



Lesson 4 – Markets in Action

Introduction

This lesson has two goals:

- The first is to expand students' understanding of markets by discussing government-imposed frictions that affect the market-clearing price and quantity.
- The second is to involve students in analyzing examples of economic reasoning using problems and activities.

Through two optional mini activities and a 1 vs 100 Game Show, students practice applying the tools of supply and demand analysis real-world scenarios.

Objectives

At the end of this lesson students will be able to

- Explain how various policies and regulations impact market price and quantity.
- Use a supply and demand graph to illustrate the impact of various policies and regulations.

Key Economic Concepts

Demand

Exchange

Market Clearing Price

Supply

Property Rights

Price Ceilings and Floors

Competition

Marginal Analysis

Voluntary National Content Standards in Economics

<https://www.fte.org/teachers/teacher-resources/voluntary-national-content-standards-in-economics/>

STANDARD 8: THE PRICE SYSTEM

Prices send signals and provide incentives to buyers and sellers. When supply or demand changes, market prices adjust, affecting incentives.

STANDARD 9: ROLE OF COMPETITION

Competition among sellers lowers costs and prices, and encourages producers to produce more of what consumers are willing and able to buy. Competition among



buyers increases prices and allocates goods and services to those people who are willing and able to pay the most for them.

STANDARD 16: ROLE OF GOVERNMENT:

There is an economic role for government to play in a market economy whenever the benefits of a government policy outweigh its costs. . . .

STANDARD 17: PUBLIC CHOICE

Costs of government policies sometimes exceed benefits. This may occur because of incentives facing voters, government officials, and government employees, because of actions by special interest groups that can impose costs on the general public, or because social goals other than economic efficiency are being pursued.

Presentation Guidelines and Suggestions

1. Begin by reviewing the model of open markets built in the previous lesson.
2. Emphasize the importance of institutions and the rules of the game. Develop examples of results of interference in markets by governments.
 - Discuss relationship among poverty, rule of law, property rights, etc. *(See slide of Transparency International map of countries by corruption index.)*

Optional Mini Activities:

- A. **Run additional rounds of the “In the Chips” activity** to introduce market frictions caused by government regulation.
- Direct students to resume their original roles in the “In the Chips” activity from the first session of the morning, so that there are relatively equal numbers of buyers and sellers. Distribute buyer and seller cards as needed.
 - Announce that sellers’ products must now be inspected and certified as authentic before they can be sold.
 - Appoint 5 teachers as government inspectors to carry out the certification process. Sellers must take their cards through all 5 levels of inspection in order to receive certification to sell. Fully certified products have the initials of all 5 inspectors on the back.
 - Appoint one teacher to be in charge of handing out **new** cards. Sellers must get a new, *uncertified* card after each transaction. *(Note: If there are not enough seller cards, it’s ok to reuse the old ones if you give the teacher a marker to X-out the previous certifications before handing out the card again.)*
 - Announce changes in the game:



- Buying or selling with an uncertified card is a criminal offense.
- *Buyers* are now responsible for reporting the transaction prices.
- Run one or two rounds as needed and as time allows.
- Display the results and the results of the earlier rounds run by the mentor teacher. *(Expect fewer transactions and, possibly, a more volatile price than in the earlier rounds.)*

Discussion questions:

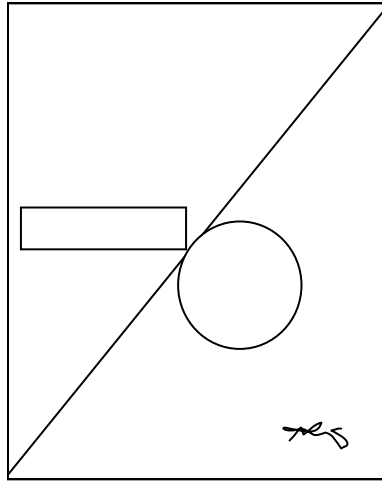
- What was the cost of regulating this market?
- What anticipated benefits might motivate such regulation?
- What happens when government affects the speed at which the market can function? How are the wealth-creating benefits of trade affected by the government certification system?
- Predict: What kinds of things might happen between buyers and the government to speed up the process? *(Be alert to whether bribery or cheating occurred in the market - unlikely as only a few rounds are played, but possible. Even if you don't observe bribery or cheating, you should be able to observe frustration and build the discussion from there.)*
- Discuss other ways in which government actions can impede markets: For example:
 - developing countries where governments limit or impose substantial taxation on certain types of imports;
 - protection of domestic producers;
 - protection of consumers.

(Help students to identify who is helped and who is hurt. Help students to recognize that good intentions may produce unintended consequences and that economic reasoning and identifying incentives helps us to predict outcomes.)

- B. **Support for Student Artists Program:** Introduce students to a new government welfare program – Support for Student Artists. Explain that to participate in the program, student artists must complete an application and provide an exact dimensional drawing. The program offers \$10 to each student who successfully completes the application and drawing.
- Recruit 5 teachers and provide them with rulers to judge students' artwork.



- Recruit 5 teachers to read student applications.
- Provide students with one sheet of lined paper and one sheet of unlined paper.
- Display the application instructions (below) on the screen for exactly one minute.
 - 1) Write in block letters.
 - 2) Print your full name on the first line on the upper right side of the lined paper.
 - 3) Beginning on line 4, describe who inspired your art in no more than 25 words *and* three sentences.
 - 4) Skip two lines and list alphabetically the course title of all art classes you have completed in school. If none, then write NONE in capital letters.
 - 5) Indicate on the next to last line whether you have applied for a government grant in the past.
 - 6) Sign and date the application using your own signature.
 - 7) Complete the dimensional drawing freehand, without use of a ruler, on the unlined paper. The drawing and directions will be displayed for exactly 1 minute.
- Display the drawing instructions (below) on the screen for exactly one minute.
 - 1) Draw a straight line from the upper right corner to the lower left corner.
 - 2) Draw a circle with a radius of 2" that is tangent to the middle of the straight line from below.
 - 3) Beginning at the point of tangency, draw a rectangle that is 1" tall and 3" long, and lies above the straight line.
 - 4) Print your name in the bottom right of the drawing no closer than 1" to the bottom and right edges of the paper.
 - 5) The drawing should look like:



- Provide teachers with copies of the directions and instruct them to apply the government rules exactly as stated and to reject any applications and drawings with errors.
 - After giving grant money to any “successful” student artists, discuss with students the (often) high cost of complying with government rules.
 - Some government rules may improve the operation of markets – such as enforcement of property rights, while others may create frictions, such as license and testing requirements that serve to limit competition. (Ex: London taxi drivers must study for months and memorize every street in and around London to pass the license test, even though a GPS system can give them perfect directions.)
 - Ask students why a government grant program for student artists may have a lengthy application and difficult drawing rules. Explain that this is a form of rationing limited resources.
3. Using an adaptation of the **1 vs. 100** game show, provide students with practice problems that foster discussion of the following: (*See practice problem options below and on slides.*)
- price controls for minimum prices (e.g., minimum wage)
 - Surplus and unemployment
 - Effects of less skilled and unskilled workers (e.g., teenagers)
 - Effects on higher skilled labor market (i.e., delay new entry).



- price controls for maximum prices (e.g., rent controls)
 - Shortages and then “black markets” develop to solve the allocation problem.
 - The future supply and quality of rental housing declines.
 - Non-price rationing methods arise.
 - Long-term renters benefit at the expense of newcomers.
- 1. Quantity rules and restrictions (e.g., import quotas on sugar).
- 2. Indirect effects and unintended consequences

Economics 1-vs-100 Game

- Direct students to choose partners and to sit with their partners. (*Option: Allow some teachers to partner with individual students or to team up. Ask the more experienced economics teachers to serve as judges and money collectors.*)
- Give each team \$3 dollars.
- Announce that each round will have 3 questions using the market analysis tools that have been presented in the morning sessions.
 - Each question is worth \$1. Teams that answer the question correctly keep their dollars. Teams that answer incorrectly forfeit their dollars to the pot.
 - Answers must be written when time is called. Teachers circulating through the room will check answers and collect dollars for incorrect answers.
 - After 3 questions, teams that still have their original \$3 (*have answered all 3 questions correctly*) will decide (majority vote) whether to split the pot or keep it in the pot for the next round.
 - At the beginning of the next round, all teams are again given \$3 to start the round. (*No one is eliminated as in the TV show.*)
 - Repeat the process for successive rounds. Note that everyone plays in each round; there are no dropouts as in the TV show.
 - Suggested length: at least three rounds (9 questions).



1 vs. 100 Game Sample Problems: *(See slides.)*

ROUND 1:

Display the Rising Hummus Prices scenario.

Rising Hummus Prices? Blame a drought a half a world away. New York Times, 2/8/2018

https://www.nytimes.com/2018/02/08/business/hummus-chickpeas-prices.html?rref=collection%2Ftimestopic%2FFood%20Prices%20and%20Supply&action=click&contentCollection=timestopics®ion=stream&module=stream_unit&version=latest&contentPlacement=4&pgtype=collection

- *Insufficient rains in India have resulted in several years of poor harvests of chickpeas, the main ingredient in hummus. The country, by far the world's largest producer of chickpeas, mostly grows the legume for domestic consumption. But worse-than-expected harvests mean that it has had to buy more chickpeas from growers elsewhere, putting pressure on supplies worldwide.*

Questions:

1. Use supply and demand to explain what happened to price and quantity of chickpeas.
 - a. Supply increased, price and quantity both increased
 - b. Supply decreased, price increased, quantity decreased**
 - c. Demand decreased, price increased, quantity decreased
 - d. Demand decreased, price and quantity both decreased.
2. Hummus has grown in popularity in the U.K. Chickpeas are the major ingredient for Hummus. Predict what subsequently happened in the British market for hummus?
 - a. The supply of hummus decreased because the cost of production increased.**
 - b. The supply of hummus increased because chickpea prices increased.
 - c. Trade agreements between India and the UK set a high price on hummus in both countries.
 - d. The demand for hummus by British consumers decreased in response to higher prices of chickpeas.
3. Which is not a predictable response to the drought in India.
 - a. Consumers of chickpeas will look for substitutes
 - b. Anticipating higher future prices, U.S. farmers plant more chickpeas.



- c. Scientists from Scotland and Ethiopia jointly explore the development of drought-resistant chickpeas.
- d. **Indians import less chickpeas.**

ROUND 2

Display the minimum wage scenario (see slides).

- As of May, 2019, 29 states have minimum wages higher than the federal minimum wage of \$7.25/hr. Massachusetts and Washington currently have the highest minimum wages at \$11/hr and NYC has a \$15/hr min wage for employers with 11 or more employees.

Questions:

1. The purpose of minimum wage legislation is to make employers pay more than they would otherwise – that is, more than they would in an open market. Which of the following should we expect to happen when the minimum wage is set above the “prevailing wage” that occurs in a labor market?
 - a. There will be higher incomes as everyone will be paid more.
 - b. The increase in minimum wage encourages people to find a better balance between work and home life.
 - c. **The quantity supplied of labor increases as more people move into the labor market seeking higher paying jobs.**
 - d. Businesses will raise prices as this is just a cost to be passed on to consumers.
2. Suppose that the minimum wage is increased but it is below the “prevailing wage” in the labor market. What would you expect to happen in this situation?
 - a. The quantity of labor demanded will increase.
 - b. Many new firms will succeed in hiring new employees at the minimum wage instead of the “prevailing” wage.
 - c. The higher minimum wage will cause more workers to seek jobs overseas.
 - d. **The higher minimum wage will attract more low-paid, unskilled workers to the United States seeking lawful employment.**
3. If raising the minimum wage to \$7.25/hour is a good idea, why doesn’t Congress make it a better idea and raise it to \$20 or even \$100
 - a. We should. A \$20 minimum wage would add more money to the economy.



- b. Too many people would enter the labor market and find jobs at these higher wages, so that households would fall apart.
- c. At these wage rates, people wouldn't go to college and there would be shortages of skilled labor.
- d. **Higher wages will eventually increase unemployment and business failure.**

ROUND 3

Show Ghana and EU Banana Imports video. <http://www.youtube.com/watch?v=blvxPshCDe4>
watch 6:31 – 10:00

The European Union is the biggest market in the world for bananas, so a significant share world production is shipped to the EU. The EU regulates the banana trade with country-specific volume quotas, import licenses, tariffs, and size and quality restrictions, to the disadvantage of banana producers in developing countries. (See also <http://www.banana.com/farming.html>)

Questions:

1. What is the effect of restrictions on banana length and weight (i.e., bananas must be long and heavy) on the market for bananas in the European Union?

(The equilibrium price increases and consumers' choices are restricted. Explain further that such restrictions keep out particularly desirable varieties, such as the apple banana - tastes like apple - and the Lady's Finger, which is sweet and creamy. Both of these are small in size and weight.)

2. Since EU member countries don't have commercial banana growers, why does the EU place such restrictions on its own consumers? (Who benefits?)

(Growers of other fruits. The EU countries do not grow bananas but they grow other fruits, which are substitutes. Making imports conform to size and weight not only raises the cost, but also means that the bananas coming in are less sweet, which also encourages the purchase of other fruits.)

3. At one point in the video, the packing of bananas shows that the cartons contain the label "FAIR TRADE." (See slide of Fair Trade logo.) Explain that bananas bearing the Fairtrade



Certification Mark (see <http://www.fairtrade.net/bananas.html>) have been produced by small farmer organizations or in plantations that meet very high *social and environmental* standards. Farmers who produce Fairtrade Certified Bananas are guaranteed a floor price (Fairtrade Minimum Price) to cover the average cost of production, and a Fairtrade *Premium* of 1US\$ per box of bananas to invest in social and economic initiatives in their communities.

What effect does FairTrade labeling have on the quantity demanded for Fair Trade labelled bananas? (*“It depends” because some consumers place a value on socially conscious consumption, they may seek out such products and be willing to pay more for them, which causes quantity demanded to increase. However, other consumers may not value such labels, and be unwilling to pay the higher price for these products, which causes quantity demanded to decrease.*)

ALTERNATE ROUND

Show “Bargaining With The Dentist” video: http://youtube.com/watch?v=5oog5O_LUSw

(Comedian on phone with dentist, negotiating for lowest price of a tooth extraction – which turns out to be for his wife. Excellent example of marginal analysis.)

Questions:

1. What principle of economics is illustrated in this video?

(Changing marginal cost of production. Also shows “willingness to pay” but the tag line at the end – “for the wife” – makes this a willingness to pay for the wife, not for him.)

2. You have or you probably know someone who has bargained for something – a used car, a house, even goods at a flea market. Why don’t we bargain for more goods and everyday goods like clothes or hamburgers or gasoline?

(Bargaining takes time, so we equate the marginal cost of the activity to the marginal benefit. It’s not worth it for most purchases.)

3. How has the internet affected the amount of bargaining in our economy and why?

(Increased bargaining activity by reducing marginal cost.)