Why It Matters: Your Value in the Labor Market

Overview

In this lesson, students consider first baseman Joey Votto’s $251.5 million contract with the Cincinnati Reds. They read Julie Heath’s Cincinnati Enquirer “Why It Matters” article. Students compare Votto’s pay to the average annual incomes for a variety of occupations. Then, they continue the investigation by thinking about the various factors that may affect the supply and demand for labor in various occupations.

Introduction

The driving questions are: 1) How do the supply of and demand for labor determine wages in the labor market? 2) How can you better understand how your decisions about a career will affect your value in the labor market?

Labor markets are much like the markets for other productive resources, or goods and services. Although the principles of supply and demand generally determine wages in labor markets, be aware that the demand for labor is a “derived demand.” The demand for labor is derived from the demand for the “product” the labor produces. If there is no demand for the product of a worker, there will be no demand for the worker’s skills and knowledge.

In professional sports, the demand for labor, such as the demand for the skills of a baseball player, directly results from the demand of fans to pay for tickets to watch professional baseball games. Team owners will demand the labor of players who they determine will increase the demand of fans for tickets or other sources of revenue.

In the case of first baseman Joey Votto, the owners and management of the Cincinnati Reds determined that paying him $252.5 million over twelve years will positively influence the demand for tickets and other sources of revenue. The owners, we can assume, have done a cost benefit analysis to determine if Joey Votto’s services are worth the cost. Their decision was that his labor services were worth $251.5 million over twelve years.

Most analysis of labor market supply and demand factors is typically based on larger numbers of workers, where any number of workers may be able to meet the needs of the firm at a level of quality they require. There may be many substitutes available, with some at a lower cost. In Joey Votto’s case, there may not be any or just a few substitutes for his particular set of skills.

Factors that influence demand:

- Tastes and preferences
- Income
- Substitutes
- Prices of complementary goods
- Future expectations
Factors that influence supply:
- Cost of production – prices of inputs
- Number of suppliers
- Prices of complimentary or substitute goods
- Improvements in technology or other factors of production
- Future expectations
- Government (organization) policies and regulations

Objectives
1. Determine the factors that influenced the Cincinnati Reds to sign Joey Votto to a 12 year contract for $251.5 million.
2. Explain the role income plays in the market economy.
3. Explain that incomes for various occupations are the result of the supply of and demand for labor.
4. Given an occupation, identify the factors that may influence the supply and demand for labor and wage rates.

Materials
- Handout and Visual 1: Why It Matters: Joey Votto’s New Contract
- Handout and Visual 2: The Circular Flow of the Market Economy
- Handout and Visual 3: Do the Math: How Much Will Joey Votto Earn?
- Handout and Visual 4: BLS Table 1 (optional substitute for Website: Table 1)

Preparation
- Prepare visuals or copies of Handout and Visuals 1, 2 and 3 for each student.
- Prepare a connection to the BLS website, “Table 1.” Project the website or provide student access to the website.
- If the internet connection is not available, use Visual and Handout 4, BLS Table 1.

Procedures
1. Introduce the question: What determines a worker’s “value” in the labor market?

Restate the question by asking: What determines how much an individual is able to earn with his or her level skills and knowledge? [Ask for student ideas. Encourage students to think about training, experience, skills and knowledge.]

Ask: How do we determine a person’s “value” in the labor market? [income, wages or salary]
After allowing a few student responses, explain that the purpose of this lesson is to examine the factors that affect a person’s ability to earn income.

Define these terms. (If you have a copy of the Virtual Economics CD, you can use it to show the multi-media presentations on these terms.)

**Labor**: The quantity and quality of human effort available to produce goods and services.

**Markets**: Places, institutions or technological arrangements where or by means of which goods or services are exchanged. Also, the set of all sale and purchase transactions that affect the price of some good or service.

**Labor Market**: The labor supply and labor demand curves. The intersection of the labor supply and labor demand curves determines the equilibrium wage and the quantity of hours people work at this equilibrium wage.

Use Handout and Visual 2, “The Circular Flow of the Market Economy” to show the relationship between income and resources (specifically labor) in a market economy. In this model, the outer flow is the productive resources and goods and services, and the inner flow is incomes. As labor is provided from households to businesses in the market, incomes flow the opposite direction. Consumers use their incomes to purchase goods and services.

NOTE: For a classroom lesson and other information about the Circular Flow, go to the CET Connect website, Producing Ohio, Lesson 2, The Circular Flow of the Market Economy. URL: http://www.producingohio.org/teachers/Lesson2.pdf

2. Ask: Who is Joey Votto? [Joey Votto plays first base for the Cincinnati Reds baseball team. He was the National League “Most Valuable Player” in 2010. For more information about Joey Votto, go to website of the Cincinnati Reds, http://cincinnati.reds.mlb.com/team/player.jsp?player_id=458015#gameType='R'&sectionType=career&statType=1&season=2012&level='ALL’ ]


4. Review the main points of the article.

   a. How much will the Cincinnati Reds pay Joey Votto for 12 years? [$251.5 million]

   b. The article explains the factors that determine Votto’s salary. What are they? [The supply of labor – how much labor Votto is willing to supply - and the demand for labor – how much the Reds are willing to pay for Votto’s labor - over some period of time.]
This example is slightly different than most labor markets, because professional baseball has rules that determine who Votto can work for. His salary is not limited.

c. Who made more in 2011 – baseball players or high school teachers? [Provide this example: 750 baseball players made about $1,125,000 each - a total of $84.75 million. 1 million high school teachers made about $54,270 each - a total of $54.27 billion. This example substitutes average for median. It is not exactly correct, but makes the point. All high school teachers made more in total. But, there were so many of them.]

d. What kind of analysis did Julie Heath suggest to use to look at whether or not Votto’s salary is “worth it”? [cost-benefit analysis – comparing the cost of a choice with its expected benefits]

e. What does the Reds management expect will happen because they have signed Joey Votto? [Demand will increase. More fans will buy tickets.]

f. According to the article, how can you improve the chances that you can earn a higher income? [Choose a career and develop skills that are highly valued in the market, and where there are fewer potential workers with a high level of skills.]

4. Again ask: How much will Joey Votto earn playing for the Reds? [$251.5 million]

Distribute copies or project Handout and Visual 3: Do the Math: How Much Will Joey Votto Earn?

Review Handout and Visual Reading 1 and the data from Handout and Visual 3. This may be a fun way to look at Votto’s salary.

5. Ask: How does a professional baseball player’s salary compare to other occupations? [Students will probably know that professional athletes earn substantially higher incomes than most occupations.]

Project the website: “National employment and wage data from the Occupational Employment Statistics survey by occupation, May 2011”

If students have access to individual computers, they can each access the website. As an alternative use Handout and Visual 4: Table 1.

An alternative is to print out Table 1 and assign each small group of students one of the pages. The can study and report on some of the occupations on that page.

Ask students to look at the list of occupations and income. Can they make any generalizations about the occupations that have lower or higher pay? [They may mention the number of workers in those occupations or they may know those that require an extraordinary level of skill or higher education.]
**Median**: The numerical value separating the higher half of a sample from the lower half. Among the group of values 1, 6, 9, 14, 20, 26, and 27, the value 14 is the median. It is the middle value. Note: The median is not the average.

**Mean**: The arithmetic average, determined by adding together a set of numbers and dividing by their count.

**Conclusion**

Restate the main points of the article about the supply and demand for labor. Ask: How can you improve your opportunity to earn a higher income? *[Develop more skills and/or acquire more education. Select a career with a high demand for and small supply of labor.]*

**Assessment**

Assign each student one of the occupations from the BLS Table 1. Students can learn more about the occupations from the Bureau of Labor Statistics’ “Occupational Outlook Handbook” A to Z Index. Link: [http://www.bls.gov/ooh/a-z-index.htm](http://www.bls.gov/ooh/a-z-index.htm).

Students should be able to write a short essay about the factors that influence the supply of and demand for labor for the assigned occupation,
Why It Matters: Joey Votto’s New Contract
By Julie Heath, Director, Economics Center, University of Cincinnati

What was your reaction when you heard about Joey Votto’s 12-year, $251.5 million contract with the Reds? Many people react to news about player salaries by declaring that the player “isn’t worth it”, and/or fuming that now ticket prices will have to be increased to pay for the higher salary. Like everything else, Votto’s salary is determined by supply and demand, so let’s look at each of these and why Votto’s salary matters to you.

Often, when people talk about professional athletes’ salaries, they compare them to salaries in other occupations. For example, the median salary (50% earned more and 50 earned less) for a high school teacher in 2011 was $54,270. The median salary for an MLB player the same year was $1,125,000. Before you conclude that this isn’t fair, consider that there were over 1 million high school teachers in 2011. There are 30 Major League Baseball (MLB) teams with a 25 player regular season roster, so there are only 750 MLB players. If supply is relatively low, the price—in this case, the price of a worker, or the salary—will be relatively high.

So half of the answer to why Votto’s salary is so high is that his talent is in short supply. But you could be a fantastic lute player (there probably aren’t many of you), and your salary would probably not be very high. Why? There is not a high demand for the services of lute players. The demand side of the market determines salaries, too. In the case of athletes, the demand comes from fans who purchase tickets, concessions, apparel, and big foam fingers. The team also gets revenue from parking, media contracts, sponsorships, and advertising. The question of whether a player is worth his salary or not comes down to a simple cost/benefit analysis. Will the increase in revenues from all these sources generated by signing a player be as least as great as his salary? If the answer is yes, then the player is worth it.

This cost/benefit analysis has an implication that may surprise you. Fans often complain that ticket prices are so high because they have to pay the costs of the big player salaries. But the team owner looks at the revenue that a player is expected to bring in and then agrees to a salary. That expected revenue comes from fans—if fans want to see a particular player, that increases the benefit the player will bring to the team and results in his salary increasing. In other words, the player is paid what he’s worth, and that worth is determined by the fans. Therefore, fan demand (causing ticket prices to go up) leads to players’ salaries increasing, not the reverse.

So why should Votto’s salary matter to you? Because your earnings are the result of the same supply and demand effects as his, (probably just on a smaller scale). If you enter an occupation that has relatively few participants and that has a high demand, your salary will probably be fairly high. This assumes you have the right skills to produce at a high level. If you enter an occupation where either supply of workers is high, the demand is low, or both, you can expect your earnings to be relatively lower. You can’t prevent others from entering an occupation, so
your ability to change supply is limited. Likewise you can’t affect the overall demand for your occupation. But, you can change the demand for your particular skills with your employer. Remember that your salary is a reflection of the benefits you bring to your employer. Therefore, employees who increase their value to their boss by increasing their productivity or creativity, for example, should see an increase in their earnings. So you may not earn what Joey Votto does, but you can use the same concepts of demand and supply to understand your salary. If he can do it, so can you.
Handout and Visual 2: The Circular Flow of the Market Economy

- **Consumer Household Sector**
  - Income $ → Resource Markets
  - Productive Resources
- **Resource Markets**
- **Product Markets**
- **Business Producer Sector**
  - Income $ → Resource Markets
  - Factor Payments $ → Resource Markets
  - Goods and Services
  - Spending $
Explaining the Circular Flow

In the Circular Flow Model:

All Productive Resources (factors of production) are owned by the Consumers or Household Sector. “Consumer” is the term used to represent units of consumption and resource ownership. A consumer may be a single person, a family, some number of individuals or any other organized group that consumes together.

These individuals and groups sell their Productive Resources to the Business or Producer Sector. “Producer” includes any unit of production—a single person, a small or large business or a group of people. Producers are also productive resource buyers.

The key to understanding the Circular Flow Model is the relationship between the Productive Resources in the Resource Markets and the Goods and Services in the Product Markets.

1. The process begins with the Consumer demand for a good or service.

2. The Producer - recognizing the demand and with the expectation of making a profit - purchases natural resources, human resources (labor), and capital resources, resources from Consumers in the Resource Markets.

3. The Producer, or decision maker, provides the entrepreneurial decisions about what Goods and Services to produce and how to produce them.

4. The Productive Resources are transformed (produced) into Goods and Services in the Business or Producer Sector and sold to Consumers in the Product Markets.

The real flow of economic activity moves clockwise around the Circular Flow Model.

An inner flows of money—Factor Payments and Consumer Purchases —exist in order to keep the flow of economic activity moving.

5. Money is used as a medium of exchange in the Resource Markets and the Product Markets.

6. In the Resource Markets, the money flows are the payments for the different types of Productive Resources: rent for natural resources, wages for human resources, interest for capital resources, and profit for entrepreneurship.

7. These factor payments (income) go to Consumers. The income is then used by consumers to demand (and pay for) Goods and Services in the Product Markets.

Note: The Circular Flow Model does not indicate the size, health or speed of a market economy. It only represents the relationships among the different sectors and markets. To indicate the dynamics or pace at which the flows occur, use a hand gesture moving clockwise around the model, increasing the speed to simulate more economic activity.
Do the Math: How Much Will Joey Votto Earn?

On April 2, 2012, first baseman Joey Votto signed a contract with the Cincinnati Reds to provide his services to the Reds over twelve years for a total of $251.5 million. This contract included an extension of his current two year contract by another ten years, for a total of twelve years.

If Joey Votto plays all nine innings of the 162 regular season games and 24 post-season games, he will play a total of 1,458 innings, which equals 4,374 outs. This assumes the Reds play the maximum number of games in each postseason series and go to game 7 of the World Series.

With his contract of $251.5 million for 12 years, he will be paid $20,958,333 per season. That is $112,679.20 per game, $12,519.91 per inning, or $4,173.30 per out. If each game takes an average of 3 hours, he makes $37,559.73 per hour.

In 2010, the average MLB team threw 146 pitches per game for a total average of 292 pitches per game. Votto is one of nine players in the Reds’ line-up, so he will face an average of 16.2 pitches per game. As a hitter for half the game, he makes $56,339.60 per game. That means he makes $3,477.75 per pitch. Since he will possibly have to make a play on any of the other team’s 146 pitches, he is also paid $56,339.60 per game as a fielder, or $385.89 per pitch.

Joey Votto will earn...

- $251.5 million over 12 years
- $29,958,333 per year
- $112,679.20 per game
- $37,559.73 per hour
- $12,519.91 per inning
- $3,477.75 per pitch as a hitter
- $385.89 per pitch as a fielder

Of course, Joey Votto will not keep all of the $251.5 million in gross pay. If he pays his agent a straight 10 percent, that reduces his income from the contract to $226.35 million. At the maximum federal income tax rate of 35 percent, the maximum Ohio income tax rate of 7.5 percent, and a Cincinnati income tax rate of 1.5 percent, he may end up paying about 40 percent of his income in taxes. 40 percent of $226.35 million is $90.54. So, Votto may end up with about $135.81 million in net or “take-home” pay over twelve years. That’s $11,317,000 per season or $69,858.02 per game.

Note: The agent’s 10 percent fee is just an estimate. The agent’s fee may be more or less than 10 percent. The income tax rates are based on the maximum federal, Ohio state, and Cincinnati personal income tax rates as of 2011.