Types of Trade Protection

RIDLEY COLLEGE
SINCE 1889

Assessment Objectives

Specific Expectations	
AO4	For tariffs, quotas, subsidies, and export subsidies - Explain the effects on markets and stakeholders - Draw diagrams illustrating effects on price, production - Illustrate effects on consumption, revenues and welfare - Calculate, from diagrams, effects on stakeholders
AO2	Explain administrative barriers
AO3	Discuss the advantages and disadvantages of tariffs, quotas, subsidies, export subsidies, and administrative barriers

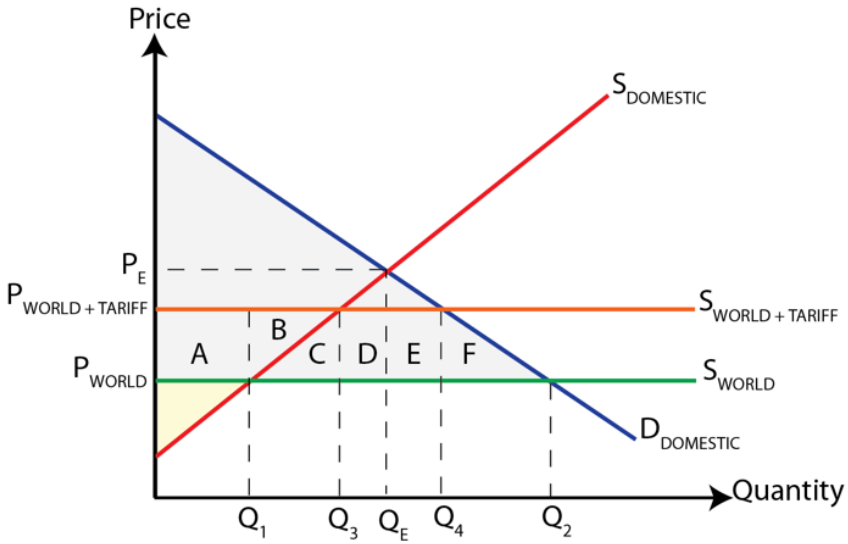
Trade protection

- **Trade protection** is government intervention in international trade through the imposition of trade restrictions (or barriers) to prevent the free entry of imports into a country and protect the domestic economy from foreign competition.
  - In contrast, **free-trade** is a situation where there are no barriers to trade.
  - There are five main types of protectionism:
    - Tariffs
    - Quotas
    - Subsidies
    - Export subsidies
    - Voluntary export restraints (VERs)

Tariffs

- **Tariffs** are taxes on imported goods; they are the most common form of trade restriction.
  - Taxes are viewed as an added cost of production by firms.
  - A tax on imported goods shifts the supply curve S_{World} upwards, reflecting higher costs imposed by the tax.
  - At the new price $P_{World + Tariff}$, domestic quantity supplied increases from Q_1 to Q_3, domestic quantity demanded falls to Q_4 and the quantity of imports falls to $Q_4 - Q_3$.
  - Tariffs may serve two purpose:
    - Protect domestic industry from foreign competition (**protective tariff**)
    - Raise revenue for the government (**revenue tariff**)

Tariffs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P E
P WORLD + TARIFF
S WORLD + TARIFF
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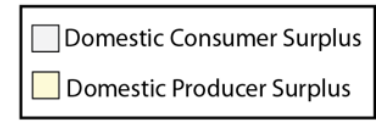
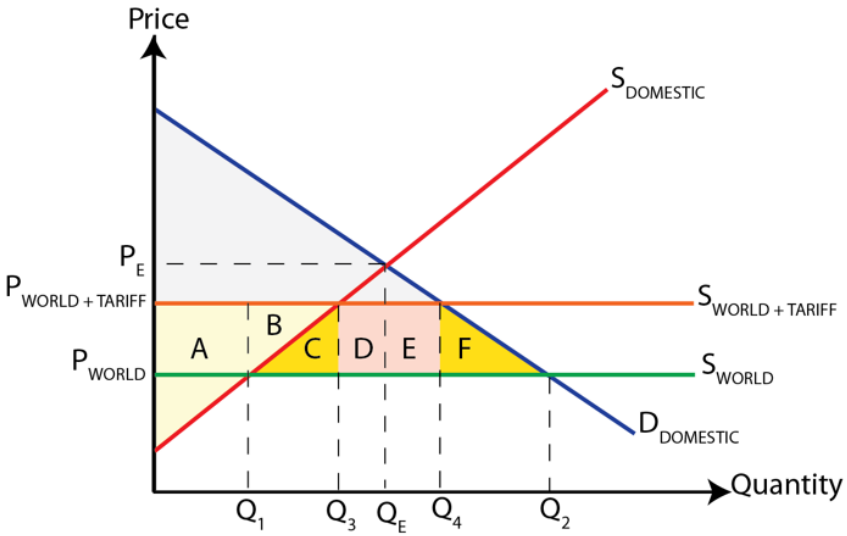
Quantity
Q 1
Q 3
Q E
Q 4
Q 2


Domestic Consumer Surplus
Domestic Producer Surplus


Price
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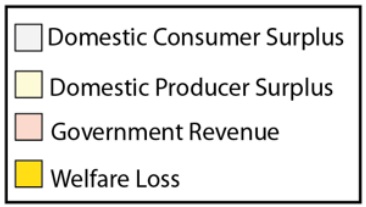

Domestic Consumer Surplus
Domestic Producer Surplus
Government Revenue
Welfare Loss

Tariffs – Beneficiaries

1. **Domestic producers are better off**
   - Domestic producers who receive the protection gain from the tariff, because they receive a higher price, $P_{World + Tariff}$, and they sell a larger quantity, Q_3 (rather than Q_1).
2. **Domestic employment in the protected industry increases**
   - Since domestic producers sell a larger quantity, this has the effect of increasing employment in the protected industry.
3. **Government gains tariff revenues**
   - The amount of revenue the government receives from the tariff is shown by $D + E$, determined by multiplying the amount of the tariff (per unit of the good) times the quantity of imports.
   - Since the tariff is paid by consumers (who pay the price $P_{World + Tariff}$), the government's tariff revenue represents income that is transferred from consumers to the government.

Tariffs – Losers

1. **Domestic consumers are worse off**
   - Consumers lose from the tariff, because they must pay a higher price, $P_{World + Tariff}$; and they can only buy a smaller quantity, Q_4 (rather than Q_2).
2. **Domestic income distribution worsens**
   - There is a negative impact on income distribution, because the tariff is a type of regressive tax.
   - Tariff burden people on lower incomes proportionately more than people on higher incomes; as income increases, the proportion of income paid as tax falls.
3. **Increased inefficiency in production**
   - The increase in domestic output represents an increase in production by relatively inefficient domestic producers, resulting in waste of scarce resources (inefficiency).

Tariffs – Losers

4. **Foreign producers are worse off**

   - The producers of the exporting countries are worse off, because whereas they receive the world price, P_{World}, for their exports, they export a smaller quantity, since the quantity of imports in the importing country is reduced.
   - The exporting countries therefore lose export revenues due to the fall in the quantity of exports.

5. **Global misallocation of resource results**

   - The decrease in consumption, and shift of production away from more efficient foreign firm producers and towards more inefficient domestic producers, indicate that there is an increase in the misallocation of resources both domestically and globally.
   - The welfare loss is C + F. It results from the misallocation of resources caused by increased production by inefficient producers (Area C) and decreased consumption of consumers (Area F).

Effectiveness of Tariffs

- A tariff, which raises the price of a good, will be most effective the more price elastic in demand the good is.
  - If the price increases by a certain percentage, the quantity demanded falls by a more than proportionate percentage.
- In developing countries, tariffs are often used as a source of government revenue.
  - In this situation, the more price inelastic in demand the product is, the higher the revenue collected.
  - If the price increases by a certain percentage, the quantity demanded falls by a less than proportionate percentage.

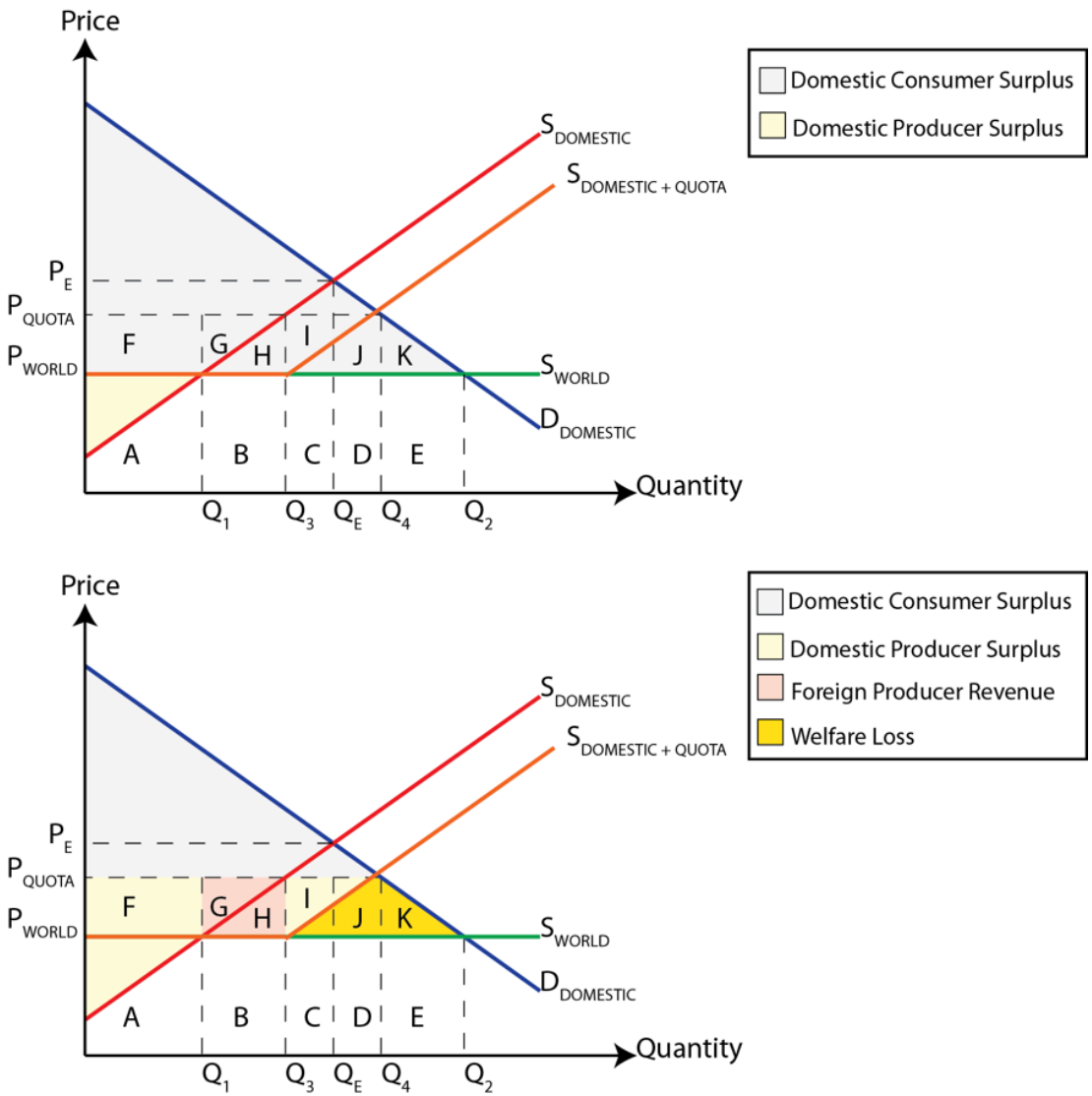
Import Quotas

- **Import Quota (Quota)** a type of trade protection that involves setting a legal limit to the quantity of a good that can be imported over a particular time period (typically a year).
  - The effects of quotas are similar to the effects of tariffs, expect that they usually do not create revenue for the government.
  - When the government sets a quota, it issues a limited number of import licenses determining the legal limit on the quantity of imports.
    - The holders of these licenses are the only individuals with the legal right to import.
    - Usually, the government gives the licenses to governments of exporting countries, which then distribute them to their own producers or exporters.
    - As result, the exporters (or producers) of exporting countries receive the quota revenues.

Import Quotas

- Suppose that the quota on foreign producers limits imports to $Q_3 - Q_1$.
  - So at P_{World}, the domestic market still supplies only Q_1 and $Q_3 - Q_1$ is imported.
  - From this point onwards, there is a gap between the amount demanded Q_2 and the amount supplied, which has stopped at Q_3.
  - This shortage will cause producers, including foreign ones, to start raising prices.
  - Producers begin to supply more to the market at the higher pries, and consumers reduce their quantity demanded along the demand curve. This continues until the market clears at P_{Quota} and Q_4.
  - Therefore, the market settles at a price below the domestic equilibrium P_E, but above the free trade price P_{World}.

Import Quotas



Import Quotas – Beneficiaries

- With the new supply curve, $S_{Domestic+Quota}$, domestic production increases by $Q_4 - Q_3$, domestic quantity demanded falls to Q_4, and the quantity of imports falls to $Q_3 - Q_1$.

1. **Domestic producers are better off**
   - Domestic producers who receive protection gain from the quota, as they receive a higher price, P_{Quota}, and they sell a larger quantity $Q_1 + Q_4 - Q_3$, rather than Q_1.
2. **Domestic employment increases**
   - Domestic employment in the protected industry increases since producers increase the quantity of output they produce.
3. **Government neither gains nor loses**
   - Since the government usually gives the import licenses to foreign governments, the government budget is not affected.

Import Quotas – Losers

1. **Domestic consumers are worse off**
   - Consumers lose from he quota, because they must pay a higher price, P_{Quota}, and they can only buy a smaller quantity, Q_4 (rather than Q_2).
2. **Domestic income distribution worsens**
   - Quotas result in a higher price, and the difference $P_{Quota} - P_{World}$, or the increase in price, has the same effect as the tariff in that it is regressive.
   - Quotas have the effect of worsening the distribution of income.
3. **Increase inefficiency in production**
   - There results an increase in production by relatively inefficient domestic producers.
4. **Exporting countries may be worse off or better off**
   - The producers of the exporting countries export a smaller quantity, resulting in a loss of export revenues.

Import Quotas – Losers

- The producers of the exporting countries export a smaller quantity, resulting in a loss of export revenues.
- Since the exporting countries receive import licenses, they gain the quota revenues.
- Therefore, whether they will be worse off or better off depends on which is larger; the loss of export revenues or the gain from of quota revenues.

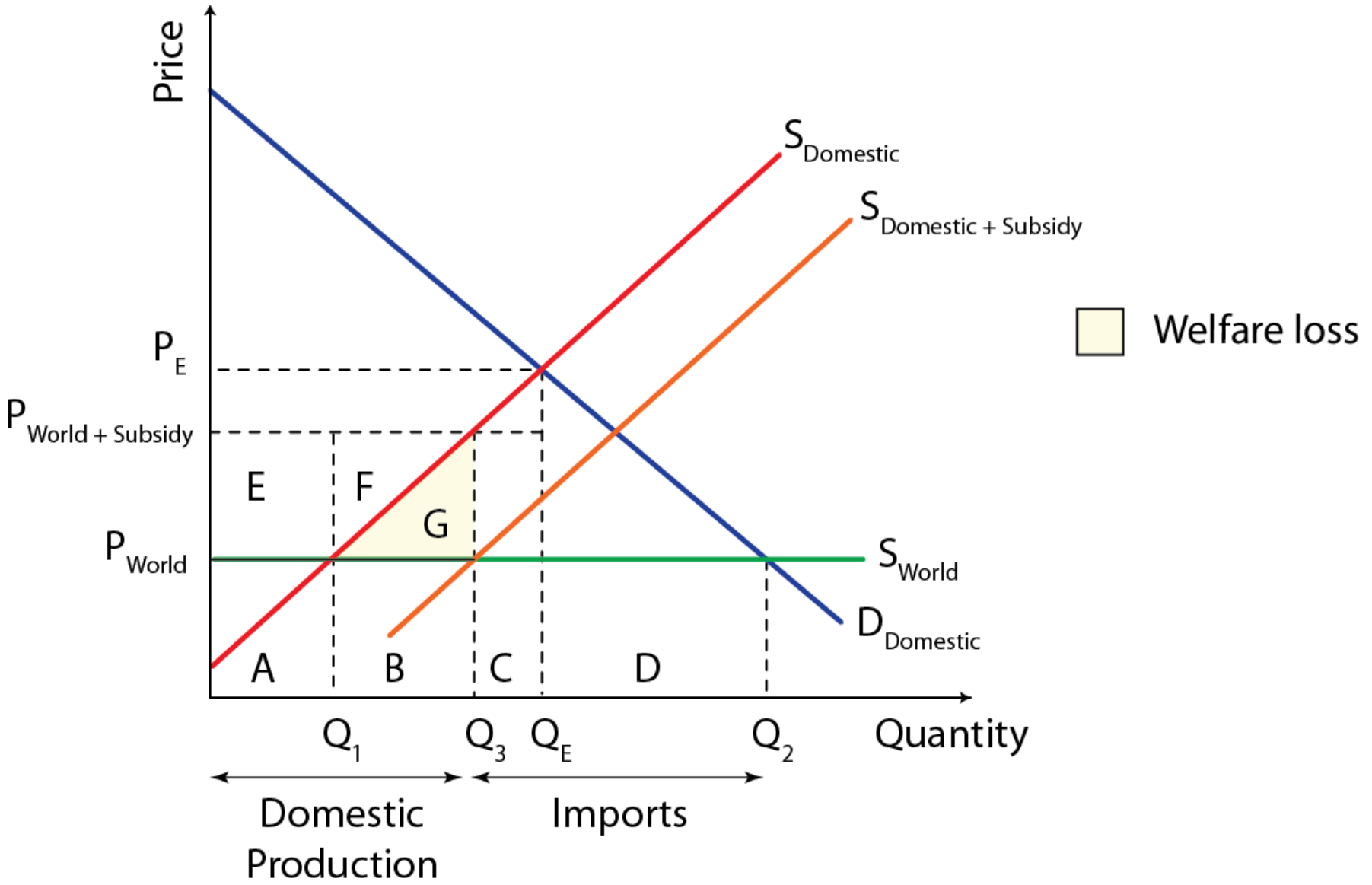
5. **Global misallocation of resources**

- The decrease in consumption, and the shift of production away from more efficient foreign producers and towards more inefficient domestic producers indicates that there is an increase in the misallocation of resources globally, affecting both consumers and producers.
- The welfare loss due to the import quota is J + K. Depending on which stakeholder captures quota rents, this may also include G + H.
- Quotas result in a greater welfare losses for the domestic economy than tariffs.

Production Subsidies

- **Production subsidies** an amount of money paid by the government to the firm as a form of protection against imports due to the lower costs and lower prices that arise from the subsidy.
  - **Production subsidy** is intended to protect domestic firms that compete with imports.
  - **Export subsidy** is a subsidy intended t protect domestic firms that export
  - The subsidy causes the domestic supply curve to shift downward by the amount of the per unit subsidy to $S_{Domestic+Subsidy}$.
  - The good continues to sell domestically at the world price, P_{World}, though the price received by producers is now $P_{World+Subsidy}$.
  - Domestic firms supply the larger quantity Q_3, determined by the intersection of the after-subsidy supply curve with the world price line. As a result the quantity of imports fall from $Q_2 - Q_1$ to $Q_2 - Q_3$.

Production Subsidies



Production Subsidies – Beneficiaries

1. **Domestic producers are better off**
   - As a result of the subsidy, domestic producers in the protected industry receive the price $P_{World+Subsidy}$, which is P_{World} plus the subsidy per unit.
   - Domestic production expands from Q_1 to Q_3.
2. **Domestic employment increases**
   - The increase in domestic production from Q_1 to Q_3 causes domestic employment in the protected industry to increases.
3. **Consumers are not affected**
   - Consumption of the good before and after the subsidy is at Q_2 units of output, and the price stays the same, P_{World}
   - Following the imposition of the subsidy, consumers buy more of the domestic good whose production has increases, and less of the imported good.

Production Subsides – Losers

1. **Government budget**
   - The government budget is negatively affected as the government must spend tax revenues on the subsidy equal to,
     $\Delta G = \text{Subsidy} \times Q_3 = E + F + G$
2. **Taxpayers are worse off**
   - Taxpayers lose as a portion or their tax revenues is spend on production subsidies that have the effect of increasing production of inefficient producers.
   - The amount lost is what is spent on the subsidy out of the government budget.
   - These funds could have been spent elsewhere with benefits for taxpayers.
3. **Increased inefficiency in production**
   - Production of domestic inefficient producers increases, while the production of more efficient foreign producers falls.

Production Subsides – Losers

4. **Exporting countries are worse-off**

   - Foreign producers exporting the good are worse off because they can export less of the good, and export revenue of these countries fall.

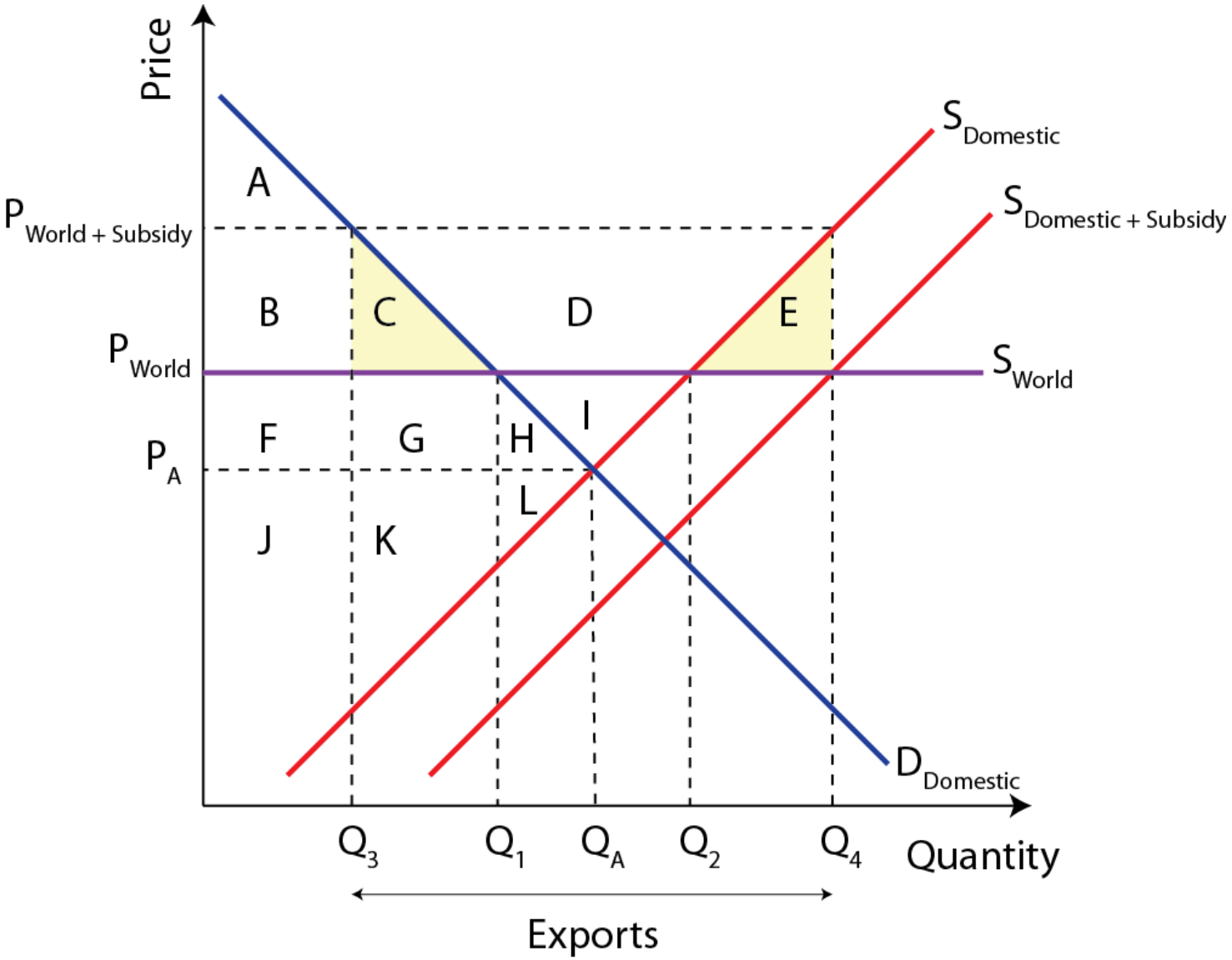
5. **Global misallocation of resources**

   - The shift of production from efficient to inefficient producers involves an increase in the global misallocation of resources, negatively affecting economies.
   - The welfare loss to society is $\Delta \text{DWL} = -\text{G}$.
   - From an efficiency point of view the effect of production subsidies may not be as harmful as those of tariffs and quotas.
   - They encourage inefficient production, but they do not have negative effects on consumption which remains the same before and after the subsidy.

Export Subsidies

- **Export subsidy** a payment made by the government to a producer or exporter per unit of the subsidized good, where a subsidy is paid for each unit of the good that is exported.
  - The government decides to grant an export subsidy per unit of the good exported in order to increase the quantity of exports.
  - The supply curve moves downward by the amount of the subsidy per unit from $S_{Domestic}$ to $S_{Domestic+Subsidy}$.
  - At the higher price $P_{World+Subsidy}$, producers increase the quantity they supply to Q_4, while consumers decrease the quantity they demanded to Q_3.
  - The quantity $Q_4 - Q_3$ represents exports.
  - The price paid by foreigners remains at the world price, P_{World}.The higher domestic price, $P_{World+Subsidy}$, applies only to domestic producers and consumers.

Export Subsidies



Export Subsidy – Beneficiaries

1. **Producers are better off**
   - Producers receive a higher price, $P_{World+Subsidy}$, and sell a larger quantity, Q_4 rather than Q_2, since the volume of exports increases from $Q_2 - Q_1$ to $Q_4 - Q_3$.
2. **Domestic employment increases**
   - The increase in domestic production causes domestic employment to increase.

Export Subsidies – Losers

1. **Consumers are worse off**
   - Consumers must pay a higher price for the good, $P_{World+Subsidy}$, and they consume a smaller quantity, Q_3 rather than Q_1.
2. **Negative effect on the government budget**
   - The government must pay for the subsidy an amount which is equal to the subsidy per unit times the quantity of exports.
3. **Taxpayers are worse off**
   - Taxpayers must pay indirectly for the subsidy, as the subsidy is financed out of tax revenues; moreover they lose by not having the subsidy funds available for alternative uses (such as merit goods).
4. **Increased inefficiency in production**
   - Inefficient domestic producers are protected by the higher price.

Export Subsidies – Losers

5. **Domestic income distribution worsens**
   - While there is no regressive tax, consumers do have to pay a higher price, and the increase in price represented by $P_{World+Subsidy} - P_{World}$, is regressive because it is a higher fraction of lower incomes.
6. **The exporting countries are worse off**
   - Foreign producers are worse off as they lose a share of their global market through the increase in subsidised exports, and their export revenues fall.
7. **Increase in the global misallocation of resources**
   - Consumers and producers around the world are negatively affected since the inefficiency of resource allocation around the world increases.
   - The welfare loss to society is equal to, $\Delta DWL = -C - E$.

Administrative Barriers

- **Administrative barriers** trade protection measures taking the form of administrative procedures that countries may us to prevent the free flow of imports into a country.
  - Often considered to be a kind of "hidden" trade protection.
  - **Bureaucratic barriers** – countries can impede the entry into their markets with waves of paperwork and legal requirements that raise the cost of importing.
  - **Product standards** – health, safety and environmental considerations can be used to exclude goods from the domestic market.
    - Imports may be required to meet specific technical standards, and importers may be required to test and prove the safety and quality of their products.
    - **Example;** UK, EU and Japan have restricted hormone-fed beef from the US on the grounds of health and safety concerns.

Administrative Barriers

- **Environmental standards** – A country may set certain environmental requirements on products in circumstances where there is depletion of common access resources or endangered species are involved.
- **Qualifications** – providers of domestic services such as teachers, physicians, lawyers and many others typically require specific qualification to work legally in any given country.
  - Such qualifications may prevent capable workers from relocating to other countries.
  - This keeps domestic prices (wages) high and protects domestic employment in these fields.
- **Exchange rates** – an exchange rate is basically the amount of one currency accepted for a unit of another.
  - Lower exchange rates make a countries exports less expensive and therefore, more attractive.

Administrative Barriers

- They also make imports less desirable, effectively protecting domestic markets at the same time.
- Countries can choose to intentionally manipulate their exchange rate to encourage exports.
- However, a country runs the risk of overpricing significant imported resources and therefore limiting aggregate supply, negating the boost that the lower exchange rate might provide.

- **Nationalistic campaigns** – an industry attempting to regain market share may also promote their product in patriotic terms.
  - In theory, this should boost domestic demand for locally produced goods.
  - These campaigns often claim product superiority and appeal to protect domestic employment.
  - **Example;** Buy USA campaign with slogan "Have you lost your job yet? Keep buying foreign."

Administrative Barriers

- **Local content requirement** – is a regulation that requires a specified fraction of a final good to be produced domestically.