their exported commodity falls
- f – deadweight loss
  - Foreign exports less than the optimal quantity

Optimal Tariff

- We can compute the deadweight loss (area *b*+*d*) and the terms of trade gain (area *e*)
- This would give us the information to see if the economy gains from the tariffs
- Rather than do all these calculations, however, we can use the concept of the **optimal tariff**
  - This is the tariff that leads to the maximum increase in welfare for the importing country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No-trade equilibrium
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P^W
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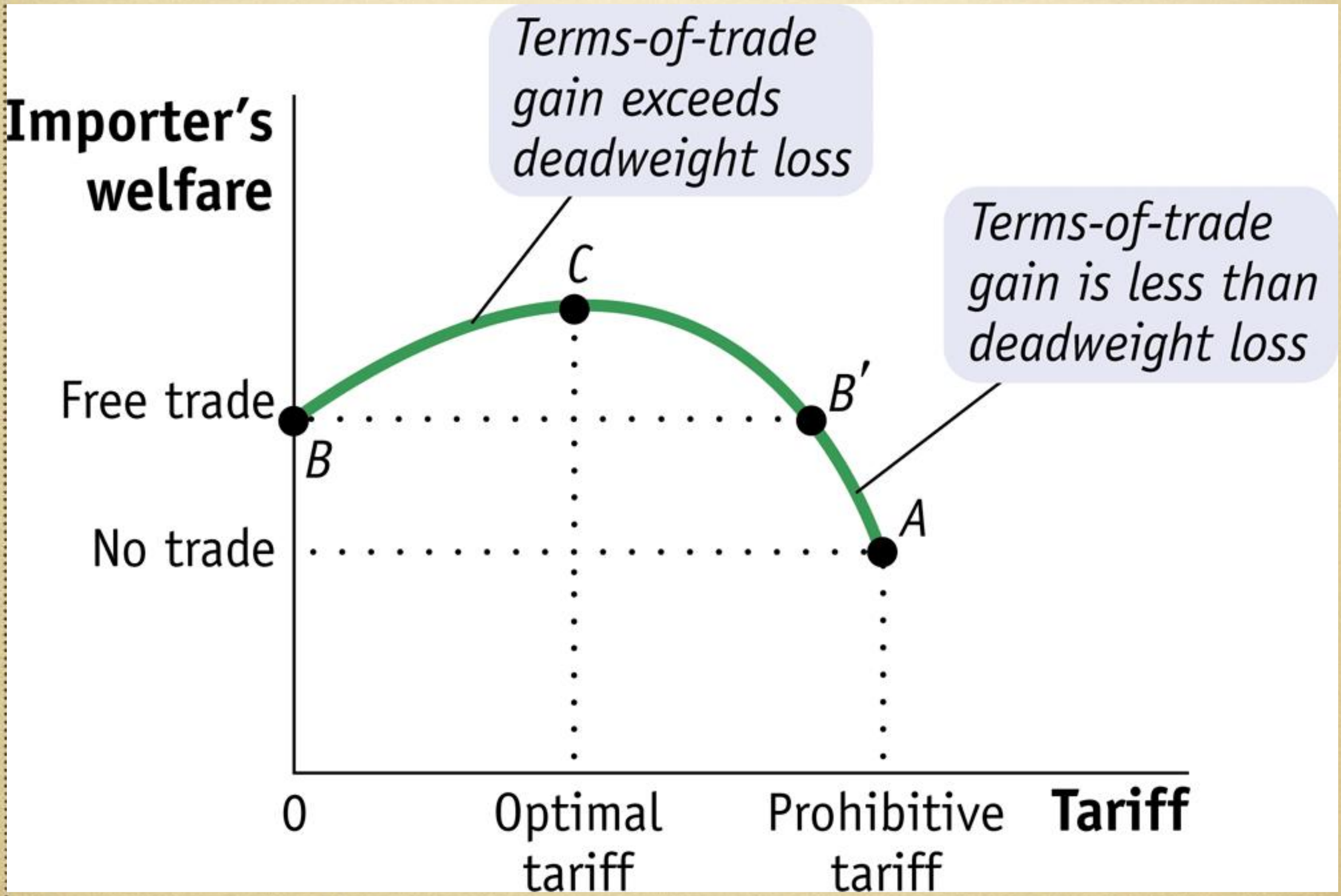
a
b
c
d
e
S_1
S_2
D_2
D_1
Quantity
$X^* + t$
X^*
b + d
C
B^*
f
e
C^*
M
M_2
M_1
Imports

Optimal Tariff

- Small tariff: e>b+d and a large country gains
- Very large tariff: with a prohibitive tariff there are no imports and welfare is at autarky level


Terms-of-trade gain exceeds deadweight loss
Terms-of-trade gain is less than deadweight loss
Importer's welfare
Free trade
No trade
C
B′
B
A
0
Optimal tariff
Prohibitive tariff
Tariff

Important question on country size

- The optimal tariff for a small country is ?

How large are the DWL?

- Application: US steel tariff
- During the 2000 presidential campaign, President George W. Bush promised to consider implementing a tariff on the imports of steel
- This was a political move to secure votes in large steel-producing (PA, OH, WV) states as the tariffs would "protect" the domestic producers of steel

- However, President Bush was not free to put any tariff
- He had to follow some rules
- Countries can temporary increase tariffs to safeguard an industry against import competition
- President Bush requested that the U.S. International Trade Commission (ITC) initiate a Section 201 (safeguards) investigation into the steel industry
- The ITC determined that the conditions were met and recommended that tariffs be put in place to protect the U.S. steel industry

- President Bush took the recommendation of the ITC but applied even higher tariffs, ranging from 8% to 30%

- Knowing the U.S. trading partners would be upset by this, President Bush exempted some countries from the tariffs.

  - These included Canada, Mexico, Jordan, and Israel, which all have free trade agreements with the U.S. and 100 small developing countries that were exporting only a very small amount of steel to the U.S.

Product Category	U.S. ITC Recommendation (First Year, %)	Actual U.S. Tariff (First Year, %)
Carbon and Alloy Flat Products		
Slab	20	30
Flat products	20	30
Tin mill products	U*	30
Carbon and Alloy Long Products		
Hot-rolled bar	20	30
Cold-finished bar	20	30
Rebar	10	15
Carbon and Alloy Tubular Products		
Tubular products	?**	15
Alloy fittings and flanges	13	13
Stainless and Tool Steel Products		
Stainless steel bar	15	15
Stainless steel rod	?**	15
Stainless steel wire	U*	8

- Assume for simplicity that US is a small country
  - Which is not true! ☺
- Deadweight loss then equal, DWL = ½ t ΔM
- It is convenient to measure the deadweight loss relative to the value of imports, which is P^W*M

$$\frac{DWL}{P^W M} = \left(\frac{1}{2}\right)\frac{t\Delta M}{P^W M} = \frac{1}{2}\left(\frac{t}{P^W}\right)\%\Delta M$$

- The most commonly used products had a tariff of 30%
  - $t/P^W = 0.3$
- The quantity of imports also fell by 30%
  - $\%\Delta M=0.3$

$$\frac{DWL}{P^W M} = \frac{1}{2}\left(\frac{t}{P^W}\right)\%\Delta M = \frac{1}{2}(0.3)(0.3) = 4.5\%$$

- The value of steel imports affected by the tariff was about $4.7 billion prior to March 2002 and $3.5 billion after March 2002
  - Average imports: $4.1 billion
- Applying the DWL of 4.5% to the value of $4.1 billion gives the dollar magnitude of deadweight loss equal to $185 million
- This deadweight loss reflects the net annual loss to the U.S. from applying the tariff

What happened next?

- The tariffs on steel most heavily affected Europe, Japan, and South Korea, along with some developing countries

- The countries in the European Union took action by bringing the case to the WTO
  - The WTO has a formal **dispute settlement procedure**

- The WTO ruled that the U.S. had failed to prove its steel industry had been harmed by imports
  - Imports of steel into the US had fallen from 1998-2001!
- The WTO ruling entitled the European Union and other countries to retaliate against the U.S. by imposing tariffs of their own against U.S. exports
- The EU quickly began to draw up a list of products and naturally picked products that would have the greatest impact on the U.S.

- Orange juice (Florida)
- Apples (Michigan and Wisconsin)
- Other farm products (California)
- Industrial farm equipment (Illinois)
- Toilet paper! (Midwest)

- The threat of tariffs led President Bush to reconsider the U.S. tariffs on steel, and on December 5, 2003, he announced that they would be suspended

- to avoid a **tariff war** !

American trade policy cont'd

- "The President decided to remedy the clear disruption to the U.S. tire industry based on the facts and the law in this case"
- President Barack Obama's spokesman, Robert Gibbs, announcing new "safeguard" tariffs on tires imported from China, 11.09.2009

- A few differences with the steel tariffs:
- The tire tariff was applied to imports from a single country, China
- The tariff was lobbied by the labor union
- No U.S. Tire producers supported the request for the tariff
  - Seven out of 10 producers of tires in the US outsource production to China!

- There are also many similarities
- The tariff led to retaliation
- China responded with tariffs on chicken feet, auto part, nylon products, etc
- Then, US applied new tariffs on steel pipes
- China made a complaint to the WTO
- The tariff war