Insight

What the FTC Should Want to Know About "Surveillance Pricing"

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Executive Summary

- In July, the Federal Trade Commission (FTC) launched an investigative study seeking information on "surveillance pricing" – a pricing strategy in which sellers incorporate customer data to charge different customers different prices.
- The FTC is seeking information about the impact these pricing tactics have on data privacy, competition, consumer protection, and the role third-party intermediaries play in developing these personalized prices.
- Absent evidence of collusion or firms illegally obtaining input data, the FTC should abstain from enforcement actions or creating rules that would curtail a firm's ability to determine pricing strategies.

Introduction

On July 23, the Federal Trade Commission (FTC) launched an investigative study into "surveillance pricing" – a pricing strategy in which sellers leverage customer data to charge different customers different prices. The agency is interested in better understanding the impact these practices have on data privacy, competition, and consumer protection.

The FTC ordered eight third-party intermediaries – Mastercard, Revionics, Bloomreach, JPMorgan Chase, Task Software, PROS, Accenture, and McKinsey & Co. – to provide information about the types of surveillance pricing products and services they offer, data collection and inputs, customer sales and information, and impacts on consumers and prices.

The agency's decision to call the practice "surveillance" pricing rather than "personalized" or "targeted" pricing typically used in the economic literature may have poisoned the well and signaled the study's conclusions may be predetermined. Absent evidence of collusion or firms illegally obtaining input data, the FTC should resist using the findings as an impetus for enforcement action or creating rules that curtail a firm's ability to determine pricing strategies.

FTC 6(b) Order

Section 6(b) of the FTC Act, in part, allows the agency to conduct investigative studies to better understand industry business practices. The studies are used to inform policy discussions and enforcement proceedings, but enforcement action is not a requirement to prompt a study. Typically, these studies add to the internal expertise of the agency and contribute to the public discourse on certain industries or business practices. Using this power, the FTC launched an investigation into surveillance pricing with the intent of seeking information about the potential impact these pricing strategies have on data privacy, competition, and consumer protection.

The agency ordered eight firms – Mastercard, Revionics, Bloomreach, JPMorgan Chase, Task Software, PROS,

Accenture, and McKinsey – to provide information on how these third-party firms leverage technology and consumer data to set a different price for different consumers. These firms, according to the press release announcing the study, were selected because they "advertise their use of AI and other technologies along with historical and real-time customer information to target prices for individual consumers."

The order outlined the scope of the inquiry to include four areas:

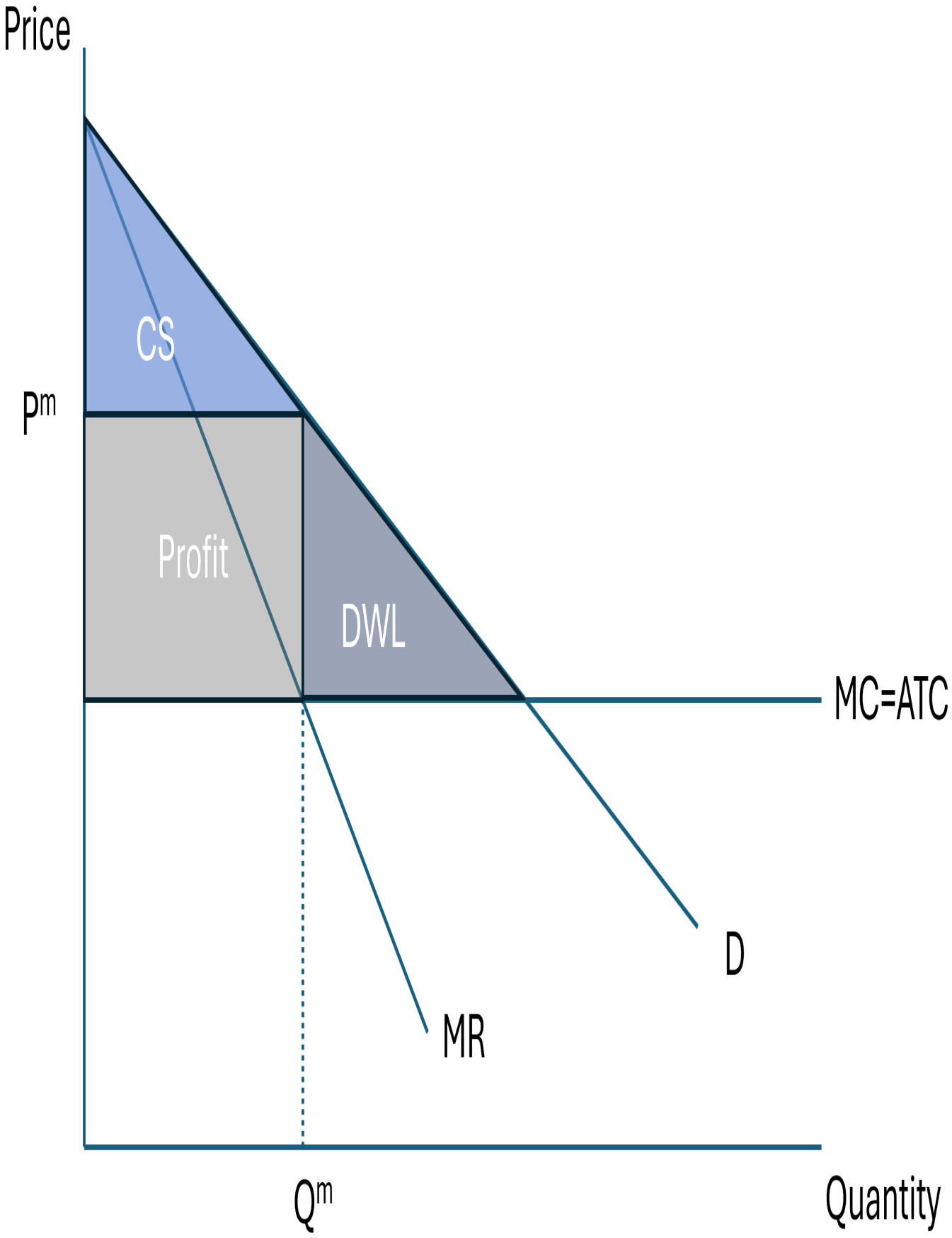
1. Types of products and services being offered.
2. Data collection and inputs.
3. Customer and sales information.
4. Impacts on consumers and prices.

The Commission voted unanimously (5-0) to issue the orders to the eight companies to provide information.

Surveillance Pricing

Basic microeconomics holds that a firm with some pricing power (which is the case in markets for most goods and services) will maximize profits by producing a quantity of goods where marginal revenue (MR) – the added revenue gained from selling an additional unit – is equal to marginal cost (MC), the added cost from producing the additional unit. As shown in *Figure 1,* the firm will produce quantity Q^m and charge a uniform price of P^m to all buyers of the goods.

Figure 1


Price
CS
Pm
Profit
DWL
MC=ATC
D
MR
Qm
Quantity

Yet this level of production is allocatively inefficient as there is a deadweight loss (denoted in the graph as DWL). DWL describes the loss of economic welfare when a good is produced (or consumed) at a quantity where the marginal benefit does not equal marginal cost. In the scenario shown in *Figure 1*, the market would be efficient if the firm was able to produce where the Demand (D) curve intersects with the MC curve.

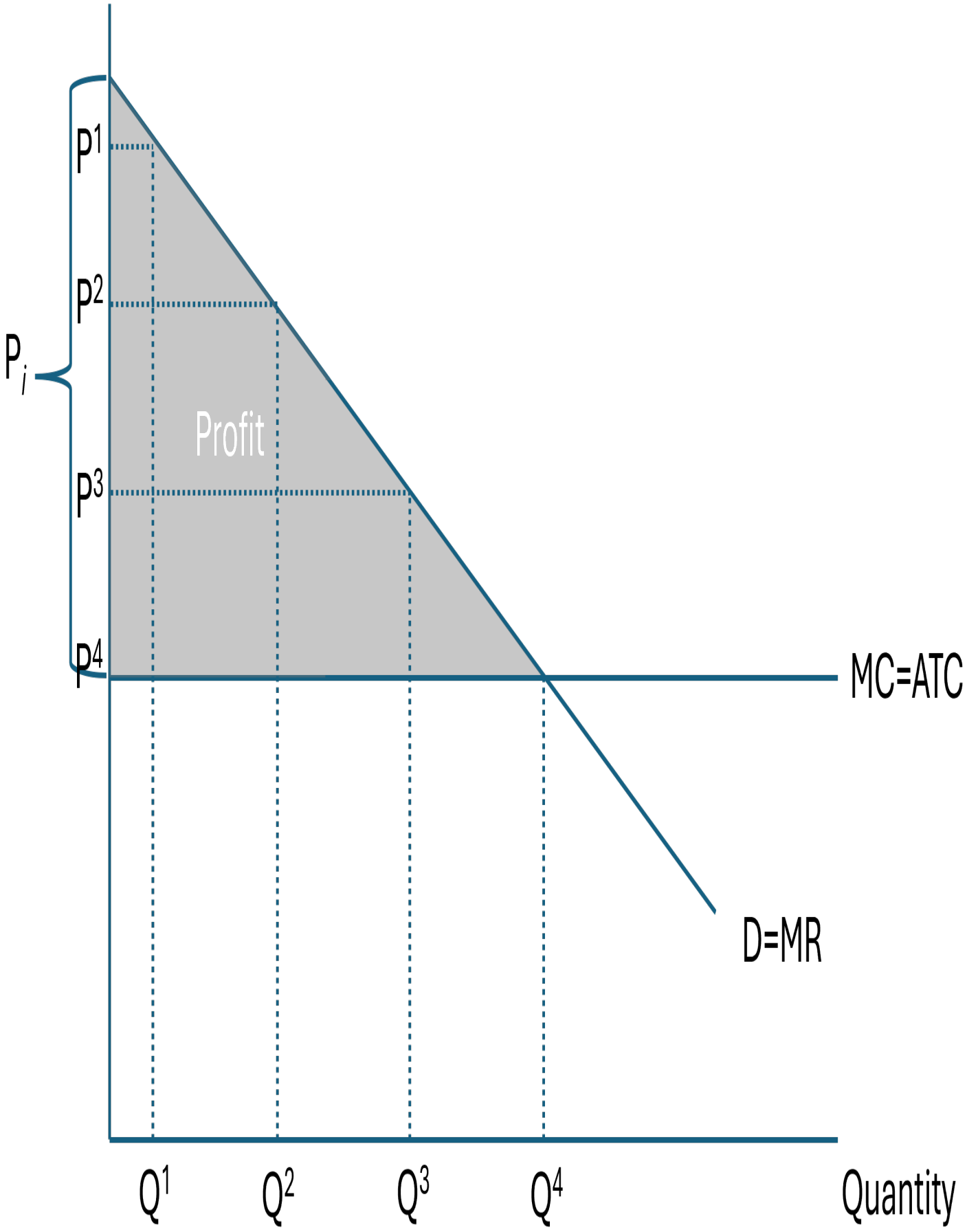
How can allocative efficiency be improved? One possibility is with the use of first-degree price discrimination, more commonly known as personalized pricing. Personalized pricing – or "surveillance" pricing as labeled by the FTC – is a form of dynamic pricing in which different customers are charged a different price for the same product or service based on an individual's willingness to pay. It is a pricing strategy that, according to Commissioner Ferguson, is "ancient and commonplace for many products and services."

Firms have troves of individual customer data, either gathered internally or purchased from third parties, that can be used to estimate a customer's willingness to pay. Data including browsing behavior, purchase history, location information, income, and other individual characteristics are used to generate this estimate. In response, firms can provide personalized advertisements, discount coupons or, in the case of e-commerce, present a price that reflects what the firm believes is the individual customer's willingness to pay for a particular good.

Figure 2 reflects the change in market dynamics when a firm can perfectly estimate a customer's willingness to pay based on individualized consumer data. There is no longer a uniform price like in *Figure 1*, but a range of prices, each to match an individual's willingness to pay. This range of prices is denoted by P_i. As shown in *Figure 2*, Customer 1 will demand quantity Q^1 and pay price P^1 based on the individual data and the firm's estimate of Customer 1's willingness to pay. Meanwhile, data describing Customer 4 suggest a much lower value of the product, but high enough to equal the firm's MC, which incentivizes the firm to produce this one additional unit at a price of P^4.

Moreover, the MR curve now equals the demand curve since the firm can now set prices equal to what each individual consumer is willing to pay, and the quantity supplied has increased. The firm selling each unit at the maximum price a consumer is willing to pay, according to the basic model, will capture the DWL and consumer surplus (CS) that existed in the first version of the model as profit.

Figure 2


P1
P2
Pi
Profit
P3
P4
MC=ATC
D=MR
Q1
Q2
Q3
Q4
Quantity

Personalized Pricing in Practice

Personalized pricing is already common practice in many industries. E-commerce, travel, and insurance are all industries that use customer data to calculate a personalized price.

A well-known example is the personalized pricing strategies of airlines. When a customer goes to a booking website, the seller knows how often the individual has checked for the ticket price using data on browsing history (the higher the frequency, the higher the willingness to pay). Moreover, if this customer routinely uses the same booking agency or has a loyalty account that reveals past purchase history, the firm will be able to use these data to better estimate how much a consumer is willing to pay. It is not uncommon to have two passengers on an airplane seated next to each other who paid very different prices for their seats.

Brick and mortar retailers, including grocery stores, often employ personalized pricing strategies differently than the instantaneous model available to online retailers. Grocery stores have extensive data, especially when loyalty account numbers are used in a transaction, on customers. The grocer can use this information to offer personalized coupons for customers or advertisements directing them to other products the data suggest they may want to purchase. If a grocer assesses that the uniform price posted on the shelf is above a particular customer's willingness to pay, a discount coupon could entice the customer to purchase the product. As a result of these targeted discounts, the shelf list price could rise to capture customers with a higher willingness to pay.

Difficulties of Perfect Personalized Pricing

The outcome described in the model presented in *Figure 2* relies on the firm's ability to perfectly predict what a customer is willing to pay. In practice, however, perfectly identifying this price is unlikely as the data will likely never fully reveal a customer's maximum willingness to pay.

In a *Chicago Booth Review* podcast, Chicago Booth's Jean-Pierre Dubé discusses the potential pitfalls of attempting to predict each customers' willingness to pay, stating that, "targeting is imperfect," and that firms "will always make statistical errors and modeling errors when we're trying to predict behavior." Dubé concluded that the results of this "imperfect targeting" are "ambiguous." He posited a scenario in which "the majority of customers actually are targeted at a lower price than would have been the price if everyone was required to be charged the same amount, but in spite of that, a small minority of customers are paying more." As shown in the models above, more consumers are served when a firm can perfectly price discriminate, even if that means some are paying above what would have been the uniform price.

What Should the FTC Be Looking For?

Consumer Protection

The FTC should assess how companies collect the data. Are these companies acquiring and storing the data legally?

Consumer Welfare

A personalized pricing model is unlikely to perfectly predict each customer's willingness to pay. What are the implications of this imprecise measurement on consumer welfare and total economic welfare? The model from *Figure 2* shows that more customers will be supplied if firms can properly target consumers with a lower

willingness to pay compared to a uniform pricing system. The FTC has generally abandoned the consumer welfare standard of enforcement and has adopted more of a "fairness" doctrine. It is likely that the FTC will be inclined to focus on whether charging different consumers different prices is fair. But who determines what is fair? Measuring the effect on consumer welfare should be the focus of the FTC's investigation.

Competitive Incentives

How do personalized prices change firm and market incentives? How are firms likely to respond to another firm that institutes a personalized pricing system? It is possible that in response to a firm increasing the price to a particular customer, a competitor would respond by offering a lower personalized price. Moreover, is there a reputational risk firms will have to consider if a personalized pricing strategy is used? Do these dynamics change depending on the availability of the product?

Competition

The FTC must understand that pricing strategies are a form of competition, and the decision should be left to the individual firm. There is a plausible scenario in which a firm faces reputational risk and a backlash from customers if a personalized pricing strategy is used. Firms must balance this risk with the potential reward. Competition is not just between the sellers using the personalized pricing strategy but competition for consumer data. Understanding the network effects of this increase in demand for data and pricing algorithms must be part of the study.

Potential for Collusion

While many firms can create predictive models to generate personalized prices, some firms may outsource this ability to third parties. Does the use of third parties create an opportunity for collusion? Recently, the Department of Justice (DOJ) Antitrust Division filed a lawsuit against RealPage, a firm that receives data from market participants to recommend rental prices, claiming that this practice enabled landlords to collude to raise rents. The FTC should understand how third parties use the data to recommend a price. If a third party is using a common algorithm to process data from competitors to generate a personalized price, there is the possibility of collusion since the prices are not determined using an individual company's data.

Economic Evidence

The conclusions made in the two most recent FTC 6(b) studies lacked supporting economic evidence. Commissioner Melissa Holyoak asserted that the quantitative analysis included in the FTC's recent pharmacy benefit manager study "fail[ed] to meet [the] rigorous standard" of past FTC reports.

Past Agency Positions

In 2018, the FTC and the DOJ submitted a paper to the Organisation for Economic Co-operation and Development (OECD) Competition Committee on personalized pricing and consumer protection and welfare concerns. The agencies concluded that "in many instances, price discrimination enhances market competition," and "price discrimination is often viewed as efficient." They added that "absent unfair or deceptive conduct, personalized pricing alone does not raise any [consumer protection] concerns, and therefore provides no basis for intervention."

Moreover, the agencies claimed that "antitrust laws would likely not condemn a firm's use of personalized pricing unless it is part of a collusive agreement or some other arrangement that harms the competitive process," and that "first-degree price discrimination unambiguously increases total welfare…and eliminates the deadweight loss associated with market power." They added that "personalized pricing may intensify competition by allowing firms to target prices to poach their rivals' customers."

Of note, the FTC and DOJ stated that "U.S. antitrust laws do not prohibit a firm with market or monopoly power from charging any price that the market will bear."

The FTC's 6(b) study on surveillance pricing should speak directly to the conclusions outlined in the paper submitted to the OECD and attempt to explain what, if anything, changed in personalized pricing practices.

"Surveillance" Is an Interesting Word Choice

Much of the economic literature refers to "surveillance pricing" as first-degree price discrimination, personalized pricing, or targeted pricing. In her concurring statement, Commissioner Holyoak questioned the FTC's word choice, stating that, "the term's negative connotations may suggest that personalized pricing is necessarily a nefarious practice." She added that "we should be careful to use neutral terminology that does not suggest any prejudgment of difficult issues."

The use of the term "surveillance" gives the appearance that the results of this study may be predetermined.

Conclusion

The FTC's investigative study into personalized pricing seeks information about the impact these pricing tactics have on data privacy, competition, and consumer protection, as well as the role third-party intermediaries play in developing these prices.

There are many things for the FTC to consider during its investigation, but at the forefront must be consumer welfare and consumer protection. Absent evidence of collusion or illegally obtaining data, the FTC should acknowledge that pricing strategies are a form of competition, and a decision best left to individual firms.