

PART 1

Ten Principles of Economics

PRINCIPLES OF

Microeconomics

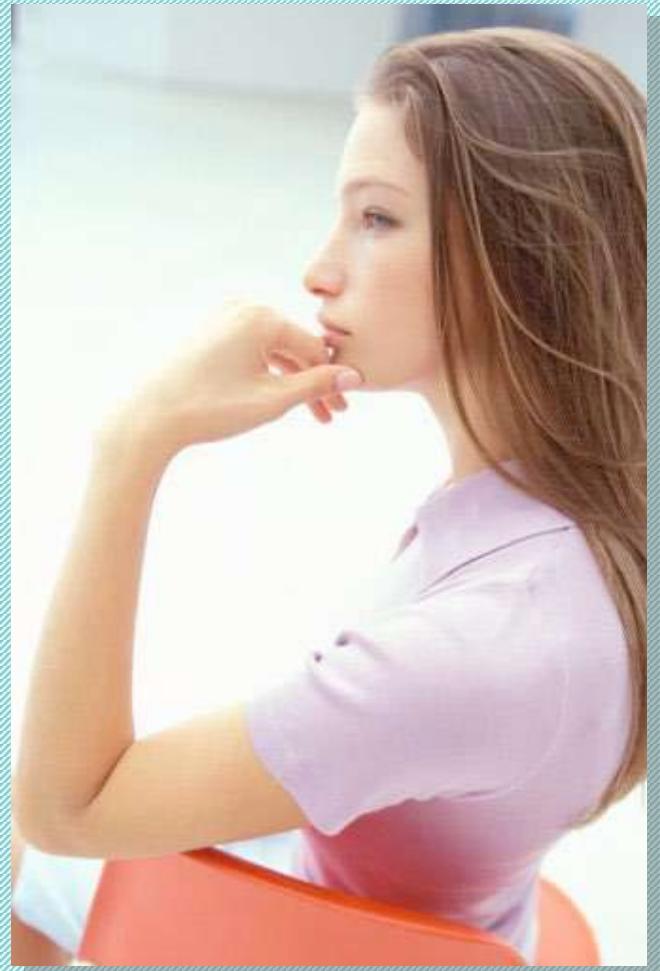
Shizhe Peng

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What Economics Is All About

- **Scarcity**: the limited nature of society's resources
- **Economics**: the study of how society manages its scarce resources, e.g.
 - how people decide what to buy, how much to work, save, and spend
 - how firms decide how much to produce, how many workers to hire
 - how society decides how to divide its resources between national defense, consumer goods, protecting the environment, and other needs

Chapter 1: How people make decisions



Chapter 1: How People Make Decisions

- Whether we are considering the economic issues of a country or a city, or those of the entire world, economics discusses the interactions among people
- Before studying the interactions of people in social groups, it is necessary to look at the basic principles behind the decision-making process of individual humans

Chapter 1: How People Make Decisions

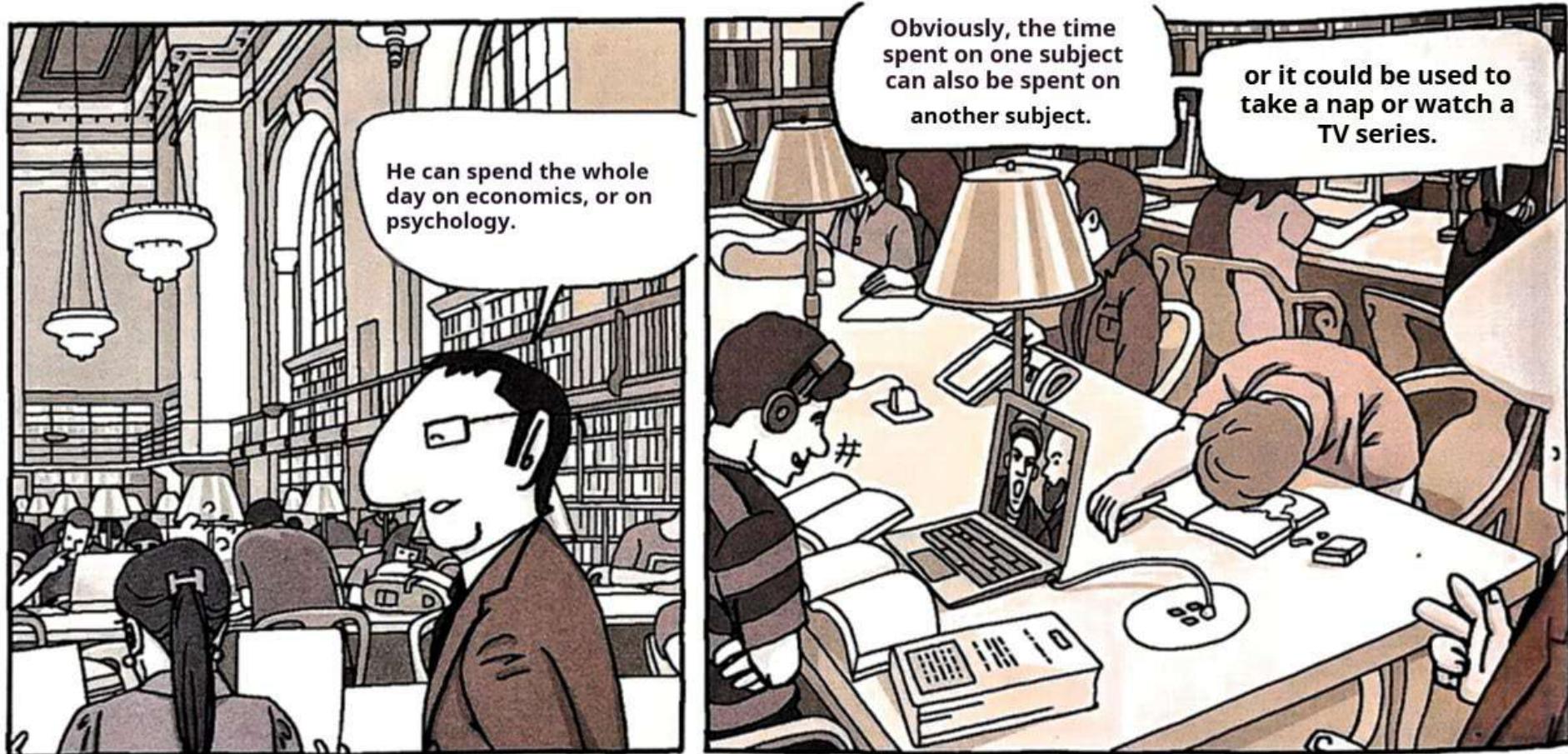
- Principle 1: People Face Trade-offs
- Principle 2: The Cost of Something Is What You Give Up to Get It
- Principle 3: Rational People Think at the Margin
- Principle 4: People Respond to Incentives

Principle 1: People Face Trade-offs

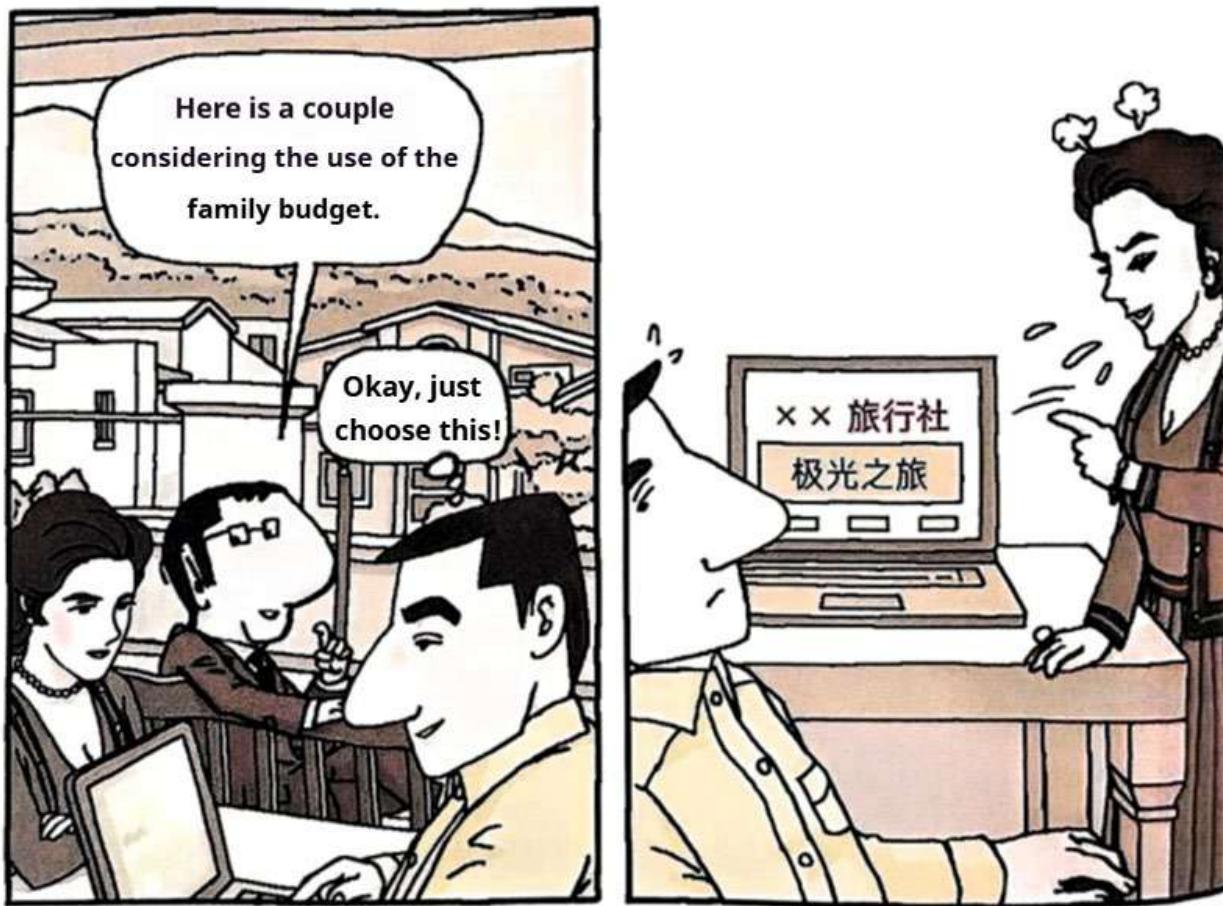
Principle 1
People Face
Trade-offs



Principle 1: People Face Trade-offs



Principle 1: People Face Trade-offs



Principle 1: People Face Trade-offs

They could also save the money.

We can live to be 100
years old now!

教育
为子女
储蓄

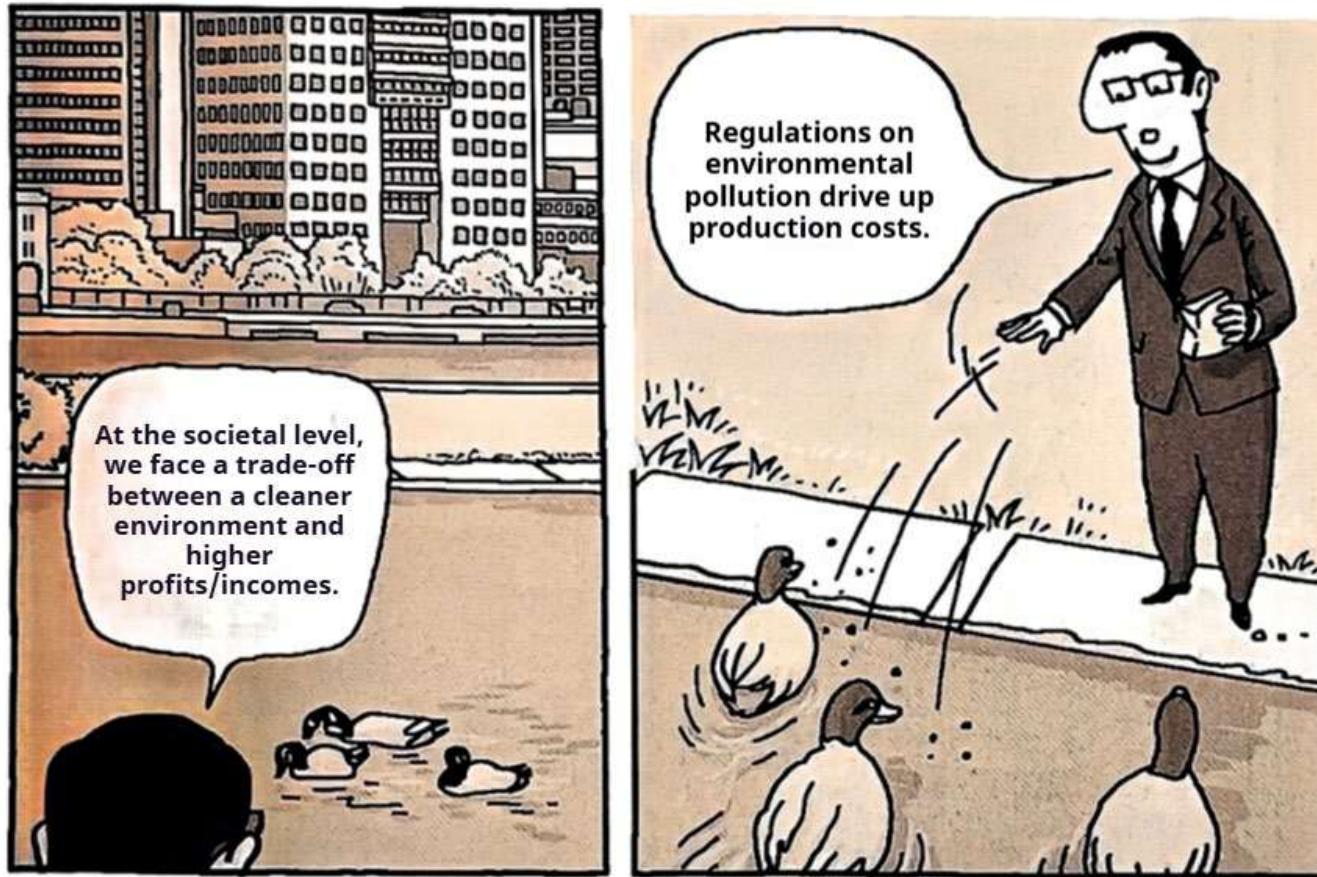
储蓄
为退休



If they spend money on one thing, they have less to spend on another.



Principle 1: People Face Trade-offs



Environment vs. profits

Principle 1: People Face Trade-offs



Principle 1: People Face Trade-offs

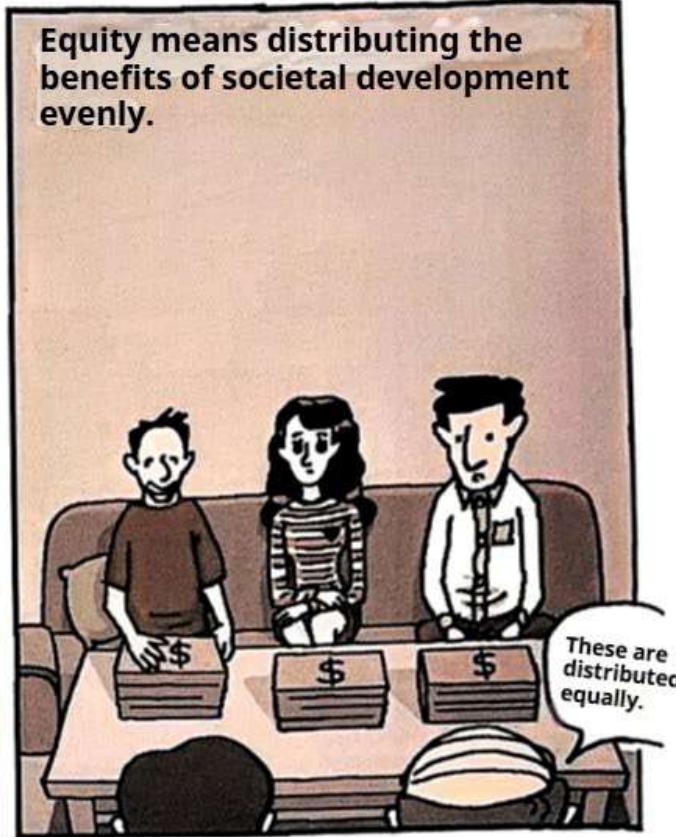
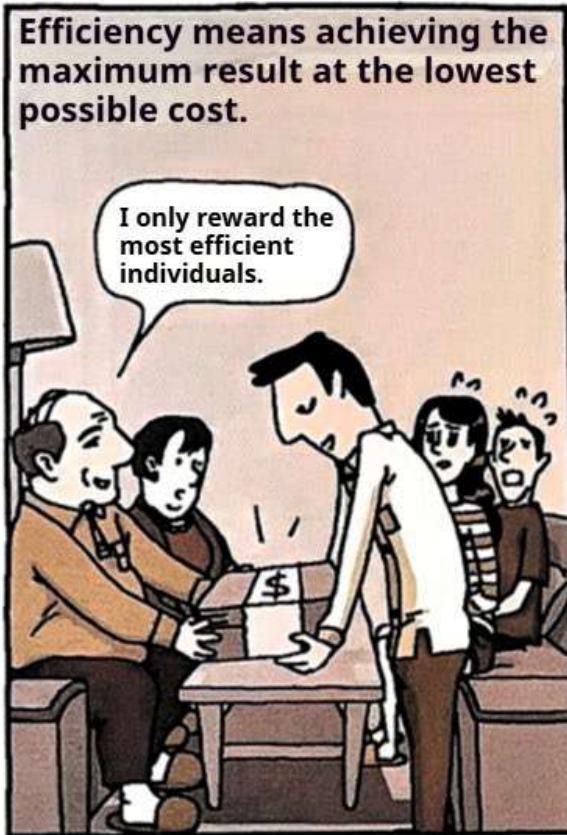
Another challenge facing society is the trade-off between efficiency and equity.

Efficiency means achieving the maximum result at the lowest possible cost.

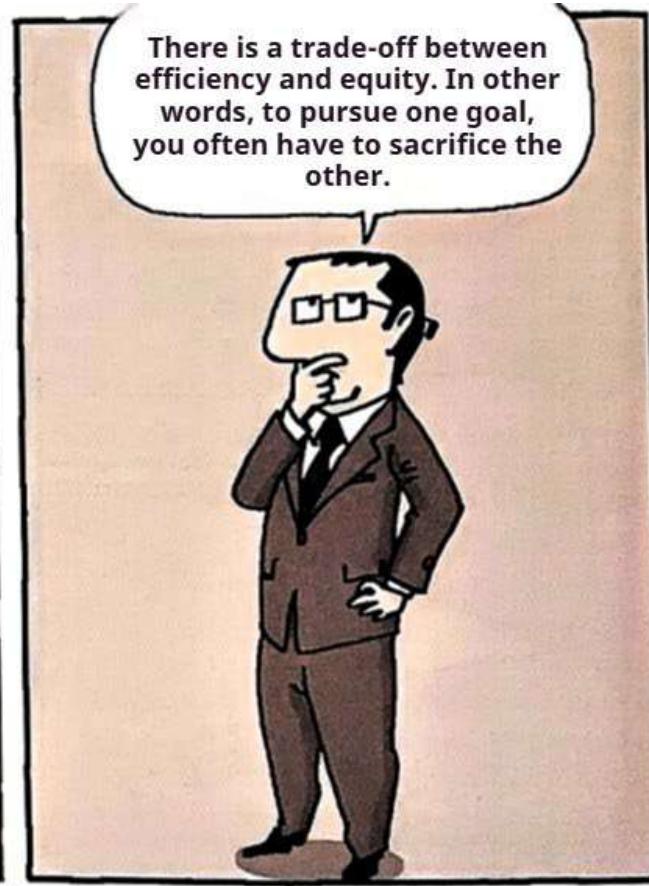
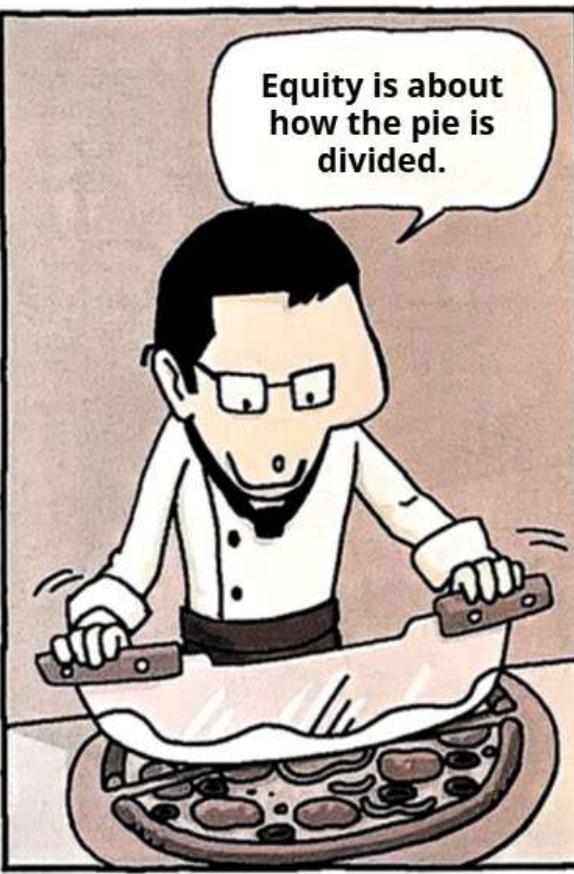
I only reward the most efficient individuals.

Equity means distributing the benefits of societal development evenly.

These are distributed equally.



Principle 1: People Face Trade-offs



Principle 1: People Face Trade-offs

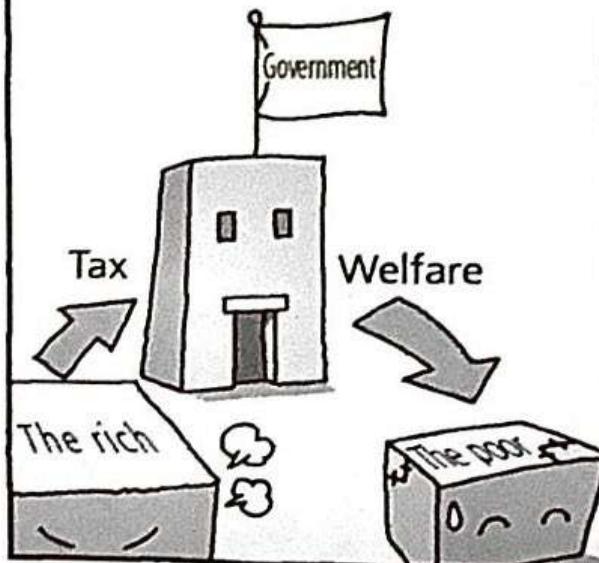
There are systems or policies to distribute what is taken from the wealthy to the poor.

Social Welfare System

Unemployment Insurance System

Progressive Income Tax System

Government policies for equity bring down the compensation for hard work.



It prevents people from working harder, which leads to a decline in the production of goods and services.



There's no such thing as a free lunch

There's no
such thing as
a free lunch



This saying is so well-known that even its English acronym "TANSTAAFL" is widely recognized.

There's no such thing as a free lunch

It originated during the American frontier era in the 19th century. At that time, saloon customers could enjoy a free lunch once they had purchased a certain amount of drinks.



But everyone knew that although the lunch was advertised as free, its cost was already included in the price of the drinks.

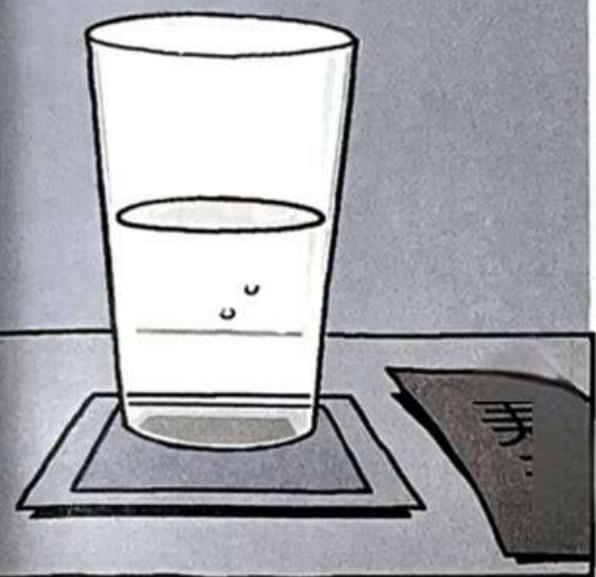


There's no such thing as a free lunch

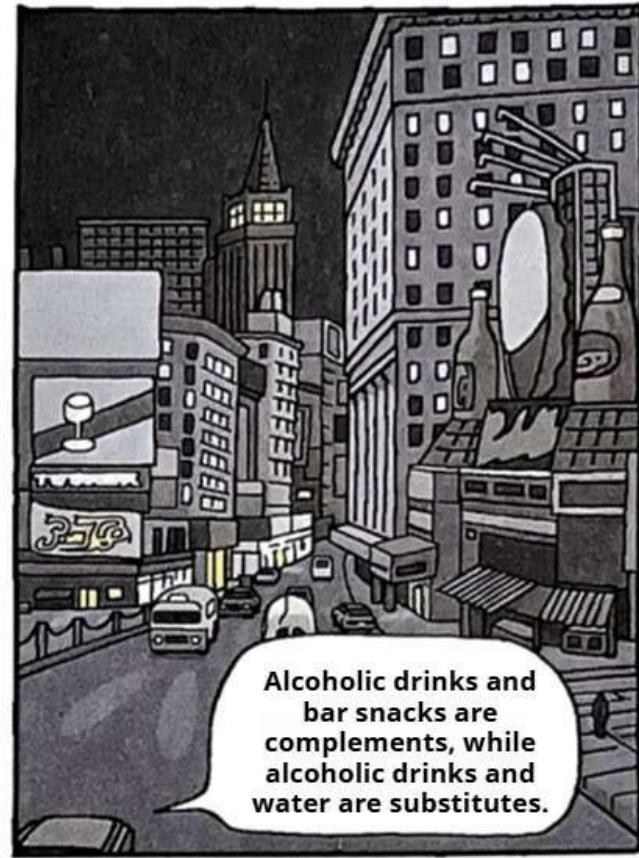


There's no such thing as a free lunch

In some bars, you are actually charged for drinking water.



If customers drink too much water, they are less likely to purchase expensive alcoholic drinks.



Complements (or Complementary Goods) are two goods that are used together. Substitutes (or Substitute Goods) are two goods that can be used in place of each other to satisfy a similar need.

There's no such thing as a free lunch



Goods that enhance utility when consumed together are called complements.



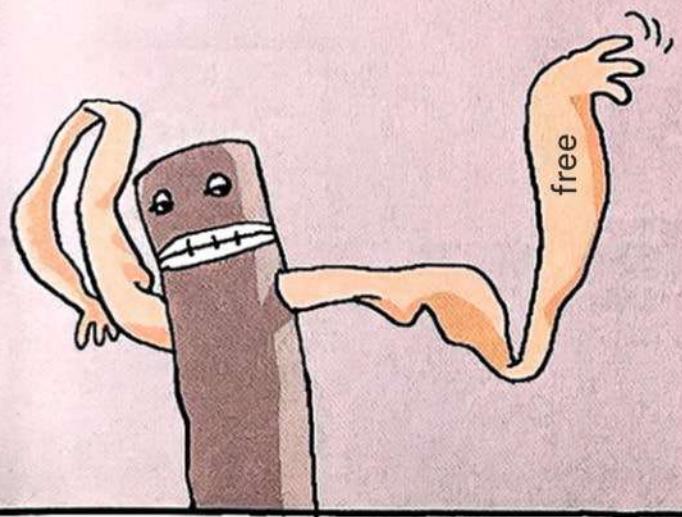
Behind the 'free' label lies a bait.



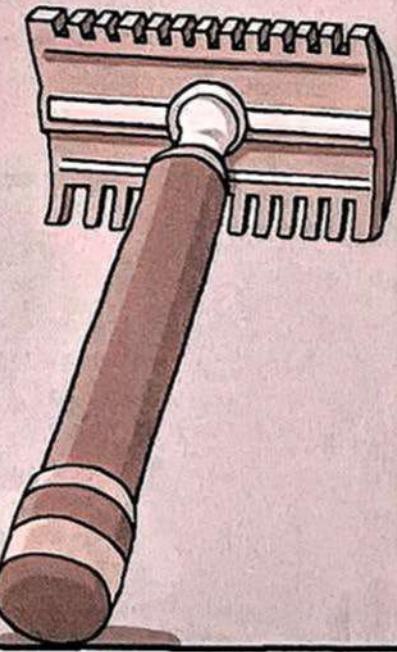
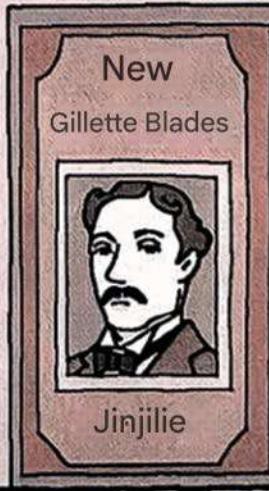
So, don't expect anything to be truly free.

The Economics of Free

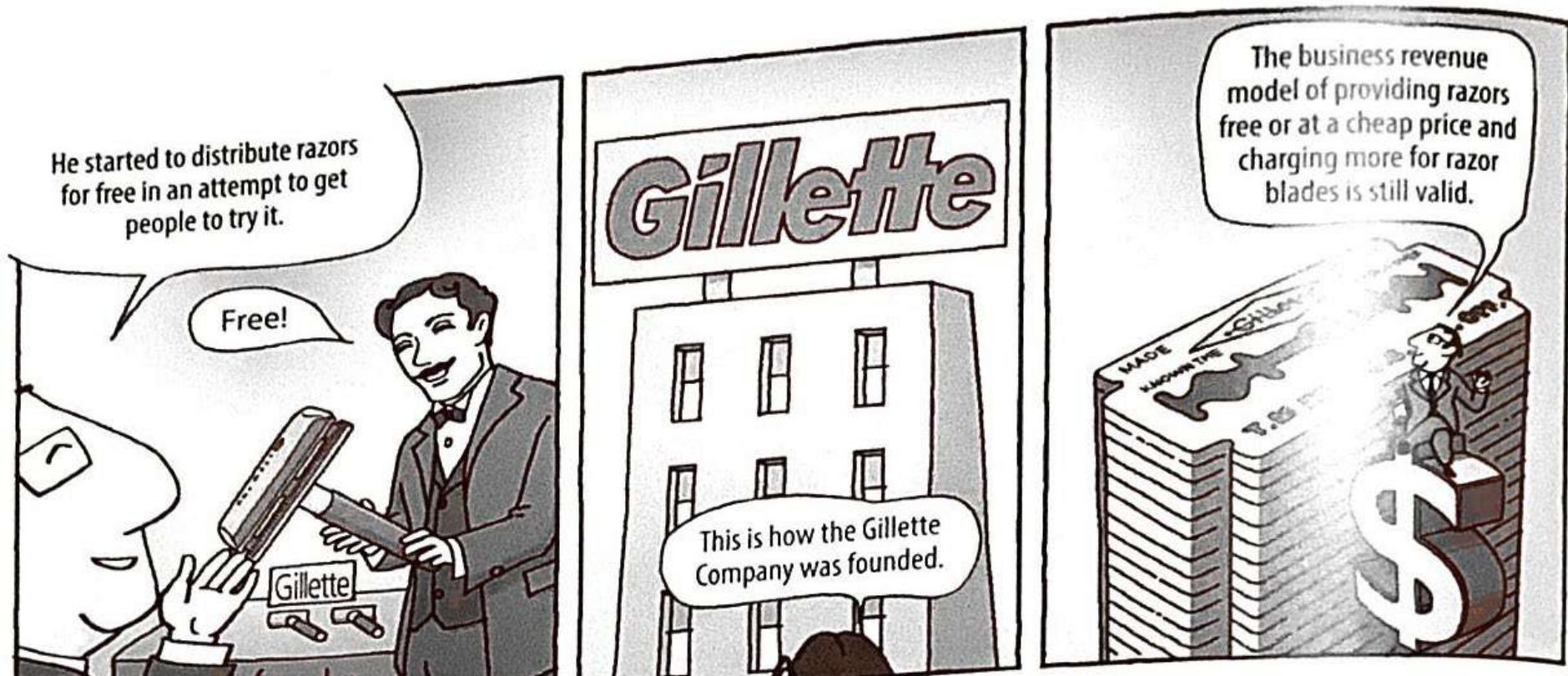
free economics



"King Gillette invented the detachable razor during World War I, but it didn't catch on with consumers."



The Economics of Free



The Economics of Free



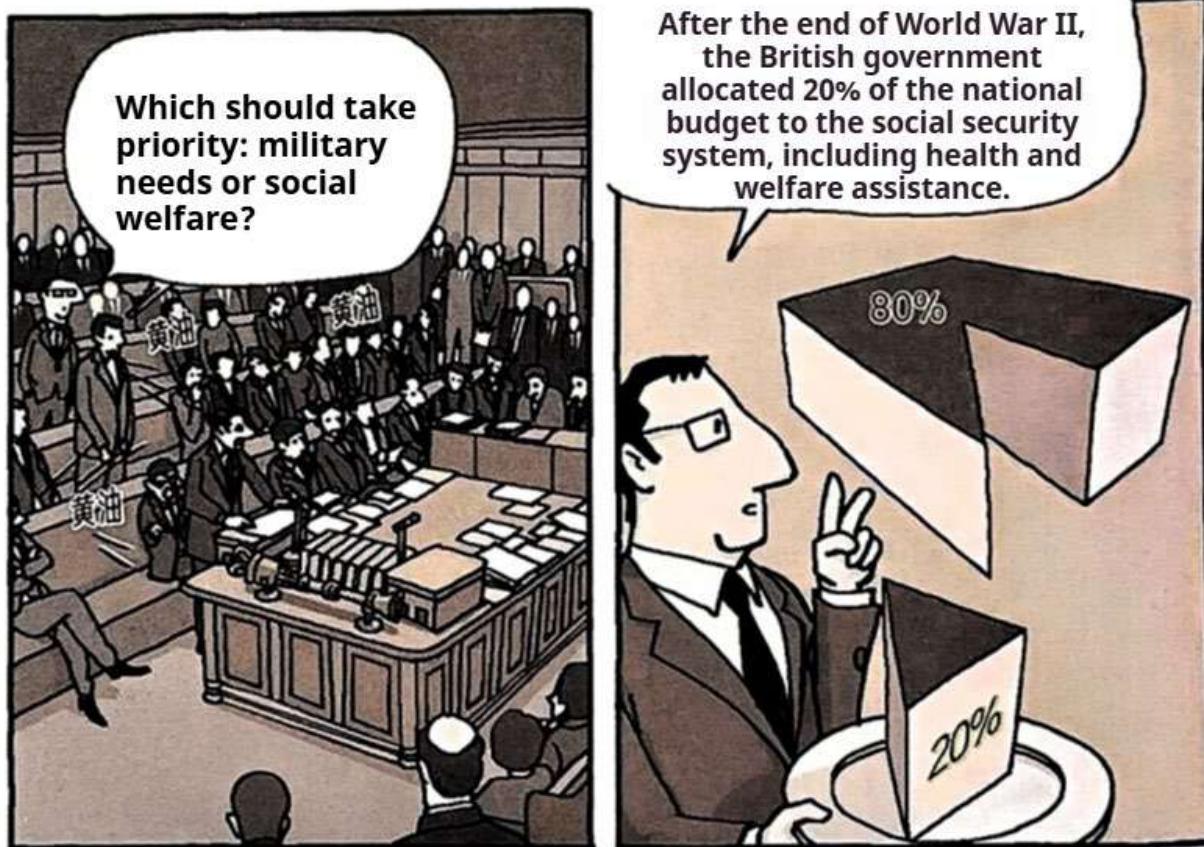
Freenomics refers to the method of making money by providing something for free at the beginning.

Google's Gmail email service,

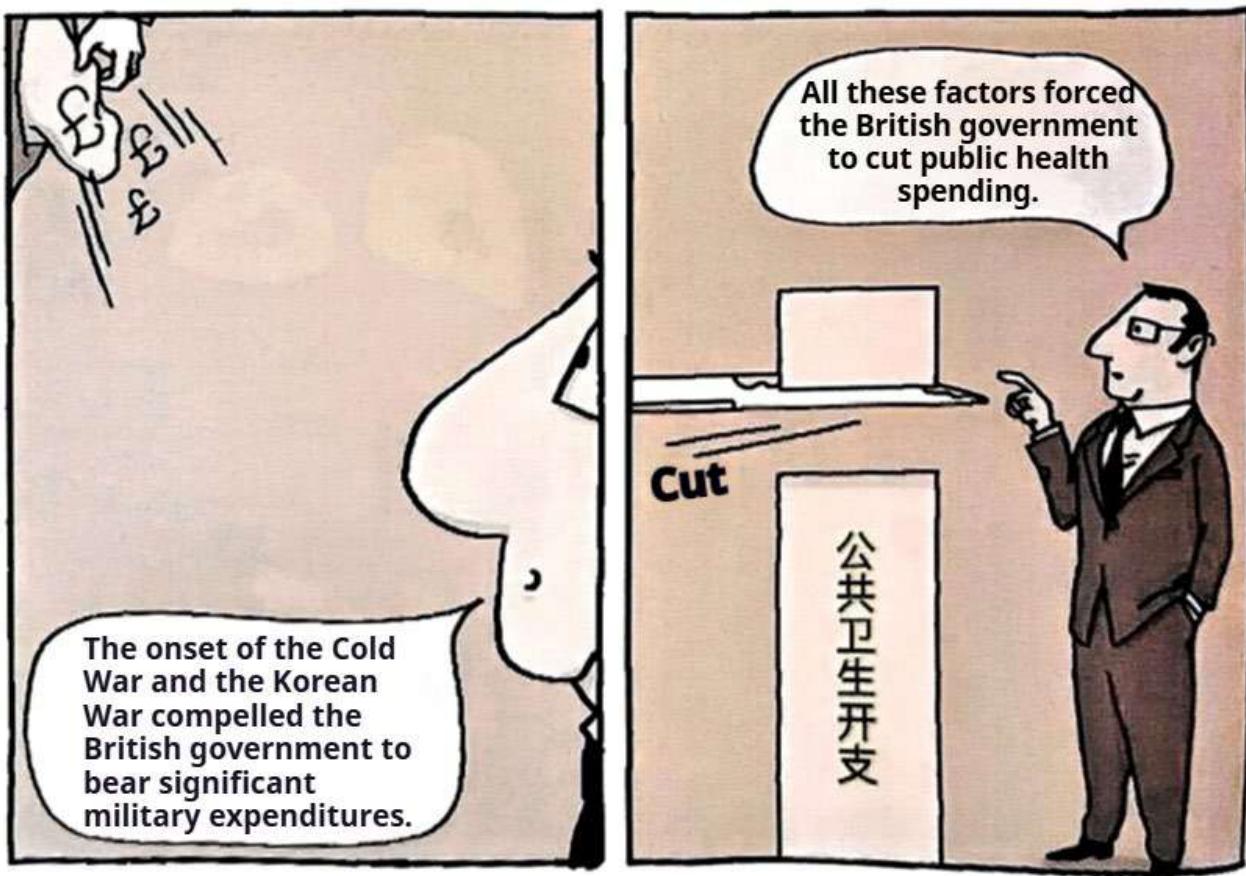
YouTube and Skype

These are all typical cases of free economics.

Guns or Butter



Guns or Butter



Guns or Butter

The then-Minister of Labor resigned in protest against the government policy.



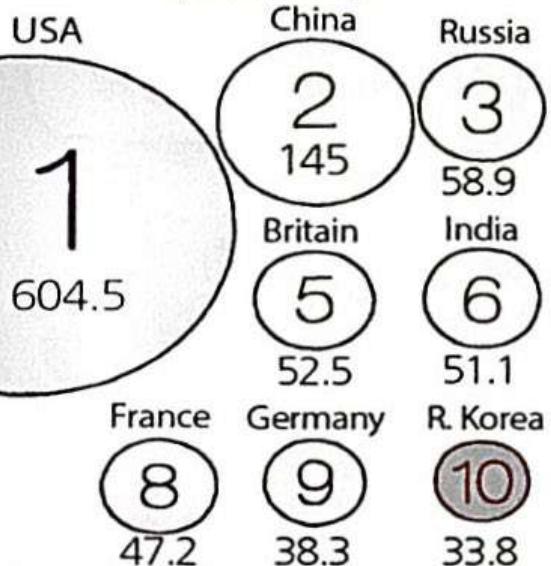
This led to the protests and campaigns against cutbacks in social welfare in favor of increased military budget.



Guns or Butter

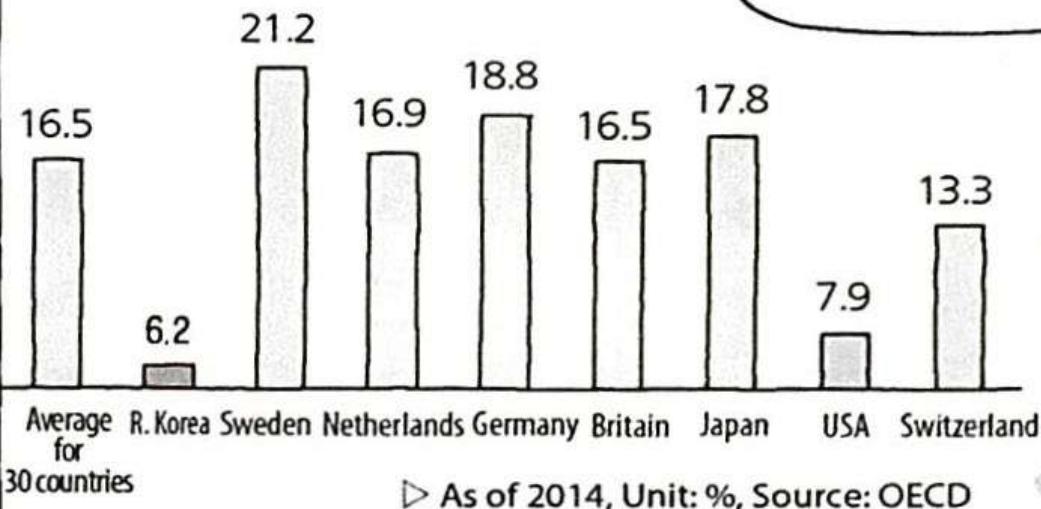
If you spend more money to protect your country...

Spending on national defense
(in \$billions)



You will have less money for a higher standard of living (butter).

Ratio of Welfare Spending to GDP



Today, most countries find it difficult to choose between the two.



SUMMARY



- The word "economy" comes from Greek, meaning "one who manages a household."
 - There are notable similarities between a household and an economy. Within a household, decisions must be made about what work each member does, who cooks, and who does the laundry.
 - Similarly, a society needs to make similar decisions: who will produce food, clothing, computer software, and so on.
 - The management of societal resources is important because resources are scarce. Scarcity means that society has limited resources and thus cannot produce all the goods and services people desire as they please.

SUMMARY



- Economics is the study of how society manages its scarce resources.
 - Millions of households and businesses make individual decisions, and these decisions collectively determine the allocation of resources.
 - Economics studies how people make decisions.
 - We might as well start with the Ten Principles of Economics and use them to tie everything together.

SUMMARY



- The first principle of economics is that "people face trade-offs."
 - As the saying goes, "There's no such thing as a free lunch." To get one thing, we have to give up something else.
 - When you spend time and money on one thing, you have less time and money to spend on others.
 - At the societal level, if you choose guns, you must give up some butter, and vice versa.

SUMMARY



- When formulating policies, we must consider the trade-off between efficiency and equity.
 - Efficiency means achieving the greatest result at the lowest possible cost.
 - Equity refers to the fair distribution of the fruits of social development.
 - Social welfare systems, unemployment insurance, and individual income tax systems are all institutional arrangements designed to help the poor, but these systems can also reduce economic efficiency.

Chapter 1: How People Make Decisions

- Principle 1: People Face Trade-offs
- Principle 2: The Cost of Something Is What You Give Up to Get It
- Principle 3: Rational People Think at the Margin
- Principle 4: People Respond to Incentives

Principle 2: The Cost of Something Is What You Give Up to Get It

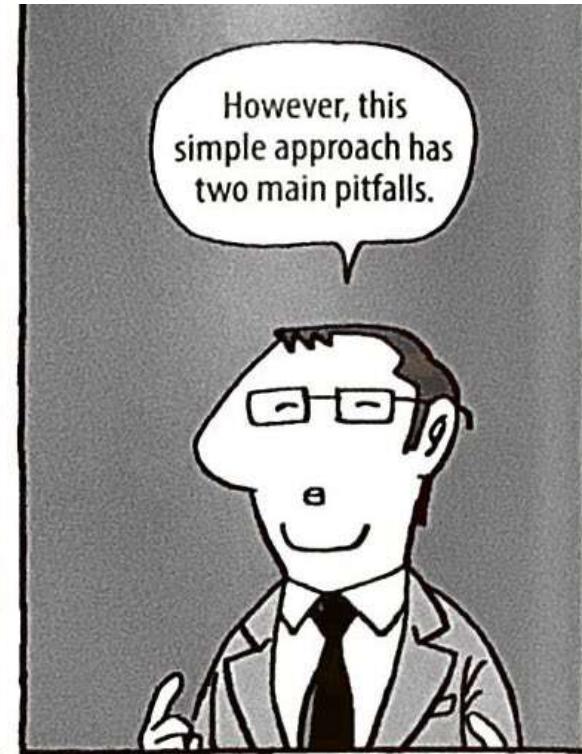
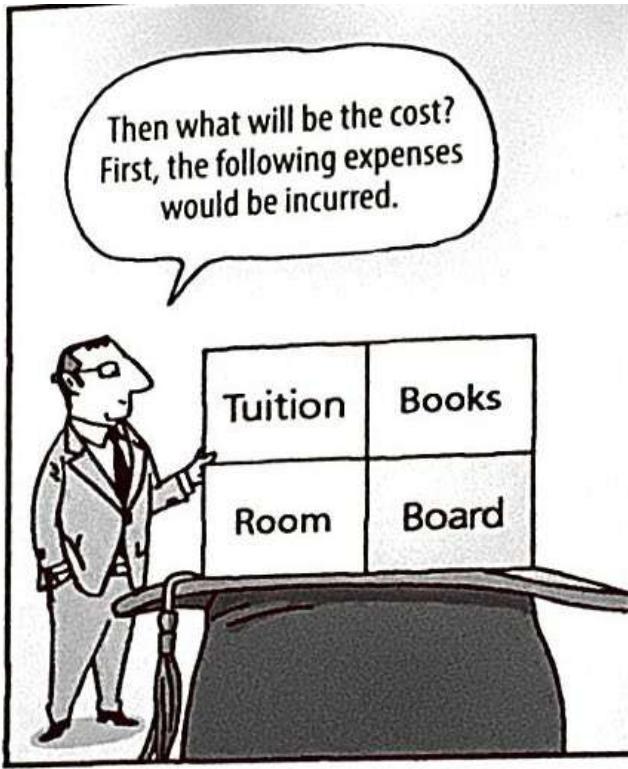
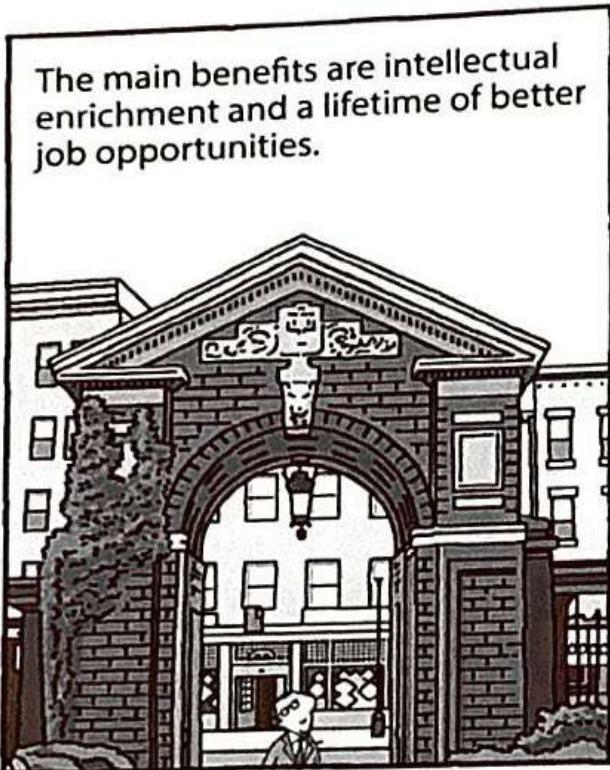
Principle

2

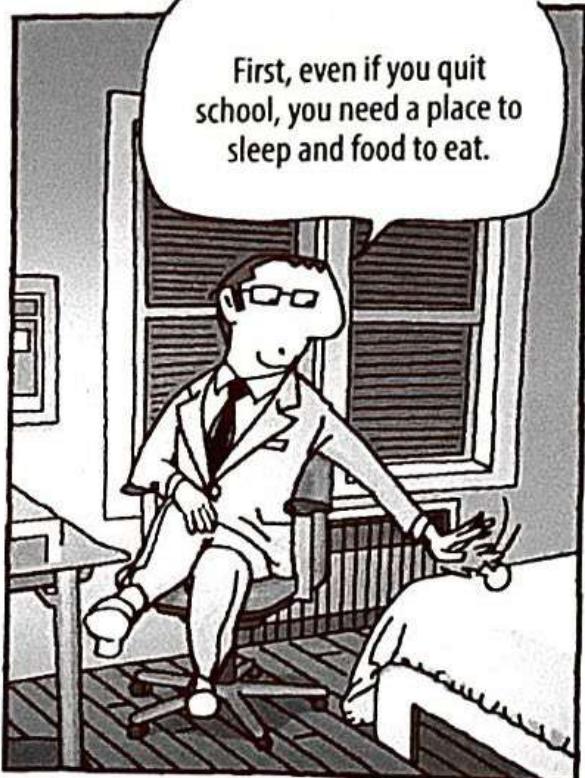
The cost of something is what you give up to get it.



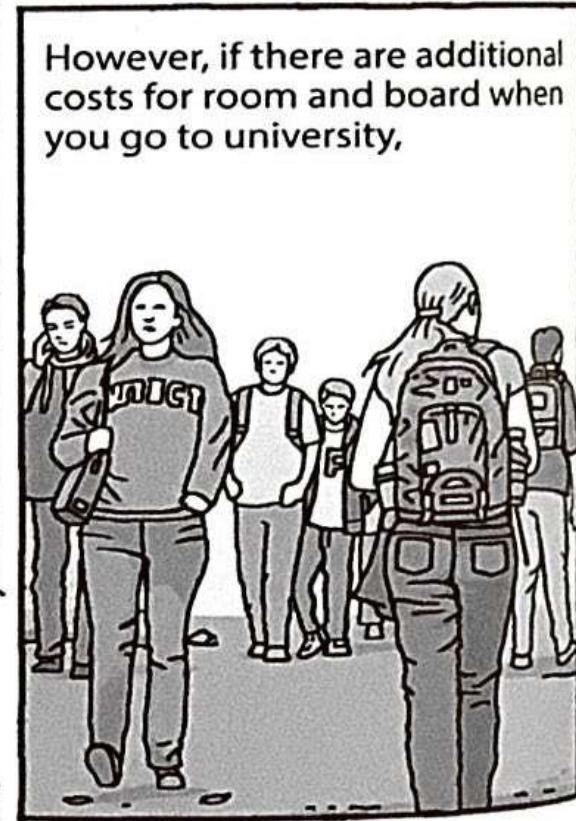
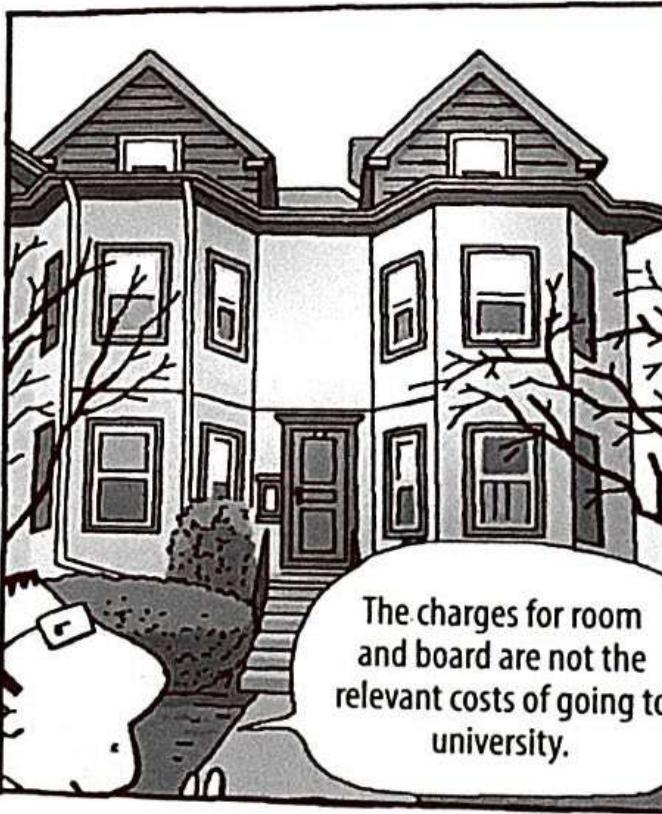
Principle 2: The Cost of Something Is What You Give Up to Get It



Principle 2: The Cost of Something Is What You Give Up to Get It

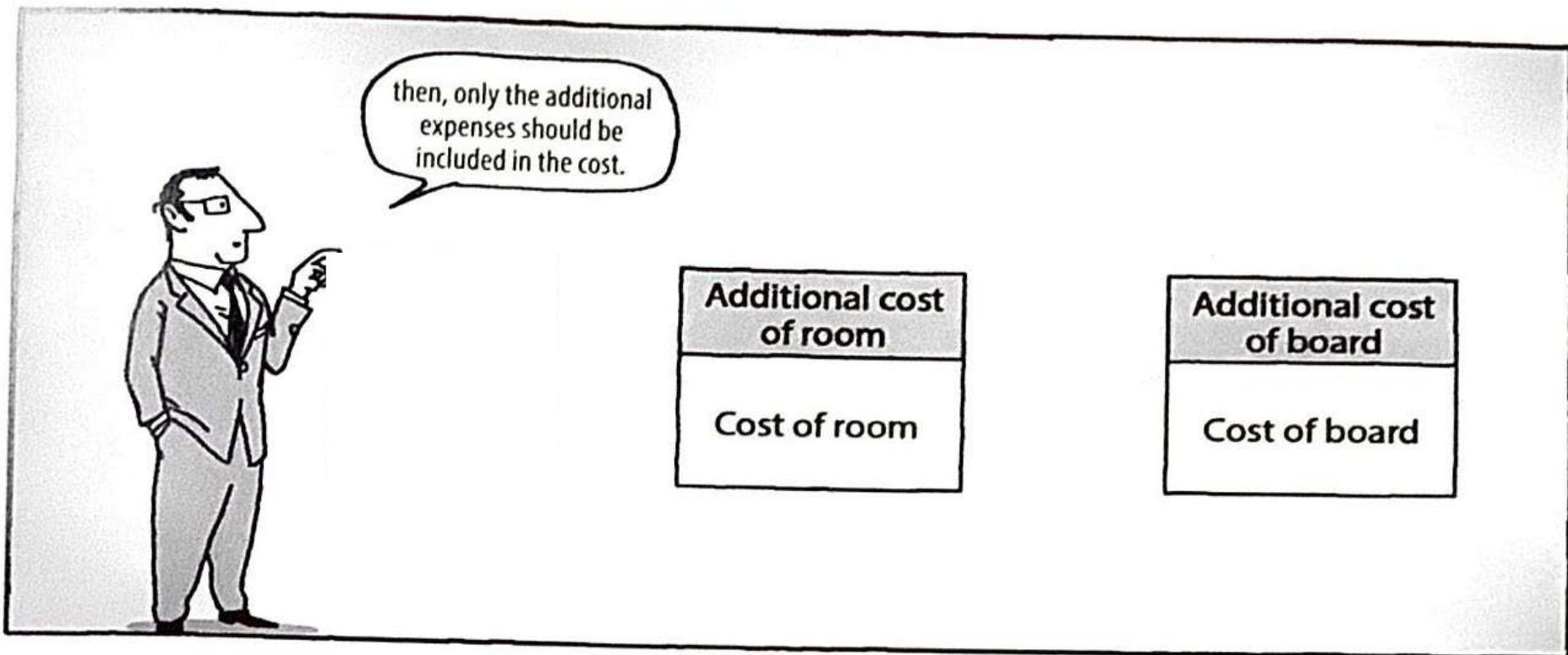


First, even if you quit school, you need a place to sleep and food to eat.

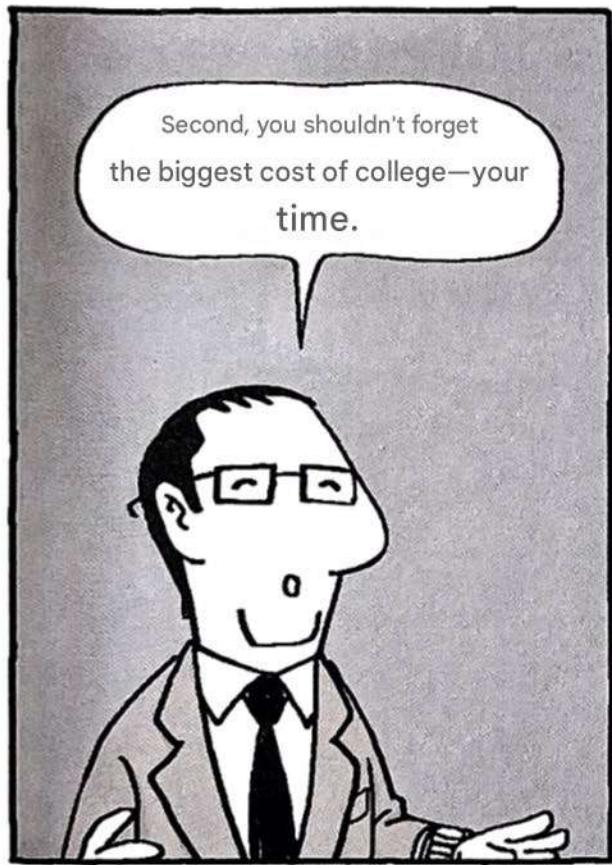


However, if there are additional costs for room and board when you go to university,

Principle 2: The Cost of Something Is What You Give Up to Get It

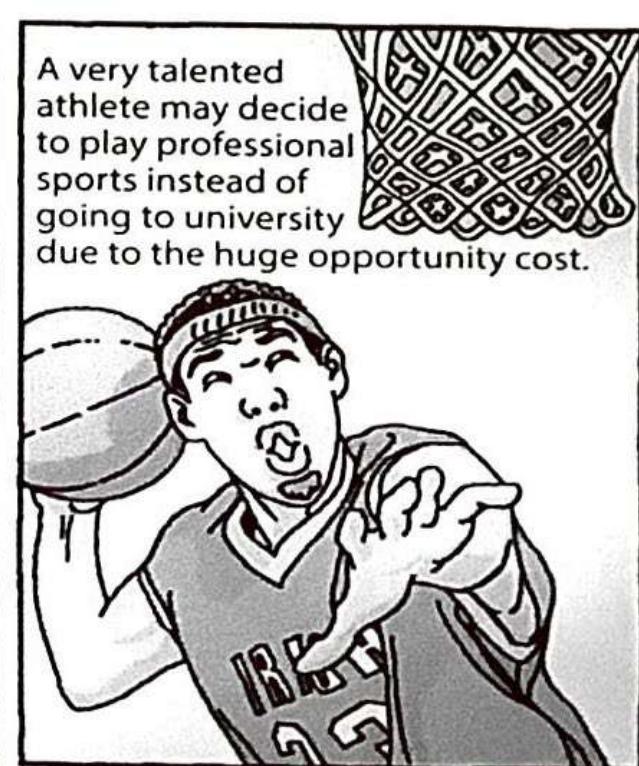
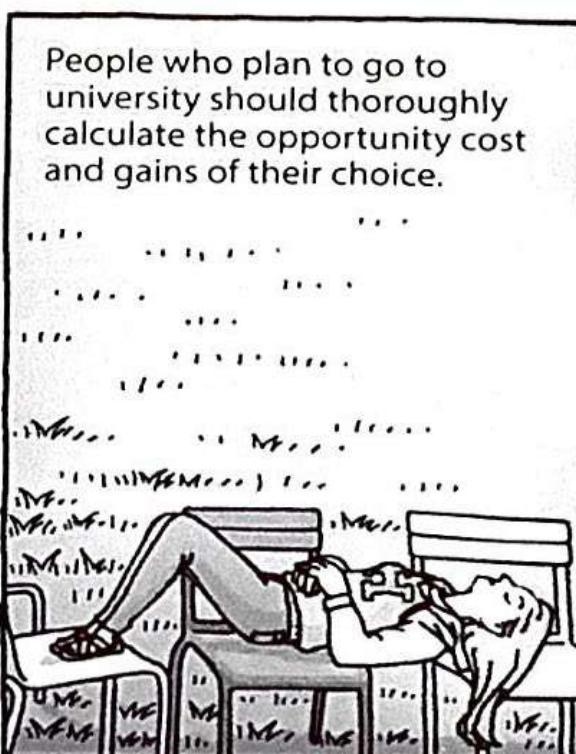


Principle 2: The Cost of Something Is What You Give Up to Get It



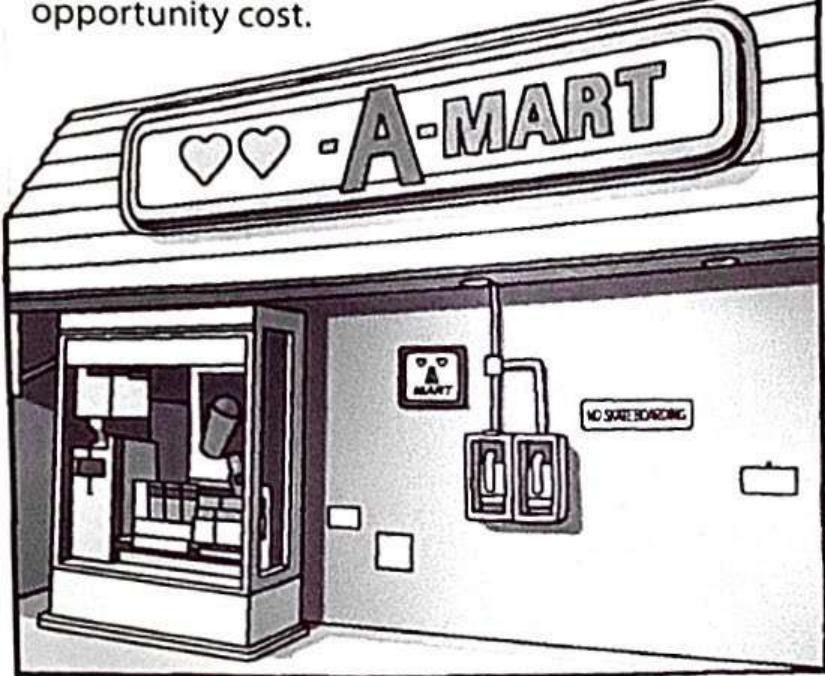
You could have spent your college years working and earning money.

Principle 2: The Cost of Something Is What You Give Up to Get It

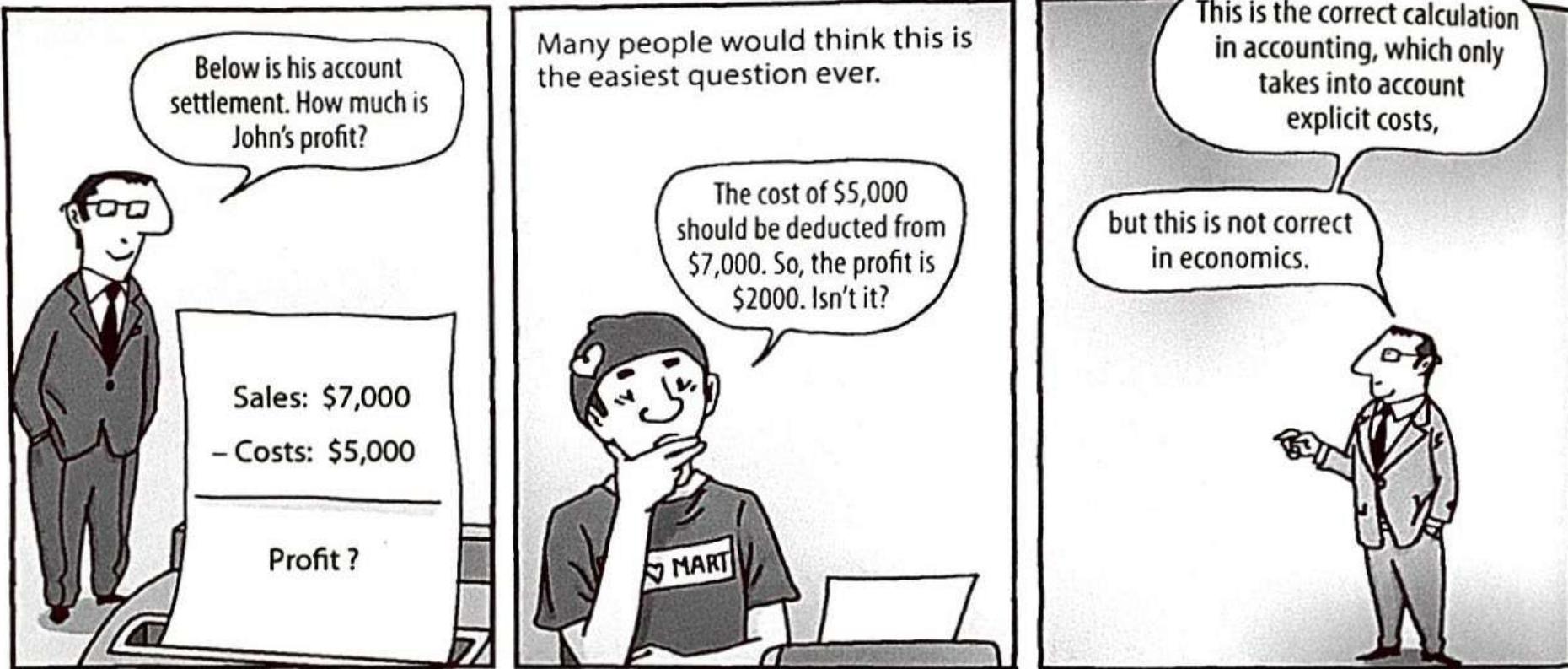


Principle 2: The Cost of Something Is What You Give Up to Get It

If you want to open a store or start an enterprise, you should consider the opportunity cost.



Principle 2: The Cost of Something Is What You Give Up to Get It



Principle 2: The Cost of Something Is What You Give Up to Get It



Principle 2: The Cost of Something Is What You Give Up to Get It

Let's say that someone who can earn 10 shillings a day spends 6 pence loafing around, eating and drinking for half a day.



Keep in mind that the expenses are not limited to the six pence he spent.



In fact, he lost the five shillings he could have made by working. (Note: one shilling equals 12 pence)



SUMMARY



- The second principle of economics is: "The cost of something is what you give up to get it."
- To make rational decisions, we must weigh the gains and losses of each option.
- For example, suppose you are considering whether to attend college. The benefits of college include gaining knowledge and better career opportunities. But what is the cost? You need to pay for tuition, books, meals, and accommodation. However, this simple calculation does not fully reflect the true cost of attending college.

SUMMARY



- First misconception: Even if you don't go to college, you still need a place to live and food to eat. Therefore, basic living expenses like accommodation and meals should not be fully attributed to the cost of attending college. That said, if college accommodation and meals are more expensive, only the additional cost of these items should be counted.
- Second misconception: You cannot work while studying. Therefore, the potential income you could have earned during the time spent in college should also be considered part of the cost.

SUMMARY



- Opportunity cost refers to everything you give up when making a choice.
- When making a decision, you should consider the opportunity cost.
- People sometimes get obsessed with explicit pros and cons while overlooking implicit gains and losses, which can lead to poor decisions. So next time you're faced with a choice, take a moment to reflect on the opportunity cost behind it.

Chapter 1: How People Make Decisions

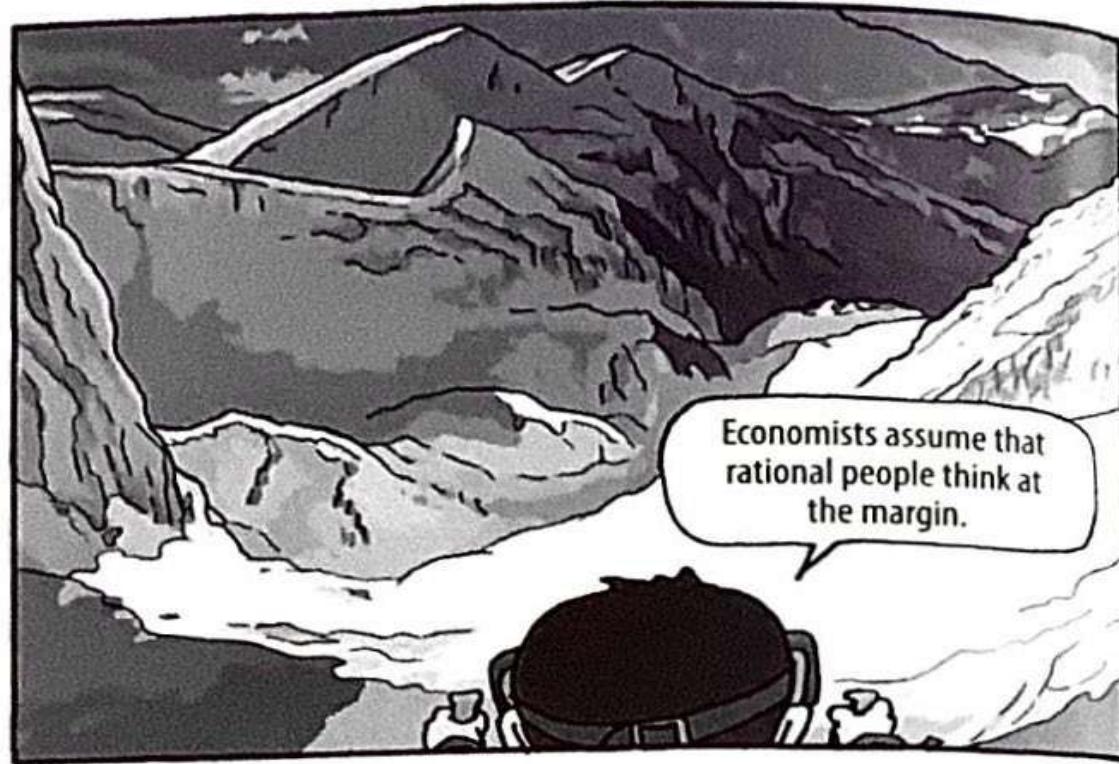
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Principle 3: Rational People Think at the Margin

Principle

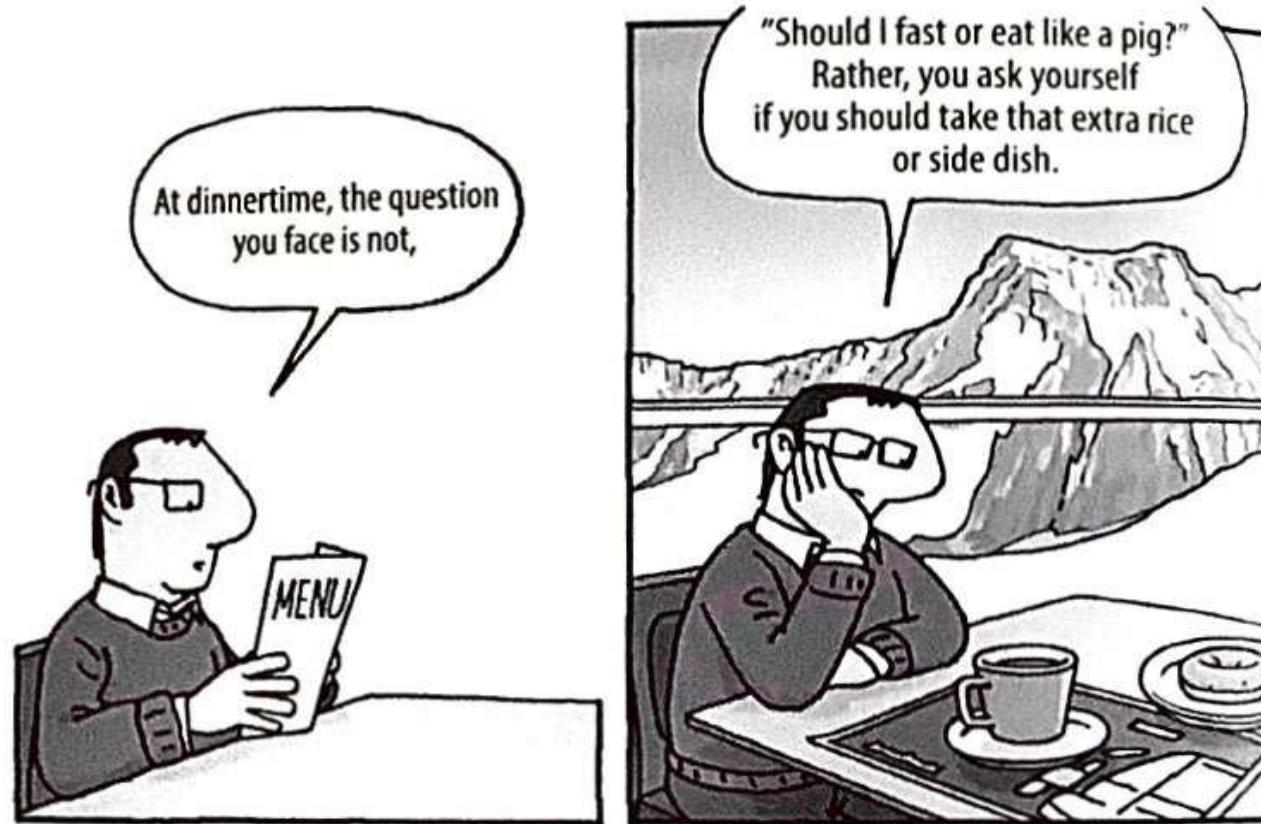
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Rational people
think at the margin.

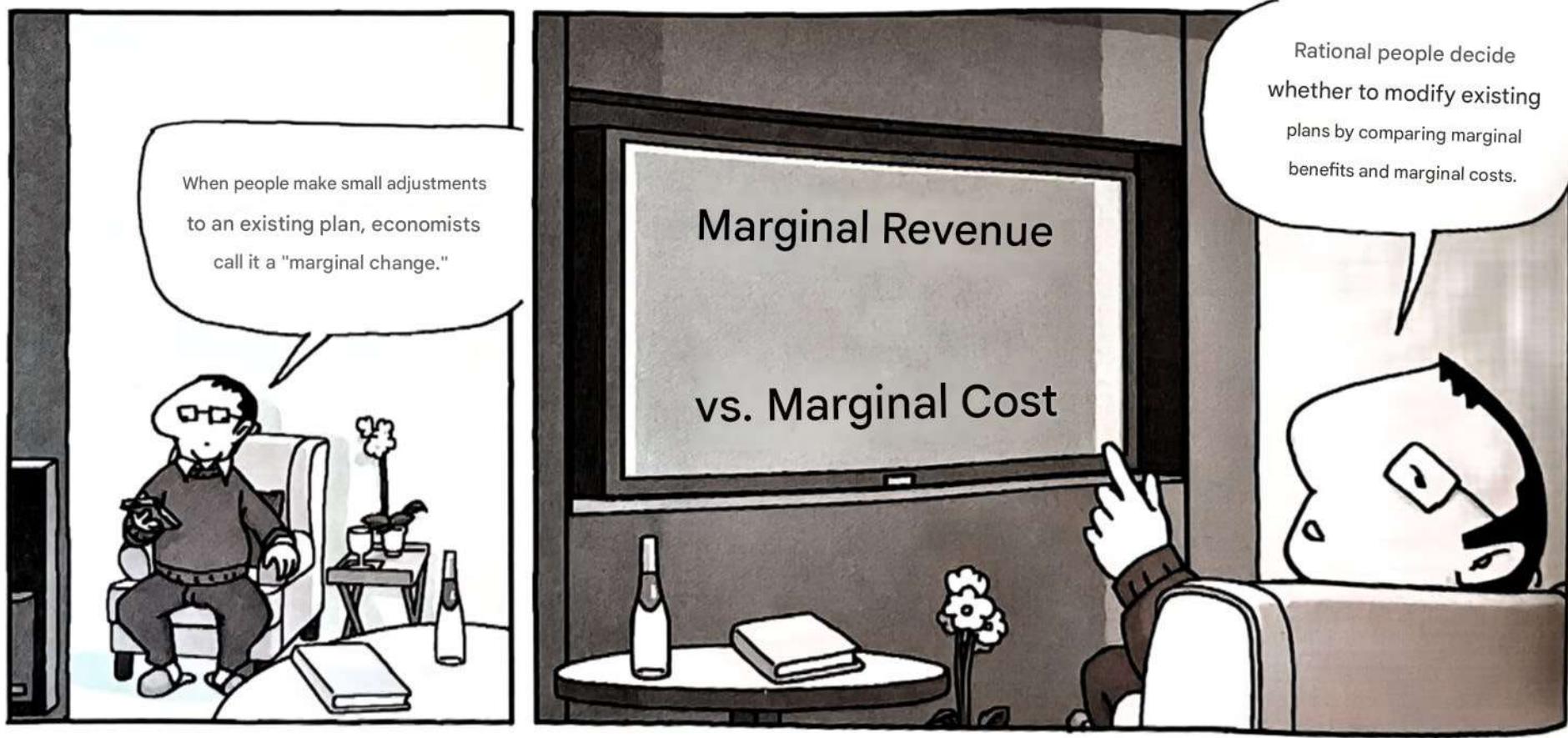


Marginal quantity refers to the additional cost and additional benefit brought about by the next small change.

Principle 3: Rational People Think at the Margin



Principle 3: Rational People Think at the Margin



Marginal quantity refers to the additional cost and additional benefit brought about by the next small change.

Principle 3: Rational People Think at the Margin

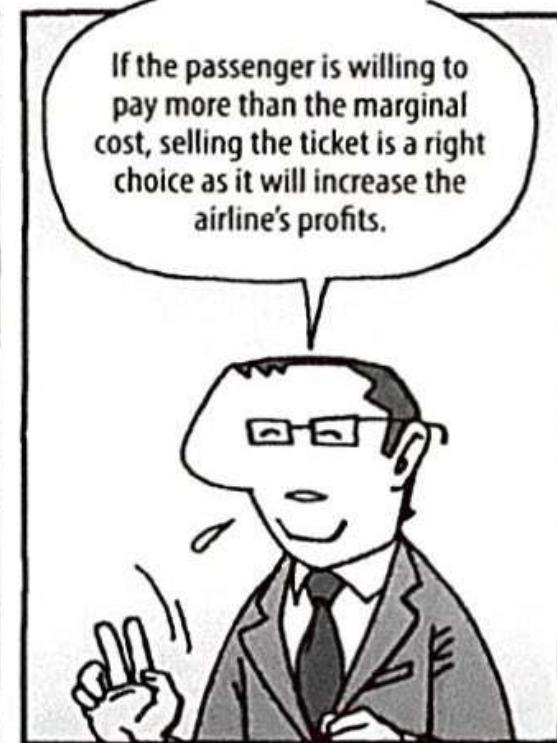


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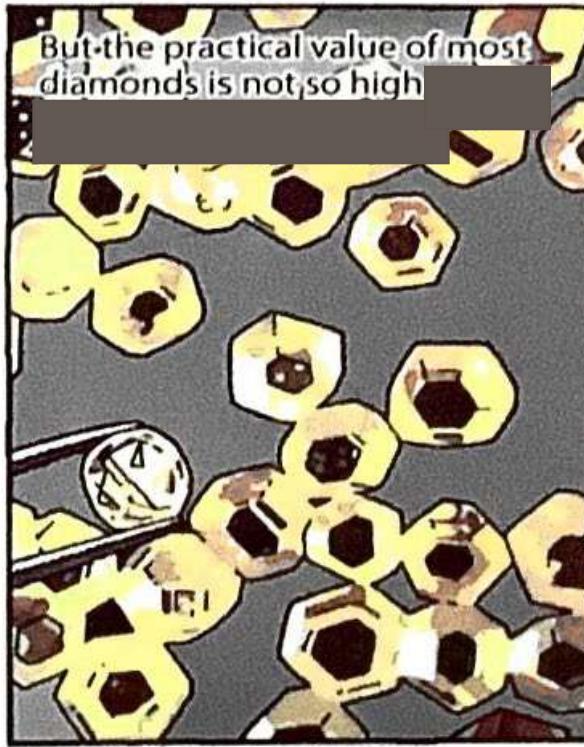
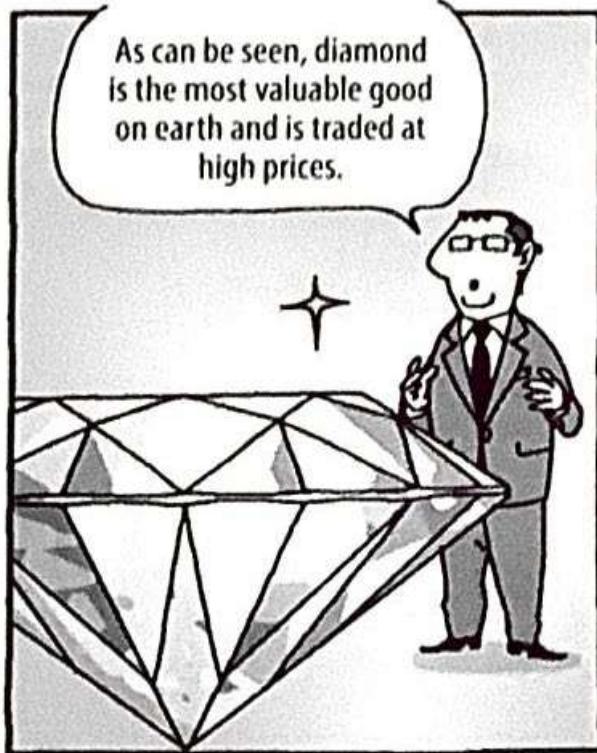


Principle 3: Rational People Think at the Margin

Of course, it should. Although the average cost is \$500 per passenger,

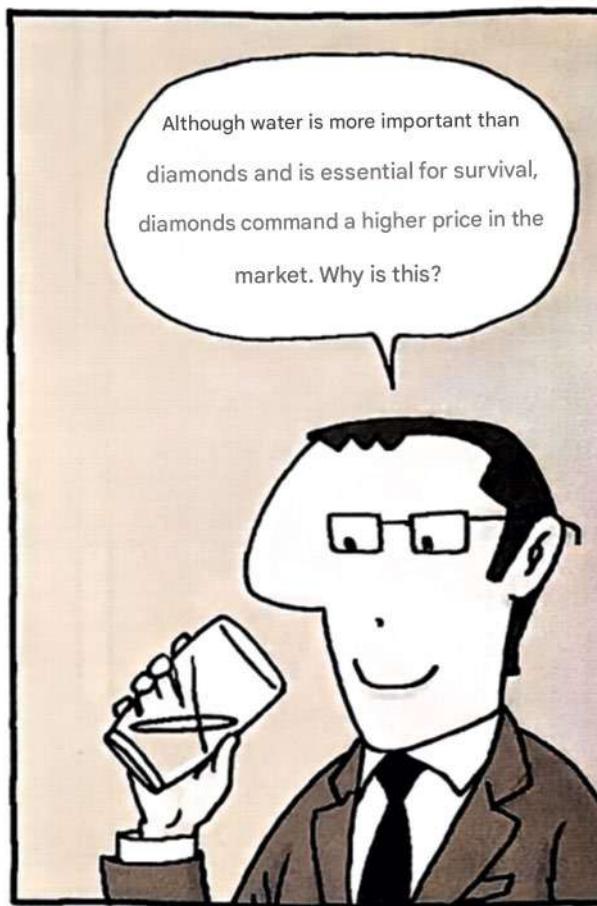


Principle 3: Rational People Think at the Margin

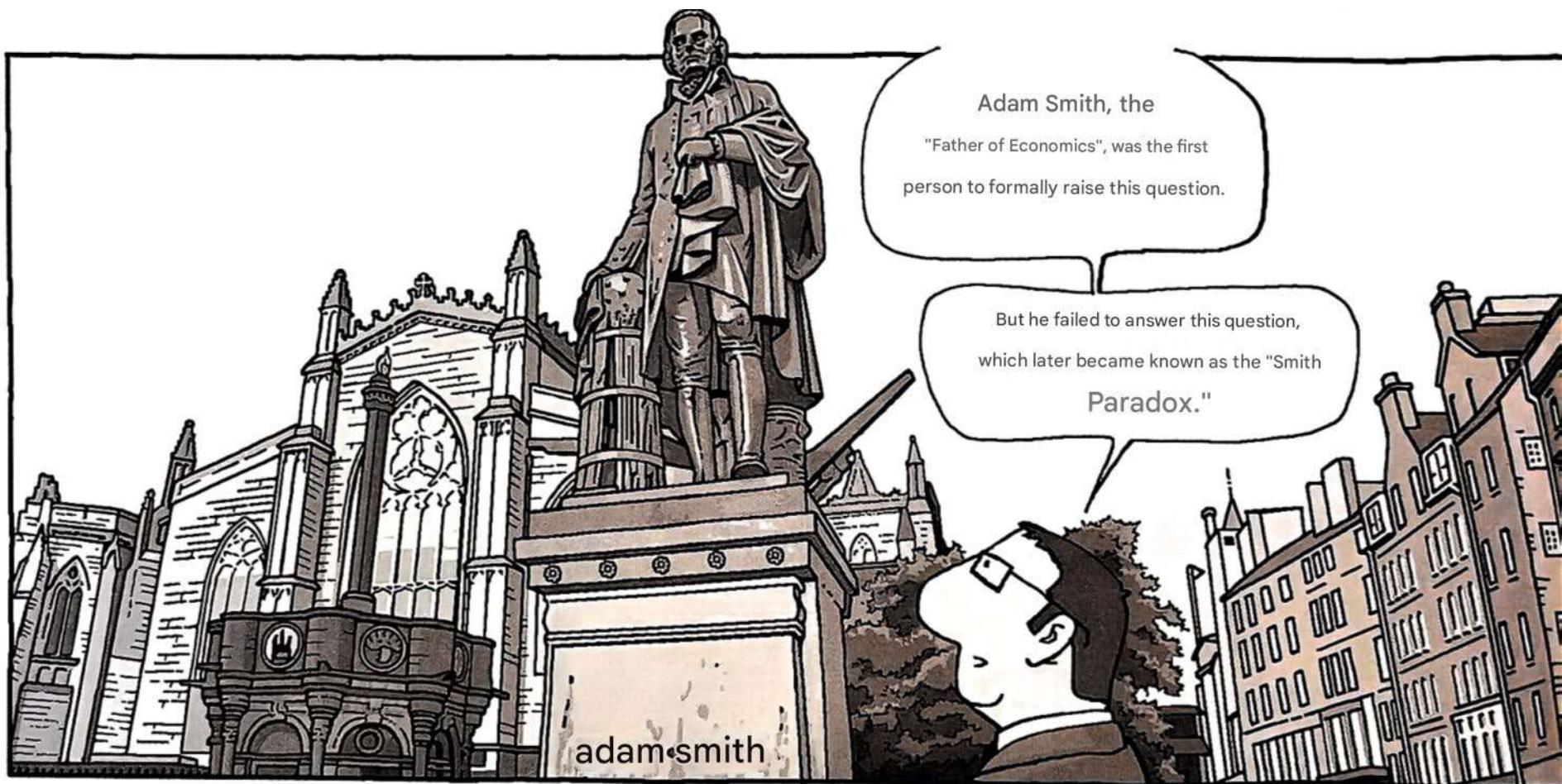


However, water which is vital to life, is almost free.

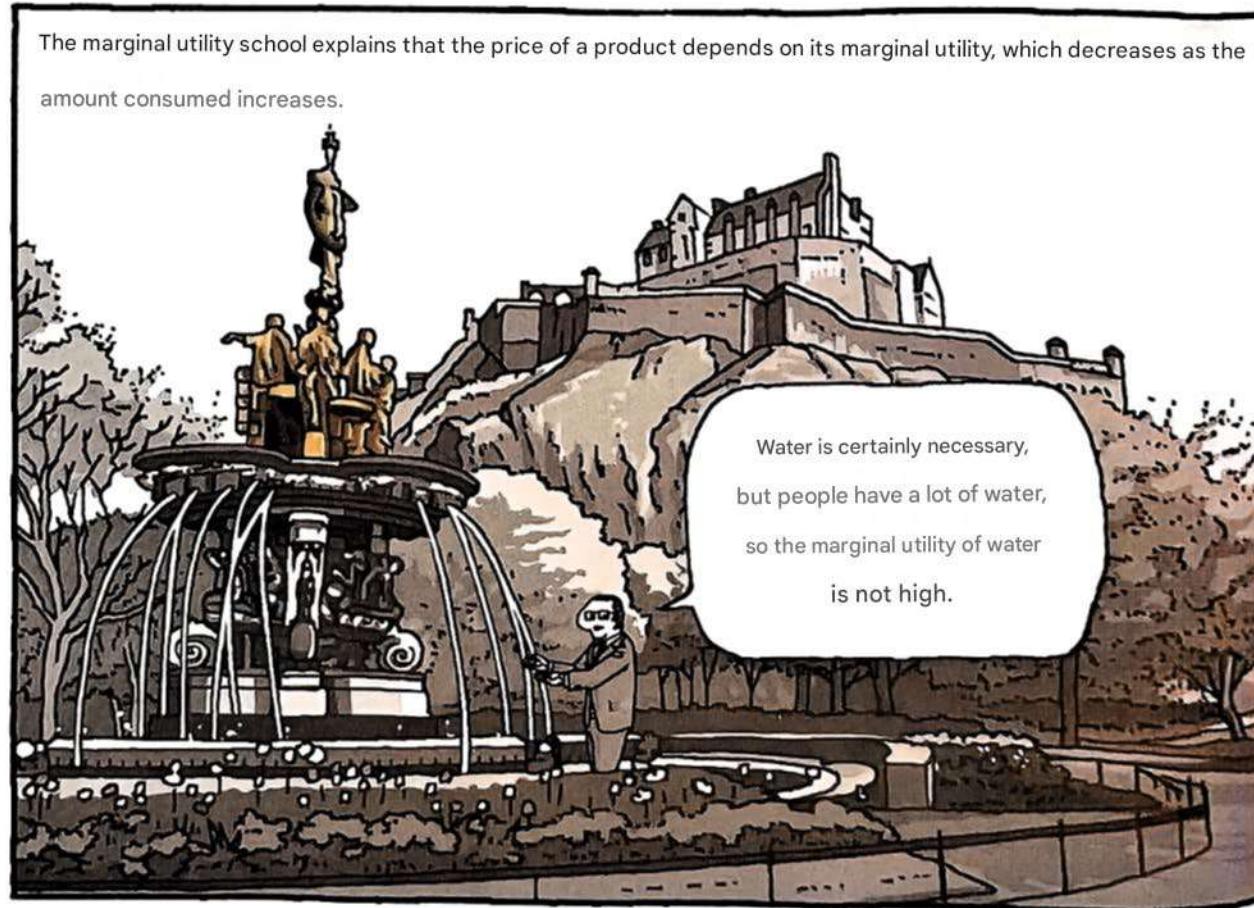
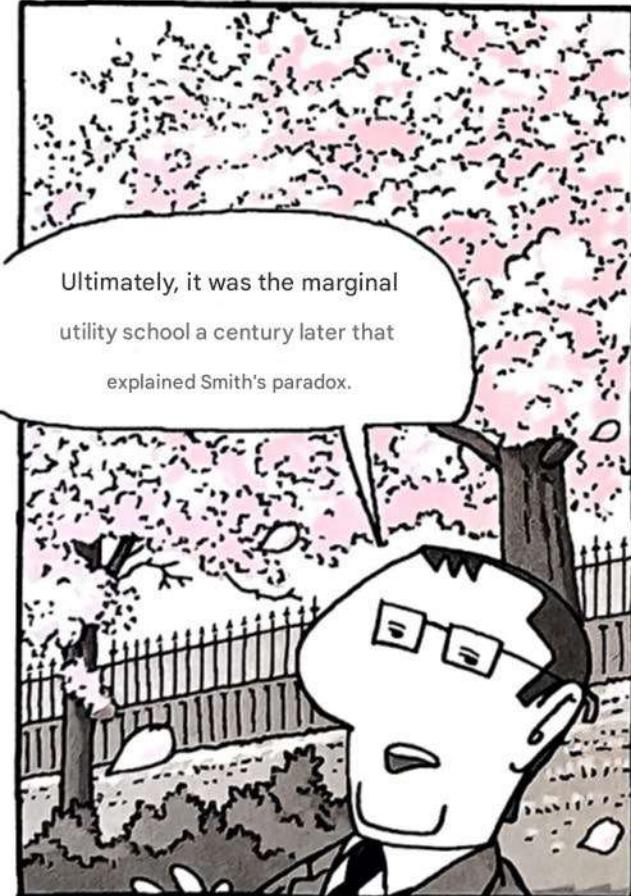
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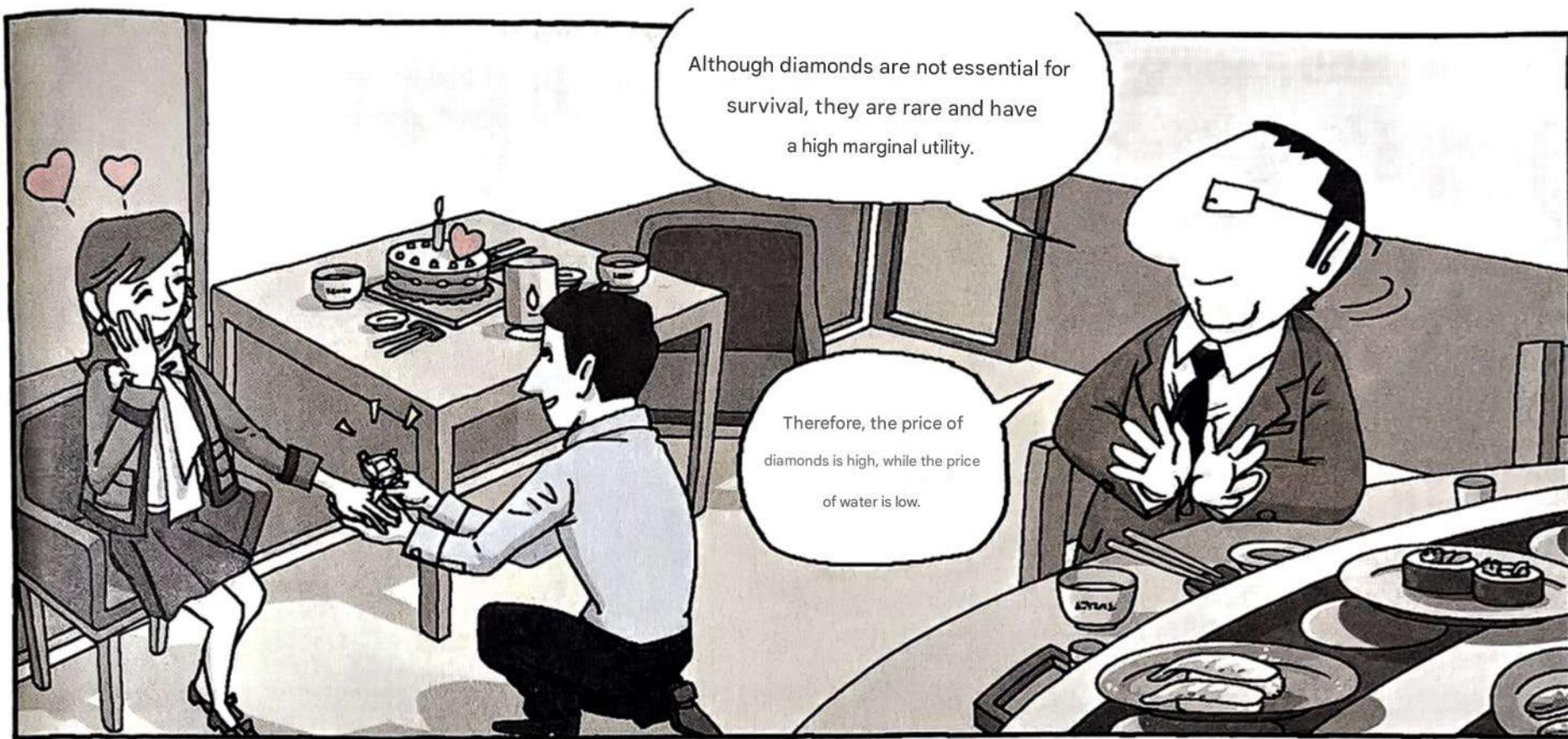
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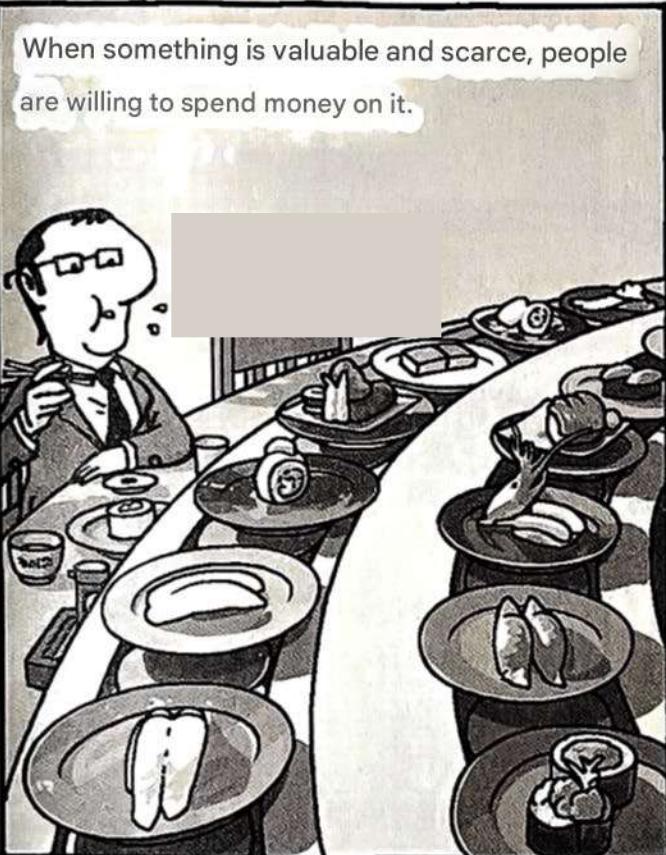
Principle 3: Rational People Think at the Margin



Principle 3: Rational People Think at the Margin



Principle 3: Rational People Think at the Margin



The Economics of Water

The economics of water



So, can we sell water at the same price as beer and wine?

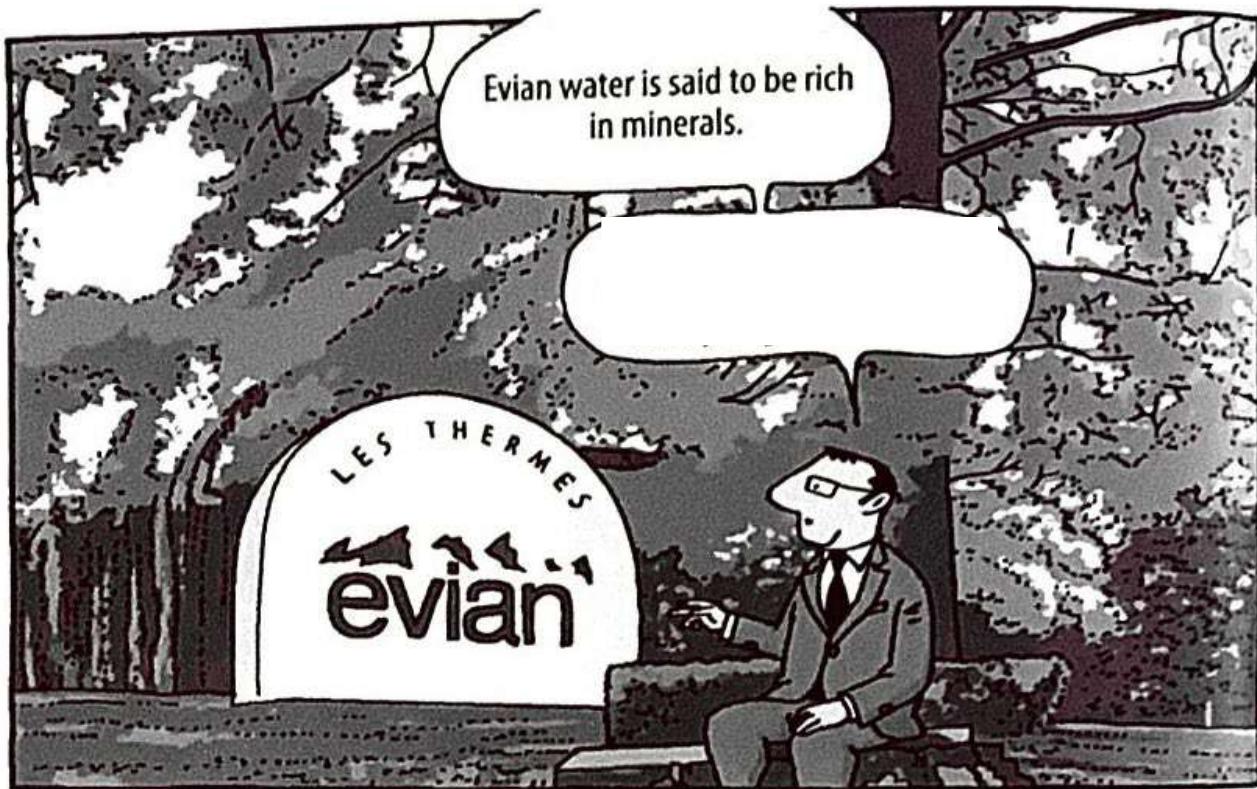
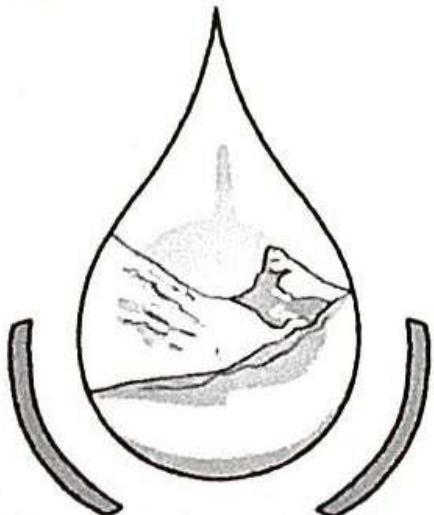


It is indeed possible, as long as consumers believe that the marginal utility of water is high enough.



The Economics of Water

Evian water has been portrayed as very clean water originating from the snow on mountaintops, mixed with raindrops and filtered through natural processes.

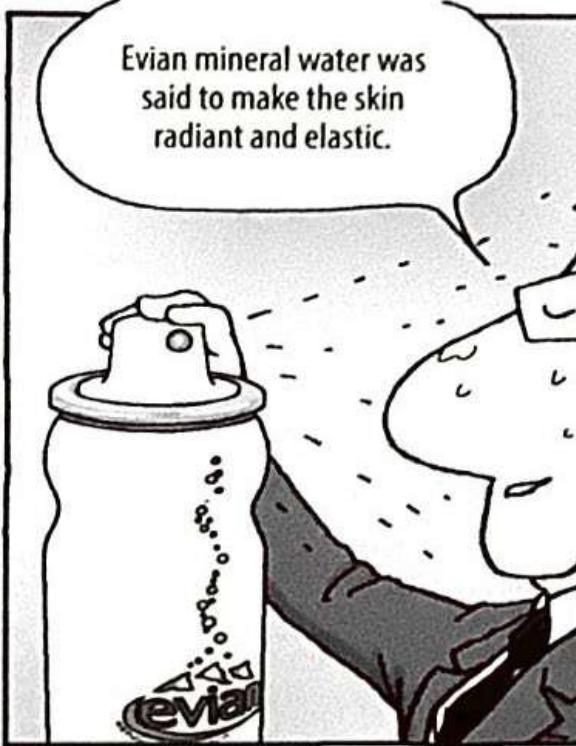


The Economics of Water

It did not take long before Evian water was said to possess excellent cosmetic benefits.



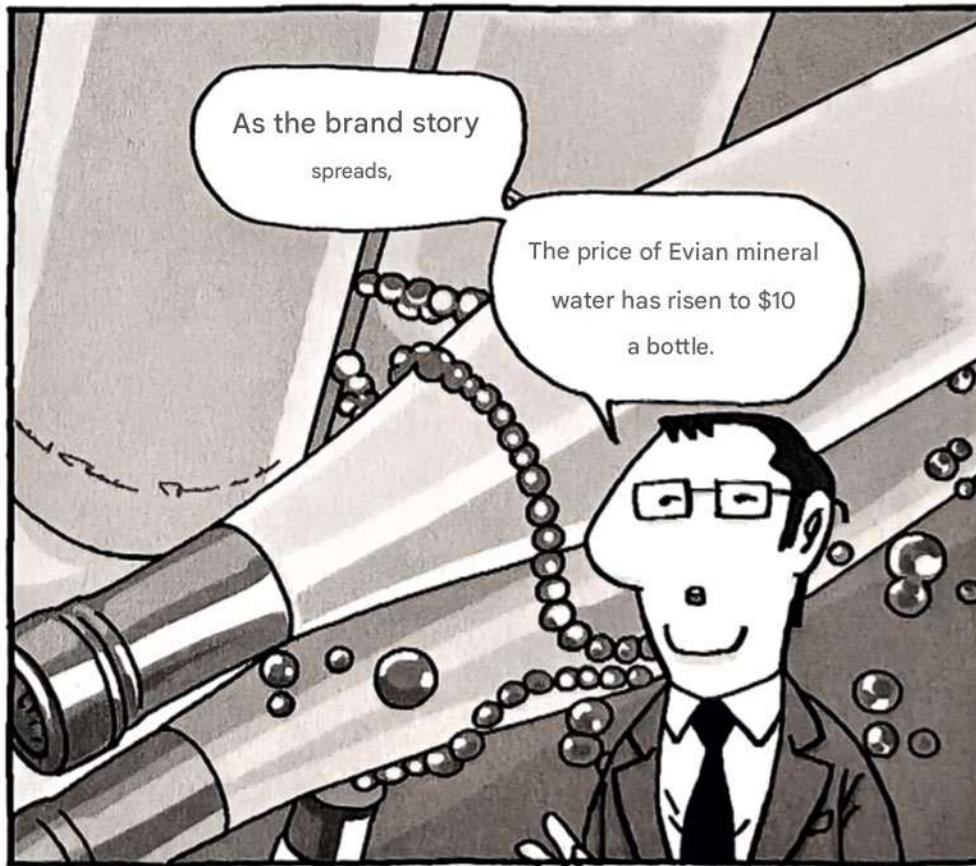
Evian mineral water was said to make the skin radiant and elastic.



Since then, Evian water has been called the 'noble' mineral water.



The Economics of Water



SUMMARY



- The third principle of economics is: "Rational people think at the margin."
- Rational people are those who strategically leverage opportunities to achieve their goals effectively.
- They compare marginal benefits with marginal costs and will only choose an option when the former exceeds the latter.
- The term "margin" refers to the incremental change triggered by a variation in a variable.

SUMMARY



- Take airline seats for sale as an example.
- Even if the selling price is lower than the average cost of a seat, airlines may still choose to sell it because the marginal benefit of the seat exceeds its marginal cost.
- Although diamonds are not essential for survival, their price is higher than that of water. This is due to the scarcity of diamonds, making their marginal benefit significantly greater than that of water.

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Principle 4: People Respond to Incentives

Principle

4

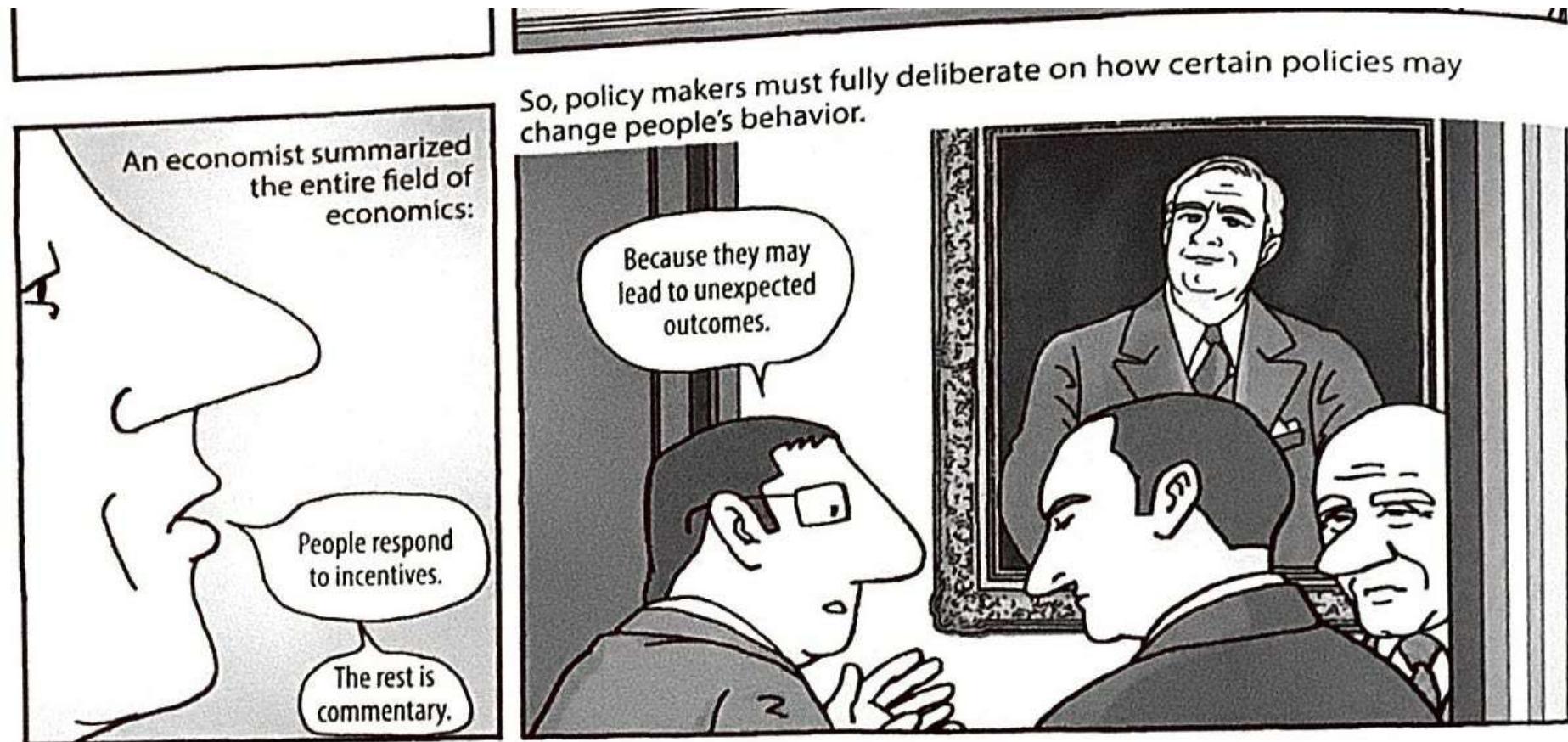
People respond
to incentives.

Incentive refers to what motivates people to act,
such as fear of punishment or expectation of
a reward.

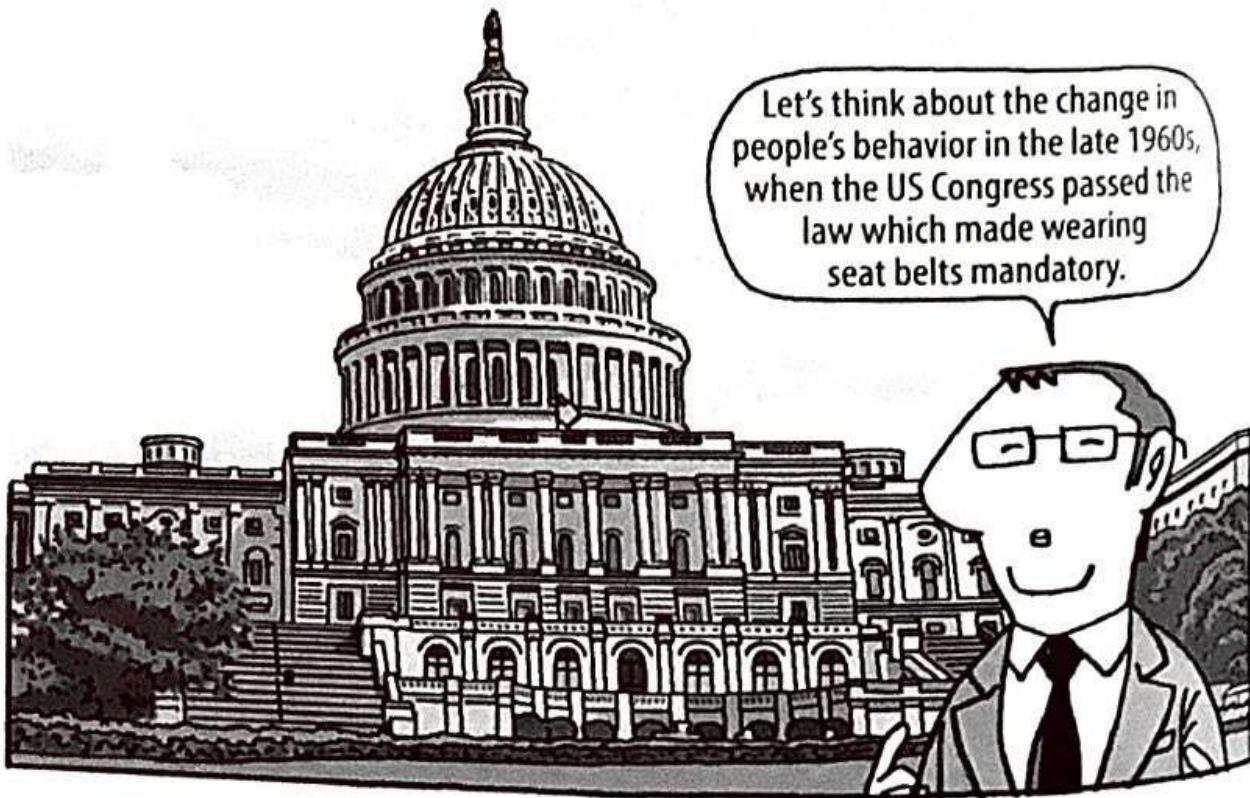
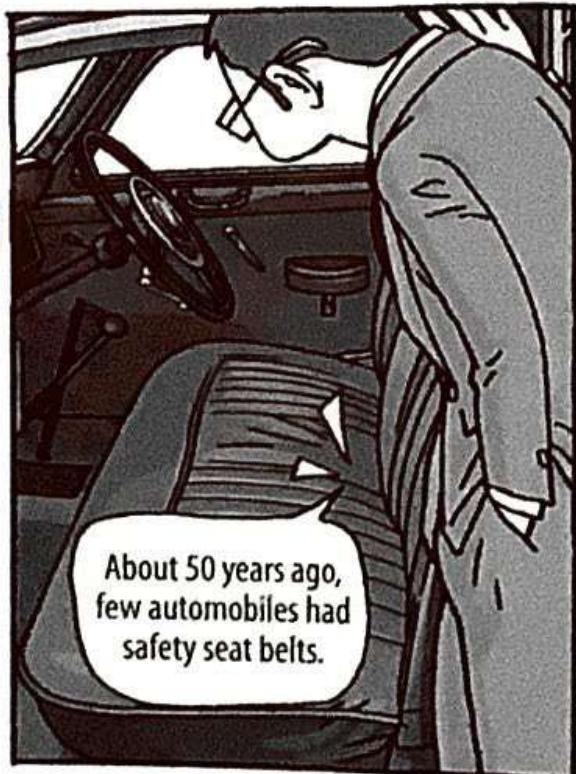
Incentive



原理 4：人们对激励做出反应



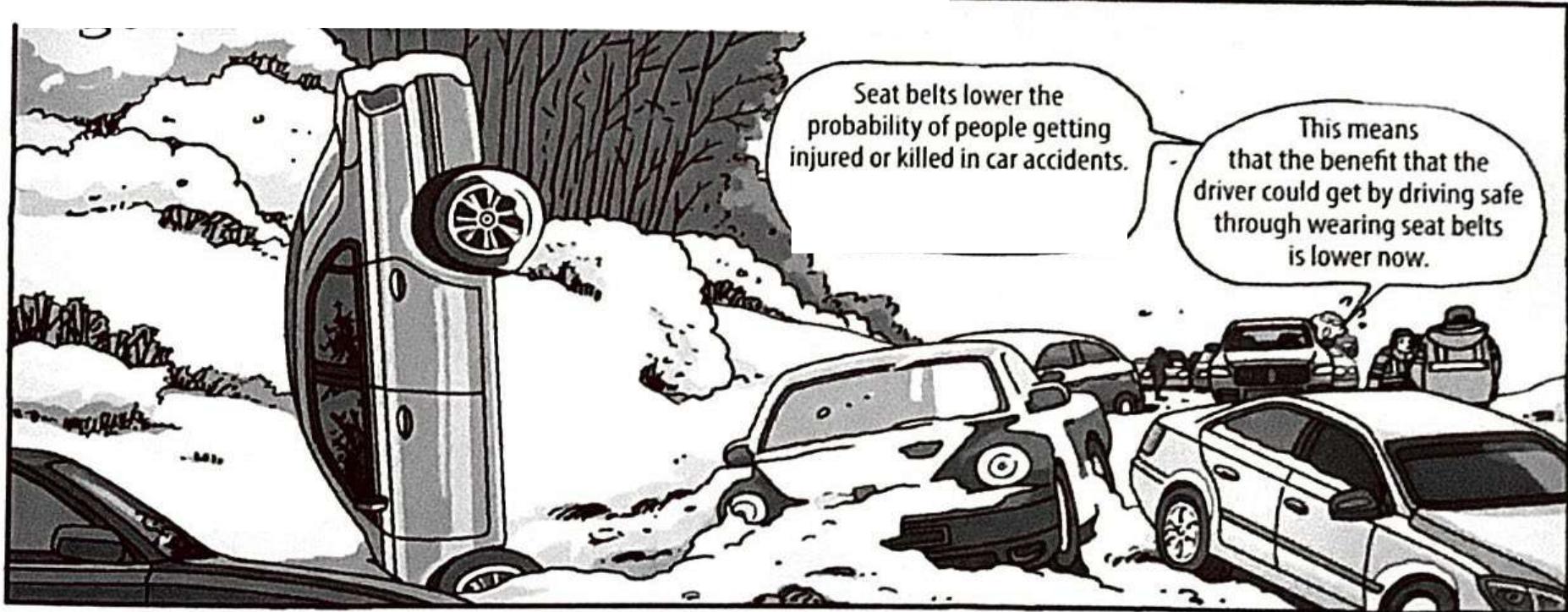
Principle 4: People Respond to Incentives



Principle 4: People Respond to Incentives



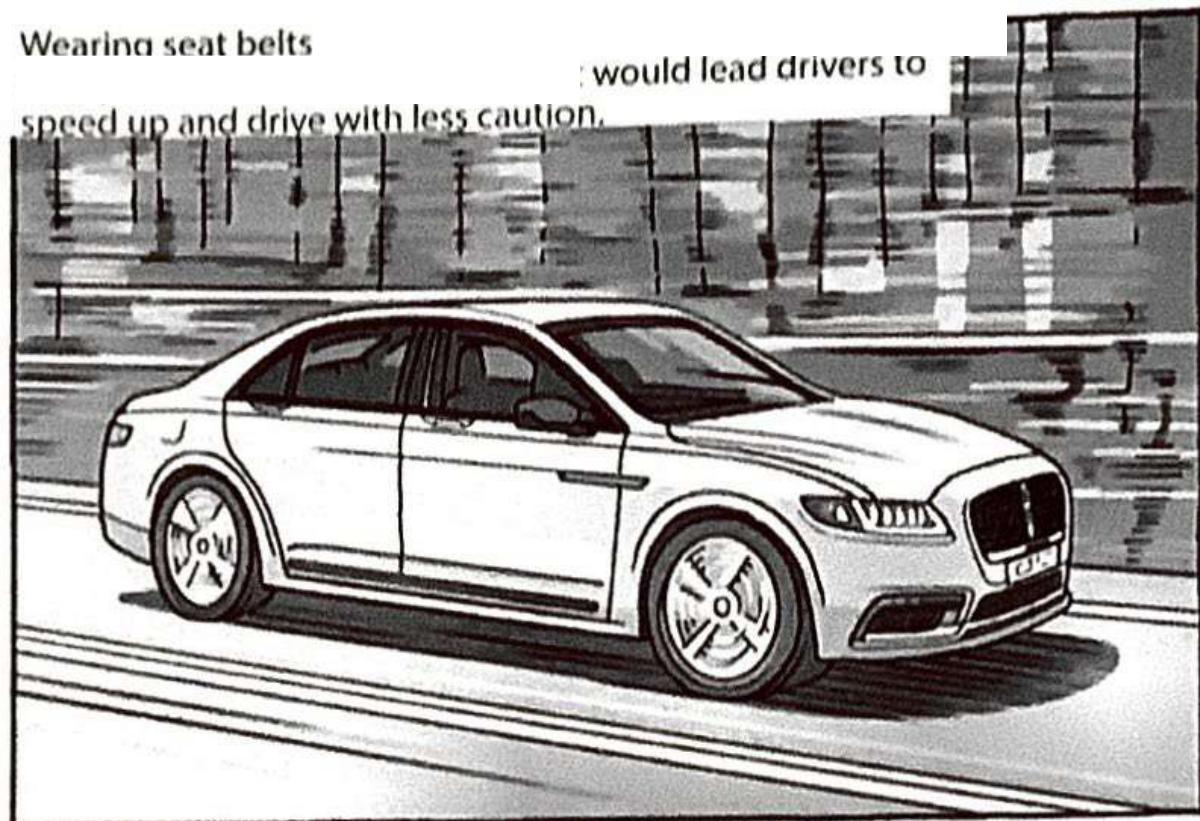
Principle 4: People Respond to Incentives



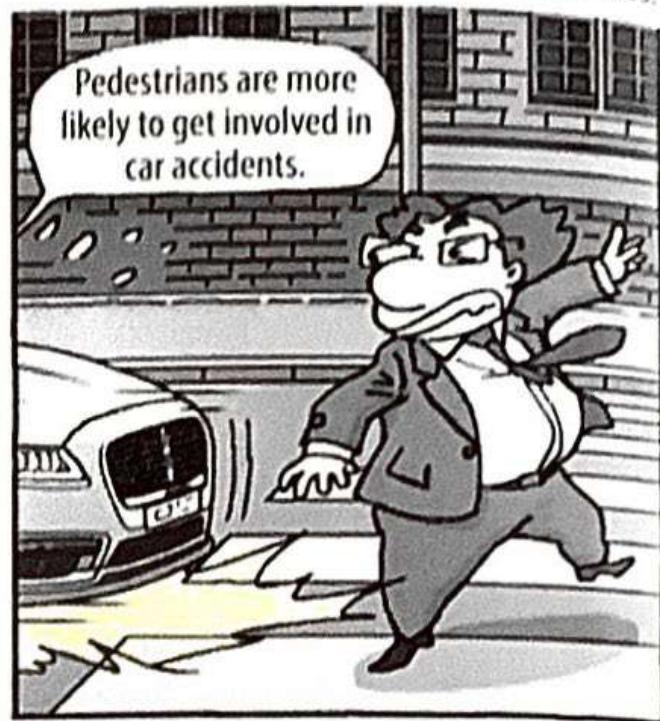
Principle 4: People Respond to Incentives

Wearing seat belts

would lead drivers to speed up and drive with less caution.



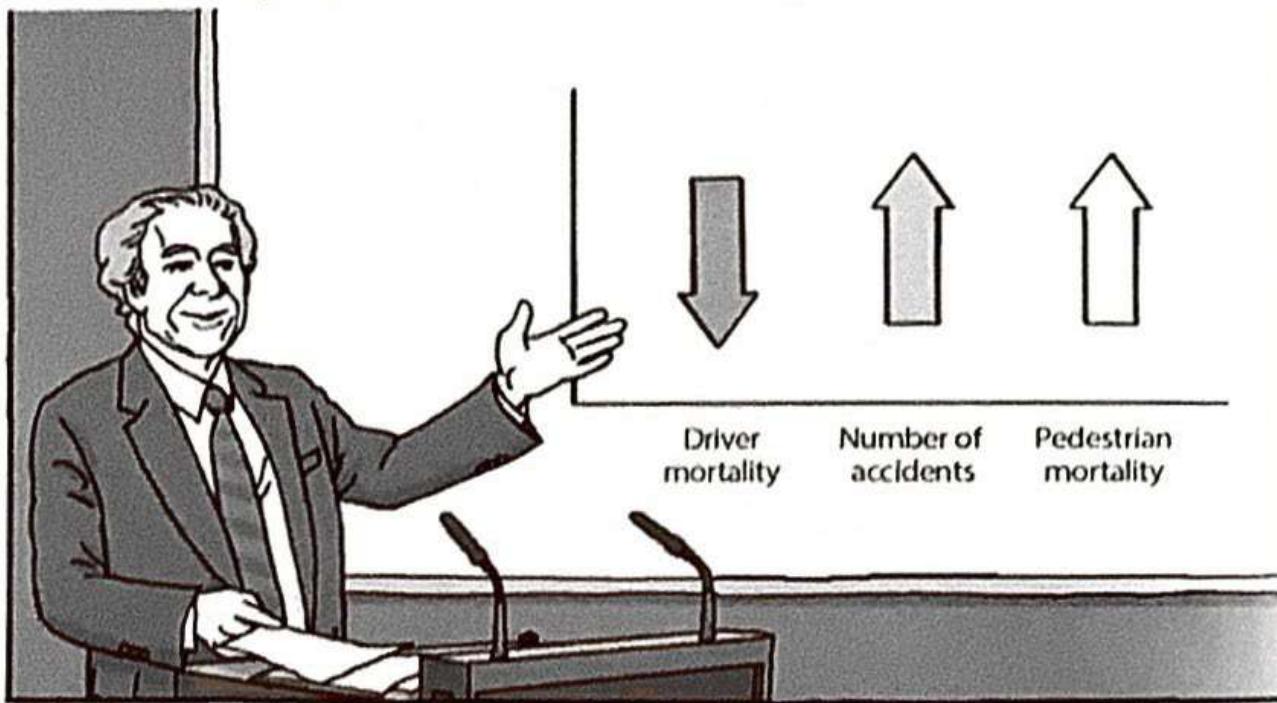
The result of a seat belt law, therefore, is a larger number of accidents.



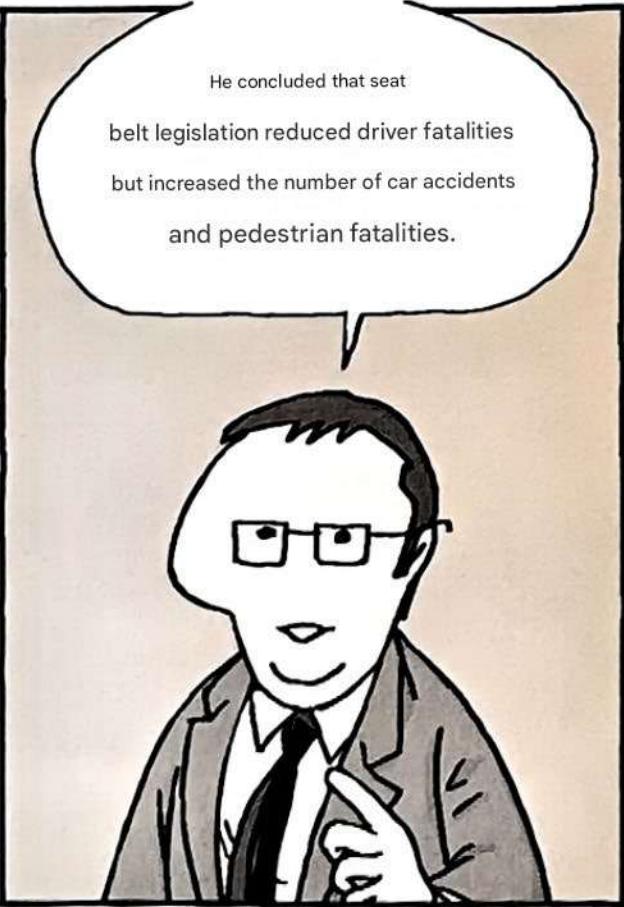
Principle 4: People Respond to Incentives



Not really. Economist Sam Peltzman statistically proved that this was what actually happened in the US in his paper published in 1975.



Principle 4: People Respond to Incentives



He concluded that seat belt legislation reduced driver fatalities but increased the number of car accidents and pedestrian fatalities.

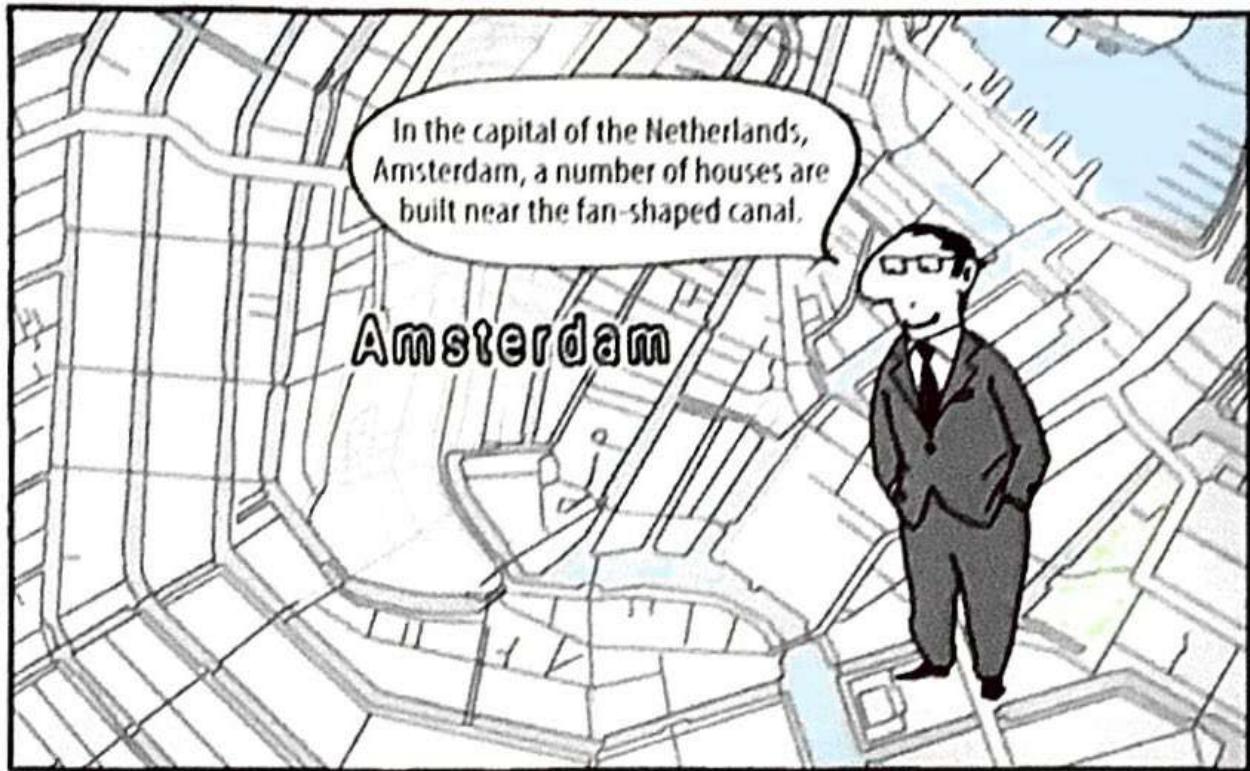


When we analyze any policy, we must consider not only direct effects, but also those hidden indirect effects that affect incentives.

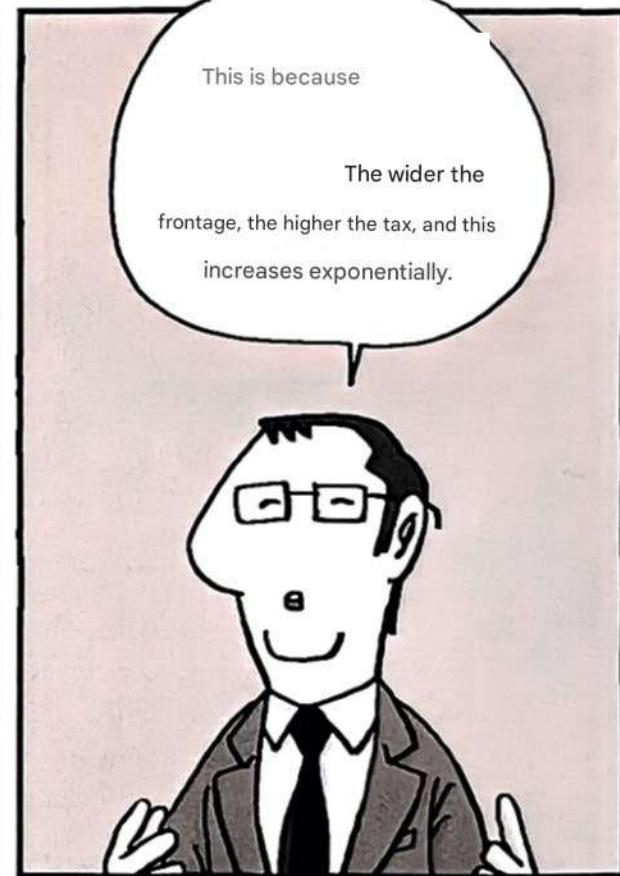
If policy changes incentives, then people's behavior will change.

Good Incentives and Bad Incentives

Good Incentives
Bad Incentives



Good Incentives and Bad Incentives



Good Incentives and Bad Incentives

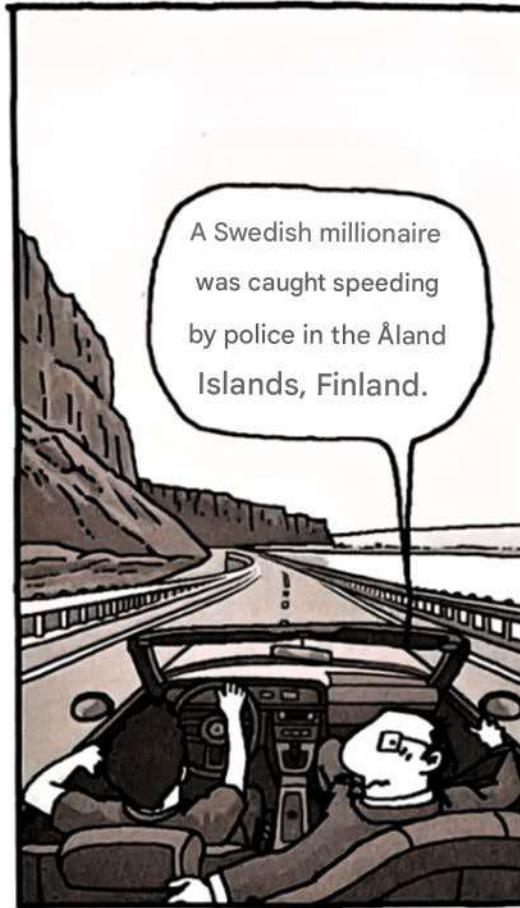
Netherlands' government used the tax incentive to house a big population.



Because more houses can be built per unit area of land.

Good Incentives and Bad Incentives

The Finnish government levies fines based on a person's wealth, a practice that some find too harsh.



Good Incentives and Bad Incentives

Whether people speed is also a decision made after weighing the costs and benefits. Different people can afford different fines.



Based on this consideration, the Finnish government decided to link the amount of taxes and fines to personal wealth.

For example, a \$100 fine is too little for a millionaire to obey traffic laws.



Incentives can bring unexpected results.

American sociologist Duncan Watts studied the relationship between work and monetary compensation.



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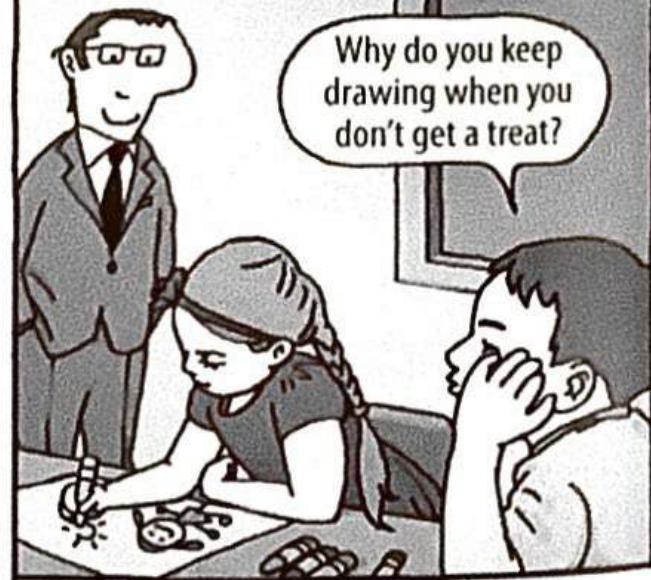
Better monetary incentive is sure to motivate people to work more, but it may also demotivate them.



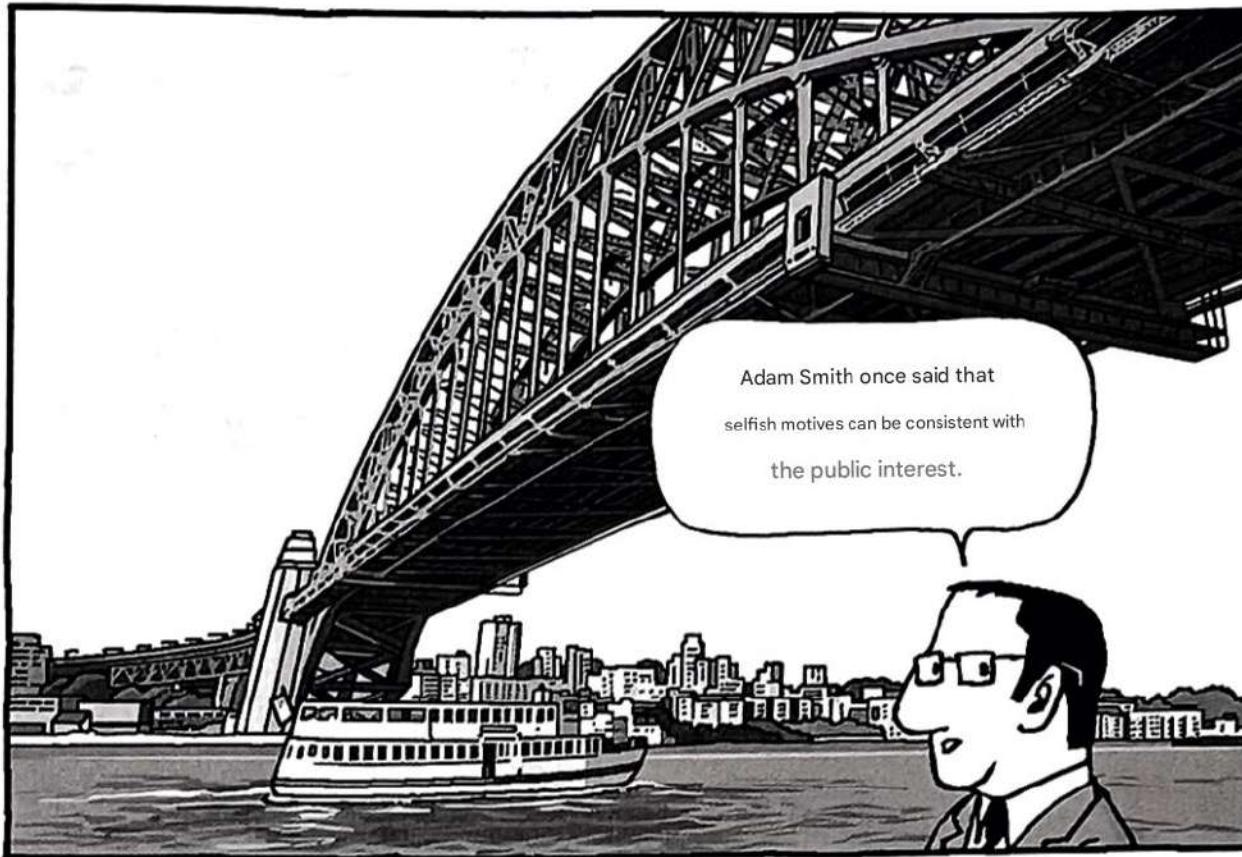
In an experiment conducted at Stanford University in the US, it was found that children who were given compensation for drawing spent fewer hours drawing than those who were not given any.



Once the compensation was gone, the kids were no longer motivated to draw, because there was no sense of accomplishment.



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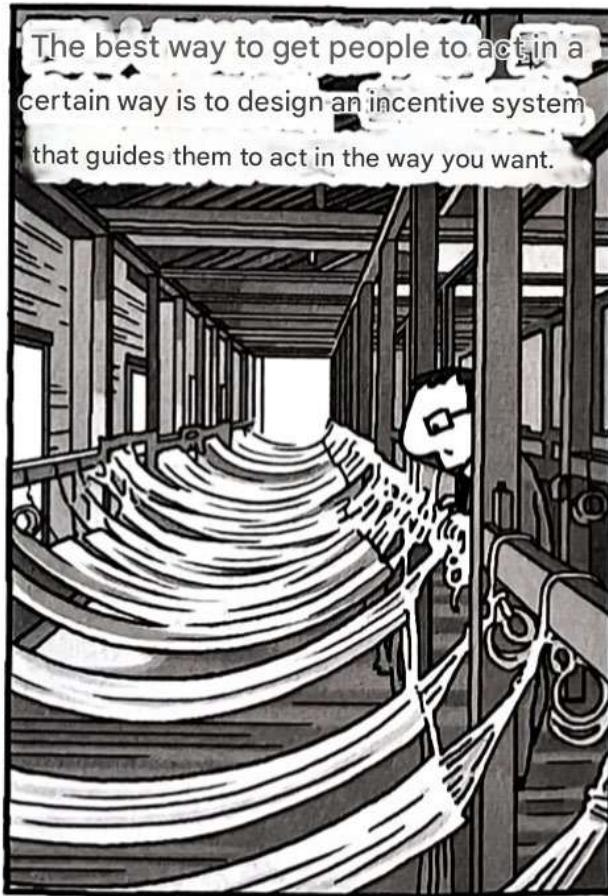
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He even said that instead of forcing people to abide by moral standards, it is better to take advantage of their selfish behavior.

abide by

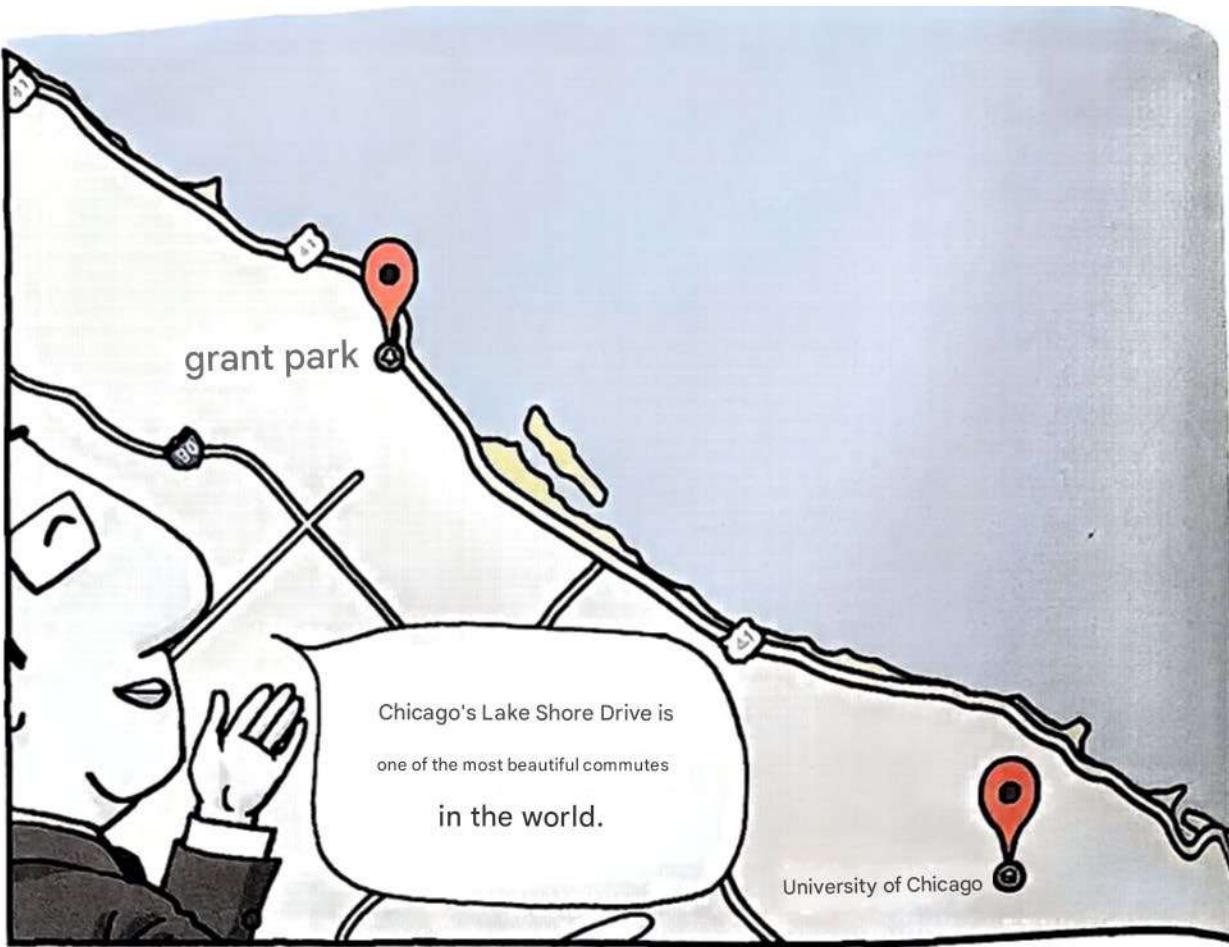
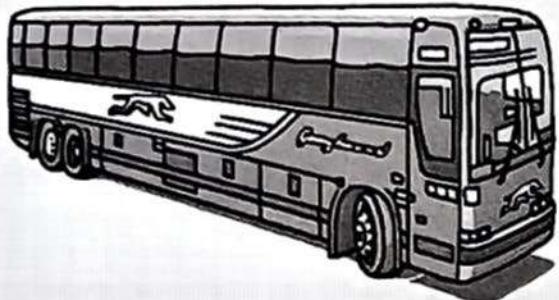
According to Smith, we need the right economic incentives to align individual interests with the public interest.

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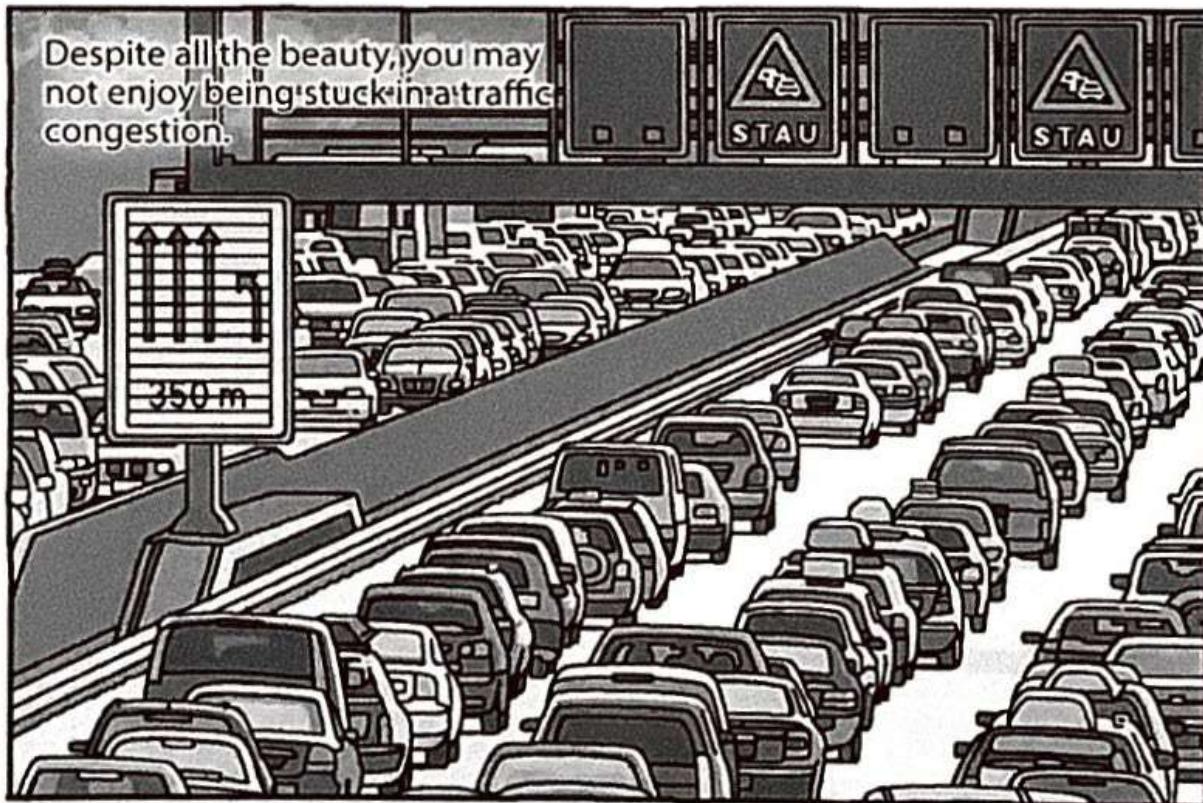


Bus Operating Hours

bus
running time



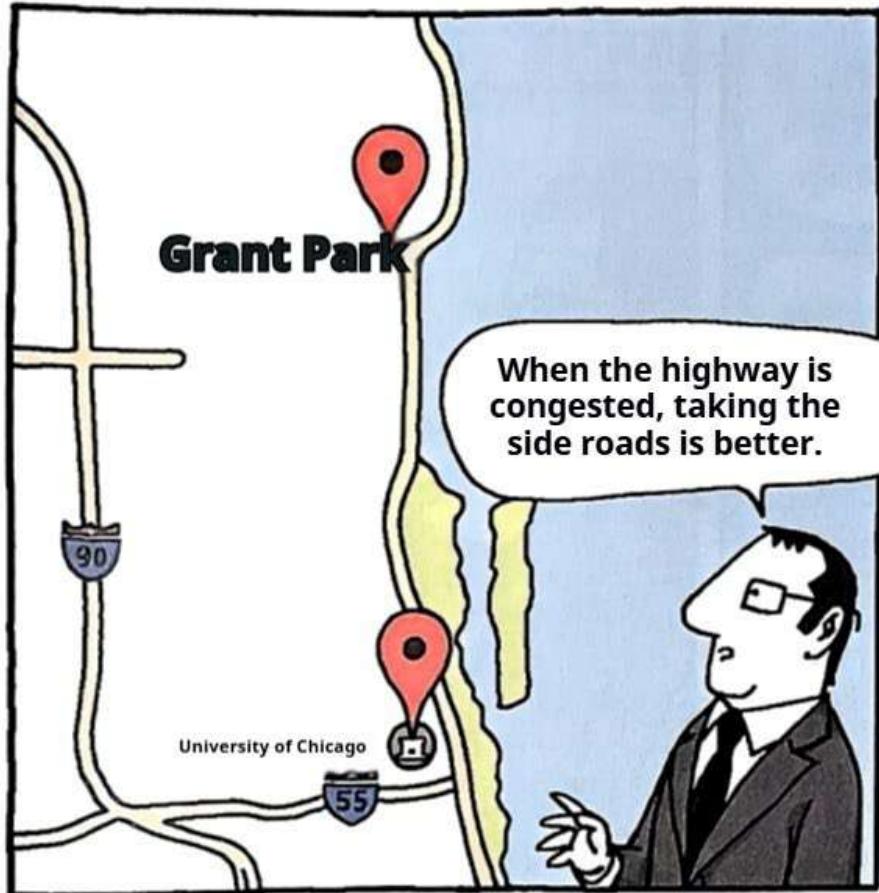
Bus Operating Hours



Those who use this route every day know that there's an alternative, which allows them to escape traffic congestion.



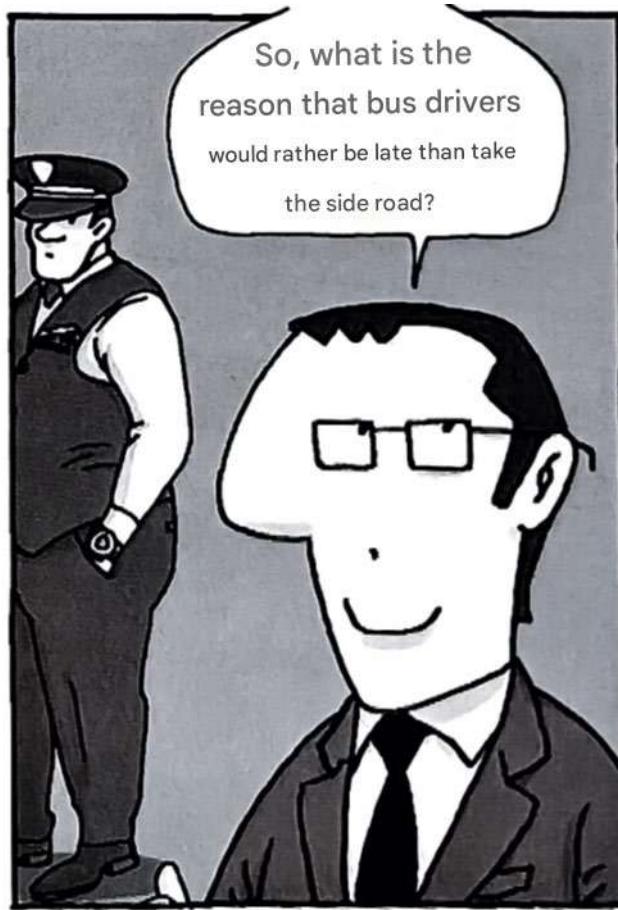
Bus Operating Hours



Bus Operating Hours

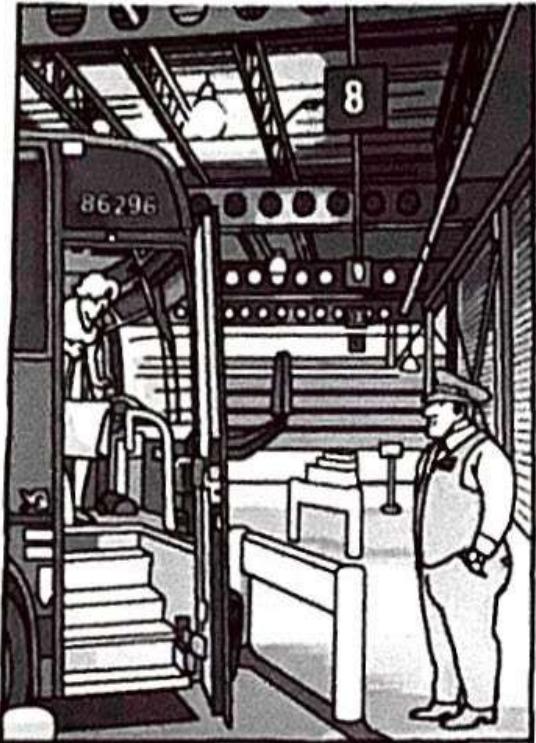


Bus Operating Hours



Bus Operating Hours

Some of you may think that perhaps the bus drivers are paid too little.



But the Chicago bus drivers receive the 7th highest wage in the US. The central issue is not the wage level, but how they get paid.

They are paid in proportion to their working hours. Their wage is not based on the number of passengers or the number of times they ran the course.



Meanwhile, bus drivers in Chile receive their wages based on the number of passengers they carry.



Bus Operating Hours



Unlike in Chicago, Santiago buses operate on timetables. They take the less congested alternative roads, and try to carry as many passengers as possible. They even cut down the time for meals and toilet breaks.



Bus Operating Hours



SUMMARY



- The fourth principle of economics is: "People respond to incentives."
 - Incentives, similar to the fear of punishment or the expectation of reward, guide people to act in certain ways.
 - Rational individuals make decisions by weighing marginal costs against marginal benefits.
- Incentives are particularly important when analyzing markets.
 - High prices in the market encourage consumers to reduce consumption and prompt suppliers to increase production.
 - Low prices, on the other hand, lead consumers to buy more while causing suppliers to cut back on production.

SUMMARY



- Policies can alter people's behavior by manipulating benefits and costs, often through the use of incentives.
- For example, if a policy imposes heavy taxes on gasoline, people will be incentivized to choose more fuel-efficient cars, use public transportation instead of private cars, or live closer to their workplaces.

SUMMARY



- Market responses to rising gasoline prices include:
 - Consumers purchase smaller cars
 - More people choose motorcycles instead of cars
 - Increased use of public transportation
 - Airlines face difficulties
 - Increased demand for new energy vehicles
 - People prefer buying or living near subway stations
 - Students enroll in online courses to reduce commuting costs

SUMMARY



- When drivers decide how to drive, they weigh the marginal costs and benefits of driving slowly for safety.
 - Laws mandating seat belt use reduce the probability of injury or death in accidents, thereby lowering the cost of accidents.
 - This also means that when drivers wear seat belts, the benefit of driving slowly for safety decreases.
 - Ultimately, seat belt legislation leads to more traffic accidents.

Quick Quiz

1. Please explain the trade-offs involved in the following scenarios:
 - (1) A family needs to decide whether to buy a new car.
 - (2) The government needs to decide how much budget to allocate to a national park.
 - (3) A company's executive needs to decide whether to build a new factory.
 - (4) A professor needs to decide how much time to spend preparing lessons.
 - (5) A college student needs to decide whether to pursue graduate studies.

Quick Quiz

2. Please discuss the following statements from the perspective of equity and efficiency:
- (1) Everyone in society should be guaranteed the best possible healthcare.
 - (2) Workers who are laid off should receive unemployment benefits until they find a new job.

Quick Quiz

3. What is the opportunity cost of visiting a theme park?

Quick Quiz

4. You bet on a baseball game and win \$1,000. You can choose to spend all the money now or deposit it in a bank for one year at a 5% interest rate. What is the opportunity cost of spending the \$1,000 now?

Quick Quiz

5. The U.S. Social Security system provides pensions to people over 65. However, for those with additional income, their pension benefits are reduced, with the reduction rate increasing as income levels rise. Please analyze the impact of this policy on additional income.
- (1) How does this policy create incentives or disincentives for saving among people under 65?
 - (2) How does this policy create incentives or disincentives for employment decisions among people over 65?

Quick Quiz

6. The government changed the welfare system, limiting unemployed individuals to a maximum of two years of benefits. How will this change affect employment behavior? Describe any trade-offs between efficiency and fairness.

Quick Quiz

7. Economics _____.
- a. studies how society manages its scarce resources
 - b. studies how corporate management systems generate maximum profits
 - c. predicts inflation, unemployment, and stock prices
 - d. studies how the government solves problems caused by unbridled selfish behavior

Quick Quiz

8. The opportunity cost of watching a movie is _____.
- a. the price of the movie ticket
 - b. the price of the movie ticket plus the cost of drinks and popcorn purchased at the cinema
 - c. the total monetary expenses and time spent on watching the movie
 - d. zero (if you enjoyed the movie and found the cost and time worthwhile)

Quick Quiz

9. Marginal changes _____.
- a. are unimportant for public policy
 - b. refer to incremental adjustments to the current situation
 - c. lead to inefficient outcomes
 - d. do not affect incentives