

PART 2

How Markets Function

PRINCIPLES OF Microeconomics

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Chapter 10: Applications of Welfare Economics



Chapter 10: Applications of Welfare Economics

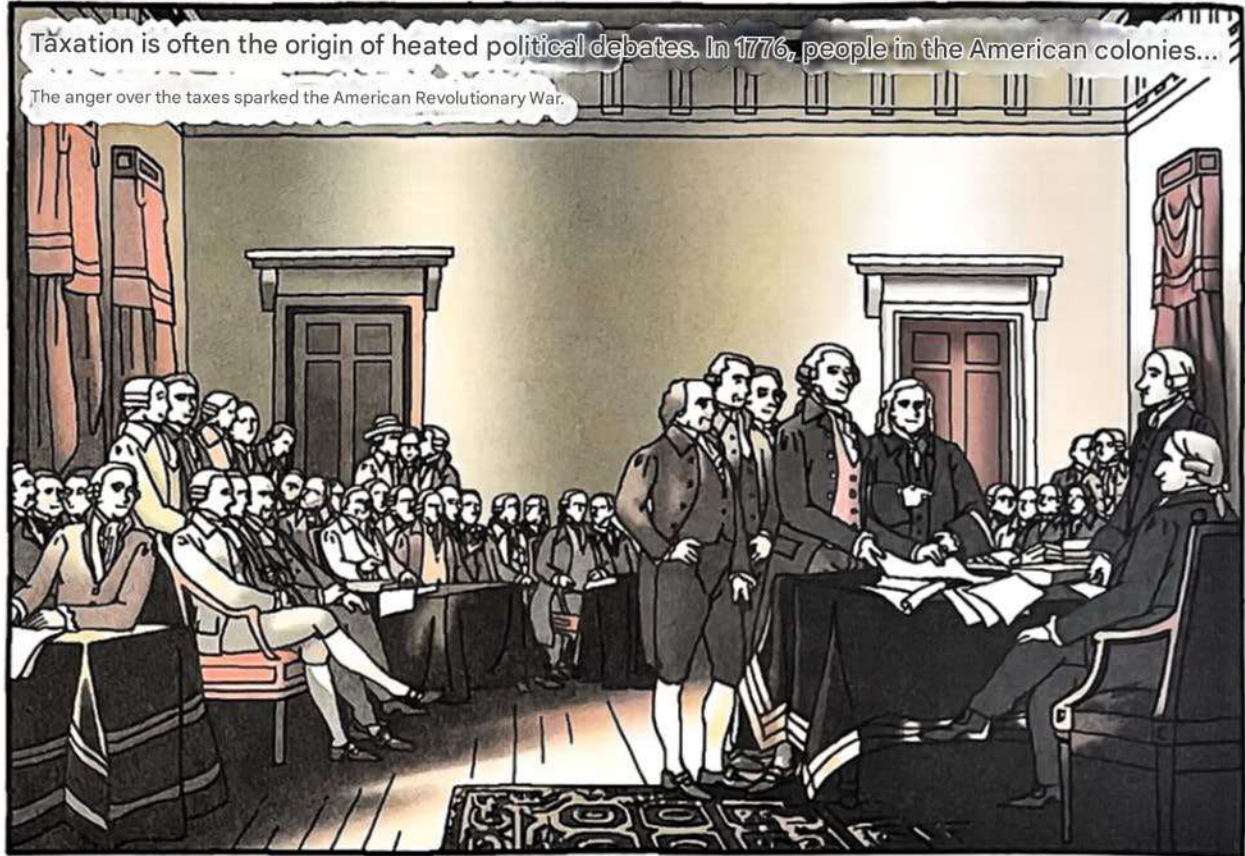
- **Despite the possibility of market failure, the invisible hand of the market remains extremely important. In many markets, the assumptions we made in Chapter 9 hold true, and the conclusions about market efficiency are directly applicable.**
- **Furthermore, we can use welfare economics and market efficiency to analyze and explain the effects of various government policies. In Chapter 10, we use the tools from Chapter 9 to study the welfare effects of two important policy issues: taxation and international trade.**

Chapter 10: Applications of Welfare Economics

- **The cost of taxation**
- International trade

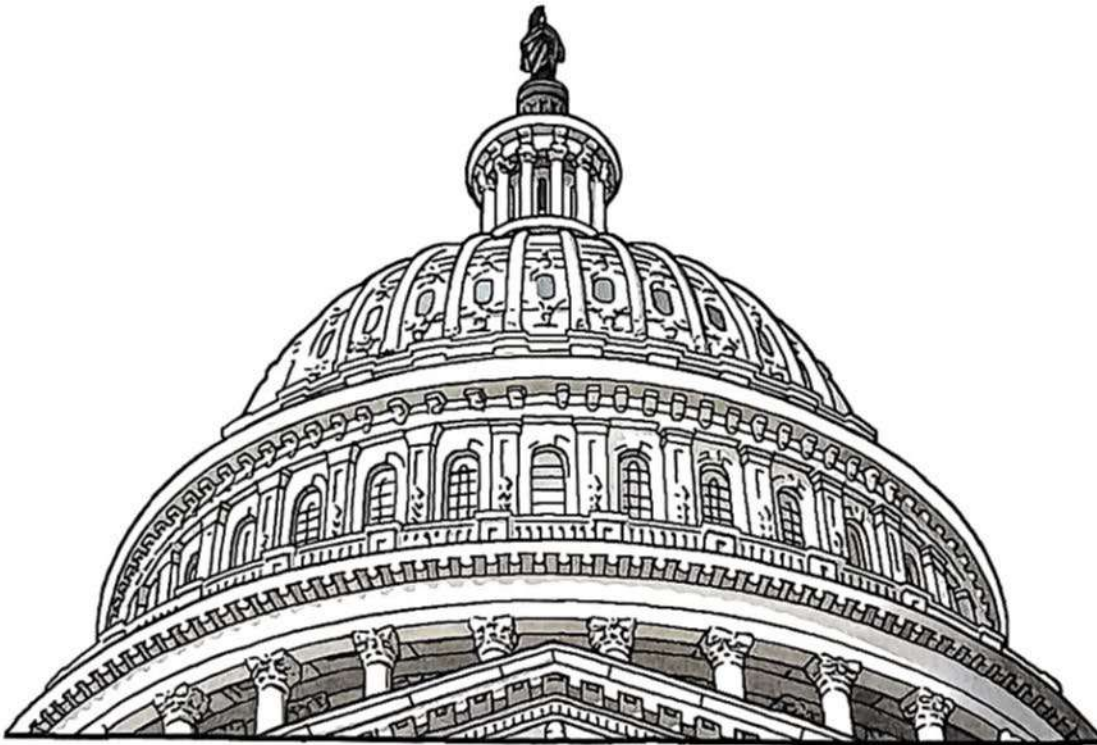
The cost of taxation

cost of tax

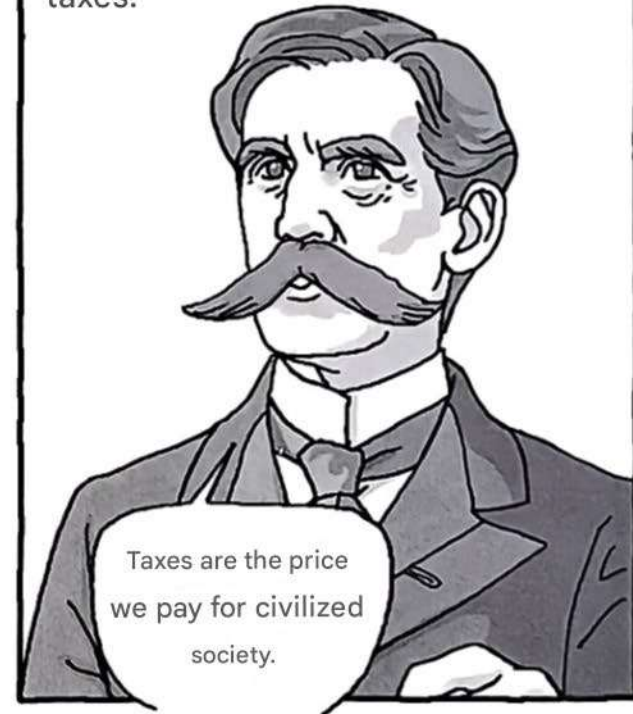


The cost of taxation

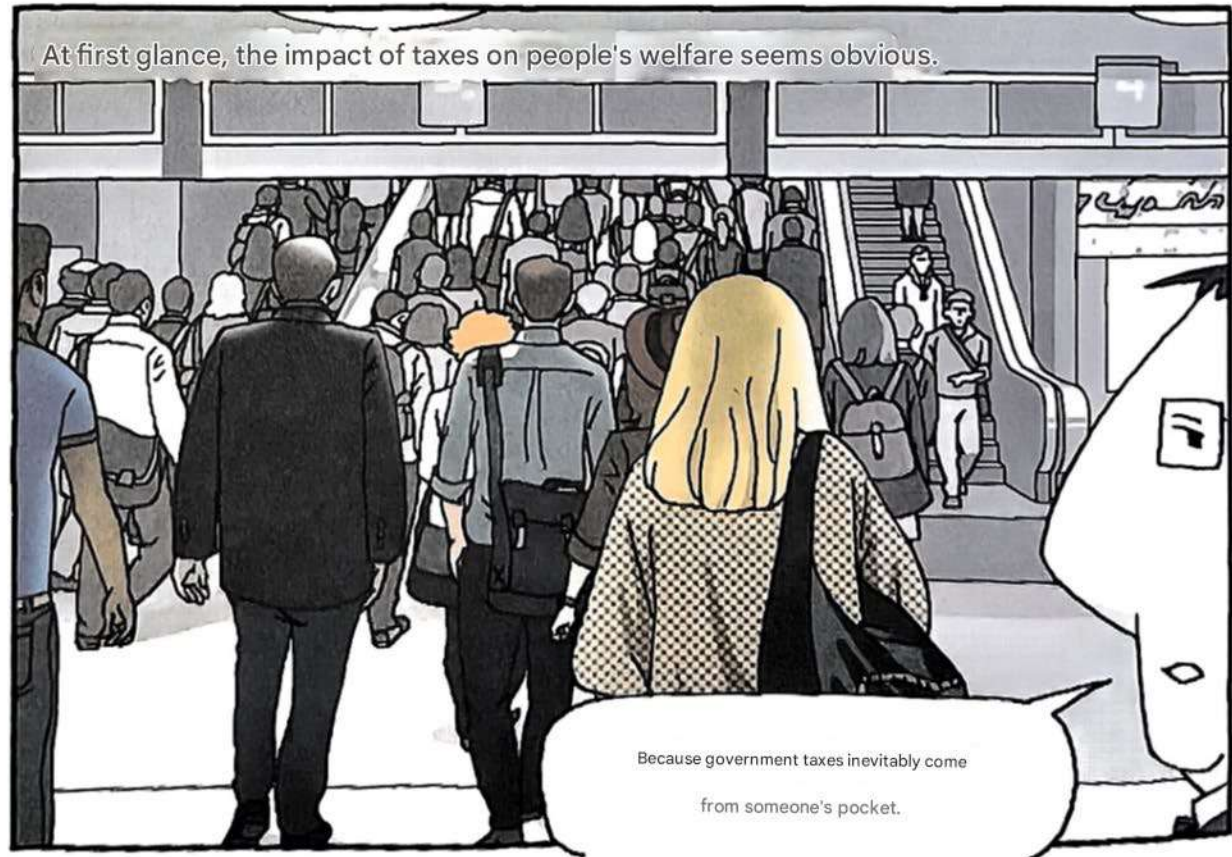
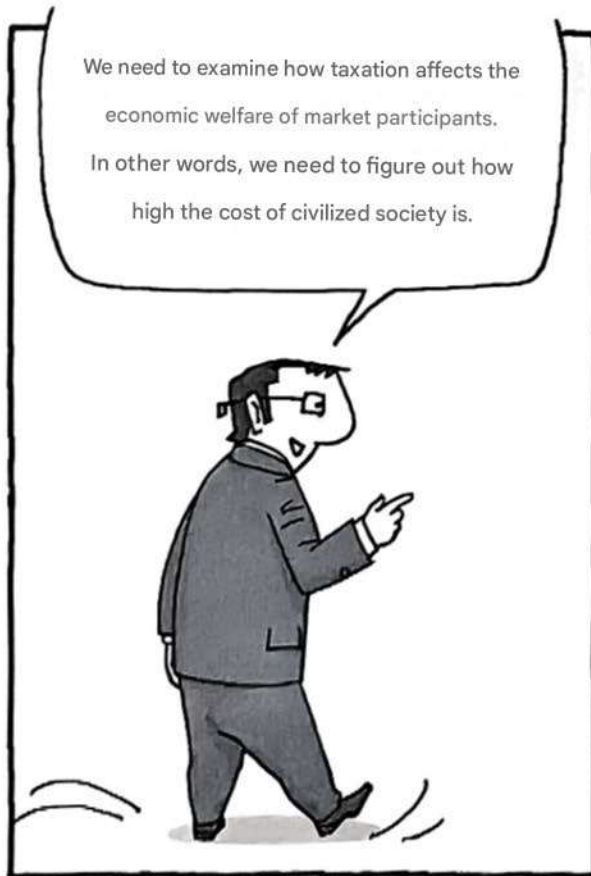
More than 200 years later, American political parties are still debating the appropriate size and form of the tax system.



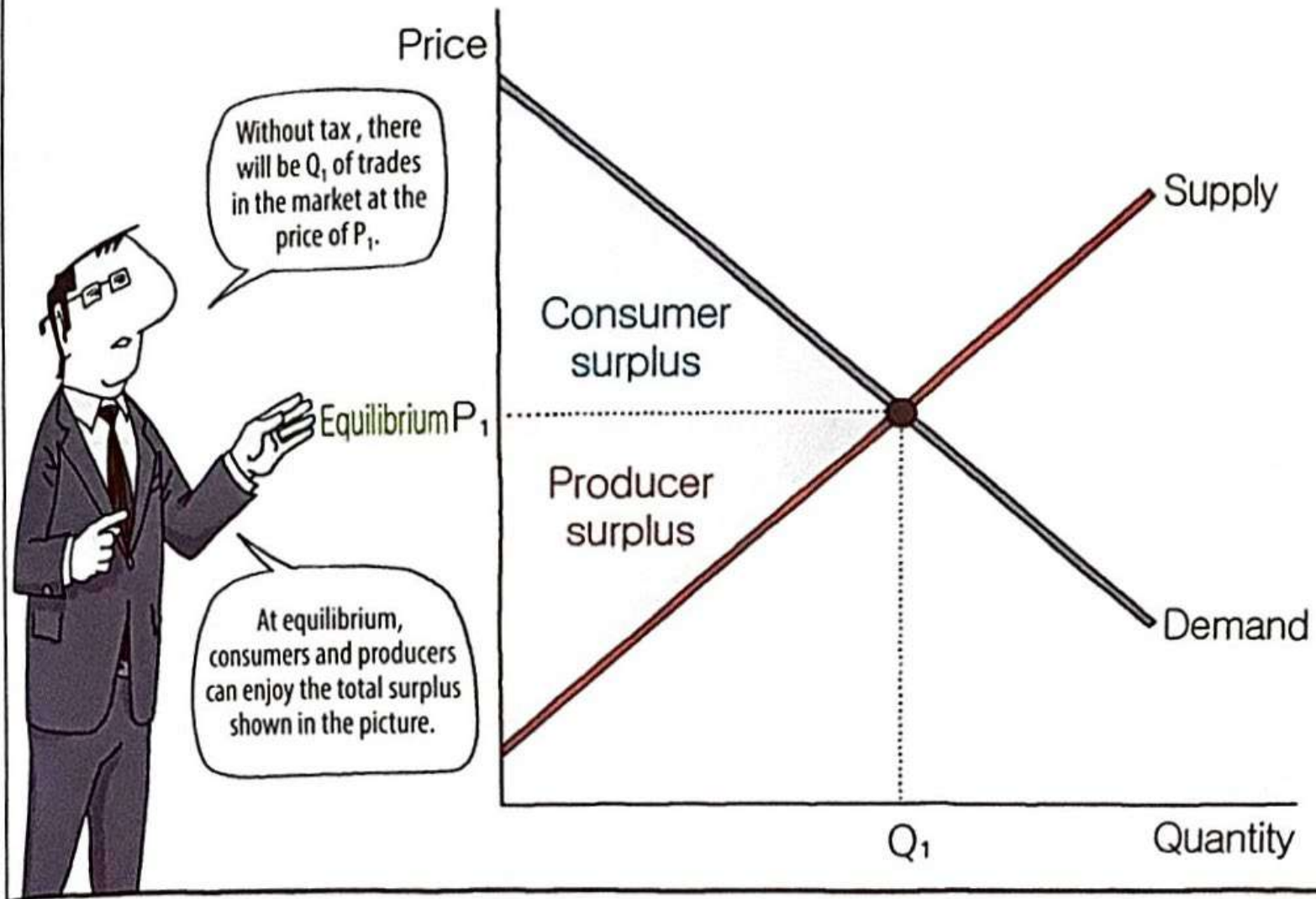
The renowned jurist Oliver Wendell Holmes never denied the necessity of certain taxes.



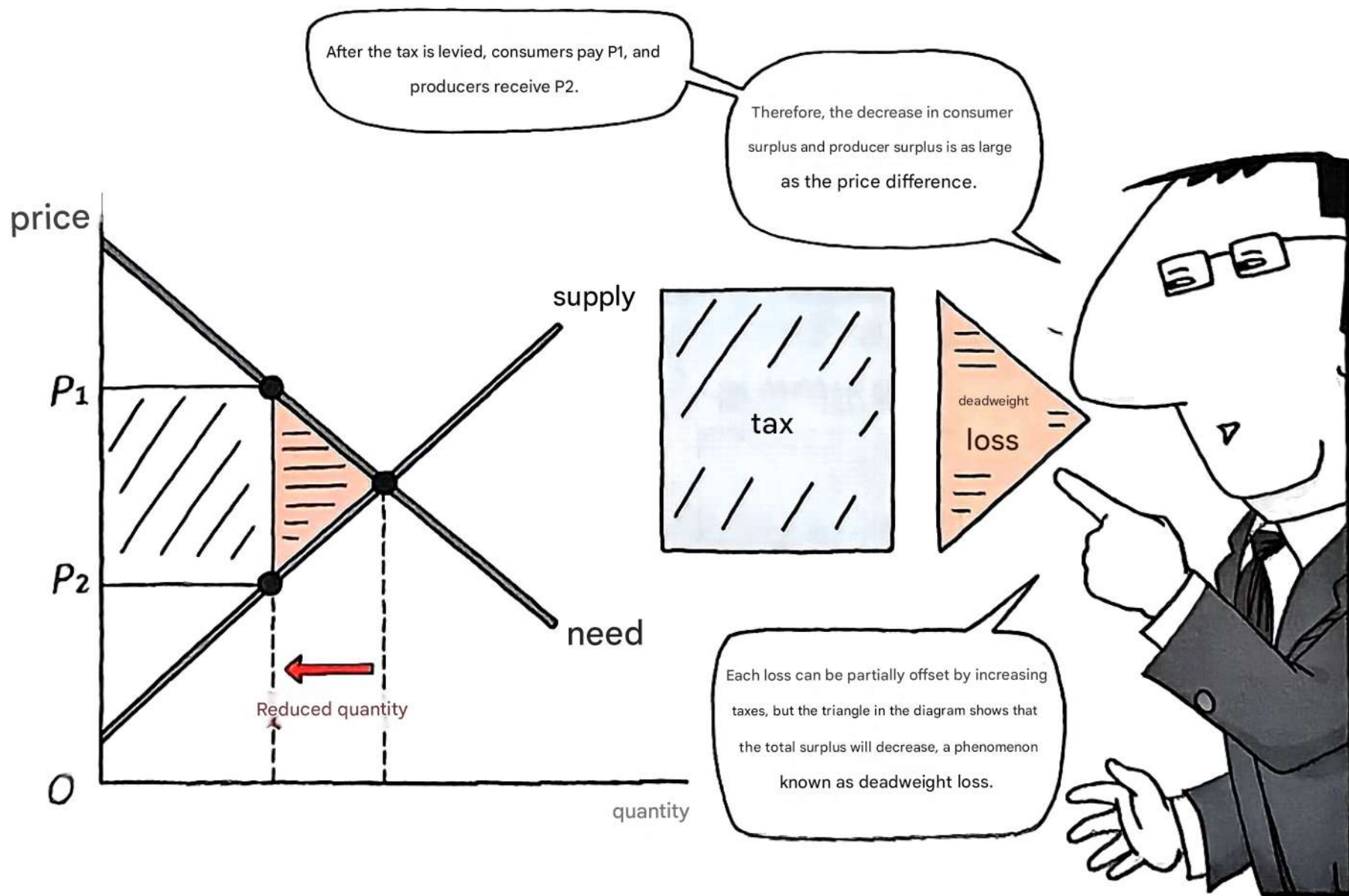
The cost of taxation



However, to have a deeper understanding of how taxes affect economic well-being, we must compare the reduced welfare of buyers and sellers to the amount of revenue that the government raises.

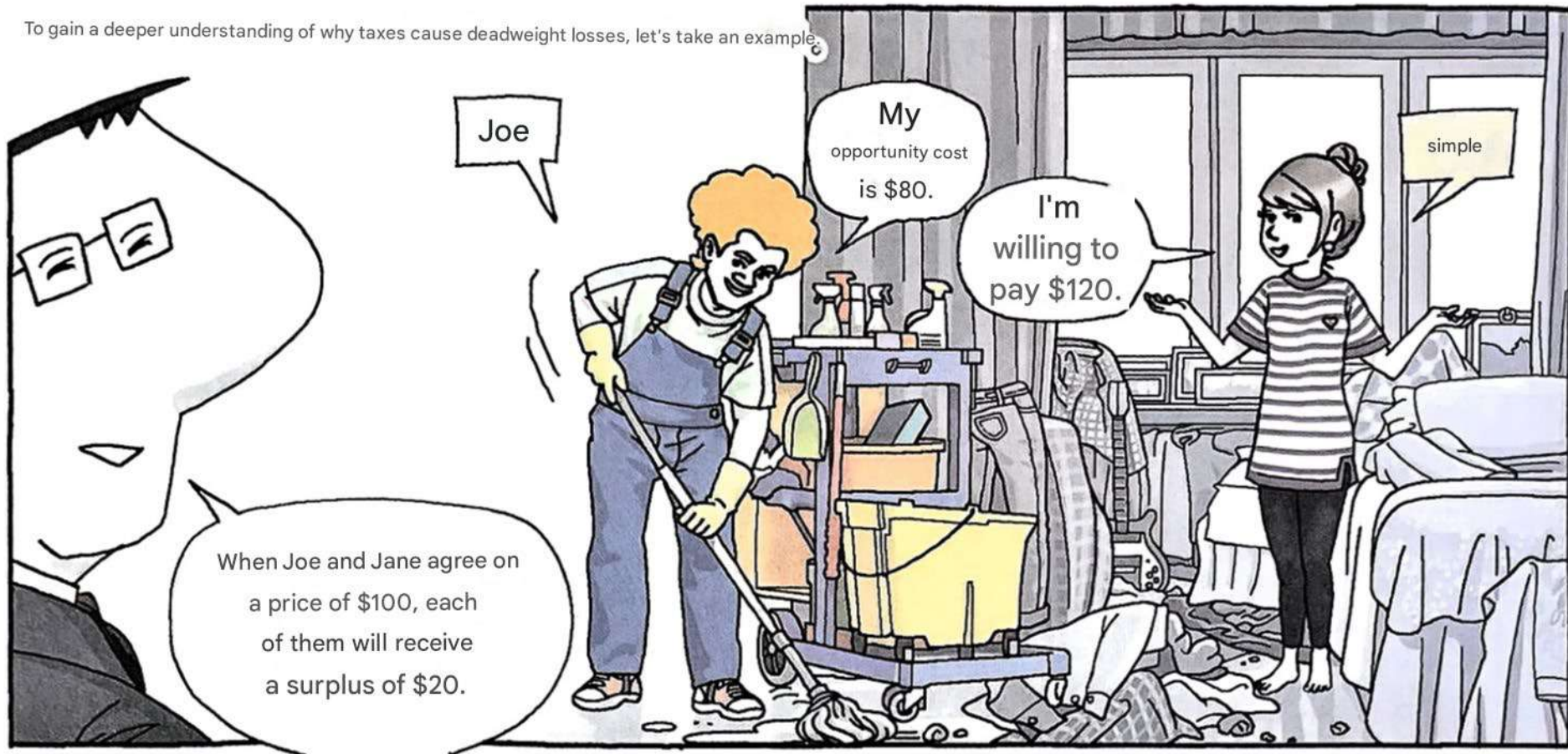


Taxes cause a decrease in both consumer and producer surplus because consumers pay more than before, while producers receive less.



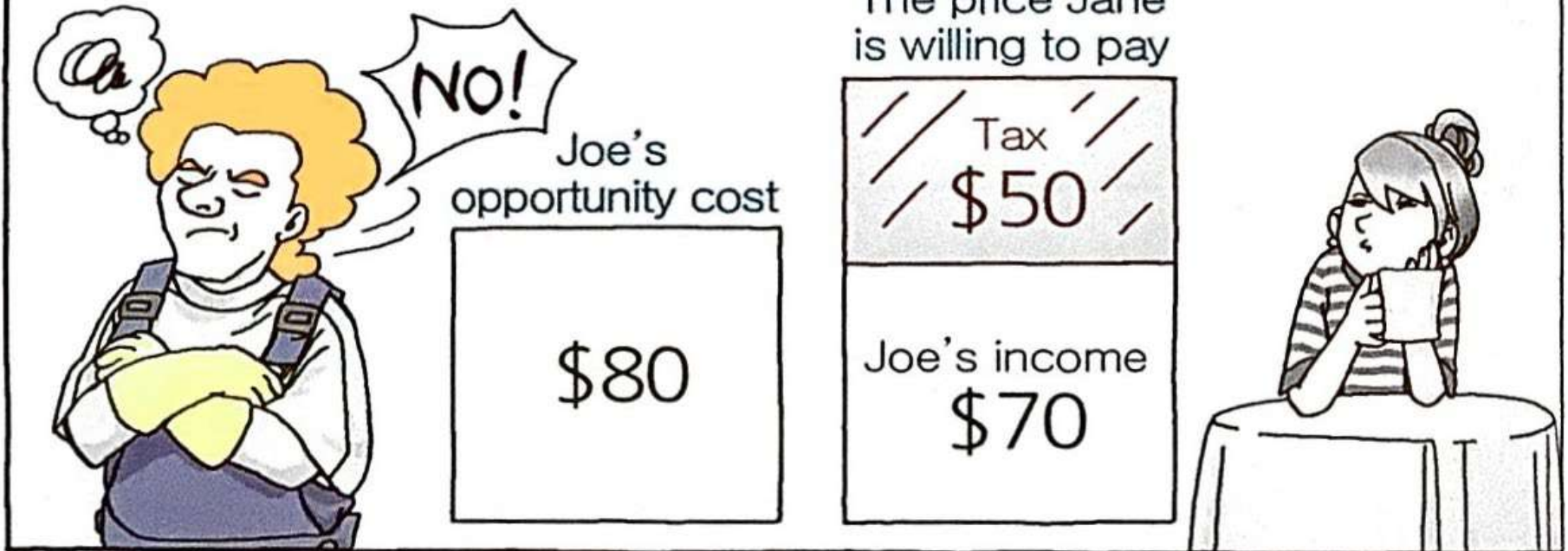
The cost of taxation

To gain a deeper understanding of why taxes cause deadweight losses, let's take an example.



The cost of taxation

Now suppose that the government levies a \$50 tax on the providers of cleaning services. The most Jane would be willing to pay is \$120, but then Joe would be left with only \$70 after paying the tax, which is less than his \$80 opportunity cost. He will refuse to make the deal.



The cost of taxation

Conversely, Joe wants to receive at least his opportunity cost of \$80, but then Jane would need to pay \$130 including the \$50 tax, which is above the \$120 value she places on a clean house. Thus, Jane will also turn down the deal.

Price Joe
proposed

Tax \$50
Joe's opportunity cost \$80

Price Jane is
willing to pay

\$120

NO!

The cost of taxation

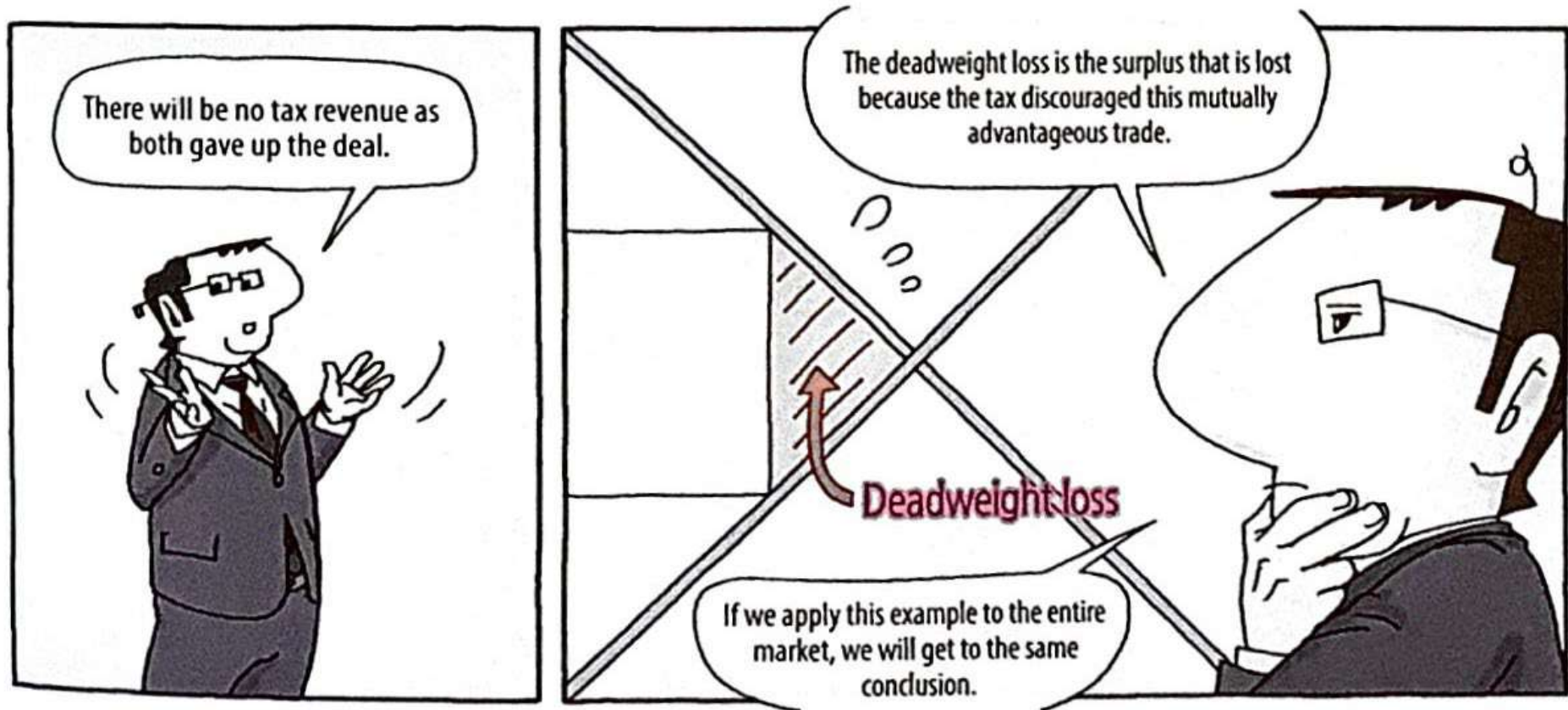
After cancelling the deal, Joe lost the chance to earn an extra \$20.



The cost of taxation



The cost of taxation

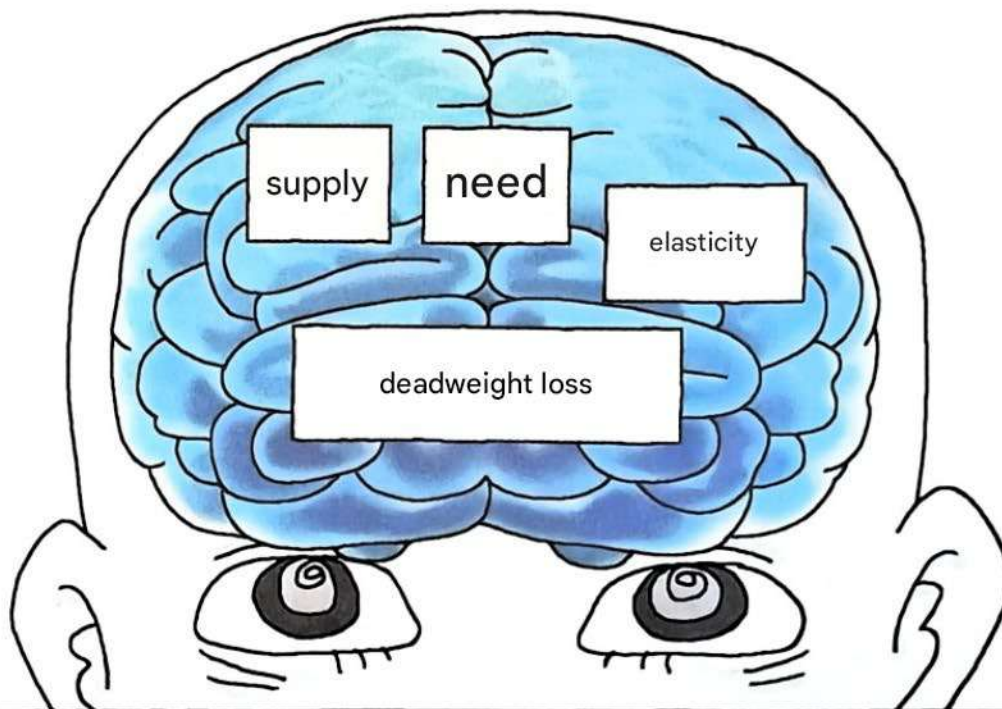


The debate about deadweight loss

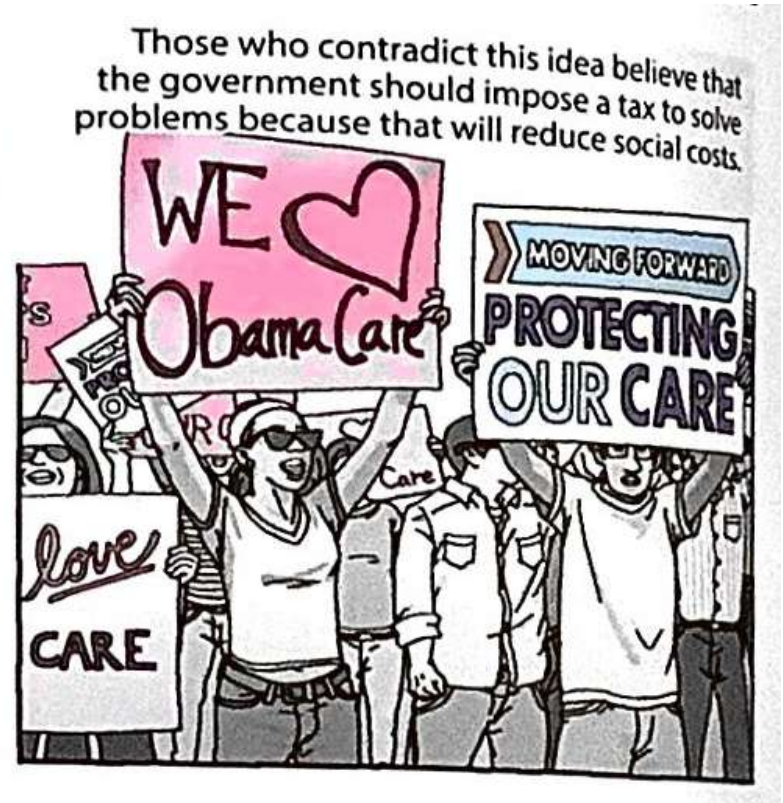
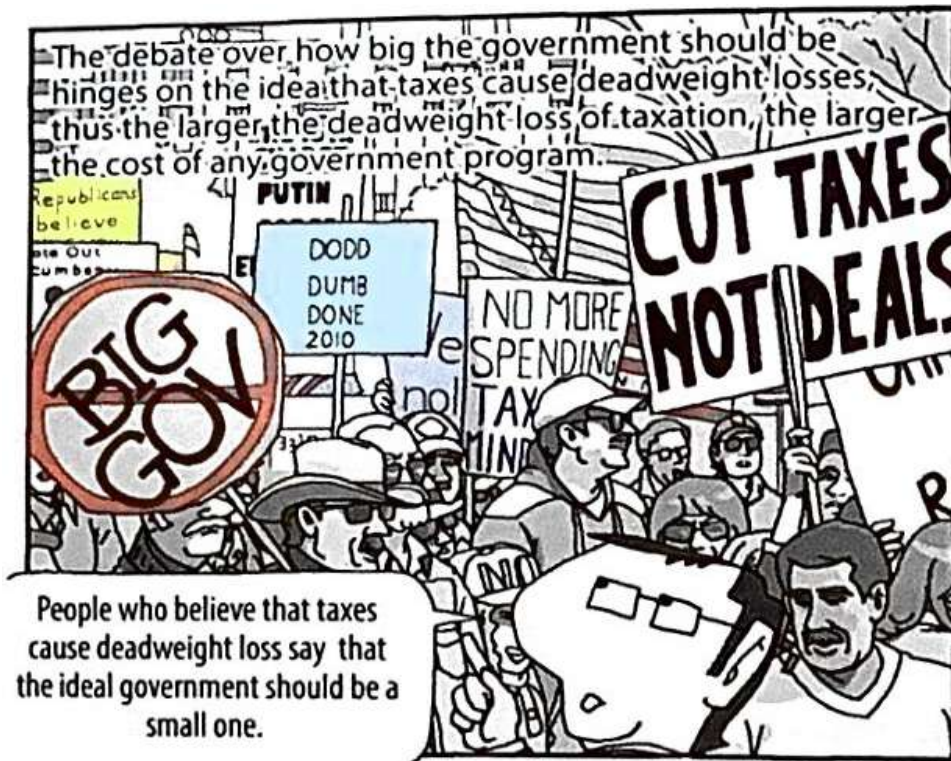
deadweight loss

argument

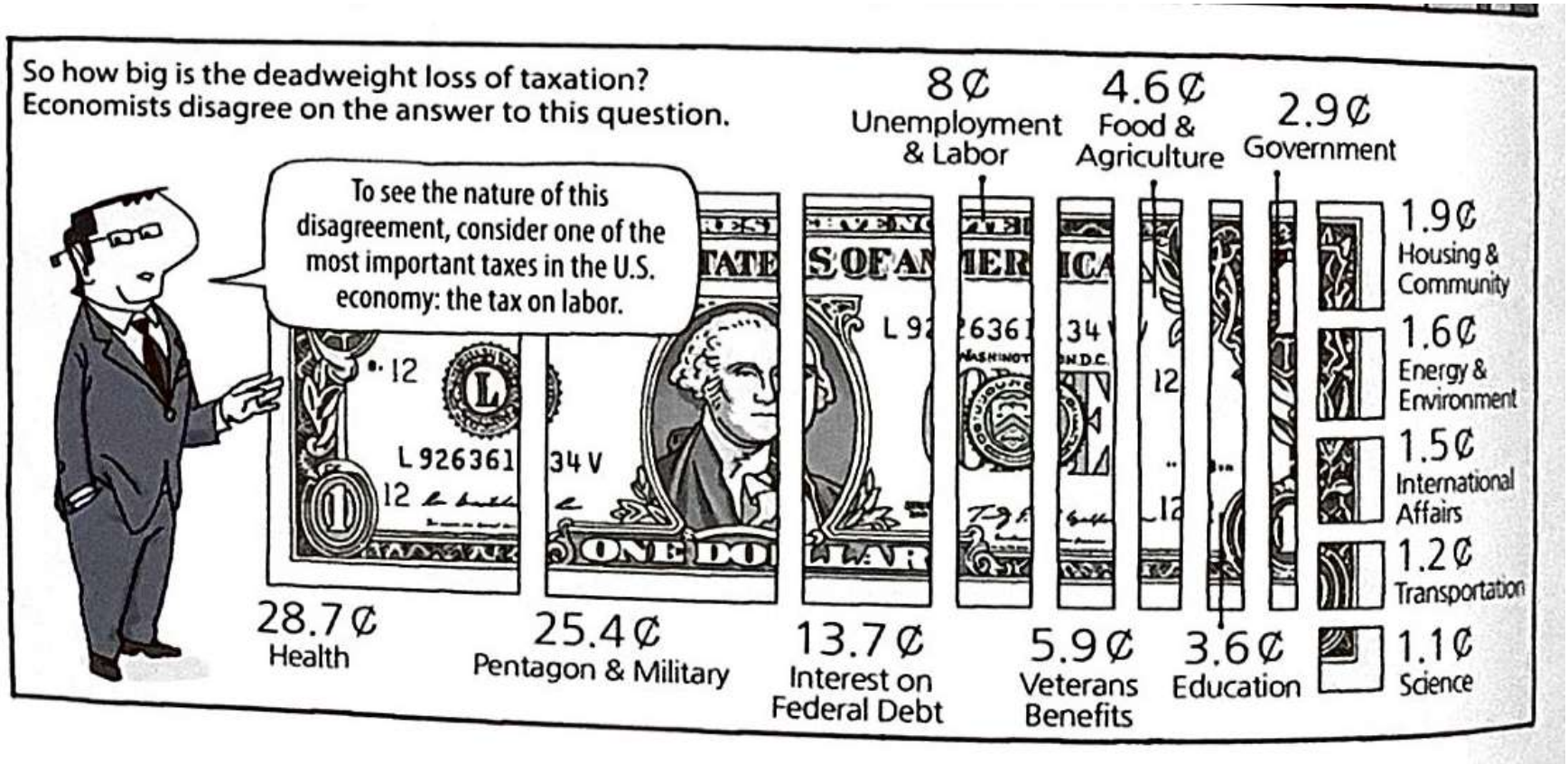
Many economic theories are dizzying enough. But surprisingly, these ideas touch upon...
At the heart of a profound political issue.



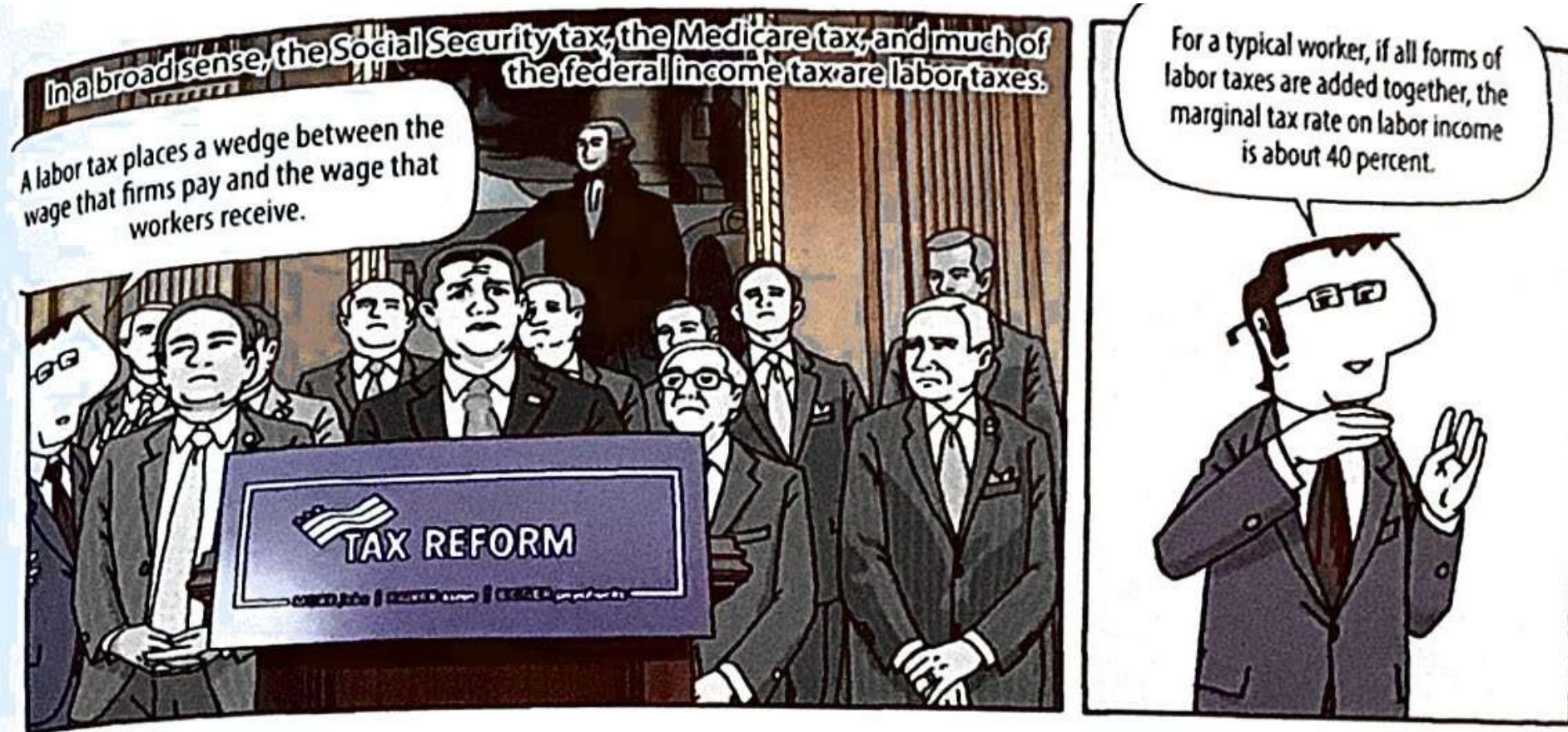
The debate about deadweight loss



The debate about deadweight loss

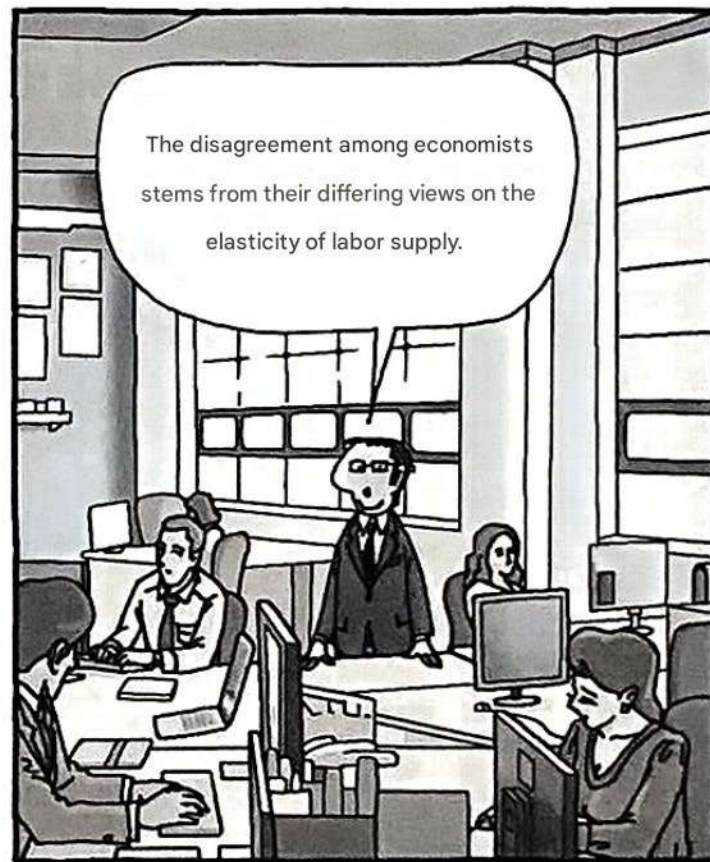


The debate about deadweight loss

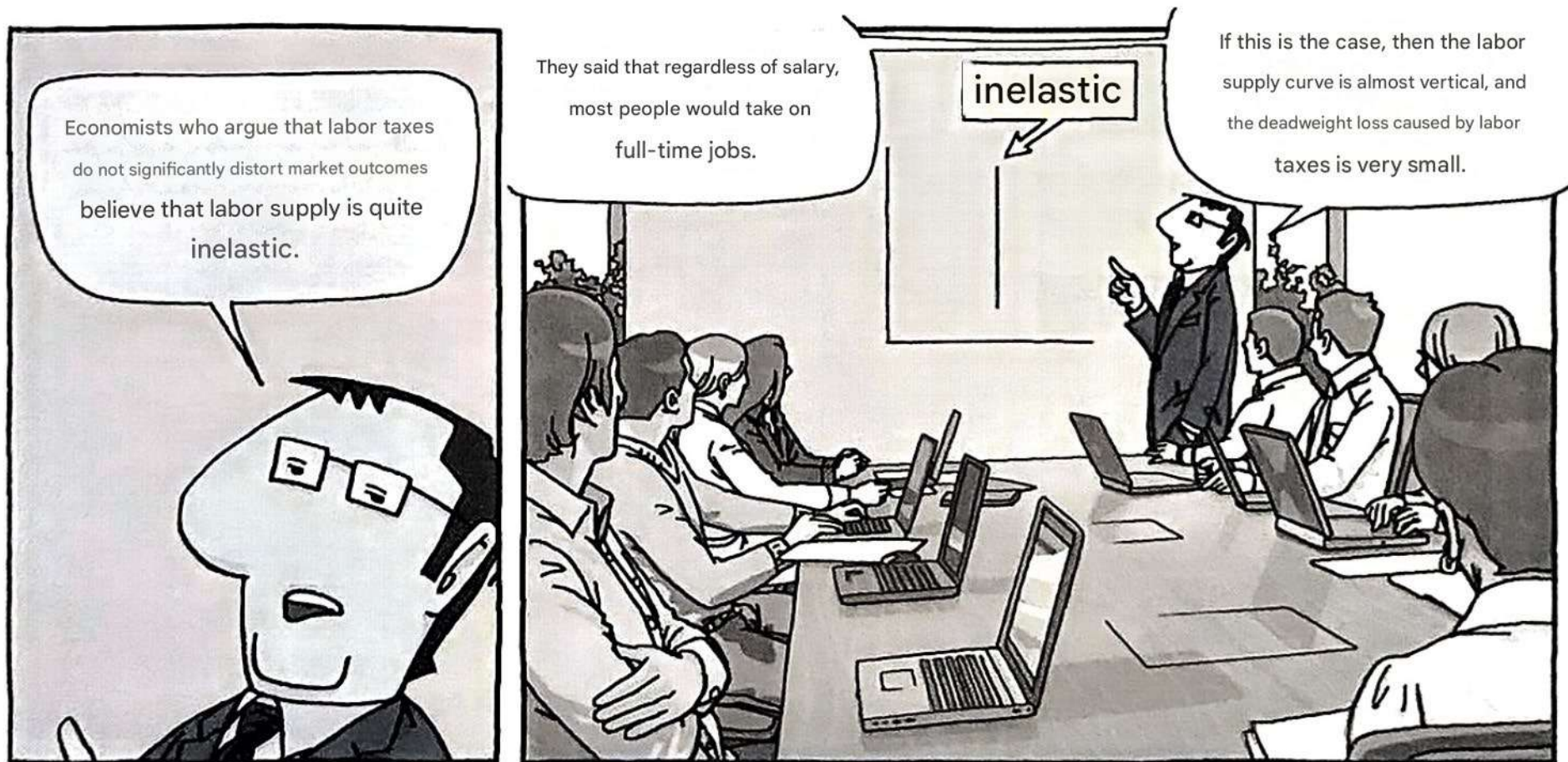


The debate about deadweight loss

The size of a labor tax is easy to determine, but the deadweight loss from such a tax is not so obvious.



The debate about deadweight loss

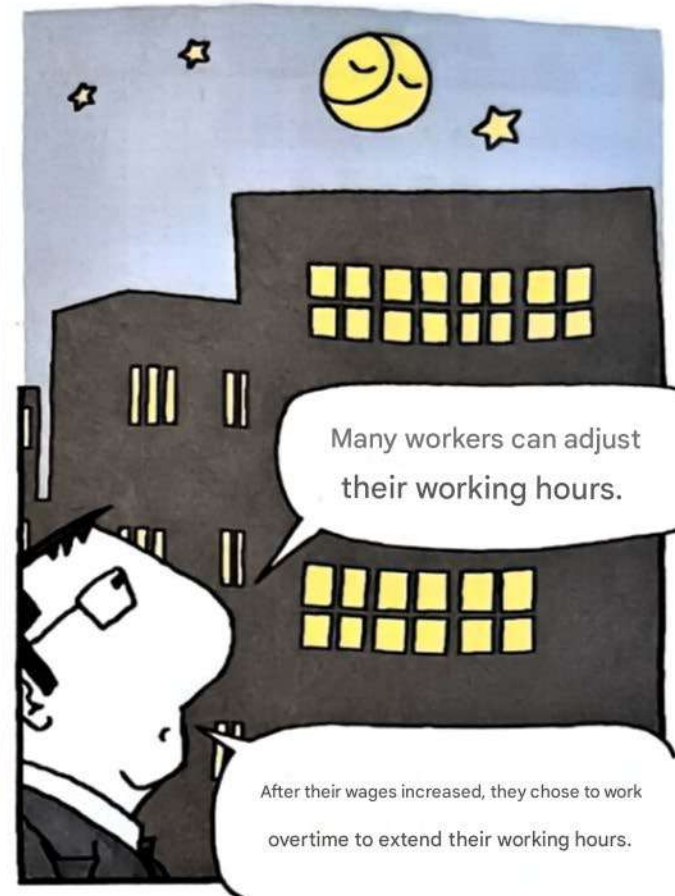


The debate about deadweight loss

Economists who argue that labor taxes severely distort the market believe that labor supply is relatively elastic.

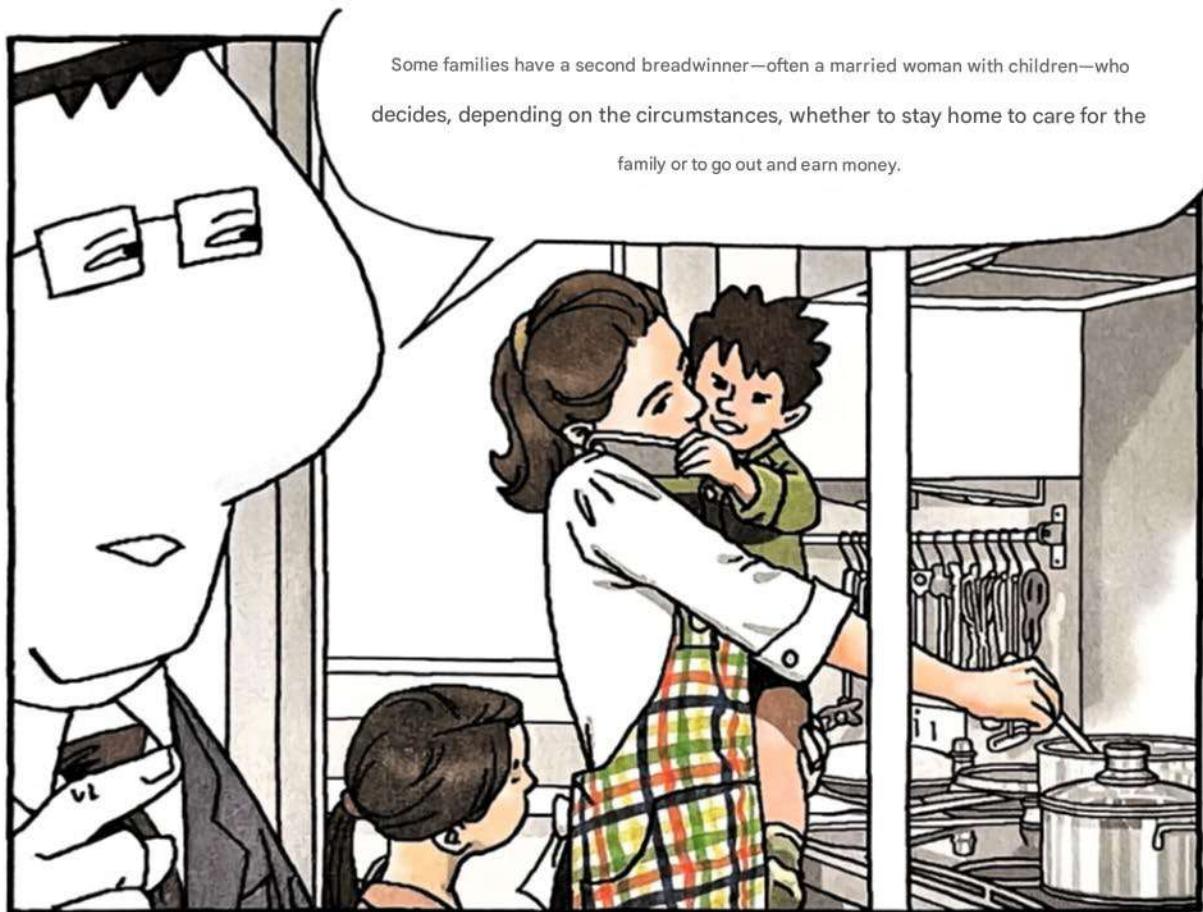


While the workload of some worker groups may not change much, many other groups respond more strongly to incentives.



The debate about deadweight loss

Some families have a second breadwinner—often a married woman with children—who decides, depending on the circumstances, whether to stay home to care for the family or to go out and earn money.



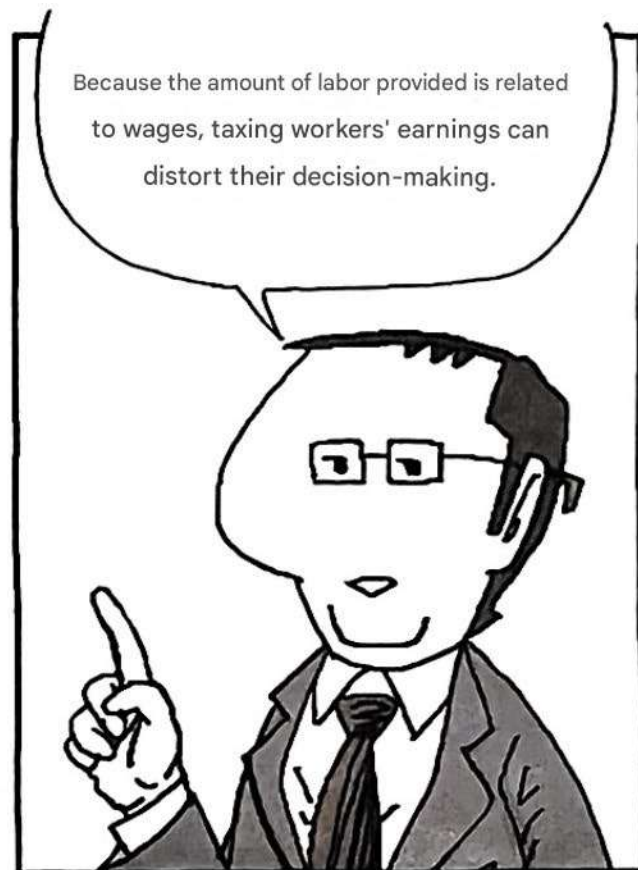
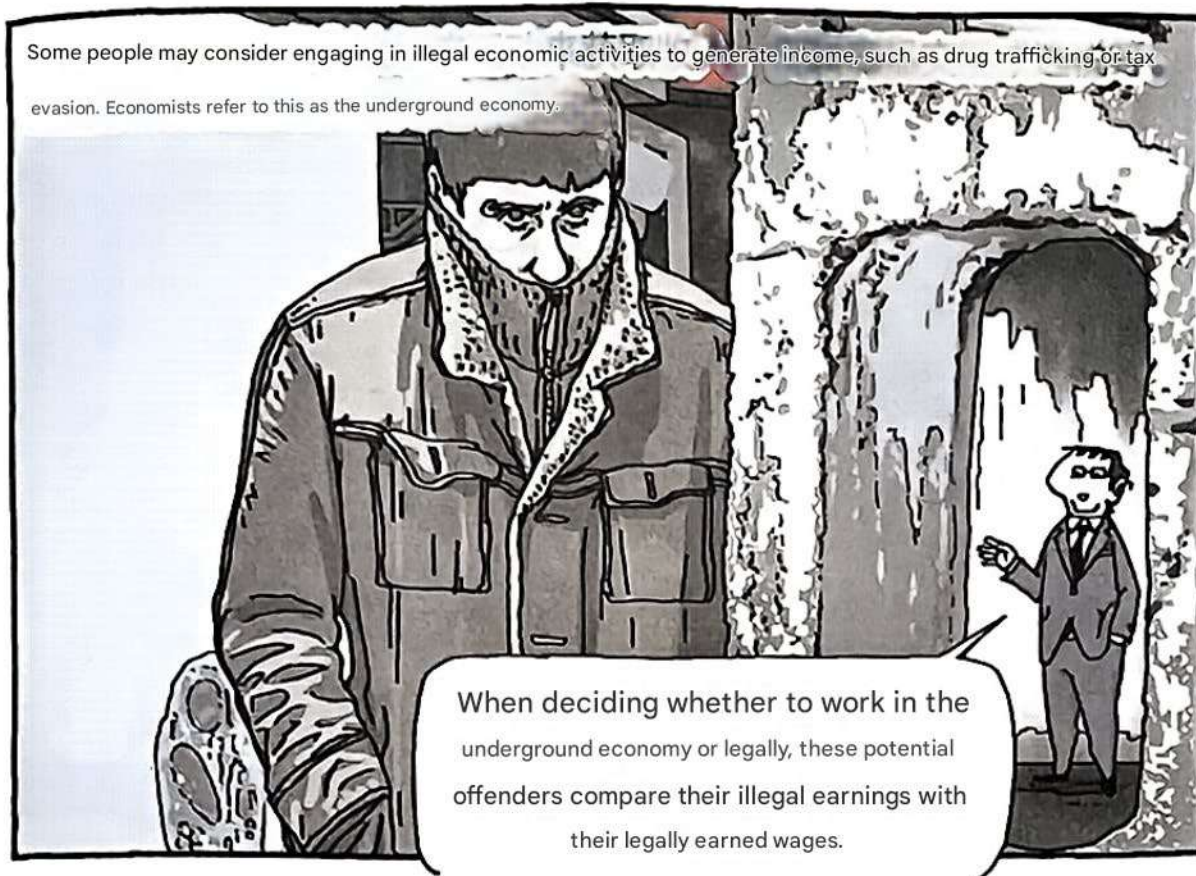
When deciding whether to accept a job, these second-earners will compare the benefits of staying at home with the wages they can earn.



The debate about deadweight loss



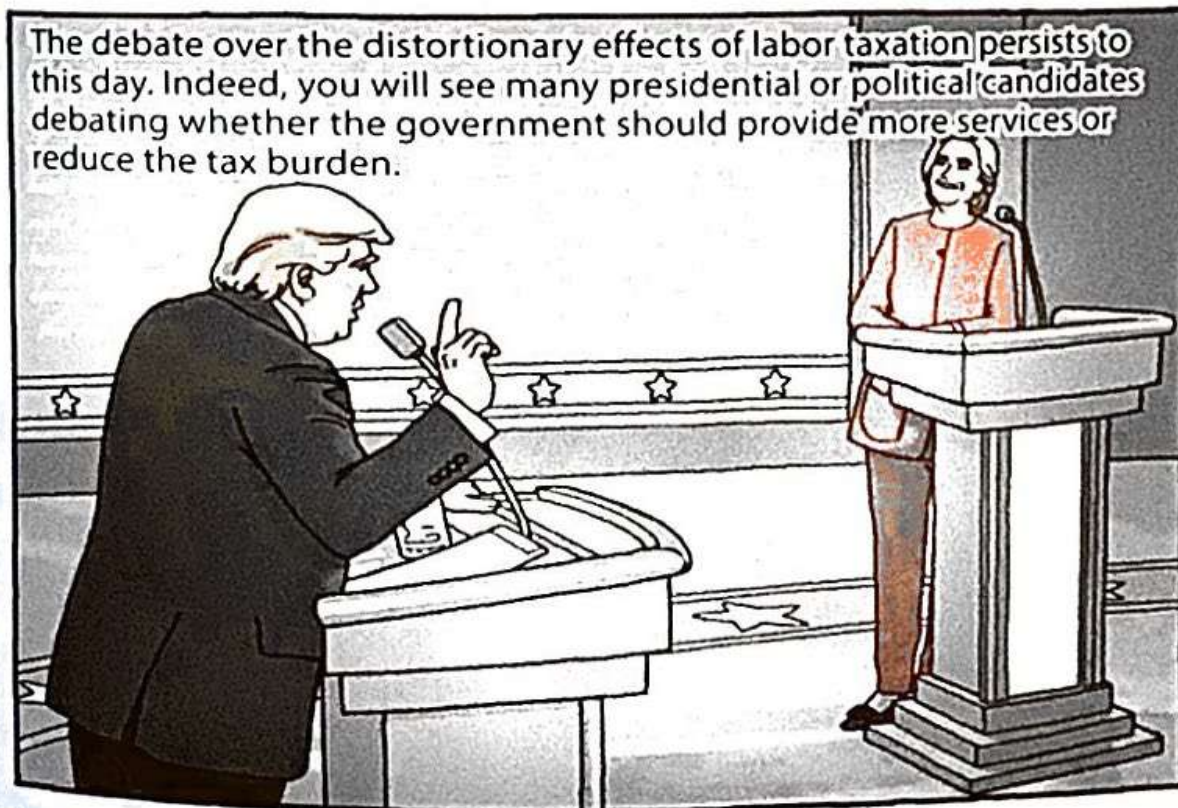
The debate about deadweight loss



The debate about deadweight loss

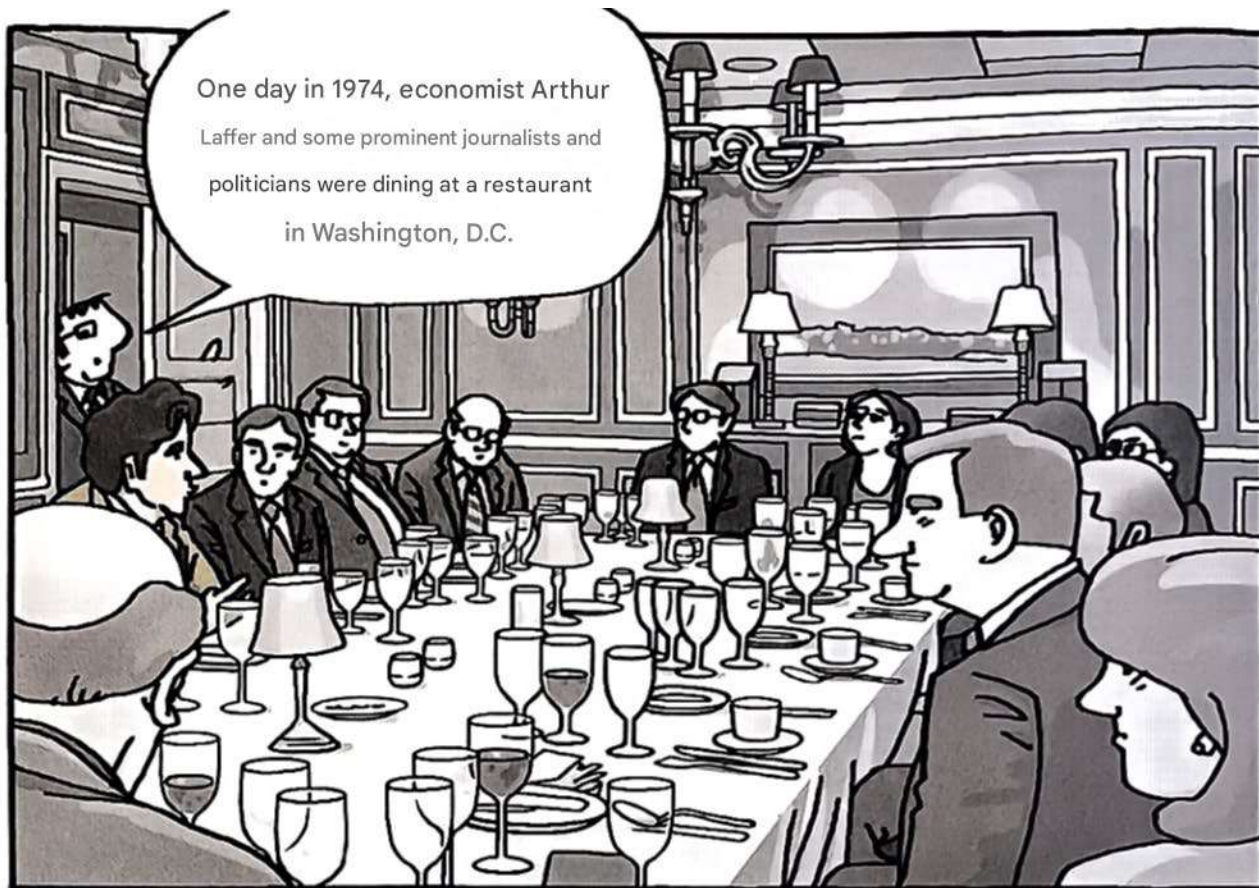


The debate about deadweight loss

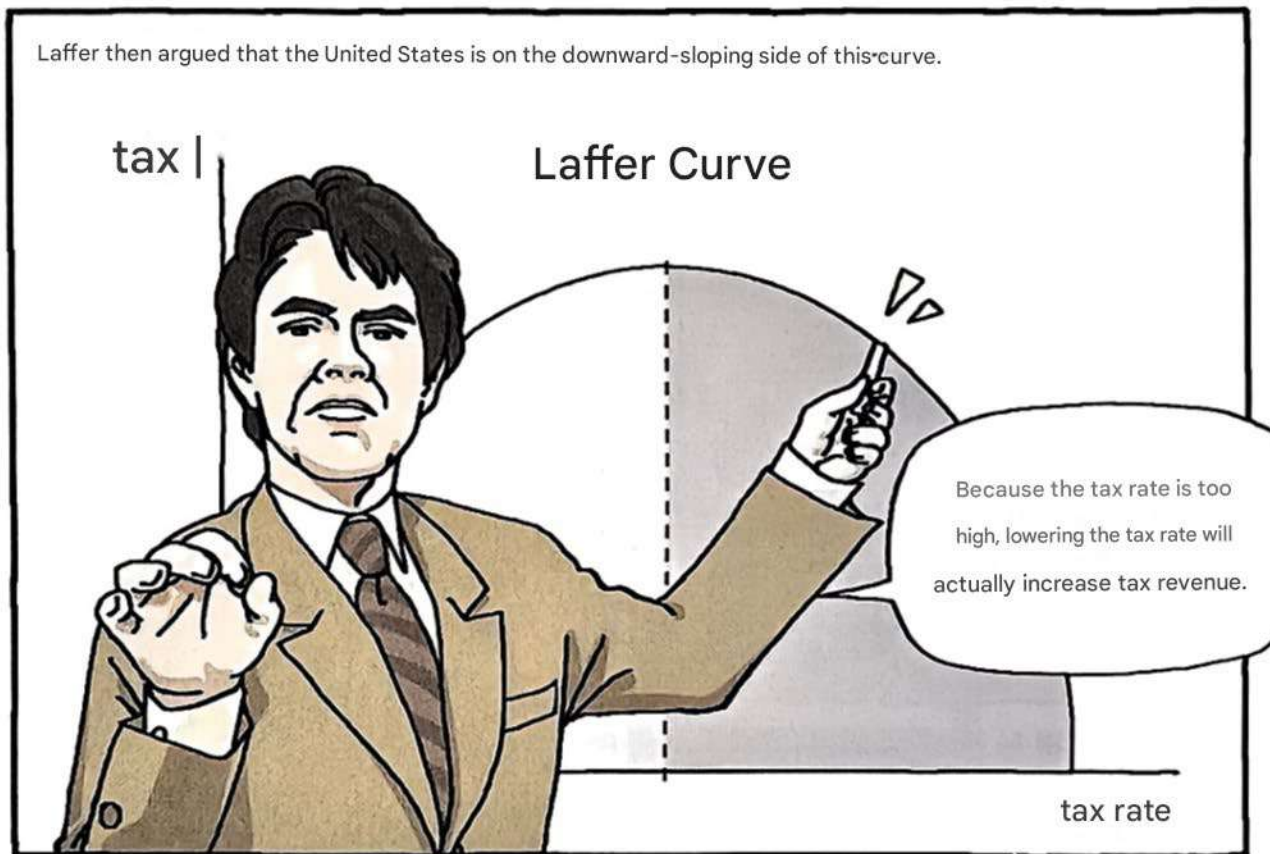
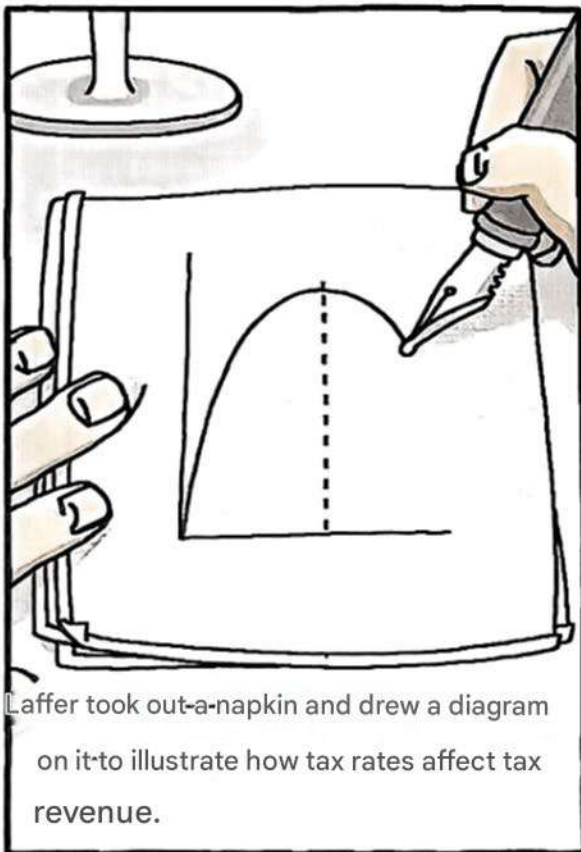


The Laffer Curve and Supply-Side Economics

Laffer Curve and
Supply-Side Economics

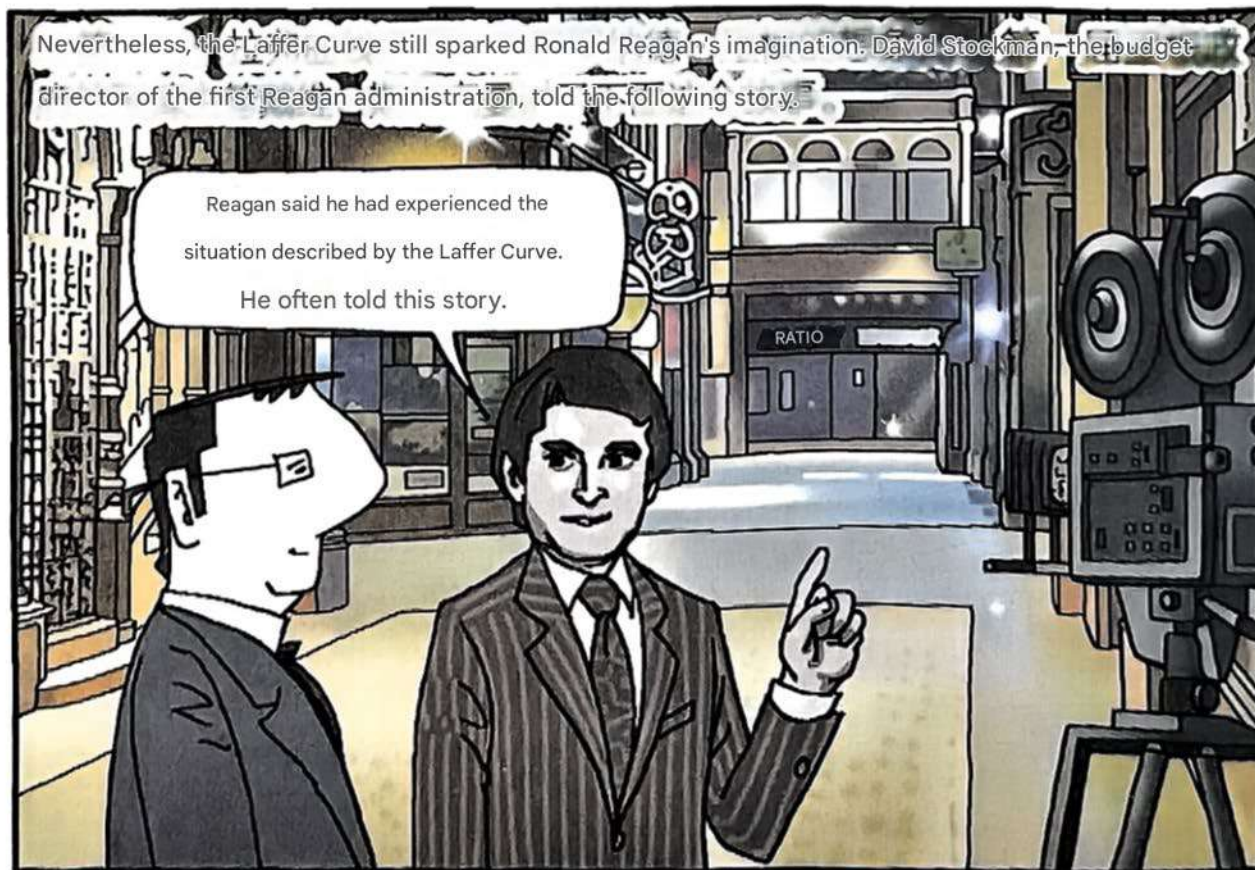


The Laffer Curve and Supply-Side Economics



The Laffer Curve and Supply-Side Economics

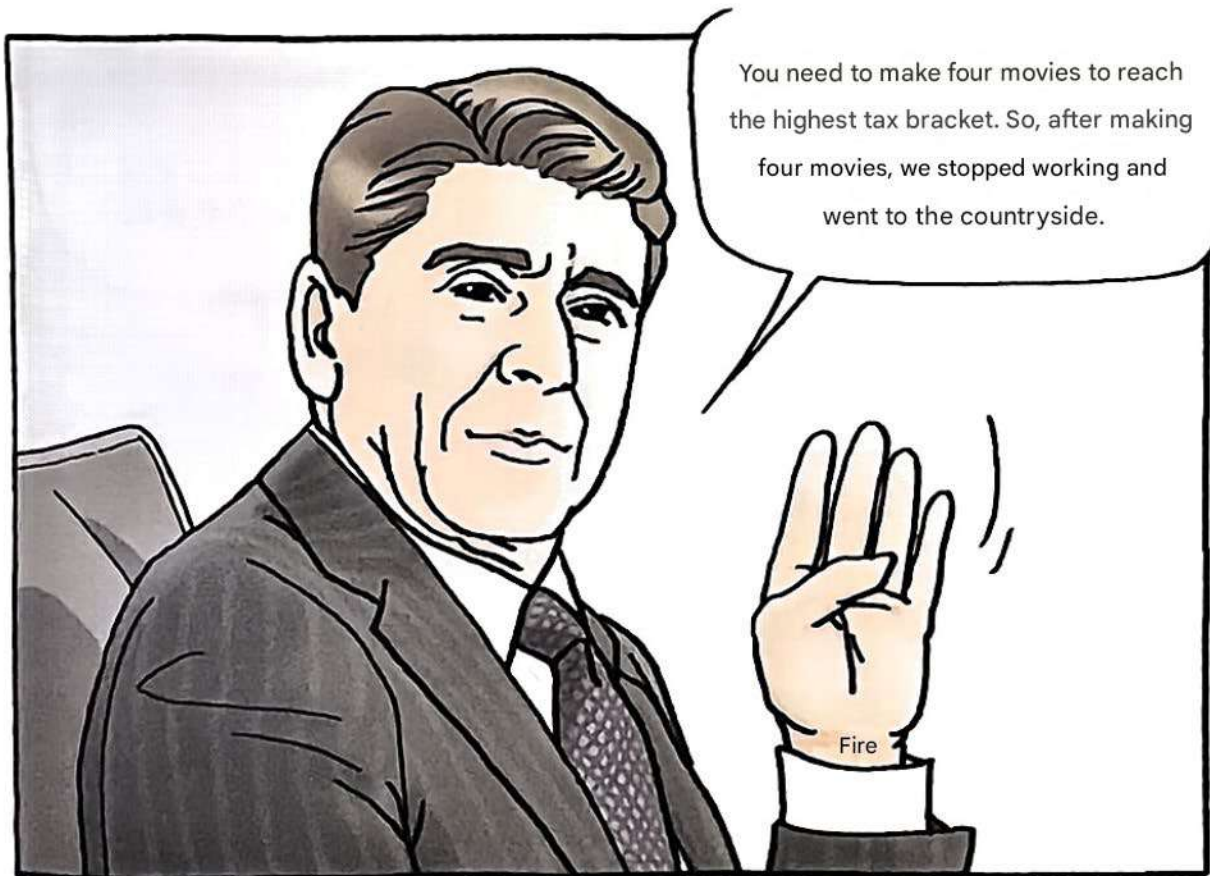
Most economists are skeptical of Laffer's suggestion, responding that while it may be correct in economic theory, it is questionable whether it will actually work in practice.



The Laffer Curve and Supply-Side Economics



The Laffer Curve and Supply-Side Economics

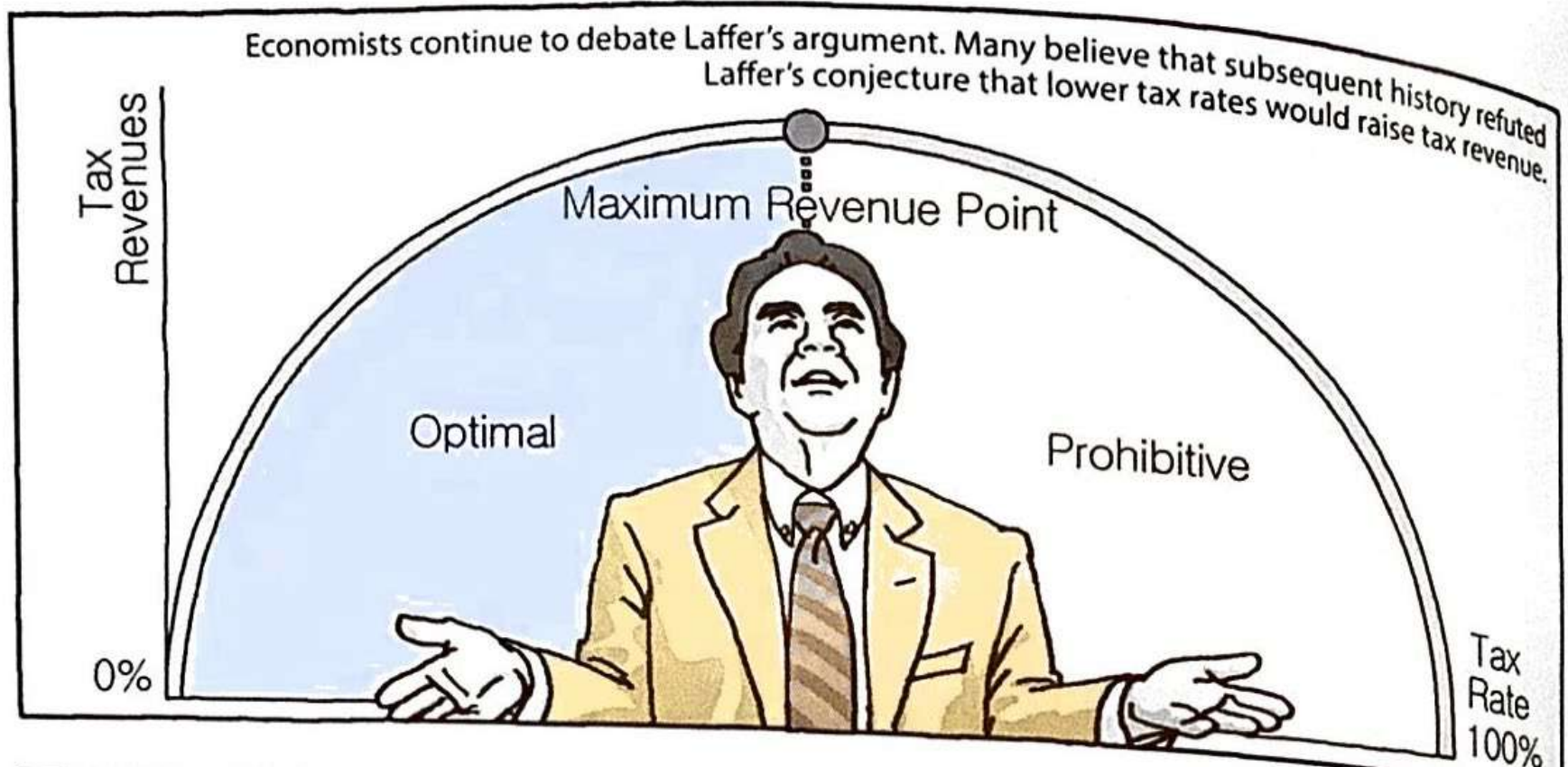


Reagan said that high tax rates make people work less,
while low tax rates make people work more.

The Laffer Curve and Supply-Side Economics



The Laffer Curve and Supply-Side Economics

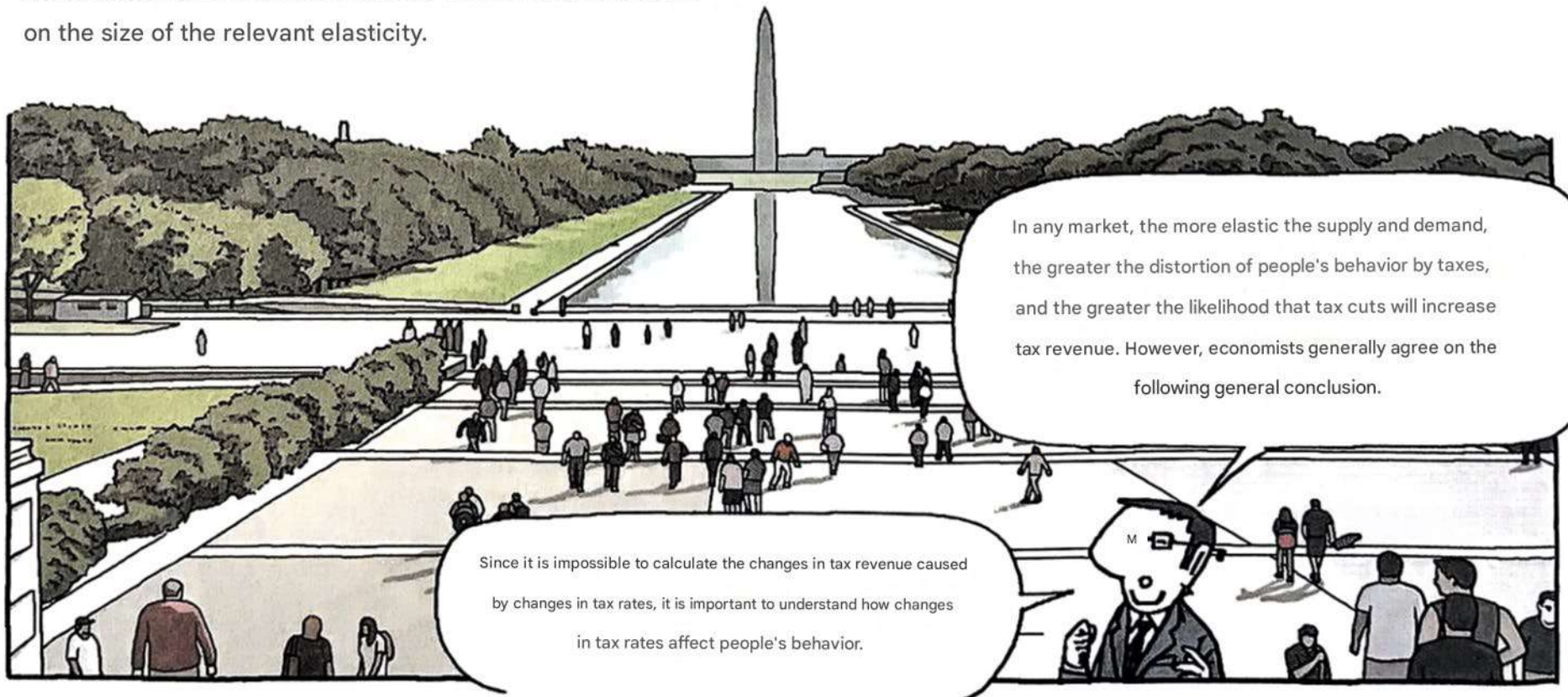


The Laffer Curve and Supply-Side Economics



The Laffer Curve and Supply-Side Economics

Economists disagree on these issues, partly because they cannot agree on the size of the relevant elasticity.



SUMMARY



- Taxation is often the source of intense political debate. In 1776, the anger of the American colonists over British taxation sparked the American Revolutionary War. More than 200 years later, American political parties are still debating the appropriate size and form of the tax system.
- Taxation reduces consumer and producer surplus because consumers pay more than before, and producers receive less. However, to understand more deeply how taxation affects economic welfare, we must compare the reduction in welfare for buyers and sellers with the amount of revenue gained by the government.

SUMMARY



- Taxing a good reduces the welfare of both buyers and sellers of that good, and the reduction in consumer and producer surplus generally exceeds the amount of revenue the government collects. The decrease in total surplus—the sum of consumer surplus, producer surplus, and tax revenue—is called the deadweight loss of taxation.

SUMMARY



- Taxes cause deadweight loss because they alter the behavior of buyers and sellers. Taxes raise the price buyers pay, thus reducing their consumption. At the same time, taxes lower the price sellers receive, thus reducing their production. As a result of these behavioral changes, the equilibrium quantity in the market shrinks below the optimal level. The greater the responsiveness of buyers and sellers to price changes, the greater the reduction in equilibrium quantity. Therefore, the greater the elasticity of supply and demand, the greater the deadweight loss of taxation.

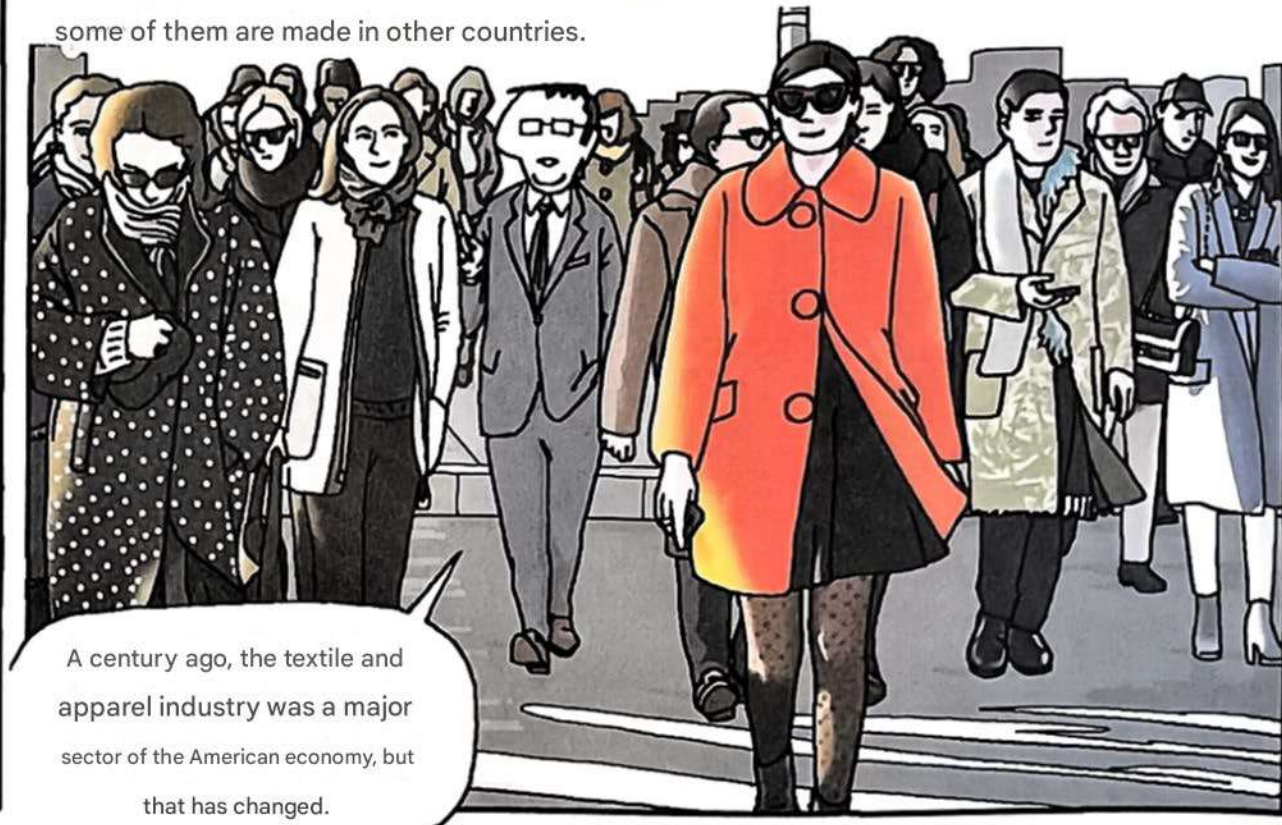
Chapter 10: Applications of Welfare Economics

- The cost of taxation
- **International trade**

The advantages and disadvantages of free trade

The gains and losses of
free trade

If you look at the labels on the clothes Americans wear today, you might find that some of them are made in other countries.

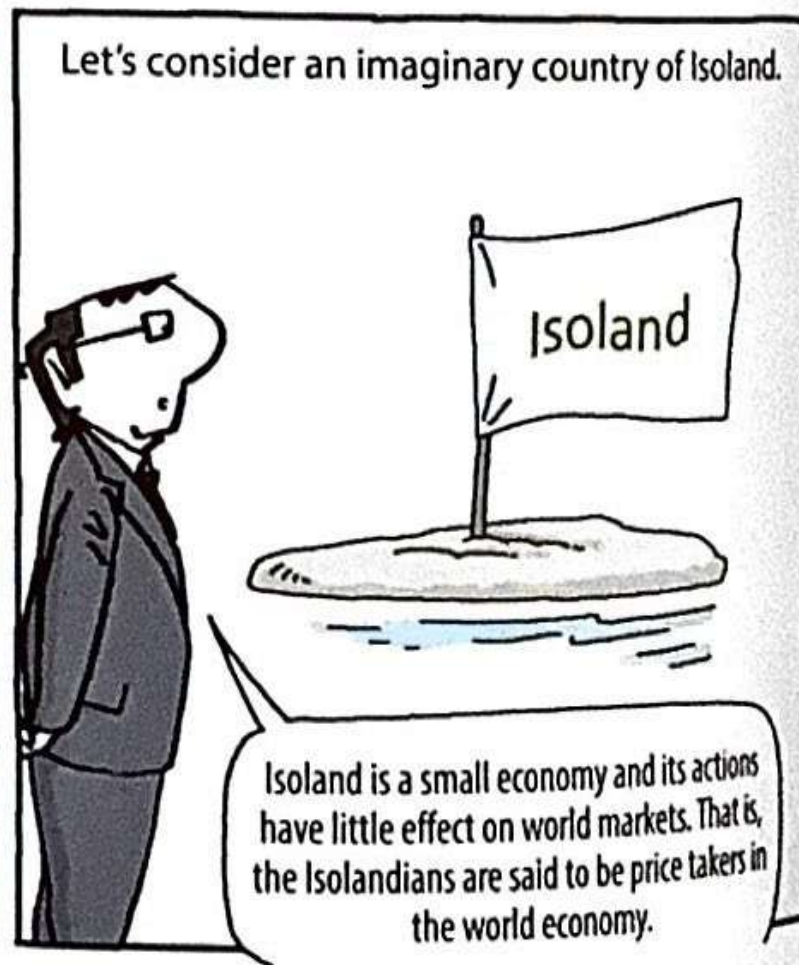
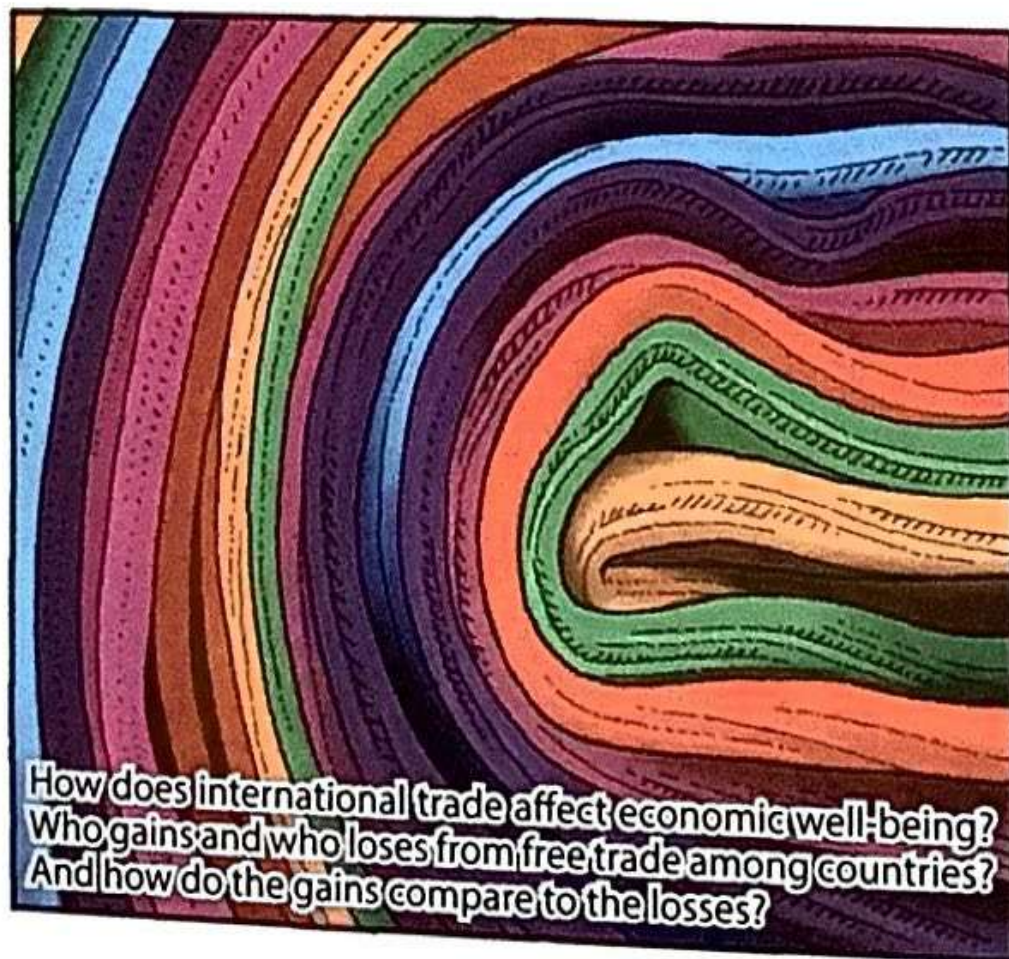


A century ago, the textile and apparel industry was a major sector of the American economy, but that has changed.

The advantages and disadvantages of free trade



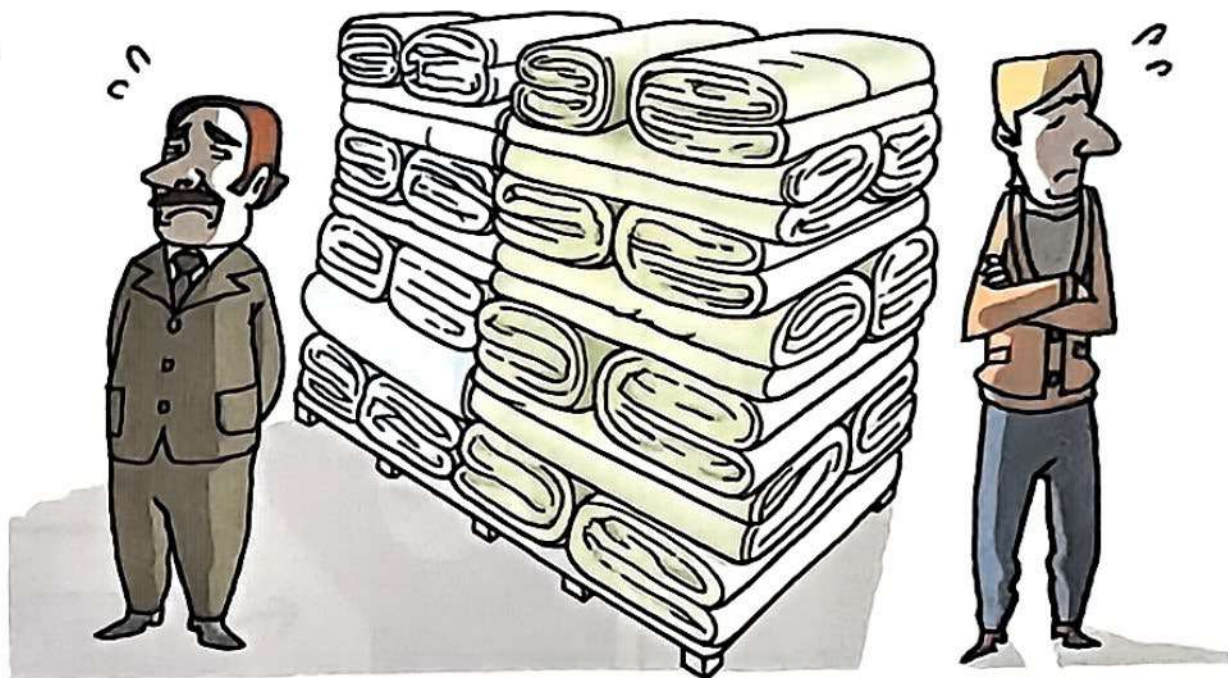
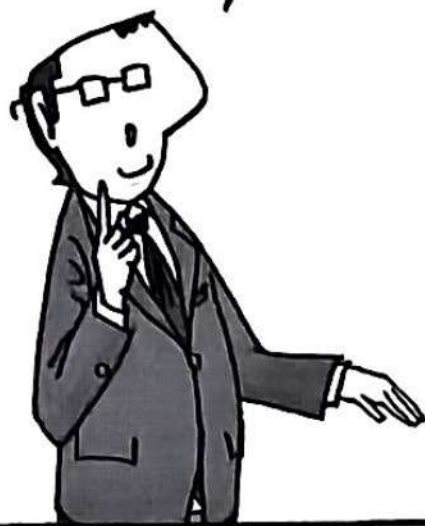
The advantages and disadvantages of free trade



The advantages and disadvantages of free trade

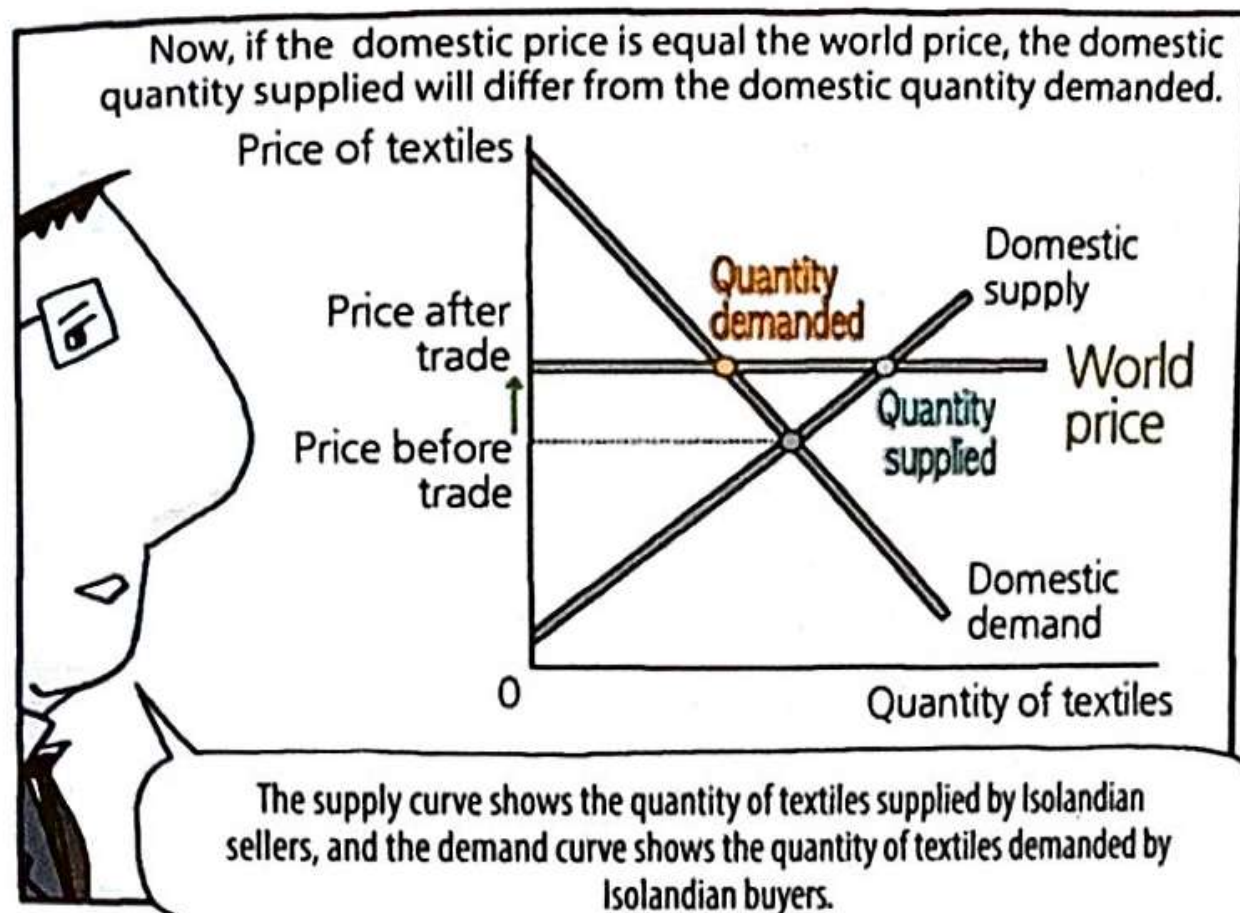
If the domestic equilibrium price of textiles in Isoran is lower than the world price before international trade is permitted, then once trade is allowed, its domestic price will rise to equal the world price.

No textile seller will accept a price lower than the world price, and no buyer will pay a price higher than the world price.

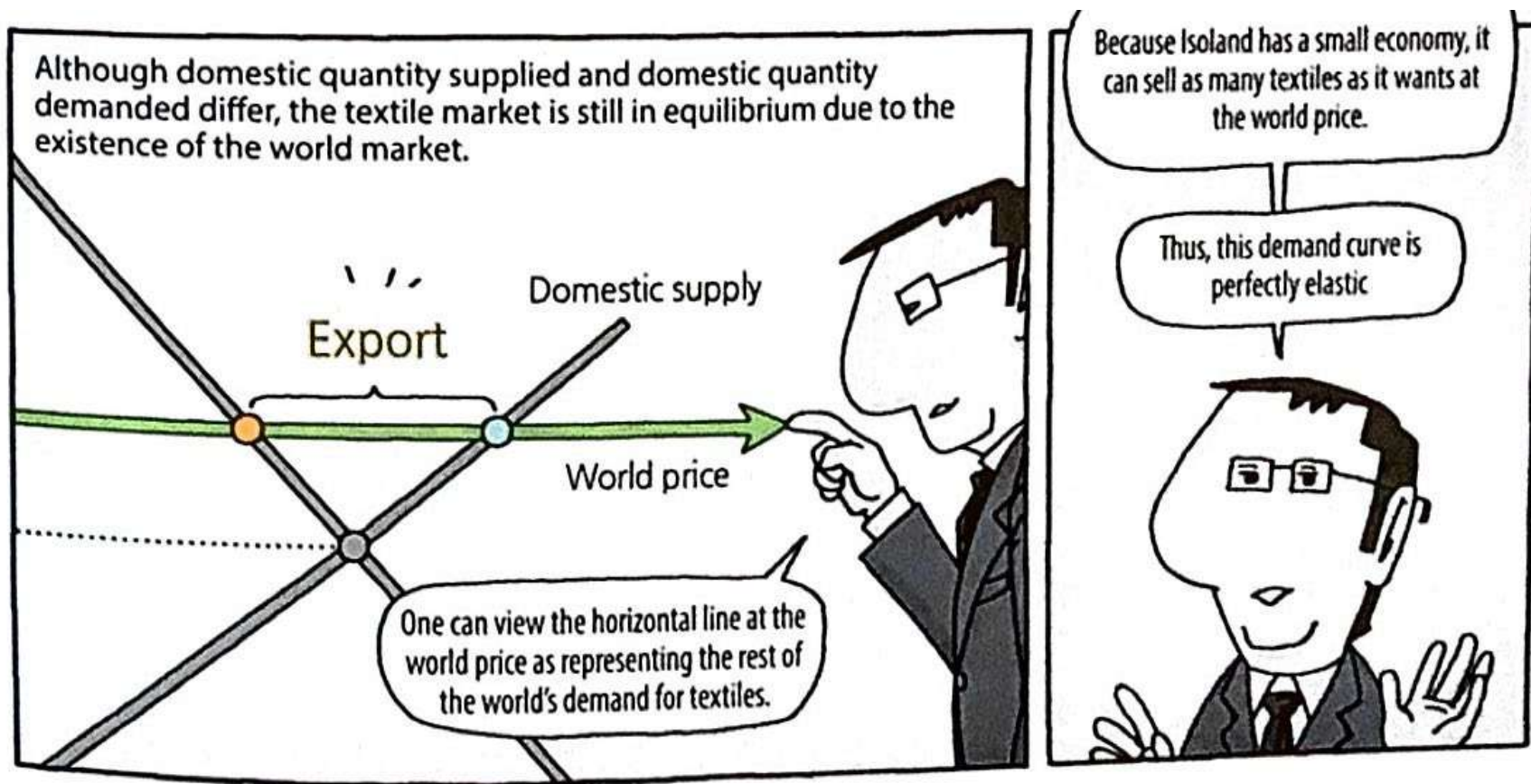


Sellers (domestic producers) can sell on the world market at the world price, so they will not accept a price lower than the world price, because they can sell at the world price if they choose to. Similarly, buyers (domestic consumers) can buy on the world market at the world price, so they will not pay a price higher than the world price, because they can buy at the world price. Therefore, the price in the domestic market is fixed at the world price.

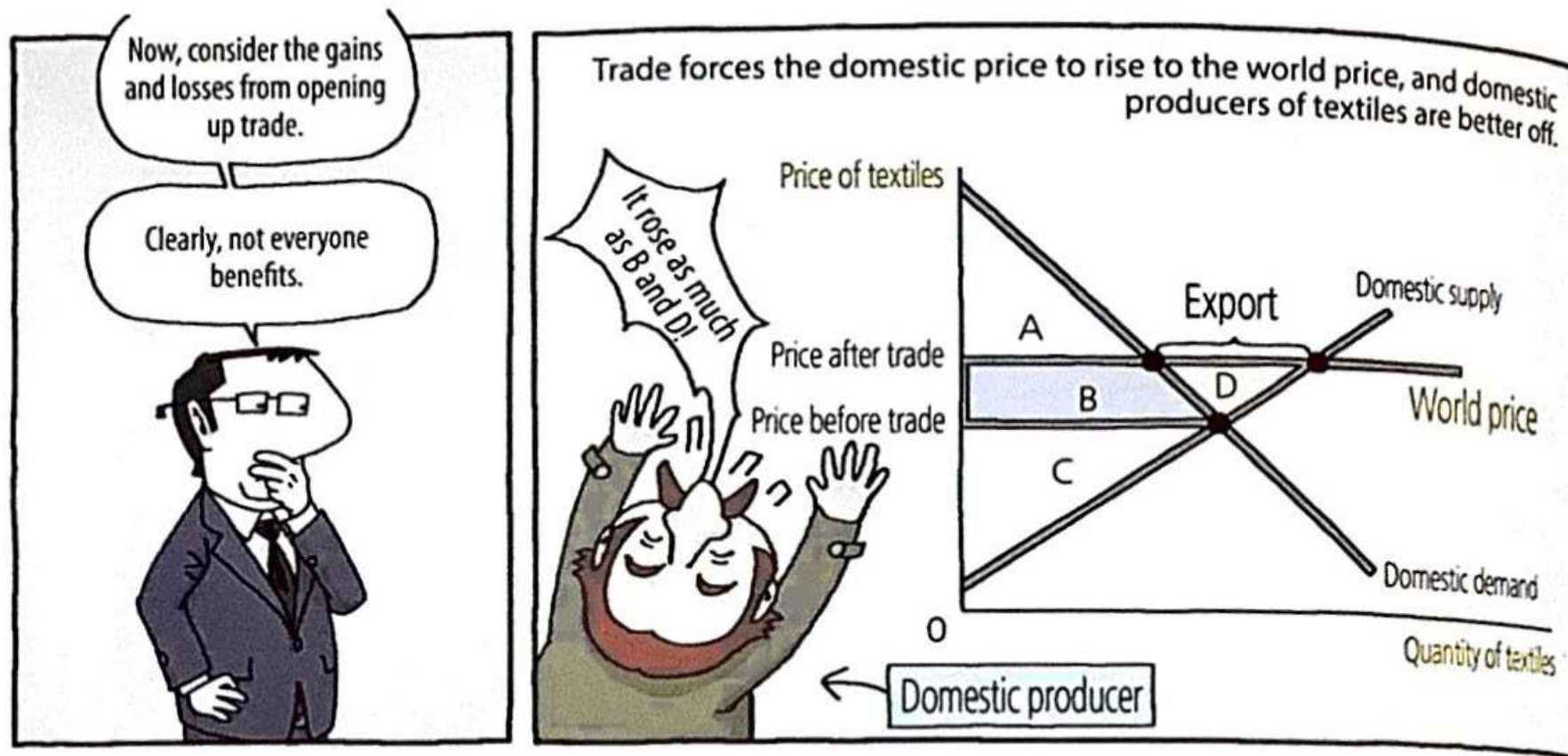
The advantages and disadvantages of free trade



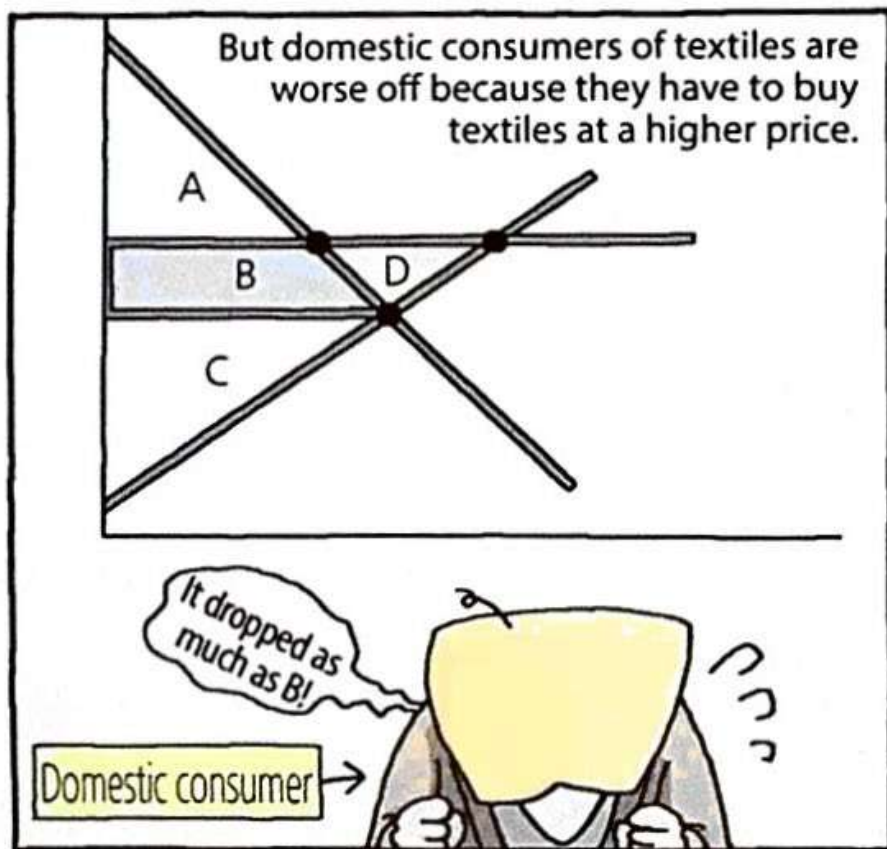
The advantages and disadvantages of free trade



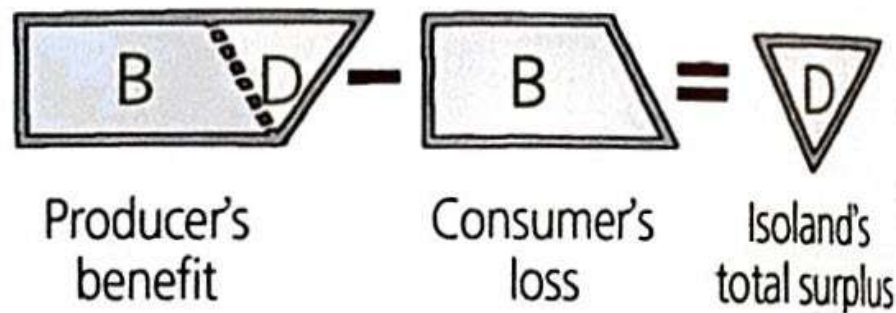
The advantages and disadvantages of free trade



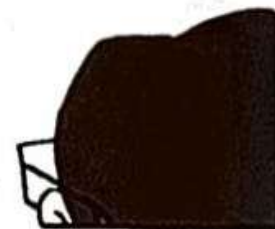
The advantages and disadvantages of free trade



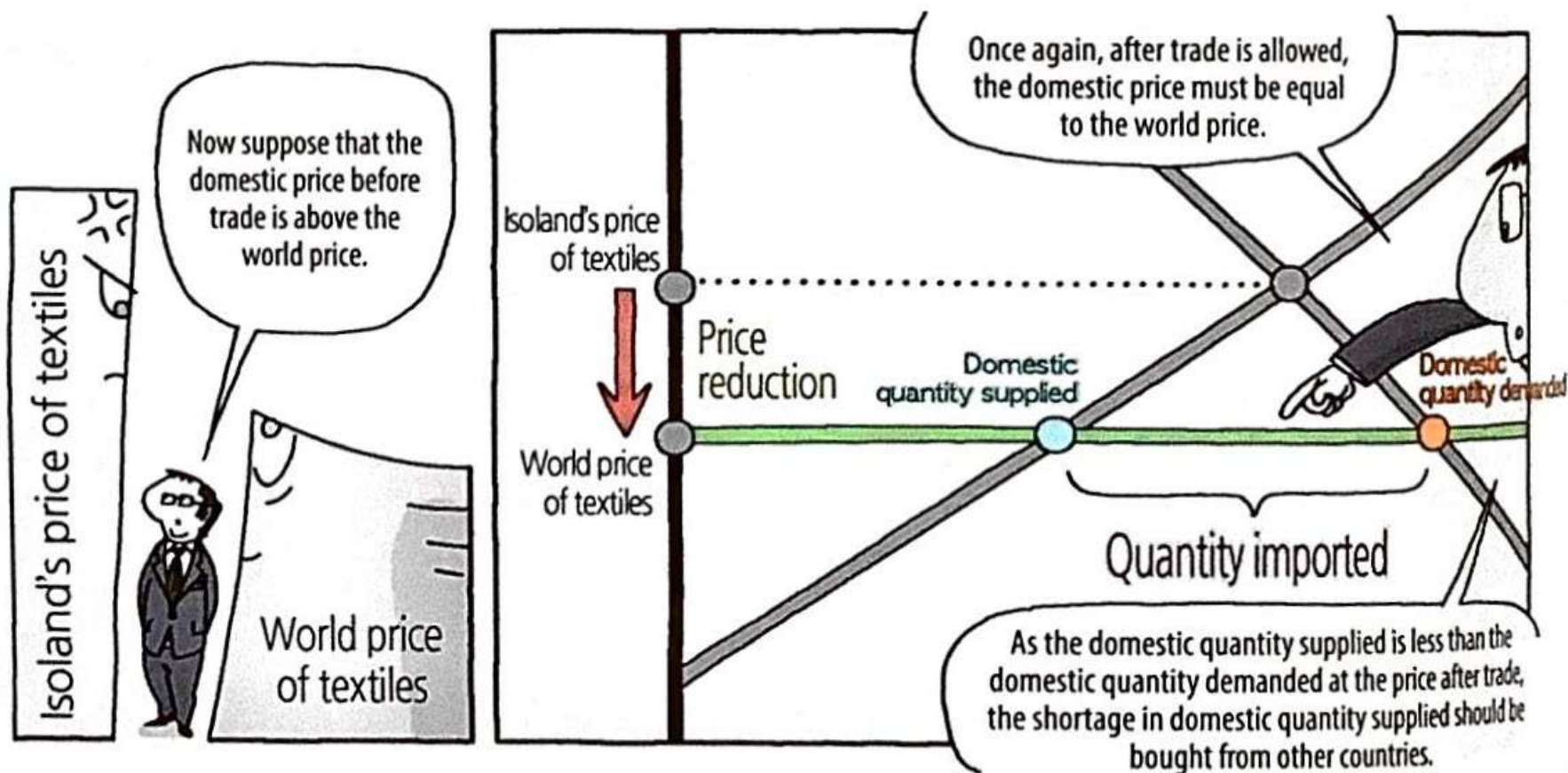
When a country becomes an exporter of a good, domestic producers of the good are better off, and domestic consumers of the good are worse off.



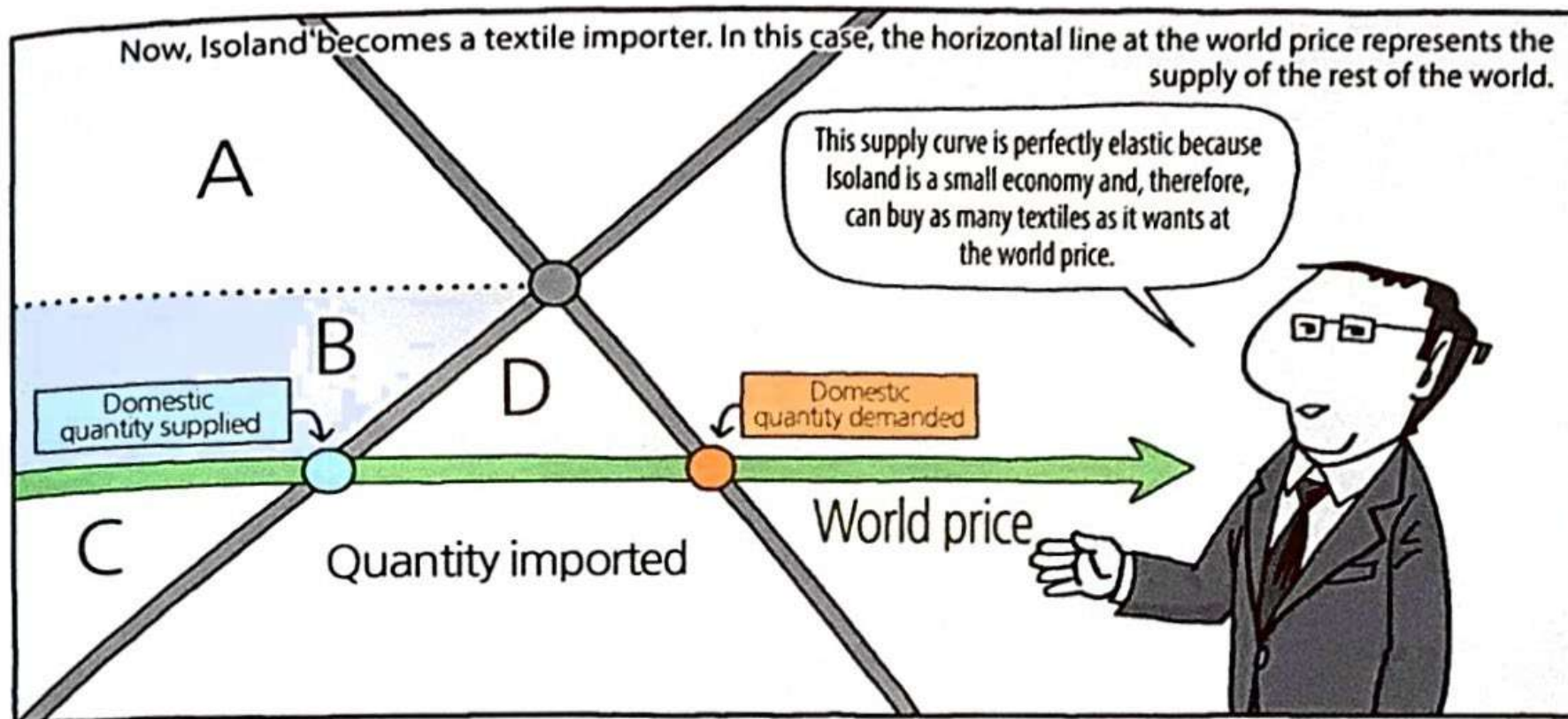
However, trade raises the economic well-being of a nation because the gains of producer surplus exceed the losses of consumer surplus.



The advantages and disadvantages of free trade



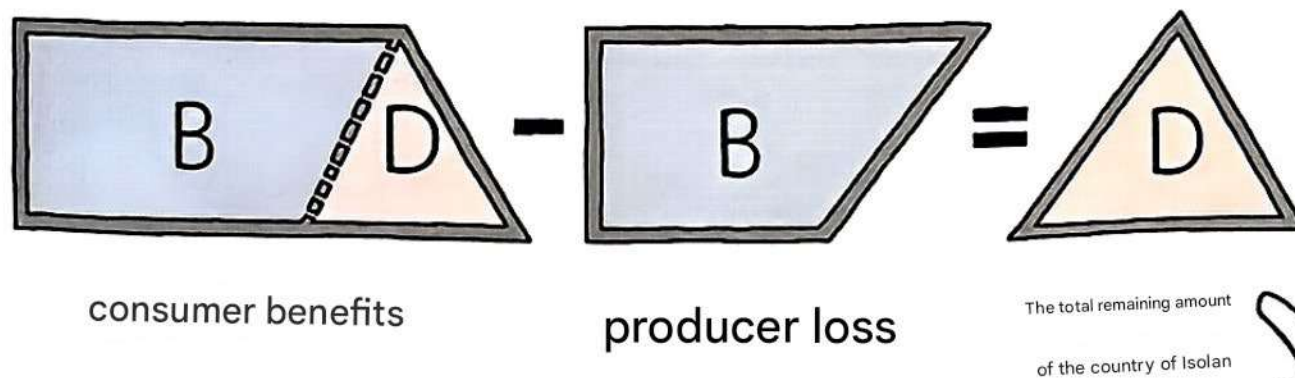
The advantages and disadvantages of free trade



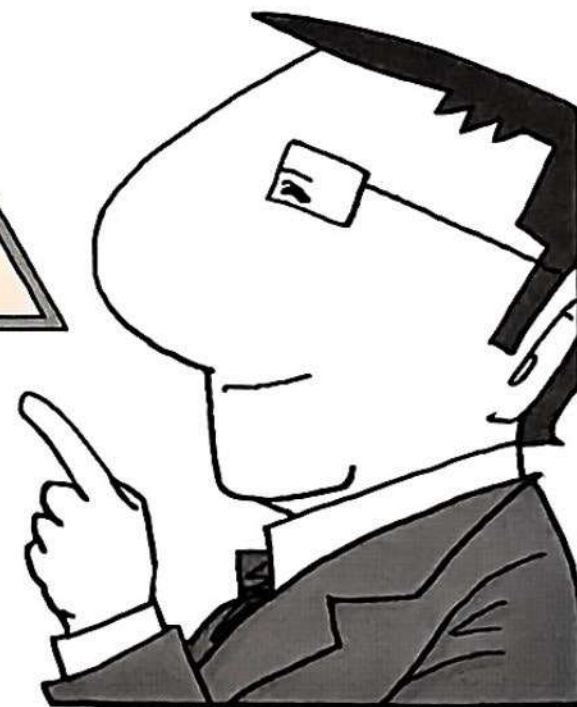
The advantages and disadvantages of free trade

Because it's free trade, when domestic prices fall, domestic consumers are better off, while domestic producers are worse off. This leads to consumer surplus.

The magnitude of gains and losses is measured by changes in producer surplus.



When trade forces domestic prices down, consumer surplus increases while producer surplus decreases. However, as buyers' gains exceed sellers' losses, the nation's total surplus increases.



The advantages and disadvantages of free trade



The advantages and disadvantages of free trade



The advantages and disadvantages of free trade



The impact of tariffs

Impact of tariffs

In order to help the losers in free trade, Isoran decided to implement tariffs.



Because tariffs are taxes levied on goods produced abroad and sold domestically. If Isoran is a textile exporter, then it is irrelevant for it to impose tariffs on textile imports.

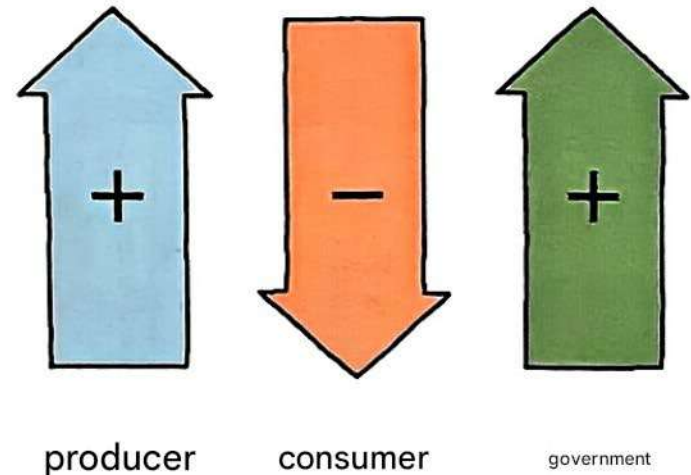
Tariffs are only important when Isoran is an importer of textiles.

The impact of tariffs

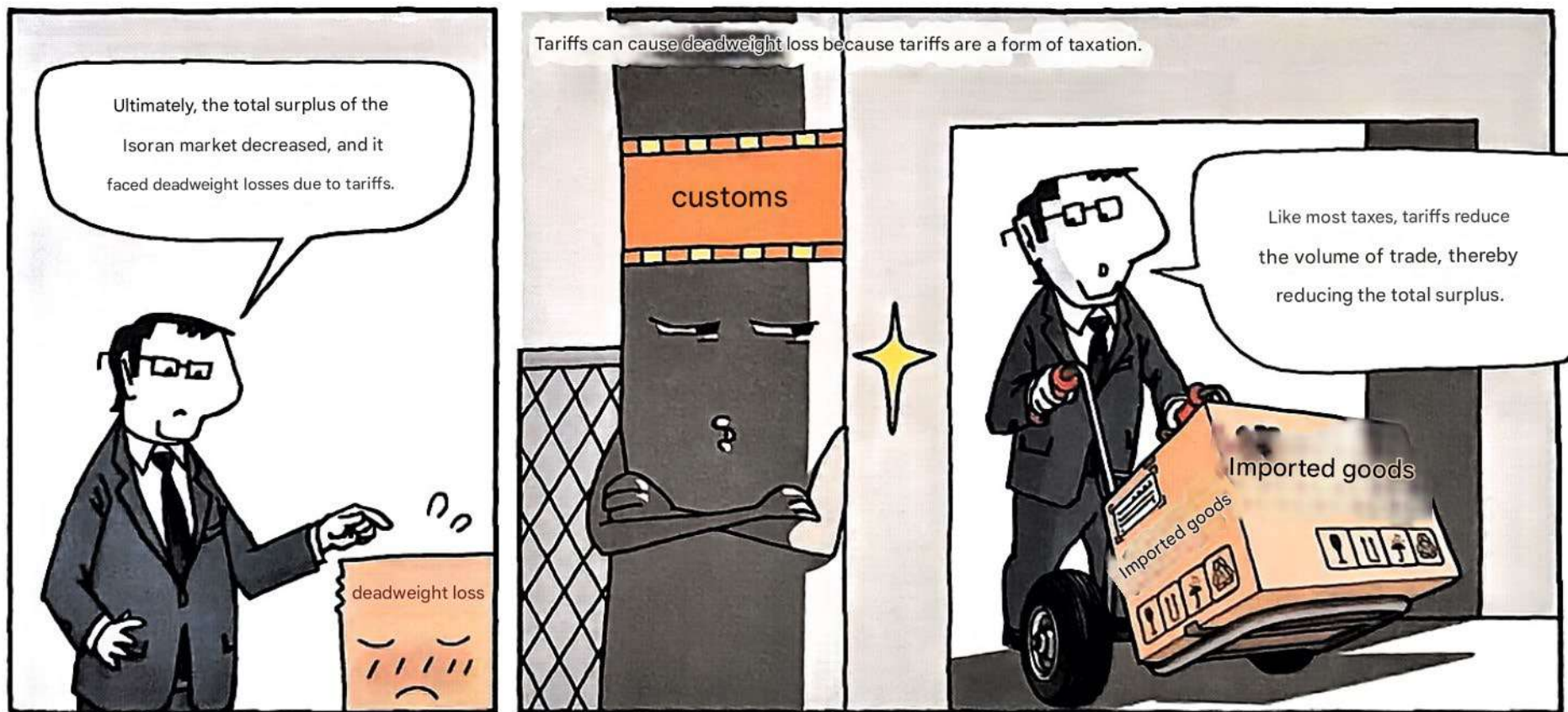
Under free trade conditions, domestic prices equal world prices. This is because domestic textile suppliers can now sell their textiles at the world price plus tariffs.



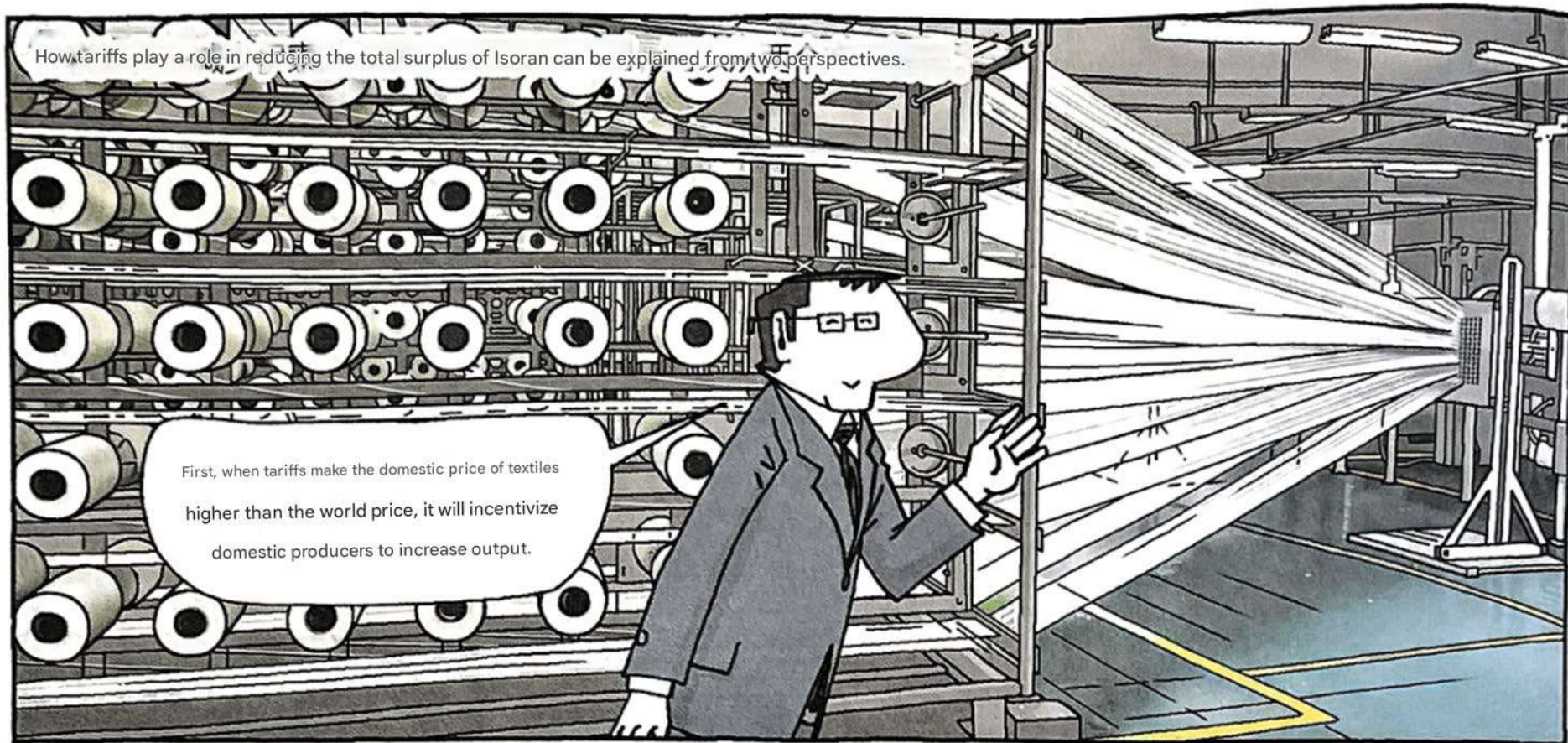
Because tariffs increased domestic prices, domestic sellers fared better, while domestic buyers fared worse. Furthermore, the government also profited from the tariffs.



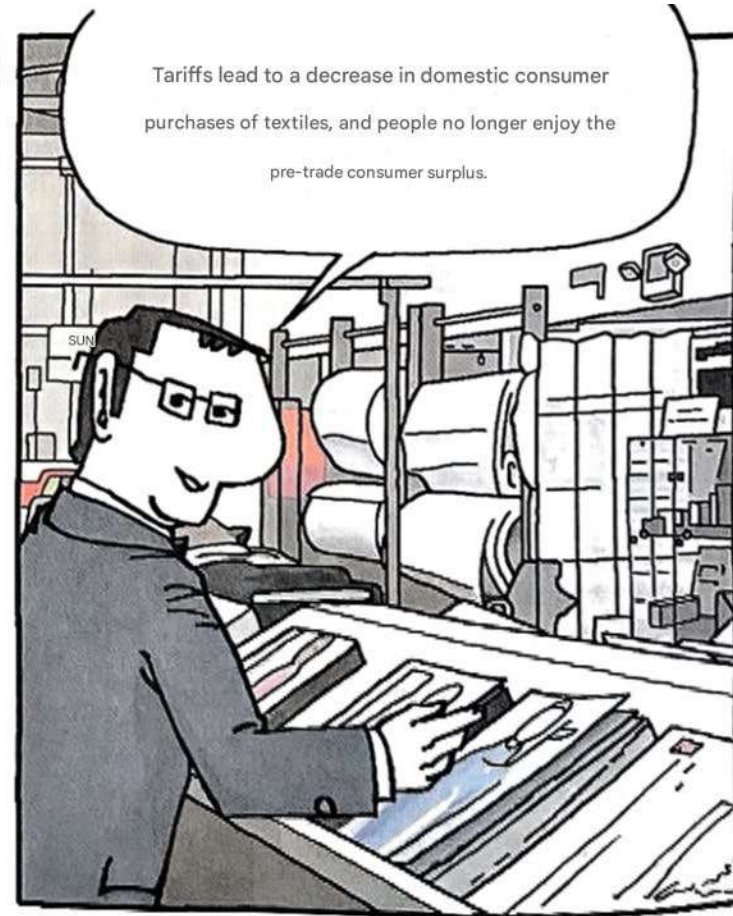
The impact of tariffs



The impact of tariffs



The impact of tariffs



Reasons for restricting trade

restrictive of trade
reason



Reasons for restricting trade

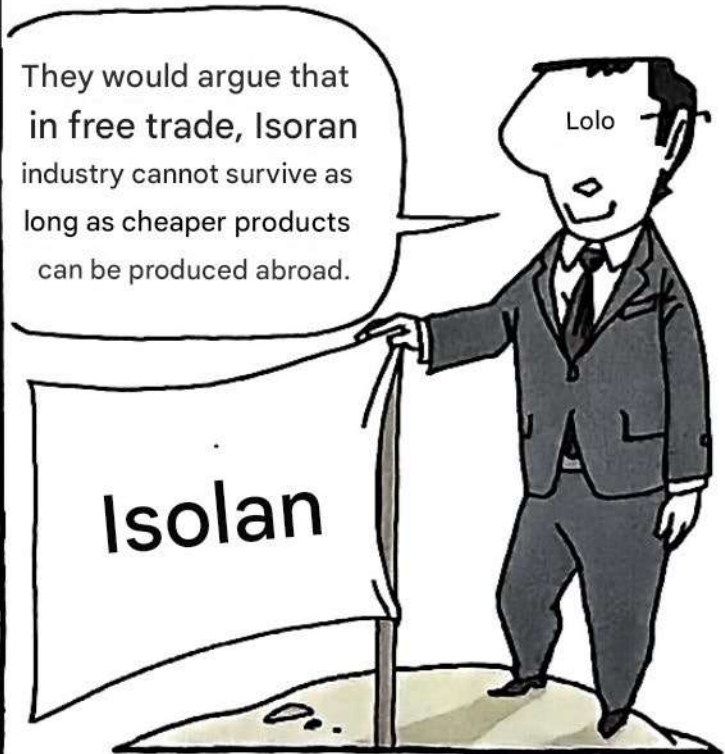


Reasons for restricting trade

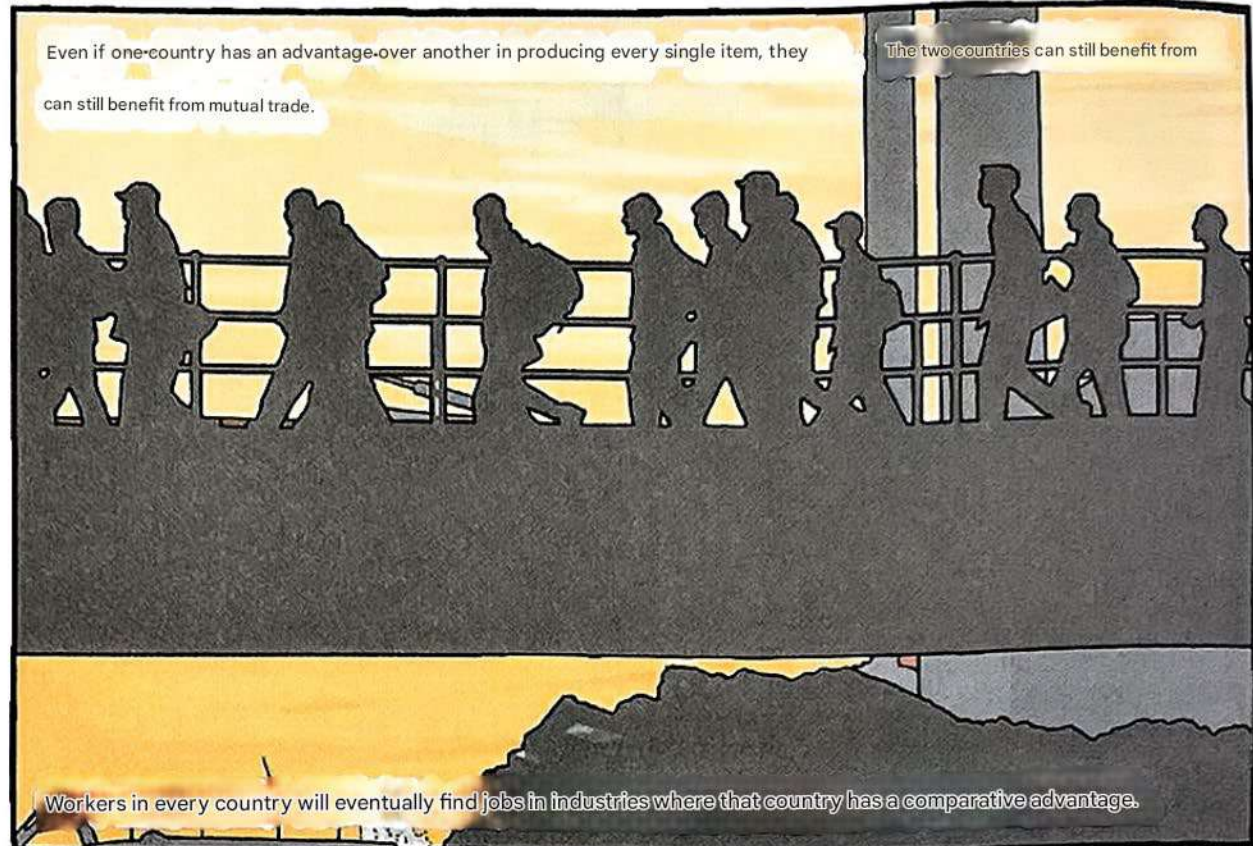


Opponents of trade are often skeptical of the idea that trade creates jobs.

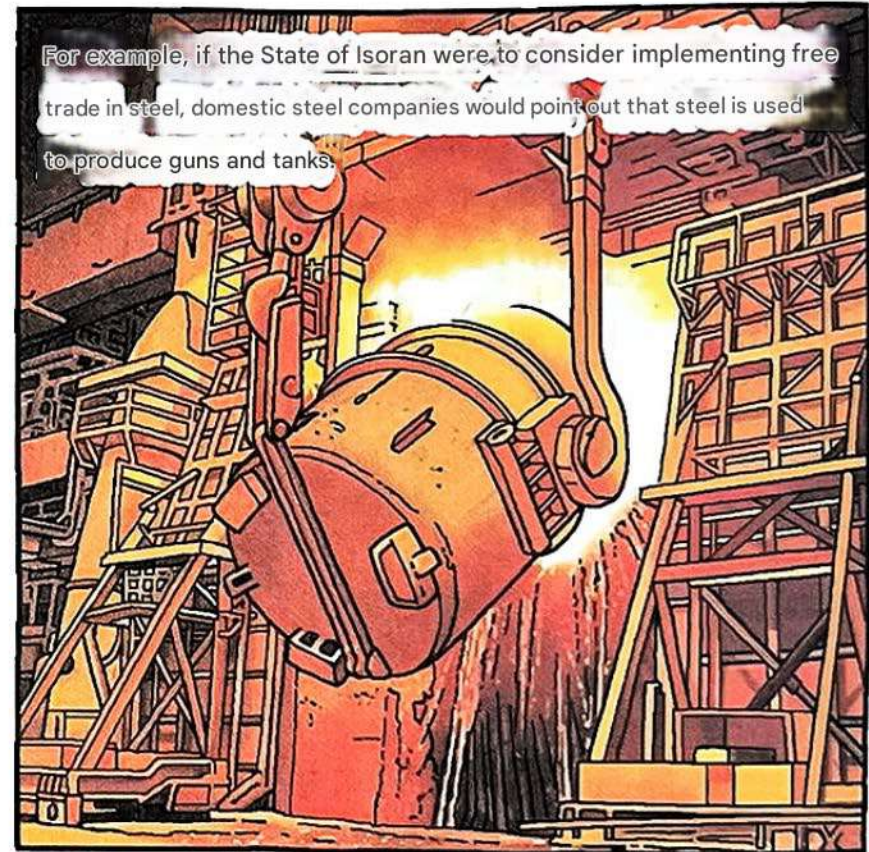
They would argue that in free trade, Isolan industry cannot survive as long as cheaper products can be produced abroad.



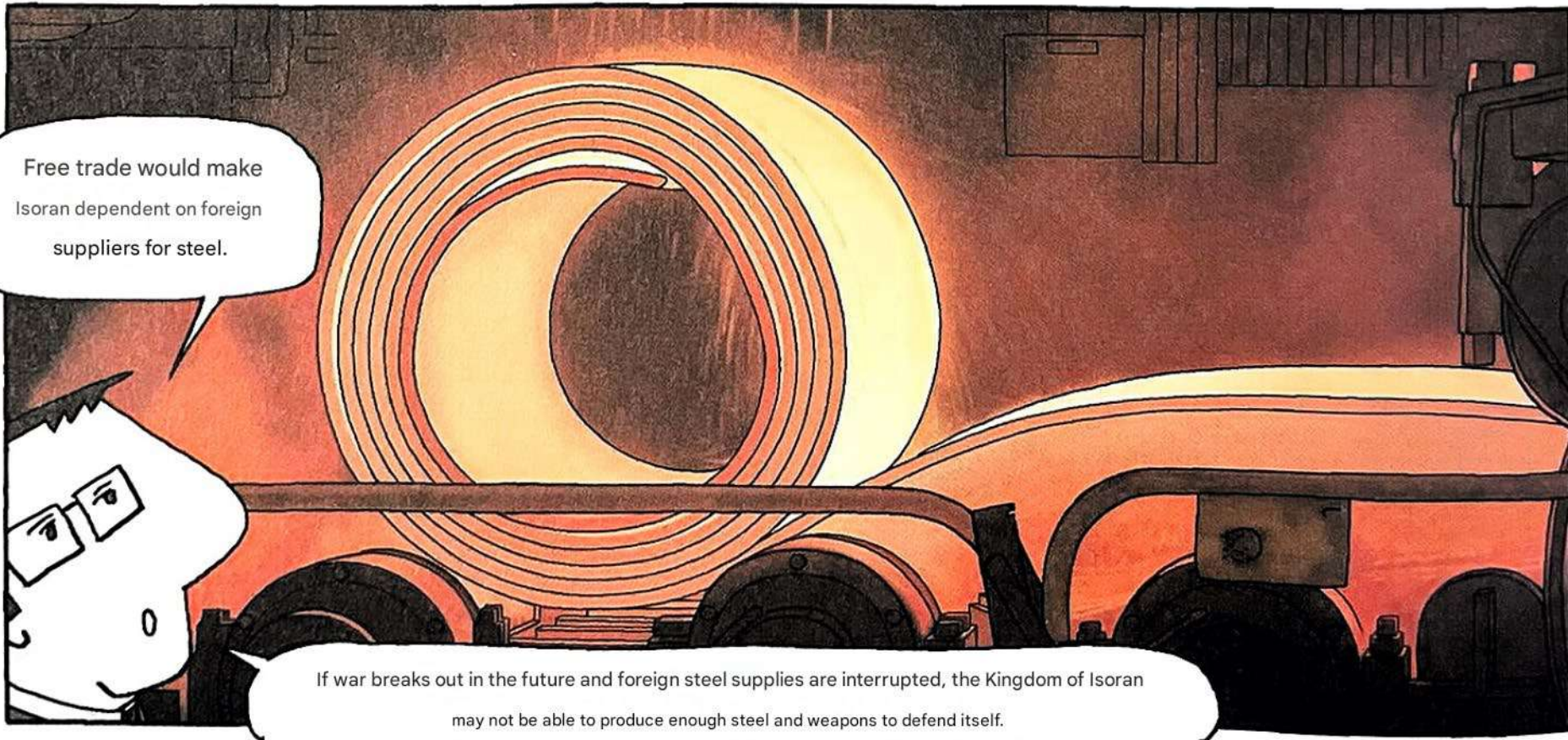
Reasons for restricting trade



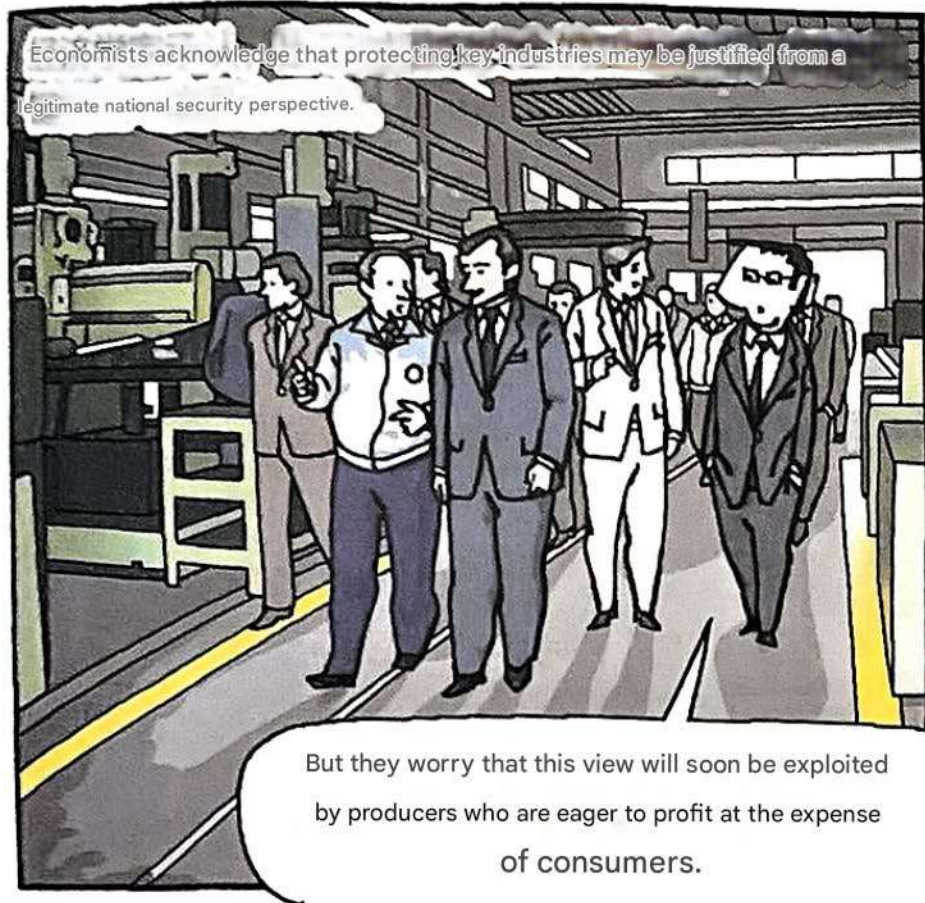
Reasons for restricting trade



Reasons for restricting trade



Reasons for restricting trade



In order to gain protection from foreign competition, companies have an incentive to exaggerate their role in defense.

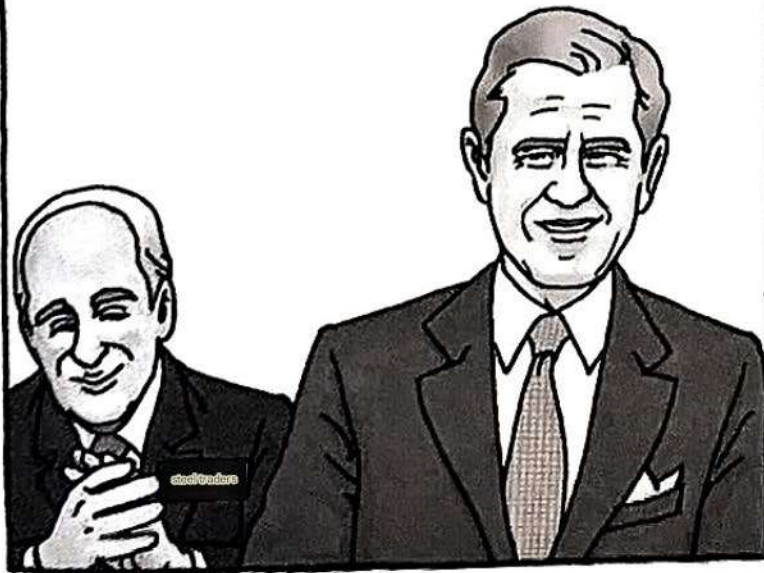


Reasons for restricting trade

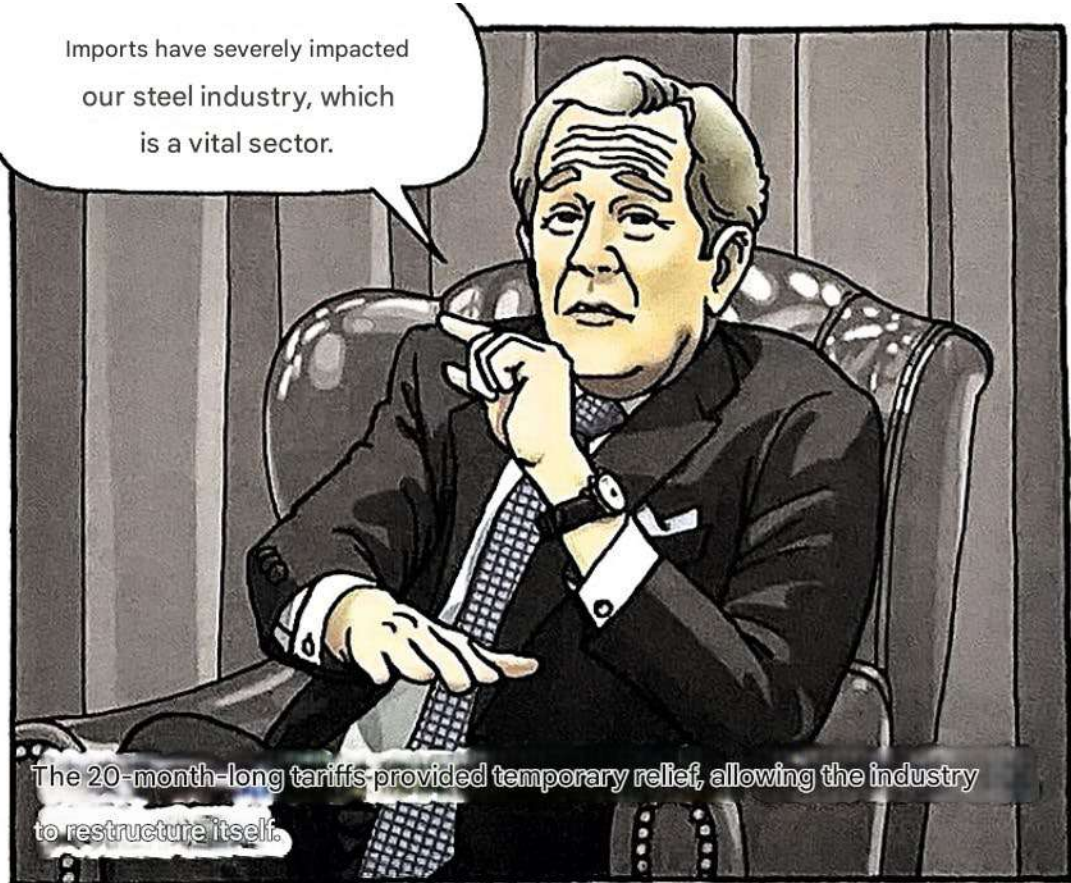


Reasons for restricting trade

Similarly, older industries sometimes see the need for temporary protection, which also helps them adapt to new circumstances. For example, in 2002, President Bush imposed temporary tariffs on imported steel.



Imports have severely impacted our steel industry, which is a vital sector.



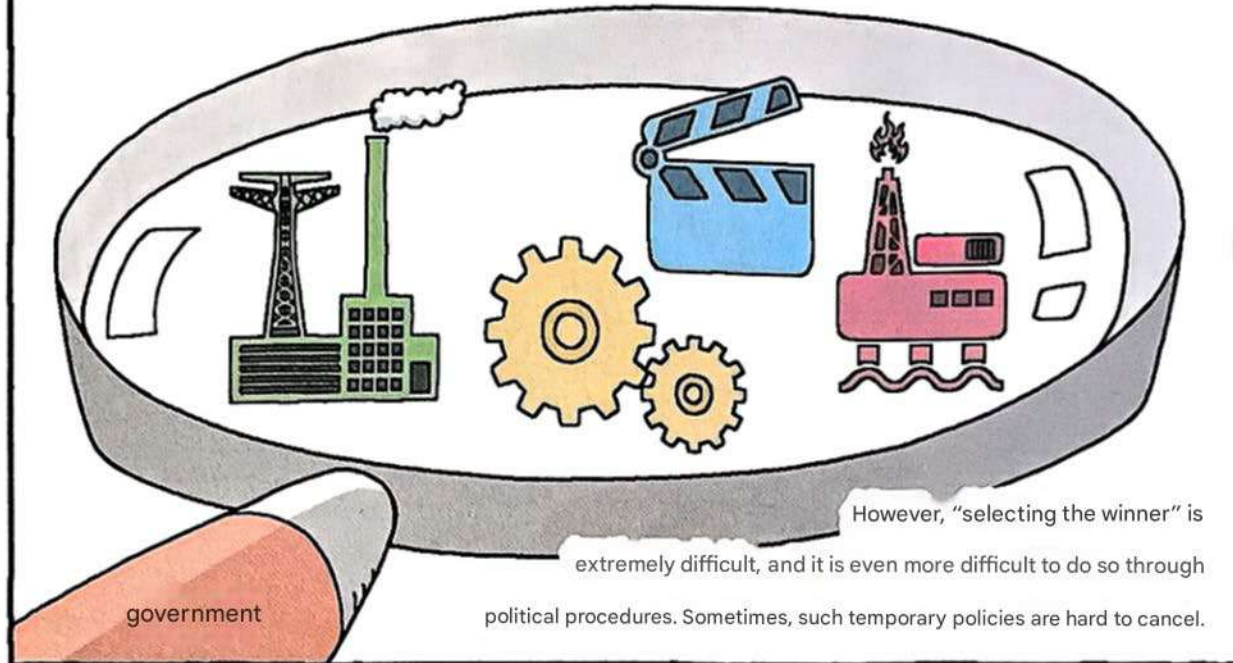
The 20-month-long tariffs provided temporary relief, allowing the industry to restructure itself.

Reasons for restricting trade

Economists are often skeptical of these requirements, mainly because the idea of emerging industries is difficult to implement in practice.

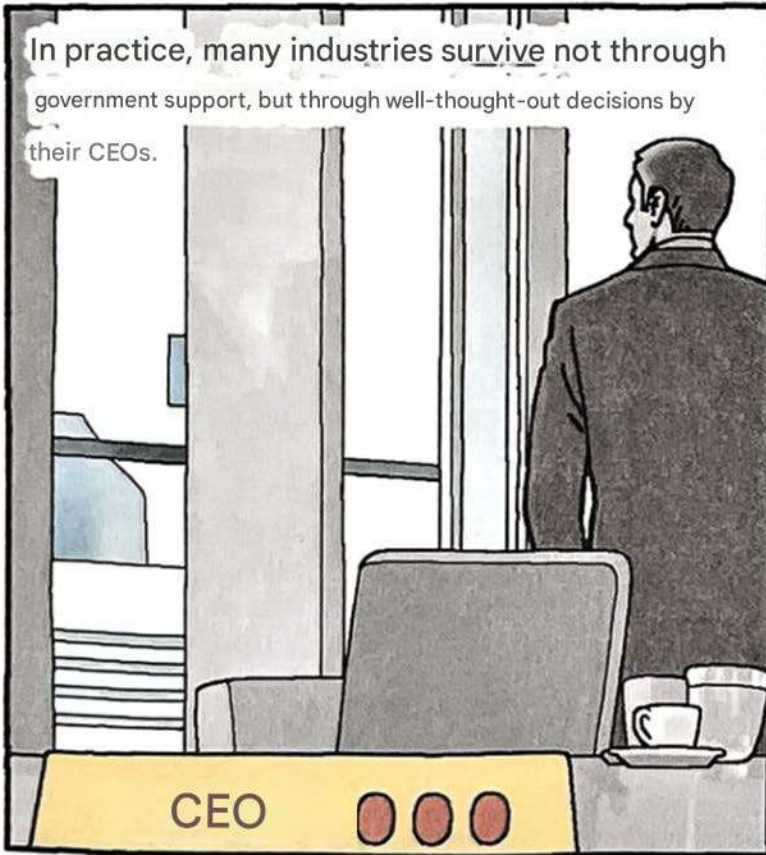


In order to successfully implement protection, the government must determine which industries would ultimately be profitable to implement such protection, and determine whether the benefits of establishing these industries outweigh the costs to consumers of implementing the protection.

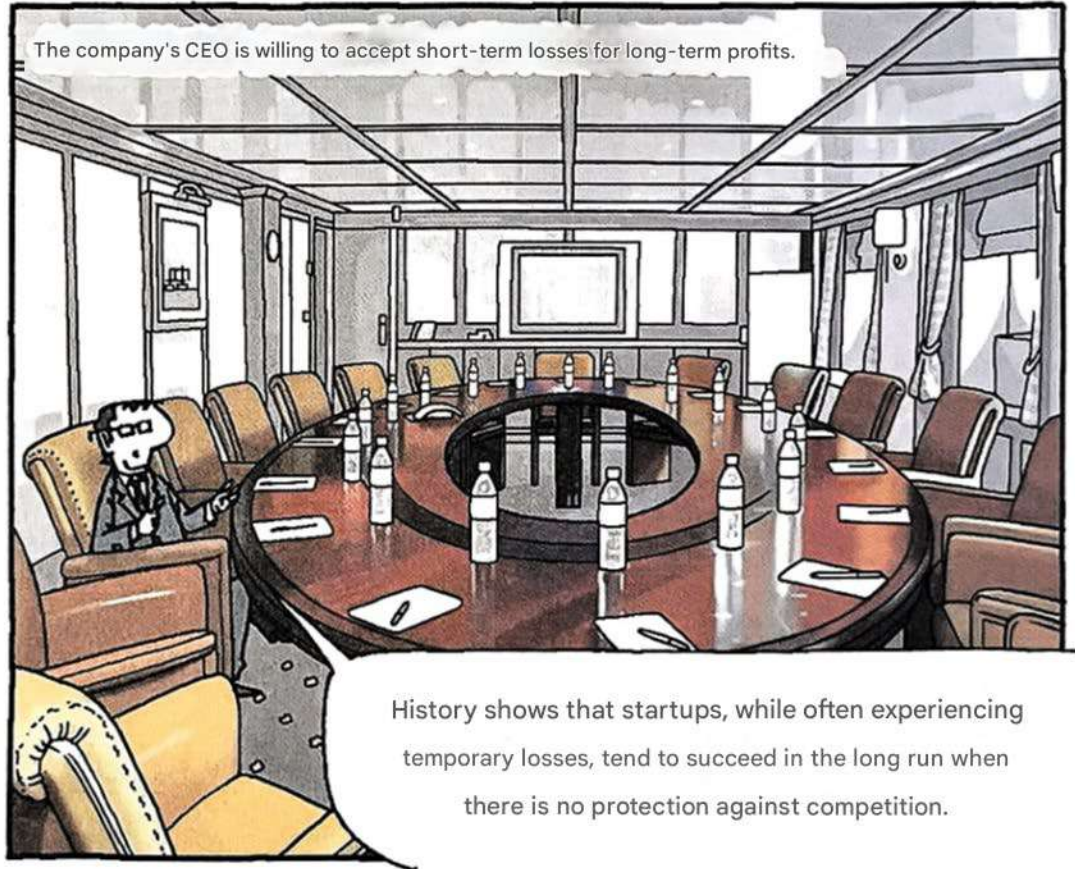


Reasons for restricting trade

In practice, many industries survive not through government support, but through well-thought-out decisions by their CEOs.



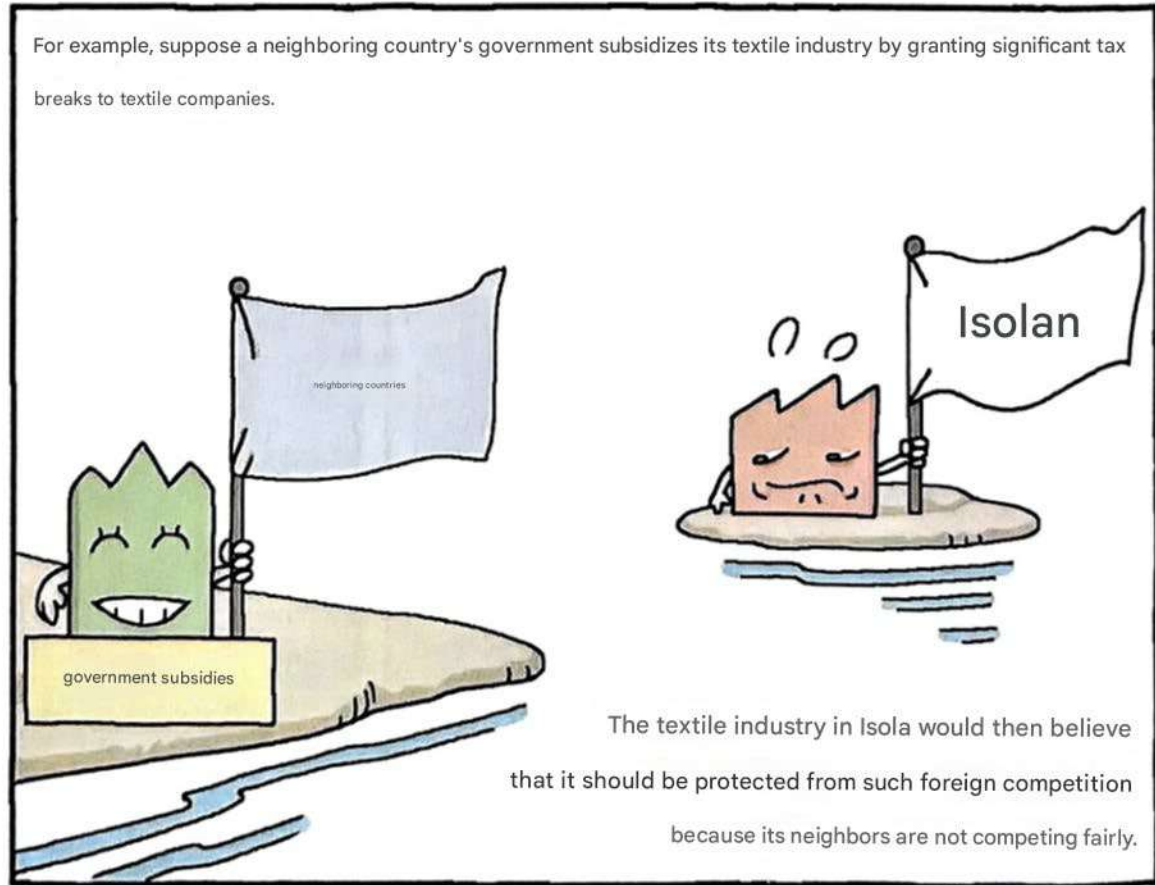
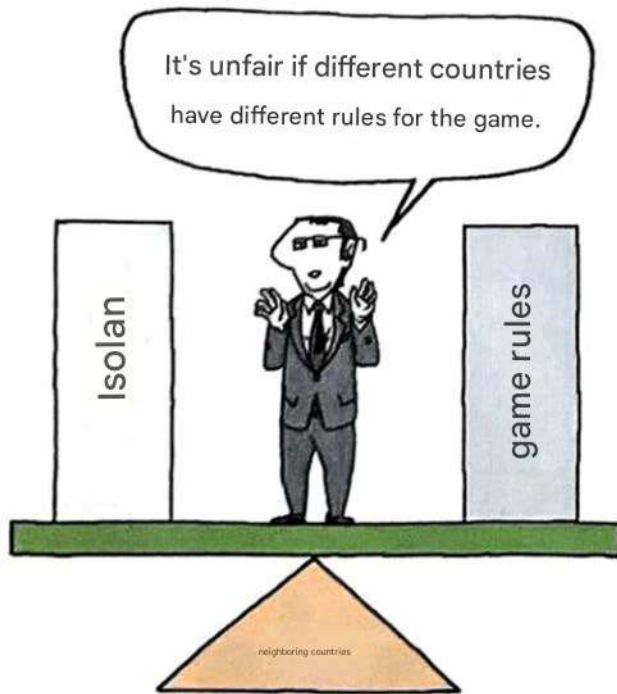
The company's CEO is willing to accept short-term losses for long-term profits.



History shows that startups, while often experiencing temporary losses, tend to succeed in the long run when there is no protection against competition.

Reasons for restricting trade

Another common view is that free trade is desirable only if all countries follow the same rules.

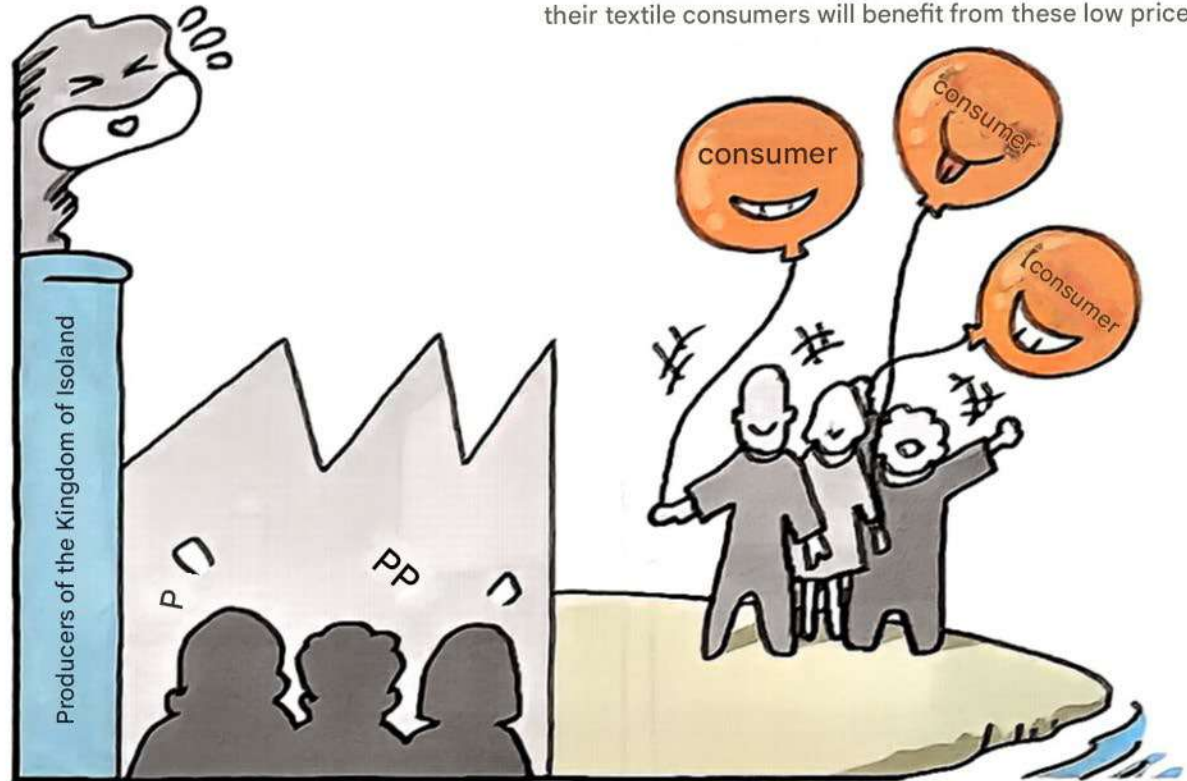


Subsidies reduce the price of imported textiles, allowing consumers to purchase products at lower prices.

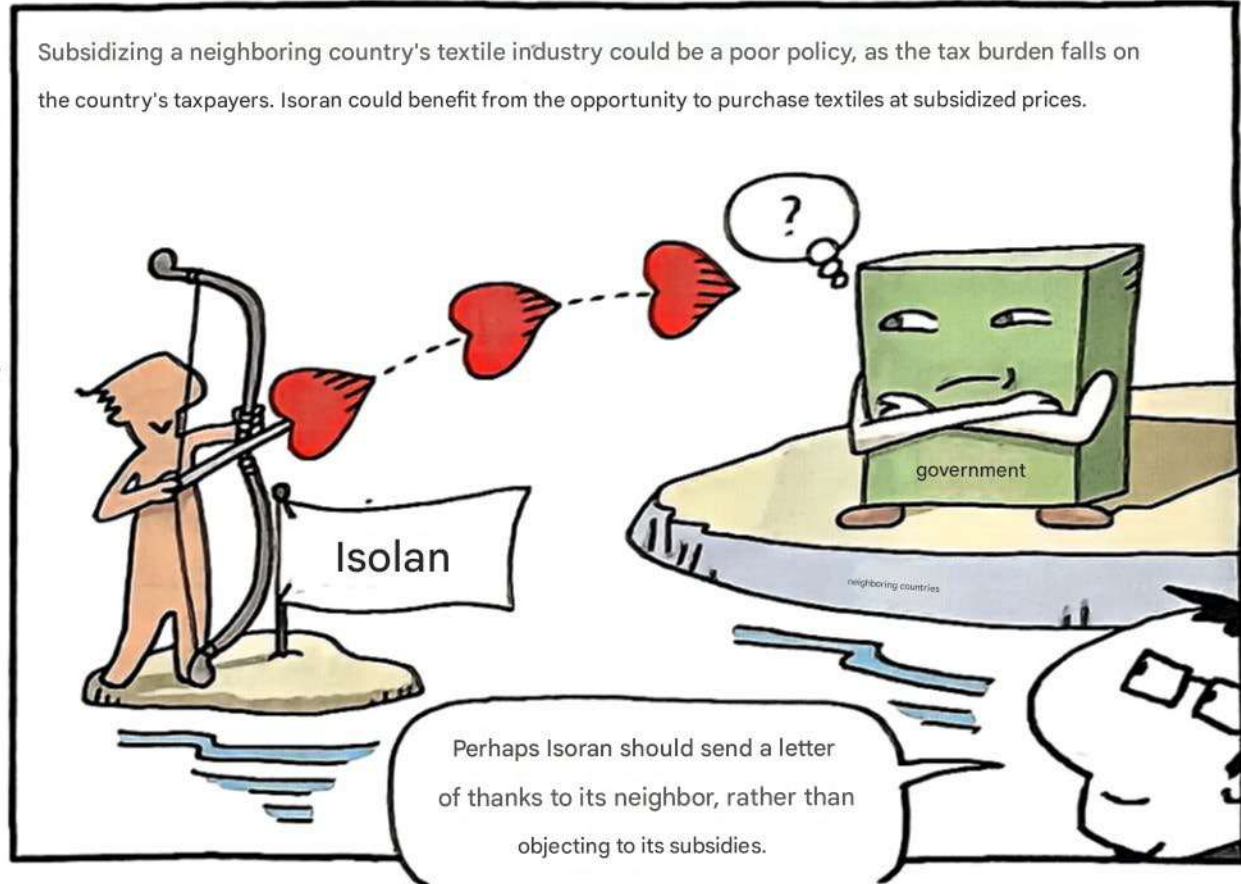
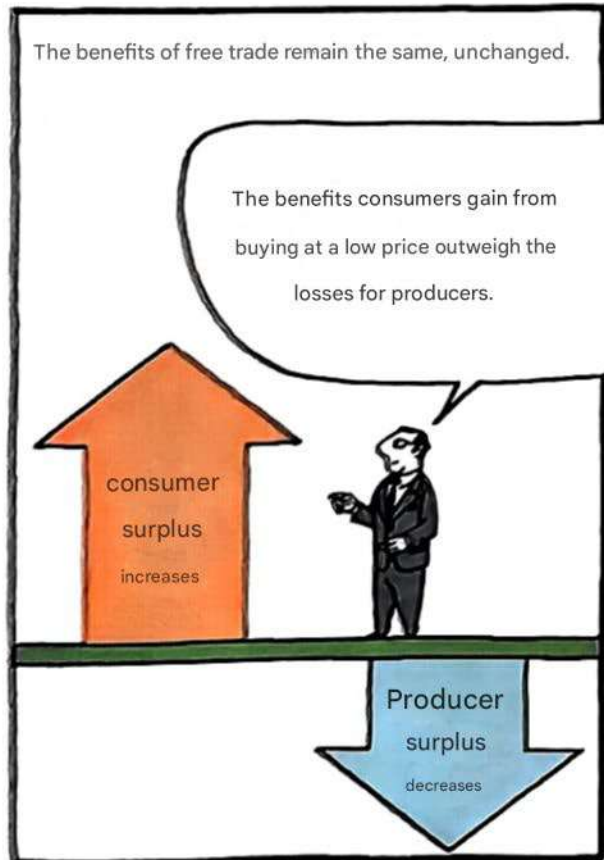
Reasons for restricting trade

In reality, would purchasing textiles from another country at subsidized prices actually harm the interests of Isoran?

Indeed, textile producers in Isoran will suffer losses, but their textile consumers will benefit from these low prices.



Reasons for restricting trade



Reasons for restricting trade

Another argument in favor of trade restrictions involves bargaining strategies.



Many policymakers claim to support free trade, but at the same time believe that trade restrictions may still be useful when negotiating with their trading partners.

Reasons for restricting trade

They claim that the threat of trade restrictions helps to eliminate trade restrictions already imposed by foreign governments.



For example, the State of Isolan could threaten to impose tariffs on textiles unless its neighboring countries remove tariffs on its flour.



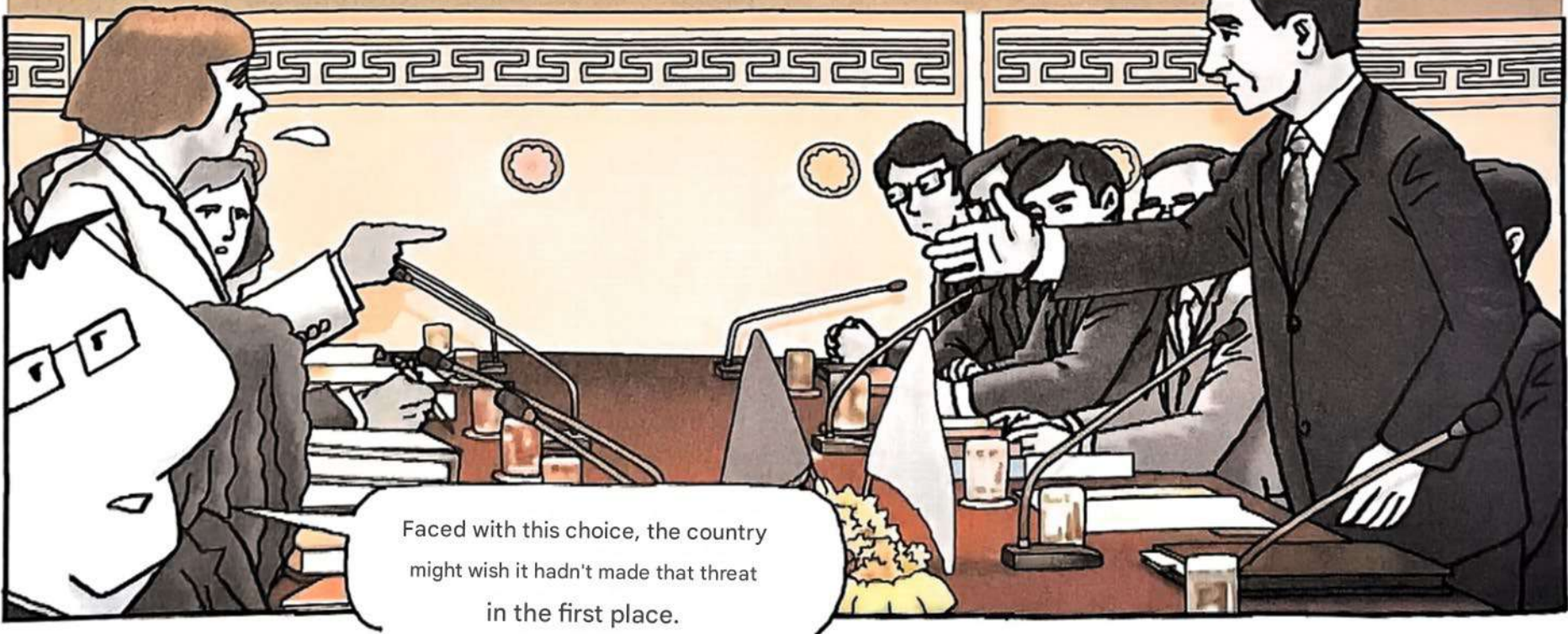
Reasons for restricting trade



Reasons for restricting trade

It can make threats, which reduces its own economic welfare. Or, it can withdraw the threat.

This will cause it to lose credibility in international affairs.



SUMMARY



- The effects of free trade can be determined by comparing domestic prices in the absence of trade with world prices. Low domestic prices indicate that the country has a comparative advantage in producing a particular good, and that the country will become an exporter. High domestic prices indicate that the rest of the world has a comparative advantage in producing that good, and that country will become an importer.

SUMMARY



- When a country allows trade and becomes an exporter of a good, the situation of domestic producers of the good improves due to increased producer surplus, while the situation of domestic consumers of the good worsens due to decreased consumer surplus. However, because the gains for producers outweigh the losses for consumers, the country's total surplus increases.
- When a country allows trade and becomes an importer of a good, increased consumer surplus improves the situation for buyers, while decreased producer surplus worsens the situation for sellers. However, because the gains for buyers outweigh the losses for sellers, total surplus increases.

SUMMARY



- In other words, in the importing country, domestic consumers of goods are in a better position, while domestic producers are in a worse position. However, the increase in consumer surplus exceeds the decrease in producer surplus. Therefore, trade improves the overall economic welfare of the country.
- Like most taxes, tariffs distort economic incentives, causing the allocation of goods and services to deviate from market equilibrium. When tariffs increase the price of domestic textiles, they incentivize domestic producers to increase output.

SUMMARY



- Although the cost of producing these incremental units exceeds the cost of purchasing them at world prices, tariffs make textile production profitable for domestic producers. When tariffs increase the price that domestic textile consumers must pay, they incentivize consumers to reduce textile consumption. Although domestic consumers value these incremental units higher than world prices, tariffs prompt them to reduce their purchases. The total deadweight loss from tariffs is the sum of the deadweight loss from overproduction and underconsumption of textiles.

SUMMARY



- The reasons for restricting trade are numerous: protecting jobs, safeguarding national security, supporting emerging industries, preventing unfair competition, and countering restrictions on foreign trade. While some of these arguments have merit in certain situations, economists generally argue that free trade is the superior policy.

思考题

1. Taxing a good will result in deadweight loss if _____.
 - a. The decrease in consumer surplus and producer surplus is greater than the tax revenue.
 - b. Tax revenue is greater than the decrease in consumer surplus and producer surplus.
 - c. The decrease in consumer surplus is greater than the decrease in producer surplus.
 - d. The decrease in producer surplus is greater than the decrease in consumer surplus.

思考题

2. The supply curve for eggs is linear and upward-sloping, while the demand curve is linear and downward-sloping. If the tax on each egg is increased from 2 cents to 3 cents, the deadweight loss from the tax will _____.

- a. increase by less than 50%, or even decrease
- b. increase by exactly 50%
- c. increase by more than 50%
- d. depend on whether supply or demand is more elastic

思考题

3. The supply curve for peanut butter is upward sloping, and the demand curve is downward sloping. If the tax on peanut butter is increased from 10 cents to 15 cents per pound, then the government's tax revenue will _____.

- a. Increase by less than 50%, or even decrease
- b. Increase by exactly 50%
- c. Increase by more than 50%
- d. Depend on whether supply or demand is more elastic

思考题

4. The Laffer Curve shows that, in some cases, the government can reduce taxes on a good and increase _____.

- a. deadweight loss
- b. government tax revenue
- c. equilibrium quantity
- d. the price paid by consumers

思考题

5. If a policymaker wants to increase revenue by taxing goods while minimizing deadweight losses, he should examine goods with ____ demand elasticity and ____ supply elasticity.

- a. small, small
- b. small, large
- c. large, small
- d. large, large

思考题

6. If a country is not allowed to engage in international steel trade, and its domestic steel prices are lower than world prices, then _____
- a. The country has a comparative advantage in steel production; if it opens up trade, it will become a steel exporter.
 - b. The country has a comparative advantage in steel production; if it opens up trade, it will become a steel importer.
 - c. The country does not have a comparative advantage in steel production; if it opens up trade, it will become a steel exporter.
 - d. The country does not have a comparative advantage in steel production; if it opens up trade, it will become a steel importer.

思考题

7. When a country opens its coffee bean trade to the world, the price of coffee beans in that country falls. Which of the following describes this situation?

- a. Domestic coffee production increases, and the country becomes a coffee importer.
- b. Domestic coffee production increases, and the country becomes a coffee exporter.
- c. Domestic coffee production decreases, and the country becomes a coffee importer.
- d. Domestic coffee production decreases, and the country becomes a coffee exporter.

思考题

8. When a country opens its market to a good and becomes an importer, _____
- a. Producer surplus decreases, but consumer surplus and total surplus both increase.
 - b. Producer surplus decreases, consumer surplus increases, therefore the effect on total surplus is unclear.
 - c. Producer surplus and total surplus increase, but consumer surplus decreases.
 - d. Producer surplus, consumer surplus, and total surplus all increase.

思考题

9. If a country imposes a tariff on an imported item, it will increase _____.

- a. Domestic demand
- b. Domestic supply
- c. Quantity imported from abroad
- d. All of the above

思考题

10. Which of the following trade policies would benefit producers, harm consumers, and increase trade volume?
- a. Importing countries increase tariffs
 - b. Importing countries decrease tariffs
 - c. Trade is permitted when world prices are higher than domestic prices
 - d. Trade is permitted when world prices are lower than domestic prices