ECONOMIC EDUCATION

Beyond the Bet: Identifying Problem Gambling

Lesson Author

Chris Cannon, PhD, Georgia Council on Economic Education Reviewed by Jennifer Davidson, PhD, Nebraska Council on Economic Education

Standards and Benchmarks (see page 20)

Lesson Description

In this lesson, students will analyze statistics and personal opinions about gambling to understand its wide-ranging effects on people, from those who are not involved with gambling to those who experience bankruptcy and/or health impairment. Gambling has implications for teaching both economics and personal finance.

Economics

Gambling naturally puts decisionmaking into play. Gamblers consistently weigh costs and benefits to their bets and behaviors. Many gambling behaviors also require the gambler to consider the opportunity costs of their hobby. When problem gambling comes into play, the lines between costs and benefits get blurred and the opportunity costs get higher.

Personal Finance

Budgeting is a key component of personal finance. Choices about how to use income are the cornerstone of any individual's financial health. For someone who gambles, the choice to spend money on an uncertain outcome involves an opportunity cost of spending that money in another way, potentially one with a more guaranteed outcome such as a savings account with interest. At the same time, choices about truly disposable income—money left after all legal obligations have been met—are highly subjective. Spending a few disposable dollars on a lottery ticket to have some excitement and fun would be reasonable for most people. Spending thousands of dollars betting on sports teams is less reasonable for the average household. There are certain behaviors that elevate gambling to problem gambling, which can have negative impacts on a household budget.

Grade Level

9-12

Concepts

Decisionmaking

Opportunity cost

Objectives

Students will be able to

- define gambling and problem gambling,
- explain behaviors that often function like gambling, and
- evaluate situations where gambling has potential to turn into problem gambling.

Compelling Question

How does the concept of opportunity cost help us better understand the choices people make about gambling?

Time Required

60 minutes

Materials

- PowerPoint slide deck
- Handout 1, one copy cut apart so that each student has either a number or a description (30 cards total)
- Handout 1 Answer Key, one copy for the teacher
- Handouts 2 and 3, one copy of each for each student
- Handout 3 Reveal Statements, one copy for each group of 2-3 students
- Handout 4, one copy for each student
- Handout 4 Answer Key, one copy for the teacher

Procedure

- 1. Display slide 1 from the "Beyond the Bet: Identifying Problem Gambling" PowerPoint deck and explain that today's lesson is about gambling—what it is and if/when it becomes a problem.
- 2. Shuffle the cards from *Handout 1: Gambling by the Numbers* and distribute one card to each student.

- 3. Display slide 2. Explain that each student has either a number or a clue card. There are 15 numbers and 15 clues (for a total of 30 cards). (Teacher Note: If you have more than 30 students, pair up students or print additional cards. If you have fewer than 30 students, eliminate some matches or give students multiple cards.) The goal is for students to move around the room and find their match. One number matches one clue.
- 4. Tell students they will now have five minutes to try to match a number with a clue. Students should stand up and start talking to other students to try to find their match. At this stage, do not tell them if they are correct. If they think they are correct, the pair should relocate to a designated area (e.g., in a separate part of the room) to get out of the "pool" of students looking and await further instructions.
- 5. When five minutes have passed, tell everyone with a number to partner up with someone with a clue card immediately, even if they think it's wrong.
- 6. Start with students in the designated area and have each student with a number call out their number loudly so that everyone can hear it. Next, invite each student with a clue card to read their clue loudly and clearly. If the cards are a match (use *Handout 1: Gambling by the Numbers—Answer Key*), tell those students they can sit down. If the cards are <u>not</u> a match, the students should remain standing.
- 7. You may give any students who were incorrectly matched time to re-sort themselves to try to find their match. You may also proceed with the next step, depending on your preference.
- 8. Click through slides 3-17 to review the correct answers.
- 9. Display slide 18. Call on a few students and ask, "What was your main takeaway from the Gambling by the Numbers activity?" (Answers will vary, but eventually guide the discussion to the point that gambling is a big deal in this country and a multi-billion-dollar industry worldwide.)
- 10. Tell students that many of these dollar amounts represent choices people have made about how to spend their money. For example, people have decided to spend \$13 million on sports betting. Ask the class, "What else could be done with \$13 million?" (Answers will vary, but students will probably list big-ticket purchases or say that the money could have been saved, etc.)
- 11. Explain that these things students have listed represent different alternatives that were lost due to the choice to gamble. In fact, each time a person decides to gamble, they are giving up something else they could be doing with that money. Explain that in economics, this foregone alternative is called an **opportunity cost**—the next-best alternative given up when a choice is made.

- 12. Distribute one copy of *Handout 2: Is it Gambling?* to each student. Tell them the first column describes a scenario. In the second column, they are to place a mark of some sort on the spectrum of "Not Gambling" on the left and "Definitely Gambling" on the right. Explain that there are no right or wrong answers at this point and that some of the scenarios might be unclear, so placing a mark in the middle is fine. You are just seeking their opinions. In the third column, students are to put a few words or notes about why they placed their mark where they did. This will help them in the next activity. Tell them they have approximately five minutes to complete this activity independently.
- 13. When students appear to be finished or when no more than five minutes have passed, tell them to stop working. Designate one side of your classroom as the "Not Gambling" side and the other side of the classroom as the "Definitely Gambling" side. You may choose to display slide 19 as a visual aid.
- 14. Tell all students to stand up and hold their copy of Handout 2 in their hands. Explain that you will call out a scenario number from the handout and students should move to the part of the room that corresponds to where they placed their mark as to whether something is not gambling, definitely gambling, or somewhere in between. You may also choose to not let them stand in the middle ground and force them to make a choice.
- 15. Call out a number between 1 and 10 and have students move to the corresponding location. Call on a few students to explain why they chose to stand where they are, reminding them there are no right or wrong answers. (Teacher Note: You may not have time or desire to call out all 10 scenarios. Choose the scenarios you think will generate the richest discussion for your students. At a minimum, it is suggested you call out the following numbers with discussion points):
 - 2 This involves risking money, even though no money is placed up front. To most students this will probably "feel" the most like gambling.
 - 3 This is essentially the same behavior as scenario 2, but it does not involve money. This feels more like a "dare" and may cause some disagreement among students.
 - 5 This is literally the definition you are about to give students—spending money with the hopes of gaining more money.
 - 9 This is actually purchasing a service, but it can involve tremendous risk—life threatening
 in some cases. This provides an opportunity to try to differentiate gambling from simple
 "risk assumption."
 - 10 This is the most about personal finance of all the scenarios. If you have already taught about the stock market, this would be a good time to review risks associated with investing.
- 16. Display slide 20 and invite students to sit down. Explain that while official definitions of gambling might vary a little, for the purposes of this lesson you will use the following definition: **Gambling**—risking money on the chance of winning more money. Give students a minute or two to look

back at Handout 2 and, using this definition, put a star next to the items that are <u>definitely</u> gambling. Discuss the following (answers strictly by the definition):

- 1 Not gambling, because you're paying \$1 for the potential to win a cake. If you win, you get a
 cake, which is an economic transaction—essentially purchasing a good or service. You don't get
 more money.
- 2 Definitely gambling. While you don't spend the money up front, you are obligated to pay \$20 if you lose, so it is technically "spending" money to make more money.
- 3 Not gambling, because there is no money spent up front. You're also not going to win money. This is risky behavior if you care about being embarrassed, but it's not gambling.
- 4 Definitely gambling. You're paying \$50 with the hopes of winning more money.
- 5 Definitely gambling. The reason most people buy lottery tickets is to win more money. That is the definition.
- 6 Not gambling. This is another economic transaction. Buying a used car might be risky if you don't know if it's a reliable car, but it's not gambling.
- 7 This one depends on what the raffle is for. If it's for a gift card, prom ticket, pot of money, etc., it would be gambling. If it's for something like the ability to sing the National Anthem at a school event or be the class president for a day, it would not be gambling.

 Remind students of the "spend to win" component of the definition.
- 8 Not gambling. No money is to be won, and there is no entry fee—just playing a game for fun.
- 9 Not gambling (for most people). Again, there is risk involved, but for the vast majority of people, they are not paying for surgery with the hope of having more money after surgery. A few exceptions might be celebrities or athletes that choose elective surgeries (such as plastic surgery or sports-specific surgeries) to try to further their careers. Baseball players will sometimes have something called "Tommy John" surgery on their arms to enable them to throw a ball faster or better. That could possibly be seen as gambling.
- 10 Definitely gambling. What makes this gambling rather than investing is its short-term nature and Bitcoin's historic volatility. Spending money today in hopes it will be worth more tomorrow is in line with this definition.
- 17. Ask the class (or specific students), "Do you view any of the things on Handout 2 as problems?" (Answers will vary.) Follow up by asking, "What might make them a problem for someone?" (Answers will vary, but listen for or get students to think about frequency, dollar amount, who is involved, what is at risk, etc.)
- 18. Display slide 21 and explain that for the next activity you are going to use the following definition: **Problem gambling**—when gambling negatively interferes with everyday life; that is, gambling more than you have; experiencing feelings of remorse, compulsivity, or being out of control; or when others question your gambling.

- 19. Distribute one copy of *Handout 3: Is it Problem Gambling?* to each student. Tell students to read the instructions, or you can read them aloud. Give students two to three minutes to read about the four individuals and answer each question "yes" or "no" if they feel, just based on the reading, the person has a gambling problem. Tell them to look up when they are done.
- 20. When students are ready, tell them you are going to reveal additional pieces of information, <u>one statement at a time</u>, starting with Monique. If students feel this statement means Monique might be a problem gambler, they should circle the number on Handout 3 that corresponds with the statement. The students may end up with all the numbers circled or none circled. Tell them it is important to not make comments at this time or look at other students' papers.
- 21. Display slide 22, revealing only the first statement about Monique. Give students a moment to think about it, and then reveal the second, third, and fourth statements, one at a time.
- 22. Repeat step 20 for slides 23-25, revealing additional statements for Lawrence, Sanjat, and Daniela.
- 23. Once you are finished, tell students to put themselves into groups of no more than three (pairs are fine). Distribute to each pair or trio a copy of *Handout 3: Is it Problem Gambling?—Reveal Statements*.
- 24. Tell students to compare the numbers they circled and discuss whether or not each person has a gambling problem. Move around the room, facilitating discussions in groups and commenting on times students bring up concepts like good/bad decisions or opportunity cost.
- 25. At your discretion, consider whether you wish to have a class discussion surrounding comments you heard in the small groups.

Closure

- 26. Conclude the lesson by first explaining how important the different additional statements were. As students learned more about the people from Handout 3, it is likely their views on whether each person had a gambling problem changed. One of the complicated things about gambling is that it's not always clear when it is a problem, and people's views on what makes a "problem" are different.
- 27. Display slide 26 and discuss the following:
 - How do we define gambling? (Risking money on the chance to win more money.)
 - How do we define problem gambling? (When gambling negatively interferes with everyday life; that is, gambling more than you have; experiencing feelings of remorse, compulsivity, or being out of control; or when others question your gambling.)

- What economic concepts are at play when discussing gambling and problem gambling? (Answers may include decisionmaking, opportunity costs, or scarcity.)
- Thinking about some of the people from the second activity, how would opportunity costs come into play regarding some of their decisions? (All of them made choices to spend money on gambling instead of something else.)

Assessment

28. Distribute a copy of *Handout 4: Assessment* to each student for in-class work or homework. Review answers using the *Handout 4: Assessment—Answer Key*.

Handout 1: Gambling by the Numbers (page 1 of 5)

10





Average age "problem gamblers" start gambling

48





Number of states where some form of gambling is legal

400





Average dollar amount lost by gamblers annually

Handout 1: Gambling by the Numbers (page 2 of 5)

525





Number of tribal casinos in the U.S. as of 2023

600,000





Square footage of the largest casino in the U.S. (WinStar in Oklahoma)

777,000





Dollar amount of the single largest craps bet in Las Vegas history

Handout 1: Gambling by the Numbers (page 3 of 5)

1.7 million





Number of people employed in the gambling industry in the U.S.

1.9 million





Average daily revenue of a Las Vegas casino

2 million





Number of people in the U.S. who seek treatment for gambling each year

Handout 1: Gambling by the Numbers (page 4 of 5)

6 million





Estimated number of problem gamblers in the U.S.

2 billion





Dollar amount of the single largest lottery jackpot in U.S. history

13 billion





Estimated revenue from sports gambling in the U.S.

Handout 1: Gambling by the Numbers (page 5 of 5)

23 billion





Estimated amount bet on the 2024 Super Bowl

66.7 billion





Estimated revenue from online gambling worldwide

456 billion





Estimated dollar value of the gambling industry worldwide

Handout 1: Gambling by the Numbers—Answer Key

10	Average age "problem gamblers" start gambling
48	Number of states where some form of gambling is legal
400	Average dollar amount lost by gamblers annually
525	Number of tribal casinos in the U.S. as of 2023
600,000	Square footage of the largest casino in the U.S. (WinStar in Oklahoma)
777,000	Dollar amount of the single largest craps bet in Las Vegas history
1.7 million	Number of people employed in the gambling industry in the U.S.
1.9 million	Average daily revenue of a Las Vegas casino
2 million	Number of people in the U.S. who seek treatment for gambling each year
6 million	Estimated number of problem gamblers in the U.S.
2 billion	Dollar amount of the single largest lottery jackpot in U.S. history
13 billion	Estimated revenue from sports gambling in the U.S.
23 billion	Estimated amount bet on the 2024 Super Bowl
66.7 billion	Estimated revenue from online gambling worldwide
456 billion	Estimated dollar value of the gambling industry worldwide

Handout 2: Is it Gambling? (Adapted from ngpf.org "Games of Chance")

Instructions: For each of the scenarios below, place a mark on the corresponding spectrum in the second column showing to what degree you feel this scenario is "gambling," as you currently understand the term. You may put your mark on either end or anywhere in the middle. In the third column, write a few words/notes about why you placed your mark where you did (which will help with the discussion that follows).

Scenario	Gambling or not?		Reason/Notes
1. Paying \$1 for a "cakewalk" at a fair; winner gets a cake	Not gambling	Definitely gambling	
2. Betting \$20 with friends on	Not gambling	Definitely gambling	
the winner of a sports game	Not gambling	Definitely gambling	
3. Betting who scores higher on a test; loser has to post their score online	Not gambling	Definitely gambling	
4. Paying \$50 to bet on a football game	Not gambling	Definitely gambling	
5. Buying/playing a scratch-off lottery ticket	Not gambling	Definitely gambling	
6. Shopping for a used car	Not gambling	Definitely gambling	
7. Paying \$1 for a raffle ticket at school	Not gambling	Definitely gambling	
8. Playing bingo at a retirement home; winner gets candy	Not gambling	Definitely gambling	
9. Having a major surgery	Not gambling	Definitely gambling	
10. Spending \$10 on Bitcoin expecting an increase tomorrow	Not gambling	Definitely gambling	

Handout 3: Is it Problem Gambling?

Instructions: Read each of the scenarios below. First, based on the statement, circle YES or NO as to whether you feel the person has a gambling problem. Next, your teacher will display four additional statements (numbered 1-4) about this scenario, one at a time. If at any point you feel this person has crossed over into "problem gambling," circle the number of the statement that you feel put them into that category. You can circle as many numbers as you want or you may choose to not circle anything.

SCENARIO A: Monique

Monique plays bingo every Tuesday night with some of her sorority sisters. She spends around \$25 on bingo cards each week (around \$100 a month). The bingo hall also sells raffle tickets during the bingo games. Some nights Monique spends an additional \$30 on raffle tickets, but this is rare. This is the only gambling Monique does.

Do you feel Monique has a gambling problem based on the statement above?			YES	NO
Statements that may mean Monique has a gambling problem:	1	2	3	4

SCENARIO B: Lawrence

Lawrence's favorite time of year is football season. Lawrence cannot wait to play in his four fantasy football leagues. In a couple of the leagues, Lawrence must pay a \$250 entry fee; the other two leagues don't have an entry fee. In addition, Lawrence has been known to bet up to \$500 on a game winner and other prop bets (bets on variables other than the outcome of the game). Lawrence has a relatively high paying job where his take-home pay is \$6,000 a month.

Do you feel Lawrence has a gambling problem based on the statement above?			YES	NO
Statements that may mean Lawrence has a gambling problem:	1	2	3	4

SCENARIO C: Sanjat

Sanjat is a high-achieving student at a prestigious university. After watching a movie about gambling, Sanjat believes he can count cards at the game of blackjack. He has been practicing in small blackjack games near his house and has won over \$5,000. He is about to take a trip to Atlantic City where he plans to use his \$5,000 in some casinos to make even more. He has never done this before.

Do you feel Sanjat has a gambling problem based on the statement above?			YES	NO
Statements that may mean Sanjat has a gambling problem:	1	2	3	4

SCENARIO D: Daniela

Daniela enjoys playing online poker in her free time. She started playing casually with friends but has since joined several online poker sites where she plays almost daily. On average, Daniela spends about \$100 a week on these games, which totals around \$400 a month. Recently, Daniela had a big win of \$2,000, which she used to treat herself to a weekend getaway.

Do you feel Daniela has a gambling problem based on the statement above?			YES	NO
Statements that may mean Daniela has a gambling problem:	1	2	3	4

Handout 3: Is It Problem Gambling?—Reveal Statements (page 1 of 2)

Monique:

- 1. **Increased spending:** Monique has started spending more on raffle tickets, increasing from the occasional \$30 to consistently buying them each week, doubling her usual spending on bingo nights.
- 2. **Financial strain:** Monique has borrowed money from friends to cover her bingo expenses or has had to cut back on essential expenses like groceries or bills to continue her bingo habit.
- Preoccupation with gambling: Monique frequently talks about bingo, thinks about it throughout
 the week, and looks forward to Tuesday nights to the point where it affects her focus on work or
 school.
- 4. **Emotional distress:** Monique feels anxious or irritable if she misses a bingo night, showing signs of withdrawal or an emotional dependence on the activity.

Lawrence:

- 1. **Debt accumulation:** Lawrence has accumulated \$5,000 in credit card debt due to his high-stakes bets during football season.
- 2. **Positive impact:** Lawrence used some of his winnings to sponsor new jerseys for the local middle school football team, contributing positively to his community.
- 3. **Chasing losses:** After losing \$500 on a single game, Lawrence often places another bet of equal or greater value to try to recover his losses, leading to more significant financial risks.
- 4. **Social aspect:** Lawrence enjoys the social aspect of his fantasy football leagues and has made several new friends through these activities, enhancing his social network and providing a positive outlet for his competitive spirit.

Handout 3: Is It Problem Gambling?—Reveal Statements (page 2 of 2)

Sanjat:

- 1. **Family concerns:** Sanjat's family does not know about his plans to gamble in Atlantic City, and they generally frown upon gambling, which could lead to familial conflict if they find out.
- 2. **Potential risks:** Casinos are known to be highly vigilant about card counters and often mistreat or ban them. Sanjat could face serious consequences, including being asked to leave or being blacklisted from casinos if caught.
- 3. **Financial planning:** Sanjat has decided to use his winnings to fund his trip to Atlantic City, demonstrating a level of financial planning and using his gambling earnings for further opportunities.
- 4. **Educational impact:** Sanjat's focus on card counting and blackjack could distract him from his academic responsibilities, potentially affecting his high-achieving status at his prestigious university.

Daniela:

- 1. **Secrecy:** Daniela often hides her online poker playing from her family and friends. When someone asks her about it, she downplays it by saying she's just trying it out for the first time, indicating a level of secrecy about her gambling activities.
- Financial risk: Daniela has occasionally had to dip into her savings to fund her online poker games when her weekly budget wasn't enough, highlighting a potential financial risk.
- 3. **Guilt and emotional impact:** Daniela sometimes feels guilty about the amount of time she spends playing poker, which suggests she is aware of the potential negative effects on her life but is struggling to balance her hobby with other responsibilities.
- 4. **Community and skills development:** Playing online poker has allowed Daniela to join a community of like-minded individuals and improve her strategic thinking and decisionmaking skills, providing her with intellectual stimulation and a sense of belonging.

Handout 4: Assessment

Part I: Multiple Choice Questions—Choose the best answer for each question below.

Lawrence has \$500 to spend on either a weekend trip or betting on a football game. If he chooses to bet on the game and loses, what is the opportunity cost of his decision?

- A. The \$500 he lost on the bet
- B. The potential winnings from the bet
- C. The cost of attending the football game in person
- D. The enjoyment and relaxation he would have had on the weekend trip

Sanjat plans to use his \$5,000 blackjack winnings to gamble more in Atlantic City, despite knowing that card counting can lead to being banned from casinos. What problem gambling sign might this indicate?

- A. Overconfidence in his skills, ignoring the risks involved
- B. A strategic approach to maximize his earnings
- C. A desire to experience different casino environments
- D. An understanding of the rules but willingness to take risks.

Monique spends \$25 every week on bingo and occasionally an additional \$30 on raffle tickets. If she decided to invest that money instead, what is the opportunity cost of her decision?

- A. The enjoyment she gets from playing bingo and participating in raffles
- B. The total amount of money saved at the end of the year
- C. The prizes she could potentially win from the bingo and raffle
- D. The travel expenses associated with getting to/coming from the event.

Part II: Free Response—Write a short letter that addresses the situation below.

Assume you have been hired by a non-profit organization with the mission of helping people deal with problem gambling. The first task you have been given is to craft a short letter to one of the four people you met from Handout 3 and make suggestions on ways they could potentially improve their decision-making to help their financial well-being. Use specifics from their stories and correct economic/personal finance terminology in your response.

Handout 4: Assessment—Answer Key

Part I: Multiple Choice Questions—Choose the best answer for each question below.

Lawrence has \$500 to spend on either a weekend trip or betting on a football game. If he chooses to bet on the game and loses, what is the opportunity cost of his decision?

- A. The \$500 he lost on the bet
- B. The potential winnings from the bet
- C. The cost of attending the football game in person
- D. The enjoyment and relaxation he would have had on the weekend trip

Answer: D. He chose to spend \$500 on betting instead of taking the weekend trip. The weekend trip was his next best alternative.

Sanjat plans to use his \$5,000 blackjack winnings to gamble more in Atlantic City, despite knowing that card counting can lead to being banned from casinos. What problem gambling sign might this indicate?

- A. Overconfidence in his skills, ignoring the risks involved
- B. A strategic approach to maximize his earnings
- C. A desire to experience different casino environments
- D. An understanding of the rules but willingness to take risks.

Answer: A. Ignoring risks is a common issue in problem gambling. Often, problem gamblers think they are able to find a "smarter" way to gamble and can minimize risks.

Monique spends \$25 every week on bingo and occasionally an additional \$30 on raffle tickets. If she decided to invest that money instead, what is the opportunity cost of her decision?

- A. The enjoyment she gets from playing bingo and participating in raffles
- B. The total amount of money saved at the end of the year
- C. The prizes she could potentially win from the bingo and raffle
- D. The travel expenses associated with getting to/coming from the event.

Answer: A. Even though investing her money would likely lead to more money and better returns, it is important to remind students that every choice has an opportunity cost. In this case, Monique would be missing out on something in order to invest, which would be her enjoyment of being with her friends at bingo.

Part II: Free Response—Write a short letter that addresses the situation below.

Assume you have been hired by a non-profit organization with the mission of helping people deal with problem gambling. The first task you have been given is to craft a short letter to one of the four people you met from Handout 3 and make suggestions on ways they could potentially improve their decision-making to help their financial well-being. Use specifics from their stories and correct economic/personal finance terminology in your response.

Answers will vary greatly depending on who is chosen. No matter who is chosen, look for students to suggest things like investing money instead of gambling, budgeting more closely, or seeking help for problem gambling.

Standards and Benchmarks

Voluntary National Content Standards in Economics

Standard 2: Decision Making

Effective decision-making requires comparing the additional costs of alternatives with the additional benefits. Many choices involve doing a little more or a little less of something: few choices are "all or nothing" decisions.

Benchmarks: Grade 8

4. Many people have a tendency to be impatient, choosing immediate consumption over saving for the future.

Benchmarks: Grade 12

6. Some decisions involve taking risks in that either the benefits or the costs could be uncertain. Risk taking carries a cost. When risk is present, the costs should be treated as higher than when risk is not present.

National Standards for Personal Finance Education

Standard II: Spending

A budget is a plan for allocating a person's spendable income to necessary and desired goods and services. When there is sufficient money in their budget, people may decide to give money to others, save, or invest to achieve future goals. People can often improve their financial well-being by making well-informed spending decisions, which includes critical evaluation of price, quality, product information, and method of payment. Individual spending decisions may be influenced by financial constraints, personal preferences, unique needs, peers, and advertising.

Benchmarks: Grade 12

- 1. A budget helps people achieve their financial goals by allocating income to necessary and desired spending, saving, and philanthropy.
- 2. Consumer decisions are influenced by the price of products or services, the price of alternatives, the consumer's budget and preferences, and potential impact on the environment.