



Surviving the Principles of Economics

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Intro

- In the past 70 years, the way introductory courses in economics have been taught has become more and more standardized.
- Watts and Schaur (2011) show that “chalk-and-talk” is still the predominant way of teaching.
- Allgood et al. (2015) note that teaching principles of economics courses is the most important instructional contribution that professors of economics have in educating today’s students.
- Not only that these courses are a major recruiting tool for majors (Jones et al. 2009 report that 52 percent of majors selected economics because they did well in the early courses), but they offer a good foundation for other majors as well (such as business, political science, etc.).
- As teaching with a textbook is seen as too passive in the 21st century, more and more instructors choose to add alternative methods of teaching to keep their students actively engaged.

What we add to the literature

- This paper uses the renowned TV show *Survivor* and connects it to some of the most important principles of economics.
- Our study follows (among others):
 - Cotti and Johnson (2012) - historical novels;
 - Miller and Watts (2011) - Dr. Seuss books;
 - Karlan (2017) - three economic models using the TV show *Survivor*;
 - Geerling et al. (2018) - *The Big Bang Theory*;
 - Websites such as: Ghent et al. (2011) on *Seinfeld*, Wooten et al. (2020) on *Modern Family*, Rousu et al. (2022) on *Star Wars*, Wooten and Lynch (2022) on *Superstore*.
- We use *Survivor* due to its longevity and the fact that it is one of the most well-known reality TV shows. Our students are more familiar with it than with other examples we normally use in the classroom (such as Robinson Crusoe).

Survivor

- First season: shot in Malaysia and aired in 2000.
- Last season so far (Season 42): shot in Fiji and aired in 2022.
- Between 16 and 20 players are organized into two to four tribes and marooned on a remote isolated location (we will hereafter call it a “deserted island”), where they must build a new society.
- In most seasons, players do not know each other previously to coming on the show, though there were a few seasons that brought either returning players (the first time this happened was in season 8), or players with pre-existing relationships (seasons 27 and 29).
- In the first part of the show, the tribes compete against each other for “reward” and/or “immunity”. The loser tribe(s) in an immunity challenge will then face “tribal council” and vote a member of their tribe out of the competition.
- About halfway point of the game, there is a merge of the remaining players. From this point on, the players compete individually for immunity. Most players who are voted off after the merge become members of a “jury”.
- When only two or three members are left (depending on the season), the jury gets to vote the player who managed to “Outwit, Outplay, Outlast” everybody else. This player receives the title of “Sole Survivor” and a prize of \$1,000,000.

Principle 1: Due to scarcity, people face tradeoffs.

- Vocabulary

- Scarcity

- Tradeoffs

- Learning Objectives

- Students will define scarcity.

- Students will recognize that everybody faces tradeoffs due to scarcity.

Principle 1: Due to scarcity, people face tradeoffs. (cont'd)

- First season *Survivor: Borneo*.
- 16 players organized into two tribes: Pagong and Tagi.

Principle 1: Due to scarcity, people face tradeoffs. (cont'd)

Lesson 1: Leisure vs. Work

a. Instruction

- Instructors can ask students to watch the first episode of *Survivor: Borneo* before class, or a short clip (provided in the paper) can be shown in class.
- The difference between the two tribes becomes apparent very fast.
- As the new societies are formed, the tribes need to spend their time wisely between work (building a shelter, gathering food and cooking) and leisurely activities.
- Tagi chooses to spend more time working around camp. They have a good shelter and Richard Hatch (the winner of the season) catches fish instead of playing around.
- Meanwhile, Pagong chooses to focus on leisure activities. For instance, one day, the entire tribe enjoys a newly discovered mud bath.
- This tradeoff becomes very clear throughout the season, and students can be encouraged to watch it.

Principle 1: Due to scarcity, people face tradeoffs.
(cont'd)

Lesson 1: Leisure vs. Work

b. Guided Questions

- Due to limited resources (i.e., time), students should recognize the tradeoff between leisure and work in *Survivor*.
- The instructor can ask them if they face any tradeoffs in their daily lives, including in terms of work and leisure, or study and social life.

Principle 1: Due to scarcity, people face tradeoffs. (cont'd)

Assessment

The following questions can be asked at the end of the lesson:

1. People face tradeoffs because:

- a. Resources are limited.
- b. To get something, you need to give up something else.
- c. Due to scarcity, people must make choices.
- d. All of the above.**

2. Students face a tradeoff between playing or socializing, and studying because:

- a. Time is limited.**
- b. Studying is better, so students should only focus on study.
- c. Socializing is better, so students should only focus on socializing.
- d. Income is limited.

Principle 2: The opportunity cost represents what one gives up to obtain something else.

- Vocabulary

- Tradeoffs
- Opportunity cost

- Learning Objectives

- Students will compute opportunity costs.

Principle 2: The opportunity cost represents what one gives up to obtain something else. (cont'd)

- Winning *Survivor* means winning \$1,000,000, which has a great ring to it. So let us focus on some decisions with an opportunity cost of \$1,000,000.
- In 15 out of the 42 seasons broadcasted so far, there are two finalists who battle for the \$1,000,000 prize.
- For each of these seasons, when three players are left in the game, there is a final challenge. The winner gets a direct spot in the final and gets to choose who goes with him/her.
- In other words, the opportunity cost of choosing the “wrong” person to sit next to them is \$1,000,000.

Principle 2: The opportunity cost represents what one gives up to obtain something else. (cont'd)

Lesson 2

a. Instruction

- *Survivor: The Australian Outback*, the second season of *Survivor*
- Colby must choose between:
 - Tina (a lovely mother of two, who masterminded many of the decisions to vote people off without “ruffling any feathers”)
 - and Keith (who was perceived as arrogant and with poor social skills by other tribe members).
- Colby finds himself in a situation to choose between philanthropy and strategy. (another example for principle 1)

Principle 2: The opportunity cost represents what one gives up to obtain something else. (cont'd)

Lesson 2

b. Guided Questions

- Students can be asked to vote: nice, or strategic?
- Then, the opportunity cost of their decision can be computed.
- For the students who choose Keith (i.e., strategic), the opportunity cost of their decision is their morals.
- For the students who choose Tina (i.e., nice), the opportunity cost is \$1,000,000.

Principle 2: The opportunity cost represents what one gives up to obtain something else. (cont'd)

Assessment

The following questions can be asked at the end of the lesson:

1. What is the opportunity cost of the coming to class today?

- a. \$1,000,000.
- b. Sleep, socializing, work, or play.**
- c. The cost of a 3-credit hours course.
- d. Zero.

2. People face an opportunity cost when making a decision because:

- a. there are always tradeoffs in life.
- b. nothing is free.
- c. we always give up something to obtain something else.
- d. All of the above.**

Principle 3: People are rational.

- Vocabulary

- Rationality
- Economic analysis at the margin
- Marginal costs and marginal benefits

- Learning Objectives

- Students will observe that everybody is rational.
- Students will recognize that decisions are done at the margin.
- Students will analyze economic decisions by comparing marginal costs with marginal benefits.

Principle 3: People are rational. (cont'd)

- Students have a pretty difficult time in understanding that all people are rational.
- They look at somebody's "dumb" decision as an "irrational decision".
- So, for this principle, we choose to analyze the "dumbest decision" in *Survivor* history.
- We do not have an actual poll declaring this fact, but Erik's decision in the final 5 on the 16th season *Survivor: Micronesia – Fans vs. Favorites* is the move that comes up as the dumbest move on numerous fan websites.

Principle 3: People are rational. (cont'd)

Lesson 3

a. Instruction

- *Survivor: Micronesia – Fans vs. Favorites.*
- If the instructor is so inclined, he/she can ask the students to watch episodes 9 – 12 from this season.
- Another option is for the instructor to briefly discuss what happens in these episodes.
- Six women and four men make it to the merge. After Eliza is voted out, the five remaining women form the Black Widow Brigade and start doing what any black widow spider is known to do: eat the male spiders.
- After all the other males are voted out, Erik is the only male remaining and saves himself by winning immunity.
- Alexis is voted out and then Parvati, Amanda, Cirie, and Natalie are left in the game with Erik.

Principle 3: People are rational. (cont'd)

Lesson 3

a. Instruction (cont'd)

- At the final 5 immunity challenge, Erik once again wins immunity.
- Natalie overhears Erik talking to Cirie about going to the final three without her. So, she goes to Erik and tries to convince him that, as it stands, he switched his loyalties too often and, if he wants to redeem himself in front of the jury, he should give her his immunity necklace at the tribal council. This way he will prove that he is trustworthy and everybody else will vote Amanda out.
- At the tribal, he stupidly does give up his immunity and is voted out. It is very difficult to understand his decision, a decision that, very possibly, cost him \$1,000,000. So why did he do it? Let us analyze if his decision is rational.

Principle 3: People are rational. (cont'd)

Lesson 3

b. Guided Questions

- The instructor can ask students what makes a decision rational. The students can be guided to understand that a rational decision means making the best decision based on marginal costs and marginal benefits, given the available opportunities.
- Then, the students can be asked what the marginal costs and marginal benefits for Erik are.
 - The marginal cost of giving his necklace to Natalie is possibly being voted out.
 - The marginal benefit is not only redeeming himself, not losing all the jury votes (in case he makes it to the final), but also getting the women's approval (note that the women were young and attractive).
- Erik analyzes the marginal benefits of his move (jury votes, the women liking him) and the marginal costs (getting voted out).
- With the available information, he perceives his marginal costs as lower than the marginal benefits, so he makes the move. This makes his decision rational.

Principle 3: People are rational. (cont'd)

Assessment

The following question can be asked at the end of the lesson:

1. Is a drug addict who commits a crime to buy their drugs rational?

a. No, because doing drugs is dumb.

b. Yes, because their marginal benefits outweigh their marginal costs.

c. Only if it is legal to buy drugs in that state.

d. I don't know.

Principle 4: Incentives matter.

- Vocabulary

- Incentives

- Positive incentives (rewards)

- Negative incentives (punishments)

- Learning Objectives

- Students will recognize that people are motivated by incentives.

Principle 4: Incentives matter. (cont'd)

- The game of *Survivor* gives money and other rewards to the contestants, as well as punishments in the form of getting voted off if they do not secure some sort of immunity for themselves.

Principle 4: Incentives matter. (cont'd)

Lesson 4

a. Instruction

- In terms of positive incentives, the producers of the show offer players a monetary reward for playing the game.
- \$1,000,000 prize for the Sole Survivor.
- The second and third place make between \$80,000 and \$100,000.
- The longer you stay in the game, the more you get. Jury members get more.
- \$10,000 for the series finale (the “Reunion” episode).
- Additionally, players gain notoriety and, if fans and/or producers of other shows like them, they can make additional income in show business, media, books, ads, ‘Playboy’ gigs, etc.

Principle 4: Incentives matter. (cont'd)

Lesson 4

b. Guided Questions

- In other words, the producers are trying to offer incentives so that players play as hard as they can in difficult conditions (with no or limited food and water, no shelter, away from family and friends) for as long as they can.
- Would these positive incentives be enough for the students?
- A guided discussion can be conducted to assess how much would the students be willing to endure to have a chance at winning \$1,000,000.

Principle 4: Incentives matter. (cont'd)

Lesson 5

a. Instruction

- In terms of negative incentives, the producers reserve their right to forfeit the \$10,000 offered for the season finale participation if any part of the contract is broken.
- This makes players aware that, for instance, they cannot share whatever knowledge they have about what happened on the island before it is broadcasted on TV.
- Richard Hatch, the winner of the first season of the show, offers another example of a negative incentive. He failed to declare his *Survivor* winnings with the IRS. He was then charged and found guilty in January 2006 and served a 51-month sentence. He is the only *Survivor* player to not declare his winnings (and go to prison for it), so, apparently, negative incentives work.

Principle 4: Incentives matter. (cont'd)

Lesson 5

b. Guided Questions

- The laws (paying taxes, wearing your seat belt, not drinking alcohol before 21, etc.) are usually enforced with negative incentives.
- Students can be asked if they follow these rules and what the consequences of breaking the law are.
- The instructor can guide them to understand that the government is very aware of the fact that incentives matter.

Principle 4: Incentives matter. (cont'd)

Assessment

The following questions can be asked at the end of the lessons:

1. Parenting books state that parents should use positive incentives to encourage good behavior in their children. That means that:

a. Good behavior should be rewarded.

b. Bad behavior should be punished.

c. People should not have children because we already have an overcrowding problem.

d. Children should be allowed to do whatever they want.

2. Most laws are enforced through:

a. Positive incentives.

b. Negative incentives.

c. Externalities.

d. Prices.

Principle 5: Trade can make everyone better off.

- Vocabulary

- Trade

- Benefits vs. costs

- Learning Objectives

- Students will identify the costs and benefits of trading.

- Students will observe that trade is mostly beneficial for the parties involved.

Principle 5: Trade can make everyone better off. (cont'd)

- Considering that 16 to 20 players are marooned on a deserted island and organize themselves into a society of sorts, they need to learn how to interact with one another, including through trade.
- An additional layer is brought from their interactions with the producers of the show through confessionals, as well as through the host, Jeff Probst, during the challenges and tribal councils (and sometimes with other occasions as well).
- *Survivor* auctions are first introduced in the second season *Survivor: The Australian Outback* and the last one was in the 28th season *Survivor: Cagayan – Brawn vs. Brains vs. Beauty* (with irregular breaks in between).

Principle 5: Trade can make everyone better off.

(cont'd)

Lesson 6

a. Instruction

- Most auctions appear after the merge (with one unsuccessful exception in the fifth season *Survivor: Thailand*).
- Each player is given a set amount of money (\$500) and they go to “Trader Jeff’s” to bid for various items ranging from goods (hamburgers, fries, chocolate, etc.) and services (letter from home, a bath, etc.) to (in later seasons) advantages in the game.
- These auctions give us great examples of not only this principle, but also how relative scarcity can drive the price of a good up. For instance, the very first item sold at the auction was four Doritos and a bowl of salsa and the price was a whopping \$60, while the second item was a chocolate bar and a bowl of peanut butter sold for \$260.

Principle 5: Trade can make everyone better off.

(cont'd)

Lesson 6

a. Instruction (cont'd)

- At the auction in *Survivor: Micronesia – Fans vs. Favorites*, Natalie buys a chocolate cake, but she has only 60 seconds to eat it and she must share it with three other players.
- As expected, she chooses her Black Widow alliance.
- After the minute is up, Erik offers Cirie \$40 to lick the chocolate cake off her fingers and she accepts.

Principle 5: Trade can make everyone better off.

(cont'd)

Lesson 6

b. Guided Questions

- Based on the situation, students can be asked:
 - If they were Erik, would they take the trade? What are the costs and what are the benefits of this trade for Erik?
 - If they were Cirie, would they take the trade? What are the costs and what are the benefits of this trade for Cirie?
 - Who gains and who loses from this trade?

Principle 5: Trade can make everyone better off. (cont'd)

Assessment

The following question can be asked at the end of the lesson:

1. People trade with one another because:

a. It is better not to trade because one party always loses.

b. Trade can provide benefits for everybody involved.

c. It is better not to trade because one party always gains more than the other party.

d. None of the above.

Principle 6: Producing more goods and services increases a nation's standard of living.

- Vocabulary

- Standard of living
- Production of goods and services
- Productivity
- Factors of production

- Learning Objectives

- Students will identify that the differences in the standard of living between countries are due to different productivities, which leads to different abilities to produce goods and services.

Principle 6: Producing more goods and services increases a nation's standard of living.(cont'd)

- For this principle, we choose to focus on one of the (if not the) worst tribes in *Survivor* history: the Ulong tribe in the 10th season *Survivor: Palau*.
- The season starts with 20 players, but two players are eliminated immediately as they are not picked to be part of any tribe (the tribes in this season are picked by the castaways rather than the producers).
- Ulong starts with 9 players: all young, athletic, and strong. It looks like they have a definite advantage over the other tribe.
- The tribes are not given any food or water, so they must make do with what nature provides, as well as what the producers give them in the reward challenges (if they win the reward challenges).

Principle 6: Producing more goods and services increases a nation's standard of living.(cont'd)

Lesson 7

a. Instruction

- The entire history of Ulong can be watched before class in a 20-minute video (provided in the paper).
- Though very strong (physically), Ulong loses almost all challenges.
- Ulong's inability to increase their standard of living is due to multiple factors.
- The first problem is their disorganized way of leading camp life.
- Secondly, they run the challenges the same way they run their camp life.
- Thirdly, the fact that they keep losing challenges and, hence, members of their tribe reduces their already small "labor force".

Principle 6: Producing more goods and services increases a nation's standard of living.(cont'd)

Lesson 7

b. Guided Questions

- Students can be guided to understand that a nation's standard of living is based on its ability to produce goods and services. The higher the productivity, the better off a nation is. A nation can increase their productivity by increasing and/or improving their factors of production: labor, capital, and land.
- In *Survivor*, the **land** is a given.
- The castaways in the Ulong tribe have a continuously decreasing **labor** force and a very weak work ethic.
- In terms of **capital**, they do not win many reward challenges, so they receive no additional tools and equipment.
- Without any intervention from the outside world (i.e., the producers of the show) and **without any properly enforced institutions** (i.e., a governance system to impose any rules on how things should be done around camp or in challenges), the cycle of poverty continues unhinged, and the tribe eventually implodes.

Principle 6: Producing more goods and services increases a nation's standard of living.(cont'd)

Assessment

The following questions can be asked at the end of the lesson:

1. The factors of production are:

a. Land.

b. Labor.

c. Capital.

d. All of the above.

2. To produce more, a nation can increase its productivity through:

a. More/better quality land.

b. More/better quality labor.

c. More/better quality capital.

d. All of the above.

Conclusions

- As mentioned previously, teaching with just a textbook is seen as too passive for this new generation of students, so more and more instructors choose to add alternative methods of teaching to keep them actively engaged.
- We offer such an addition to the principles of economics textbooks.
- In this study, we discuss how some principles of economics can be observed in *Survivor*, but there are many more opportunities to investigate other economics topics in the same context.

Thank you!

