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International Economics

V. Interventionism: The Instruments of Trade Policy

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1. Analysis of Tariffs
2. Nontariff Barriers to Imports
3. Pushing Exports
4. Arguments for and Against Protectionism
5. Summary

Pugel, *International Economics*, pp. 138-251



1. Analysis of Tariffs

Definition

- A tariff is a tax levied when a good is imported
- *Specific tariffs* are levied as a fixed charge of for each unit of goods imported (e.g., €5 per meter of cloth)
- *Ad valorem tariffs* are levied as a fraction of the value of the imported goods

Purpose

- To generate revenue for the government
- To protect particular domestic industries by limiting imports
- Tariffs have declined over time in importance. Today, protection is more important than revenue



Simple Average of MFN Import Tariffs 2007

Country	Total	Agricultural Products	Non-Agricultural Products
Australia	3.5	1.3	3.8
Brazil	12.2	10.3	12.5
Canada	10	15.8	9.1
Chile	6	6	6
China	10	15.8	9.1
European Communities	5.2	15	3.8
Hong Kong	0	0	0
Indonesia	14.5	34.4	11.5
Japan	5.1	21.8	2.6
Korea	12.2	49	6.6
United States	3.5	5.5	3.2

Source: WTO: World Tariff Profile 2008.



Reduction of Overall Trade

- Tariffs reduce imports into a country – but they also reduce its exports!
- To pay for a country's exports, the recipient countries will have to have exports of their own of an equal monetary value
 - Alternatively, a flow of capital can offset the reduction in exports

Example

- Country A and country B are trading with each other
- Each year, goods worth €1,000,000,000 flow from A to B , and a similar amount flow from B to A
- A now imposes a tariff that reduces the flow of imports by 10 percent
- This necessarily reduces the ability of country B to buy its exports

Recall: in the long run, commodities trade for commodities



Overall Consequences

- Both countries become poorer
 - The international division of labour is diminished
 - Capital is now invested in less valuable production processes
- Entrepreneurs can no longer take advantage of comparative advantages

Who Gains from Protectionism

- Capitalists in the protected industries gain
- Labourers with specific skills, owners of specific land factors gain
- But only at the expense of overall reduction in wealth



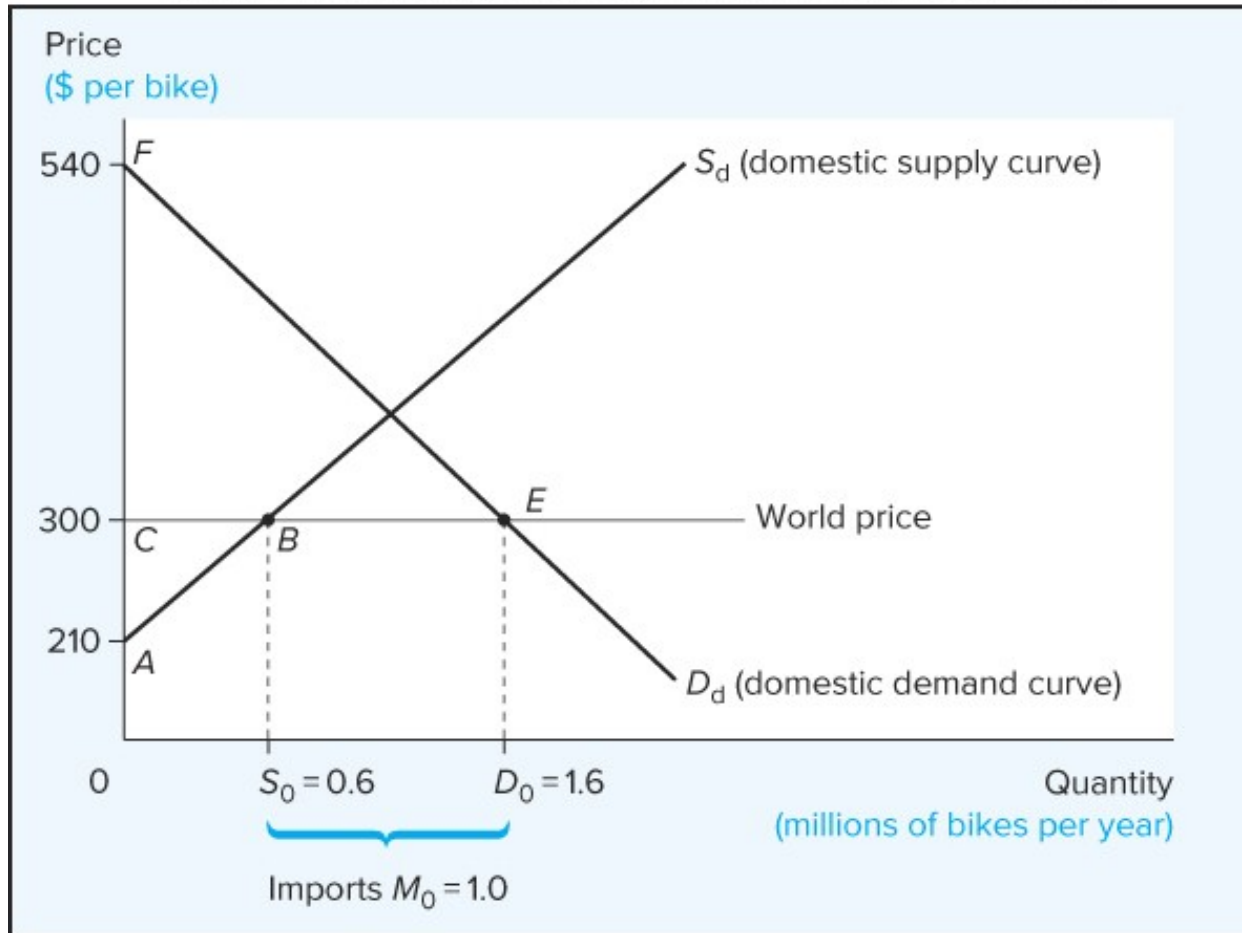
The Effect of a Tariff on Domestic Producers

- The domestic price is raised above the world market price
- Domestic producers expand production
 - They thereby bid away factors of production from other uses
- If the tariff is on an input for domestic producers of other goods:
 - Input prices for these goods now higher
 - Production of these goods reduced
- Capital will flow into the protected industry and out of other industries



The Market for Bicycles under Free Trade

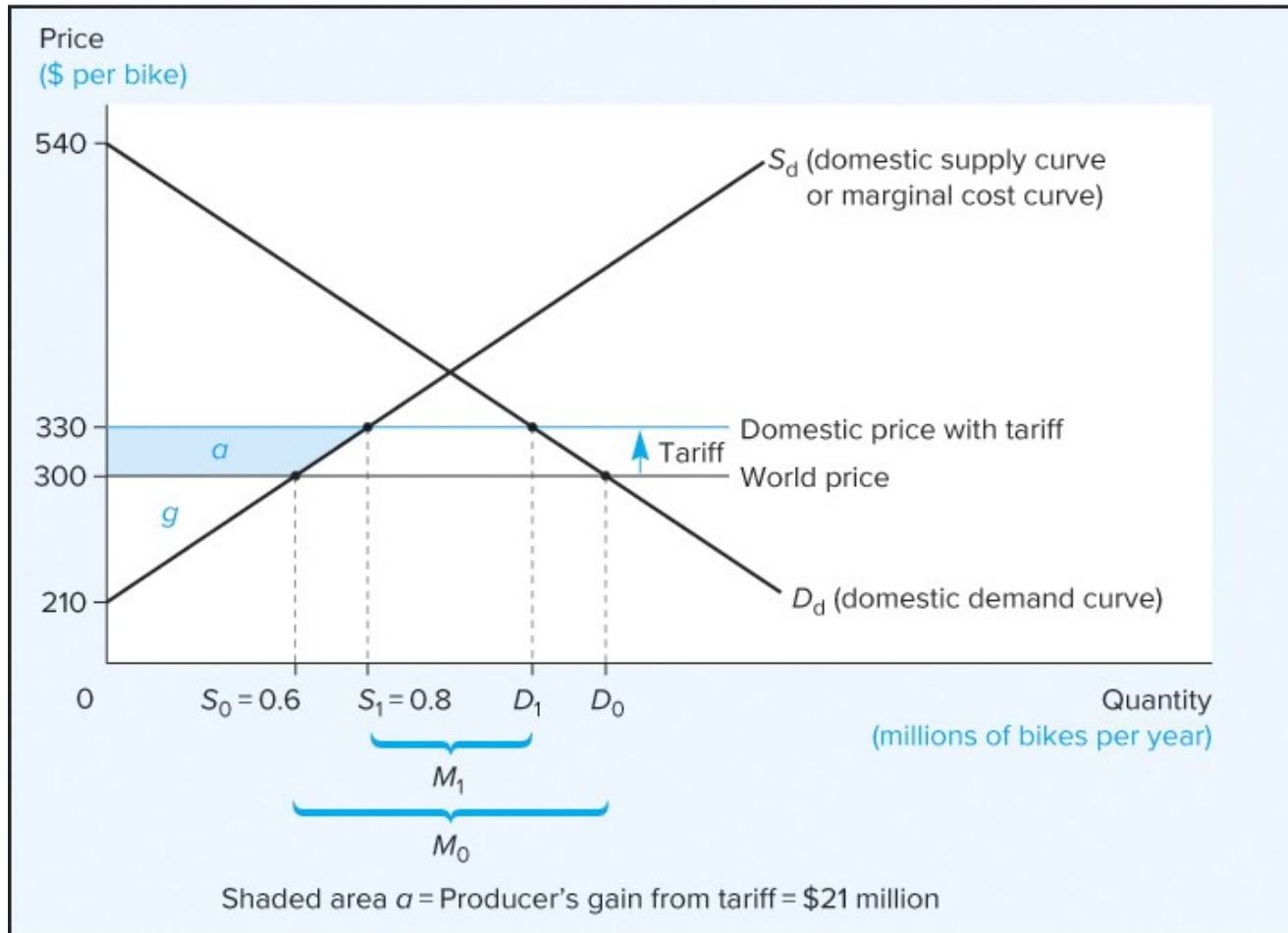
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The Effect of a Tariff on Domestic Producers

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Price of protected good rises

- Consumers restrict purchases at the higher price
 - If demand elastic, they will increase purchases of substitutes
 - If demand is inelastic, the consumers will reduce purchases of other goods and increase spending on the protected good

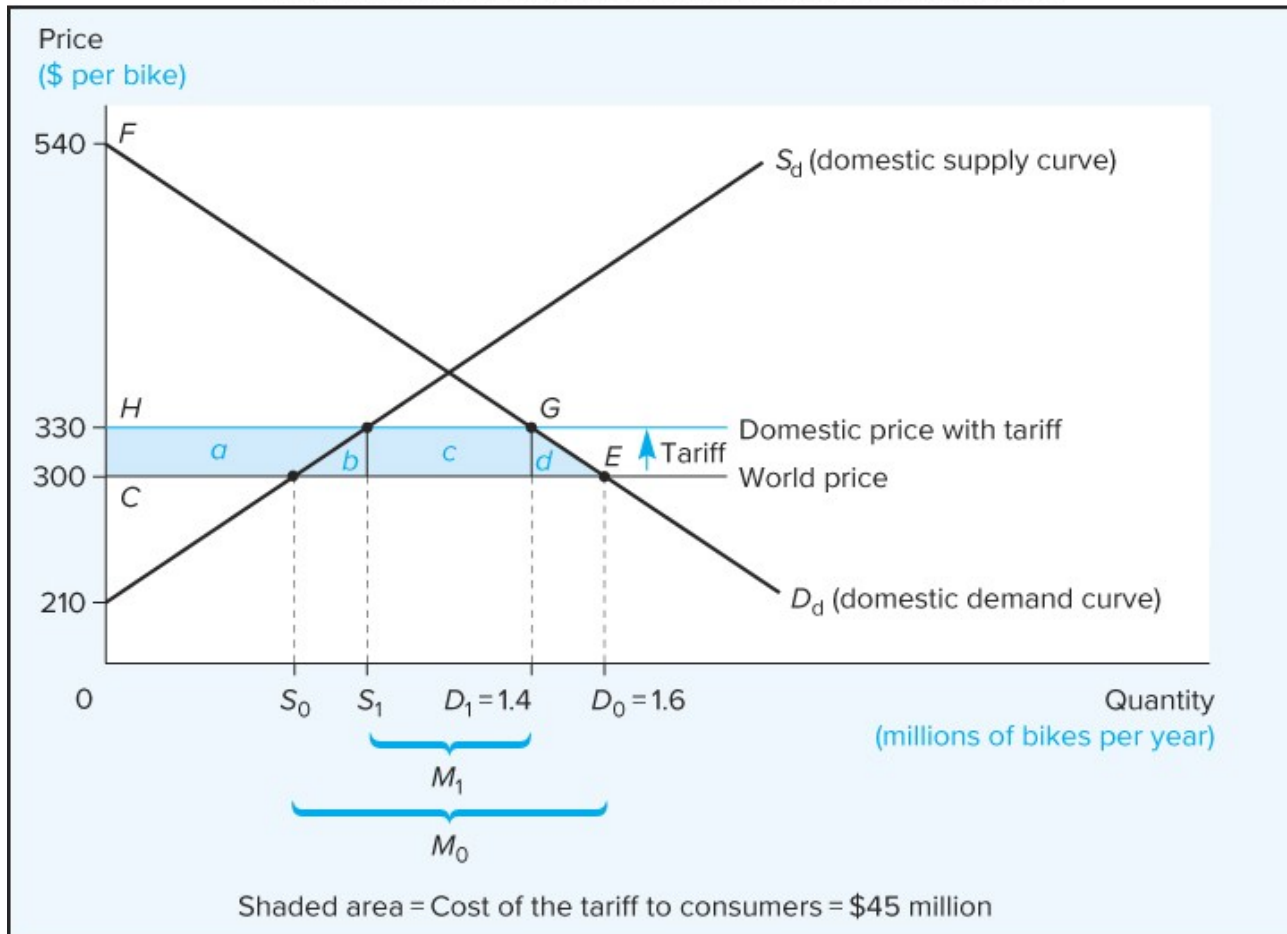
Welfare Effects

- Consumers always suffer a welfare loss
 - They have to make do with less of the protected good (at a higher price)
 - And / or inferior substitutes



The Effect of a Tariff on Domestic Consumers

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The Net National Loss from a Tariff

- We can see the deadweight loss from tariffs on our standard diagram

The Consumption Effect

- The loss to the consumers in the importing nation
- Area d in the diagram

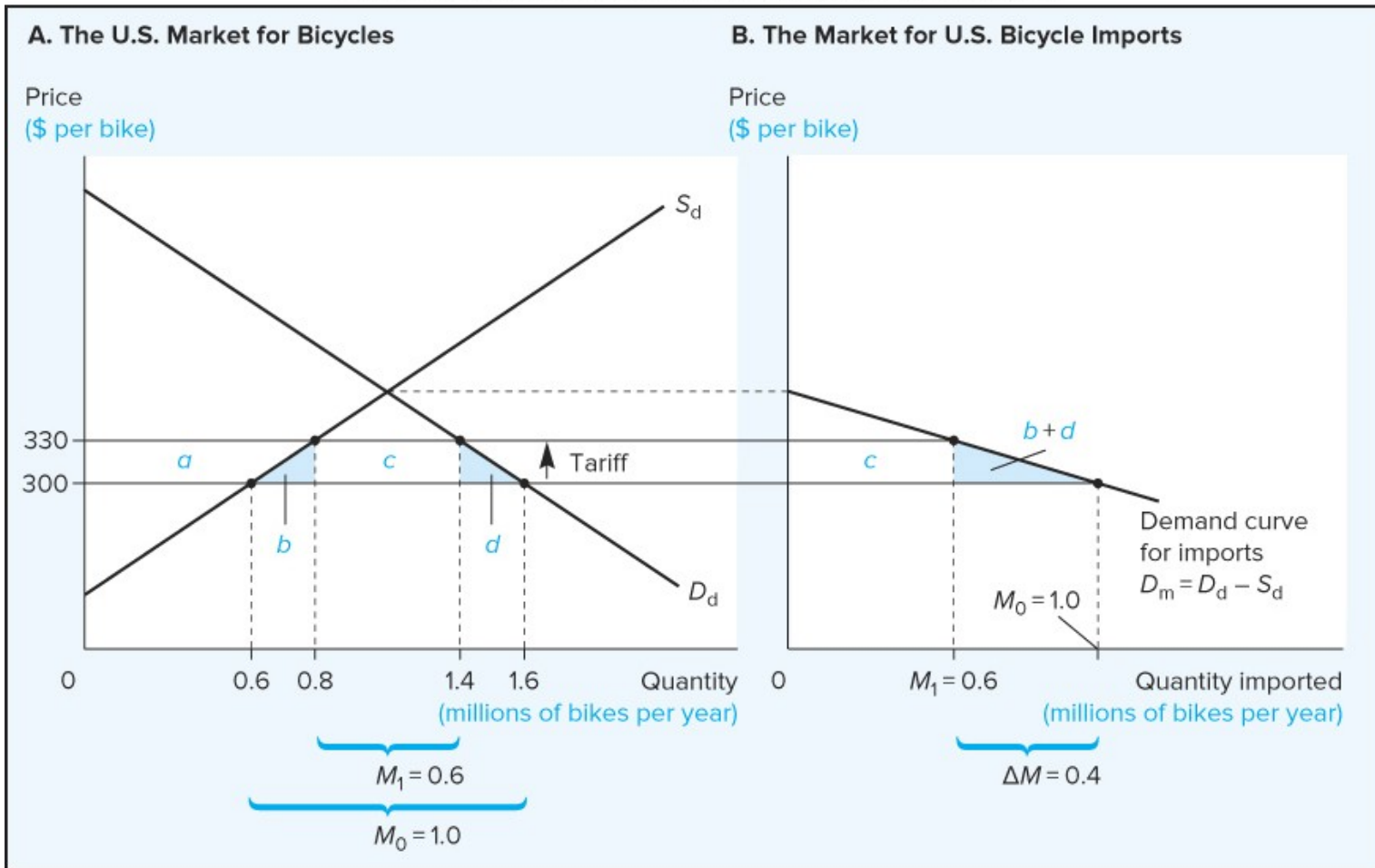
The Production Effect

- The amount by which the cost of drawing domestic resources away from other uses exceeds the savings from not paying foreigners to buy extra units
- Area b in the diagram



The Net National Loss from a Tariff

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The Net National Loss from a Tariff

Consumer Losses

- What consumers lose from imposition of the tariff
- Areas a , b , c , and d on the diagram

Producer Gains

- What producers gain from imposition of the tariff
- Area a on the diagram

Government Surplus

- The revenue government collects from the tariff
- Area c on the diagram

Deadweight Losses

- Areas b and d on the diagram

On net, therefore, the importing country loses from the tariff



Tariffs and Terms of Trade

- If a country is large (in the economic sense), it can affect the prices of its imports and hence its terms of trade by imposing a tariff
- Lower demand leads to lower export prices for the foreign suppliers
 - This leads to an improvement in the terms of trade for the importing country

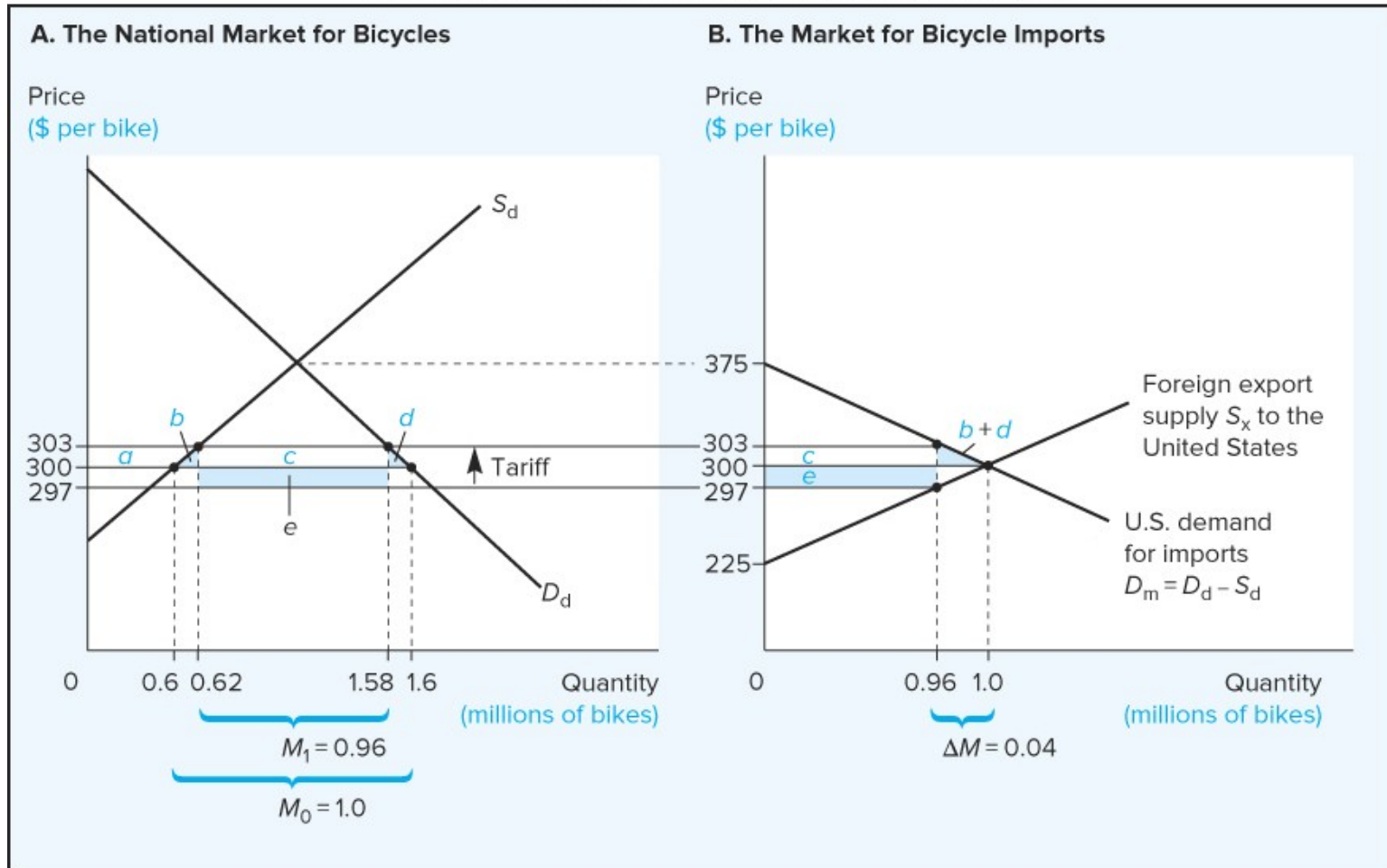
Effects

- Foreign suppliers come to bear part of the cost of the tariff
 - This can lead the welfare gains from the tariff to outweigh the losses for the country that imposes it
 - However, the rest of the world loses



Large Countries and Optimal Tariffs(?)

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Large Countries and Optimal Tariffs(?)

Example

- Initially, the world market price is \$300
- The US imposes a tariff of \$6 per unit
- The fall in demand reduces the world market price to \$297, while the domestic price is now \$303

Standard Effects

- Consumer surplus decreases by areas $a + b + c + d$
- Areas b and d are deadweight losses
- Producer surplus increases by area a

Foreigners Pay the Tariff

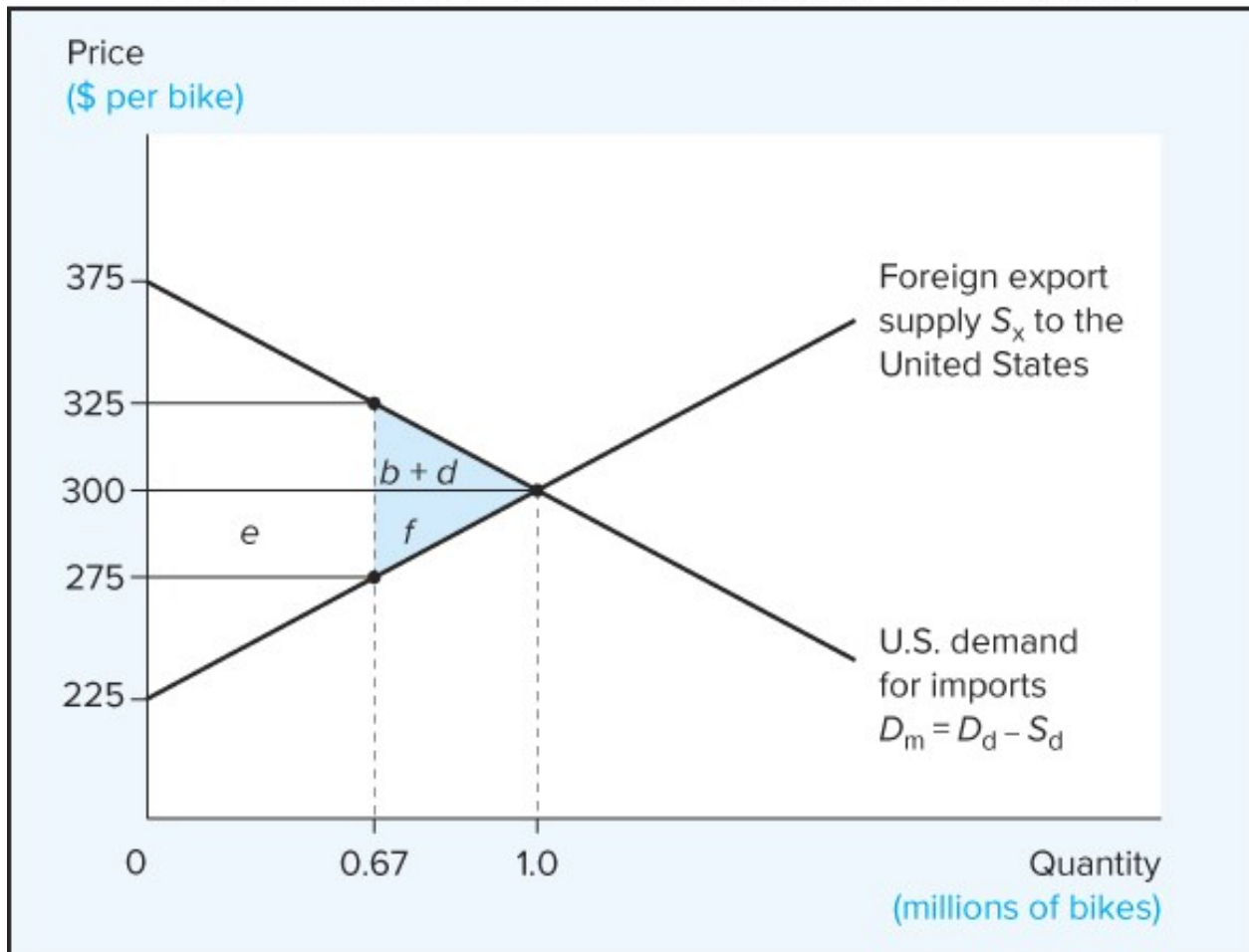
- Government revenue increase by areas $c + e$
- Foreign exporters are made to pay part of the tariff
- Since e is larger than $b + d$, the country gains on net

Looking at one country in isolation, the “optimal” tariff maximizes this net gain



Global Effects of an “Optimal” Tariff

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Global Effects of an “Optimal” Tariff

Global Welfare Loss

- The national gain is $e - (b + d)$ and is maximized at a tariff rate of \$50 per unit
- However, looked at globally, e is a loss to foreign exporters
- We must also add the area f to the welfare loss
- Globally there is a net loss of $b + d + f$

Problem with Domestic Welfare Gains

- Even in the importing country, we cannot say that the tariff improves welfare
 - It increases government revenues and profits for domestic producers
 - But only by forcibly raising the price, reducing consumption
- How can we measure the benefit to one as against the loss to the other?
- Furthermore, there is still the reduction in productivity from less trade: lower productivity means there are less goods to be shared



- Analysis of export taxes is similar to analysis of tariffs

Global Effects

- Overall trade falls, imports as well as exports
- A reduction in the global division of labour and productivity

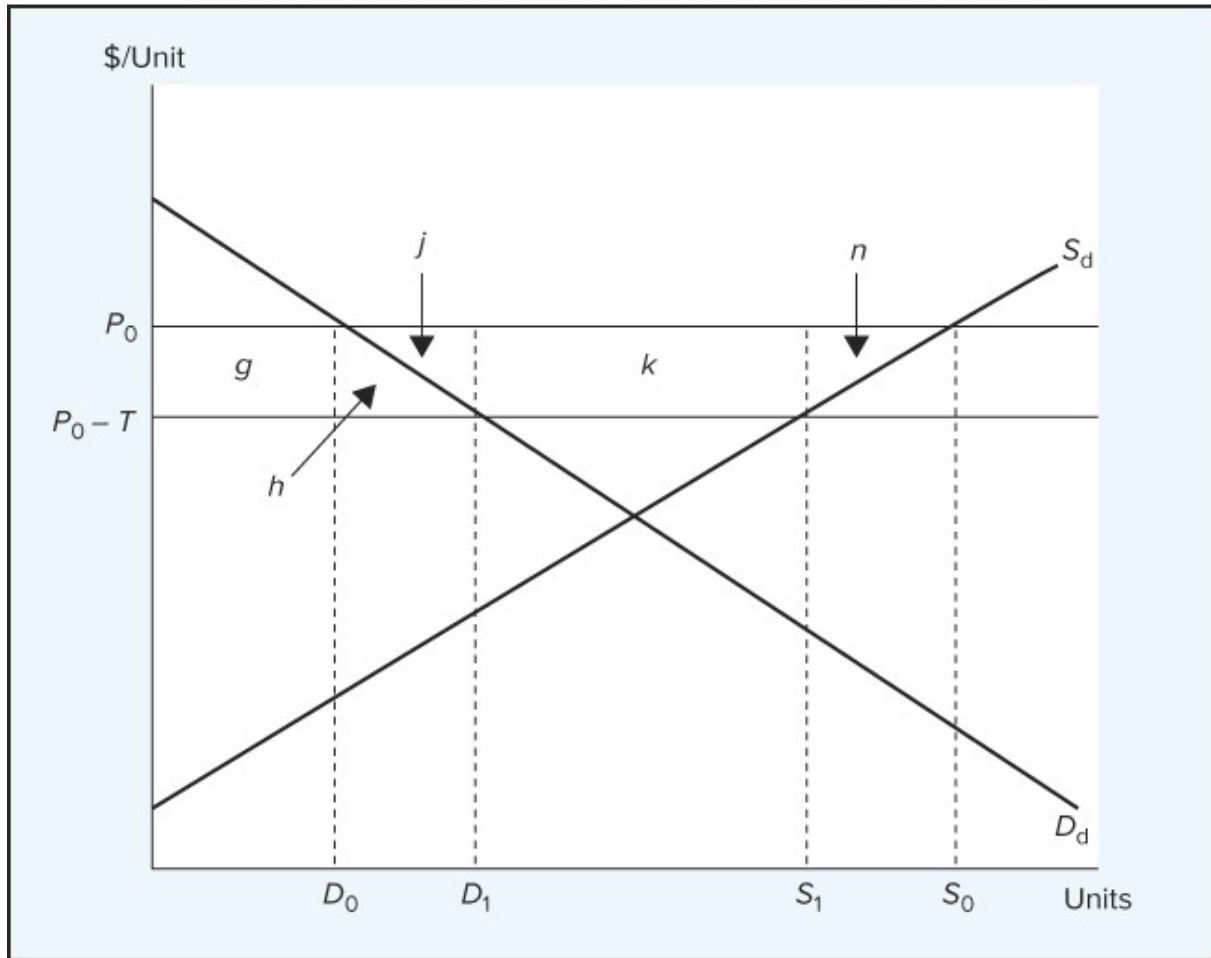
Welfare Effects

- There is a gain to domestic consumers, who buy at a lower price
- There is a gain to the government, which levies the tax
- Domestic producers lose, as their revenues fall



Export Taxes

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Price Effect

- Tax T per unit is imposed
- The domestic price falls below the world market price by T

Welfare and Distribution Effects

- Areas $g + h + j + k + n$ are losses to producers
- Consumers gain areas $g + h$
- Government gains area k in revenues
- Areas $j + n$ are deadweight or efficiency losses from the tax
- Overall, the country loses
- Unseen loss: reduction in international division of labour



The Effective Rate of Protection

- One way to estimate the effects of protectionism is to look at the *effective rate of protection* (ERP)

Definition

- The percentage by which the entire set of trade barriers raises the protected industry's value added per unit of output
- The formula is: $(v' - v) / v$
 - v = value added under free trade
 - v' = value added under protectionism

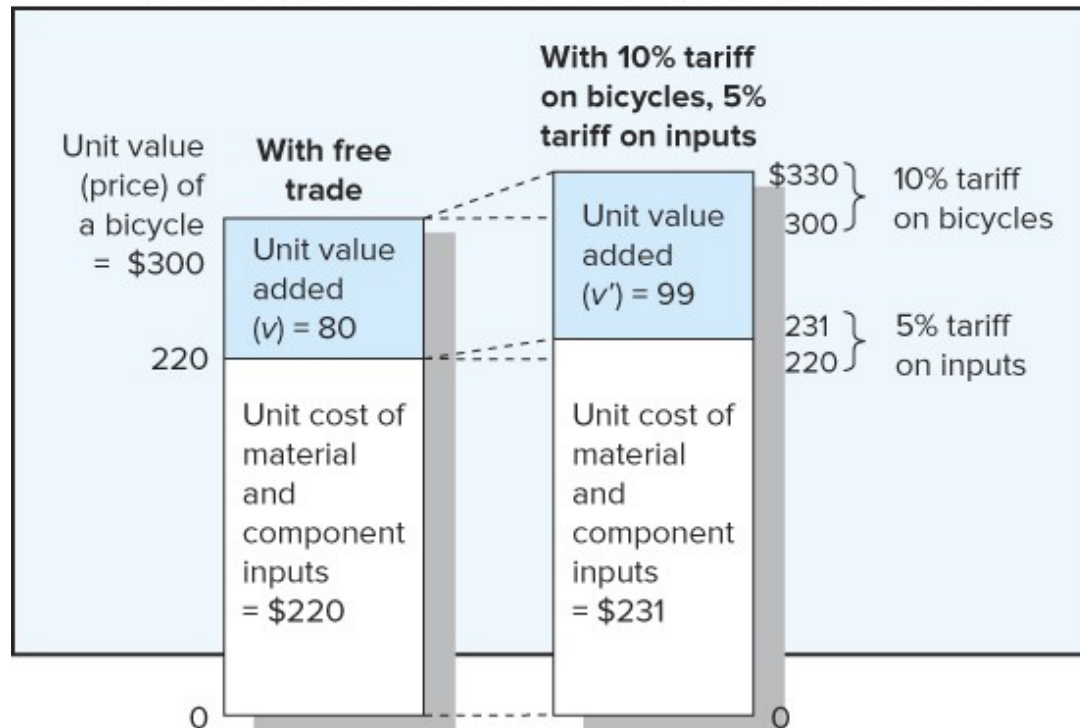
Use

- This is a shortcut to sum up all the effects of trade barriers on a single industry
- Note that the ERP can also be negative, if tariffs on inputs reduce value added
- Still a simple measure – the main gains from trade are not seen in this way



The Effective Rate of Protection

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Illustrative calculation of an effective rate of protection

$$= \frac{99 - 80}{80} = 23.8\%$$



2. Nontariff Barriers to Imports

Definition

- Any policies used by the government to reduce imports other than tariffs

Kinds of NTBs

- Limiting the quantity of imports
- Increasing the cost of getting imports to market
- Creating uncertainty about whether imports will be permitted
- NTBs have become more important as tariff rates have fallen



Types of NTBs

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Type	Description	Direct Effect(s)
Import quota	Quantitative limit on imports	Quantity
Voluntary export restraint (VER)	Quantitative limit on foreign exports (based on threat of import restriction)	Quantity
Tariff quota	Allows imports to enter the country at a low or zero tariff up to a specified quantity; imposes a higher tariff on imports above this quantity	Quantity (if the tariff for potential imports above the specified quantity is so high that it is prohibitive, so that there are no imports above the specified quantity)
Government procurement	Laws and government rules that favor local products when the government is the buyer	Quantity (for instance, an outright prohibition) Cost of importing (for instance, special procedures for imports)
Local content and mixing requirements	Require specified use of local labor, materials, or other products	Quantity
Technical and product standards	Discriminate against imports by writing or enforcing standards in a way that adversely affects imports more than domestic products	Cost (to conform to standards or demonstrate compliance) Uncertainty (if approval procedures are unclear)
Advance deposit	Requires some of the value of intended imports to be deposited with the government and allows the government to pay low or zero interest on these deposits	Cost (forgone interest)
Import licensing	Requires importers to apply for and receive approval for intended imports	Cost (of application procedure) Uncertainty (if timing of, or basis for, approval is unclear)
Other customs procedures (classification of product, valuation of product, procedures for clearing)	Affect the amount of tariff duties owed or the quota limit applied; procedures can be slow or costly	Cost Uncertainty



Definition

- An import quota is a limit on the total quantity of imports of a product allowed into the country during a given period of time

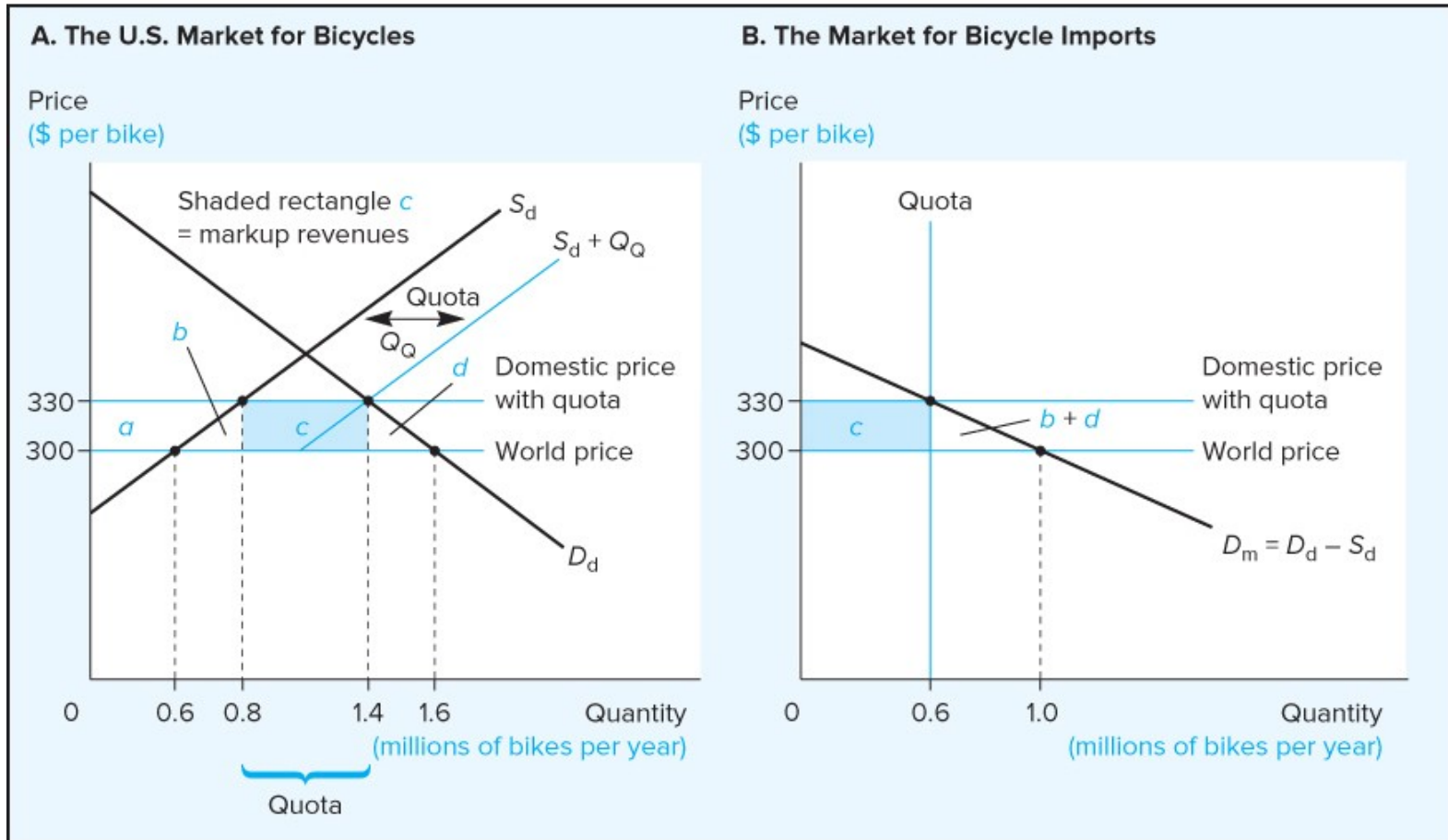
Popularity

- Import quotas are liked by protectionists and government officials
 - They ensure that the quantity of imports is strictly limited, unlike tariffs
 - A quota gives government officials significant power in how it is to be administered
- The effects of import quotas are very like those of tariffs



The Import Quota

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Overall Effects

- Fewer imports reduce exports and overall trade
 - Countries do not pursue their comparative advantages as much as they could have done in the absence of interference
- By restricting the supply of imports, the quota raises domestic prices for the affected good

Welfare and Distribution Effects

- Consumption of the good is restricted
 - Domestic consumers lose a surplus equal to areas $a + b + c + d$
- Producers gain surplus of area a
- Area b and d are deadweight losses
 - Production and consumption effect respectively
- Area c is import markup revenue – who gets it?



Markup Revenue – Who Benefits?

- There are three basic ways to allocate import licenses and the profits from the quota:
 - Fixed favouritism
 - Auction
 - Resource-using procedures
- Depending on which method is used, different groups benefit from the quota system
 - Either government or private firms
- The benefit is the difference between world market and domestic prices



Method of Allocation

- Government allocates import licenses to firms with no competition or negotiation

Who Benefits

- The firms lucky enough to get a license benefit
- One way of using this method is to give the licenses to the firms doing the importing before the quota was imposed
- However, it is also a method that makes corruption possible: businessmen may be willing to bribe officials to secure a license or a bigger share of the quota



Method of Allocation

- The government runs an auction, selling import licenses to the highest bidders

Who Benefits

- The government pockets most of the revenues from the quota system
 - businessmen bid up the price until their own benefit from the license is marginal
- Bribing of officials is an informal way of auctioning licenses



Method of Allocation

- The government sets rules for how businesses compete for licenses
 - Allocating licenses on a first come, first-served basis
 - On the basis of demonstrating need, e.g., how much is needed to maintain production. Investment in extra capacity results
 - On the basis of negotiations. Firms invest in lobbying

Who Benefits

- The resource cost is a loss to the country
- Lobbyists



Definition

- The importing country compels the exporting country to agree to “voluntarily” limit its exports to the importing country
- The exporters have to act as a cartel (organized by the government) in order to restrict sales and raising the price

Effects

- The foreign exporters capture the profits from the higher price
- The diagram showing the import quota can also be used here
 - Area c is now the benefit to foreign exporters
- Quality upgrading: exporters may try, if possible, to mainly export the highest qualities of the product in question to maximize their profits
- VERs can be a politically attractive way to protect domestic producers



Some Other Trade Barriers

- Product standards
 - Imports have to conform to regulatory standards rather than consumer demand
- Domestic content requirements
 - A specified minimum amount of the value added must be from local production
- Government procurement – government can favour domestic suppliers
- Intellectual property

IP as Protection

- IP is often misunderstood, as e.g., China is accused of “pirating” patented products
- But it is a main way of offering protection to high-tech companies
 - Patents and copyright are legal monopolies
 - Boldrin and Levine (2008)



3. Pushing Exports

Two Arguments

- Dumping
- Export subsidies
- However, dumping is not really an intervention, as we shall see



Definition

- Goods are sold in export markets for less than their “normal value”
- This is taken to mean as less than their price in domestic or third-country markets

Kinds of Dumping

- *Price-based dumping* is when a firm sells a product in a foreign market at a price below that for which the firm sells in the domestic market
- *Cost-based dumping* is when a firm sells a good in a foreign market below its average total cost
- Both are really examples of price discrimination – in favour of the buyers of exports!



Reasons for Dumping

Predatory dumping

- A firm tries to win market shares by charging a lower price temporarily

Cyclical dumping

- In a recession, a firm may throw products on export markets at lower prices to halt a fall in revenues
- Prices may fall below average total cost, but not average variable costs

Seasonal dumping

- A firm exports excess inventories of a product
- So long as the price received is above the marginal cost of making the sale, this can be profitable to the firm

Persistent dumping

- The firm has market power (or special privileges) at home and can charge a higher price there than abroad
- There must be some barrier to re-import the exports



Evaluation of Dumping

- Is dumping bad for a country?
- No! It literally means that firms for some reason offer their goods at a lower price. The country becomes better off

Losers from Dumping

- The import-competing industries
- They likely to demand protection
- *Antidumping duties* are sometimes imposed. They are extra tariffs equal to the discrepancy between the actual export price and normal value (the dumping margin)



Definition

- Export subsidies are paid to companies for exporting a given product

Effects

- Such subsidies expands production and exports
 - This increases profits in the favoured industries
 - Lowers the price paid by foreigners
 - Raises the price paid by domestic consumers of the good
- The national well-being of the exporting country is worse off

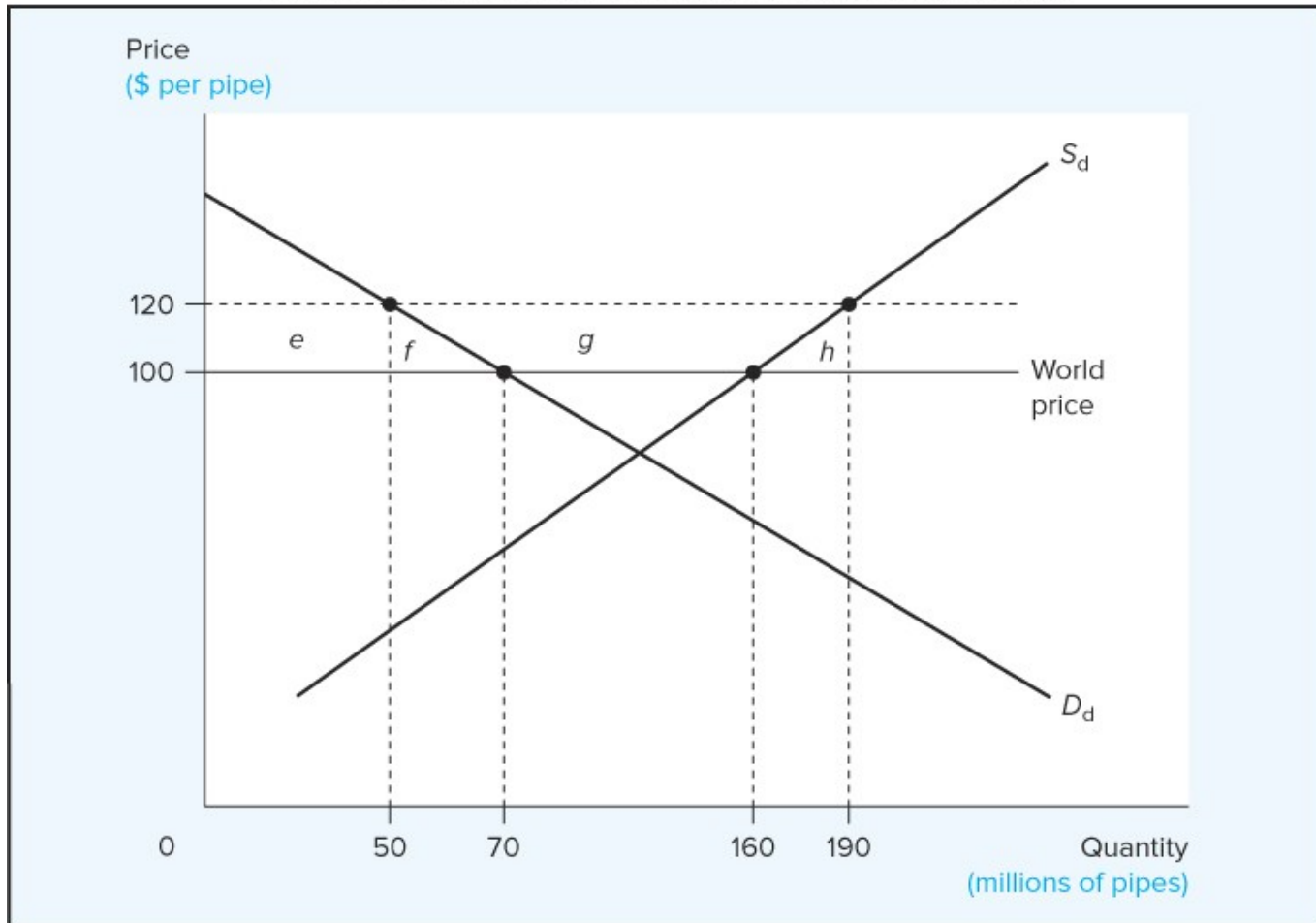
Overexpansion of Trade

- Trade expands beyond what is optimal
- the country becomes more engaged in international trade than is really warranted by the data of the market
 - Capital is misallocated as a result – toward the exporting industries and away from industries producing for the domestic market
 - Since imports and exports must balance, import-competing industries are also hurt



Export Subsidies

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Price and Production Effects

- The subsidy raises the price received – in international markets – to 120 from 100
- As a result, more is produced for exports – production increases to 190 from 160
- Less is consumed at home at the higher price

Welfare and Distribution Effects

- Consumer loss is area $e + f$
- Producer gain is area $e + f + g$
- Government outlay is $f + g + h$
- Net loss is $f + h$



Export Subsidies and Countervailing Duties

- Export subsidies are in reality a free gift to the importing countries
 - They get more imports at a lower price
- However, subsidies lead to more trade than is really optimal
- Import-competing companies suffer
- *Countervailing duties* can neutralize export subsidies
- If the duty matches the subsidy, it restores the previous trade pattern and eliminates the excessive trade
- Export subsidy + countervailing duty in effect becomes a wealth transfer from the exporting country's government to the importing country's government!



4. Arguments for and against Protectionism

- The infant industry argument
- The dying industry argument
- National pride
- National defence
- Income distribution



The Infant Industry Argument

Origins

- Alexander Hamilton (1757-1804) in the USA
- Friedrich List (1789-1846) in Germany
- Perhaps the most important protectionist argument

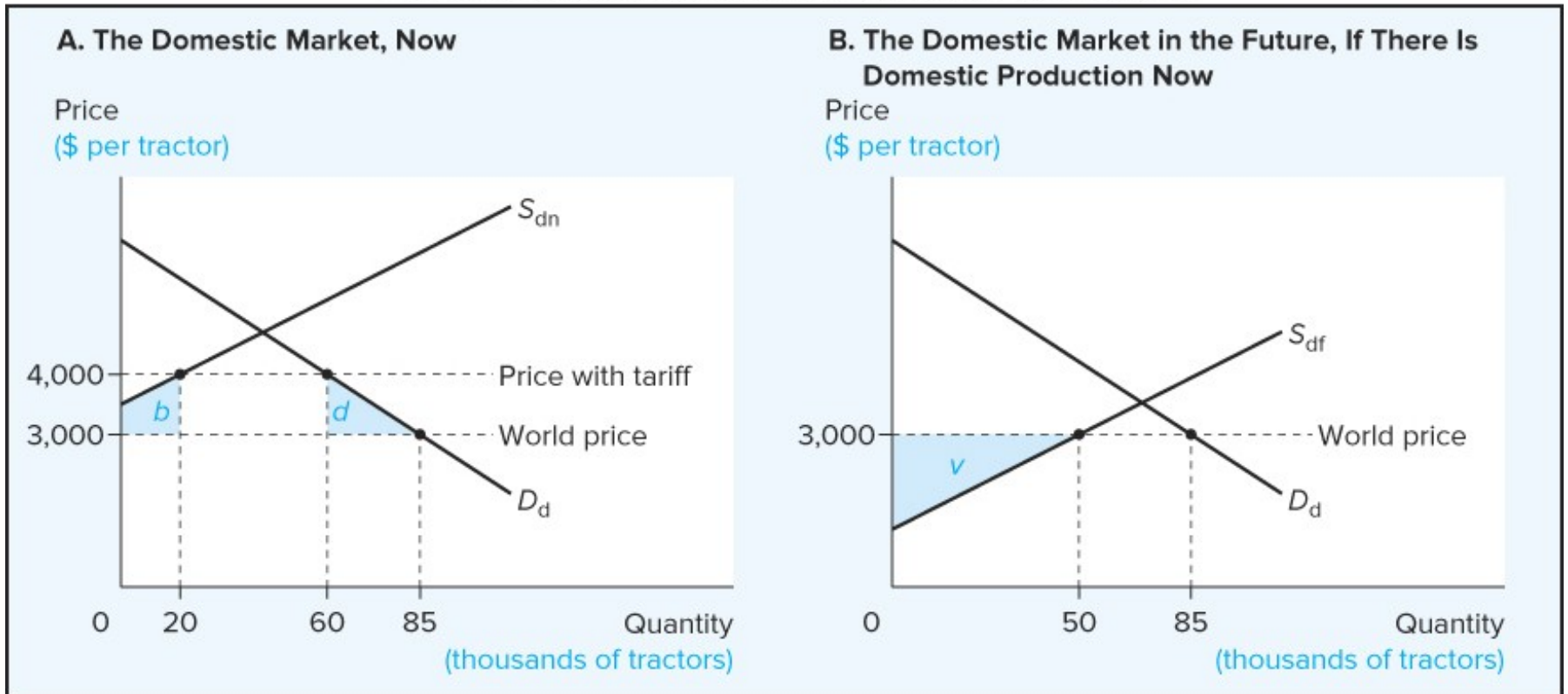
The Argument

- A temporary tariff is justified while the protected industry is young
- Eventually, domestic producers will learn to produce at low enough cost to be competitive on world markets
- Therefore, it is good for the country as well as for the whole world to have temporary protection: it leads to greater output in the long term



The Infant Industry Argument

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The Infant Industry Argument

Key Problem

- The argument flies in the face of the principle of comparative advantage
- If an industry is not profitable in a country, this means that the country's resources are better employed in the production of other goods

Questionable Assumption

- That government knows what will be good investments and result in great future gains
- There is no reason to think this is true – both history and theory suggests that governments are very bad at allocating resources
- Protective tariffs are a bad way of securing expansion of the favoured industry – why not simply invest directly?



The Dying Industry Argument

The Argument

- Industries that are declining in the face of import competition must be saved
- The factors of production cannot simply be reallocated to other uses
 - E.g., unemployment

Problems

- Maintaining the declining industry leads to a misallocation of resources
- If there are barriers to factor reallocation, these could be removed (e.g., inflexible labour market regulations) – protectionism is not a viable alternative
- Specific capital goods may be permanently lost once patterns of trade change
 - Should unprofitable processes of production be maintained to spare capitalists these losses?



- Nations may take pride in the domestic production of some particular commodity
- If the goal is to promote domestic production, protectionism is not the best, most direct way to do it
 - Some kind of direct subsidy would be much simpler
- If production of this commodity really is a question of national pride, why aren't consumers willing to pay higher prices for domestically produced products?
- Appeals to patriotism are often camouflage for special interests



Some goods are crucial for national defense

- Therefore, it is imperative to secure a domestic supply in case of war

Problems

- This conclusion does not necessarily follow
 - Only if a future war would cut off all sources of the good in question would it follow
- Even then, domestic production may not be the best solution
 - If it is a durable good, building up stockpiles might be cheaper
- The argument has a distinguished pedigree – Adam Smith himself suggested it



The Argument

- Protectionism of labour-intensive industries maintain wages
- It helps disadvantaged groups, generally the poorest in society

Problems

- As we have seen, free trade not only makes everyone better off over the long run – in the short run, the most nonspecific factors will profit
- Unskilled labour is one of the main nonspecific factors
- Free trade generally increases the incomes of the poorest workers almost immediately
- When it comes to other disadvantaged groups, international trade cannot be the source of their trouble
- E.g., if farmers have been displaced to make room for a plantation or mine owned by a multinational company, the solution is not to prohibit or tax the exports of the corporation's products, but to return the land to the farmers (plus an indemnity)



5. Summary

1. Tariffs are taxes on imports. They reduce trade and leave the economy less productive
2. Nontariff barriers to trade lead to less trade than is optimal. They reward special interests and can lead to corruption
3. Dumping is in reality a non-issue. Export subsidies are really a gift to the importing countries, but they lead to more trade than is really optimal, given the data of the market and the distribution of factors of production across the world
4. The main arguments for protectionism don't withstand scrutiny