

SHERROD BROWN, OHIO, CHAIRMAN
TIM SCOTT, SOUTH CAROLINA, RANKING MEMBER

JACK REED, RHODE ISLAND
ROBERT MENENDEZ, NEW JERSEY
JON TESTER, MONTANA
MARK WARNER, VIRGINIA
ELIZABETH WARREN, MASSACHUSETTS
CHRIS VAN HOLLEN, MARYLAND
CATHERINE CORTEZ MASTO, NEVADA
TINA SMITH, MINNESOTA
RAPHAEL WARNOCK, GEORGIA
JOHN FETTERMAN, PENNSYLVANIA
LAPHONZA R. BUTLER, CALIFORNIA

MIKE CRAPO, IDAHO
MIKE ROUNDS, SOUTH DAKOTA
THOM TILLIS, NORTH CAROLINA
JOHN KENNEDY, LOUISIANA
BILL HAGERTY, TENNESSEE
CYNTHIA LUMMIS, WYOMING
J.D. VANCE, OHIO
KATIE BRITT, ALABAMA
KEVIN CRAMER, NORTH DAKOTA
STEVE DAINES, MONTANA

United States Senate
COMMITTEE ON BANKING, HOUSING, AND
URBAN AFFAIRS

WASHINGTON, DC 20510-6075

LAURA SWANSON, STAFF DIRECTOR
LILA NIEVES-LEE, REPUBLICAN STAFF DIRECTOR

May 9, 2024

Mr. Doug McMillon
President and CEO
Walmart
702 Southwest 8th Street
Bentonville, AR 72716

Dear Mr. McMillon:

Prices are still too high for many of the goods Americans need. And big tech's exploitation of consumer data is undermining consumers' ability to comparison shop and save money. Specifically, pricing algorithms alter prices in a way that hurt consumers and suppress competition – taking away people's ability to find the lowest price. And I am concerned that your company is beginning to implement dynamic pricing in your stores.

Last week the Senate Banking, Housing and Urban Affairs Committee convened a hearing to examine how corporations are using technologies, such as artificial intelligence (AI), to set prices. Continuing these efforts, we need information on how Walmart uses pricing algorithms, the potential harm this is doing to consumers, and the implications for the prices Americans pay.

Walmart is a leading retailer, with nearly \$611 billion in revenue last year and a growing e-commerce presence—with \$100 billion in e-commerce sales last year.¹ New AI technologies, which can rapidly change prices based on consumers' lifelong purchase and browsing histories, make these algorithms more powerful and more detrimental to Americans' pocketbooks. As more consumers shop online, large tech platforms have access to vast stores of personal data drawn from consumers' prior shopping history that can be exploited by corporations to set prices based on the time of day, location, or even the electronic device used by a consumer.

Although dynamic pricing is hardly a new means for corporations to charge consumers more than a fair price, modern pricing algorithms turbocharge dynamic pricing, enabling corporations to rapidly adjust prices on goods. Last year it was reported that Walmart has added digital price

¹ https://s201.q4cdn.com/262069030/files/doc_financials/2024/ar/2024-annual-report-pdf-final-final.pdf

tags to their shelves in 500 stores – allowing them to easily and rapidly update prices.² Some retailers that use pricing algorithms change their prices over 2,000 times in a given day.³

While companies claim that dynamic pricing allows them to offer the most competitive prices, it's clear that in the long-run, dynamic pricing leads to higher prices.⁴ Frequent price changes only benefit consumers when competition is strong, and consumers are able to defend themselves from dynamic pricing by comparison shopping for a good bargain.⁵ A recent study examining the online pricing of allergy medication found that instead of increasing competition, online retail was able to use this technology to increase prices and undermine competition.⁶

With limited transparency around the factors pushing up prices, I am concerned that pricing algorithms enable corporations to charge higher prices in circumstances where consumers have the greatest need for something, and thus are unable to comparison shop because of both urgent need and frequent, opaque price changes. For instance, when a flu outbreak arises, local pharmacies may run out of supplies needed for families with the flu. Large tech platforms, with vast stores of data, can exploit this outbreak driving up prices for those suffering from the flu. What is “algorithmic pricing” to a retailer is price gouging to consumers.

In addition to dynamic pricing, I am also concerned by how corporations may use customers' web browsing data to engage in discriminatory pricing, in which different customers are charged different prices for the same goods or services. On top of generally higher prices, I am concerned that the use of pricing algorithms may lead to higher prices for individuals or families based on variables including a customer's location or other sensitive personal data.

Despite widespread adoption of pricing algorithms, consumers know little about how their personal data is being used to set prices and under what conditions prices may increase. The public needs to better understand how pricing algorithms impact what customers pay for products offered at Walmart's stores or on its e-commerce platform, I ask that you provide answers to the following questions by June 15, 2024.

1. How does Walmart determine what a fair price is for a given product? Please describe Walmart's strategy and the algorithms used for setting prices.
2. Please describe the data Walmart uses to determine prices. Please specifically describe the customer data – including whether an individual's browsing history, purchase history, device, or geo-location is used to determine prices.
3. How does Walmart determine when the price for a product should change? What factors does Walmart use to change prices?

² <https://talkbusiness.net/2023/05/the-supply-side-electronic-shelf-tags-coming-to-500-walmart-stores-this-year/>

³ <https://www.npr.org/2024/03/14/1238496160/dynamic-pricing-could-be-coming-to-a-supermarket-near-you>

⁴ Ibid.

⁵ https://obamawhitehouse.archives.gov/sites/default/files/whitehouse_files/docs/Big_Data_Report_Nonembargo_v2.pdf

⁶ <https://www.brookings.edu/articles/are-online-prices-higher-because-of-pricing-algorithms/>

4. What specific steps has Walmart taken to ensure that dynamic pricing algorithms do not discriminate based on protected classes, such as gender, age, or race?
5. How does Walmart anticipate consumers will be able to budget and plan for purchasing costs? Does Walmart communicate changes in prices to consumers, and, if so, how?

Thank you for your consideration and your timely response.

Sincerely,



Sherrod Brown

United States Senator