

Costs Assignment in Lieu of Lecture 10

Assigned November 3, Due November 10

The goal of this assignment is to help you apply concepts about economic costs to real-life firms, and to understand how policy interacts with firm costs.

Grading: We will grade these on a A/A-/B+ scale, with non-substantive efforts receiving a grade of zero.

Deadline: This assignment is due by your class session on November 10. Late assignments decline by one letter grade each 12 hours they are late.

How the assignment will count toward your grade: This assignment will count toward the reading quiz portion of your grade. Before this class cancellation, I had intended to count your top seven reading quiz grades (the syllabus says the top eight, but I messed up the first reading quiz for the afternoon section). I will continue to count your top seven reading quiz grades, but I will replace one of your reading quiz grades with this assignment if your grade here is better.

How to submit

- submit to the [cost assignment folder](#) inside the “for students” folder on google drive
- save as “lastname_cost_assignment.pdf”
- submit a pdf

Finally, the assignment: Please read the two articles included at the end of this assignment from the *Wall Street Journal* – one on fizzy drinks,¹ and one on toilet paper. Answer the questions below. None of these answers should require more than a short paragraph or two at the most.

1. For the fizzy drinks and toilet paper industries, identify one cost increase due to covid, and explain whether this is an increase in fixed or variable costs.
2. What made it difficult for P&G to respond quickly to increased demand for residential toilet paper? Use cost words we have studied and information from the article.
3. Are there economies of scale in toilet paper production? Explain why or why not.

¹TA Dan additionally informs you that “Russian River Brewing is consistently rated in the top 1 percent of US microbrewers. They have two beers, Pliny the Elder, and Pliny the Younger that have held the number 1 and number 2 spot as the two best beers micro brew beers made in the US for years now.

4. Early in the crisis, the federal government implemented the Paycheck Protection Act, which allowed firms to borrow money from the government. If they spent this money on payroll, the loans would be entirely forgiven. Considering either the fizzy drink or toilet paper industry, could these loans have helped the production difficulties illuminated in these articles? Why or why not?

In Lecture 11, we'll discuss what determines whether producers pass along cost increases, such as those in these articles, to consumers.

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<https://www.wsj.com/articles/p-g-toilet-paper-factory-keeps-delivering-as-coronavirus-strikes-its-town-11586707201>

BUSINESS

P&G Toilet Paper Factory Keeps Delivering as Coronavirus Strikes Its Town

Albany, Ga., one of hardest hit towns, is home to one of P&G's biggest toilet paper plants



P&G is the biggest U.S. maker of toilet paper. Its factory in Albany, Ga., is one of six that make the product.

PHOTO: P&G

By [Sharon Terlep](#)

April 12, 2020 12:00 pm ET

Almost every day an employee at [Procter & Gamble Co.](#) [PG -0.34% ▼](#)'s plant in Albany, Ga., a town with one of the nation's highest [rates of coronavirus](#), learns that someone close has become seriously ill or died of Covid-19.

There is little time for consolation between co-workers. They are all racing to churn out one of the most in-demand products in America: toilet paper.

“It’s a lot quieter here than it used to be,” said John Patterson, a 16-year veteran of the plant, which makes Charmin toilet paper alongside Bounty paper towels. Workers, who must stay 6 feet apart, console one another over headsets and on video calls.

P&G, PG -0.34% ▼ which produces household staples from Tide detergent to Pampers diapers, is the biggest U.S. maker of toilet paper with close to 30% of the market. The sprawling Albany factory, one of six that make toilet paper, is P&G’s second-largest U.S. plant. It makes products that generate roughly \$1.3 billion in annual sales, according to the Georgia Manufacturing Alliance.

The factory has ramped up production by 20% of both toilet paper and paper towels, even as it revamps its operations to keep its roughly 600 workers healthy. Among other measures, it has instituted pre-shift temperature checks and staggered start times. P&G declined to comment on whether employees have tested positive.

The plant sits in a midsize town of 75,000 people ravaged by the new coronavirus. More than 1,020 people have tested positive in Dougherty County, which includes Albany, and 62 have died as of Thursday afternoon. More people have died in the county than in Fulton County, which includes Atlanta and has a population more than 10 times larger.

Health officials trace the spread of coronavirus in Albany to a late-February funeral that drew more than 100 mourners, including a man who later died of Covid-19.

In mid-March, Albany Mayor Bo Dorough received word from county health officials that a few residents had tested positive for coronavirus. Officials thought the cases were isolated instances. “We thought it was an anomaly,” Mr. Dorough said. “But after those three deaths, things just started to cascade downward and it hasn’t stopped since.”

MORE

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The community and the factory have been through rough stretches. Albany has among the state's highest rates of crime and poverty. In 2018, a hurricane wiped out power for days to thousands in the community. A year before that, a tornado leveled the warehouse at the P&G complex.

Around the same time Mr. Dorough was learning of the first deaths in his town, executives at P&G's Cincinnati headquarters were strategizing about how to ramp up production. The company had already mobilized safety plans in the U.S. that it had previously put in place in China, the company's second-largest market.

"I started to realize, this isn't going to skip over us," said Rick McLeod, who oversees product supply for P&G's family care unit, which includes toilet paper. "There were cues that this is going to be a big deal. Then the floodgates opened and everyone realized the seriousness."

The state of Georgia and the U.S. Department of Homeland Security consider the plant an essential business, so it has remained open as offices, shops and restaurants close throughout the rest of the state.

Demand for toilet paper shot up in the outbreak's initial weeks, doubling in the second week of March, according to Nielsen. Before the surge, Americans spent roughly \$9 billion a year on toilet paper. The internet flooded with memes and jokes about toilet-tissue scarcity, as well as tales of serious panic. P&G added a prerecorded message to Charmin's toll-free line specifically for people hunting for toilet paper.

While Americans aren't using more toilet paper amid the pandemic, they are going through substantially more at home. The thin, scratchy tissue found in office bathrooms and public restrooms is different enough that it is generally built at separate plants—with different supply chains—and can't be redirected to store shelves overnight, said analyst

Jonathan Rager of Fastmarkets RISI, an analytics firm specialized in the pulp and paper industry.

Making toilet paper in bulk requires a massive machine, a four-story-tall collection of intricately pieced-together parts, which costs billions of dollars and takes months to build.

Bathroom tissue begins with wood chips that are turned into pulp. The machinery cleans the pulp and feeds it through massive rollers that soak out any water. The pulp is then chemically whitened and then spread on a screen and put through a hot dryer, emerging as a delicate sheet of paper that gets rotated into a spool. A single spool can hold close to 50 miles of paper, which is then embossed both for aesthetics and to thicken the sheets.

A separate machine constructs cardboard into tubes roughly five-feet long. Two sheets of the finished paper are combined to make two-ply tissue, which is then wrapped around the cardboard tubes. A machine seals the roll with a light glue and then a circular saw cuts the long roll into bathroom-sized rolls that are packaged and loaded for delivery.

A big toilet paper operation could churn out a few million individual paper rolls a day, with that number varying significantly based on how many lines the factory devotes to toilet paper and the type and size of each roll, said Mr. Rager of Fastmarkets.

Quickly changing over a line or adding production at another factory wasn't an option for P&G. But in Albany, P&G had an idled piece of equipment that, if put to use, could increase volume.

Setting up the equipment to help make the current product, and staffing it with workers trained to use it, would typically take months for Albany's team of 10 technicians. So P&G sent a half-dozen engineers from other plants to help. The equipment was operational within two weeks, but the company had another problem. The engineers' return flights had been canceled as airlines shut down amid the virus's spread.

P&G CEO David Taylor, whose early career included a three-year stint in the 1980s as an operations manager of the Albany factory, directed a corporate jet to be sent to Georgia to retrieve the workers and take them home to Missouri and Pennsylvania.

Mr. McLeod, the P&G executive, also started his career at the Albany plant and lived there nearly a decade. His voice cracked as he talked about a retired technician, in her late 60s, whom he supervised in his early days who died of Covid-19, along with her daughter, who

was in her early 40s. Earlier that day, he learned that an Albany employee lost their father.

“The more we can serve our consumers the better it is for everyone,” he said. “If they can just see some product in the store, it will help. There’s a sense of pride of being able to deliver that thing that’s so needed right now.”

Increasing production while keeping workers safe is a challenge for many U.S. employers, from meatpackers to factories making hospital ventilators. P&G has started producing face masks and hand sanitizer for its employees, as well as for medical workers.

Overtime is eschewed because putting workers on an extra shift with a different crew exposes more people should someone become infected. If a worker becomes ill, their entire team goes into quarantine.

P&G, at all its factories including Albany, checks workers’ temperatures at the start of their shifts. Start times and lunch breaks are staggered to avoid lines at the doors or people sitting close on breaks. The cafeteria has no salad bar or open food, just prepackaged options. Team meetings are generally held over video, even if everyone is at the plant.

Mr. Patterson, the P&G plant veteran, said the hardest thing is having to maintain distance from friends and family who are struggling.

“In other times we could be there to console folks in their time of need, really display that Southern hospitality,” he said, recalling the aftermath of the hurricane and tornado that hit Albany. His wife, who is a furloughed nurse, is teaching their five children at home since schools shut down.

Work, he said, is a consolation. “We’ve been able to deliver more than I’ve ever seen us do before,” he said. “Please let folks know that Charmin is on the way.”

STAY INFORMED

Get a coronavirus briefing six days a week, and a weekly Health newsletter once the crisis abates: [Sign up here](#).

Write to Sharon Terlep at sharon.terlep@wsj.com

10/30/2020

P&G Toilet Paper Factory Keeps Delivering as Coronavirus Strikes Its Town - WSJ

Appeared in the April 13, 2020, print edition as '.

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<https://www.wsj.com/articles/a-coronavirus-chain-reaction-less-driving-means-less-fizz-for-sodas-11590525236>

BUSINESS

A Coronavirus Chain Reaction: Less Driving Means Less Fizz for Sodas

Carbon-dioxide output is down, as the drop in gasoline demand slows fuel production



A Russian River Brewing customer in California last year. The company's carbon-dioxide costs are up 25% since last month.

PHOTO: JUSTIN SULLIVAN/GETTY IMAGES

By [Vipal Monga](#)

Updated May 26, 2020 4:58 pm ET

As the summer season approaches, consumers might end up paying more for their beer and soft drinks. The reason? The cost of the bubbles in the drinks is going up.

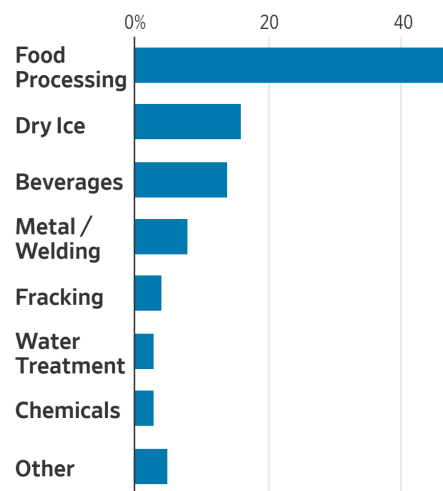
“It’s a big concern,” said Vinnie Cilurzo, owner of Santa Rosa, Calif.-based Russian River Brewing Co., which employs more than 200 people at his brewery and restaurants. He has been paying 25% more for his carbon dioxide since last month, but so far, has been absorbing the higher cost.

Matheson Tri-Gas Inc. of Irving, Texas, doesn’t have access to enough carbon dioxide in California to supply Russian River, so the gas company has been trucking it in from the Midwest. Mr. Cilurzo’s bigger bill reflects that added transportation cost. A spokeswoman for Matheson declined to comment.

Carbon dioxide is a byproduct of ethanol, which by federal mandate is mixed into gasoline to help it burn more cleanly. But fewer people are driving because of the Covid-19 lockdowns, and demand for gasoline has plunged, prompting ethanol plants to shut down. That has put pressure on the source for roughly 40% of all industrial carbon dioxide produced nationwide—a key ingredient for soft drinks and beers.

Carbon Capture

Annual use of carbon dioxide by segment



Source: University of Illinois-Chicago

Carbon-dioxide production this year has fallen by roughly 30% from last year’s levels, according to the Compressed Gas Association. The trade group was one of several, along with brewers, pork producers and other big carbon-dioxide users, that wrote to the White House last month warning of a potential shortage.

Badger State Ethanol, a producer located just south of Madison, Wis., cut production 40% last month, said Erik Huschitt, the plant's chief executive. The carbon dioxide that Badger State produces and sells to [Air Products and Chemicals Inc.](#), [APD -0.19%](#) ▼ a Lehigh Valley, Pa., industrial-gas company, has also been cut by a similar amount.

"It's been chaos," said Mr. Huschitt, adding that along with the decline in ethanol demand, it 'has also been more difficult for the company to move its product by rail during the lockdowns.

While driving activity has picked up in May [as lockdowns have eased](#), the improvement hasn't been big enough to spur ethanol companies to restart production. "We're rebounding. But it's from a catastrophic level," Mr. Huschitt said.



Production of carbon dioxide, a key ingredient in beer, is off roughly 30% from last year's levels.

PHOTO: JUSTIN SULLIVAN/GETTY IMAGES

A similar carbon-dioxide shortage became a problem for companies such as [Coca-Cola Co.](#) in 2018, which paused production in some plants in the U.K. [when carbon-dioxide supplies sank](#) just as demand for beer and soft drinks surged during the World Cup.

A Coke spokeswoman said the North American drop in carbon-dioxide production is being balanced by less demand for soft drinks because many restaurants and sports stadiums are currently closed. "We do not foresee any concerns about supply at this time," she said.

Bob Pease, president of the Brewers Association trade group, warned that brewers could soon start passing cost increases on to customers, especially as the return of restaurant demand in states such as Texas, Georgia and Wisconsin, which have eased lockdowns, strains gas supplies. "This shortage could become critical in short order," he said.

10/30/2020

A Coronavirus Chain Reaction: Less Driving Means Less Fizz for Sodas - WSJ

Write to Vipal Monga at vipal.monga@wsj.com

Appeared in the May 27, 2020, print edition as ‘.’

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