

BROOKINGS

COMMENTARY

What is dynamic pricing, and why do consumers need better protections?

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- Dynamic pricing refers to instantaneous variations in the advertised cost of goods or services.
- While it can make products cheaper in some circumstances, it can also make consumers face higher prices because companies have more information available to them, including on individuals' shopping habits.
- Regulatory enforcement that would penalize predatory or anticompetitive behaviors could ensure real-time changes are fair and based on actual market conditions—not biased against consumers.

I learned about old-fashioned bargaining many years ago during a trip to Istanbul, Turkey. One of the popular tourist attractions there was a shopping bazaar with crowded stalls and friendly sellers, who offered a range of rugs, ceramics, and food. Salespeople did not wait for customers to enter their stall; instead, they stepped out persistently to engage passersby and draw them into their shops. Once inside, they would offer conversation, friendship, tea, and seeming bargains on Turkish goods. It was only later I discovered I had been out-bargained by individuals who knew much more about the local market and who were exceptionally good at divining human intentions.

Those thoughts now surface when I shop online. On the one hand, [e-commerce platforms](#) offer tremendous convenience and variety, allowing consumers to scroll through numerous items to find what meets their needs. But on the other hand, online

shopping sites sometimes feature a one-sided bargaining situation π where the seller has tremendous insight into buyers' wants and susceptibilities, while the buyer has far less information about how companies determine their prices π . Firms possess a substantial amount of information regarding consumer interests, preferences, and buying behavior, as well as responses to nudges and the ways individuals might be enticed to purchase additional or alternative products. This strategy, called dynamic pricing, offers benefits and risks π for consumers, though policymakers can help encourage an online marketplace that is fair for consumers and less likely to feel like a Turkish bazaar where ill-informed consumers fare poorly.

What is dynamic pricing?

In recent years, consumers have complained about fluctuating costs for airfare π , groceries π , and other essential items π . Frustration grows when the price for the exact same route or product increases substantially overnight—rising from a bargain rate one day to a much higher cost the next. Using artificial intelligence (AI) and data analytics, companies can now gauge consumer sensitivity to various factors and adjust offerings accordingly.

The rise of agentic AI, where algorithms monitor online behavior to customize costs, will likely exacerbate dynamic pricing. These agents can assess individual behavior and tailor prices based on a consumer's shopping and purchasing history. Online agents can also compile a wealth of information about people to incorporate into pricing decisions, a danger my Brookings colleague Bill Baer has warned can lead to predatory practices π .

All this raises questions regarding how online pricing differs from traditional shopping. When shopping at brick-and-mortar stores, prices are generally written, fixed, and certain over time, except for the occasional sale which is officially advertised as a cut-rate price. Customers experience stability and predictability in how they see advertised items, and everyone has the same information.

However, things are different in the online world. Due to the digital interface, prices for the same item can fluctuate day-to-day, hour-to-hour, or even minute-to-minute. Through the use of data trackers, AI algorithms, and data analytics, internet platforms

learn a great deal about consumer interests and inclinations. These digital tools also provide detailed information on the nuances of purchasing decisions, allowing prices to shift immediately as firms seek to maximize profits. In other words, the online marketplace is a less stable and predictable environment, with much of the information cloistered on the side of the seller.

These shifts that are called "dynamic pricing," referring to instantaneous variations in the advertised cost of goods or services. Numerous factors can drive these real-time alterations, from traditional supply and demand and inventory levels to data analytics and AI algorithms. Few would view pricing changes linked to shifts in demand or inventory levels as very different from flash sales or clearance prices at traditional stores. That is the heart of market capitalism and merely a digital version of a longstanding retail practice.

The digital nature of e-commerce allows merchants to update pricing instantly and automatically based on real-time consumer behavior. For instance, if a customer has a history of purchasing red shirts, a seller can increase the price of that specific item the moment the individual visits the online storefront.

These instantaneous shifts based on subtle online behaviors give companies tremendous pricing power today. Further, consumers may not be aware of how product placement, design, or presentation could affect purchasing decisions, and that creates systematic advantages in the marketplace.

Possible benefits to consumers

However, dynamic pricing is not necessarily bad for consumers. There can be shifts that lower prices and therefore enable people to buy goods or services at a cheaper price than otherwise would be the case. For example, when economic conditions shift and demand weakens, a drop in online interest may lead sellers to lower prices to reduce their inventories or sell more items. That is a benefit to consumers and similar to a physical store having a flash sale.

Consumers also benefit from the vast range of products and choices available online. Individuals no longer need to walk through a shopping mall, attempting to recall the cost of a particular item from a previous store. With a computer or smartphone, shoppers can view hundreds of products and make informed decisions, even if prices are in a state of opaque fluctuation.

Consumer risks

However, significant risks to consumers π remain—perhaps most notably the information asymmetry inherent in digital commerce. While online platforms possess a wealth of data on their customers, shoppers have far less insight into the firms they frequent. Hypothetically, a consumer could scroll through dozens of sites to make an informed choice, only to find the price has shifted within the hour. In practice, few engage in such exhaustive comparisons. Faced with an overwhelming volume of data, many individuals rely on heuristics π or mental shortcuts, often purchasing a product after viewing only a few items.

One specific practice that appears quite frustrating for customers is surge pricing π . When it rains and a ride-sharing service immediately boosts its rates in response to rising demand π , riders feel ripped off.

Another risk is "personalized pricing π ," where monitoring individual online behavior results in targeted cost adjustments. According to consumer advocates, some sellers employ "surveillance pricing π ," using detailed locational data or other personal indicators to set a price based on an individual's estimated willingness to pay. If a consumer appears particularly eager to purchase, or is in a situation where income or geography leaves few alternatives, they may be subject to a higher price.

Ways to protect consumers

There are several ways to help protect consumers. One is regulatory enforcement that would penalize predatory or anticompetitive behaviors π , ensuring real-time changes are fair and based on actual market conditions—not biased against consumers. Verifying that pricing shifts reflect supply and demand, inventory levels, or market

competition would make consumers feel more confident about business practices and guard against abusive tactics.

Another useful step would be greater corporate transparency around pricing. Little is understood about how online pricing differs from traditional retail behavior, so firms must disclose the data they collect and how it influences their pricing. This insight would clarify how widespread dynamic pricing has become across various sectors, allowing for more vigorous enforcement of the laws meant to protect digital consumers.

Government regulators need better tools to assess how online markets work, what kinds of algorithms firms are using, and how companies incorporate shopping behavior in their digital pricing. The European Union's [Digital Services Act](#) mandates transparency in online transactions, providing consumers with the information they need to make more informed shopping decisions.

There are similar approaches at the state level. For example, Governor Wes Moore (D-Md.) introduced the [Protection from Predatory Pricing Act](#), designed to mitigate nefarious or anticompetitive practices. It prohibits dynamic pricing or the use of surveillance tools to personalize charges. In addition, stores must maintain publicized prices for at least 24 hours and cannot use electronic labels for instantaneous pricing shifts. The goal is to protect consumers and make sure the latest technology tools don't disadvantage them in systematic ways.

The state of New York already has enacted legislation [outlawing personalized pricing](#). It requires retailers to post disclosures that a "price was set by an algorithm using your personal data" when firms deploy AI or other digital tools to set individual-based prices. The bill seeks to level the playing field between businesses and consumers to protect people from predatory behavior. These policies, along with increased consumer awareness of this trend, can bring greater transparency and fairness to the online marketplace, both of which would make a big difference for consumers who are increasingly worried about affordability.