



# YOUR \$

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Floodwaters surround  
an orange tree in  
Frostproof, Florida,  
after Hurricane Irma,  
in 2017.

**What do natural disasters have to do  
with the price of oranges?**



**GOOD TIMES** A tractor is loaded with healthy, ripe oranges.

# THE PRICE OF PRODUCE

PRODUCT OF U.S.A.

3107



**BAD TIMES** This orange tree in Frostproof, Florida, was uprooted by Hurricane Irma.

**Next time you're in the grocery store, check the price of a gallon of orange juice. Understanding its cost takes you on a journey around the globe.**

Americans drink 20 million gallons of orange juice each year. Its price **fluctuates** widely. Why does orange juice or a chocolate bar or a cup of coffee cost what it does? And why do those prices go up and down? The answer to both questions is economics.

Economics is the study of how goods and services are produced, distributed, paid for, and consumed. Services include activities and events, like a haircut or train ride. Goods are things you can hold. And goods that are **raw materials**—like oranges, the cocoa beans used to make chocolate, and metals, like copper and silver—are called commodities.

For the rest of your life, you'll decide when to buy things based on their price. Is that price low or high? Is now a good time, or should you wait for a sale? We can learn a lot about prices by looking at commodities. Let's talk about orange juice.

## LET'S START IN FLORIDA

Farmers picking oranges are paid for every gallon of juice the fruit will produce. The price changes based on supply (how much is available) and demand (how much people want it).

About half the orange juice we drink in the U.S. comes from Florida. At the end of August, 2017, farmers were getting \$1.33 per gallon of juice. But on September 10, Hurricane Irma hit. The storm destroyed 30% of the orange crop. Fewer oranges lead to an increase in the farmers' price per gallon to \$1.65. That's almost 25% higher!

## NEXT, LET'S LOOK AT BRAZIL

Did everyone have to pay 25% more for orange juice in the grocery store? Not necessarily. Florida isn't the only place that grows oranges. Brazil grows even more of them. Brazil got a lot of rain and had a terrific growing season. Because of this, overall orange supply wasn't hurt.

## ADD IT ALL UP, WHAT DO YOU GET?

So where did the farmers' price of orange juice land? By the end of 2017, it was back down to \$1.39 per gallon. That was the result of more oranges from Brazil, consumers not wanting to pay more, and the damage in Florida not being as bad as original estimates.

In December, wildfires hit California. The fires damaged hundreds of thousands of acres of lemons. If anyone asks you why lemonade seems to be more expensive than usual, you'll be able to tell them why.

—Hayden Field

## COST OF PRODUCTION

Another big factor that affects the price of your favorite things is the cost of making them. Whether you're producing orange juice or creating a new robotic toy, you have to think about the cost of the materials, labor, machinery, and tools you'll need. And costs for labor and transportation go up for each additional person in the chain that handles a product.

On the other hand, if someone invents a new, easier, or cheaper way to make something, the price of that item goes down across the board. One great example from economic history is aluminum. It used to be so expensive that a king would eat his meals on an aluminum plate while his courtiers used silver plates, says David Weil. He teaches economics at Brown University, in Providence, Rhode Island. Then, in the 19th century, a new and inexpensive way to refine aluminum was invented. Now the metal is relatively cheap, and we buy it in rolls to wrap up our leftovers.

## Quick Quiz

- Q:** Can you think of something that costs more to make than it costs to buy?
- A:** A penny. Each penny is worth just a cent, but it costs a cent and a half to make. Do you think the U.S. should stop making pennies for this reason?



## Power Words

- fluctuate** *verb*: to shift back and forth in an unpredictable way; to rise and fall
- raw material** *noun*: basic material that can be converted into other useful products

# HOW EVENTS AFFECT PRICES

World events change the price of products you use every day. David R. Hammond, of the University of Colorado Denver Business School, helps us understand, using these three examples.

## COPPER VS. EARTHQUAKE

**February 2010: An 8.8-magnitude earthquake occurs off the coast of Chile.**

Chile exports one-third of the world's copper, which is used in electrical wiring, power lines, and building materials. The 2010 earthquake damaged Chile's ports, which export copper. The damage took a while to fix. Supply was down, and prices went up.



In 2009, before the earthquake, copper cost around \$2.33 per pound.



By 2011, post-quake, the average price of copper was \$4.01 per pound.

## EGGS VS. BIRD FLU

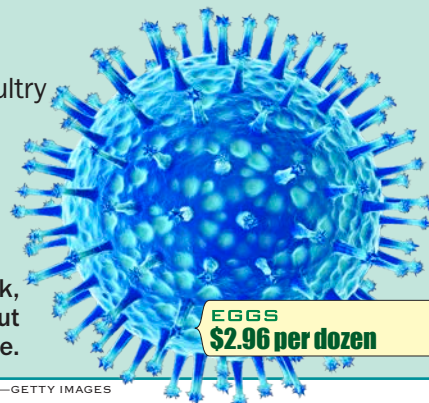
**April 2015: Wisconsin and Minnesota declare a state of emergency due to an outbreak of bird flu.**

Birds can catch the flu just like people. In 2015, a strain of "bird flu" infected chickens and other poultry in the U.S. Since there wasn't as much healthy poultry available, supply went down and prices rose.



In October 2014, before the bird flu virus spread, a dozen large grade-A eggs cost about \$1.95.

In September 2015, post-outbreak, the same amount of eggs cost about \$2.96—more than a 51% increase.

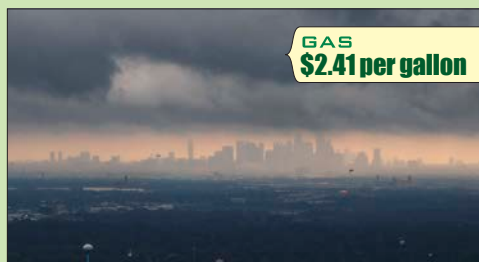


FROM LEFT: SUBJUG/GETTY IMAGES; MATTHIAS KULKA—GETTY IMAGES

## HURRICANE VS. GASOLINE

**August 2017: Hurricane Harvey hits Texas, Louisiana, and other states.**

Hurricane Harvey shut down the largest oil refinery complex in the U.S., which is located in Houston, Texas. Oil refineries turn oil into gasoline for cars and trucks. Since gas supply was down, the price went up. But the refineries were repaired relatively quickly, so prices began to go back down by October.



In July 2017, before Hurricane Harvey, gas in the U.S. averaged about \$2.41 per gallon.

In September 2017, after the storm, gas averaged about \$2.76 per gallon. In October it dropped to about \$2.62, says the U.S. Energy Information Administration.



FORT WORTH STAR-TELEGRAM/GETTY IMAGES