

The Demand for Your Labor

Lesson Overview

In this lesson, students look at and think about income. They will connect the demand for the goods and services with the incomes of those who produce a service. Students then use an interdependence web to illustrate how the demand for goods and services derives (creates) demand for labor and other productive resources.

Lesson Background

Dr. Julie Heath's October, 2013, [Cincinnati Enquirer](#) "Why It Matters" column, "Athletes' Endorsements: The Market at Work" is about the concept of derived demand. That is, the demand for a productive resource is derived from (created by) the demand for the good or service produced with that resource. In Dr. Heath's example, it is that the demand for LeBron James' basketball skill results from the demand by fans and advertisers for basketball games. If there is no demand to watch the games, then there will be no demand for players' skills – no matter how good they are.

A good example of this concept is that the demand for teachers' human resources is derived from the demand for education. If there were no demand for education, there would be no demand for teachers. Parents, principals and school boards really do not want to hire teachers. What they want to do is educate students. That is the service schools produce. In order to produce the service of education, the school boards choose to hire teachers. They have options, but most school boards choose to produce education by hiring teachers and purchasing other productive resources (buildings, books, paper, etc.) Thus, it is the demand for education that creates the demand for teachers. To extend this idea, the demand for teachers then creates a demand for colleges of education, teaching materials, and many other products and services.

Dr. Heath's column begins with the demand by NBA owners and advertisers for LeBron James' basketball skills. If people did not want to purchase tickets to see LeBron James play, they would not offer him the big dollar contracts. And, as Dr. Heath suggests, even ten mediocre basketball players might not generate the demand for tickets and products LeBron James can create. The fans' demand for tickets and the desire of the team owners to sell tickets creates a demand for LeBron's services – although it may seem to be the opposite – LeBron's skills create a demand for tickets. It is all interconnected.

Who wins this game? Everyone. The team owners, the fans, and LeBron James.

Key Vocabulary Terms

Demand: The quantity of a good or service that buyers are willing and able to buy at all possible prices during a period of time.

Derived Demand: Demand for a productive resource that occurs as a result of the demand for a final good or service.

Interdependence: A situation in which decisions made by one person affect decisions made by other people, or events in one part of the world or sector of the economy affect other parts of the world or other sectors of the economy.

Productive Resources: Natural resources, human resources, capital resources and entrepreneurship used to make goods and services.

Human Resources: The health, education, experience, training, skills and values of people. Also known as human capital.

NOTE: The definitions in this lesson are cited or summarized from the Council for Economic Education's *Virtual Economics* program. They are consistent with the *National Voluntary Content Standards in Economics* and the *Ohio Academic Content Standards for Social Studies*.

Lesson Objectives

The student will:

- Define the concept of derived demand as demand resulting from what a good or service can produce, not demand for the good or service itself.
- Identify examples of derived demand.
- Use an interdependence web to illustrate how the demand for goods or services is related to the demand for productive resources.

Lesson Materials

Handout/Visual 1: *Athletes' Endorsements: The Market at Work*

Handout/Visual 2: *Derived Demand*

Handout/Visual 3: *Interdependence of Productive Resources*

Lesson Preparation

Prepare copies of Handout/Visual 1: *Athletes' Endorsements: The Market at Work*, and Handout/Visual 3: *Interdependence Web*, for each student.

Prepare handouts or a visual of Handout /Visual 2: *Derived Demand*.

Lesson Introduction:

Explain to the student that today's topic is the demand for productive resources. In this case, students will look at the demand for LeBron James' basketball playing skills.

Distribute copies of Handout/Visual 1: *Athletes' Endorsements: The Market at Work*.

Read and discuss the main points of Dr. Heath's article.

- Nike paid LeBron James \$15 million for his endorsement of a line of basketball shoes. Sales of the shoes reached \$100 million.
- Athletes are paid according to how well they play their sport and how many fans are willing to pay to see them or buy the products they endorse.
- The same phenomenon exists in other industries, such as the music and entertainment industries, and in the corporate world. The top stars are paid much more because they generate sales and profits.
- There are exceptions to this phenomenon, related to the popularity of some sports and the characteristics of demographic groups.
- As with salaries, endorsement deals are a reflection of the value the market places on athletes.

Lesson Procedures

1. Using a visual of Handout/Visual 2: Derived Demand, project the definition.

Clarify the definition of derived demand. Hint: Use the examples about teachers and LeBron James from the "Lesson Background" section."

...the demand for teachers' human resources is derived from the demand for education. If there was no demand for education, there would be no demand for the skills of teachers. Parents, principals and school boards really do not want to hire teachers. What they want to do is educate students. That is the service schools produce. In order to produce the service of education, the school boards choose to hire teachers. They have options, but most school boards choose to produce education by hiring teachers and purchasing other productive resources (buildings, books, paper, etc.) Thus, it is the demand for education that creates the demand for teachers. To extend this idea, the demand for teachers then creates a demand for colleges of education, teaching materials, and many other products and services.

If people did not want to purchase tickets to see LeBron James play, they would not offer him the big dollar contracts. And, as Dr. Heath suggests, even ten mediocre basketball players might not generate the demand for tickets and products LeBron James can create. The fans' demand for tickets and the desire of the team owners to sell tickets creates a demand for LeBron's services – although it may seem to be the opposite – LeBron's skills create a demand for tickets.

2. Ask the students to suggest more examples of derived demand. Examples:

- *The demand for ice cream derives a demand for milk.*
- *The demand for kitchen appliances derives a demand for steel.*
- *The demand for houses derives a demand for wood and brick.*
- *The demand for music derives a demand for instruments.*
- *The demand for movies derives a demand for actors and directors*

NOTE: Be sure not to use examples of “complimentary goods” when a change in demand for one product affects the demand for another good, such as the demand for peanut butter and jelly or the demand for automobiles and gasoline. When people want more or less of one product they will want more or less of the other product.

3. Distribute a piece of 8 ½ x 11 inch paper to each student. An alternative is to use Handout/Visual 3: *Interdependence Web*.

a. Direct the students to draw a 1-2 inch circle in the center of the paper. Tell the students that this will become an “interdependence web,” illustrating derived demand.

Ask the students to think of one consumer good (not a service.) Write the name of the good in the center circle of the interdependence web. (See example, Handout/Visual 3.)

b. Next, draw three lines out from the circle to three outer 1 inch circles. Label each of the three outer circles as a “natural resource,” human resource,” and “capital resource.” Write an example of that type of resource in the circle. The examples should be resources that are used to produce the good in the inner circle.

c. From each of the outer circles draw two more lines to circles. In each of those circles write the name of another productive resource (human, capital or natural) used to produce that productive resource. See Handout 3: *Interdependence Web* (Sample) for an example

4. An alternative is to start an interdependence web on a chalkboard or whiteboard in the classroom.

a. Draw a 12 inch circle in the middle of a blank chalkboard or whiteboard. Put the name of a consumer good in that circle.

b. Draw lines outward from the good to more circles with the names of productive resources used to produce that good.

c. The drawing of circles and lines can continue several times.

Lesson Conclusion

Discuss the concept of derived demand as illustrated by the students' interdependence webs. Ask the students to explain the interdependence in their examples in terms of derived demand.

Lesson Assessment

The students should be able to explain the relationship of the demand for a good or service and the demand for labor used to produce that good or service.

Student writing prompt: Why is Nike willing to pay LeBron James \$15 million to endorse a line of basketball shoes?

Handout/Visual 1:

Athletes' Endorsements: The Market at Work

By Dr. Julia Heath

If Nike handed out a "2012 Employee of the Year Award" based on who contributed the most to the company's profit, who would have won? The CEO, Mark Parker? Try LeBron James. Sales of his signature shoe topped \$100 million in the U.S. alone. James' endorsement contract with Nike for 2012 was \$15 million—certainly not a paltry amount—but given the increase in sales, it seems Nike got the best end of the deal.

Staggering endorsement deals have become routine because we hear so much about the top earners, not because so many athletes snag them. In fact, the big endorsement money flows to the very top—the handful of top athletes in their sports. This is due to what economists call the superstar effect. In general, athletes (and the rest of us) are paid commensurate with the value we bring to our employers. For athletes, this means that they are paid according to how well they play their sport and how many fans are willing to pay to see them. The exceptional players—the superstars—may be better than mid-roster players, but not 10 times better. But their salaries are often 10 times that of the other players. Why? Because of the second factor—how many fans are willing to pay to see them play.

With internet access to sports, top athletes can tap into a global market, meaning they can reap its benefits in terms of revenue. At the same time, the portion of that revenue that flows to the middling players is reduced as money gets concentrated at the top. The superstar effect does not just hold for athletes; it can be seen in the music and entertainment industries, and the corporate world, too, as companies bid up the salaries of the "best" CEOs.

But even among the best of the best, endorsement deals vary significantly. Superstars in individual sports tend to rake in the most money, particularly golf and tennis. Individual achievement is in the spotlight and both sports have a relatively affluent fan base. For example, Tiger Woods topped the leader board in athlete endorsements in 2012 with \$77 million, one of which was for Rolex watches.

Superstar athletes in team sports can also earn big money with endorsements (James' total endorsements for 2012 were about \$40 million), but there appear to be some exceptions, even among this elite group. Sports economists have found that an athlete being black or white has no effect on their ability to land lucrative endorsement contracts, but being Hispanic significantly reduces an athlete's endorsement earnings. Some, but not all, of this result can be explained by the relative lack of popularity of professional soccer in the U.S. But Yankee closer and future Hall of Famer, Mariano Rivera; or Triple Crown winner, Miguel Cabrera; or Cy Young winner, Felix Hernandez—all have paltry endorsement contracts.

At first blush, this discrepancy might appear to be discriminatory. But it's really the market predicting that the costs associated with an endorsement contract wouldn't have a high enough return in terms of increased sales. Given that Hispanics comprise the largest non-white sector of the population in the U.S., endorsements featuring Hispanic superstars will surely be coming soon.

As with salaries, endorsement deals are a reflection of the value the market places on athletes. While these contracts may seem outrageous to some, it's a straightforward cost/benefit calculation for the company. And Nike probably thinks they got a bargain.

Handout/Visual 2

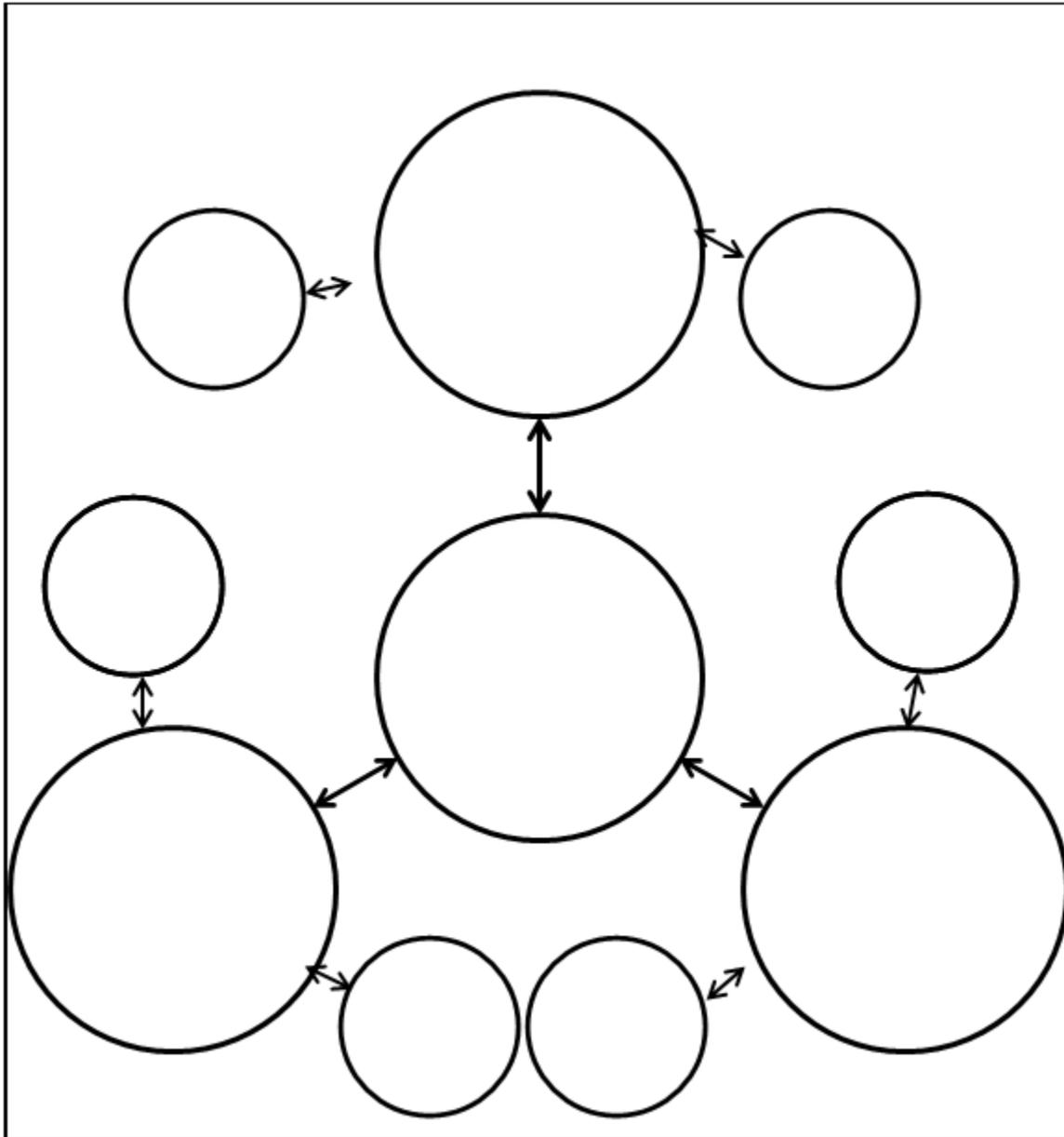
Derived Demand

Derived Demand:

**The demand for a
productive resource
occurs as a result of the
demand for a final good
or service.**

Handout/Visual 3

Interdependence of Productive Resources



Handout/Visual 3 (Sample)

