



Trade and Transition: International Trade

Comparative Advantage, Tariffs, and the Terms of Trade

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Comparative Advantage

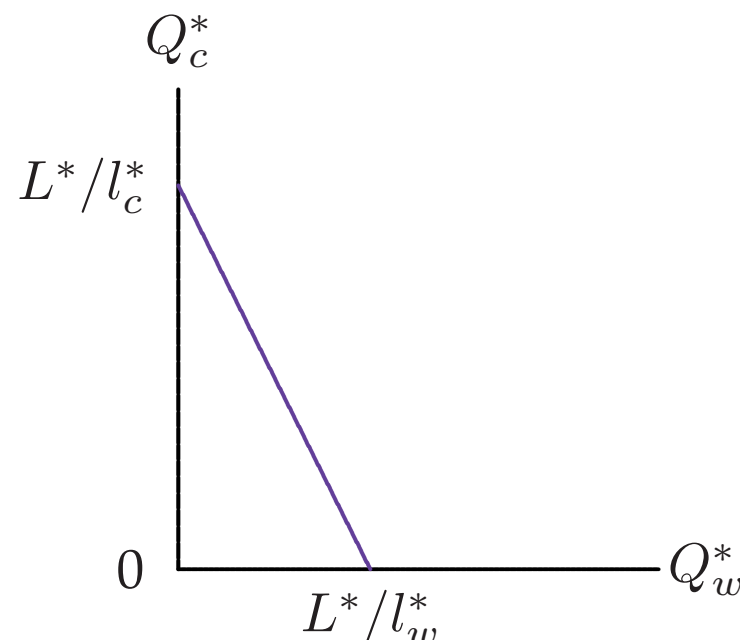
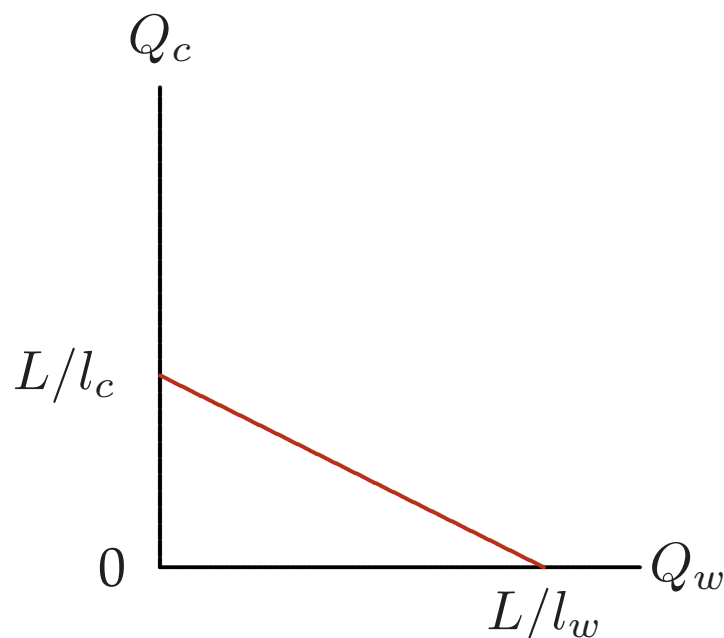
- Two countries: Home (H) & Foreign (F). Two goods: wine (Q_w) & cheese (Q_c).
- One factor of production, labour, available in amounts L and L^* respectively.
 - Both countries have 100 units of labour. Unit labour costs are given in the table below.
 - Home can produce both goods cheaper — it has an *absolute advantage* in both.

	Wine	Cheese
Home	10	20
Foreign	50	25

- Before trade Home produced $Q_c = 3$ and $Q_w = 4$. Foreign produced $Q_w^* = 1$ and $Q_c^* = 2$.
 - Trade can make both countries better off. Consider $Q_c = 1$, $Q_w = 8$ and $Q_c^* = 4$, $Q_w^* = 0$.
 - If Home exports 3 units of wine and imports 2 units of cheese, both are *strictly* better off.
- This is possible because Home has a *comparative advantage* in wine, whilst Foreign has a *comparative advantage* in cheese.

The Ricardian Model I

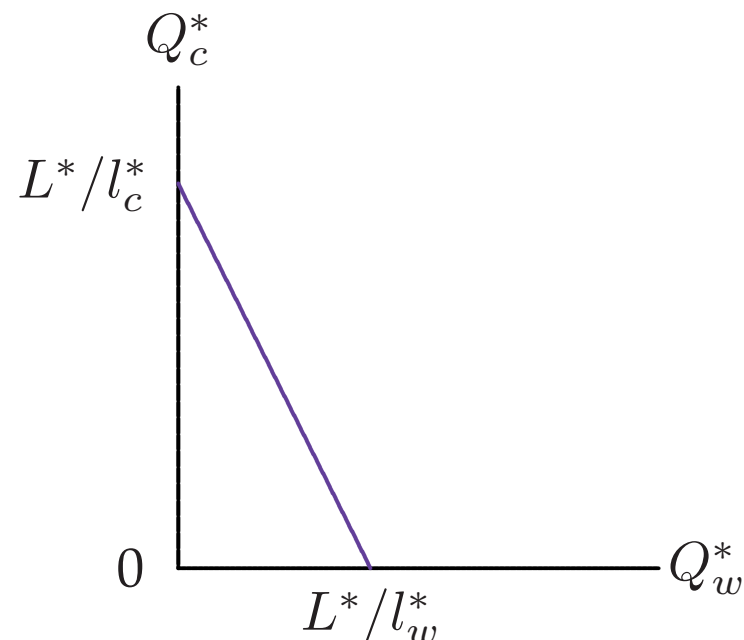
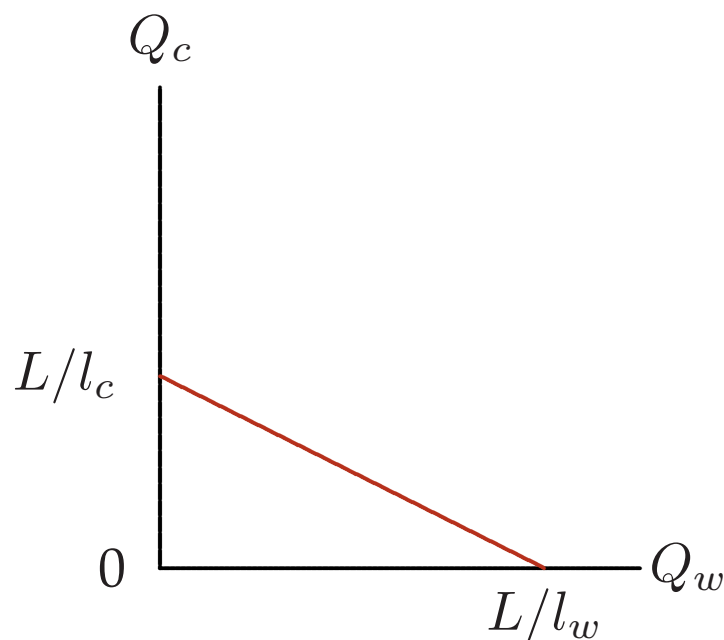
- Trade can make both better off. See this generally in the *Ricardian model*...
- One factor of production, two goods. Unit labour costs are l_w, l_c, l_w^* and l_c^* for H and F , in wine and cheese, respectively. Hence production possibilities are:



$$\text{or } l_w Q_w + l_c Q_c \leq L \quad \text{and} \quad l_w^* Q_w^* + l_c^* Q_c^* \leq L^*$$

The Ricardian Model II

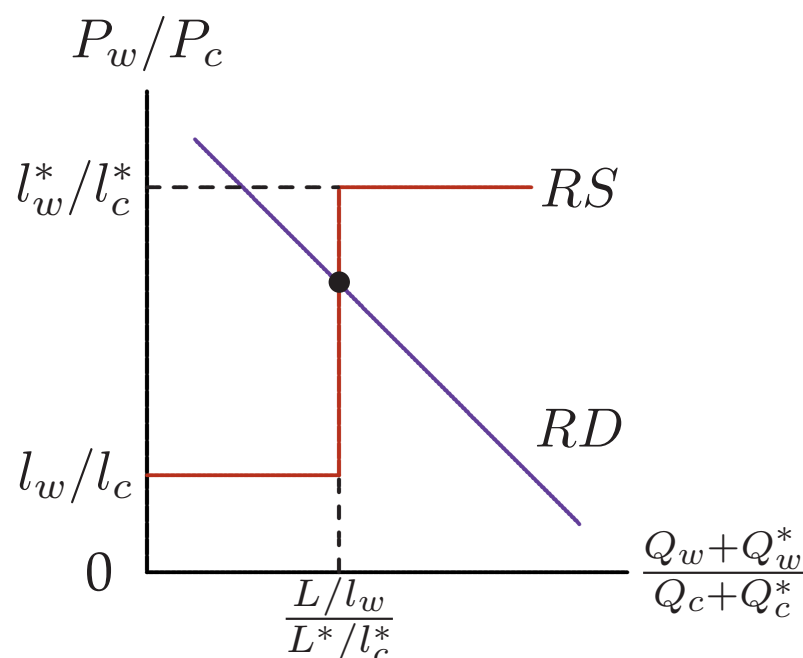
- Slopes are l_w/l_c and l_w^*/l_c^* : cost of wine in terms of cheese. H has an absolute advantage in wine if $l_w < l_w^*$ and a comparative advantage if $l_w/l_c < l_w^*/l_c^*$.



- So: every country can produce a good in which it has a comparative advantage.

Prices and Trade

- How are world prices set? Plot *relative* prices against relative world production.
- Relative world demand (RD) is downward sloping. Relative world supply (RS) is a *step function*. Intersection of the curves gives world equilibrium price ratio.

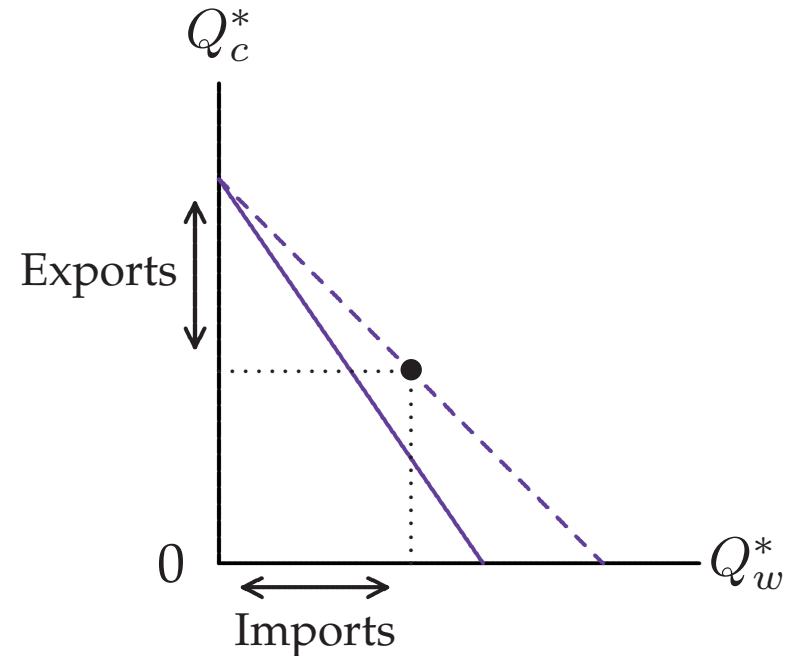
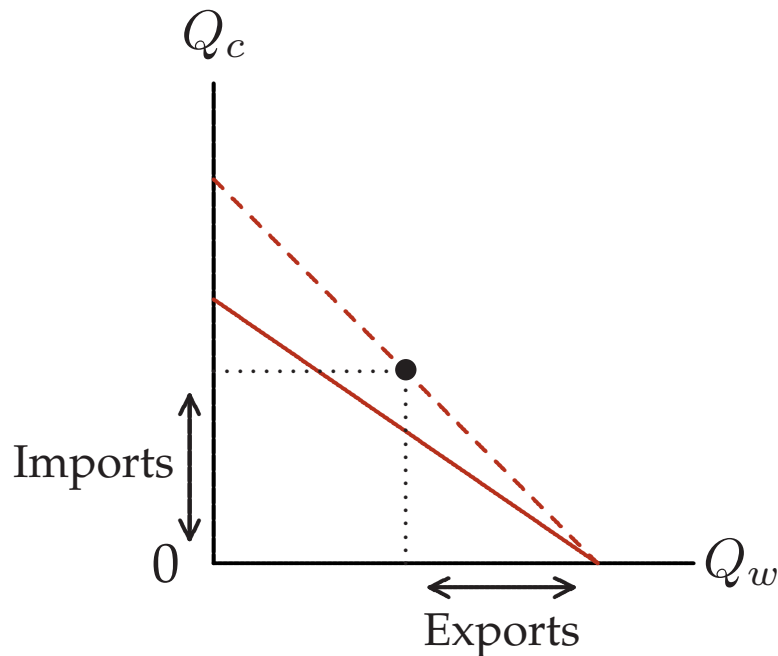


- Consider RS . If relative price is below l_w/l_c both countries produce cheese.
- If relative price is above l_w^*/l_c^* both countries produce wine.
- If relative prices are in between countries *specialise* in their comparative advantage.

- Example on first slide: only abroad specialised \Leftarrow a different demand curve.

The Gains from Trade

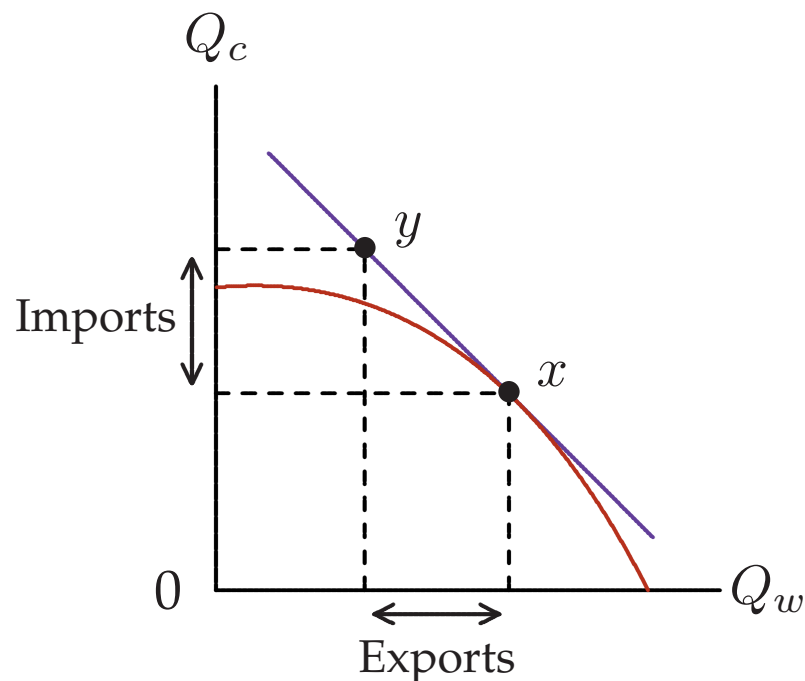
- Both countries can gain from trade. In the case when both countries specialise...
- Trade expands the consumption possibilities of both countries beyond their production frontier. The dashed line shows the world price ratio with trade.



- Exports, imports illustrated. One country's exports equal the other's imports.

The Heckscher-Ohlin Model

- Two factors of production, labour and capital. Wine is *labour intensive* — it uses relatively more labour to capital than cheese production.
- Home has more labour (hence a comparative advantage in wine production).

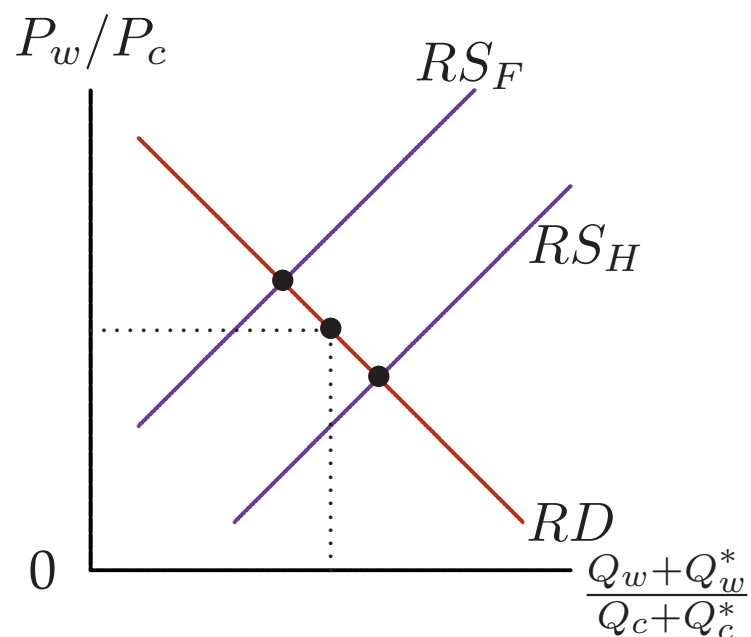


- Two factors of production implies a concave production possibility frontier.
- The straight line is the world price ratio.
- Home produces at x but consumes at y .
- Notice that specialisation is not complete.
- Home is better off and still exports wine.

- *Tendency to export goods whose production is intensive in abundant factors.*

Trade and Goods Prices

- Home relatively good at producing wine. For a given price it produces more. Foreign relatively good at producing cheese. Thus relative supply curves are:

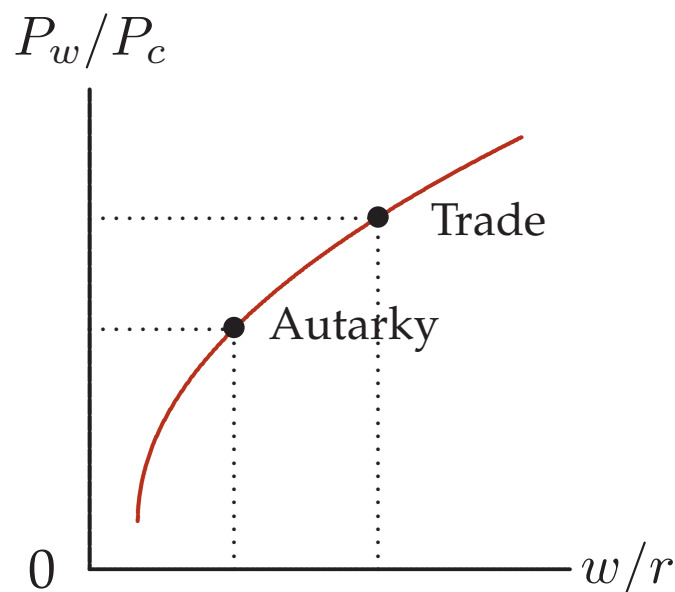


- Both countries now produce both goods.
- There is no complete specialisation.
- Foreign is relatively bad at producing wine.
- World price will be between RS_F and RS_H .

- Home's perspective: relative supply of wine falls under trade and prices rise.
Foreign's perspective: relative supply of wine rises under trade and prices fall.

Trade and Factor Prices

- How does international trade affect the income distribution? Home is labour abundant and thus good at producing wine. Relative prices rise after trade.

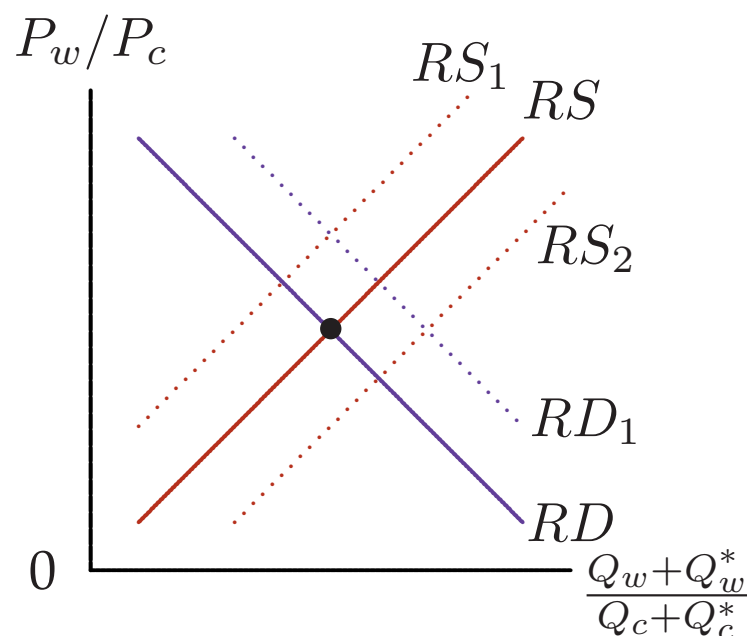


- There is a relationship between goods prices and factor prices.
- Competition ensures goods prices are equal to marginal cost.
- In turn, costs depend on factor prices.
- Higher factor prices push up goods prices which involve that factor.

- Trade meant a rise in P_w/P_c for Home. Hence there is an associated rise in w/r .
- Owners of the *abundant* factor gain from trade; owners of *scarce* factor lose.

The Terms of Trade

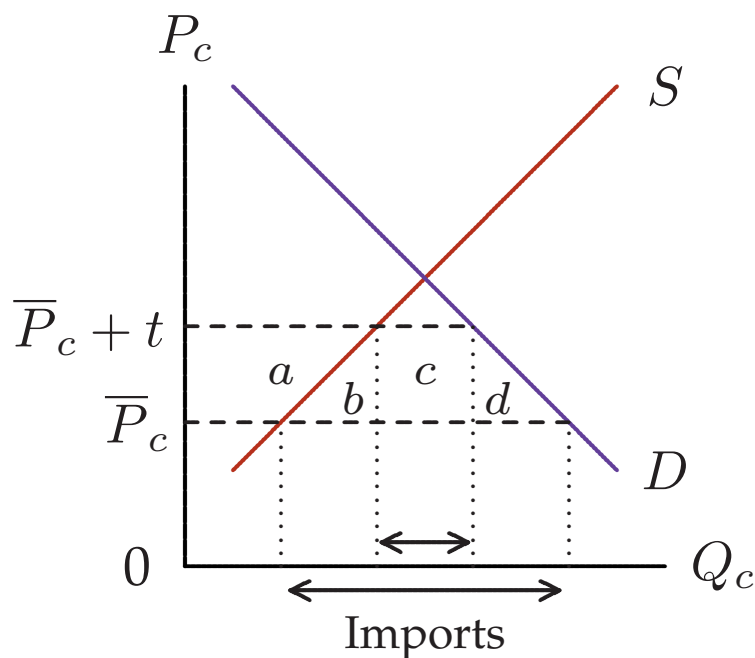
- Price of export good divided by price of import good is the *terms of trade*.
- For Home this is P_w/P_c since they export wine. The terms of trade are determined by relative world supply and demand. Suppose initially, supply is given by RS and demand by RD . Which factors affect the terms of trade?



- Economic growth (increase in productivity) will shift relative supply curve.
- **Import biased growth:** Relative supply moves to RS_1 . Terms of trade “improve”.
- **Export biased growth:** Relative supply moves to RS_2 . Terms of trade “worsen”.
- Better products result in higher relative demand (RD_1): improves the terms of trade.

Tariffs in a Small Country

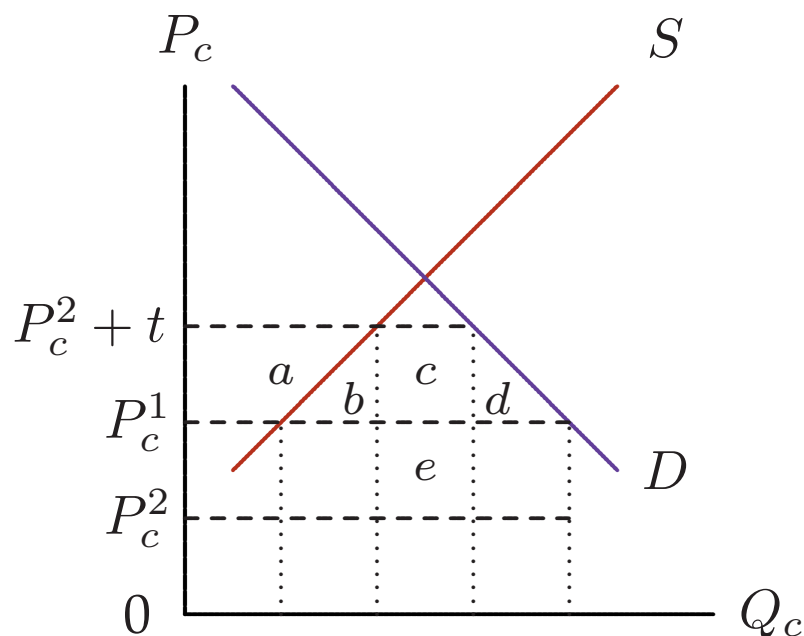
- Suppose Home's demand and supply for cheese are given by D and S respectively. The world price is \bar{P}_c . The government imposes a tariff t .
- Price now paid by the country is $\bar{P}_c + t$. More supplied at Home. Less imported.



- The consumer loses area $a + b + c + d$ since they purchase less and pay more.
- The producer gains area a since they produce more at a higher price.
- The government raises revenue of area c (imports times tariff).
- So the total loss to the country is $b + d$.

Tariffs in a Large Country

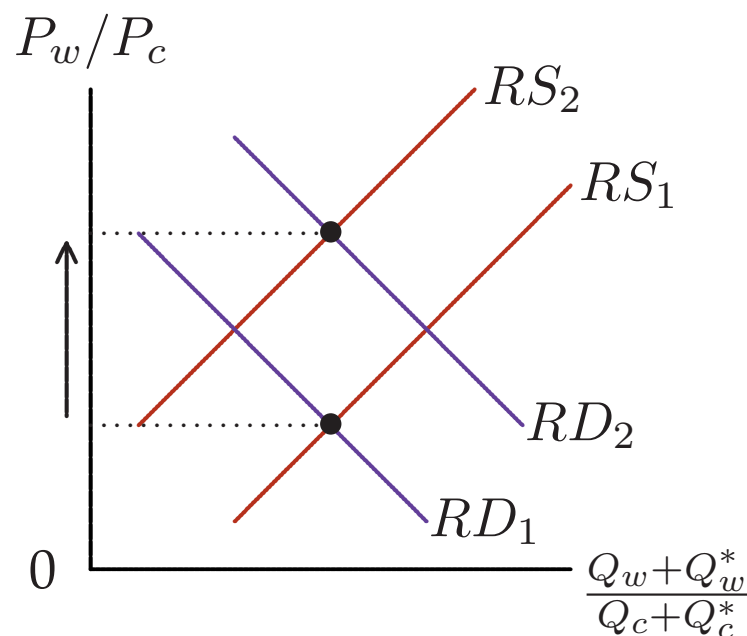
- In a large country world price is affected by the tariff. A tariff will lower the world supply price and raise the world demand price (like a tax).
- The supply price is initially P_c^1 . It falls to P_c^2 after the introduction of a tariff which means Home now faces a price of $P_c^2 + t$. How is welfare affected?



- The consumers lose $a + b + c + d$.
- The producers gain a .
- The government raises a revenue of $c + e$.
- Total loss is therefore $b + d - e$.
- This could be negative — a benefit!

Tariffs and the Terms of Trade

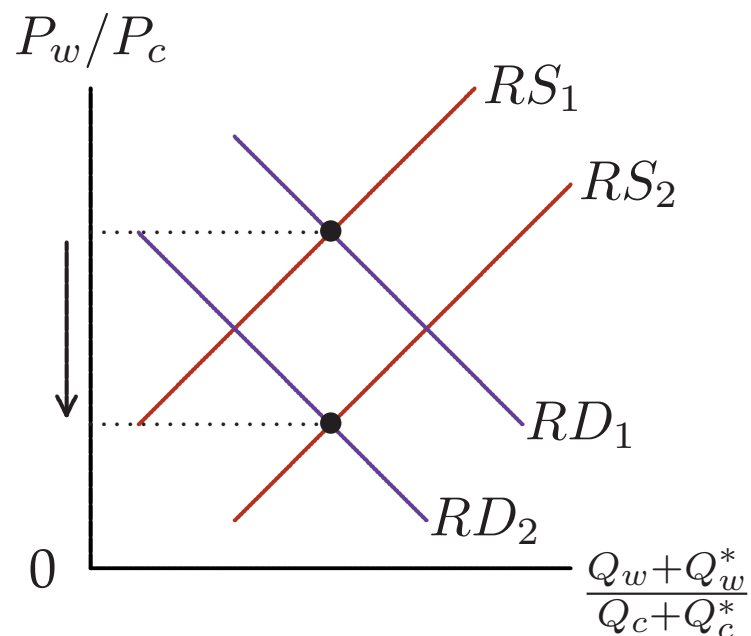
- How do tariffs affect terms of trade? Consider a tariff on the import (cheese).
- Lower relative price of wine *at Home* results in more demand for wine.
- Lower relative price of wine results in Home producing less wine (producers substitute into cheese: now more profitable). Only *Home's* prices have changed.



- The first effect implies RD_1 moves to RD_2 .
- The second effect moves RS_1 to RS_2 .
- The terms of trade improve given a tariff.
- Hence a tariff *can* be beneficial to Home.
- But a tariff at Home always damages Foreign by worsening their terms of trade!

Export Subsidies

- How does an export subsidy affect the terms of trade? Can it ever benefit Home?



- Subsidies raise supply of export at Home.
- Relative supply rises from RS_1 to RS_2 .
- They lower Home's demand for export.
- Relative demand falls from RD_1 to RD_2 .
- Terms of trade fall: Home is worse off.

- Home is also worse off due to the distortionary effect of the subsidy.
- Export subsidies always reduce welfare at Home. Meanwhile, they benefit Foreign by improving their terms of trade. Not a sensible policy.

Syndicate Tasks

1. Why do countries trade?
2. What implications does trade have for capital & labour returns across countries?
3. Does anybody benefit from a tariff on imports?
4. What would happen to output levels in different industries within a country when there is a relative increase in the supply of skilled labour?
5. Export-led growth in Europe during the 1950s and 1960s did not lead to a worsening in the terms of trade. Why might this have been?
6. Suppose the EU subsidises Airbus. Should the US subsidise Boeing?