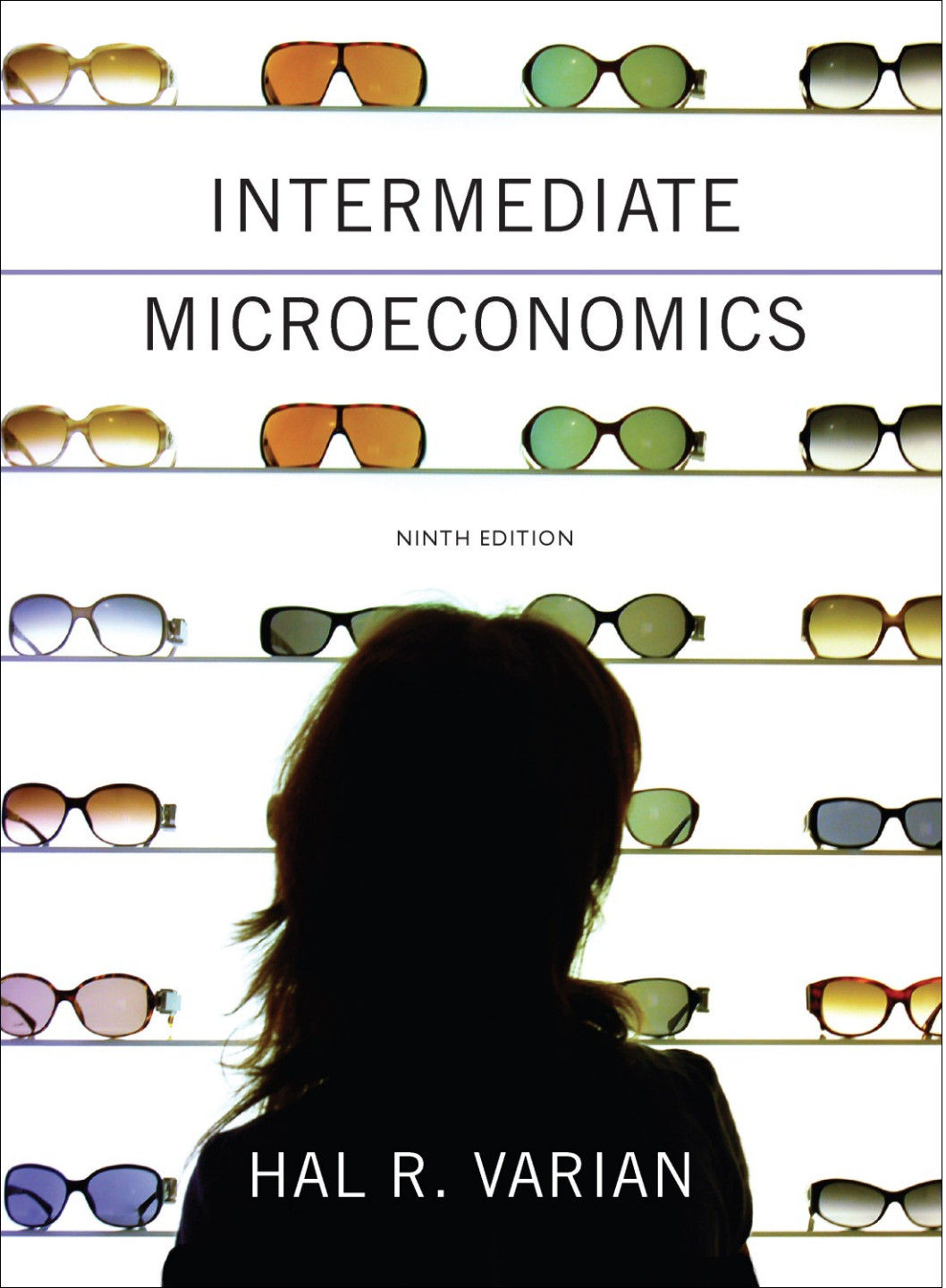

Chapter 31

Behavioral Economics

What Is Behavioral Economics?

- **The study of choices actually made by economic decision makers in an effort to assess the strengths and weaknesses of the rational choice model that is the mainstay of modern economics.**

The Rational Choice Model

- **A decision maker's choice is rational if it is a most preferred choice from the choices that are available to the decision maker.**

The Rational Choice Model

- **By most measures the rational choice model is very successful when applied to choice problems without uncertainty. For these problems it predicts well how people choose.**
- **But any model is only an approximation.**

The Value of Behavioral Economics

- **Behavioral economists have demonstrated that the rational choice model systematically predicts behavior less well in specific circumstances.**
- **These demonstrations direct economists to where the rational choice model must be improved.**

Behavioral Economics; Framing Effects

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- **Would you pay $10 for a bottle of hair shampoo in a discount supermarket?**

Behavioral Economics; Framing Effects

- **How a choice is framed (*i.e.*, presented) strongly affects the choice that results.**
- **Would you pay $10 for a bottle of hair shampoo in an expensive hair salon?**
- **Would you pay $10 for a bottle of hair shampoo in a discount supermarket?**
- **Typically, such shampoos are almost identical apart from packaging.**

Behavioral Economics; Framing Effects

- **The rational choice model with full information predicts that the consumer would pay the lower price for shampoo since packaging is less important than the hair-cleaning agents.**
- **But many people prefer to buy the more expensive shampoo.**

Behavioral Economics; Framing Effects

- **600 lives are threatened.**
  - **Action (a) saves 200 lives.**
  - **Action (b) saves all 600 lives with probability 1/3 and saves nobody with probability 2/3.**
- **Which action would you choose? (a) or (b)?**

Behavioral Economics; Framing Effects

- **600 lives are threatened.**
  - **Action (c) causes 400 to die.**
  - **Action (d) causes 600 to die with probability 2/3 and causes nobody to die with probability 1/3.**
- **Which action would you choose? (c) or (d)?**

Behavioral Economics; Framing Effects

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These problems are identical, apart from how they are framed. Yet the most common (highlighted) choices are different.

Behavioral Economics; Anchoring Effects

- **Anchoring effects are the effects on choices of seemingly irrelevant information.**

Behavioral Economics; Anchoring Effects

- **An experimenter used a wheel-of-chance with a group of human subjects. Each person observed the numerical outcome of a roll of the wheel and was then asked if the number of African countries in the United Nations was greater than that outcome. Later, that person was asked to guess the number of African countries in the UN.**
- **The guesses were clearly influenced by the outcomes of the wheel.**

Behavioral Economics; Anchoring Effects

- **A simple gambling game is "two-up." Two coins are placed on a stick and then tossed up in the air. You win a bet if the coins fall with either two heads or two tails showing; otherwise you lose. Thus on each toss you win with chance ½ and lose with chance ½. Each toss is an independent event. Yet a player who has just won is more likely to continue to bet than is a player who has just lost.**

Behavioral Economics; Anchoring Effects

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- **You start a job with a health insurance benefit. The default insurer may not be the most preferred, yet many people never change.**

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- **You start a job with a pension benefit. By default, your contributions go into a low-yield money market account. You could change to a higher-yield stock market account. Many people stay with the default option.**

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- **Often inferior default choices persist.**
- **You start a job with a health insurance benefit. The default insurer may not be the most preferred, yet many people never change.**
- **You start a job with a pension benefit. By default, your contributions go into a low-yield money market account. You could change to a higher-yield stock market account. Many people stay with the default option.**
- **The rational choice model predicts that inferior choices will immediately be replaced.**

Behavioral Economics; Increased Choice

- **Can you be worse off if the number of options for you to choose from is increased?**
- **The rational choice model says “No.”**

Behavioral Economics; Increased Choice

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- **The Medicare Drug Prescription Plan offers over 1,000 additional insurance choices. Most beneficiaries complain they can’t figure out how to choose. Most want fewer options.**

Behavioral Economics; Increased Choice

- **Can you be worse off if the number of options for you to choose from is increased?**
- **The rational choice model says "No."**
- **The Medicare Drug Prescription Plan offers over 1,000 additional insurance choices. Most beneficiaries complain they can't figure out how to choose. Most want fewer options.**
- **How many options do you want on a restaurant menu? How hard do you want to have to work at ordering a meal?**

Behavioral Economics; Learning About Preferences

- **Have you ever tried a new food, or a new drink? Was it to learn more about your preferences?**
- **If a cocaine addict could go back in time to the moment when he first experimented with cocaine but knew then what he now knows about the drug and addiction, would he consume the drug?**

Behavioral Economics; Learning About Preferences

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- **If a cocaine addict could go back in time to the moment when he first experimented with cocaine but knew then what he now knows about the drug and addiction, would he consume the drug?**
- **The rational choice model says such experiments never occur because it assumes that you already completely know your preferences. Hence, there is nothing to learn.**

Behavioral Economics; Uncertainty

- **The Law of Large Numbers says that the mean of a large sample drawn randomly from a population is very likely to be very close to the mean of the whole population.**
- **Kahneman and Tversky's Law of Small Numbers says that an individual's choices are overly influenced by the outcomes in a small sample, especially if the sampling is personally experienced by the individual.**

Behavioral Economics; Uncertainty

- **Why do people gamble at casinos when they know that casinos make large profits because, on average, gamblers lose money?**

Behavioral Economics; Uncertainty

- **Many people who buy a new appliance (*e.g.* a refrigerator or a TV) also buy insurance against its failure in the early part of its life, even though the probability of a failure is very low and the expected value of the insurance is far less than its price.**

Behavioral Economics; Uncertainty

- **The evidence is that people assign larger weights to very low probability events than is consistent with the expected utility model of choice.**

Behavioral Economics; Sunk Costs

- **It is common for a person selling a house to want to "get back" the money used to buy and improve the house (*i.e.*, recover the sunk cost.) even though he understands that buyers don't care about his past expenses.**

Behavioral Economics; Sunk Costs

- **It is common for a person selling a house to want to "get back" the money used to buy and improve the house (*i.e.*, recover the sunk cost.) even though he understands that buyers don't care about his past expenses.**
- **However, the rational choice model predicts that sunk costs do not influence current decisions.**

Behavioral Economics; Costs of Delay

- **$1 given to a person one month from now is usually valued by that person at less than $1 given now.**
- **If the value today of the $1 provided one month from now is $$\delta$ < $1, then the person's monthly time-discount factor is $\delta < 1$.**

Behavioral Economics; Costs of Delay

- **$1 given to a person one month from now is usually valued by that person at less than $1 given now.**
- **If the value today of the $1 provided one month from now is $$\delta$ < $1, then the person's monthly time-discount factor is $\delta < 1$.**
- **The value now of $1 provided two months from now should therefore be $\delta \times \$\delta = \$\delta^2$.**
- **More generally, the present-value of $1 provided n months from now should be $$\delta^n$.**
- **This is exponential discounting.**

Behavioral Economics; Costs of Delay

- **Exponential discounting: the present-value of $1 received n months from now is $$\delta^n$$.**
- **Time-consistency; how a person values future costs and benefits does not change with time.**

Behavioral Economics; Costs of Delay

- **Getting $1 3 months from now can be viewed as:**
  - **getting now the promise of $1 3 months from now; present-value = $$\delta^3$$, or**
  - **getting now the promise of getting 1 month from now the promise of getting $1 after a further 2 months;**
    present-value = $$\delta \times \$\delta^2 = \$\delta^3$$.

Behavioral Economics; Costs of Delay

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  - **getting now the promise of getting 1 month from now the promise of getting $1 after a further 2 months;**
    present-value = $$\delta \times \$\delta^2 = \$\delta^3$$.
- **But people seem to value these alternatives differently.**

Behavioral Economics; Costs of Delay

- **Hyperbolic discounting: the present-value of $1 received n months from now is $1/(1 + kn), where k > 0.**
- **Hyperbolic discounting is not time-consistent.**

Behavioral Economics; Costs of Delay

- **Getting $1 3 months from now can be viewed as:**
  - **Getting now the promise of $1 3 months from now; present-value = $1/(1 + 3k).**
  - **Getting now the promise of getting 1 month from now the promise of getting $1 after a further 2 months; present-value = $(1/(1 + k))×(1/(1 + 2k))**

Behavioral Economics; Costs of Delay

- **Getting $1 3 months from now can be viewed as:**
  - **Getting now the promise of $1 3 months from now; present-value = $1/(1 + 3k).**
  - **Getting now the promise of getting 1 month from now the promise of getting $1 after a further 2 months; present-value = $(1/(1 + k))×(1/(1 + 2k)) < $1/(1 + 3k).**
- **The evidence supports hyperbolic more than exponential discounting, contrary to the rational choice model's prediction.**

Behavioral Economics; Self Control

- **Today you are sure you want to quit smoking cigarettes, and you do. But tomorrow you start smoking again.**
- **Your sincere New Year's resolution is to exercise regularly, but you don't.**

Behavioral Economics; Self Control

- **Today you are sure you want to quit smoking cigarettes, and you do. But tomorrow you start smoking again.**
- **Your sincere New Year's resolution is to exercise regularly, but you don't.**
- **The rational choice model assumes that your preferences are known to you and do not alter over time. If so, then a decision you make today about future behavior should be a decision you do not change as time goes by.**

Behavioral Economics; Confidence Levels

- **Men tend to be more confident about their decisions than do women.**
- **Rational choice theory assumes that gender has no effect on decision making.**

Behavioral Economics: Social Norms

- **Think of the following game.**
- **You, and only you, will decide how to divide $1 between yourself and one other person. This will happen only once. You don't know who is the other person and other person does not know who you are.**
- **How would you divide the $1?**

Behavioral Economics: Social Norms

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- **$100?**

Behavioral Economics: Social Norms

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- **You, and only you, will decide how to divide $1 between yourself and one other person. This will happen only once. You don't know who is the other person and other person does not know who you are.**
- **How would you divide the $1?**
- **$100? $1,000,000?**

Behavioral Economics: Social Norms

- **$1? $100? $1,000,000?**
- **Strategic reasoning predicts that since the other person must take what he is given, and has no power to influence this, he will get nothing; *i.e.*, you take everything.**

Behavioral Economics: Social Norms

- **But most people give at least something to the other person. The smaller is the amount to be divided, the more likely it is to be divided equally.**

Behavioral Economics: Social Norms

- **Think of a new game.**
- **You make an offer on how to divide $1. If the other person accepts then this is how the $1 is divided. If the offer is rejected then both get nothing.**
- **How would you divide the $1?**

Behavioral Economics: Social Norms

- **Strategic reasoning predicts that you will offer at most one cent to the other, since he gets nothing if he refuses.**
- **The evidence is that most offers of about 30 cents or less are refused as "unfair." Most offers are about 40 cents and are accepted.**

Behavioral Economics: Social Norms

- **The explanation is that the other person is offended if you try to keep a large part of the $1. Also, the cost to the other of refusing the offer decreases as you keep more for yourself. You understand this and so offer close to, but less than, $½.**

Behavioral Economics: Social Norms

- **The social norm of "fair" being about a 50-50 share results in a desire by the other to punish you if you are "unfair."**

Behavioral Economics: What Is Its Value?

- **Science advances by modifying theories when evidence accumulates of inadequacies with current theories. The rational choice model is one such theory.**

Behavioral Economics: What Is Its Value?

- **The value of behavioral economics is that it points out weaknesses of the rational choice model, thereby directing economists to where improvements must be made and so increasing the usefulness of economic science.**