# Inflation, Costs of Production, Shifts of Supply Worksheet

(Answer Key is at the end of this document)

**News Article:** [Are rotisserie chickens 'inflation-proof'?](https://www.wsj.com/podcasts/the-journal/are-rotisserie-chickens-inflation-proof/0429fb64-b744-45ed-a5cf-01838afe573b) (October 10, 2022)

**Link:** https://www.wsj.com/podcasts/the-journal/are-rotisserie-chickens-inflation-proof/0429fb64-b744-45ed-a5cf-01838afe573b

**Description:** Students will either listen to a podcast, or read the transcript (available in the link) about the high inflation rate and rotisserie chicken that has mostly maintained its price despite the inflation. Then, students will be asked to answer questions related to production costs, inflation, and shifts of the supply curve. The worksheet will also ask students to calculate the percentage change of a price, and to apply the supply and demand model to real-world scenarios.

**Resource Type:** Inflation, Costs of production, and Supply and demand model in class or HW practice; Translate real world scenario into economic terms and analyze.

**Assumptions:** Students will need to be familiar with the concept of inflation. They will need to know how to calculate the percentage change of a price. Students will also need to be familiar with the supply and demand model, and should be able to analyze the effect of changes in supply and/or demand on the equilibrium price and quantity of the relevant goods.

**Learning Objectives:**

At the end of this worksheet, students will be able to:

1. *Understand the concept of inflation and apply it in real-world examples.*
2. *Identify complements.*
3. *Analyze possible reasons why inflation emerges.*
4. *Calculate the percentage change of a price given its initial and new value.*
5. *Apply the supply and demand model to real-world examples.*
6. *Identify the change in the equilibrium price and quantity as a result of a shift of the supply and/or the demand curve.*
7. *Identify methods firms utilize to reduce production costs.*

**Economics Vocabulary Used:**

Inflation, Costs of Production, Supply, Demand, Equilibrium, Profit, Loss

**Foreshadowed Topics:**

Loss leader, Complements, Competition

**Suggested Excerpts (based on the transcript of the podcast):**

"…grocery stores want to keep this beloved poultry dish [rotisserie chicken] affordable."
"… for a lot of shoppers, those chickens have been a golden goose, especially now when consumers are feeling the pinch from the worst inflation in decades."
"It's [rotisserie chicken] the one dependable thing at the grocery store right now. Food packages are getting smaller, the selection's getting smaller, prices are going up. So just seeing those chickens spinning on the spigot in the back of the store just like they always have been, it's really one of the only things that hasn't changed since the pandemic, since the inflation, when everything else seems to be getting more expensive."
"…rotisserie chicken has stayed inflation proof. Americans love rotisserie chicken. They eat nearly a billion a year."
"And along with the rotisserie chicken, Boston Market sold its warm, homey sides."
"Kenny Rogers used his name to start this restaurant chain to compete with Boston Market and they did really well too. All these chains, they're also finding a way to do it in mass and to really scale up to reduce costs so that they can do it for a really, really cheap price. So that's kind of how the industry started learning how to scale up these operations."
"Boston Market was really smart and they strategically put their locations near grocery stores thinking people will go to the grocery store, pick up their groceries for the week, but by then they won't have enough time to cook for the night so then they can drive through and get a meal for that night. And that made the grocery stores take notice."
"By the mid nineties, supermarket chains had caught on. In 1994, Costco and Kroger began selling rotisserie chickens, and soon these chickens were the top selling hot food item at many grocery stores."
"Costco, hands down. They have just made it [rotisserie chicken] a huge selling point, a huge priority. They made rotisserie chickens their thing."
"First, Costco wasn't really doing anything different than anybody else, but over the years, everybody else started raising their prices and Costco has maintained them at 4.99 despite inflation, despite labor costs..."
"But now the humble 4.99 rotisserie chicken faces a big challenge; rising food costs and inflation, which are putting many products out of reach for shoppers."
"Inflation right now is the highest it's been since before the dawn of Boston Market and the rotisserie craze."
"Inflation is being driven by weather issues, pandemic issues, the war in Ukraine, there's just so many factors hitting the food supply right now."

“Has the price of raw chicken gone up too? Yes. And their feed costs are up. There's labor shortages, so labor costs are up, fuel costs are up. So poultry products in general are rising a lot this year. Yet somehow for the most part, rotisserie chickens are maintaining their prices. So if the price of raw chicken is going up but the price of rotisseries aren't, then supermarkets must be losing in there somewhere.”

“And there's a strategy in grocery for selling things that may be at a price below what the grocery paid for them.”

“A loss leader. Stores keep prices down on things like milk and eggs and hot dog buns, sometimes losing money because it gets shoppers in the store where hopefully they'll spend on other items.”

“… they're [Costco is] very strategic about where they put the chickens in the store and getting the size right.”

“Costco's strategy was tested in 2015 when an outbreak of the avian flu killed millions of chickens, and prices for eggs and poultry soared. And what happened to the price of Costco's chickens that year? Nothing.”

“After losing millions to keep rotisserie priced at 4.99, Costco made a big investment, to help keep rotisserie costs down. In 2019, the company spent $450 million to open a chicken plant in Nebraska.”

“… other companies seem to be dedicated to keeping rotisserie chicken prices low too. At Sam's Club, they're 4.98. At Kroger, I [one of the speakers in the podcast] saw one listed for 7.99.”

“If it got so bad that even Costco raised prices on rotisserie chickens, it's like a barometer, like an economic index, the rotisserie chicken economic index. It would signal that we've entered a whole new level of inflation and a whole new era for consumers that this is not something they can rely on anymore.”

## I. In-Class Discussion Questions:

Either read the transcript, or listen to this podcast. Then, answer the following questions.

1. According to the podcast, “food at home prices increased by 11.9% year over year,” and “dairy products went up 2.9% last month. Grains and bakery products 1.5%, meat went up 1.1% and eggs 5% in just one month.” “The typical American household now spending $250 more a month to purchase the same goods that they did last year.” “But that classic golden brown rotisserie chicken has bucked this trend.” Which of the following statements summarizes the gist of these excerpts?
    a. Rotisserie chicken has followed the rising prices trend of most food items, and its price has gone up by 1.1%.
    b. Because of the high inflation rate, consumers spend $250 more on rotisserie chicken a month.
    c. Despite the high inflation and the prices of many products rising, the rotisserie chicken has maintained its price.
    d. The purchasing power of consumers has increased, and they have become more willing and able to buy rotisserie chicken.
2. Which of the following has happened since the Covid-19 pandemic and the inflation trend started?
    a. The selection has become smaller.
    b. The price of rotisserie chicken has stayed mostly the same.
    c. Food packages have become smaller.
    d. All of the above.
3. Approximately how many rotisserie chickens do Americans consume per year?
    a. 1 million
    b. 2 million
    c. 1 billion
    d. 2 billion
4. According to the article, “along with the rotisserie chicken, Boston Market sold its warm, homey sides. Real mashed potatoes, squash and brown sugar, honey baked beans, glazed carrots and tarragon butter, all made from scratch immediately available and warm.” This implies that rotisserie chicken and the “warm, homey sides” are:
    a. Complements
    b. Substitutes
    c. Normal goods
    d. Inferior goods

5. According to the article, which of the following strategies did the Boston Market and Kenny Roger's chain of restaurants adopt to be able to offer a low price on rotisserie chicken?
    a. They were buying chickens near the expiration date at a discounted price.
    b. They were raising chickens to reduce production costs.
    c. They were taking advantage of mass production methods to reduce production costs.
    d. They were reducing the size of the chickens to keep the price per chicken low while practically increasing the price per pound.

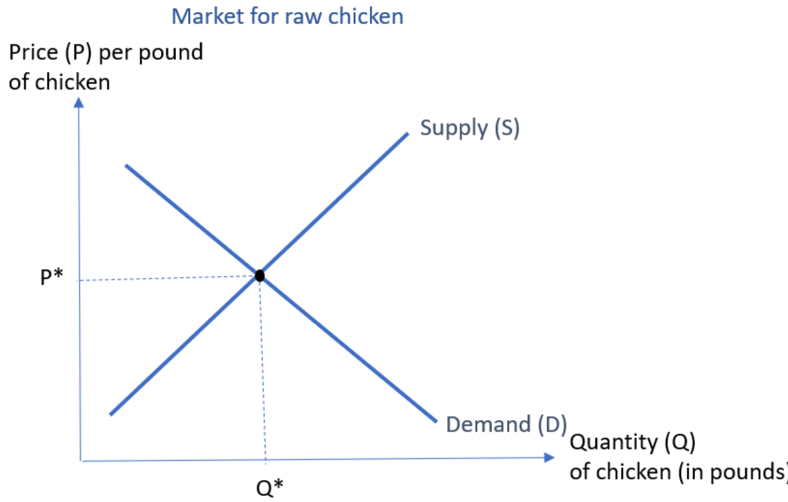
6. Which grocery store has made rotisserie chicken "a huge selling point, a huge priority," "their thing," and while competitors have been increasing prices of the good, it "has maintained them at 4.99 despite inflation, despite labor costs"?
    a. Costco
    b. Kroger
    c. Walmart
    d. Boston Market

7. The article explains that "inflation right now is the highest it's been since before the dawn of Boston Market and the rotisserie craze," and "in May [2022], inflation was higher than it had been in over 40 years." What reasons that cause inflation does the podcast provide?

8. One of the speakers in the podcast says that she "used to always get 10 [cups of Chobani yogurt] for $10" while "now the deal they [the grocery stores] were advertising recently was two for $3." Given this information, what is the percentage change in the price of a cup of Chobani yogurt?

9. The article explains that chicken's feed costs, labor and fuel costs have increased. What is the effect of these changes on the market for raw chicken?
    a. Demand shifts right.
    b. Demand shifts left.
    c. Supply shifts right.
    d. Supply shifts left.

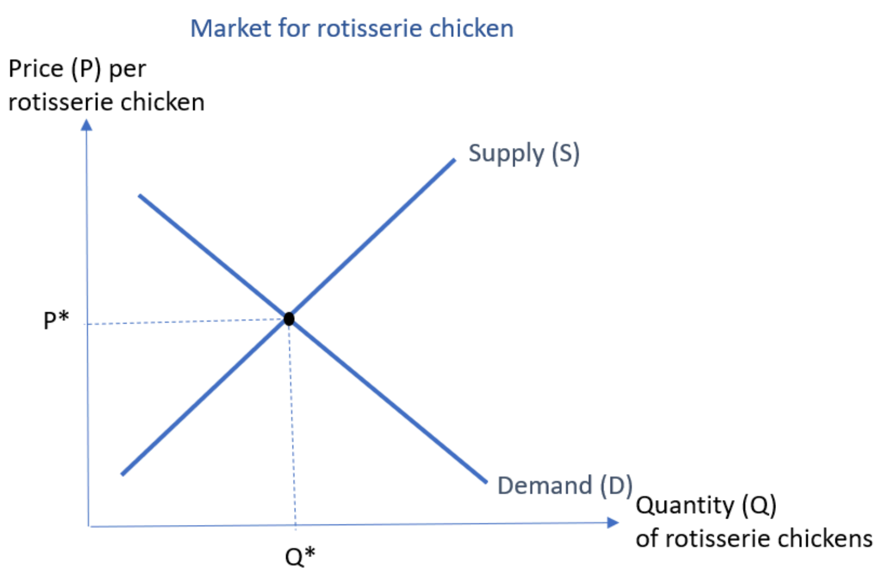
10. The following graph shows the supply and demand curve for raw chicken. Given your answer to the previous question, show the effect of the changes described in Question 9 on the graph below. What happens to the equilibrium price of raw chicken?




11. Given the change in the price of **raw chicken** that you identified in Question 10, what is expected to happen in the **market for rotisserie chickens** which are made from raw chickens?

a. Demand shifts right.
b. Demand shifts left.
c. Supply shifts right.
d. Supply shifts left.

12. The following graph shows the supply and demand curve for rotisserie chicken. Given your answer to the previous question, show the effect you identified in Question 11 on the graph. Using the supply and demand model, what is expected to happen to the equilibrium price of rotisserie chicken?




13. In regard to the counterintuitive constant price of rotisserie chicken in Costco, the article explains that the store has adopted a strategy for selling rotisserie chickens "at a price below what the grocery paid for them." Other grocery

stores “keep prices down on things like milk and eggs and hot dog buns, sometimes losing money because it gets shoppers in the store where hopefully they'll spend on other items.” In other words, they “take a loss on one item for another gain and that other gain might be that it brings more people in and causes people to spend money elsewhere in the store.” Stores sometimes increase the price of other goods too. What is this strategy called?

a. A loss winner
b. A loss leader
c. A profit leader
d. A profit winner

14. True or False? The outbreak of the avian flu that killed millions of chickens in 2015 led to a decline in the supply of chickens, and thus, an increase in the price of the good, so Costco increased the price of its signature product to avoid making a loss.

15. According to the article, what did Costco do in 2019 to reduce the production cost of rotisserie chicken and to be able to keep its price as low as possible?

16. Do you think Costco will ever increase the price of its rotisserie chicken? Why or why not?

## Answer key:

Answers in **bold.**

1. According to the podcast, “food at home prices increased by 11.9% year over year,” and “dairy products went up 2.9% last month. Grains and bakery products 1.5%, meat went up 1.1% and eggs 5% in just one month.” “The typical American household now spending $250 more a month to purchase the same goods that they did last year.” “But that classic golden brown rotisserie chicken has bucked this trend.” Which of the following statements summarizes the gist of these excerpts?
   a. Rotisserie chicken has followed the rising prices trend of most food items, and its price has gone up by 1.1%.
   b. Because of the high inflation rate, consumers spend $250 more on rotisserie chicken a month.
   **c. Despite the high inflation and the prices of many products rising, the rotisserie chicken has maintained its price.**
   d. The purchasing power of consumers has increased, and they have become more willing and able to buy rotisserie chicken.
2. Which of the following has happened since the Covid-19 pandemic and the inflation trend started?
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b. They were raising chickens to reduce production costs.
**c. They were taking advantage of mass production methods to reduce production costs.**
d. They were reducing the size of the chickens to keep the price per chicken low while practically increasing the price per pound.

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7. The article explains that "inflation right now is the highest it's been since before the dawn of Boston Market and the rotisserie craze," and "in May [2022], inflation was higher than it had been in over 40 years." What reasons that cause inflation does the podcast provide?

**Answer: Answers will vary. The article states that "inflation is being driven by weather issues, pandemic issues, the war in Ukraine, there's just so many factors hitting the food supply right now."**

8. One of the speakers in the podcast says that she "used to always get 10 [cups of Chobani yogurt] for $10" while "now the deal they [the grocery stores] were advertising recently was two for $3." Given this information, what is the percentage change in the price of a cup of Chobani yogurt?

**Answer: Given the information, the price of one cup of yogurt increased from $1 to $1.50.**

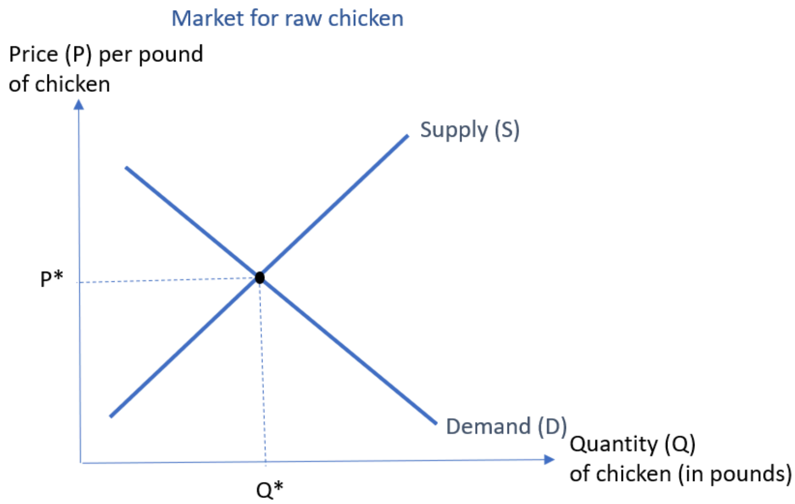
**% change = [(new value - initial value)/ initial value] * 100% = [(1.50 – 1)/1] * 100% = 0.5*100% = 50% increase.**

9. The article explains that chicken's feed costs, labor and fuel costs have increased. What is the effect of these changes on the market for raw chicken?

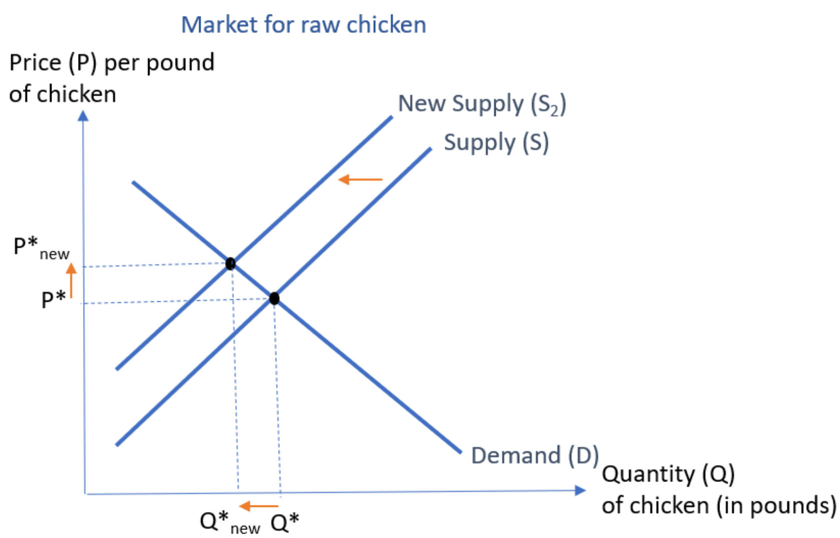
a. Demand shifts right.
b. Demand shifts left.
c. Supply shifts right.
**d. Supply shifts left.**

**Answer: The listed changes increase the costs of producing chicken. Therefore, supply decreases, represented by a shift of the supply curve for raw chicken to the left.**

10. The following graph shows the supply and demand curve for raw chicken. Given your answer to the previous question, show the effect of the changes described in Question 9 on the graph below. What happens to the equilibrium price of raw chicken?




**Answer: The following graph shows the effect. A shift of the supply curve to the left leads to an increase in the equilibrium price and a reduction in the equilibrium quantity of raw chicken.**

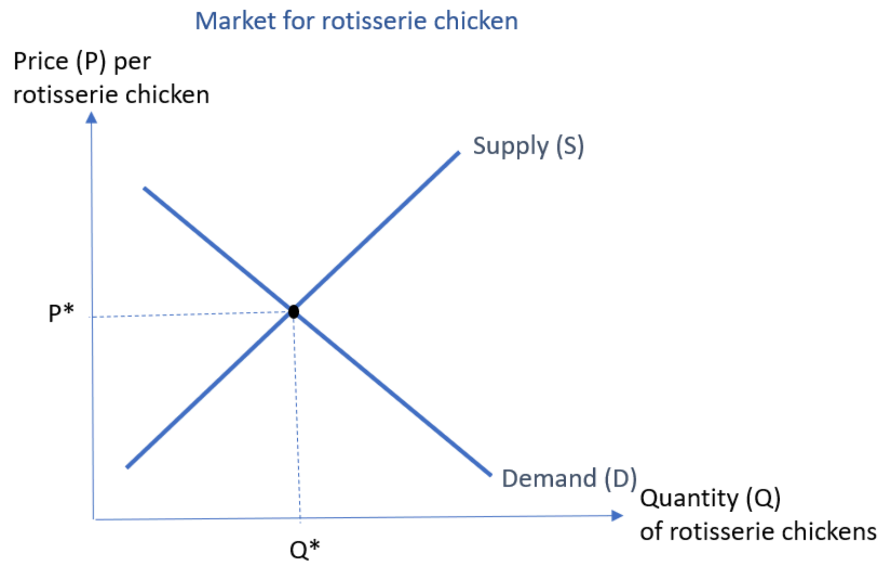



11. Given the change in the price of **raw chicken** that you identified in Question 10, what is expected to happen in the **market for rotisserie chickens** which are made from raw chickens?

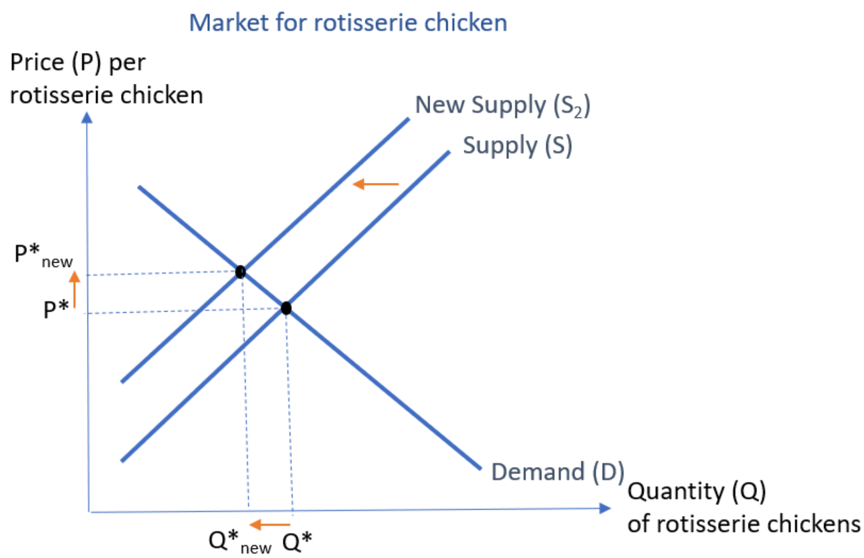
a. Demand shifts right.

b. Demand shifts left.
c. Supply shifts right.
**d. Supply shifts left.**
**Answer: An increase in the price of raw chicken (an input for rotisserie chicken) increases the production cost of rotisserie chicken. Higher production costs lead to a shift of the supply curve to the left.**

12. The following graph shows the supply and demand curve for rotisserie chicken. Given your answer to the previous question, show the effect you identified in Question 11 on the graph. Using the supply and demand model, what is expected to happen to the equilibrium price of rotisserie chicken?




**Answer: The following graph shows the effect. A shift of the supply curve to the left leads to an increase in the equilibrium price and a reduction in the equilibrium quantity of rotisserie chicken.**




13. In regard to the counterintuitive constant price of rotisserie chicken in Costco, the article explains that the store has adopted a strategy for selling rotisserie chickens “at a price below what the grocery paid for them.” Other grocery stores “keep prices down on things like milk and eggs and hot dog buns, sometimes losing money because it gets shoppers in the store where hopefully they'll spend on other items.” In other words, they “take a loss on one item for another gain and that other gain might be that it brings more people in and causes people to spend money elsewhere in the store.” Stores sometimes increase the price of other goods too. What is this strategy called?

a. A loss winner
**b. A loss leader**
c. A profit leader
d. A profit winner

14. True or **False**? The outbreak of the avian flu that killed millions of chickens in 2015 led to a decline in the supply of chickens, and thus, an increase in the price of the good, so Costco increased the price of its signature product to avoid making a loss.

**Answer: False. In fact, Costco did not change the price of its rotisserie chicken, and “took a huge loss.” According to the article, it lost about $30-40 million in 2015 because it kept the price unchanged.**

15. According to the article, what did Costco do in 2019 to reduce the production cost of rotisserie chicken and to be able to keep its price as low as possible?

**Answer: It invested $450 million to open its own chicken processing plant in Nebraska.**

16. Do you think Costco will ever increase the price of its rotisserie chicken? Why or why not?

**Answer: Answers will vary.**