

الحمد لله
البرحمين
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Knowledge Translation Webinar

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WHY ECONOMICS SCIENCES?



The purpose of studying
economics is ...to learn how
to avoid being deceived
by economists.

Joan Robinson

UK economist (1903–83)



Economy. . .

. . . The word *economy* comes from a Greek word for “one who manages a household.”

- از واژه یونانی بمعنی «کسی که یک خانوار را اداره می کند».
- در زبان فارسی اقتصاد بمعنی «میانه نگه داشتن» و «به اندازه خرج کردن» است.

سوالات اساسی علم اقتصاد

- A household and an economy face many decisions:
 - **Who** will work?
 - **What goods** and how many of them should be produced?
 - **What resources** should be used in production?
 - At **what price** should the goods be sold?

• چه کسی؟ چه کالایی و به چه مقدار؟ با چه منابعی تولید نموده؟
و در چه قیمتی بفروش برساند؟

Society and Scarce Resources

- **Scarcity**. . . means that society has limited resources and therefore cannot produce all the goods and services people wish to have.

• کمیابی یعنی اینکه جامعه کمتر از آنچه که اعضای آن می خواهند داشته باشند می تواند عرضه کند.



ECONOMICS IS THE SCIENCE OF SCARCE RESOURCES

DEFINITIONS OF ECONOMICS

The first lesson of economics



The first lesson of economics
is scarcity: there is never
enough of anything to satisfy
all those who want it.

The first lesson of politics
is to disregard the first
lesson of economics.

Thomas Sowell

US economist (1930–)



Alternative uses

- Not only scarcity but also “**alternative uses**” are at the *heart of economics*.
- If each **resource** had *only one use*, economics would be much simpler.

Allocative Efficiency

- Different kinds of economies are essentially different ways of making decisions about the **allocation of scarce resources**—and those decisions have repercussions on the life of the whole society.

علم اقتصاد

Economics is the study of how society manages its scarce resources.

اقتصاد مطالعه چگونگی تخصیص منابع کمیاب است.

اقتصاد مطالعه چگونگی تصمیم گیری مردم است.

اقتصاددانان همچنین نحوه ارتباط متقابل بین انسان ها را بررسی می کنند.

و در نهایت اقتصاددانان نیروها و روندهایی که اقتصاد را در کل تحت تاثیر قرار می دهند را بررسی می نمایند.

Ten principles of economics

• چهار اصل تصمیم گیری فردی:

- مردم با یکدیگر داد و ستد دارند.
- هزینه فرصت از دست رفته
- مردم عقلانی محاسبات حاشیه ای (نهائی) بعمل می آورند.
- مردم در مقابل انگیزه ها عکس العمل نشان می دهند.

• سه اصل چگونگی عکس العمل مردم نسبت به یکدیگر:

- مبادله وضعیت همه را بهتر می سازد.
- بازار راهکار مناسب جهت سازماندهی فعالیت های اقتصادی
- دولت ها برخی از اوقات می توانند بازار را اصلاح کنند.

• سه اصل چگونگی کارکرد اقتصاد:

- سطح زندگی مردم بستگی به توان تولید کالاها و خدمات در اقتصاد دارد.
- افزایش قیمت ها متعاقب چاپ مقدار زیادی پول توسط دولت.
- مواجهه جامعه با مبادله بین بیکاری و تورم در کوتاه مدت.

Principle #1: People Face Tradeoffs.

“There is no such thing as a free lunch!”



Principle #1: People Face Tradeoffs.

To get one thing, we usually have to give up another thing.

- Guns v. butter
- Food v. clothing
- Leisure time v. work
- Efficiency v. equity

Making decisions requires trading off one goal against another.



MAKE ONE PERSON BETTER OFF WITHOUT HURTING THE OTHERS

EFFICIENCY AND FAIRNESS

Choices and trade-offs

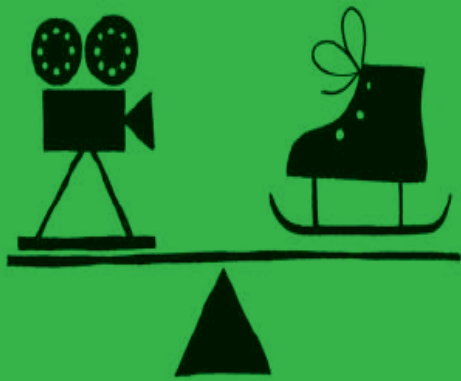
- Most of us hate even to think of having to make such **choices**.
- But life does not ask us what we want. It presents us with **options**.
- Economics is one of the ways of trying to make the most of those options.

“There are no solutions ... there are only **tradeoffs**.”

Thomas Sowell

Principle #2: the cost of something is what you give up to get it.

- Decisions require **comparing costs and benefits** of alternatives.
 - Whether to go to college or to work?
 - Whether to study or go out on a date?
 - Whether to go to class or sleep in?
- The *opportunity cost* of an item is what you give up to obtain that item.
- هزینه هر چیزی آن مقداری است که برای بدست آوردن آن از دست داده ایم.



**THE COST OF GOING
TO THE MOVIES IS
THE FUN YOU'D HAVE
HAD AT THE ICE RINK**

OPPORTUNITY COST

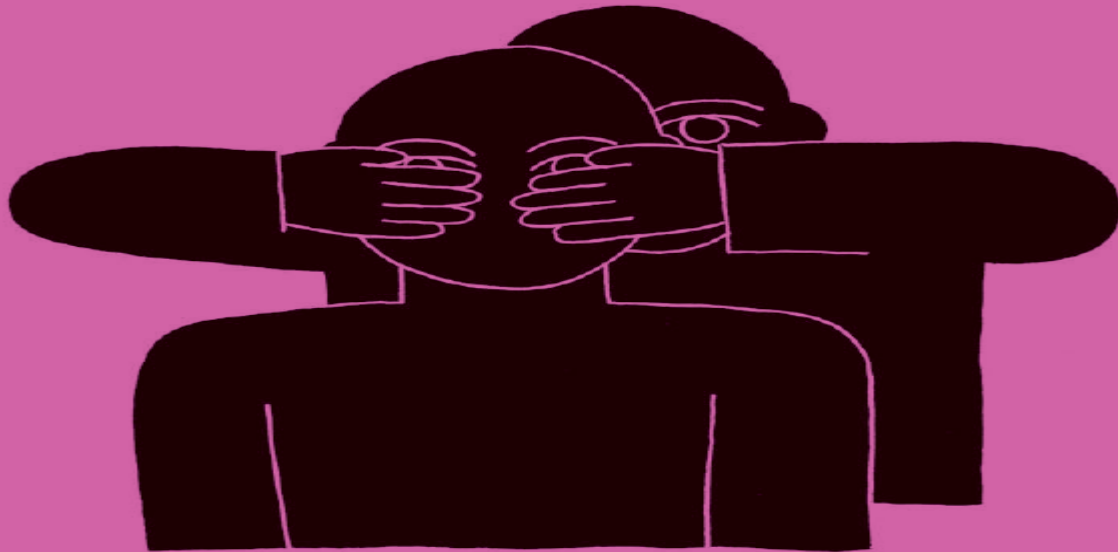
Principle #3: Rational people think at the margin.

- *Marginal changes* are small, incremental adjustments to an existing plan of action.
- یک تصمیم گیرنده عقلایی در صورتی تصمیم به اتخاذ عملی می گیرد که منافع نهایی آن بیشتر از هزینه نهایی آن باشد. (سوار کردن مسافر خارج از ترمینال)

People make decisions by comparing costs and benefits at the margin.

YOU CAN'T FOOL THE PEOPLE

RATIONAL EXPECTATIONS



People are rational
and make predictions using
all the information available
to them.

They form
rational expectations
about the future.

... and **adjust their
behavior**, rendering
the government policy
ineffective.

They will
anticipate the effects
of government attempts
to boost the economy...

**You can't fool
the people.**



THE LAST WORKER ADDS LESS TO OUTPUT THAN THE FIRST

DIMINISHING RETURNS



**YOU ENJOY THE LAST
CHOCOLATE LESS
THAN THE FIRST**

UTILITY AND SATISFACTION



WHY DO DIAMONDS COST MORE THAN WATER?

THE PARADOX OF VALUE



**PEOPLE ARE
INFLUENCED
BY IRRELEVANT
ALTERNATIVES**

IRRATIONAL DECISION MAKING

Individuals are assumed to be **rational decision-makers**.

In theory they choose only on the basis of the **probability and desirability** of separate outcomes.

People sometimes change their preferences when **common alternatives** are added.

But **observed** behavior **contradicts** this.

People are influenced by irrelevant alternatives.



WHEN THE PRICE GOES UP, SOME PEOPLE BUY MORE

SPENDING PARADOXES

Principle #4: People Respond to Incentives.

- Marginal changes in costs or benefits motivate people to respond.

• مردم نسبت به انگیزه ها حساس هستند.

• قانون اجباری کردن بستن کمربند ایمنی در کنار منافع مستقیم کاهش احتمال مرگ و میر هنگام تصادفات ممکن است انگیزه رانندگی با سرعت کمتر و احتیاط بیشتر را از بین برده و تعداد تصادفات را زیاد نماید.

“It is not the strongest of the species that survive, nor the most intelligent, but the one **most responsive to change.**”

Charles Darwin



Economics is, at root,
the study of incentives:
how people get what they
want, or need, especially
when other people want
or need the same thing.

Steven D. Levitt

Stephen J. Dubner

US economists (1967– and 1963–)



Principle #5: Trade Can Make Everyone Better Off.

- People gain from their ability to trade with one another.
 - مردم یک جامعه در **رقابت مداوم** با یکدیگر هستند.
- Competition results in gains from trading.
 - هر خانواده ای با مبادله با یکدیگر **منفعت** خود را افزایش می دهند.
- Trade allows people to specialize in what they do best.
 - مبادله (تجارت) باعث می شود که افراد در برخی از کارها **تخصص** یابند.

Making a product **entails costs**. One of these costs is time.

Even if Country A can do everything better than Country B, it will profit most by **focusing on the things it does best**. It is too costly to sacrifice time on something it does less well.

Both countries benefit from a comparative advantage, which makes the most efficient use of their time and resources.

This allows Country B, which is good (but not the world's best) at making the products Country A does not make, a chance to make them **without undue competition**.

Overall, **more goods are produced**, giving consumers a wider range of products at lower prices.

Trade is beneficial for all.

Principle #6: Markets are usually a good way to organize economic activity.

- A *market economy* is an economy that allocates resources through the **decentralized decisions** of many firms and households as they interact in markets for goods and services.
 - Households decide **what to buy** and **who to work for**.
 - Firms decide **who to hire** and **what to produce**.
- آدام اسمیت در سال ۱۷۷۶ در کتاب ثروت ملل به **دست نامرئی** که منجر به مطلوب ترین نتایج در بازار می شود اشاره نمود.

Every individual acts out of **self-interest**.

This might lead to a **chaotic mix** of products and prices, but...

... other self-interested people provide **competition**— they take advantage of each other's greed.

If one seller **charges too much**...

If one employer pays wages that are **too low**...

... another will **undercut his price**, and the first seller's products will fail to sell.

... another will **take his employees**, and his firm will fail.

Businesses fail unless they pay market wages and **make products the market demands** at the price people are willing to pay.

The invisible hand of the market brings order.



There is no art which
one government sooner
learns of another than
that of draining money
from the pockets
of the people.

Adam Smith



Principle #7: Governments Can Sometimes Improve Market Outcomes.

- *Market failure* occurs when the market fails to allocate resources efficiently.
- When the market fails (breaks down) government can intervene to promote efficiency and equity.

- دو دلیل عمده برای دخالت دولت در بازار وجود دارد: بمنظور تشویق کارایی و برابری
- دست نامرئی در بعضی موارد بدرستی کار نکرده و اصطلاحاً شکست بازار اتفاق می افتد.

Principle #7: Governments Can Sometimes Improve Market Outcomes.

- Market failure may be caused by
 - an *externality*, which is the impact of one person or firm's actions on the well-being of a bystander.
 - عوارض خارجی، اثرات عمل یک شخص بر شخص دیگری
 - *market power*, which is the ability of a single person or firm to unduly influence market prices.
 - قدرت بازار، توان یک شخص یا گروهی از افراد در تعیین قیمت هاست.
 - دست نامرئی همچنین قادر نیست که رفاه را بطور عادلانه توزیع نماید.



MAKE THE POLLUTER PAY

EXTERNAL COSTS



In general, industrialists
are interested, not in
the social, but only in the
private, net product
of their operations.

Arthur Pigou



Principle #8: The Standard of Living Depends on a Country's Production.

- Standard of living may be measured in different ways:
 - By comparing personal incomes.
 - By comparing the total market value of a nation's production.

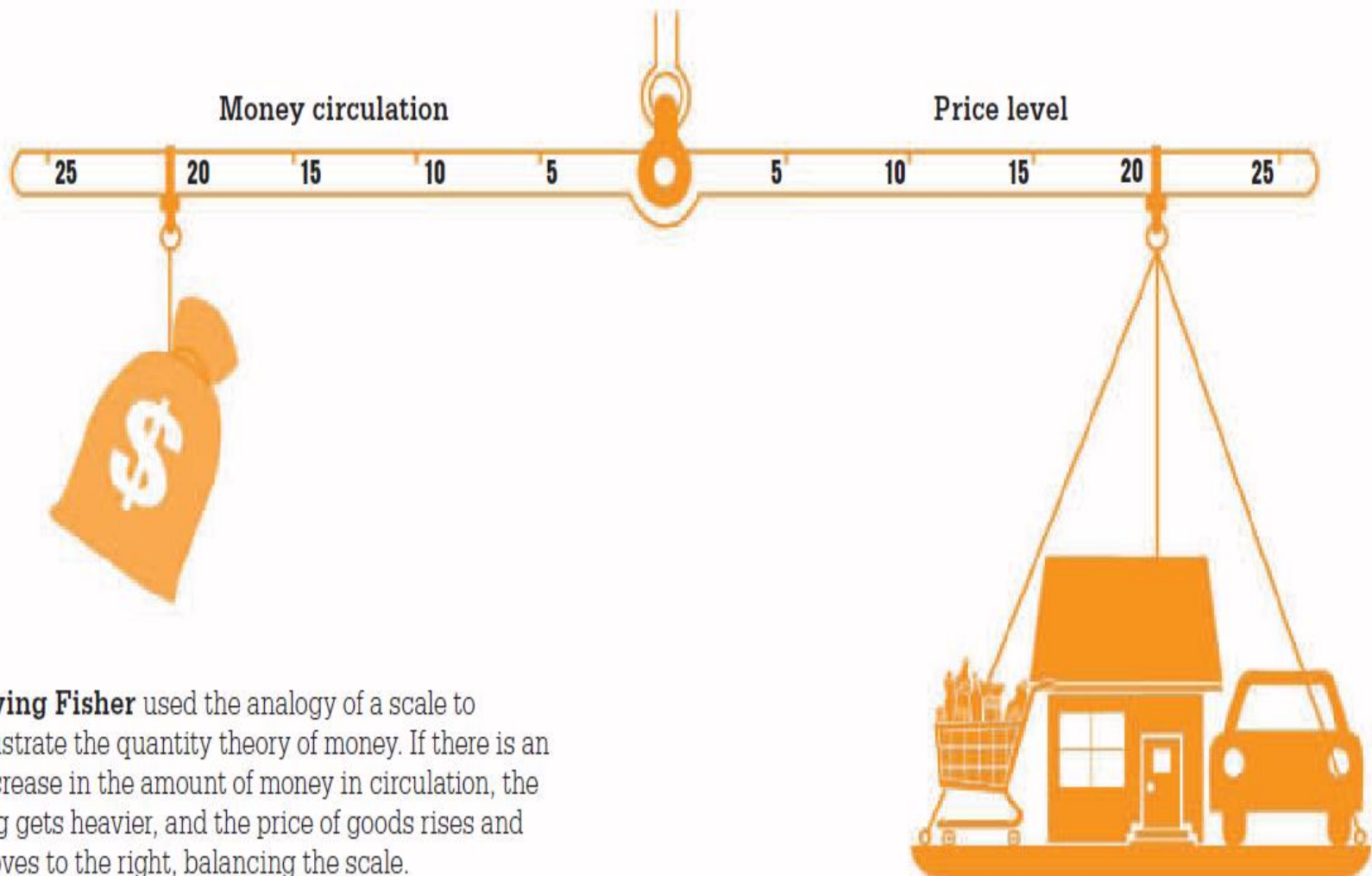
• تقریبا تمام جنبه های تفاوت در سطح زندگی مردم به تفاوت در بهره وری (مقدار کالاها و خدمات تولید شده در واحد زمان به ازای یک کارگر) دارد.

PRODUCTIVITY

- Efficiency in production—the rate at which inputs are turned into output—is not just some technicality that economists talk about.
- It affects the **standard of living** of whole societies.

Principle #9: Prices Rise When the Government Prints Too Much Money.

- Inflation is an increase in the overall level of prices in the economy.
- One cause of inflation is the growth in the quantity of money.
- When the government creates large quantities of money, the value of the money falls.



Irving Fisher used the analogy of a scale to illustrate the quantity theory of money. If there is an increase in the amount of money in circulation, the bag gets heavier, and the price of goods rises and moves to the right, balancing the scale.




Inflation is taxation
without legislation.
Milton Friedman

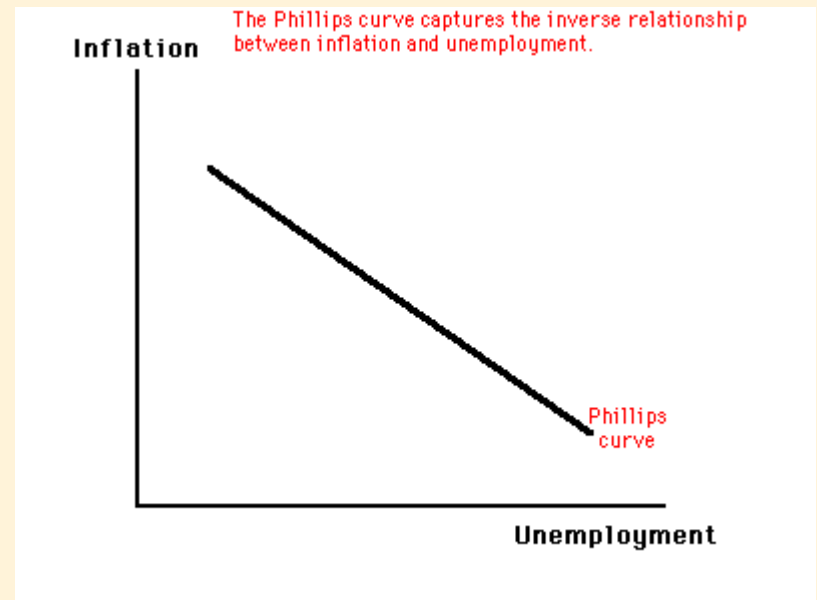



Principle #10: Society Faces a Short-run Tradeoff Between Inflation and Unemployment.

- The **Phillips Curve** illustrates the tradeoff between inflation and unemployment:

↓ Inflation \Rightarrow ↑ Unemployment

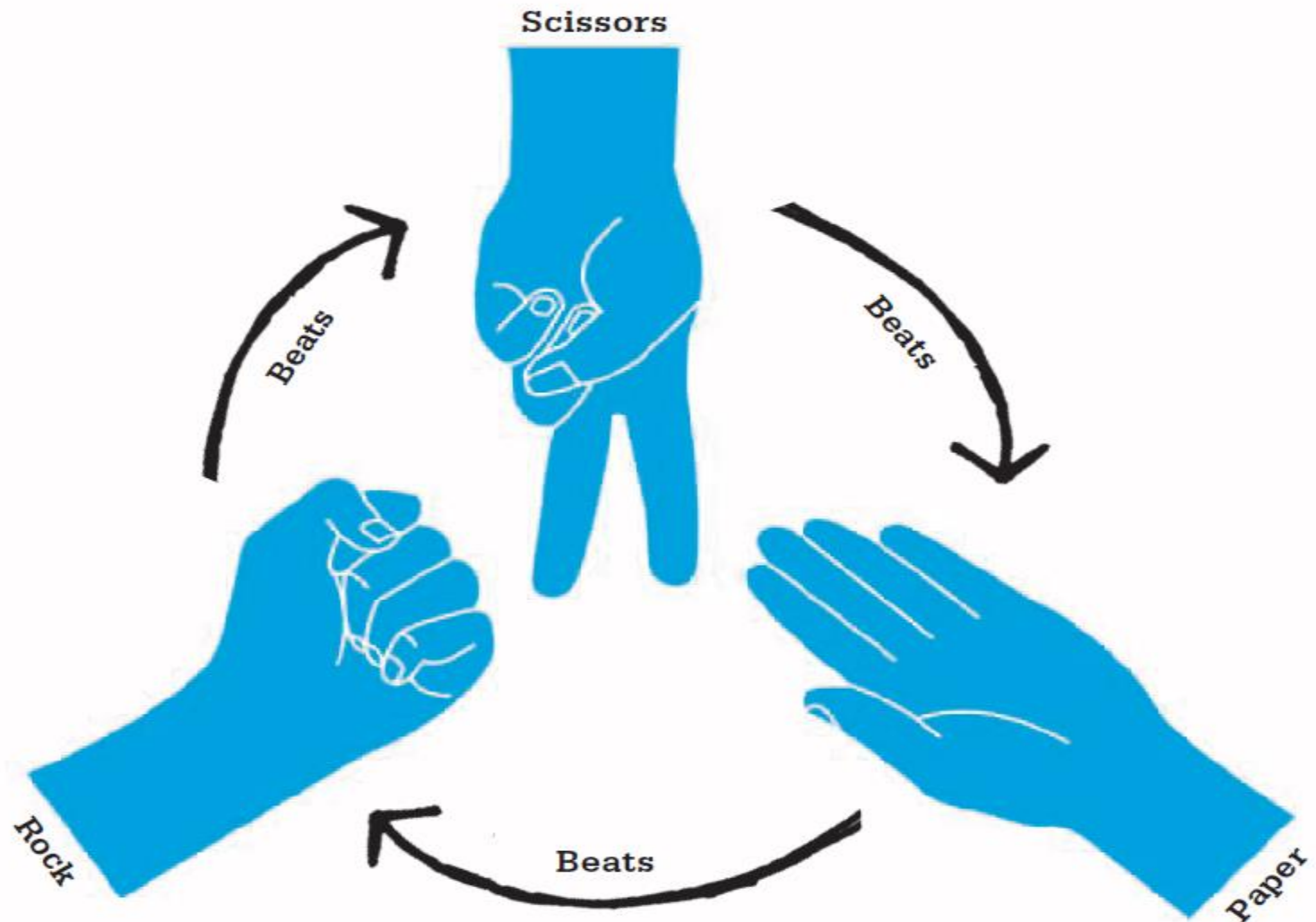
It's a **short-run** tradeoff!



**WHAT DOES THE
OTHER MAN
THINK
I AM GOING TO DO?**

GAME THEORY





Rock-paper-scissors is an example of a simple zero-sum game in which if one player wins, then the other loses. The game is played by two players. Each player must make one of three shapes with their hand at the same time. The shape one player makes will either match, beat, or lose to their opponent's shape: rock beats scissors, scissors beats paper, and paper beats rock. Game theorists analyze games such as this to discover general rules of human behavior.

The prisoner's dilemma is an example of a non-cooperative game in which neither party can communicate with the other. The "Nash equilibrium" of the game is for both players to betray.



Stays silent



Betrays



Stays silent



6 months



10 years



Free



Betrays



Free



10 years



3 years



Game theory is
rational behavior in
social situations.

John Harsanyi
US economist (1920–2000)





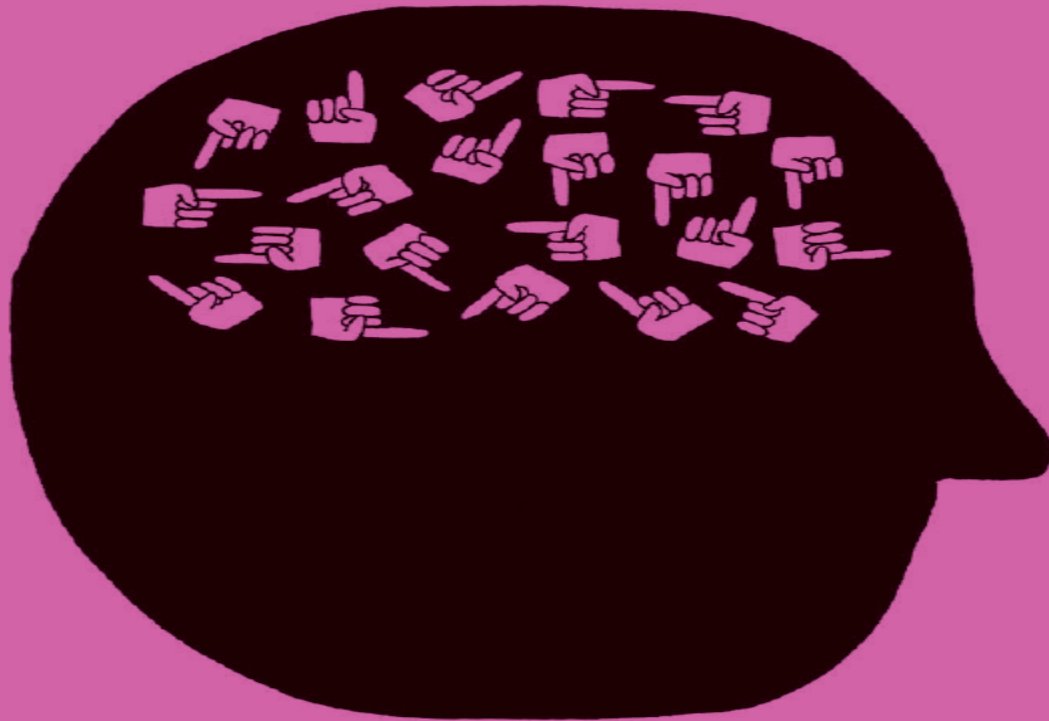
Each player's strategy
is optimal against
those of the others.

John Nash



PEOPLE ARE NOT 100 PERCENT RATIONAL

BEHAVIORAL ECONOMICS



When faced with **making a decision** where outcomes are uncertain...

... people **do not calculate** gains and losses through mathematical probability.

People are not 100 percent rational.

They are affected more by whether they stand to **gain or lose**, and how the question is framed.

Key Concepts

- Economics helps peoples **focus on key issues**.
- Economics helps peoples understand **goal-oriented decision making**.
- Economics helps peoples understand **strategic decision making**.
- Economics gives peoples a framework for understanding costs.
- Economics gives peoples a framework for understanding market demand.
- Economics gives peoples a framework for assessing profitability.
- Economics helps peoples **understand risk and uncertainty**.
- Economics helps peoples understand insurance.
- Economics helps peoples understand **information asymmetries**.
- Economics helps peoples deal with rapid change.