

## Teaching and Educational Methods

# Principles of Economics, the *Survivor* Edition

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### Abstract

This paper builds on an ever-growing literature relating economics to movies, books, and TV shows. *Survivor* is a highly acclaimed reality TV show with 42 aired seasons (so far). We use *Survivor* as a tool that helps with identifying and understanding economic principles and for an application of these principles. This show bridges the generational gap between students and teachers, as its premise, rules, and objectives are either common knowledge or easily accessible to anyone. We present scenes from the show, vocabulary, in-depth discussions, lesson plans, and sample questions that instructors can use in the classroom. This *Survivor* edition offers a fun twist to the classic exposition of principles of economics, hoping to make students more passionate about our field.

## 1 Introduction

In the past 70 years, instructors have been using an increasingly standardized way of teaching introduction to economics courses. Mankiw (2021) notes that the textbooks for these courses have become less mathematical, with a simpler style of writing, and more digital content. We argue that instructors should continue to find opportunities for change and improvement. As Knoedler and Underwood (2003) notice, we have been experiencing a decline in the number of economics majors, as well as overall enrollments in economics in recent decades. Therefore, new ways of teaching newer generations of students could be beneficial (Becker 2000; Becker and Watts 1996, 2001, 2008; Cotti and Johnson 2012). Nevertheless, Watts and Schaur (2011) show that “chalk-and-talk” continues to be the predominant way of teaching, mainly due to the large cost-to-benefit ratios when using alternative teaching styles (Goffe and Kauper 2014). Thankfully, more and more studies present less traditional methods of teaching economics with small cost-to-benefit ratios. For instance, Cotti and Johnson (2012) talk about using historical novels, Miller and Watts (2011) find economic concepts in Dr. Seuss books, Karlan (2017) discusses three economic models using the reality TV show *Survivor*, while Geerling et al. (2018) relate economics to *The Big Bang Theory*. Instructors can also access a plethora of websites that include clips from popular shows and movies, and a description of pedagogical techniques for classroom usage (see, for instance, Ghent, Grant, and Lesica 2011 on *Seinfeld*; Wooten, Staub, and Reilly 2020 on *Modern Family*; Rousu, Smith, and Hackenberry 2022 on *Star Wars*; Wooten and Lynch 2022 on *Superstore*).

In this paper, we introduce some of the most important principles of economics (discussed in section 2), and connect them to the TV show *Survivor*. Section 3 explains how the show works. This description of the show should not take more than five minutes of class time. We present applications of some principles of economics in *Survivor* in section 4. We include lesson plans that add a small component of active (and entertaining) learning in the classroom. Each lesson contains a short YouTube video (less than five minutes long) with a brief summary, or a news article. Our pedagogical design minimizes the cost-to-benefit ratio of adding alternative teaching methods, and it is not aimed to replace standard teaching styles. Our lesson plans can be followed by all instructors and students, regardless of their familiarity with the show. The last section concludes this article.

## 2 The Principles of Economics

Economics textbooks can present the most important principles in an abstract and complex manner, which can create a cognitive overload for students. However, these principles remain vital as they can help in breaking down the most complicated economic problems taught later in the semester into more basic elements. The principles summarized in Table 1 appear in numerous textbooks (both Keynesian and classical).

**Table 1. Overview of Principles and Lessons Examined**

| Principle of Economics                                                     | Vocabulary                                                                                 | Learning Objectives (LOs)                                                                                                                                                                                                                                     | Videos Length by Lesson                                                          | CEE Voluntary National Standards in Economics        |
|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|------------------------------------------------------|
| Due to scarcity, people face tradeoffs.                                    | Scarcity, tradeoffs.                                                                       | <i>LO 1:</i> Students will define scarcity.<br><i>LO 2:</i> Students will recognize that everybody faces tradeoffs due to scarcity.                                                                                                                           | Lesson 1: 19 m (optional), 1 m, 20 s, 1 m.<br>Lesson 2: 30 s, 25 s.              | Scarcity                                             |
| An opportunity cost represents what one gives up to obtain something else. | Tradeoffs, opportunity costs.                                                              | <i>LO 1:</i> Students will define opportunity costs.<br><i>LO 2:</i> Students will recognize opportunity costs.<br><i>LO 3:</i> Students will compute opportunity costs.                                                                                      | Lesson 3: 1 m 15 s.<br>Lesson 4: 2 m 9 s.                                        | Opportunity cost                                     |
| People are rational.                                                       | Rationality, economic analysis at the margin, marginal costs, marginal benefits.           | <i>LO 1:</i> Students will observe that everybody is rational.<br><i>LO 2:</i> Students will recognize that people make decisions at the margin.<br><i>LO 3:</i> Students will analyze economic decisions by comparing marginal costs with marginal benefits. | Lesson 5: 20 m (optional).                                                       | Decision-making                                      |
| Incentives matter.                                                         | Incentives, positive incentives (rewards), negative incentives (punishments).              | <i>LO 1:</i> Students will correctly identify monetary and nonmonetary incentives.<br><i>LO 2:</i> Students will recognize that people are motivated by incentives.                                                                                           | Lessons 6 and 7: no video.                                                       | Incentives                                           |
| Trade can make everyone better off.                                        | Trade, benefits vs. costs.                                                                 | <i>LO 1:</i> Students will identify the costs and benefits of trading.<br><i>LO 2:</i> Students will observe that trade can be beneficial for all parties involved.<br><i>LO 3:</i> Students will analyze absolute and comparative advantage.                 | Lesson 8: 4 m.<br>Lesson 9: 2 m 30 s.<br>Lesson 10: 1 m.<br>Lesson 11: no video. | Trade<br>Benefits of trade and comparative advantage |
| Producing more goods and services increases a nation's standard of living. | Standard of living, production of goods and services, productivity, factors of production. | <i>LO 1:</i> 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.                                                   | Lesson 12: 21 m (optional), 2 m, 30 s.                                           | Economic growth, productivity, productive resources  |

### 3 The TV Show *Survivor*

The first season of this very popular TV show aired in 2000 and was shot in Malaysia. The last aired season was season 42 and was shot in Fiji (like all seasons since season 33). 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, or players with pre-existing relationships. The players need to work with each other to survive on the deserted island, with practically no food, water, or shelter. Instructors can show this quick 1-minute [video](#) in class, describing a simplified version of the show.

During the first part of the show, the tribes compete against each other for “reward” and/or “immunity.” These competitions, called “challenges,” can be physical (involving swimming, running, obstacle courses, etc.), intellectual (for instance, a large variety of puzzles), or a combination of the two. The loser tribe(s) in an immunity challenge go to “tribal council” and anonymously vote one member of their tribe out of the competition.

About halfway through the game, when only about 10 to 12 players are left, there is a merge of these remaining players into one single tribe. From this point on, the players compete individually for immunity. Hence, immunity challenges become individual, and the winner of a particular immunity challenge cannot be voted out at the next tribal council. Most players voted out after the merge become members of a “jury.” When two or three contestants 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.

Due to the “appeal of uncertainty” (Haralovich and Trosset 2004), in time, producers added many twists and turns in the game (such as, but not limited to, hidden immunity idols, tribal switches, multiple eliminations, special powers, etc.).

The first seasons attracted huge ratings (the 1st season’s finale attracted over 50 million viewers). The show decreased in popularity since then (with only about 5 million viewers watching the finale of season 42), but it still has a loyal fan base and receives award nominations.<sup>1</sup> We know that most students do not watch the show. However, we argue that its longevity and online accessibility increase the pedagogical benefit of its use, when compared with other classic models presented in economics textbooks.

Moreover, as Salibian (2012) notes, viewers appreciate its “realism.” The isolated setting, the way the contestants must interact with one another and with their new habitat, and the democratic manner of voting each other out make *Survivor* a great example of a newly formed society (albeit, artificially). This newly created microcosm is “primal, fundamental and unpredictable” (Salibian 2012).

Though this show offers a variety of examples that could be used in a Game Theory course—see, for instance (Karlan 2017) or the 21 Flags challenge on Professor Wooten’s (2014) webpage—this paper proposes illustrations of some of the most important principles of economics taught in introductory classes. By incorporating short clips while using traditional “chalk-and-talk” teaching style, we offer opportunities for increased engagement in the classroom. We recommend that instructors use the examples provided below with high school and college aged students only. Even though *Survivor* is rated TV-PG, many viewers consider that the conversations around camp about sex and alcohol may not be appropriate for elementary school students. Consequently, an elementary school teacher who would like to use these examples should check with their school administration beforehand.

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<sup>1</sup> Instructors and students who want to know more about the show can visit *Survivor*’s main Wikipedia page: [https://en.wikipedia.org/wiki/Survivor\\_\(American\\_TV\\_series\)](https://en.wikipedia.org/wiki/Survivor_(American_TV_series)). Each season has its own Wikipedia page with a detailed description of each episode. CBS also provides details about the show: <https://www.cbs.com/shows/survivor/>.

## 4 The Principles of Economics Explained—*Survivor* Style

This section provides all necessary tools (including lesson plans and links to videos) that instructors can use to explain the principles of economics in *Survivor* style.

### 4.1 Due to Scarcity, People Face Tradeoffs

#### Vocabulary

- Scarcity
- Tradeoffs

#### Learning Objectives

LO 1: Students will define scarcity.

LO 2: Students will recognize that everybody faces tradeoffs due to scarcity.

#### Introduction

Instructors can analyze this principle by looking at the very first season *Survivor: Borneo*. This season has 16 players, organized into two tribes: Pagong and Tagi. After six players are voted off the island, the two tribes merge, and the individual gameplay starts. After each immunity challenge, the winner receives immunity. The tribe (including the winner) votes somebody else out who, subsequently, becomes a member of the jury. When only two players are left, the power shifts to the jury. During one last tribal council, the jury votes who should earn the \$1,000,000 prize and the title of “Sole Survivor.” As this is the first season, there are no twists in the game.

#### Lesson 1: Leisure vs. Work

##### 1a. Instruction

Instructors can ask students to watch the first episode of *Survivor: Borneo* before class, though it is not mandatory. Alternatively, the students can watch this [video](#) (19-minute recap of the season) before class. During class time, the instructor can start the lesson by showing the students the first minute or so of this [video](#). The difference between the two tribes becomes obvious very quickly.

During the creation of these new societies, the tribes need to spend their time wisely between work (building a shelter, gathering food, cooking, boiling their water, etc.) 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 (the instructor can show a few seconds from the [video](#) in which Richard catches his first fish). Meanwhile, Pagong chooses to focus on leisure. For instance, one day, the entire tribe enjoys a newly discovered mud bath (the first minute of this [clip](#) shows this event). They also spend time flirting with each other, playing games, and fooling around.

##### 1b. Guided Questions

Due to scarce 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.

## **Lesson 2: Voting People Out**

### **2a. Instruction**

Before the merge, the tribes compete against one another. At the first tribal council, after Tagi loses the immunity challenge, the players face a tradeoff between voting a stronger, but more rough-around-the-edges tribemate (Rudy) and a weaker, but more pleasant member (Sonja). Sonja leaves the competition because most contestants value strength above entertainment. The summary of this vote can be watched [here](#) (the instructor can show up to minute 1:31). As a side note, Rudy reaches the final three and becomes one of the most loved players in *Survivor* history.

Meanwhile, on the other tribe, B.B. is working very hard to build a shelter, while almost everybody else is trying to preserve his or her strength. The Pagong players are looking at tradeoffs from a different perspective: conserving their energy for the challenges versus working for the improvement of their camp. Besides B.B., everybody else believes the former is more important, so B.B. becomes the first person voted off the Pagong tribe. The instructor can show this tradeoff [here](#) (up to minute 3:18).

### **2b. Guided Questions**

The students can be asked what they would do if they were in the Tagi tribe. They can vote for Sonja or for Rudy, recognizing the tradeoff for the tribe. The results of the vote can be discussed briefly, as well as the reasons for the vote.

### **Assessment**

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

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.

## **4.2 An Opportunity Cost Represents What One Gives Up to Obtain Something Else**

### **Vocabulary**

- Tradeoffs
- Opportunity cost

### **Learning Objectives**

*LO 1:* Students will define opportunity costs.

*LO 2:* Students will recognize opportunity costs.

*LO 3:* Students will compute opportunity costs.



## Introduction

Winning *Survivor* comes with a \$1,000,000 prize. 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: the first 12 seasons, as well as *Survivor: Micronesia*, *Survivor: Tocantins*, and *Survivor: Cagayan—Brawn vs. Brains vs. Beauty*. For each of these seasons, when there are three players left in the game, there is a final challenge. The winner secures his or her spot in the final and gets to choose who the second finalist is. In other words, the opportunity cost of choosing the “wrong” opponent is \$1,000,000.

## Lesson 3

### 3a. Instruction

The instructor can show the students the [video](#) (up to minute 38:22) explaining the decision Colby needs to take after winning the final immunity challenge. The scene is from *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 (perceived as arrogant and with poor social skills by other tribe members). Colby finds himself in a situation to choose between philanthropy and strategy.

### 3b. Guided Questions

The instructor can ask the students to vote: Tina or Keith (another tradeoff like the ones presented in section 4.1).

Then, students can find the opportunity cost of their decision. 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. Students should notice that opportunity costs are not necessarily expressed in money and that they are not limited to monetary and financial costs.

## Lesson 4

### 4a. Instruction

They say that people learn from history. In the end, Colby’s decision in season 2 had a very high opportunity cost. Fast forward to season 28, *Survivor: Cagayan—Brawn vs. Brains vs. Beauty*, and Woo faces a similar decision. Woo needs to choose between Tony and Kass. Tony is a strategic mastermind, a player always on the “right side” of the votes, and always aware of everything around camp. Kass has defected from a coalition and has a blunter personality. The instructor can show a [video](#) from the last tribal council, in which one of the jury members explains how much such a decision costs, while Woo explains why he made it. Karlan (2017) analyzes Woo’s decision in detail and argues that concepts like honor and pride should be included in the utility function, alongside the more traditional consumption of goods and services.

Just like Colby, Woo, a Tae Kwon Do teacher, decides to be loyal to his beliefs and picks Tony (his ally) to go with him.<sup>2</sup> This decision costs him \$1,000,000. However, as he states in later interviews, he values the Tae Kwon Do tenets more than the money. Subsequently, instructors can also use this lesson for the next principle, in which we discuss how people make rational decisions by comparing marginal costs and marginal benefits.

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<sup>2</sup> The philosophical side of Tae Kwon Do instructs its students to follow five tenets: courtesy, integrity, perseverance, self-control, and indomitable spirit.

#### 4b. Guided Questions

The instructor can lead the same discussion as in lesson 3. Furthermore, one can incorporate in the classroom only one of the two lessons provided for this principle.

#### Assessment

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

1. What is the opportunity cost of 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:
  1. There are always tradeoffs in life.
  2. Nothing is free.
  3. We always give up something to obtain something else.
  - 4. All of the above.**

### 4.3 People Are Rational

#### Vocabulary

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

#### Learning Objectives

*LO 1:* Students will observe that everybody is rational.

*LO 2:* Students will recognize that people make decisions at the margin.

*LO 3:* Students will analyze economic decisions by comparing marginal costs with marginal benefits.

#### Introduction

*Survivor* players give interviews before, during (a.k.a. “confessionals”), and after the show. Many contestants declare that their strategy changes all the time (i.e., they think at the margin). They do come into the game with a set strategy, but as Chris, winner of the ninth season *Survivor: Vanuatu*, says in a confessional:

*“In this game, your strategy changes just immediately [...].”*

Sarah, winner of the 34th season *Survivor: Game Changers* has a similar declaration:

*“If you come into this game with a preset plan, you’re doomed.”*

One frequently used pedagogical example of making decisions at the margin is: do you choose to study 24/7 for an exam, or study for 1 more hour, another hour, etc.? Students can understand that we make decisions at the margin, but might have difficulties in accepting that all people are rational. They look at somebody’s “dumb” decision as an “irrational decision.” Therefore, we analyze Erik’s

game play as one of the final five contestants of the 16th season *Survivor: Micronesia—Fans vs. Favorites*, considered the dumbest move in *Survivor* history on numerous fan websites.

## **Lesson 5**

### **5a. Instruction**

If the instructor is so inclined, he/she can ask the students to watch episodes 9–12 from *Survivor: Micronesia—Fans vs. Favorites* before class. Another option is for the instructor to summarize 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, an alliance designed to eliminate the men one by one. In episode 12, Erik is the only male remaining, and he wins immunity. Alexis is voted out, and the final five contestants of the season are revealed: Parvati, Amanda, Cirie, Natalie, and Erik.

The students can watch this [video](#), explaining Erik's move in detail. As the video is almost 20 minutes long, the students should watch it before the lecture and analyze it in class. Alternatively, we provide a summary of the video below.

In the video, Erik once again wins the immunity challenge. However, this time, the women have a plan. After Natalie overhears Erik talking to Cirie about going to the final three without her, she goes to Erik and tries to convince him that, as it stands, he switched his loyalties too often. Therefore, 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. She also convinces him that Amanda will be the next one out. At the tribal, he stupidly gives up his immunity, and the Black Widow Brigade eliminates him. 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.

### **5b. Guided Questions**

The instructor can ask students what makes a decision rational. He/she can guide the students to understand that a rational decision means making the best decision based on marginal costs and marginal benefits, given the available opportunities and information.

Then, the students can determine Erik's marginal costs and marginal benefits. The marginal cost of giving his necklace to Natalie is the possibility of being eliminated. The marginal benefits are redeeming himself, not losing all the jury votes (in case he makes it to the final) and getting the women's approval. In a confessional early in the season, he admits that he finds many of the female players attractive, which might get him in trouble. As it turns out, he was right. Natalie persuades him that taking a big risk will help his game and that all women will vote for Amanda anyway (at the previous tribal council, Amanda had received the majority of the votes, but had saved herself with a hidden immunity idol).

Therefore, Erik analyzes the marginal benefits of his move (jury votes, Natalie liking him, eliminating Amanda) 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. His decision is rational from this point of view, even if, in retrospect, it is dumb. He later tells EW, confirming our point:

*"The crazy thing too, which I realized over the years, is that I don't regret the moment."<sup>3</sup>*

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<sup>3</sup> Karlan (2017) gives another example of making a rational decision at the margin by discussing how Woo maximized his utility when taking Tony to the final two with him (even though he lost the \$1,000,000 prize as a result) in *Survivor: Cagayan—Brawn vs. Brains vs. Beauty*.



### 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.

## 4.4 Incentives Matter

### Vocabulary

- Incentives
- Positive incentives (rewards)
- Negative incentives (punishments)

### Learning Objectives

*LO 1:* Students will correctly identify monetary and nonmonetary incentives.

*LO 2:* Students will recognize that people are motivated by incentives.

### Introduction

The game of *Survivor* gives money and other rewards to the contestants, as well as punishments discussed below in lessons 6 and 7, respectively.

## Lesson 6

### 6a. Instruction

In terms of positive incentives, the producers of the show offer contestants a monetary reward for playing the game. The instructor can hand out this [article](#) to the students.

Students already know that the “Sole Survivor” receives a \$1,000,000 prize.<sup>4</sup> In addition, each participant in the series finale (the “Reunion” episode) receives \$10,000, but the exact compensation for everybody else is unknown. Some report that the first person voted off makes \$3,500 and that, the more they stay on the island, the more money they make, with an even bigger reward for jury members. The second and third place make between \$80,000 and \$100,000; *ABC News* (2006) reports, for instance, \$100,000 for the second place, \$85,000 for third, and \$70,000 for fourth during the first season. One *Survivor* player, Corrine Kaplan from *Survivor: Gabon* declared that she won \$45,000 for her seventh place (and “jury duty”; Chichizola 2020). 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, and so on. For instance, “Boston Rob” Mariano, a construction worker before *Survivor*, now owns his own production company, later played in *The Amazing Race*, as well as in his own reality show, *Rob and Amber Get Married* (featuring his wife, whom he met on his second season of *Survivor*). Furthermore, one does not have to become the “Sole Survivor” to become a public figure. Elisabeth Hasselbeck, who placed fourth in the second season, *Survivor: The Australian Outback*, appeared as a co-host on the ABC daytime talk show *The View* from 2003 until 2013.

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<sup>4</sup> The only exception is the 40th season of *Survivor: Winners at War*, where the ultimate prize was \$2,000,000.

### 6b. Guided Questions

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? The instructor can lead a guided discussion to assess how much would the students be willing to endure to have a chance at winning \$1,000,000.

## Lesson 7

### 7a. 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 are not allowed to drop any spoilers. 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. Consequently, he was charged and found guilty of tax evasion in January 2006, and served a 51-month prison sentence.

### 7b. Guided Questions

The laws (paying taxes, wearing your seat belt, not drinking alcohol before 21, etc.) are usually enforced with negative incentives. Instructors can ask students if they follow these rules and what the consequences of breaking the law are. Students will notice that the government is very aware of this economic principle.

### 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.

## 4.5 Trade Can Make Everyone Better Off

### Vocabulary

- Trade
- Benefits vs. costs
- Absolute and comparative advantage

### Learning Objectives

*LO 1:* Students will identify the costs and benefits of trading.

*LO 2:* Students will observe that trade can be beneficial for all parties involved.

*LO 3:* Students will analyze absolute and comparative advantage.

### Introduction

Considering that the marooned 16 to 20 players need to organize themselves into a society, they must learn how to interact with one another, including through trade.<sup>5</sup> We provide examples of trades in lessons 8 and 9 below. For instance, in lesson 9, we describe one situation in which one hungry contestant offers another contestant \$40 just to lick her chocolate-covered fingers. Contestants also interact with the producers through confessionals and with Jeff Probst during the challenges, tribal councils, and auctions (and sometimes with other occasions as well).

## Lesson 8

### 8a. Instruction

In the 25th season, *Survivor: Philippines*, the reward challenge in episode 6 ends with a trade. The instructor can show this 4-minute [clip](#) in class.

Three people from each of the two tribes, Tandang and Kalabaw, must push a giant wood ball across a mud field to their goal. The field is slightly similar to a soccer field, and the challenge starts with the ball in the middle and the three members of each tribe at opposite ends of the field, near a goal post. While the members of one team try to push the ball in order to score, the members of the other tribe do everything they can to stop them from scoring. The first tribe to score three goals wins the challenge. The winner tribe receives sandwiches, soup, potato chips, and brownies. The two tribes fight for over an hour with no scored goals. Neither tribe has any more energy to push the ball to the goal. They are all exhausted from the lack of food, as well as the high physical demands of the challenge. At this standstill, Jonathan from Kalabaw proposes a trade. Kalabaw wins the reward (sandwiches, soup, potato chips, and brownies) and gives Tandang all their remaining rice (from camp) in exchange. After some discussion, each of the two tribes vote, and they decide to barter. In this case, barter was the only possible form of trade due to the lack of an actual monetary economy. However, this situation displays the limitations of barter, such as the need of a double coincidence of wants and the indivisibility of certain goods (i.e., the reward provided by the producers).

### 8b. Guided Questions

Students can be divided into two “tribes”: Tandang and Kalabaw. Each tribe should answer the following questions:

- What do we gain from this trade?
- What do we lose from this trade?

For Kalabaw, the reward would bring them the much-needed fuel right now. Furthermore, they are expecting a new merge soon (which comes with a “new” endowment of rice). Jonathan also convinces his tribe that he can catch fish. The members of Tandang would also benefit as it means more rice for them.

The instructor should guide students to compare costs and benefits for the two tribes. The costs of not trading would have been spending all their energy in pushing the ball for even longer. The

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<sup>5</sup> One additional angle (not discussed here) is the usage of trust as a currency in this game (a very scarce currency, with significant value).

benefits for both tribes were conserving their strength and receiving food. One can argue that no better outcome could have come from this situation for any of the two tribes.<sup>6</sup>

## **Lesson 9**

### **9a. Instruction**

An interesting (and funny) example of trade comes from the same Erik, from the 16th season, *Survivor: Micronesia—Fans vs. Favorites*, the very nice, but easily fooled young man, whose “dumb,” but rational decision we discuss in section 4.3 (lesson 5).

The show creators introduced *Survivor* auctions in the second season *Survivor: The Australian Outback*. Due to inefficient market outcomes (not discussed here), the producers have not brought back the auctions since the 28th season, *Survivor: Cagayan—Brawn vs. Brains vs. Beauty*. 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. On an unrelated note, these auctions also give us great examples of how relative scarcity can drive the price of a good up. For instance, the very first item sold at the *Survivor: The Australian Outback* auction was four Doritos chips and a bowl of salsa, and its price was a whopping \$60, while the second item was a chocolate bar and a bowl of peanut butter sold for \$260. In the 17th season, *Survivor: Gabon*, a complete meal of hamburger and fries cost \$400. How would our students feel about paying \$400 for a Big Mac Combo Meal?

The instructor can show this [video](#) in class (either the entire video, or only from minute 1:13 to minute 3:40). In the video, 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 \$40 to Cirie to lick the chocolate cake off her fingers, and she accepts.

### **9b. Guided Questions**

Based on the clip, 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?

## **Lesson 10**

### **10a. Instruction**

Season 8, *Survivor: All-Stars* brought back 18 returning competitors from the previous seasons. Most importantly, it delivered the most beloved *Survivor* alliance of all times, an alliance that evolved into romance, then marriage: “Boston Rob” Mariano and Amber Brkich. This alliance, based on teamwork and complete trust between partners, ends up in the final two, where Amber wins \$1,000,000.

Boston Rob is better at strategy and can be more intimidating, so he has absolute advantage in convincing people to vote his way by being a bully. Meanwhile, Amber is a better social player and is perceived as a sweet person by the other tribe members. While playing more under the radar, she has an absolute advantage in persuading people by charming them. Forming an alliance based on

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<sup>6</sup> In retrospect, neither party was happy after the trade. Jonathan turns out to be a lousy fisherman, while Tandang resented losing a challenge. This situation can lead to a more detailed discussion about losers in trade.

specialization in their respective absolute advantages allows Boston Rob and Amber to play a better game together than if they played an individual game (i.e., being self-sufficient). The beginning of their alliance can be seen in this [video](#) (only the first minute suffices). Though many fans believe Boston Rob should have won the season, there is little doubt that the two would not have ended up in the final two had they not collaborated with one another.

### 10b. Guided Questions

Students can be guided to understand the absolute advantage principle in their own household:

- If most chores are done by their parents, who is better at doing dishes? At mowing the grass? And so on.
- For their own chores, same questions can be applied.
- Students who have roommates (or live with a significant other) can add to the discussion.

## Lesson 11

### 11a. Instruction

Comparative advantage is determined based on the lowest opportunity cost. We can analyze the Boston Rob–Amber alliance from this point of view.

As mentioned in lesson 10, Boston Rob has higher returns with his bullying, while Amber produces more by being charming. Now let us analyze the opportunity costs for the two players using each of the two strategies. For Boston Rob, being pleasant would involve much more effort than being intimidating, due to his personality. Therefore, for him, the opportunity cost of being nice is higher than the opportunity cost of being a bully. Therefore, he has a comparative advantage in being a bully. For Amber, the opposite is true. Therefore, she has a comparative advantage in being charming. They each specialize in the skill that entails the lowest opportunity cost, trade information and strategy with one another and “Outwit, Outplay, Outlast” the competition.

### 11b. Guided Questions

Students can be guided to understand who has comparative advantage in what in their own household:

- If most chores are done by their parents, who does the dishes? Why? What is the opportunity cost for this person if he/she chooses to do something else (like mowing the grass)?
- If many chores are done by themselves and their siblings, same questions can be applied.
- Students who have roommates (or live with a significant other) can discuss the same things.

### 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. It is better not to trade because one party always gains more than the other party.
  - c. Trade can provide benefits for everybody involved.**
  - d. None of the above.
2. Absolute advantage means:
  - a. One party is better at something.**
  - b. One party is worse at something.



- c. One party is more efficient at something.
  - d. One party is less efficient at something.
3. Comparative advantage means:
- a. One party is better at something.
  - b. One party is worse at something.
  - c. One party is more efficient at something.**
  - d. One party is less efficient at something.

## 4.6 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

*LO 1:* 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.

### Introduction

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*. Ulong starts with nine players: all young, athletic, and strong. From the outside, they appear to be the stronger tribe. During this season, the contestants start with no initial endowment of food or water, hence relying only on what nature provides, and what they can gain in the reward challenges (assuming that they win these reward challenges).

## Lesson 12

### 12a. Instruction

Students can be encouraged to watch this [video](#) covering the entire history of Ulong before class. Alternatively, they can watch [this short clip](#) in class (ending at minute 4:06).

Ulong starts by losing the first immunity and reward challenge and, with that, not only one person from the labor force (as somebody must be voted out), but also fire supplies, which make getting drinking water and cooking impossible. (After all, as Jeff Probst says at every tribal council: "Fire in this game represents life.") They do win the next reward challenge on day 4, earning them fire, fishing gear, and water. However, the drama continues as they lose all subsequent immunity challenges and only win three reward challenges (with only that first one being of any value). 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. Besides one player, Bobby Jon, castaways are not inclined to do anything around camp. Most of them sunbathe or flirt with each other (essentially taking themselves "out of the labor force"). Secondly, they run the challenges the same way they manage their camp life. At one tribal council, Jeff Probst points out how two players underperformed during the challenge by wasting time with fixing their clothes instead of doing the challenge (this challenge can be watched [here](#)—ends at minute 16:19). Thirdly, losing challenges reduces their already small "labor force," as they need to vote somebody out approximately once

every three days. One of their physically strongest members also suffers an unfortunate accident by stepping on a stray coconut, which renders him “out of the labor force.”

### 12b. 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.<sup>7</sup> The castaways in the Ulong tribe have a continuously decreasing labor force (on day 22, Ulong has one member left, Stephenie, who is “absorbed” by the other tribe). Their lacking work ethic also decreases their potential productivity. In terms of capital, they do not win many reward challenges (in one challenge, for instance, the other tribe wins a whole shelter built by professional construction workers) and fail to use their fishing gear efficiently. 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 rules on how things should be done around camp and in challenges<sup>8</sup>), the cycle of “poverty” continues unhinged, and the tribe eventually implodes.

### Assessment

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

1. The factors of production:
  - a. Labor.
  - b. Capital.
  - c. Land.
  - d. All of the above.**
  
2. To produce more, a nation can increase its productivity through:
  - a. More/better quality labor.
  - b. More/better quality capital.
  - c. More/better quality land.
  - d. All of the above.**

## 5 Conclusions

Allgood, Walstad, and Siegfried (2015) note that teaching principles of economics courses is the most important instructional contribution that economics professors have in educating today’s students. These courses represent a major recruiting tool for majors (Jones et al. 2009 report that 52 percent of majors selected economics because they did well in these early courses), and they offer a good foundation for other majors (such as business, political science, etc.). Instructors interested in keeping their students more actively engaged might choose to add alternative methods of teaching.

We offer such an addition to the principles of economics textbooks. We include vocabulary that any student in economics should know. We also provide details on how to use scenes from *Survivor* to teach various principles of economics, as well as in-depth discussions and lesson plans on how to use these scenes in or outside the classroom.

Even though our goal is to present principles taught in introductory economics classes, instructors in other economic fields can investigate a variety of topics in the same context. For instance, Karlan

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<sup>7</sup> This can provide an opportunity to discuss that economic models oftentimes make assumptions to simplify a very complex world. In many such models, land is considered an exogenous factor.

<sup>8</sup> One of the tribe members, James, calls their system a “democracy,” though it resembles an anarchy more.

(2017) applies *Survivor* to game theory. Furthermore, in some seasons, during reward challenges, tribes can win chickens, or must choose between fishing gear and comfort items. These instances can be discussed in the context of agricultural economics. The examples can continue with many other economics areas such the impact of informal institutions on economic development, or the role of asymmetric information in decision-making.

People might perceive *Survivor* as merely a TV show, but economists can see it as a simplified version of the world, a Robinson Crusoe economy with more individuals, hence more opportunities for interaction, trade, decision-making, and so on. Clips from the show are widely available on the internet, so instructors can easily use the lessons provided in this paper. Alternatively, they can analyze thoroughly only one season throughout the semester. The economic topics provided in the show are abundant and can keep the students engaged in both smaller and larger classrooms setups, while maximizing information retention.

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