



SOCIAL SCIENCE

The Economics of Your Food

by Nick Moses

Overview

Students will:

- Learn about consumer power.
- Learn about supply and demand.
- Create their own data set and grocery budget.

Terrain Articles: “Got Milk,” pages 10-13, “Steady As It Goes,” pages 14-16, “Closing the Circle,” pages 36-37, Fall 2005.

Introduction

When many of us think of economics, we glaze over: images of suited middle-aged men and pie charts dance in our heads. Indeed, there is a tendency to believe that economics is a complex set of numbers that describes some world far, far away – a world we don’t live in. But this is certainly not the case. Economics is a way to understand how each of us interacts with our world – how each of us powerfully determines the cost of things, from school supplies to the air we breathe.

Economics is the study of how we best use our scarce resources. Anyone who has had to decide between buying one pair of new shoes or six new CDs has engaged in precisely the kind of decision-making processes that economics describes.

Each one of us, and indeed every producer and consumer in the economy, is responding all the time to incentives, both monetary and non-monetary, to decide what to produce, what to consume, and how best to allocate finite resources. Our tastes and our needs determine, in the end, what we will and will not buy. This, in turn, affects our whole economy.

Consider your food supply, and all of the myriad decisions that must be made every step along the way to get your food from the field to the market, and from the market to your table. Let’s say you, the consumer, buy only seasonal produce from your local farmers’ market. Because you are buying food from local farmers, your money stays in your local economy.



This money ends up paying for local taxes, which funds your local services like schools, roads, police and fire departments.

Because you have decided to buy at the farmers’ market, your food traveled a short distance instead of the thousands of miles it may have spent in the back of a stinky truck. As a result, less petroleum was used in getting food to your table, and fewer fumes were expelled into the air.

Moreover, your money didn’t pay any farm-to-grocery-store middlemen. As a result, the farmers who grew your food got paid more money for the work they did. This very simple choice had great impact.

This is economics.

CA HISTORY-SOCIAL STUDIES STANDARDS: CA Principles of Economics: 12.1.1 Examine the causal relationship between scarcity and the need for choices. 12.1.3 Identify the difference between monetary and nonmonetary incentives and how changes in incentives cause changes in behavior. 12.2.2 Discuss the effects of changes in supply and/or demand on the relative scarcity, price, and quantity of particular products. 12.2.10 Discuss the economic principles that guide the location of agricultural production and industry and the spatial distribution of transportation and retail facilities. 12.3.1 Understand how the role of government in a market economy often includes providing for national defense, addressing environmental concerns, defining and enforcing property rights, attempting to make markets more competitive, and protecting consumer’s rights. 12.4.3 Discuss wage differences among jobs and professions, using the laws of demand and supply and the concept of productivity.



An Apple a Day: a Work Out

Kinesthetic Activity

In this kinesthetic activity, student will “use their feet” to make economic decisions.

Materials

- A bag of apples (one apple per student)

Teacher Directions

1. Place an apple on the left corner of your desk. Place another apple on the right one, opposite the first apple. Tell the students that the apple on the left is a sweet apple and that the apple on the right is a tart one. Ask the students to grab their backpacks, and indicate their apple preference by walking to the corresponding side of the room.
2. Now that the kids are on two sides of the room, tell them that the apple on the left was organically grown in a beautiful orchard, and will be one of the most delicious apples they have ever eaten. The apple on the right was grown in a conventional orchard, which uses pesticides, herbicides, and wax. It will taste like any old regular apple. Tell them to walk to the side of the classroom of the apple they would prefer.
3. After the students have moved again, tell them: The organic growing process is slower, produces lower yield, and happens in a smaller, and therefore less efficient manner. The apple on the left costs 50 cents, while the regular apple on the right is cheaper. Tell them to move to the side of the classroom of the apple they would prefer to buy.



4. After the students finish moving, tell them:

The organic apple was grown in an orchard that is only 15 miles from here, so the transportation costs are almost nothing. The “regular” apple was grown in Washington State, so it had to travel over 600 miles to get here. The organic apple costs 50 cents, while the regular one costs 30 cents. Tell them to move to the side of the organic apple, if they would pay an extra 20 cents for it.

5. After the students settle, tell them:

A recent investigation just uncovered that this so-called “organic” apple was actually not grown under any different conditions than the regular apple. Through some loophole in the law, this orchard was able to call itself “organic,” but in this case, the term “organic” is completely meaningless. Tell them to move to the side of the room of the apple they’d most likely buy.

6. After the students have moved, tell them that the Washington orchard is using unregulated, illegal, migrant workers to pick their fruit, and paying them \$3.00/hour, while the farm in California is paying \$6.00/hour with full health benefits. Move to the side of the room of the apple they’d prefer to buy and eat.

7. Tell the students to have a seat. They should still be on two sides of the room. Give each an apple for their effort! Tell them to take out a piece of paper and to write one half page about why they preferred one apple over the other, and one half page about what they think motivated the students who ultimately preferred the other apple.

Glossary of Terms

Cost-incentives: A monetary cost or benefit that motivates a decision or action by consumers, businesses, or other participants in the economy, usually price.

Non-cost incentives: A non-monetary cost or benefit, such as a moral or ethical decision, or public relation or marketing concern, that motivates a decision or action by consumers, businesses, or other participants in the economy.

The law of demand: The amount of a good that consumers are willing and able to buy at various prices.



The law of supply: The amount of a good that manufacturers are willing and able to produce at various prices.

Closed economic system: An entirely self-contained system, requiring zero outside resources, and where all goods and services produced are consumed within the system.

Scarcity: Every resource is finite, while consumer wants and needs may be infinite. Economics is a tool for finding how to use these finite resources in the most efficient way.



Supply and Demand: Breaking it Down

Lecture

Students will graph supply and demand.

Teacher Directions

Students will need a piece of paper. Lead the students through this interactive lecture, demonstrating the graph diagrams on a chalkboard or overhead projector.

- Economists always want to talk about “widgets” – some mythical product that can represent all products. The supply of widgets is how many widgets suppliers are willing and able to produce at any given price. If suppliers knew they could get \$1 per widget, they would supply one widget. If they could get \$2 per widget, they would make two. If they could get \$3 per widget, they'd make three, and so on. In this case, supply would look like this:

Price / Quantity

1 / 1
2 / 2
3 / 3
4 / 4
5 / 5
6 / 6
7 / 7
8 / 8
9 / 9
10 / 10
11 / 11



- Now, draw a Price axis and Quantity axis like the one above. Number each line from 1-11. Put a dot at 1 on Price and 1 on Quantity to represent the first supply point. Place another dot at 2 and 2, for supply point #2. Once you have all 11 dots, connect the dots for an up sloping 45-degree line.

- The demand of widgets (what consumers would be willing and able to buy at any given price) is the other half of the equation. If widgets cost only \$1, they would buy 11. If a widget costs \$2, they would buy 10 and so on. So, demand looks like this:

Price / Quantity

1 / 11
2 / 10
3 / 9
4 / 8
5 / 7
6 / 6
7 / 5
8 / 4
9 / 3
10 / 2
11 / 1



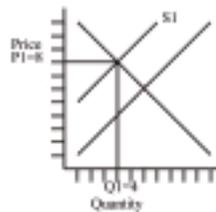
- Graph these points. At 1 Price and 11 Quantity, we have our first Demand Point. At 2 and 10 is Demand Point 2, and so forth. Once all 11 points are there, connect the dots to reveal a downward sloping 45-degree angle line.

- The spot where Supply and Demand intersects is called the **market clearing price** or the **equilibrium point**. This is the price that producers and consumers agree on and what you may see at any store.

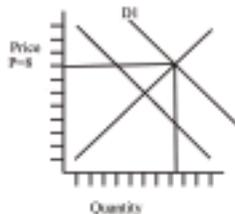
- Draw a line from the intersection of supply and demand to the Price and Quantity axes. Label them: Q_0 and P_0 . On this graph the intersection is at a quantity of 6 and a Price of \$6. So $P_0 = 6$, and $Q_0 = 6$.



- Let's say that the supply decreases (the price of one of their input products goes up, or workers demand a raise, or their rent goes up, etc.) and that forces the entire economy to find a new efficient price. This will give us a new market clearing price. What is the new price as represented in the graph below?



- When any single consumer goes to the market, he is a price taker: he chooses to either buy or not buy at the price the market yields. In the previous exercise, you made economic decisions with your feet. What impact do you, as a consumer, have over price? What kinds of impact can large groups have over price? Look at the graph below, what effect did consumers have on the price?



- When a demand for products is high, what typically happens to the price? When the supply increases, what happens to the price?

Note: Supply and demand graphs are rarely this straightforward. There are endless variables to these situations. Typically, supply and demand graphs do not have real values.



From the Market to the Table

Activity

Students will collect data from their local grocery or market, then participate in an economics discussion.

Student Directions

Read the articles “Closing the Circle,” and “Steady as It Goes” in *Terrain*. Go to a local market and answer the following questions on a piece of paper:

1. What is the grocery or market address?
2. Does your market carry free-range meats? Pick a kind of meat (i.e. beef). What is the cost per pound of free-range or organic meat? What is the cost of regular meat per pound?
3. Does your market carry organic dairy? If so, which ones? Pick a product (i.e. milk). What is the cost per pound or gallon of organic dairy? What is the cost per pound/gallon of non-organic dairy?
4. Does your market carry organic produce? If so, what kinds? Pick a kind of produce. What is its cost per unit? What is the organic's cost per unit?

Teacher Directions

After the students collect their data, write on an overhead or chalkboard the following headings: location, meat, dairy, produce. Write down the students' findings.



Discussion Questions

1. Why does/doesn't your store offer organic foods?
2. What cost trends do you see in your local grocery stores /markets for organic and non-organic food? What trends do you see based on location?
3. Ted Fuller believes the additives in feed contribute to the unhealthy nature of “feed lot beef.” What must we keep in mind when we evaluate a statement like that from a man in Fuller's position?
4. On the other hand, what is everyone else eating? What health implications might this have for individuals and for our entire nation?
5. What does Ted Fuller get from doing business the way he does? Is it good business?
6. If you were a rancher or farmer, what kind of rancher or farmer would you be?
7. Is your government interested in helping you eat better? What are the costs and benefits of governmental regulation for the farmer? For the government?
8. Look at our list. Name some market clearing prices. Name some cost and non-cost incentives.

Grocery Reality

Activity

Students will be assigned one of the families below, and will develop a one-week grocery budget for them.



Economic/Fam-

ily Profile #1

You have \$75 to provide all meals (three meals per day for seven days) to a family of five: two adults and three children: ages 6 months, 6, and 15. One member of your family is allergic to MSG, another to dairy. What will you buy? Where will you buy it? You can buy food at any store in your community. Along with a real food price list, you must write one page in which you explain your purchases and respond to the following questions: What are your cost-incentives/non-cost incentives? What changes would you like to see at the grocery store? How can a working family vote with its dollar?

Economic/Family Profile #2

You have \$100 to provide all meals (three meals per day for 7 days) to a 28-year-old couple, one of whom is pregnant. The pregnant woman can't eat fish, creamy cheeses, drink liquor or caffeine, and broccoli gives her gas. Also, she craves ice cream, pickles, olives, and brussels sprouts and must have a supply of prenatal vitamins. What will you buy? Where will you buy it? Along with a real food price list, you must write one page in which you explain your purchases and respond to the following questions: What are your cost and non-cost incentives? What kind of things did you buy to support the health of the fetus?



Economics/Family Profile #3

You have \$60 to buy all meals (three meals per day, for seven days) for a 65-year-old diabetic with colitis (an inflammation of the colon). You must make sure to buy foods low in sugar and starch and stay away from processed, pre-packaged foods. This person cannot eat foods high in spice, preservatives, or dyes. What will you buy? Where will you buy it? Along with a real food price list, you must write one page in which you explain your purchases and respond to the following questions: What are your cost and non-cost incentives? What changes would you like to see at your market?