



ECONOMICS IN ONE VIRUS: CHAPTER 10

Why was there no hand sanitizer in my pharmacy for months?

BY STACI GARBER

GRADE LEVEL: 6-8 (INTRODUCTORY)

TIME ESTIMATE: 100-120 MINUTES

Lesson Overview

Students will examine examples of price gouging in the early days of the coronavirus epidemic. Students will take ethical positions on the necessity of price-gouging legislation. Students will gain understanding of the function of the forces of supply and demand in setting prices and allocating goods and services in a market economy. Students will evaluate the effects of anti-price-gouging laws and tactics on short- and long-run supply of necessary goods and services.



Objectives

- Students will be able to explain how determinants of supply and demand affect market equilibrium prices.
- Students will be able to evaluate the effect of price-gouging restrictions on necessary goods and services in an emergency.

Vocabulary

- Demand
- Price gouging
- Supply

Materials

- AP photo of sanitizer price gouging
- Agree and Disagree signs for the classroom
- Quotes from politicians
- Vocabulary Graphic Organizers
- Sanitizer excerpt reading
- Demand worksheet
- Supply worksheet
- Price-gouging excerpt
- Exit ticket

Pework (if applicable)

The teacher should hang the Agree and Disagree signs in corners of the room in advance if possible. It may be helpful for students to conceptually understand supply, demand, and how market equilibrium price and quantity are determined. It might be helpful to understand how to graph these, but it is not necessary if you can quickly demonstrate how the graphing works.

Warm-Up

- Students will view the AP photograph of sanitizer price gouging
- Students will complete a graphic organizer in which they identify what they notice, think, and wonder
- Students and teacher will discuss photo using guiding questions:
 - What is happening in the picture?
 - Why might there be a shortage of hand sanitizer?
 - Is there any reason the hand sanitizer might have been particularly important in 2020?
 - Are there other things people could have used instead of hand sanitizer?
 - Are these prices fair? Why or why not?

Lesson Activities

• Quotes Agree/Disagree Gradient Activity

- Have students stand. Indicate which side of the room represents agreement with the quotes and which side represents disagreement.
- Have students respond to each of the quotes by standing on the side of the room that represents their opinion. If students choose to stand in the middle, this is a great opportunity to ask why they are conflicted. Students without any knowledge of supply and demand will probably agree with all the statements.
- It may be worthwhile to give students copies of the statements and have them each draw an X on the gradient to represent their degree of agreement with the statements.
- These statements will be revisited at the end of the lesson.

• Vocabulary preview

- Break students into pairs to discuss vocabulary graphic organizers. You may want to complete one graphic organizer as a whole group and let students complete the rest in the pairs.
- Have students complete the vocabulary preview worksheet graphic organizers
 - Demand
 - i. *These are the goods and services buyers are willing and able to purchase in markets.*
 - ii. *See the graphic organizer for more details.*
 - Price gouging
 - i. *This is when the seller increases the price of a good or service to a level higher than what is considered reasonable or fair.*
 - ii. *See the graphic organizer for more details.*
 - Supply
 - i. *Supply is the goods and services producers are willing and able to take to market.*
 - ii. *See the graphic organizer for more details.*

• Sanitizer excerpt reading and application

- Ask students to review what they know or remember about the early days of the COVID-19 pandemic.
- Have students read the sanitizer excerpts and answer questions in pairs. You may split these pairs into three groups that specialize in each excerpt and have those groups share their learning in a jigsaw manner if you choose. Similarly, you can model with the first excerpt and have students complete the second and third on their own.
- Review questions and graph
 - Excerpt A

- i. *B*
- ii. *B*
- iii. *People were willing to pay more for hand sanitizer because they wanted it badly. Public health officials had talked about the importance of keeping hands clean.*

- Excerpt B

- i. *A*
- ii. *Producers can offer workers overtime or hire more employees.*

- Excerpt C

- i. *A*
- ii. *A*
- iii. *C*

- **Sanitizer excerpt reading and application**

- Have students read the sanitizer excerpt and answer questions.
- Review questions and the graph:
 - How was the demand for hand sanitizer affected by the coronavirus pandemic? Why?
 - i. *Consumers demanded more hand sanitizer at all price levels.*
 - ii. *This can be reflected on a graph by shifting demand to the right. Demonstrate this shift on the board or PowerPoint.*
 - What happened to the price of hand sanitizer as a result? Why?
 - i. *The price of hand sanitizer increased, especially for resellers.*
 - ii. *Demonstrate this with the graph you drew for question 1. Show that the equilibrium price of hand sanitizer should have increased.*
 - What should have happened to the supply for hand sanitizer? Why?
 - i. *Producers should have responded to the increase in price by producing more hand sanitizer.*
 - ii. *Show students how price would have actually recovered by graphing a shift in supply on top of your original graph.*
 - What should have happened to the quantity of hand sanitizer demanded? Why?
 - i. *The quantity of hand sanitizer demanded should have decreased as consumers would have reduced their consumption or switched to soap.*
 - ii. *This might be a good time to share the concept of substitute goods and graph the increased demand for soap.*

- **Check for understanding**

- Take a poll: Producers should be able to charge higher prices for essential products when there is a shortage.

- This is a pulse check. You can do this with a raise of hands, but if you have time, have students put themselves in a gradient based on how much they agree or disagree with the statement. This allows them to talk to each other to think more deeply about the issue.

IF YOU HAVE SHORTER CLASS PERIODS, THIS IS A GOOD PLACE TO CONCLUDE.

• Practicing with demand

- Show students the Shifts in Demand worksheet.
- Explain that the demand curve slopes down and to the right because consumers want to purchase higher quantities at lower prices and lower quantities at higher prices.
- Ask students what kinds of things would make them want higher quantities of something at all price levels. This lesson does not cover determinants of demand, but teachers can start with examples in the text that have already been discussed. People wanted more hand sanitizer because there was a pandemic and because hand sanitizer was something that might slow the spread. People wanted more soap because hand sanitizer became expensive. Students might talk about products becoming popular on TikTok. They might mention having a change in income. They might mention thinking that something is going to get more expensive later.
- Show students what happens when demand increases. The curve shifts to the right, raising price and quantity. Make clear that if consumers are responding to price or quantity, they are moving along the curve, not shifting it.
- Ask students what kinds of things would make them want less of something at every price level. These should be the opposites of the examples in the previous step.
- Show students what happens when demand decreases. The curve shifts to the left, which results in lower prices and lower quantities.
- Review responses
 - *Facemasks: demand increase based on expectations, tastes, and preferences; increase in price and quantity*
 - *Groceries: demand increase based on tastes and preferences; increase in price and quantity*
 - *Delivered food: demand increase based on tastes and preferences; increase in price and quantity*
 - *Dine-in restaurants: decrease in demand based on tastes and preferences; decrease in price and quantity*

- *Travel: decrease in demand based on tastes and preferences; decrease in price and quantity*
- *Movie theaters: decrease in demand based on tastes and preferences; decrease in price and quantity*
- *Home streaming services: increase in demand as a substitute, but this is really shifting tastes and preferences; increase in price and quantity*
- *Toilet paper: increase in demand based on expectations; increase in price and quantity*
- Teachers may extend this by asking students to brainstorm other effects like the loss of a job, the increase in outdoor gatherings, etc.
- **Shifts in supply practice**
 - Have students brainstorm responses to the following question: Other than price, what might make a producer willing and able to provide more of a product at every price level?
 - This lesson does not describe and define determinants of supply, but hopefully students will come up with answers that illustrate some of these. If a producer makes a technological advancement, they may be willing and able to supply more at every price level. If prices of inputs fall, a producer may be willing and able to supply more at every price level. If a government subsidizes an industry, a producer may be willing and able to supply more at every price level. If more suppliers enter a market, they will be willing and able to supply more at every price level.
 - Use the Shifts in Supply worksheet to illustrate that these changes shift the entire supply curve to the right, which will decrease price and increase quantities.
 - Remind students again that if producers are responding only to price and quantity, they are moving along the supply curve, not shifting the entire curve.
 - Ask students what might make a producer less willing and able to supply a good or service at every price level. These examples are the opposite of the first examples and may include broken machinery, higher input costs, or taxes on an industry.
 - Read the excerpt together.
 - Meat: decrease in supply; increase in price and decrease in quantity.
 - Have students in pairs generate at least one additional supply example.
 - Pairs should share their example and graph with the class.
 - Examples that are possible:
 - *Essential workers demand better pay: increase in input costs decreases supply of essential services, increasing price and decreasing the quantity of these services available.*

- *People open Etsy shops for homemade masks: increase in the number of producers increases supply, decreases price, and increases quantity.*
- *People who have lost their jobs start driving for DoorDash: increase in the number of suppliers increases supply, driving a decrease in price and an increase in quantity.*
- *Government gives grants to airlines to remain in operation: government subsidies lead to increase in supply, decrease in prices, and increase in quantity.*
- *People working from home decide to sell their vehicles: increase in suppliers willing to sell vehicles leads to increase in supply of used vehicles, which leads to a decrease in price and an increase in quantity.*
- *Government shuts down hair salons: Government embargo leads to reduced supply of haircuts given by people willing to perform these services in a client's home. This leads to a decrease in supply, increased prices, and decreased quantity.*

● **Price-gouging excerpts**

- Have students read the price-gouging excerpts and answer the open-ended questions.
- Again, you can break this process up and provide further supports, allowing students to work in pairs or small groups.
 - According to the excerpt, why are price increases desirable? Provide evidence from the text.
 - Price increases work to affect the behavior of consumers and producers. Consumers may buy fewer things, and producers may produce more.*
 - Students may answer on the supply side, the demand side, or both. They should provide evidence from the text.*
 - According to the author, is the charge of “price gouging” fair? Why or why not?
 - The author seems to imply that prices should be allowed to fluctuate.*
 - A sophisticated answer may include that prices are set by forces of both supply and demand and that charges of price gouging seem to imply that only producers are in control of the price.*
 - According to the excerpt, what are the effects of laws against price gouging? Provide evidence from the text.
 - Anti-price-gouging laws prevent small businesses from responding to demand even when large suppliers are concerned about their reputations.*
 - Anti-price-gouging laws create shortages. The author gives us the image of empty shelves.*
 - According to the excerpt, what is the effect of anti-price-gouging laws on consumers? Why?
 - The author tells us that the anti-price-gouging laws worsen shortages.*

ii. *The student should provide evidence from the text.*

● **Exit ticket**

- Repeat the activity from the warm-up.
- Note any changes in student opinion regarding the political statements.
- If students marked their positions on paper, have them compare their own original position to their new position.
- Discuss why student positions changed.

Why was there no hand sanitizer in my pharmacy for months?

Warm-Up



Michigan attorney general's office via AP

I noticed:	I think:	I wonder:

- Are the prices in the picture fair? Why or why not?

Agree



Disagree



Why was there no hand sanitizer in my pharmacy for months?

Political Statements

“No one should exploit people who are suffering.”

—Kamala Harris

Agree _____ Disagree

Why was there no hand sanitizer in my pharmacy for months?

Political Statements

“Price gouging on household necessities is shameful.”
—Elizabeth Warren

Agree _____ Disagree

Why was there no hand sanitizer in my pharmacy for months?

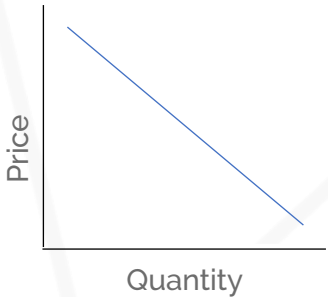
Political Statements

We should pass laws that prevent companies from raising prices for household necessities in an emergency.

Agree _____ Disagree

Why was there no hand sanitizer in my pharmacy for months?

Vocabulary Preview Sheet

What does demand look like to you?	What does demand sound like to you?	What demand is NOT:
Definition: the goods and services buyers are willing and able to purchase in markets	Demand	How to graph demand 
Use "demand" in a sentence.	Explanation: When prices are high, consumers demand fewer goods and services. When prices are low, consumers demand more goods and services.	Tell a story: When have you demanded a good or service?

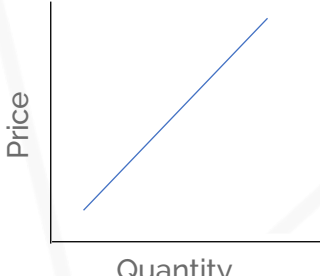
Why was there no hand sanitizer in my pharmacy for months?

Vocabulary Preview Sheet

What does price gouging look like to you?	What does price gouging sound like to you?	What price gouging is NOT:
Definition: when the seller increases the price of a good or service to a level higher than what is considered reasonable or fair	Price Gouging	Critical thinking: How do we know when a price is fair?
Use "price gouging" in a sentence.	Explanation: People usually accuse companies of price gouging if they think the product in question is something really important, especially for needy people. If there was a shortage of baby formula and baby formula tripled in price, there might be accusations of price gouging.	Tell a story: When might price gouging happen? Why?

Why was there no hand sanitizer in my pharmacy for months?

Vocabulary Preview Sheet

What does supply look like to you?	What does supply sound like to you?	What supply is NOT:
Definition: the goods and services producers are willing and able to take to market	Supply	How to graph supply 
Use "supply" in a sentence.	Explanation: When prices are high, producers will supply more goods and services. When prices are low, producers will supply fewer goods and services.	Tell a story: When have you supplied a good or service?

Why was there no hand sanitizer in my pharmacy for months?

Excerpt A

Most people don't usually use much hand sanitizer. Yet after public health officials talked of the importance of keeping our hands clean throughout the day, the want and need for it soared. Not just for individuals but for use in business settings too.

People rushed to buy up whatever they could, emptying the shelves over and over again as soon as they were refilled. There was a huge, unexpected expansion in **demand**. With stores out of the goods and customers' willingness to pay rising sharply, this near-term shortage was leading to sales at higher and higher prices in a smaller market online. People who really want something badly are often willing to pay vast amounts for it.

—*Economics in One Virus*, pp. 150–151

- According to the text, what happened to the demand for hand sanitizer?
 - Demand fell.
 - Demand rose.
 - Demand remained the same.
- According to the text, what was the effect of the increase in demand on the price of hand sanitizer?
 - Prices fell.
 - Prices rose.
 - Prices remained the same.
- According to the text, why were people willing to pay more for hand sanitizer? Provide evidence for your answer.

Why was there no hand sanitizer in my pharmacy for months?

Excerpt B

That very price rise ordinarily spurs a reaction from companies. With it becoming more profitable for many producers to **supply** more of a good to the market, they might hire some more workers or offer more overtime to ramp up production to meet demand.

—*Economics in One Virus*, p. 151

- What should happen to supply as prices of hand sanitizer increase?
 - Producers will be encouraged to supply more.
 - Producers will be discouraged and will supply less.
 - Producers will not react to the increase in prices.
- According to the text, how can a producer respond to the rise in prices? Provide evidence from the text.

Why was there no hand sanitizer in my pharmacy for months?

Excerpt C

The price rise would serve as an effective rationing device, partially reducing the quantity of sanitizer that would have been demanded had the price remained fixed. Those that placed higher value on obtaining sanitizer, such as businesses where having hand sanitizer is important to assure consumers that they are lowering their risks from the virus, would continue to pay for the amounts they needed. Others who might have picked up a bottle or two might now instead opt for soap.

As these two incentive effects play out, gradually the market would converge to a position where the supply of sanitizer was able to meet a higher demand at a new, higher price. Consumers would be paying higher prices, yes, but more sanitizer would be available than it was before. Pretty soon, there would be no shortages on the shelves.

—*Economics in One Virus*, p. 151

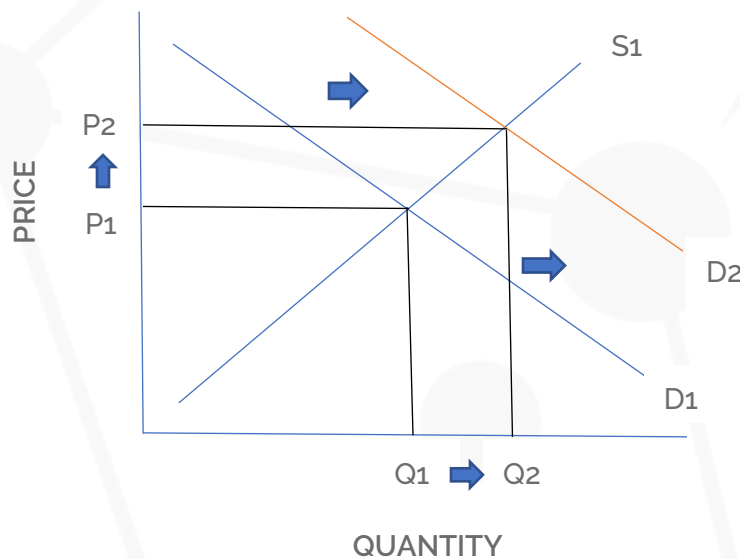
- According to the excerpt, why would rising prices “act as an effective rationing device”?
 - Some people would choose to buy soap.
 - People would buy sanitizer instead of other necessities.
 - Businesses would rather close than provide hand sanitizer for customers.
- According to the excerpt, what happens after both demand and supply have been adjusted?
 - Price would increase, and quantities would increase.
 - Prices would increase, and quantities would decrease.
 - Prices would decrease, and quantities would increase.
 - Prices would decrease, and quantities would decrease.
- According to the text, allowing both supply and demand to adjust to market forces avoids which economic problem?

- Scarcity
- Surpluses
- Shortages

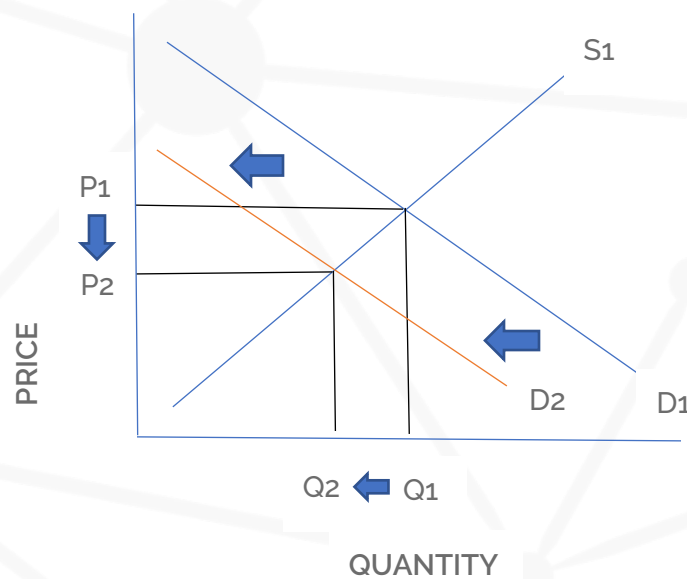
Why was there no hand sanitizer in my pharmacy for months?

Shifts in Demand

Demand increases shift the curve to the **RIGHT**. Price increases, and quantity increases.



Demand decreases shift the curve to the **LEFT**. Price decreases, and quantity decreases.



Why was there no hand sanitizer in my pharmacy for months?

Practicing with Demand

Excerpt:

Think of all the ways the pandemic severely disrupted **supply** and **demand** in product markets. On the **demand** side, we got the unexpected and sudden **demand** increases for goods perceived as “needed” for COVID-19 (such as facemasks and hand sanitizer). But there was also a **demand** surge and then ongoing elevated spending at grocery stores and for delivered food, because sit-in restaurants were first closed and then perceived as less safe to dine in. All that was mirrored by the opposite effect of collapsing **demand** on travel, recreation, and entertainment—industries with higher perceived risk of infection.

Consumers stocked up on some products, such as home toilet paper, out of precaution because they expected shortages. Then, in other sectors, we saw a big demand substitution, such as from movie theatres to home streaming.

—*Economics in One Virus*, p. 153

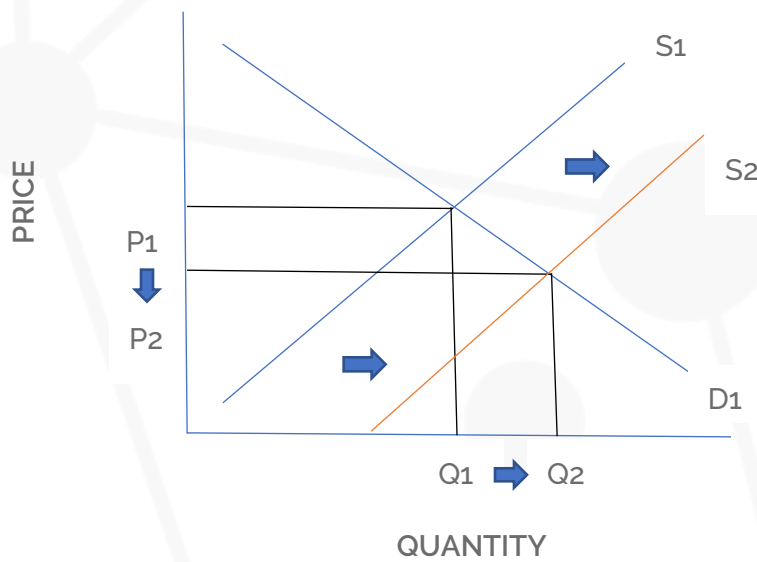
- Directions: For each example, circle the correct reaction in the market. The first example is done for you. Reference the sample graphs.

Market	Demand	Price	Quantity
Facemasks	Increase Decrease	Increase Decrease	Increase Decrease
Groceries	Increase Decrease	Increase Decrease	Increase Decrease
Delivered food	Increase Decrease	Increase Decrease	Increase Decrease
Sit-in restaurants	Increase Decrease	Increase Decrease	Increase Decrease
Travel	Increase Decrease	Increase Decrease	Increase Decrease
Movie theaters	Increase Decrease	Increase Decrease	Increase Decrease
Streaming services	Increase Decrease	Increase Decrease	Increase Decrease
Toilet paper	Increase Decrease	Increase Decrease	Increase Decrease

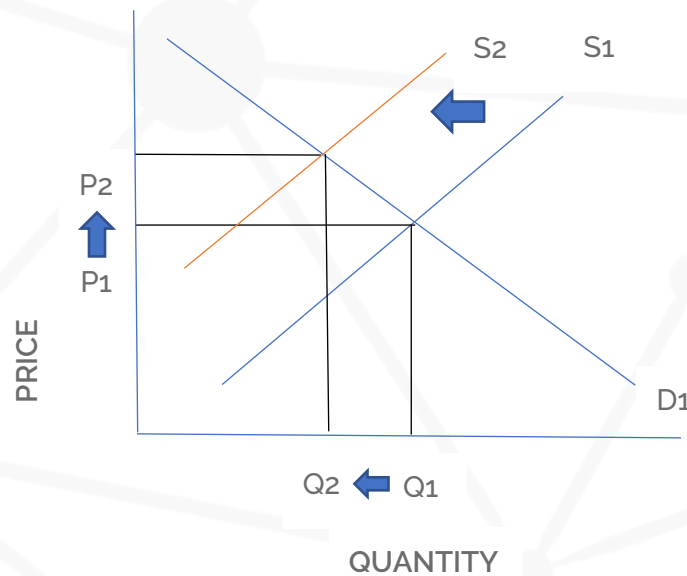
Why was there no hand sanitizer in my pharmacy for months?

Shifts in Supply

Supply increases shift the curve to the **RIGHT**. Price decreases, and quantity increases.



Supply decreases shift the curve to the **LEFT**. Price increases, and quantity decreases.



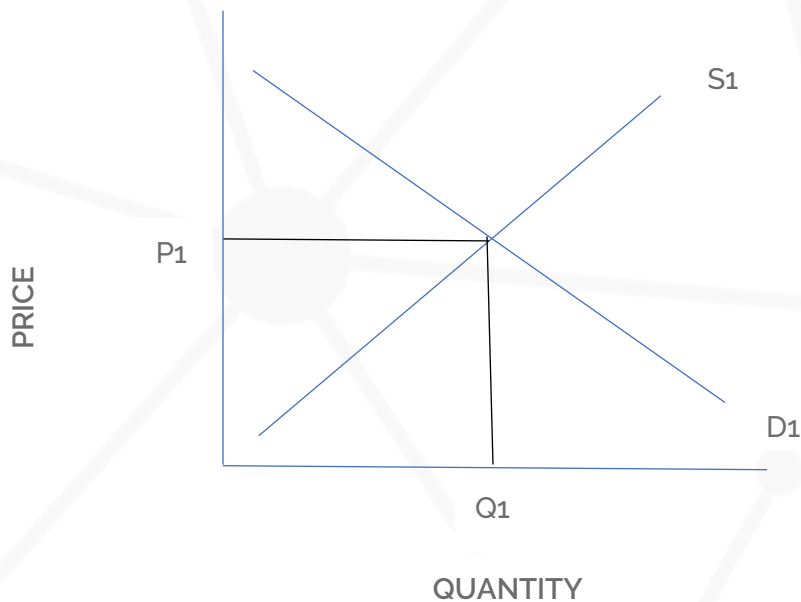
Why was there no hand sanitizer in my pharmacy for months?

Excerpt:

But it's not just the **demand** side. Travel and work restrictions, as well as the virus itself, disrupted **supply** chains. We saw meat shortages, for example, when meatpacking plants were closed after being found to be prolific virus transmission sites.

—*Economics in One Virus*, p. 153

- Directions: Generate an example of the way that COVID-19 may have affected the supply of a specific product in the market. Describe what happened and how supply was affected. Use the graph below to draw a new supply curve. Label the new supply curve S2. Label the market you are describing. Describe the effect of the shift in supply on price and quantity of the product.



- How did the shift in the supply of the product affect the market price and quantity of the product? Use your graph as evidence of your reasoning.

Why was there no hand sanitizer in my pharmacy for months?

Price-Gouging Excerpts

Excerpt A

Businesses might not want to adjust prices much when **supply and demand** varies within expected ranges. After all, it is costly to adjust prices, and they have to take into account how consumers will react to fluctuating prices in terms of willingness to search for alternative sellers. But these COVID-19 disruptions were so drastic that major price changes might be more likely to occur. What's more, these price changes would be desirable. Price increases in markets with surging **demand**, for example, would actively incentivize wholesalers to take time to redesign their products and build new relationships to fulfill our new needs. Rising prices would make us think twice as consumers about overbuying and hoarding toilet paper. Elevated prices for scarce goods would encourage those with big stocks of the products to bring them to market. And a bigger payoff for existing manufacturers would incentivize entrepreneurs to reengineer their businesses to the new realities, paying overtime or ramping up production to meet demand.

—*Economics in One Virus*, p. 154

- According to the excerpt, why are price increases desirable? Provide evidence from the text.

Excerpt B

Whereas market prices before an emergency are deemed good, fair, and reasonable, market prices that rise significantly during an emergency are dubbed bad, unfair, and unreasonable. Firms are accused of profiteering. Where once we understood that **supply and demand** determines what we pay for things, now we imply that companies have complete discretion to set prices at whatever level they like, irrespective of consumers' willingness to pay or the risk of being undercut by competitors. Hence the charge of **price gouging**.

—*Economics in One Virus*, p. 154

- According to the author, is the charge of “price gouging” fair? Why or why not?

Excerpt C

But the unwillingness by policymakers to allow the price mechanism to ration the goods means that those who need it most (and are willing to pay more for it) will often not be able to find the sanitizer, while the financial incentive to produce more, particularly for existing suppliers, gets smothered—resulting in empty shelves, at least until **demand** subsides somewhat. Although we might expect national brands to avoid raising prices out of concern for their reputations, anti-**price-gouging** laws also prohibit smaller convenience stores and existing online merchants from raising their prices to ensure **supply** meets **demand**. This eliminates the market safety valve of sellers who are less concerned with their reputations from providing the more expensive goods to those who really value them highly.

—*Economics in One Virus*, p. 159

- According to the excerpt, what are the effects of laws against price gouging? Provide evidence from the text.

Excerpt D

Price controls like this, in fact, have very negative short-, medium-, and long-term consequences. In the near term they encourage buyers to overpurchase and hoard. Those fortunate enough to be in the store when shelves are replenished buy more than they would have if prices reflected the reality of the situation. Meanwhile, these just-in-case purchases worsen shortages for others, who see their demands unmet, given the gap between the amount of the product available and the amount they want to consume at the regulated price.

—*Economics in One Virus*, p. 159

- According to the excerpt, what is the effect of anti-price-gouging laws on consumers? Why?