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Personalised Pricing in the Digital Era – Note by the United States

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More documentation related to this discussion can be found at:

www.oecd.org/daf/competition/personalised-pricing-in-the-digital-era.htm

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1. Introduction

1. Personalized pricing involves the use of data analytics to provide distinct prices to consumers based on personal characteristics and behaviors. For example, an online merchant may be able to use web browsing habits and other data sources to glean the likely gender, income, and age of an individual, and offer a personalized price based on this information.

2. Personalized pricing has potential implications for both competition and consumer protection policy. From a competition standpoint, personalized pricing is a form of price discrimination, where each consumer receives an individual price based on the available information about the consumer. As such, the potential competitive effects of personalized pricing are similar to those spelled out in the U.S.'s 2016 submission on price discrimination. There, we concluded that:

> *Price discrimination is common in many markets. In many instances, price discrimination enhances market competition. In the United States, price discrimination is often viewed as efficient. In certain limited circumstances, price discrimination might feature as an aspect of an exclusionary strategy meant to enhance or protect market power. Intervention should be limited to preventing these exclusionary abuses.*[1]

3. Nor does the mere fact that different consumers pay different prices raise consumer protection concerns. U.S. consumer protection laws are designed to assure that markets are free from fraud and deception so that consumers can make informed choices. Absent accompanying unfair or deceptive conduct, personalized pricing alone does not raise any of these concerns, and therefore provides no basis for intervention.[2]

4. In some circumstances, however, deception surrounding personalized pricing could raise consumer protection issues. For example, a firm might harm some consumers if it were to break a material promise not to engage in personalized pricing. Similarly, the collection and use of personal data used in personalized pricing could implicate privacy

[1] FTC/DOJ Submission to Roundtable on Price Discrimination, DAF/COMP/WD(2016)69 at 6.

[2] Note that in analyzing the potential effects of a proposed merger, the ability of firms to charge customer-specific prices may lead the Agencies to examine the effects on a targeted group of customers. U.S. Dep't of Justice and the Fed. Tr. Comm'n, Horizontal Merger Guidelines §4.0 (2010), available at https://www.ftc.gov/sites/default/files/attachments/mergerreview/100819hmg.pdf, § 4.1.4. The Agencies often consider markets for targeted customers when prices are individually negotiated and suppliers have information about customers that would allow a hypothetical monopolist to identify customers that are likely to pay a higher price for the relevant product; in some sense, these prices could be considered unique to each customer. However, rather than alleging markets as narrow as individual customers, the Agencies often define markets for groups of targeted customers, that is, by type of customer, rather than individual customer. *See, e.g.,* FTC v. Wilhelmsen Maritime Services, No. 18-cv-00414 (D.D.C. 2018), https://www.ftc.gov/enforcement/cases-proceedings/171-0161/wilhelm-wilhelmsen-et-al-ftc-v.

concerns. For example, consumer harm could arise if a company collecting personal data that helps inform a personalized pricing algorithm violated material promises related to the collection and use of those data. Further, if personalized pricing were based on factors like race, religion, gender, or national origin, it could violate certain U.S. antidiscrimination laws.

2. Personalized Pricing Defined

5. Personalized pricing occurs when firms tailor prices based on observed and inferred information about individuals. According to one definition, personalized pricing is a type of price discrimination in which:

> *businesses may use information that is observed, volunteered, inferred, or collected about individuals' conduct or characteristics, to set different prices to different consumers (whether on an individual or group basis), based on what the business thinks they are willing to pay.*[3]

6. Theoretically, a personalized pricing regime by a monopolist seller with perfect information on consumer preferences would charge each customer his or her willingness to pay for the good or service in question. Personalized pricing should be distinguished from dynamic pricing where prices vary with market conditions. For example, ride-sharing apps, airlines, hotels, and event venues engage in yield management strategies that result in prices changing based on supply and demand conditions.

7. The technology for some degree of personalized pricing appears to exist: even if they do not have perfect information, companies already collect and use large amounts of data based on online and offline consumer interactions to target advertisements. But there is little evidence of widespread use of data to tailor prices to individual consumers. Companies may be reluctant to engage in personalized pricing online because of competition from other sellers, or because consumers could learn to game the system, which may undercut a firm's ability to tailor prices.[4] Some research also suggests that consumers may be uncomfortable with the general idea of personalized pricing.[5]

8. Of course, that some consumers do not receive the lowest price offered does not raise the type of consumer protection concerns that would merit market intervention. Nor does market intervention appear to be necessary to curb personalized pricing conduct.

[3] Office of Fair Trading, Personalized Pricing: Improving Transparency to Improve Trust at 2, (May 2013), at https://webarchive.nationalarchives.gov.uk/20140402165101/http:/oft.gov.uk/shared_oft/markets-work/personalised-pricing/oft1489.pdf

[4] See Brian Wallheimer, Are you Ready for Personalized Pricing?, Chicago Booth Rev., at 8 (Feb. 26, 2018). As noted in the prior Submission to Roundtable on Price Discrimination, new data gathering techniques, especially when deployed to collect consumer information online, potentially make it easier to price discriminate; these techniques may also facilitate personalized pricing. However, consumers may take steps to limit the utility of this data, for instance by operating anonymously by refusing to log-in, deleting internet cookies, or utilizing IP masks. As a result, the practical effect of new technologies on pricing strategies remains uncertain. *Supra* note 1 at 2.

[5] See Justus Haucap et al., When Customers Are—and Aren't—OK with Personalized Prices, Harvard Bus. Rev. (May 31, 2018).

Indeed, consumer discomfort with personalized pricing may be the reason why there appear to be so few documented cases of personalized pricing despite the fact that it appears to be technologically possible.[6]

3. Competition Issues and Welfare Effects

9. Antitrust laws seek to protect price competition, which is a tenet of the U.S. economy. However, antitrust laws do not condemn, absent harm to the competitive process, a firm's charging whatever price the market may bear. Accordingly, 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.

10. Economic analysis sheds light on the potential welfare effects of personalized pricing, and can assist policy makers in understanding its potential competitive effects. The welfare effects of price discrimination are complicated and difficult to generalize. Third-degree price discrimination involves offering different prices to different consumer segments based on characteristics that may be correlated with willingness to pay. A common example is offering discount movie tickets for students or discounted "early-bird" dinners designed to attract seniors. Second-degree price discrimination uses techniques like metering and quantity discounts to segment consumers according to their preferences and willingness to pay. For example, a firm selling printers may extract more revenue from heavy users through sales of ink cartridges. Finally, first-degree or "perfect" price discrimination involves charging each consumer his or her exact willingness to pay.

11. Although the welfare effects of second- and third-degree price discrimination are theoretically indeterminate,[7] first-degree price discrimination unambiguously increases total welfare. By offering discounts to consumers whose marginal value of the good is greater than the good's marginal cost of production, a firm engaging in first-degree price discrimination expands output and eliminates the deadweight loss associated with market power. With price discrimination, more consumers are able to purchase the monopolist's product. Although perfect price discrimination expands total welfare, a monopolist employing it extracts all consumer surplus, leaving some consumers worse off than under simple monopoly pricing.

12. It is important to note that in practice, personalized pricing is unlikely to arrive at prices that are equal to each individual's willingness to pay, like the theoretical perfect price discrimination. Instead, firms are likely to be able to use data to place consumers into increasingly narrower groups of consumers who exhibit similar traits and behaviors. The quality of the information about consumer preferences is a limiting factor in identifying consumers' willingness to pay. Therefore, actual personalized pricing may be closer to third than to first-degree price discrimination.

13. Nonetheless, to the extent that personalized pricing allows firms to engage in something resembling perfect first-degree price discrimination (with prices tailored to

[6] For example, in 2000 Amazon suffered a backlash when it was found to be offering different prices for the same good. See Chicago Booth Rev. at 9.

[7] For a full analysis of the welfare effects of third-degree price discrimination *see* Hal Varian, *Microeconomic Analysis* (3rd ed., 1992), 250-53.

estimated willingness to pay), it will tend to improve total welfare as explained above. Further, personalized pricing may raise consumer welfare by enhancing competition.

14. Personalized pricing could in some cases enhance competition, increasing both total and consumer welfare. In particular, personalized pricing may intensify competition by allowing firms to target prices to poach their rivals' customers.[8] For example, if data show that a consumer prefers firm A to firm B, personalized pricing may allow firm A to charge this consumer a higher price. However, if firm B has similar knowledge about this consumer, it can target a discount to compensate them for their preference for firm A. This competitive pressure may force firm A to lower its price to win this consumer's purchase. In this manner, the competitive use of personalized pricing could lower prices for all consumers, increasing both total welfare and consumer welfare.[9]

15. Finally, U.S. antitrust laws do not prohibit a firm with market or monopoly power from charging any price that the market will bear.[10] Such market prices are integral to well-functioning markets because they provide informative signals about market conditions. This prescription also applies to personalized pricing, which has the potential to ameliorate static welfare losses from monopoly and oligopoly pricing.

4. Consumer Protection Issues

16. Personalized pricing by itself does not raise consumer protection issues that require intervention because it does not impact the accuracy of marketplace information available to consumers. Instead, personalized pricing is redistributive – some consumers benefit, because they have access to products at lower prices than they otherwise would; while some consumers may lose, because they could pay higher prices than they would if the firm were to charge a single price. Further, unlike unfair or deceptive practices, personalized pricing generally has the potential to enhance total welfare. As discussed in more detail below, absent some indication of deception or discrimination, personalized pricing is not likely to raise consumer protection concerns.

17. Although personalized pricing by itself does not appear to raise consumer protection issues under U.S. law, there are scenarios in which consumer protection concerns could arise. For example, if a firm were to break a promise or misrepresent that it would refrain from engaging in personalized pricing, it would harm to those consumers who found the promise material to their purchase decision. Further, although the use of consumer data to tailor prices alone would not violate the FTC Act in the absence of deception or unfairness, if the data feeding a pricing algorithm were collected or used in a

[8] See, e.g., Jacques-Francois Thisse & Xavier Vives, *On the Strategic Choice of Spatial Price Policy*, 78 Am. Eon. Rev. 122 (1988); Cooper, Froeb, O'Brien, & Tschantz, *Does Price Discrimination Intensify Competition? Implications for Antitrust*, 72 Antitrust L.J. 327 (2005).

[9] It is possible that personalized pricing could spur dissipative expenditures by firms and consumers. For example, investment in resources to better identify willingness to pay merely to capture surplus from inframarginal consumers is socially wasteful. Similarly, customers with high willingness to pay who get higher personalized prices may engage in costly behavior designed to hide their true willingness to pay, which again dissipates surplus. *See, e.g.*, Jack Hirshleifer, *The Private and Social Value of Information and the Reward to Inventive Activity*, 61 Am. Econ. Rev. 561 (1971).

[10] See, e.g., Verizon Comm'n, Inc. v. Law Offices of Curtis V. Trinko, 540 U.S. 398, 407 (2004).

manner that violated a material promise, it could cause consumer harm and implicate the FTC Act. For example, the FTC has charged digital advertising platforms with violations of the FTC Act for falsely representing the ability of consumers to restrict online or location tracking.[11]

18. Personalized pricing also could violate antidiscrimination law if pricing were based on certain protected consumer characteristics. For example, the FTC enforces the Equal Credit Opportunity Act (ECOA), which prohibits credit discrimination on the basis of race, color, religion, national origin, sex, marital status, age, or the receipt of public assistance. Offering prices for credit based on these protected characteristics could trigger the ECOA. Other equal opportunity laws, such as Title VII, the Age Discrimination in Employment Act, the Fair Housing Act, and the Genetic Information non-discrimination Act, protect consumers from "disparate treatment" or "disparate impact," based on protected characteristics, such as race, gender, religion, age, disability status, national origin, marital status, and genetic information. Personalized prices (or wages) based on some of these protected characteristics could implicate some of these laws.

19. Finally, the FTC also enforces the Fair Credit Reporting Act (FCRA), which covers the reporting of consumer data by consumer reporting agencies, when the data are used for decisions about credit, employment, insurance, or similar eligibility requirements.[12] In some circumstances, determining eligibility for access to certain price offers (e.g., interest rates, rent, or insurance rates) could trigger FCRA requirements.

5. Conclusion

20. Antitrust and consumer protection law are complementary tools conceived to assure that markets function for consumers. Antitrust enforcement polices the market for behavior that unreasonably restricts the competitive process, while consumer protection enforcement is designed to remove deception and fraud from the marketplace. In the absence of accompanying anticompetitive, unfair, or deceptive conduct, personalized pricing, in and of itself, provides no justification for intervention under either body of law, as the practice does not appear to hinder market function and, indeed, has the very real potential to increase welfare. In light of the theoretical ambiguities and with virtually no real-world experience on which to evaluate the practice, there is not a compelling case for banning personalized pricing.

[11] See, e.g., Turn, Inc., File No. 1523099 (defendant falsely represented to consumers the extent to which they could restrict Turn's tracking of their online activities); *U.S. v. InMobi Pte Ltd.,* Case No.: 3:16-cv-3474 (N.D. Ca. June 22, 2016) (defendant falsely represented that it was tracking the location of consumers).

[12] 15 USC 1681