

**WHAT DO WE WORRY ABOUT WHEN WE WORRY ABOUT
PRICE DISCRIMINATION?
THE LAW AND ETHICS OF USING PERSONAL
INFORMATION FOR PRICING**

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INTRODUCTION

In debates over new information technologies, it is sometimes argued that an important reason to protect privacy is the possibility that personal information may be used to subject shoppers to price discrimination based on their identity, traits, or habits.¹ Although this argument appears in numerous places, it has heretofore received little comprehensive treatment. This Article seeks to explore the legal and ethical principles implicated in the use of personal information for retail pricing. It strives to articulate the case for regulating the information flows between sellers and buyers because of the effects that information might have on the prices that consumers will encounter in the marketplace.

This Article takes its cue from Helen Nissenbaum's theory of Contextual Integrity, which sees the flow of information as governed by the norms belonging to distinct social contexts,² and by the theories that conceive of information privacy as implicating several distinct human interests.³ Under this view of privacy, it is apt to look closely at the specific concerns of consumers over information practices in the context of retail markets—such as the desire to receive better prices and better products, being treated fairly, and the just allocation of goods through the markets—without delving into a broader discussion of privacy in the abstract.

Attention will be given to “informational remedies”—the approaches that law and policy can take in order to remedy informational harms. Choosing the right solution entails difficult choices, such as deciding if it is appropriate to restrict seller's ability to collect certain kinds of information, prohibit specific sales practices, or whether to compel the seller to disclose information about its sales practices, instead of restricting the seller's ability to engage in those practices altogether.⁴ Before reaching the right solutions, however, the problems must be clearly understood.

1. A note on terminology: in this Article, I use the term “price discrimination” in the broadest sense to denote the various methods of offering essentially the same product for different prices to different people. “Targeted pricing” denotes prices offered to the identified individuals. “Dynamic pricing” denotes prices that are updated frequently.

2. See generally HELEN NISSENBAUM, *PRIVACY IN CONTEXT: TECHNOLOGY, POLICY, AND THE INTEGRITY OF SOCIAL LIFE* (2010) (discussing the contextual integrity theory).

3. See JEROEN VAN DEN HOVEN, *Privacy and the Varieties of Informational Wrongdoing*, in *READINGS IN CYBERETHICS* 488–500 (Richard A. Spinello & Herman T. Tavani eds., 2001) (cited in NISSENBAUM, *supra* note 2, at 78–81).

4. See Tal Zarsky, *Desperately Seeking Solutions: Using Implementation-Based Solutions for the Troubles of Information Privacy in the Age of Data Mining and the Internet Society*, 56 ME. L. REV. 13, 22–24 (2004); see also Lior Jacob Strahilevitz, *Reputation Nation: Law in an Era of Ubiquitous Personal Information*, 102 NW. U. L. REV. 1667, 1711–13 (2008).

I. THE MODERN LANDSCAPE OF RETAIL PRICE DISCRIMINATION

A. Retail in the Information Age—A Brief Sketch

The term “price discrimination” refers to a variety of strategies for selling essentially identical products to different people for different prices.⁵ A few illustrative examples will suffice: setting price by face-to-face haggling; store discount cards; coupons; “buy one, get the second 50% off” deals; seniors’ discounts; rapidly-changing airline ticket prices—the list goes on. Price discrimination methods such as these have been around since time immemorial. However, new information technologies in recent years continue to create new opportunities for tailoring prices to individual consumers.

As information technologies began to revolutionize marketing, online price-comparison sites, coupon providers, and auctions proliferated. Observing these trends, early proponents had hoped that the Internet would eliminate information inequalities between consumers and sellers.⁶

With some hindsight, however, it has become clear that the vision of fully informed and empowered consumers did not materialize. As shoppers gained access to new price comparison tools, so too were retailers increasingly relying on pricing technologies to their own advantage and offering different prices to consumers across different marketing channels—traditional ads, online marketing, social media, and in-store selling.⁷ The variety of marketing venues created opportunities to tailor marketing approaches to individual consumers in new ways, including individually tailored pricing. Some of these marketing trends deserve closer attention.

5. See *infra* Part II.B.2.

6. See P.K. Kannan & Praveen K. Kopalle, *Dynamic Pricing on the Internet: Importance and Implications for Consumer Behavior*, 5 INT. J. ELECTRONIC COM. 63, 66–71, 78–79 (2001) (describing how consumers could respond to price discrimination through retailers using dynamic pricing through price-comparison websites and similar tools); Andrew M. Odlyzko, *Privacy, Economics, and Price Discrimination on the Internet*, ICEC2003: FIFTH INTERNATIONAL CONFERENCE ON ELECTRONIC COMMERCE, ACM 355, 356–60 (N. Sadeh ed., 2003), available at <http://www.dtc.umn.edu/~odlyzko/doc/complete.html> [hereinafter Odlyzko 2003]; see also Florian Zettelmeyer et al., *Consumer Information and Price Discrimination: Does the Internet Affect the Pricing of New Cars to Women and Minorities?* YALE SCHOOL OF MANAGEMENT (2001) (concluding that the Internet provides a disproportional benefit to consumers that traditionally would be at a disadvantage in negotiating the purchase of a new car).

7. See generally CROSSVIEW WHITEPAPERS, <http://www.crossview.com/crossview/us/thoughtleadership/whitepapers> (last visited June 6, 2013); see also RETAILWIRE, *Pricing Transparency: Can Retailers Regain Control?* (Oct. 1, 2012), <http://www.retailwire.com/page/10133/pricing-transparency-can-retailers-regain-control>.

1. Consumer Identification and Tracking

Targeting marketing efforts and prices at different consumers requires an ability to identify consumers and learn something about their tastes by observing their behavior. Consumers can be identified through their credit card information, store discount cards, or by asking them to provide a postal code or address. Online consumers can be identified using cookies, signing in to a website, using third-party credentials, and unique device identifiers.⁸ Once identified, consumers are tracked through the endless digital trail they leave behind.⁹

Offline stores are hurrying to catch up with online tracking abilities.¹⁰ New facial recognition technologies allow sellers to identify and track shoppers through in-store cameras¹¹ sometimes hidden in mannequins.¹² Stores can also identify and track shoppers through their mobile devices.¹³ Some retailers are experimenting with tracking shoppers' movements using radio frequency identification (RFID) tags.¹⁴ In the near future, retailers may track customers through employee-worn wearable cameras.¹⁵

Once identified, retailers are able to mine consumer data in order to

8. See Elizabeth Dwoskin, *Web Giants Threaten End to Cookie Tracking*, WALL ST. J. (Oct. 28, 2013, 6:58 PM), <http://online.wsj.com/news/articles/SB10001424052702304682504579157780178992984>.

9. See UNITED KINGDOM'S OFFICE OF FAIR TRADING, *Online Targeting of Advertising and Prices: A Market Study* 24–25 (May 2010), available at http://www.offt.gov.uk/shared_offt/business_leaflets/659703/OFT1231.pdf [hereinafter OFFICE OF FAIR TRADING]; see also Robert M. Weiss & Ajay K. Mehrotra, *Online Dynamic Pricing: Efficiency, Equity and the Future of E-Commerce*, 6 VA. J.L. & TECH. 11, *10–14 (2001) (detailing methods that online retailers use to continuously track consumers through cookies, recording past visits to website, and click tracking, which allows websites to view a consumer's path as they navigate through advertisements). Behavioral tracking methods are discussed in greater detail in Part I.B., *infra*.

10. Emma Thomasson, *Big Retailer is Watching You: Stores Seek to Match Online Savvy*, REUTERS (Nov. 15, 2013, 1:16 AM), <http://www.reuters.com/article/2013/11/15/net-us-retail-tracking-idUSBRE9AE05R20131115>.

11. *60 Minutes: A Face in the Crowd: Say Goodbye to Anonymity*, CBSNEWS (May 19, 2013), <http://www.cbsnews.com/video/watch/?id=50147158n>.

12. Andrew Roberts, *In Some Stores, the Mannequins are Watching You*, BLOOMBERG BUSINESSWEEK (Dec. 6, 2012), <http://www.businessweek.com/articles/2012-12-06/in-some-stores-the-mannequins-are-watching-you>.

13. See Stephanie Clifford & Quentin Hardy, *Attention Shoppers: Store is Tracking Your Cell*, N.Y. TIMES (July 14, 2013), http://www.nytimes.com/2013/07/15/business/attention-shopper-stores-are-tracking-your-cell.html?pagewanted=all&_r=0; see also Dwoskin, *supra* note 8.

14. Claire Swedberg, *Temporary RFID System Tracks Flow of Shoppers*, RFID J. (Apr. 15, 2013), <http://www.rfidjournal.com/articles/view?10603>.

15. Charles Arthur, *Google 'Bans' Facial Recognition on Google Glass – but Developers Persist*, GUARDIAN (June 3, 2013), <http://www.theguardian.com/technology/2013/jun/03/google-glass-facial-recognition-ban>.

tailor the right marketing and prices to them.¹⁶ According to mathematician and economist Andrew Odlyzko, the motivation to profit through price-discrimination has been a central reason for the adoption of information practices that track consumers.¹⁷

2. Targeted Advertising and Online Coupons

So far, targeted advertising has been the most visible application of identifying and tracking technologies in marketing.¹⁸ By offering discount coupons along with a targeted ad, sellers can price discriminate between loyal self-selected shoppers who sign up for special offers and other potential customers who did not.

Electronic coupons are built to surreptitiously transmit a large amount of consumer information directly to the seller and are used alongside data-mining tools to experiment with prices and discover information about consumers' shopping patterns.¹⁹ The offer of a coupon can induce shoppers to willingly disclose their personal information and build vendor databases.²⁰ Sites like Groupon.com target coupons at potential shoppers based on demographic and location data, combined with shoppers' self-declared preferences.²¹

Despite the similarities, however, targeted pricing represents a different concern than targeted advertising. Consider a simple example, suggested by economist Hal Varian²²: A buyer wishing to buy an apple in the market would not hesitate to tell the vendor that she specifically wants a Jonathan apple because the vendor could immediately find for her the Jonathan apple she wants (if he has it). However, a buyer would not normally tell the vendor the maximum price she is willing to pay for the apple, because the vendor could then increase the price

16. See *infra* Part I.B.

17. See Odlyzko 2003, *supra* note 6, at 356–57.

18. See JOSEPH TUROW, NICHE ENVY: MARKETING DISCRIMINATION IN THE DIGITAL AGE 136–58 (2006) [hereinafter TUROW, NICHE ENVY]; OFFICE OF FAIR TRADING, *supra* note 9, at 14–26; see generally JOSEPH TUROW, BREAKING UP AMERICA: ADVERTISERS AND THE NEW MEDIA WORLD (1997).

19. See Stephanie Clifford, *Web Coupons Know Lots About You, and They Tell*, N.Y. TIMES (Apr. 16, 2010), http://www.nytimes.com/2010/04/17/business/media/17coupon.html?pagewanted=all&_r=0#.

20. OSCAR H. GANDY JR., THE PANOPTIC SORT – A POLITICAL ECONOMY OF PERSONAL INFORMATION 68–70 (1993).

21. See Kathryn Tuggle, *Daily-Deal Sites: Worth the Bargain*, FOX BUS. (July 19, 2011), <http://www.foxbusiness.com/personal-finance/2011/07/19/daily-deal-sites-worth-bargain-or-sig-ning-your-life-away/>.

22. Hal R. Varian, *Economic Aspects of Personal Privacy*, in INTERNET POLICY AND ECONOMICS: CHALLENGES AND PERSPECTIVES 101–02 (William H. Lehr & Lorenzo Maria Pupillo eds., 2009).

accordingly.²³ This example neatly demonstrates that consumers and sellers are natural adversaries over price, even if they share mutual interests in other areas of marketing and advertising.

3. Dynamic Pricing

The term “dynamic pricing,” sometimes conflated with price discrimination, denotes any frequent adjustments and fluctuations of posted prices.²⁴ In the past, sellers adjusted their posted prices every few weeks or months; but today’s retailers are able to adjust their prices every few hours, thanks to tools that automatically check competitor prices using price-comparison bots.²⁵

While not all dynamic pricing is personally targeted, it is possible to tailor posted prices to individual buyers online.²⁶ As we shall see, the ability to automatically change the posted price for each individual shopper without the shopper’s knowledge is perhaps the most troubling form of price discrimination to consumers.

4. Consumer Relationship Management

Consumer Relationship Management (CRM) refers to technological tools for managing ongoing and individualized marketing interactions with customers.²⁷ These may include customizing products, interacting with customers via social media, tailoring levels of customer service, and targeting discounts.²⁸ The premise behind CRM is that it is better to retain loyal high-value customers over time through sustainable relationships than to constantly acquire new customers to replace lost ones.²⁹

23. *Id.*

24. See Kannan & Kopalle, *supra* note 6, at 63; see also Rafi Mohammed, *Why Online Retailers’ New Pricing Strategy Will Backfire*, HBR BLOG NETWORK (Dec. 9, 2012, 12:00 PM), http://blogs.hbr.org/cs/2012/12/why_online_retailers_new_prici.html.

25. Kannan & Kopalle, *supra* note 6, at 64, 68–69.

26. Anita Ramasastry, *Web Sites Change Prices Based on Customers’ Habits*, CNN (June 24, 2005, 3:14 PM), <http://www.cnn.com/2005/LAW/06/24/ramasastry.website.prices/>.

27. See Samara Lynn, *What is CRM?*, PC MAG. (Aug. 18, 2011), <http://www.pcmag.com/article2/0,2817,2391297,00.asp>.

28. See Bang Nguyen, *The Dark Side of Customer Relationship Management: Exploring the Underlying Reasons for Pitfalls, Exploitation and Unfairness*, DATABASE MARKETING & CUSTOMER STRATEGY MANAGEMENT, Mar. 2012, at 56, 58–59 (2012).

29. See generally *id.* at 56-70; AXCIOM CORPORATION ‘EXCUSE ME, HAVE WE MET BEFORE?’ HOW KNOWLEDGE-BASED CUSTOMER RECOGNITION HELPS YOU REALLY KNOW YOUR CUSTOMER (2011).

B. Pricing Practices Using Personal Information

In 2000, shoppers were astonished to discover that Amazon had sold identical DVDs at different posted prices to different shoppers on its website.³⁰ Following the media scandal, Amazon apologized for what it called a “price test” and offered refunds to those who paid the higher prices.³¹ Amazon maintained that the prices shown to shoppers were completely random.³² However, many suspected that Amazon was engaging in targeted dynamic pricing.³³ This event was one of the first major news stories to draw public attention towards dynamic pricing and price discrimination in the information age. Subsequent media coverage continues to reflect distrust towards firms that secretly engage in price discrimination using consumer’s personal information.³⁴ Since then, very few retailers have adopted online dynamic pricing of the kind attempted by Amazon. An empirical study of online price discrimination by Mikians et al. conducted in 2012 examined a sample of 200 retail sites, and observed very few instances of targeted dynamic pricing on the inspected websites.³⁵

Nonetheless, since the Amazon episode, many marketing scholars, economists, and legal scholars have noted that other forms of price discrimination are becoming more widespread and are increasingly reliant on consumer’s personal information.³⁶ While the trend towards

30. David Streitfeld, *On the Web, Price Tags Blur*, WASH. POST, Sept. 27, 2000, at A01.

31. *Id.*

32. *Id.*

33. *Id.*; see *Bezos Calls Amazon Experiment ‘a Mistake’* PUGET SOUND BUS. J. (Sept. 28, 2000, 3:26 PM), <http://www.bizjournals.com/seattle/stories/2000/09/25/daily21.html>.

34. See, e.g., Editorial, *Frequent Fliers, Prepare to Pay More*, N.Y. TIMES (Mar. 3, 2013), http://www.nytimes.com/2013/03/04/opinion/frequent-fliers-prepare-to-pay-more.html?_r=0; Kevin Drum, *Why You Should Be Wary of Price Discrimination in the Retail World*, MOTHER JONES (Aug. 13, 2012, 5:13 AM), <http://www.motherjones.com/kevin-drum/2012/08/price-discrimination>; Kashmir Hill, *How Target Figured Out A Girl Was Pregnant Before Her Father Did*, FORBES (Feb. 16, 2012, 11:02 AM), <http://www.forbes.com/sites/kashmirhill/2012/02/16/how-target-figured-out-a-teen-girl-was-pregnant-before-her-father-did/>; see also Ramasastry, *supra* note 26; Natasha Singer, *Mapping, and Sharing, the Consumer Genome*, N.Y. TIMES (June 12, 2012), <http://www.nytimes.com/2012/06/17/technology/acxiom-the-quiet-giant-of-consumer-database-marketing.html?pagewanted=all>; see also Scott Woolly, *I Got It Cheaper than You*, FORBES (Nov. 2, 1998, 12:00 AM), <http://www.forbes.com/forbes/1998/1102/6210082a.html>.

35. Jakub Mikians et al., *Detecting Price and Search Discrimination on the Internet*, PROCEEDINGS OF THE 11TH ACM WORKSHOP ON HOT TOPICS IN NETWORKS 79, 79–80, 82–84 (Oct. 2012).

36. See, e.g., Alessandro Acquisti & Hal R. Varian, *Conditioning Prices on Purchase History*, 24 MARKETING SCI. 367, 367–69 (2005); see also Odlyzko 2003, *supra* note 6, at 6–7; Curtis R. Taylor, *Consumer Privacy and the Market for Consumer Information* 35 RAND J. ECON. 631, 631–33 (2004); Daniel D. Barnhizer, *Propertization Metaphors for Bargaining Power and Control of the Self in the Information Age*, 54 CLEV. ST. L. REV. 69, 75–79 (2006);

more individualized marketing is undeniable, the impression that personalized data-driven pricing is becoming widespread largely rests on anecdotal evidence. Some claims about marketers' ability to predict shoppers' wants and willingness to pay are almost certainly hype. More empirical research is needed to understand how prevalent price discrimination methods really are and precisely how they use consumer personal information.

It is the concern over consumer privacy in today's retail environment, more than concern over price discrimination, which has prompted the U.S. Congress³⁷ and the Federal Trade Commission³⁸ to seek answers from the retailers and data brokers about the ways in which they gather and use consumer information. As this article will argue, the impact of information practices on pricing should be part of their agenda as well.

Although public knowledge about data-driven pricing is incomplete, a number of methods stand out.

1. Data Mining and Consumer Profiling

One such method is to target prices based on detailed personal profiles of shoppers. The wealth of data gathered through tracking technologies can be combined with advanced data-mining techniques in order to discover associations and connections between demographic characteristics and preferences for products, or to predict consumers' reactions to changes in price or special deals.³⁹ These technologies make it theoretically possible to apply sophisticated pricing models to individual consumer profiles through automated price-setting systems in

see also Weiss & Mehrotra, *supra* note 9, at 10–14; *see also* Mark Klock, *Unconscionability and Price Discrimination* 66 TENN. L. REV. 317, 330–31 (2002); Rajiv Dewan et al., *Adoption of Internet-Based Product Customization and Pricing Strategies*, PROCEEDINGS OF THE 33D ANNUAL HAWAII INTERNATIONAL CONFERENCE ON SYSTEM SCIENCES, 1, 1–2 (2000); Joseph Turow et al., *Open to Exploitation: America's Shoppers Online and Offline* 6–12, (Annenberg Sch. of Comm., Working Paper, 2005), available at http://repository.upenn.edu/asc_papers/35.

37. Natasha Singer, *Senator Intensifies Probe of Data Brokers*, N.Y. TIMES BITS BLOG (Oct. 24, 2013, 2:56 PM), http://bits.blogs.nytimes.com/2013/10/24/senator-intensifies-probe-of-data-brokers/?_r=0.

38. FEDERAL TRADE COMMISSION, *PROTECTING CONSUMER PRIVACY IN AN ERA OF RAPID CHANGE: RECOMMENDATIONS FOR BUSINESSES AND POLICYMAKERS* 47 (2012), available at <http://ftc.gov/os/2012/03/120326privacyreport.pdf>; Press Release, Federal Trade Commission, FTC to Study Data Broker Industry's Collection and Use of Consumer Data (Dec. 18, 2012), available at <http://www.ftc.gov/opa/2012/12/databrokers.shtm>.

39. *See* Alexander Furnas, *Everything You Wanted to Know about Data Mining but Were Afraid to Ask*, ATLANTIC (Apr. 3, 2012, 11:33 AM), <http://www.theatlantic.com/technology/archive/2012/04/everything-you-wanted-to-know-about-data-mining-but-were-afraid-to-ask/255388/>.

order to target personalized prices to individual consumers.⁴⁰

Recent decades have seen the growth of consumer data brokers into a multi-billion dollar industry. Each data broker has its own special recipe for combining data sources and marketing strategies: Acxiom Corporation, one of the largest data brokers, obtains its information from publicly available records, commercial entities, and retailer records of consumers' purchases.⁴¹ It also reportedly collects information on user queries and habits from search engines and social media.⁴² Credit reporting agency Experian focuses its data-gathering attention on consumer's "life-event triggers"; Equifax, also a credit reporting agency, uses detailed salary and paystub information to profile consumer wealth.⁴³ Targeted advertising provider Epsilon discovers people's interests through their reading habits and cause donations, among other sources.⁴⁴ Datalogix collects vast information on consumer purchases from store loyalty cards and retailer records, including information on health-related purchases.⁴⁵ Consumer data broker eBureau combines thousands of data variables to provide "e-scores" of consumers' estimated buying power.⁴⁶ Google's advertising networks AdSense and AdWords target customers based on users' Google search queries, Gmail accounts, and activity on its services.⁴⁷ Social networks such as Facebook use data that users share about themselves and others through social interactions, as well as information provided from apps and affiliates who use their platform.⁴⁸

Yet for all their sophistication, experience reveals that data brokers'

40. See Viktor Mayer-Schonberger & Kenneth Cukier, *BIG DATA: A REVOLUTION THAT WILL TRANSFORM HOW WE LIVE, WORK, AND THINK* 123–28 (2013); see also Gregory E. Smith & Michael S. Rimler, *Will You Be Mined? Ethical Considerations of Opt-In Loyalty Programs and Price Discrimination*, 10 *ISSUES IN INFO. SYS.* 204, 204-08 (2009); see also Furnas, *supra* note 39; *Understanding Predictive Analytics*, FICO, <http://www.fico.com/en/resources/predictive-analytics/understanding-predictive-analytics/> (last visited Apr. 19, 2013).

41. Dan Tynan, *Acxiom Exposed: a Peek Inside One of the World's Largest Data Brokers*, *IT WORLD* (May 15, 2013, 4:19 PM), <http://www.itworld.com/it-management/356637/acxiom-exposed-peek-inside-one-world-s-largest-data-brokers>; see Singer, *supra* note 34.

42. Lois Beckett, *Everything We Know About What Data Brokers Know About You*, *PROPUBLICA* (Sept. 13, 2013, 11:21 AM), <http://www.propublica.org/article/everything-we-know-about-what-data-brokers-know-about-you>.

43. *Id.*

44. *Id.*

45. *Id.*

46. Natasha Singer, *Secret E-Scores Chart Consumers' Buying Power*, *N.Y. TIMES* (Aug. 18, 2012), http://www.nytimes.com/2012/08/19/business/electronic-scores-rank-consumers-by-potential-value.html?_r=0 [hereinafter, Singer, *Secret E-Scores*].

47. See *AdSense*, *GOOGLE*, <http://www.google.com/adsense/start/> (last visited Aug. 4, 2013); *AdWords*, *GOOGLE*, <http://www.google.com/adwords/> (last visited Aug. 4, 2013).

48. *Data Use Policy*, *FACEBOOK*, https://www.facebook.com/full_data_use_policy, (last updated Nov. 15, 2013).

consumer profiles are often inaccurate, sometimes far off the mark.⁴⁹ This in itself can be a source of consumer dissatisfaction and problems.⁵⁰

Consumer data brokers operate under a heavy mantle of secrecy about the sources of their information, the ways they build consumer profiles, and the clients to whom they sell them.⁵¹ Some data brokers allow consumers to opt-out of being tracked online by online cookies.⁵² But only a handful of data brokers offer consumers a limited ability to view the profiles that data-brokers have collected about them, a chance to correct them, or the choice to opt-out of receiving targeted marketing.⁵³

The algorithms used by data brokers to rank and sort consumers are closely guarded trade secrets.⁵⁴ Indeed, secrecy is characteristic of many kinds of business decisions that rely upon algorithms, from credit worthiness to online reputation.⁵⁵ Proponents of such secret practices typically argue that the confidentiality of algorithms is necessary in order to prevent people from “gaming” the system and foster innovation and competition.⁵⁶ Whatever the benefits of algorithmic decision making for businesses, there are serious social consequences when important marketplace decisions are governed by opaque and complex “black boxes.”⁵⁷

The heavy reliance of marketers on data broker’s data leads many to assume that this data is also used for personalized pricing.⁵⁸ However,

49. See Deborah Pierce & Linda Ackerman, *Data Aggregators: A Study of Data Quality and Responsiveness*, CSUN (May 19, 2005), <http://www.csun.edu/~dwm3265/IS312/DataAggregatorsStudy.pdf>; Thomas H. Davenport, *Don’t Take Data Accuracy for Granted*, WALL ST. J. (Oct. 9, 2013, 2:45 PM), <http://blogs.wsj.com/cio/2013/10/09/dont-take-data-accuracy-for-granted/>.

50. See Davenport, *supra* note 49.

51. Beckett, *supra* note 42; Singer, *Secret E-Scores*, *supra* note 46.

52. One such opportunity is the new initiative by the Digital Advertising Alliance to allow opt-out of tracking cookies. See *Frequently Asked Questions*, YOUR ADCHOICES, <http://www.youradchoices.com/faq.aspx> (last visited Feb. 23, 2014).

53. See ACXIOM CORPORATION, <https://aboutthedata.com/> (last visited Feb. 23, 2014); see also Adam Tanner, *Data Firms Nix Showing You Dossier They Keep on You*, FORBES (Oct. 18, 2013, 10:19 AM), <http://www.forbes.com/sites/adamtanner/2013/10/18/firms-nix-showing-you-dossier-they-keep-on-you/>; see also *Settings for Google Ads*, GOOGLE, <http://www.google.com/settings/ads> (last visited Feb. 23, 2014); see also *Power to the People*, BLUE KAI, www.bluekai.com/consumers.php (last visited Feb. 23, 2014); see also *Rapleaf Opt-out*, RAPLEAF, <http://www.rapleaf.com/opt-out/> (last visited Nov. 13, 2013).

54. See Frank Pasquale, *The Emperor’s New Codes: Reputation and Search Algorithms in the Finance Sector 6* (Apr. 16, 2013) (unpublished manuscript) (on file with author), available at <http://governingalgorithms.org/wp-content/uploads/2013/05/2-paper-pasquale.pdf>.

55. *Id.* at 3.

56. *Id.* at 27.

57. *Id.* at 4.

58. See Alessandro Acquisti & Hal R. Varian, *Conditioning Prices on Purchase History*,

because of the prevailing secrecy in the consumer data industry, it is a matter of conjecture how businesses actually translate the detailed profiles provided by consumer data brokers into individual price offers, and how widespread these practices are.⁵⁹

2. Purchase History

Data mining of consumer purchase histories is a particular brand of retail data aggregation. Sellers can now instantly access and analyze huge amounts of transaction data gathered through store loyalty cards and payment records.⁶⁰ Using this information, sellers can tailor discounts to their preferred customers at the checkout counter or offer an electronic coupon to entice them to buy more.⁶¹

Some data brokers allow retailers not only to reach their own past shoppers, but also to target their competitors' customers through their purchase histories. A leading company in retail purchase analysis is Datalogix, which boasts information on the purchases of over 110 million U.S. households, pertaining to over \$1 trillion dollars in consumer spending and covering over 1400 leading brands.⁶² The information is layered on top of demographic, financial, and lifestyle data about consumers.⁶³ Here too, business secrecy prevents the public from knowing whether consumers are being profiled for their precise price sensitivity based on their purchase history. However, it is widely known that stores target ads, coupons, and special offers to customers based on their past purchases.⁶⁴

3. Location-Based Discrimination

One long-established technique for differentiating prices is based on the buyer's location.⁶⁵ This technique offers retailers a rough profile of consumers using their zip codes or home addresses in order to tell

24 *MARKETING SCI.* 367, 367–69 (2005).

59. See Turow et al., *supra* note 36, at 7–11.

60. See Stephanie Clifford, *Shopper Alert: Price May Drop for You Alone*, N.Y. TIMES (Aug. 10, 2012), http://www.nytimes.com/2012/08/10/business/supermarkets-try-customizing-prices-for-shoppers.html?pagewanted=all&_r=0; *Home Depot Privacy Pratfall: Spotting Web Shoppers In-Store*, FIERCE RETAIL IT (Jan. 16, 2013), <http://www.fierceretail.com/retailit/story/home-depots-privacy-pratfall-use-payment-cards-to-id-online-shoppers-when-they-come-in-store> [hereinafter *Home Depot*].

61. See Clifford, *supra* note 60; *Home Depot*, *supra* note 60.

62. DATALOGIX, <http://www.datalogix.com/industries/retail/> (last visited Feb. 23, 2014).

63. *Measurements and Insights*, DATALOGIX, <http://www.datalogix.com/measurement-and-insights/> (last visited Feb. 23, 2014).

64. See Clifford, *supra* note 60.

65. See Weiss & Mehrotra, *supra* note 9, at 1.

affluent from less wealthy customers based on their neighborhoods.⁶⁶ This technique has been used by mail-order catalogue companies for decades and is now part of the arsenal of online and offline retailers as well.⁶⁷ By identifying the location of online shoppers, chain stores like Staples and Home Depot can offer higher prices to shoppers who live far from the their competitors' stores.⁶⁸ This tactic often benefits people living in high-income areas with more shopping venues over those in lower-income areas with fewer shopping options.⁶⁹

4. Browser-Based, Browsing History, and URL Based Discrimination

Online retailers use an assortment of “rough and ready” indicators about individual consumers in order to profile and sort budget-constrained from affluent shoppers.

One such method, changing product search results based on browser type, came to the public's attention when it was observed that the travel site Orbitz steered users of Mac computers towards pricier hotels than PC users.⁷⁰ This practice, though not strictly speaking price discrimination, has been dubbed “search discrimination.”⁷¹ However, the study by Mikians et al. disputes whether browser-based price discrimination is taking place at all and found only scant evidence of search discrimination.⁷²

Another method is to target discounts to shoppers who use price-comparison shopping sites using the originator URL of a search query, while showing full-price products to shoppers who browse the retailer's own website.⁷³ Mikians et al. found a few instances of URL discrimination, with a mean difference of 23% between discounted and posted prices.⁷⁴

The unsavory practice of “history sniffing” snatches the user's web viewing history by exploiting vulnerabilities in certain Internet browsers.⁷⁵ The practice has led to several lawsuits,⁷⁶ and an FTC

66. Jennifer Valentino-Devries et al., *Websites Vary Prices, Deals Based on Users' Information*, WALL ST. J. (Dec. 24, 2012), <http://online.wsj.com/news/articles/SB10001424127887323777204578189391813881534>.

67. See Weiss & Mehrotra, *supra* note 9, at 26.

68. See Valentino-Devries et al., *supra* note 66.

69. *Id.*

70. Dana Mattioli, *On Orbitz, Mac Users Steered to Pricier Hotels*, WALL ST. J. (Aug. 23, 2012, 6:07 PM), <http://online.wsj.com/news/articles/SB10001424052702304458604577488822667325882>.

71. Mikians et al., *supra* note 35, at 79.

72. *Id.* at 82.

73. *Id.* at 83.

74. *Id.* at 84.

75. See Chloe Albenasius, *Web Surfing Activity Vulnerable to 'History Sniffing' Report*

charge against an ad network that resulted in a settlement order.⁷⁷ However, Mikians et al. found no evidence that different web search histories led to different displayed prices in the websites they checked.⁷⁸

II. THE ECONOMICS OF PRICE DISCRIMINATION

A. Basic Premises and Conditions for Price Discrimination

Competitive markets normally tend towards a range of prices for similar products. Even under the best conditions, consumers have imperfect information about the best available prices.⁷⁹ Consumers must put effort into a search for the best deals and inevitably incur some costs in doing so.⁸⁰ The natural dispersion of prices means that sellers have an incentive to adopt a price discrimination strategy in order to gain from the higher-paying customers.⁸¹ However, in order for sellers to do so successfully, a few conditions must be satisfied:

Firstly, the seller must have at least a small measure of market power, even if only for a short while, and cannot be a pure “price-taker.”⁸² Secondly, the seller must have some control over the sale of the product and the ability to prevent arbitrage by consumers.⁸³ Thirdly, and crucially, the seller must have some way to segment the consumers according to their different price elasticities of demand for the goods or services.⁸⁴

Says, PC MAG. (Dec. 6, 2010, 10:53 AM), <http://www.pcmag.com/article2/0,2817,2373893,00.asp>.

76. See Kashmir Hill, ‘History Sniffing’ Lawsuit Against Interclick Partially Snuffed, FORBES (Aug. 18, 2011, 5:43 PM), <http://www.forbes.com/sites/kashmirhill/2011/08/18/history-sniffing-class-action-lawsuit-against-interclick-gets-snuffed/>; see also Kashmir Hill, *Class Action Lawsuit Filed over YouPorn History Sniffing*, FORBES (Dec. 6, 2010, 7:04 AM), <http://www.forbes.com/sites/kashmirhill/2010/12/06/class-action-lawsuit-filed-over-youporn-history-sniffing/>.

77. Press Release, Federal Trade Commission, FTC Settlement Puts an End to “History Sniffing” by Online Advertising Network Charged With Deceptively Gathering Data on Consumers (Dec. 5, 2012), available at <http://ftc.gov/opa/2012/12/epic.shtm>.

78. Mikians et al., *supra* note 35, at 83

79. Steven Salop & Joseph E. Stiglitz, *The Theory of Sales: A Simple Model of Equilibrium Price Dispersion with Identical Agents*, 72 AM. ECON. REV. 1121, 1121 (1982).

80. *See id.*

81. *Id.*

82. Kathleen Carroll & Dennis Coates, *Teaching Price Discrimination: Some Clarification*, 66 S. ECON. J. 466, 470–71 (1999); Lars A. Stole, *Price Discrimination and Competition*, in 3 HANDBOOK OF INDUSTRIAL ORGANIZATION 2221, 2226 (R. Schmalensee & R.D. Willig ed., 1989) (2007) [hereinafter HANDBOOK].

83. *See* Carroll & Coates, *supra* note 82, at 470–71; Stole, *supra* note 82, at 2226.

84. *See* Carroll & Coates, *supra* note 82, at 470–71; Stole, *supra* note 82, at 2226.

B. Definition and Types of Price Discrimination

Although there is no complete consensus among economists, an accepted definition of price discrimination is “differences in the ratio of price to marginal cost across buyers or units of a good.”⁸⁵ Traditionally, economic literature distinguishes between three kinds of price-discrimination:⁸⁶

(1) First-degree price discrimination or “personalized pricing” refers to the price charged by the seller for the product close to the buyer’s maximum willingness to pay for it.⁸⁷ The seller can make a take-it-or-leave-it offer to each consumer that extracts the highest amount possible from each transaction, and the consumer becomes essentially a “market of one” for each offer.⁸⁸ First-degree price discrimination can also describe highly personalized or customized products.⁸⁹

(2) Second-degree price discrimination or “non-linear/menu pricing” refers to prices that differ among various quantities or qualities of the product sold, but not among various buyers.⁹⁰ Methods of second-degree price discrimination include quantity discounts or discounts for products bundled together.⁹¹ Another method of second-degree price discrimination is “versioning” of products (*i.e.*, offering different versions of the products for different levels of usage).⁹² All second-degree price discrimination strategies have consumers “self-select” the price level of the product that best suits them from a menu of options.⁹³

(3) Third-degree price discrimination or “group pricing” refers to selling identical products at different prices to different consumers identified by group traits or characteristics.⁹⁴ It exploits the general tendency of certain group members to pay more or less for the product.⁹⁵ Examples are discounts to students and seniors, geographic

85. Carroll & Coates, *supra* note 82, at 467–68. *Cf.* Stole, *supra* note 842, at 2224 (“Price discrimination exists when prices vary across customer segments that cannot be entirely explained by variations in marginal cost”).

86. *See generally* HAL R. VARIAN ET AL., THE ECONOMICS OF INFORMATION TECHNOLOGY – AN INTRODUCTION 12–25 (2004); *see also* Hal R. Varian, *Price Discrimination* [hereinafter Varian], 1 HANDBOOK, *supra* note 82, at 600–24; Carroll & Coates, *supra* note 82, at 468–71.

87. *See* VARIAN ET AL., *supra* note 86, at 13–14; *see also* Varian, *supra* note 82, at 601–02; Carroll & Coates, *supra* note 82, at 468–69.

88. *See* Carroll & Coates, *supra* note 82, at 469; *see also* Varian, *supra* note 82, at 601.

89. VARIAN ET AL., *supra* note 86, at 13.

90. Varian, *supra* note 82, at 600, 611.

91. *Id.* at 600, 611.

92. *See id.* at 611; Carroll & Coates, *supra* note 82, at 469.

93. Carroll & Coates, *supra* note 82, at 469.

94. *Id.* at 469, 471.

95. *Id.* at 471; *see* Varian, *supra* note 82, at 640.

zone pricing, or need-based tuition scholarships.⁹⁶

C. Information Aspects of Price Discrimination

The success of a seller's pricing strategy depends on the seller's ability to take advantage of the information exchanged during the commercial relationship—what the seller knows about the buyer and what the buyer knows about the seller.

The three kinds of price discrimination strategy differ from each other with respect to the information they require along three distinct dimensions.⁹⁷

(1) Identification of the consumer—whether the consumer must be identified or can remain anonymous.⁹⁸

(2) Data about the consumer in order to achieve differentiation—the characteristics that a seller needs to know in order to decide what price to offer the buyer, such as willingness to pay, price sensitivity, or product preference.⁹⁹

(3) Other information that is useful to the seller—a seller may require additional information in order to price discriminate, such as knowledge of market structure and distribution of price preferences.¹⁰⁰

A first-degree price discrimination strategy requires that the firm be able to uniquely identify each consumer.¹⁰¹ It also requires a lot of information about the consumer's tastes and highest willingness to pay in order to tailor a price to an individual consumer.¹⁰²

In second-degree price discrimination strategies, consumers self-select their preferred level of spending.¹⁰³ Consequently, the seller does not need to identify customers or ascertain their likely preferences in advance and consumers may remain anonymous.¹⁰⁴ However, the seller

96. See Carroll & Coates, *supra* note 82, at 469–70.

97. See *id.* at 467–71; see also Alessandro Acquisti, Price Discrimination, Privacy Technologies, and User Acceptance (unpublished manuscript), available at http://www.isr.uci.edu/pep06/papers/PEP06_Acquisti.pdf.

98. See Alessandro Acquisti, *Identity Management, Privacy, and Price Discrimination*, 6 IEEE SECURITY & PRIVACY 46, 46–50 (2008). As Alessandro Acquisti points out, for nearly all purposes, the identification of a consumer may be substituted for a pseudonymous identity that is more or less stable with relation to the information sought by the firm but does not identify the consumer by name. *Id.* For the purpose of our discussion, I will consider a stable pseudonymous identity as essentially identifying a customer.

99. See *id.* at 47–49.

100. *Id.*

101. *Id.* at 48.

102. *Id.*

103. Carroll & Coates, *supra* note 82, at 469.

104. See Acquisti, *supra* note 98, at 49.

requires general information about the dispersion of price-sensitivities among consumers in order to construct an efficient menu of options.¹⁰⁵

Third-degree price discrimination strategies require that the seller be able to identify at least whether the consumer has the relevant group trait that is used for discrimination, but does not necessarily need to uniquely identify consumers.¹⁰⁶ For example, a movie theater might demand to see a senior citizens card but doesn't need to know the person's name before it gives a special discount. The seller must also have enough information about the correlation between the group trait and its price-sensitivity in order to take advantage of those differences.¹⁰⁷

D. *The Specter of Perfect Price Discrimination*

The possibility that in the near future sellers will read their customers' minds and glean information on their highest willingness to pay the "holy grail" of marketing¹⁰⁸ has provoked a number of academics to consider the legal repercussions of new pricing technologies.¹⁰⁹ From an economic standpoint, if a seller were able to engage in perfect first-degree price discrimination, it would extract the entire benefit from each transaction (the surplus), leaving consumers with no surplus at all.¹¹⁰

There are some important obstacles that prevent successful perfect first-degree price discrimination. Firstly, the ability to have perfect power over price requires a perfect monopoly.¹¹¹ However, true perfect monopolies are rarely encountered "in the wild" and are usually captives of economists' imaginations. Secondly, even a perfect monopolist would sometimes have to price below perfect monopoly equilibrium prices and offer buyers at least a modest chance of receiving some surplus.¹¹² Otherwise, shoppers would never enter the market in the first place. Lastly, sellers typically lack complete information about the buyer's willingness to pay and cannot price

105. See Carroll & Coates, *supra* note 82, at 476; Stole, *supra* note 82, at 2263–64.

106. See Carroll & Coates, *supra* note 82, at 471.

107. *Id.*

108. Odlyzko 2003, *supra* note 6, at 356.

109. See, e.g., *id.* at 356; Matthew A. Edwards, *Price and Prejudice: The Case Against Consumer Equality in the Information Age*, 10 LEWIS & CLARK L. REV. 559, 583–96 (2006); Strahilevitz, *supra* note 4, at 1733–34.

110. Varian, *supra* note 82, at 601–04; Mark Armstrong, *Recent Developments in the Economics of Price Discrimination*, in 2 ADVANCES IN ECONOMICS AND ECONOMETRICS, THEORY AND APPLICATIONS, NINTH WORLD CONGRESS OF THE ECONOMETRIC SOCIETY 97, 102 (Richard Blundell et al., eds., 2006); Stole, *supra* note 82, at 2229.

111. Varian, *supra* note 82, at 601.

112. *Id.*

exactly at the highest possible price level.¹¹³

For these reasons, the focus on the ghoulish specter of perfect first-degree price discrimination is exaggerated and misguided.¹¹⁴ Discussion should instead focus on the motivations behind price discrimination under realistic conditions of imperfect competition usually prevalent in most consumer markets.¹¹⁵ Under those conditions, a seller's knowledge of each consumer's willingness-to-pay has little effect on the price it offers.¹¹⁶

E. *Best-Response Strategies in Competition*

If perfect consumer information is unlikely to allow a seller to engage in first-degree price discrimination under conditions of competition, what information do competing firms require in order to successfully price-discriminate?

First and foremost, competing firms wish to know how their consumers will respond to discounts by their rivals. Economic models of competition among price-discriminating firms engaged in any kind of price discrimination assume that what firms wish to discover is their own best response strategy to their rival's price adjustments.¹¹⁷ In order to determine their best-response strategy, firms must first discover which consumers belong to their "strong market"—those who are price insensitive and willing to pay more—and which consumers belong to their "weak market"—those who are price sensitive and willing to pay less.¹¹⁸

Consumers are seldom separated neatly into these two camps and are usually somewhere on a spectrum between being regarded as a firm's "strong" or "weak" market. A firm's primary challenge is to identify where each consumer or class of consumers fall on this spectrum.¹¹⁹ Armed with this information, firms are able to create a pricing strategy that offers an effective best response to the actions of their competitors, without requiring knowledge of customers' "pain points."¹²⁰

It is usually advantageous to offer discounts to the segment of consumers most likely to switch away in response to a rival's discount.¹²¹ Consequently, there are two varieties of best-response patterns: "Best-response symmetry" exists when one firm's strong

113. *Id.* at 603; see Salop & Stiglitz, *supra* note 79, at 1128–29.

114. Stole, *supra* note 82, at 2290–91.

115. *Id.* at 2228.

116. See generally *id.*; see also Armstrong, *supra* note 110, at 110–12.

117. See Stole, *supra* note 82, at 2229–33.

118. See *id.* at 2232, 2234.

119. See *id.* at 2224.

120. See *id.* at 2227–28; Armstrong, *supra* note 110, at 99–102.

121. See Stole, *supra* note 82, at 2258.

market is also its rival's strong market.¹²² In this situation, it is best to offer discounts to the "strong market" in order to acquire and retain their business. Conversely, "best-response asymmetry,"¹²³ exists when one firm's strong market is its rival's weak market.¹²⁴

F. Price Discrimination Based on Purchase History

One of the most powerful ways to differentiate consumers is by adjusting prices to their past behavior.¹²⁵

Stores can sometimes induce customers to return again and again after they buy once, thereby building their strong market from returning customers.¹²⁶ For example, a drug store that wants purchasers to return frequently offers discounts to members of its shoppers club.

In other situations, by contrast, a seller's past consumers are its weakest market. Consider, for instance, a wedding-dress maker. Her clients make a once-in-a-lifetime purchase (hopefully). They deliberate between her design and a rival's. It makes sense to discount the first and only purchase (or improve the product) in order to undercut the rival, but not to promise discounts on subsequent purchases.

Generalizing from these examples, a seller must understand whether it faces symmetrical or asymmetrical demand with respect to its past

122. *Id.* at 2234. An example of symmetrical competition is adjacent stores that sell an identical range of products. People who prefer to spend a lot at one store are likely to spend a lot at the other store, too, and could be persuaded to switch if either store offers them a better deal.

123. *Id.* An example of asymmetrical competition is identical stores that are at some distance from each other. People who live close to one store prefer that nearest store but not the far one and vice versa. People living close to either store are unlikely to switch to the other, but those who live closer to the middle point are more likely to switch. The analysis is the same whenever consumers have a persistent preference for one firm over the other.

124. See Mark Armstrong, *Recent Developments in the Economics of Price Discrimination*, in 2 ADVANCES IN ECONOMICS AND ECONOMETRICS, THEORY AND APPLICATIONS, NINTH WORLD CONGRESS OF THE ECONOMETRIC SOCIETY 97, 102 (Richard Blundell et al. eds., 2006); Kenneth S. Corts, *Third-Degree Price Discrimination in Oligopoly: All-Out Competition and Strategic Commitment*, 29 RAND J. ECON. 306, 306–23 (1998); Jacques-Francois Thisse & Xavier Vives, *On the Strategic Choice of Spatial Price Policy*, 78 AM. ECON. REV. 122 (1988).

125. This strategy does not fit neatly into the three traditional kinds of price-discrimination. It is conceivable that different practices using purchase history can fall into any type of price-discrimination. See Acquisti & Varian, *supra* note 36, at 370 (regarding price discrimination based on purchase history as a variant of second-degree price discrimination, with past purchase behavior serving as a "signal for willingness-to-pay"); cf. Stole, *supra* note 82, at 2250 (considering discrimination based on purchase history as a kind of third-degree price discrimination).

126. See Acquisti & Varian, *supra* note 36, at 377 ("For example, an online merchant learns billing information and the shipping address on the first visit. On the second visit, the merchant can offer, for example, 'one-click shopping,' a service that frequent purchasers, or those with high time value, might find particularly valuable. Such an offer induces the high-value type to stay rather than pretend to be low-value").

consumers. A seller whose past consumers are its strong market “pays customers to stay”—it offers lower prices to keep past customers from switching to the competition (the loyal drug store shoppers who have points on their loyalty card will not buy at the rival drug store). Economists have observed that even small advantages to repeat customers, such as one-click shopping and personalized recommendations, can have a powerful “lock-in” effect on customers.¹²⁷ The consumer purchase history data that is collected by retail stores is generally sufficient to create an effective and profitable system of price-discrimination using targeted coupons.¹²⁸

By contrast, a seller whose past customers are its weak market faces symmetrical competition. The seller then “pays customers to switch”—it might offer a discount or improve the product to attract first-time buyers (such as dress-shopping brides), but will not offer any deals to repeat customers.

If the seller uses the buyer’s purchase history to set prices, the buyer is left wondering: How will the purchase I make today, change the prices I see tomorrow? Acquisti and Varian argue that the success of pricing based on purchase history depends on whether the consumers are “sophisticated” or “myopic” (*i.e.*, whether they can anticipate the way their purchase history will be used by merchants or not).¹²⁹ When too many consumers are sophisticated, it is not in the interest of the firm to adopt a strategy of conditioning price based on purchase history.¹³⁰ Conditioning price on purchase history becomes profitable only if a sizeable enough proportion of consumers is myopic.¹³¹

The “myopia” or “sophistication” of consumers bears a special

127. *Id.* at 379–80.

128. David Besanko et al., *Competitive Price Discrimination Strategies in a Vertical Channel Using Aggregate Retail Data*, 49 MGMT. SCI. 1121, 1121–23, 1136–37 (2003).

129. See Acquisti & Varian, *supra* note 36, at 372. Acquisti and Varian use the term ‘myopic’ to refer to consumers “who base their purchase decision on the price they see today, not recognizing that the price they [will] face on the next purchase may depend on today’s behavior.” *Id.* at 372. ‘Sophisticated’ consumers are those high-value consumers who recognize that purchasing at a high price today will lead to them facing a high price in the future. See *id.* Sophisticated consumers, therefore, are likely to try to employ anonymizing technologies. *Id.* However, “[i]f the material and immaterial costs of using anonymizing technologies are too high, even economically sophisticated consumers might find it not worth the bother, particularly if they are not technologically sophisticated or if their opportunity cost of time is particularly high.” *Id.* at 374.

130. See *id.* at 373.

131. *Id.* at 368–74; *but cf.* Armstrong, *supra* note 110, at 131–32 (If most consumers are sophisticated, they react less strongly to initial discounts and consequently firms must raise the second-period costs, causing overall price discrimination to become socially inefficient. Conversely, naïve consumers react to initial price discounts, and consequently firms will maintain lower second-period prices. In either case, the ability of competing firms to price-discriminate reduces each firms’ profits but leaves consumers slightly better off).

importance because today's consumers remain largely ignorant of the effect the collection of their information might have on the prices they could be offered.¹³² Tal Zarsky emphasizes that consumer myopia is one of the general problems with the use of personal information in marketing.¹³³ Consumers are unequipped to assess the various advantages and disadvantages that may result from the surrender of their personal information.¹³⁴ The collection of consumer information often takes place long before the market consequences are realized.¹³⁵ Retailers do not tell consumers how their information will be gathered, analyzed and used, and consumers are not given tools to assess the repercussions that the sharing of their information could lead to.¹³⁶ Consequently, Zarsky argues that consumers' inherent myopia is a strong reason to regulate the ways retailers are allowed to use consumer information and data mining.¹³⁷

G. Price Discrimination Based on Buyers' Search Costs

Sellers can discriminate not only by knowing their customers, but also by controlling what the customers knows about their prices.

Consumers want to know if they are getting a good deal. Consumers do not know all the available prices at stores and online shopping sites, but they have some general expectations about the distribution of prices in the market.¹³⁸ The basic assumption of consumers about any transaction is that there is at least a rational chance that the price they are about to pay is a good bargain. A buyer with no knowledge of market prices would never know if she is overpaying or getting a good deal. However, consumers' awareness of available market prices is hampered by search costs and bounded rationality, and they tend to overestimate the likelihood that they are getting a good deal compared with the range of available prices.¹³⁹

Some pricing practices allow sellers to take advantage of information asymmetry between buyers and sellers by making it more difficult for consumers to find better deals elsewhere. Examples include posting high prices in stores but offering discount coupons online, or offering occasional sales to entice shoppers who wait for bargains while pricing higher to shoppers browsing the stores during the rest of the

132. See, e.g., Armstrong, *supra* note 110, at 107.

133. See Zarsky, *supra* note 4, at 40–42.

134. *Id.* at 41–42.

135. See *id.* at 41 (At the time of collection, the market consequences are “far away and indefinite”).

136. *Id.*

137. Zarsky, *supra* note 4, at 46.

138. See Salop & Stiglitz, *supra* note 79, at 1128.

139. *Id.*

year.¹⁴⁰ Some sellers deliberately introduce “noise”¹⁴¹—confusing product information that makes it difficult for a customer to compare prices—in order to differentiate shoppers with high and low sensitivity to price.¹⁴²

It should be noted that higher search costs in individuals is sometimes interpreted as a matter of personal choice: frugal people clip coupons and look for bargains while spendthrifts do not mind paying more and prefer quality over lower price.¹⁴³ We should bear in mind that this is not always the case. There are price-sensitive shoppers who nevertheless have high search costs. Consider, for example, individuals without computer skills or easy internet access who do not shop online, or those for whom reaching many different shopping options is difficult. For these consumers, higher search cost is not a matter of personal tendency but of means. Faced with higher prices than they are willing to pay, these consumers do not look for a better deal.¹⁴⁴ They simply exit the market and do not buy the product.

H. Welfare Outcomes of Price Discrimination

1. Profit Extraction Versus Increased Competition

In discussing the welfare outcomes of price discrimination, we consider two welfare standards: the overall social welfare¹⁴⁵ (the welfare of sellers and buyers) and consumer welfare (the welfare of just buyers).

Economic models of price discrimination under imperfect competition tend to return ambiguous welfare outcomes that are highly

140. See Acquisti & Varian, *supra* note 36, at 378.

141. Steven Salop, *The Noisy Monopolist: Imperfect Information, Price Dispersion and Price Discrimination*, 44 REV. ECON. STUD. 393, 403 (1977) (noise includes “unadvertised specials, random sales, changes in product specifications and packaging, product lines with some contrived heterogeneity, [and] vague guarantees”).

142. *Id.* (“The noisy monopolist utilizes dispersion as a sorting device to separate consumers into submarkets to permit price discrimination.”); see Varian, *supra* note 82, at 637.

143. See, e.g., Salop, *supra* note 141, at 393 (“Suppose that demand conditions are such that the monopolist would like to price discriminate against the less efficient information-gatherers; that is, suppose the submarket consisting of inefficient consumers is more price inelastic. Given these potential gains from discrimination, the monopolist must also discover some method of identifying the inefficient, price inelastic consumers. Simply permitting dispersion is such a method since less-efficient information gatherers will search less and thus on average pay a higher price than will efficient searchers.”); Kannan & Kopalle, *supra* note 6, at 70 (“Consumers shopping on the Internet can be viewed as belonging to two distinct segments: those who value convenience and time, and are less price-sensitive, and those who compare prices from multiple vendors and are more price-sensitive.”).

144. See Salop, *supra* note 141, at 394.

145. Acquisti & Varian, *supra* note 36, at 372.

dependent on the specific market variables.¹⁴⁶ Generalizing the welfare outcomes of price discrimination is difficult, if not impossible.¹⁴⁷ When economic models compare the outcomes of sellers' use of uniform pricing with outcomes of situations in which sellers are allowed to price discriminate, two opposing forces become apparent: (1) price discrimination enhances the seller's ability to extract greater transaction surplus; and (2) price discrimination intensifies competitive pressure between sellers, due to the increased ability of each seller to match each other's prices and customize products to all consumers.¹⁴⁸

As a result, economic models of price discrimination tend to predict a positive increase in overall social welfare compared with flat rate pricing. The outcome for consumer welfare, however, is more ambiguous and highly dependent on the specific assumptions and constraints built into each model.¹⁴⁹

2. Prisoner's Dilemma

Occasionally, economic models predict that the intensified competition brought about by price discrimination can outweigh the surplus-extraction effect, resulting in lower total welfare or even lower seller welfare.¹⁵⁰ This outcome indicates that firms may find themselves in a "prisoner's dilemma" whereby each firm acting alone would prefer not to employ price-discrimination strategies, but faced with competition, each is better off adopting a strategy of price discrimination in response to its competitors' expected actions.¹⁵¹ This is expected to happen especially in situations of best-response asymmetry.¹⁵² The intuition behind this prisoner's dilemma is simple: When competition is fierce, firms try to poach a rival's customers by offering them selective discounts below costs, but may fail to recoup their losses due to excessive and inefficient customer switching.¹⁵³

Price discrimination can also be costly, inefficient, and reduce consumer welfare or overall social welfare in other ways, which are discussed in the following sections.

146. See Stole, *supra* note 82, at 2228, 2245.

147. See *id.*

148. David Ulph & Nir Vulkan, *Electronic Commerce, Price Discrimination, and Mass Customization*, TECHNICAL REPORT, UNIV. OF OXFORD SAID BUS. SCH. 4, 34 (2007), available at <http://vulkan.worc.ox.ac.uk/wp-content/images/combined-paper.pdf>.

149. See Acquisti & Varian, *supra* note 36; Stole, *supra* note 82, at 2286–87.

150. See Armstrong, *supra* note 110, at 102.

151. *Id.* at 114–15.

152. *Id.*

153. *Id.* at 110–15; Besanko et al., *supra* note 128, at 1121–22, 1133–35; Stole, *supra* note 82, at 2237–44; Dewan et al., *supra* note 36, at 1–2; Ulph & Vulkan, *supra* note 148, at 7, 33–35.

I. *The Challenges of Second-Degree Price Discrimination*

1. Loyalty Programs and Bundling

Loyalty programs (such as store cards, point schemes, and member discounts) and bundling (offering a discount for two products together) are special kinds of second-degree price discrimination of particular interest to our discussion. Vast amounts of consumer purchase information can be collected through loyalty programs and, as we noted, data mining can be used to discover the distribution of price preferences among consumers and find hidden connections between product preferences in order to design effective discount offers.¹⁵⁴

Under loyalty programs, the promised discounts cause firms to lose profits while consumers benefit from lower prices.¹⁵⁵ Firms expect to recoup their losses from the increased revenues they hope to receive through greater purchase volumes as a result of consumer lock-in. Naturally they offer the best prices and discounts to their previous customers. However, these strategies are susceptible to a prisoner's dilemma. Each firm would prefer to demand full-price for their products, but must offer bundled discounts or loyalty points to respond to its rivals' discount programs and retain loyal customers. This situation can improve consumer welfare but overall welfare may be reduced, hurting the market in the long run.¹⁵⁶

2. Versioning and the Problem of "Damaged Goods"

An effective menu pricing strategy should induce efficient self-selection by consumers into their preferred level of consumption from a menu of options.¹⁵⁷ The fundamental challenge is therefore known as the "self-selection constraint": "choosing a pricing scheme that induces consumers of each quality level to prefer their own quality to any other quality."¹⁵⁸

The second-degree price discrimination strategy known as "versioning" involves creating different versions of the same product, like "regular" and "premium."¹⁵⁹ These differentiations appeal to different consumer groups with different quality demands. When done excessively, however, multiple-versioned products and add-on pricing (charging consumers for "extras," upgrades, or additions after they

154. See *supra* Part I.B.1.

155. See Armstrong, *supra* note 110, at 135.

156. *Id.* at 120–26, 135.

157. Varian, *supra* note 82, at 612–13.

158. *Id.* at 640.

159. See Odlyzko 2003, *supra* note 6, at 359–60; Armstrong, *supra* note 110, at 97–98 n.1.

purchase the original product) can sometimes be a deliberate tactic to obfuscate prices and raise search costs.¹⁶⁰

Price menus also irk consumers when they seem to offer unnecessarily poor quality choices or “damaged goods” to the most price-sensitive consumers in order to induce higher-end buyers to choose pricier items.¹⁶¹ A famous example is when IBM manufactured its low-priced Laser Printer E model with a chip that cut its normal operating speed by half.¹⁶² Buyers were then encouraged to “upgrade” to the more expensive Laser Printer model, which simply meant the removal of the chip.¹⁶³ Another example was the nineteenth century practice of railroad companies that placed third-class passengers in roofless carriages with hard wooden benches.¹⁶⁴ This was ostensibly done not because better amenities would cost very much but in order to frighten the rich into buying a more expensive ticket in the luxuriant second- and first- class carriages.¹⁶⁵ One contemporary observer, Jules Dupuit, commented that “[h]aving refused the poor what is necessary, they give the rich what is superfluous.”¹⁶⁶

J. Reducing Competition and Deterring Entry

Another welfare concern is that price discrimination can be used strategically to restrain competition and deter rival entry into the market.¹⁶⁷ This may happen, for example, where an incumbent firm competing in a number of different markets (whether geographically or in a certain segment of the clientele) is able to target selective price cuts only in the market in which it faces fierce competition or possible rival entry while keeping its prices higher where it enjoys greater market power.¹⁶⁸ The threat of selective price cuts thus deters the entry of a rival who cannot compete with the firm on all market segments.¹⁶⁹ Similarly, a firm can strategically use selective bundled discounts, tying arrangements and loyalty programs to deter a rival’s discounts, thereby discouraging discounts overall and keeping prices high across the

160. Glenn Ellison & Sara Fisher Ellison, *Search, Obfuscation, and Price Elasticities on the Internet*, 77 *ECONOMETRICA* 427, 429–32 (2009).

161. *Id.* at 435.

162. Odlyzko 2003, *supra* note 6, at 361.

163. Raymond J. Deneckere & R. Preston McAfee, *Damaged Goods*, 5 *J. ECON. & MGMT. STRATEGY* 149, 153–54 (1996).

164. Odlyzko 2003, *supra* note 6, at 360–61.

165. *Id.*

166. *Id.*

167. Armstrong, *supra* note 110, at 100.

168. *See id.* at 127–29; Stole, *supra* note 82, at 2246.

169. Armstrong, *supra* note 110, at 127–29.

market.¹⁷⁰

K. Competition Over Non-Welfare-Enhancing Innovation

Beyond the worries about the effects of price discrimination on prices is concern that the ability to price-discriminate leads firms to wasteful and unbeneficial competition. Instead of competing over better quality, more variety, or cost reduction, firms compete over adoption of marketing tools that do not enhance consumer welfare in any meaningful way, and may even be socially detrimental.¹⁷¹

Excess investments in technologies that facilitate price-discrimination may present such inefficient competition. A prisoner's dilemma can occur when rival firms compete over adopting price discrimination or product-customization technologies.¹⁷² The first seller to invest in these technologies reaps a short-term advantage. However, this advantage quickly disappears once the rival acquires the same ability. Both sellers end up with lower profits and fail to recoup their investment, and would be better off had neither adopted these technologies in the first place.

These investments are by no means a trivial matter. By one estimate from 2004, the cost of implementing an effective loyalty program in a supermarket can cost between 1-1.5% of a store's revenue, while in other industries the cost can be up to 5% of the firms' revenue.¹⁷³ Loyalty programs also take a long time to implement, and need at least 18 months before the firm sees any return on its investment.¹⁷⁴

L. The Cost of Anonymity

Some price-discrimination practices require the ability to identify

170. Einer Elhauge, *Tying, Bundled Discounts, and the Death of the Single Monopoly Profit Theory*, 123 HARV. L. REV. 397, 459–61 (2009) [hereinafter Elhauge, *Tying*].

171. See VARIAN ET AL., *supra* note 86, at 30 (Examples of such harmful competition include: competing for advantages using political lobbying, accumulating excess capacity to deter market entrants and premature entry into a market by rivals); see also Frank Pasquale, *Technology, Competition, and Values*, 8 MINN. J.L. SCI. & TECH. 607 (2007) (discussing non-welfare enhancing competition over technological innovation, and listing rights management protection, search-word auctioning, and violation of net-neutrality as technology pricing methods that do not represent healthy innovation but rather an arms race to entrench existing competitive advantages).

172. Dewan et al., *supra* note 36, at 2; Yongmin Chen, *Oligopoly Price Discrimination by Purchase History*, in THE PROS AND CONS OF PRICE DISCRIMINATION 101, 117–18 (The Swedish Competition Authority, Stockholm, 2005).

173. Barney Beal, *Getting Loyalty Programs Right*, CRM NEWS (July 11, 2004), <http://searchcrm.techtarget.com/news/992695/Getting-loyalty-programs-right> (cited in Smith & Rimler, *supra* note 40, at 206).

174. *Id.*

consumers. Buyers who could be adversely treated might wish to invest time, effort, and money in anonymizing technologies and to forego certain online activities in order to protect their anonymity and avoid negative price discrimination.¹⁷⁵ Sellers, in turn, might invest money and effort in order to thwart these anonymizing methods.¹⁷⁶

To be sure, Internet users have many reasons to desire anonymity online besides price discrimination, and many ways of protecting their identities.¹⁷⁷ The cost of technologies and counter-technologies are negative externalities that sellers and buyers impose on each other in the arms race over consumer anonymity. This is another aspect of the problem of investment in non-welfare-enhancing competitive technologies. As Alessandro Acquisti points out, however, there might be room for compromise by adopting identity management technologies that can help merchants and consumers find a balance between consumer privacy protection and merchants' impetus for price discrimination.¹⁷⁸ In any case, the cost of maintaining anonymity belongs to a much broader debate beyond the scope of this article.

M. Summary of Main Insights

The survey of the economics of price discrimination leads to a number of general insights:

Firstly, the ability to engage in different kinds of price discrimination is directly tied to the kinds of information available to the seller and the buyer. Different pricing practices require different kinds of information. New technologies and information flows make it easier for retailers to engage in price discrimination methods previously thought to be unfeasible, such as discrimination based on purchase history, discrimination using mass-aggregated consumer data to profile consumers.¹⁷⁹

Secondly, we must abandon the presumption that price discrimination is necessarily efficient or welfare enhancing. Price discrimination strategies among competing firms can sometimes cause

175. See Alessandro Acquisti & Hal R. Varian, *Conditioning Prices on Purchase History*, 24 *MARKETING SCIENCE* 367, 367–69 (2005). In this context, “anonymizing technologies” is used by Acquisti and Varian to refer to any measures taken by a consumer to hide the fact that she has bought previously, such as deleting browser cookies, using a different credit card, shop anonymously in sites which enable this, avoid loyalty schemes. *Id.*

176. *Id.*

177. See Lee Rainie et al., *Anonymity, Privacy, and Security Online*, PEW INTERNET & AMERICAN LIFE PROJECT (Sept. 5, 2013), <http://www.pewinternet.org/Reports/2013/Anonymity-online.aspx>.

178. Acquisti, *supra* note 98, at 46–50.

179. See Rainie et al., *supra* note 177.

prisoner's dilemmas, impose social cost, restrain competition, and incite wasteful technological arms races and competition for short-lived non-welfare-enhancing advantages.¹⁸⁰ These possible adverse effects must be acknowledged when considering policy towards price discrimination.

Thirdly, the information available to consumers about available prices is as important as the information available to retailers about consumers. Retailers are able to take advantage of consumers' search costs, create confusing price "noise", and exploit consumers' "myopia" about the use of their information.¹⁸¹

IV. THE LAW AND ETHICS OF USING PERSONAL INFORMATION FOR PRICING

A. *The Presumption in Favor of Pricing Freedom*

Many discussions of price discrimination start with the assumption that a seller should generally be allowed to choose any strategy it likes, absent good reasons to the contrary. Rooted in liberal theory, it is widely held in liberal democracies that business ought to be allowed to carry on freely, unless there are convincing reasons to regulate it.¹⁸² The freedom of the market is an expression of the belief that the value of goods is determined solely by the transacting parties' subjective judgment of the utility of the goods to them.¹⁸³ This notion of pricing freedom explicitly rejects "just price" theories, which date at least back to Roman and medieval law, according to which goods have an independent and objective fair price.¹⁸⁴ It follows from the freedom of the market that businesses ought to be free to choose their own pricing methods, including the right to offer different prices to different customers.¹⁸⁵ The liberal tradition, we may therefore generalize, places a greater burden of persuasion on the shoulders of those who would advocate rules to regulate free markets.

180. See Dewan et al., *supra* note 36; Chen, *supra* note 172.

181. See, e.g., Armstrong, *supra* note 110, at 107.

182. Some of the most influential articulations of this position in the 20th century were put forth by Friedrich A. Hayek and Milton Friedman with assistance from Rose D. Friedman. See generally FRIEDRICH A. HAYEK, *THE ROAD TO SERFDOM* (1944); see also MILTON FRIEDMAN WITH ROSE D. FRIEDMAN, *CAPITALISM AND FREEDOM* (1962).

183. See RICK BIGWOOD, *EXPLOITATIVE CONTRACTS* 179–82 (2003).

184. *Id.*; see also LARRY A. DIMATTEO, *EQUITABLE LAW OF CONTRACTS: STANDARDS AND PRINCIPLES* 14–18 (2001).

185. See BIGWOOD, *supra* note 183, at 179–82.

B. “It Harms Consumers”

One possible justification for regulating markets is preventing harm to the social welfare. Like market liberalism itself, the tradition of welfare economics also has its roots in liberalism and utilitarian philosophy, and traces the attempts to define precisely when the maxim “the greatest good for the greatest number” is satisfied. The scope of this article does not permit even a cursory development of the foundations of these standards or a discussion of welfare comparison criteria. Rather, we will try to ask whether we ought to generally curtail price discrimination practices because of their harm to the overall social welfare or to consumer welfare.

In addressing the welfare implications of price discrimination, we compare two states of affairs: (1) a state of mostly uniform prices or simple group and menu pricing, and (2) a state where information technologies enable sellers to engage in price discrimination with greater ease, frequency, and accuracy. Presumably, a change from uniform to discriminatory pricing that was inefficient for overall social welfare and at the same time also reduced consumer welfare would be almost indefensible. As we have seen, such outcomes are possible under certain conditions that cause a prisoner’s dilemma among competing firms.¹⁸⁶

More challenging is the observation that some price discrimination practices increase overall welfare but reduce consumer welfare.¹⁸⁷ Consequently, in choosing a policy, we may sometimes be forced to choose between greater overall social welfare and greater consumer welfare. Even the most hardheaded economist ought to concede that practices that increase overall social welfare but harm most consumers raise serious ethical concerns. Accepting the contrary would mean preferring the welfare of business enterprises to the welfare of the consumer masses, a position that is hard to defend.

Practically, it is difficult to apply social welfare standards to price discrimination practices. The effects of pricing methods on consumers are often equivocal and hard to generalize; price discrimination can stimulate competition and benefit consumers but can also lower welfare through ruinous prisoner’s dilemmas.¹⁸⁸ The incentives to price discriminate can encourage inefficient investments in technologies and “damaged goods” strategies that do not improve welfare in the long run but cost consumers their privacy and anonymity.¹⁸⁹ All of these possible outcomes are important to keep in mind, but cannot be predicted under

186. See Armstrong, *supra* note 110, at 114–15.

187. See *id.* at 120–26, 135.

188. See Dewan et al., *supra* note 36; Chen, *supra* note 172.

189. See Ellison & Ellison, *supra* note 160, at 429–32.

any general set of assumptions.

Only the ominous possibility that someday in the not-too-distant future sellers might be able to engage in near perfect first-degree price discrimination threatens the welfare of almost all consumers. Although economic reasoning suggests this fear is remote, we ought to remain vigilant. If technologies that analyze consumer information become so precise that they allow retailers to generally price near a consumer's highest willingness to pay at any given transaction, then protecting consumer welfare might be a compelling reason to ban their use.

Under competitive conditions, most price discrimination practices harm some consumers while benefiting others.¹⁹⁰ This is true of customer segmentation based on personal traits or purchase history, as well as segmentation based on consumers' myopia or search costs. It is also true of second-degree menu pricing, bundling, and versioning. In each of these cases, the consumer welfare standard boils down to aggregating the harms and advantages to different consumer segments and deciding if on average (or on a different aggregate function) most consumers are better off or not.¹⁹¹

This calculation is difficult to perform with any accuracy. Without an easy way to anticipate which pricing practices will harm a greater number of consumers compared with the benefits to other consumers, the presumption in favor of the freedom of the market prevails, and we ought to not condemn price discrimination as a matter of general policy on consumer welfare grounds.¹⁹² Unless we could create a discretionary authority with the wisdom of Solomon to adjudicate pricing practices on a case-by-case basis, the consumer welfare standard advances us very little on its own.

Of course, no enforcement regime is perfect for all particular cases. Any viable policy is necessarily confined to the general kinds of practices that are overwhelmingly likely to harm consumers. We therefore turn next to antitrust and consumer protection law as possible models for enforcement against generally harmful pricing practices.

C. *"It is Already Illegal (Or Should Be) Under Antitrust Law"*

In the United States, the Sherman Act¹⁹³ and other antitrust laws prohibit commercial practices that restrain competition and monopolize markets. It is widely held that the original and primary purpose of the antitrust laws is to protect consumer welfare, not overall social welfare.

190. See, e.g., William W. Fisher III, *When Should We Permit Differential Pricing of Information?*, 55 UCLA L. REV. 1, 20–37 (2008).

191. See *id.*; Edwards, *supra* note 109.

192. See Fisher, *supra* note 190, at 20–37.

193. 15 U.S.C. §§ 1–2 (2013).

By fostering competition, antitrust law is meant to ensure that the market provides consumers with lower prices and a wider choice of products and services.¹⁹⁴

Anticompetitive effects occur especially in second-degree price discrimination practices that tend to lock in consumers and raise barriers to entry, such as bundling, tying and selective loyalty discounts.¹⁹⁵ Firms that engage in these practices potentially face legal liability if the circumstances of their practice and their market power raise sufficient concern of monopolization.¹⁹⁶

The tougher question is whether antitrust law principles should be applied more widely to other price discrimination practices than existing law and precedent have heretofore been willing to recognize. After all, if some pricing strategies harm consumers by transferring wealth to sellers—an effect similar to monopolization or agreements in restraint of trade—should they not also be illegal under antitrust law principles?

The only statute in the United States that condemns price discrimination as such is the Robinson-Patman Act.¹⁹⁷ Under the Robinson-Patman Act, price discrimination is prohibited in certain limited situations in wholesale supply chains “where the effect of such discrimination may be substantially to lessen competition or tend to create a monopoly . . .”¹⁹⁸

194. See Steven C. Salop, *Question: What is the Real and Proper Antitrust Welfare Standard? Answer: The True Consumer Welfare Standard*, 22 LOY. CONSUMER L. REV. 336 (2009); Robert H. Lande, *Wealth Transfers as the Original and Primary Concern of Antitrust: The Efficiency Interpretation Challenged*, 34 HASTINGS L.J. 65 (1982); Russell Pittman, *Consumer Surplus as the Appropriate Standard for Antitrust Enforcement*, 3 COMPETITION POL’Y INT’L 205 (2007); Neil W. Averitt & Robert H. Lande, *Consumer Sovereignty: A Unified Theory of Antitrust and Consumer Protection Law*, 65 ANTITRUST L.J. 713, 734–41 (1996). Compare with Joseph F. Brodley, *The Economic Goals of Antitrust: Efficiency, Consumer Welfare, and Technological Progress*, 62 N.Y.U. L. REV. 1020 (1987); and ROBERT H. BORK, *THE ANTITRUST PARADOX* (1978); and RICHARD POSNER, *ANTITRUST LAW: AN ECONOMIC PERSPECTIVE* (1976). The contrary view cited by these authors is that antitrust law protects overall social welfare.

195. See Einer Elhauge, *How Loyalty Discounts Can Perversely Discourage Discounting*, 5 J. COMPETITION L. & ECON. 189, 216–21 (2009) [hereinafter Elhauge, *Loyalty Discounts*] (with respect to loyalty discounts); Elhauge, *Tying*, *supra* note 170, at 426–35 (with respect to bundling and tying discounts).

196. Elhauge, *Loyalty Discounts*, *supra* note 195, at 216–21.

197. 15 U.S.C. § 13 (2012).

198. *Id.* § 13(a).

It shall be unlawful for any person engaged in commerce, in the course of such commerce, either directly or indirectly, to discriminate in price between different purchasers of commodities of like grade and quality, where either or any of the purchases involved in such discrimination are in commerce, where such commodities are sold for use, consumption, or resale within the United States or any Territory thereof or the District of Columbia or any insular

Douglas Kochelek argues that antitrust law principles should be applied to modern retail price discrimination methods that employ data mining of consumer information, even though these practices are not currently condemned under the Sherman Act or the Robinson-Patman Act.¹⁹⁹ Kochelek contends that “[d]ata-mining-based price discrimination schemes fall into a gap between antitrust doctrine and the policies underlying the doctrine.”²⁰⁰ If competing firms are able to tailor prices to consumers in ways that approximate their highest willingness-to-pay, this would extract a greater share of the surplus from each transaction in ways similar to price fixing and may cause inefficiency losses that are tantamount to the deadweight loss effects of monopolization.²⁰¹ In other words, retailers would win a greater share of the surplus while most consumers lose. Therefore, Kochelek argues, antitrust doctrines should be expanded to deal with cases where price discrimination harms consumers even when it does not restrict competition.²⁰²

Presumably, expanding antitrust doctrine to all forms of price discrimination would authorize the antitrust bureaus of the Federal Trade Commission and Department of Justice to file lawsuits against sellers that engage in price-discrimination practices, as well as private actions for treble damages, using the kind of economic analysis and reasoning usually employed in antitrust cases.

However, articulating a clear legal test that captures precisely those practices that harm consumers can be particularly challenging. This difficulty can be demonstrated through the tortured history of the Robinson-Patman Act, which was meant to prevent wholesale supply-chain price discrimination.²⁰³ As antitrust scholar Herbert Hovenkamp summarizes this history:

The Robinson-Patman Act has done an extraordinarily poor job of identifying those forms of price discrimination that most economists consider to be inefficient. At the same time,

possession or other place under the jurisdiction of the United States, and where the effect of such discrimination may be substantially to lessen competition or tend to create a monopoly in any line of commerce, or to injure, destroy, or prevent competition with any person who either grants or knowingly receives the benefit of such discrimination, or with customers of either of them. . . .

Id.

199. See generally Douglas M. Kochelek, *Data Mining and Antitrust*, 22 HARV. J.L. & TECH. 515 (2009).

200. *Id.* at 535.

201. *Id.*

202. *Id.*

203. 15 U.S.C. § 13(a) (2012).

it has often been used to condemn efficient practices that were really evidence of healthy competition. The Act has been widely castigated by critics who see it as doing far more harm than good to the competitive process. The Department of Justice has not enforced the Act since 1977, and the Federal Trade Commission largely ignores it as well.²⁰⁴

Hovenkamp adds that the application of the Robinson-Patman Act is a “morass of technical requirements that often hide or subvert its basic purpose.”²⁰⁵ It has even been argued that the procedures for making a complaint under the Act may in fact restrain competition more than the practices it is meant to prohibit.²⁰⁶ Clearly, if the Robinson-Patman Act were called upon to serve as a model for legislation to combat retail price discrimination, it would provide a particularly poor example.²⁰⁷

There is another reason why adopting the antitrust model of regulation is unsuited to answer the problems of retail price discrimination. Kochelek’s argues that price discrimination facilitated by data-mining is similar to antitrust violations because of their shared potential to exert market power over consumers.²⁰⁸ This argument focuses almost entirely on the ability to extract consumer surplus under first-degree price discrimination.²⁰⁹ This type of price discrimination is highly unlikely to succeed. The exclusive focus on the surplus-extraction effect of price discrimination ignores the powerful competitive forces that drive the adoption of price discrimination, as well as its possible competition-enhancing potential. In practice, it is very hard to identify clear-cut harm to a majority of consumers in many price-discrimination practices. If litigants will be allowed to argue efficiencies and benefits to consumers from price discrimination, as they are under prevailing antitrust doctrine, such efficiency arguments could swallow up any proposed rule against price discrimination.

Furthermore, antitrust doctrine is inapplicable to the ways that new forms of retail price discrimination achieve their purpose. At least with respect to single-firm conduct, antitrust law regards a firm’s market power as a decisive factor in its ability to raise price levels for most consumers. By contrast, new retail price discrimination methods enable

204. HERBERT HOVENKAMP, *FEDERAL ANTITRUST POLICY: THE LAW OF COMPETITION AND ITS PRACTICE* 629 (4th ed. 2011).

205. *Id.* at 633.

206. See Hagit Bulmash, *An Empirical Analysis of Secondary Line Price Discrimination Motivations* 8 J. COMPETITION L. & ECON. 361 (2012); Klock, *supra* note 36, at 359–63 n.269.

207. See Edwards, *supra* note 109, at 575–83; Klock, *supra* note 36, at 378 (“[t]here may be some scope for creative attorneys to bring colorable claims and for open-minded judges to be receptive to them within the existing law”).

208. Kochelek, *supra* note 199, at 520–23.

209. *Id.*

a seller to raise prices only to specific customers who are unlikely to defect to its competitors. These new methods do not depend upon significant market power in order to succeed. Therefore, existing antitrust doctrine is simply too far removed from the realities of modern price discrimination practices to be of much guidance.

To summarize, the underlying objective of antitrust law—protecting consumer welfare—may well be applicable to pricing practices that overcharge consumers. However, with few exceptions, using antitrust law as a basis for wider enforcement against price discrimination is misguided. Articulating a meaningful rule that would encompass those pricing practices most likely to cause harm (and only them) would prove a formidable challenge. What's more, antitrust laws protect consumers by nurturing competition. But with new retail information technologies, competition alone does not ensure that consumers are not subjected to price gouging.

D. *"It is Deceptive"*

Still using the overall consumer welfare standard as our guiding beacon, we turn to examine price discrimination in light the laws of contract misrepresentation and consumer protection. These laws are more concerned with what consumers know about the sellers' prices and products, and less with what the seller knows about the consumer.

In most market settings, retailers typically enjoy information advantages over consumers with respect to the product or services they sell. To counter this imbalance, the law protects consumers against gross information inequalities in a number of ways:

Firstly, contract law provides ex-post facto remedies to victims of fraud, misrepresentation, duress, and unconscionable dealing. Secondly, some consumer protection laws specifically address the consumers' difficulty to compare products by requiring clear labeling of prices, quantity, weight, ingredients, health warnings, known risks, etc., or by preventing false or misleading advertising ex-ante. Thirdly, some laws provide consumers with the right to correct their mistakes in bargaining, such as the right to return products or cancel transactions. The purpose of these laws is to protect "consumer sovereignty"—the consumer's ability to make rational and informed choices among market options.²¹⁰

Without the protection of the law, it is believed, consumers might fall prey to unscrupulous sellers who will surprise them with higher

210. Averitt & Lande, *supra* note 194, at 713.

prices or lesser quality or quantity products than they bargained for.

Free market values generally permit sellers to engage in most kinds of pricing schemes so long as they do not deceive consumers. A seller should be allowed to offer products at any price to knowing and willing customers. The problem, therefore, is how to define the threshold beyond which a price discrimination scheme can be considered deceptive.

1. The Moral Duty to Price Fairly

The ancient tension between the free market and just pricing is reflected in the idea, found in ancient Jewish law that considers pricing significantly over market price a *sui generis* form of fraud (*Ona'a*), even without coercion or deception.²¹¹ Recognizing that sellers were entitled to fair profits, the Talmudic sages adopted a rule according to which over-pricing by a sixth above market value made the transaction invalid.²¹² A buyer who unknowingly over-paid could demand a return of the difference or cancel the transaction within the reasonable amount of time it would take to discover the mistake by consulting with another merchant or expert.²¹³

Immanuel Kant voiced a similar rebuke of over-pricing, and believed that a storekeeper had a moral duty to charge all customers equally:

That a dealer should not overcharge an inexperienced purchaser certainly accords with [the] duty [the moral duty of the good will]; and where there is much commerce, the prudent merchant does not overcharge but keeps to a fixed price for everyone in general, so that a child may buy from him just as well as everyone else may. Thus customers are honestly served, but this is not nearly enough for making us believe that the merchant has acted this way from duty and from principles of honesty; his own advantage required him to do it.²¹⁴

211. See Itamar Warhaftig, Consumer Protection: Price Fraud, *CROSSROADS: HALACHA AND THE MODERN WORLD*, available at http://www.jlaw.com/Articles/price_fraud.html.

212. *Id.*

213. *Id.*; Nahum Rakover, *COMMERCE IN THE JEWISH LAW* 19–23 (1987) (in Hebrew). A number of jurisprudential rules limit the application of *Ona'a*. For example, there are limits over the period of time to demand cancellation, certain kinds of transactions, like land purchases, where *Ona'a* does not apply, and certain circumstances where parties are free to stipulate and waive *Ona'a* and accept higher prices.

214. IMMANUEL KANT, *GROUNDING FOR THE METAPHYSICS OF MORALS* 10 (James Ellington, trans., Hackett Publ'g Co., 2d ed. 1981) (1785). I thank Helen Nissenbaum for sending me this excerpt.

Both the ancient law of Ona'a and Kant's philosophy condemn selective over-pricing, less on a "just price" theory and more on the assumption that over-pricing must be the result of unfair exploitation of a customer's ignorance. The buyer is presumed to be at an inherent disadvantage. The seller's moral duty to keep prices level is intended as a safeguard against exploitation of the innocent shopper.

The passage from Kant introduces a central dilemma regarding consumer exploitation: Is it a moral imperative to treat customers fairly or merely a prudent business convention? The converse question may also be asked: If one tried to enforce some form of equal pricing, would this be an invasion into the private domain of personal morals or would it be justified for the protection of the consumer public and the marketplace?

2. Is Price Discrimination a Misrepresentation?

A seller's ability to offer different prices to different individuals or groups allows it to take advantage of buyers' limited and costly ability to compare prices. Pricing methods likely to take advantage of consumers' search costs include: posting different prices across retail channels, offering exclusive discounts in targeted coupons, and discounting only on price-comparison sites. Pricing strategies that target shoppers based on their search or shopping history exploit consumer "myopia" about the future consequences of their behavior on the prices they see and make it difficult for consumers to make informed choices. When prices vary across retail channels or individuals in these ways, consumers sometimes feel like the higher price was a deception.

However, U.S. legal doctrine on contract mistake²¹⁵ and misrepresentation²¹⁶ seems to preclude the notion that a seller has a duty

215. According to the RESTATEMENT (SECOND) OF CONTRACTS § 153 (1981), a contract may be voidable because of the mistake of one party, only:

[w]here a mistake of one party at the time a contract was made as to a basic assumption on which he made that contract has a material effect on the agreed exchange of performances that is adverse to him, the contract is voidable by him if he does not bear the risk of the mistake . . . and, (a) the effect of the mistake is such that enforcement of the contract would be unconscionable, or (b) the other party had reason to know of the mistake or his fault caused the mistake.

Id.

216. The RESTATEMENT (SECOND) OF CONTRACTS § 159 (1981) defines misrepresentation as: "a false assertion of fact . . ." According to the RESTATEMENT (SECOND) OF CONTRACTS § 161 (1981), non-disclosure of a fact is tantamount to a false assertion only in limited circumstances: where disclosure is necessary to correct a previous assertion or material mistake of a party, or where there is a previous relation of trust.

to disclose information about its prices across all marketing channels or individuals. For a claim based on mistake or misrepresentation to be recognized, the mistaken party (usually the buyer) must have relied on false information as a basic assumption underlying the bargain.²¹⁷ It is plausible to argue that consumers care deeply about what other buyers pay for the same product (consider the disappointment and outrage of the Amazon shoppers back in 2000²¹⁸). But a buyer can seldom claim that she relied on the uniformity of prices as a basic assumption of the bargain. Unless the seller publically advertises a price, the buyer typically only knows the posted price at the time and place where she makes the purchase. Buyers are seldom told what prices are offered in other store locations, whether a coupon is available elsewhere, or if the product will go on sale next week. Therefore, a shopper usually cannot claim that she entered into the bargain solely under the mistaken belief that the current price is the lowest price the seller is willing to offer to anyone, anywhere.

Moreover, free market values allow sellers to benefit from legitimately acquired information advantages. According to Anthony Kronman, the purpose of the contract mistake and misrepresentation doctrines is to allocate the property right in information advantages in order to incentivize efficient and socially useful information gathering and avoiding the social costs of sub-optimal shopping decisions induced by false information.²¹⁹ Kronman draws a distinction between categories of information acquired deliberately through investment and effort, and information acquired casually without special effort.²²⁰ In order to incentivize socially useful information gathering, the law of misrepresentation and unilateral mistake should not require the seller to disclose information acquired with effort. This rule places the burden of preventing error on the party that can gather information more efficiently.

If we are to treat price discrimination as misrepresentation under Kronman's analysis, we might propose the following rule: A seller has the duty to disclose to a consumer the lowest price offered for the same product to other consumers across all marketing channels. However, this disclosure would only be required in those situations where the consumer would not buy at the higher price if she knew about the existence of the lower price, and provided the consumer cannot learn of the existence of the lower price with reasonable effort.

Note that under these proposed rules, it makes no difference if lower

217. *See id.* §§ 159, 161.

218. *See* Streitfeld, *supra* note 30.

219. Anthony T. Kronman, *Mistake, Disclosure, Information, and the Law of Contracts*, 7 J. LEGAL STUD. 1, 14–15 (1978).

220. *Id.*

prices are exclusively offered only to a few consumers or if they are simply advertised on a selective basis but are available to all. What matters is only that the consumer would have chosen not to buy at the higher price if she knew that another shopper received the same product at a lower price. Put differently, the proposed rule seeks to completely remove the seller's ability to profit specifically from price discrimination practices based on differences in search costs. The proposed rules limit the advantages of hidden price discrimination practices if they tend to produce price differences that consumers would not reasonably tolerate.

Such a proposed rule raises a number of objections. Firstly, a liberal market policy would not seek to deprive a seller's discretion over pricing strategy and advertising. Price differences might be justified by a retailer's marketing costs, or represent different value to consumers shopping via different channels. One cannot categorically say that all price differences across retail channels based on personal or group characteristics are deceptive.

Secondly, a rule that condemns differential or targeted pricing as deceptive suffers from circular logic. The buyer objects to paying a higher price for the product only because this proposed rule allows her to rely upon a belief that the seller is obliged to disclose the lower price to her. If no such expectation is created by the operation of this rule, the buyer should accept the possibility that prices may differ across marketing channels and has no legitimate expectation that she is offered the lowest price.

Thirdly, the proposed rule only restricts those pricing practices that require extraordinary effort for a buyer to discover. This condition of reasonable effort requires a value judgment about the degree of effort a consumer is expected to expend in researching prices. The proposed rule cannot stand-alone and requires an external standard in order to distinguish excessively deceptive pricing practices from tolerable pricing practices. For these reasons, a Kronman-like analysis does not resolve the question of how to treat the information disparity between buyers and sellers over offered prices.

3. Frustrating Savvy Shoppers

The problem of difficult-to-find good bargains goes beyond the question of consumer welfare, and strikes at an important norm in the context of market activity—that a diligent and savvy shopper should ultimately be able to find the good deal.

In a free market, consumers are expected to expend reasonable search costs if they wish to reap the rewards of lower prices. Unfortunately, some new pricing methods are designed to frustrate even

savvy shoppers and raise the cost effort required for finding better deals precisely to those shoppers who put in the effort to find those deals. One way new pricing strategies undermine savvy shoppers is by making price-comparison tools less effective.²²¹ Sellers find ways to avoid publicly posting their lowest prices in order to circumvent automated search bots that deliver low prices to comparison-shopping sites.²²² Dynamic pricing, price-matching commitments, targeted offers and coupons, free shipping and other perks undermine the effectiveness of price comparison sites.²²³ Consequently, shoppers' benefit from price comparison sites erodes.²²⁴

Another way pricing practices frustrate savvy shopping is by making deals personally targeted, thus favoring the chosen over the choosy. The more complex, opaque, and individualized prices become, the task of even the savviest shopper to find good deals becomes more difficult. When prices are individualized to the consumer, no one can assume they are getting a good deal or rely on the wisdom of the multitudes in for bargain hunting. As Ian Ayres put it, "The fact that price-conscious buyers patronize a store is no longer an indication that it will be a good place for you, too."²²⁵

With personalized prices, finding good bargains is no longer tied to the effort expended in looking for them. New York Times columnist Virginia Heffernan, commenting on the confusing and possibly discriminatory pricing policies of Amazon Prime, eloquently summed up the argument:

We online shoppers take pride in being shrewd
Conducting research into the top-ranked thing for best price has become the whole shopping game. When a purchase arrives, it can seem like an afterthought, a prize for being such an astute scholar of prices, such a conscientious, close reader of reviews But there may be good reason to check my self-satisfaction over it. On the Web, often when we think we're at our most savvy – conducting research, comparison-shopping, deal getting – we're engaged not in strategic critical thinking

221. Kannan & Kopalle, *supra* note 6, at 63–68.

222. *Id.*

223. *Id.*

224. *Id.* at 70; *see also* Ellison & Ellison, *supra* note 160 (showing their study of comparison shopping site Pricewatch.com suggests that various price obfuscation techniques by retailers frustrate effective comparison-shopping online); Annie Lowrey, *How Online Retailers Stay a Step Ahead of Comparison Shoppers*, WASH. POST (Dec. 11, 2010, 5:32 PM), <http://www.washingtonpost.com/wpdyn/content/article/2010/12/11/AR2010121102435.html>; Odlyzko 2003, *supra* note 6, at 356–57.

225. IAN AYRES, *SUPER CRUNCHERS: WHY THINKING BY THE NUMBERS IS THE NEW WAY TO BE SMART* 173 (2007).

but in an infotainment ritual akin to watching commercial TV. At best, trying to beat the Web may make us spend a little more; at worst, it may deepen our involvement with a game that's rigged against us.²²⁶

4. Reconceiving the Purpose of Consumer Protection

Marketing techniques that create and exploit consumers' high search costs undermine the ability to compare prices and can lower overall welfare and harm consumers. They can also be very annoying and frustrating. They allow sellers to induce consumer miscalculation and extract a greater profit without strictly misrepresenting information about the product. When good deals are hard to find, the consumer is not deceived about the product itself or its subjective value as measured by her willingness to pay. Rather, the consumer is deceived (or is induced to make a mistake) about her comparative position in the market, the availability of better options, and her relative benefit from the bargain.

Indeed, some scholars argue that the cause of consumer protection should take notice of these concerns beyond a narrow focus on consumer's rationality and vulnerability and respond to the broader social forces that shape the power allocation between seller and buyer.²²⁷ Under this view of consumer protection, the purpose of consumer information regulation is to protect shoppers' ability to resist the growing power of the retailers to shape marketplace behavior.²²⁸ The need to protect the individual's ability to choose is not tied solely to the interest of overall social welfare, but touches upon interests of human autonomy and the value accorded to consumers and consumerism in society.²²⁹

5. Price-Labeling to Combat Price Discrimination Practices

The laws that mandate clear labeling of unit prices and prices per measure²³⁰ are good examples of consumer protection measures that facilitate easier consumer decision-making, beyond merely protecting consumers against misrepresented facts about products. Considering the

226. Virginia Heffernan, *Amazon's Prime Suspect*, N.Y. TIMES (Aug. 6, 2010), http://www.nytimes.com/2010/08/08/magazine/08FOB-medium-t.html?_r=1&.

227. See Barnhizer, *supra* note 36, at 90; IAIN RAMSAY, *Consumer Protection in the Era of Information Capitalism*, in CONSUMER LAW IN THE INFORMATION SOCIETY 62–64 (Thomas Wilhelmsson et al. eds., 2001).

228. RAMSAY *supra* note 227, at 62–64.

229. *Id.*

230. See, e.g., N.Y. AGM. LAW §§ 197-b, 214-h (2013); 1 C.R.R.-N.Y. §§ 345.1–345.7 (2013).

popularity of price-labeling laws and other similar laws that empower consumers, one may be tempted to adopt a similar law against price discrimination that would compel retailers to clearly display the lowest offered price or disclose their pricing practices. However, such a law would almost amount to coercing uniform prices across marketing channels; there would be little sense in offering consumers a higher price in one location if the existence of a lower price somewhere else must be announced alongside it.

A sweeping price labeling law would be tantamount to treating all price-discrimination as deceptive. Such a law deprives a seller of any possible advantage from setting different prices across marketing channels, even when consumers are not overly burdened by pricing differences. Moreover, there is no compelling reason to expect that such a law would lower prices overall. Forcing uniform prices by requiring complete disclosure of lowest prices could just as easily backfire and lead to higher overall prices.²³¹

6. Data Broker Disclosures

A different model of disclosure law can be found in the Fair Credit Reporting Act (FCRA).²³² Among its provisions, the FCRA mandates that firms engaged in providing “consumer reports” (as defined in the Act) must allow people access to their records and opportunities to correct information about them.²³³ Anyone taking adverse action against a person based on a consumer report, such as denying credit or employment, must inform the person of this fact.²³⁴ The FCRA applies narrowly only to enumerated purposes—mainly consumer credit and insurance, employment screening, and a number of other uses.²³⁵ However, Daniel Solove and Chris Hoofnagle make the case that consumers should enjoy the same access, notice, opt-out, and correction rights whenever information collected by data brokers is used.²³⁶ Similarly, FTC Commissioner Julie Brill has called upon data brokers to provide notice, access, opt-out, and correction procedures to consumers, under the “Reclaim Your Name” initiative.²³⁷ Taking the logic of this approach further, retailers should also be required to disclose pricing

231. See Odlyzko 2003, *supra* note 6, at 366–70.

232. 15 U.S.C. § 1601 (2000).

233. *Id.* §§ 1681g, 1681i.

234. *Id.* §§ 1681m(a), 1681b(b).

235. *Id.* § 1681a(d).

236. Daniel J. Solove & Chris Jay Hoofnagle, *A Model Regime of Privacy Protection*, 26 U. ILL. L. REV. 357, 364–68 (2006).

237. Julie Brill, *Data Industry Must Step Up to Protect Consumer Privacy*, AD AGE 2–3 (Oct. 28, 2013), <http://adage.com/article/guest-columnists/data-industry-step-protect-consumer-privacy/244971/>.

practices that attach hidden consequences to consumers' personal information such as personalized dynamic pricing based on consumer profiling or purchase history.

Requiring data brokers and retailers to inform consumers about the ways they use consumer information for pricing will alert consumers to situations where they might be subject to price discrimination. However, it will not severely curtail the sellers' freedom to choose their pricing strategy. Instead, retailers will need to convince an informed public that their pricing methods are fair and sensible. Consumer protection agencies, legislators, NGOs, and journalists are already doing important work in this direction by investigating the ways that consumers' personal and behavioral information is bought, sold, and used by retailers. Demanding more transparency of these practices, voluntarily or through government intervention, will be a welcomed step in the right direction for consumers.

7. Lawsuits Over Finding a Lower Price

Should there be a legal cause of action for consumers who discover they overpaid for an identical product from the same seller compared to other similar shoppers? At least one such lawsuit, alleging that Victoria's Secret's practice of sending catalogues with different prices to male and female recipients amounted to mail fraud, has been rejected in a U.S. federal court; the court even went so far as to sanction the plaintiff's attorney for filing a frivolous lawsuit.²³⁸

Yet even if the court was right to conclude that no fraud was committed, a similar lawsuit might find traction under another legal theory—unconscionability. Mark Klock proposes that courts should expand their reliance on the doctrine of unconscionability in cases of particularly disadvantageous discriminatory prices when no monopolization, deception or duress is involved.²³⁹ Klock argues that, from an economic perspective, it is impossible for a seller in a competitive market to offer all its consumers a uniformly bad deal unless some sort of market failure is present.²⁴⁰ Only when a market failure exists can a seller single out certain consumers and offer them especially egregious terms without losing its entire business to competition.²⁴¹ For this reason, Klock argues that courts should adopt a new understanding of contract unconscionability as “price

238. *Katzman v. Victoria's Secret Catalogue*, 167 F.R.D. 649 (S.D.N.Y. 1996).

239. Mark Klock, *Unconscionability and Price Discrimination* 66 TENN. L. REV. 317, 375–76 (2002).

240. *Id.* at 374.

241. *Id.* at 374–75.

discrimination without a cost justification.”²⁴² By adopting this new understanding of unconscionability, courts should be more willing to invalidate contracts and order that damages be paid to disadvantaged consumers.²⁴³ In a certain sense, Klock is echoing Kant’s sentiment in the passage quoted earlier that a seller who engages in price discrimination should be suspected of exploiting the innocence of some of his customers.²⁴⁴

The limitations of Klock’s proposed interpretation of unconscionability must be acknowledged. His definition of unconscionability encompasses nearly all forms of price discrimination, even those not excessively burdensome to consumers and justified by market conventions.²⁴⁵ At the same time, the requirement that there must be a “market failure” for a court to find that a price-discriminating firm acted unconscionably de-fangs the rule in some cases where consumers are disadvantaged; as we have seen, price discrimination can have negative consequences even under ordinary imperfect competition. Nevertheless, an economic analysis in the spirit of Klock’s understanding of unconscionability should open the door to lawsuits in cases where consumers were given absolutely no justification or reason for being treated worse than others.

To summarize, the norm against deception and misrepresentation does not perfectly capture what disturbs people about price discrimination. Free market principles would not seek to deprive sellers of all control over their pricing by requiring them to maintain strictly equal prices or to disclose their lowest offered prices in all situations.²⁴⁶ Even if sometime beneficial to consumers, such a strictly forced equality would encroach too much on the private moral judgment of sellers.

On the other hand, in the age of information-based price discrimination, consumer autonomy cannot be understood merely as freedom from coercion and deception. Today, as in ancient times, selective over-pricing should be suspect.²⁴⁷ The principle of consumer autonomy justifies empowering consumers to know how their personal identity and buying choices impact their position in the market. Using the example of the FCRA, retailers and consumer data brokers should be required to publicly disclose when and how they use personal data to target prices to consumers, and should provide consumer with tools to

242. *Id.* at 376.

243. *Id.* 379–81.

244. *See* KANT, *supra* note 214, at 10.

245. Klock, *supra* note 36, at 376.

246. *See supra* Part III.D.2.

247. *See, e.g., supra* Part III.D.1.

know when the price they see is based on personal profiling.²⁴⁸ In the appropriate case, the victim of an especially egregious and unjustified market treatment should have a right to sue.

E. “*It is Unfair*”

In classical economic thinking, there was no good reason why a person should care what another person paid for a product. With foundations in the liberal notion that a person is the sole judge of the value of any product, it was imagined that each person judges the value of goods in a vacuum. For economists, the act of a purchase at a given price was the only true sign of the product’s value to the buyer, provided that the buyer was well-informed about the quality of the product.²⁴⁹ For this reason, it seemed justifiable to require the seller to supply the consumer with accurate information about the product, but there is no need to supply information about what other people are paying. Yet as economists began to take a greater interest in the psychological aspects of consumer behavior, they noticed that buyers judge their own value of a transaction largely based on what others have paid.²⁵⁰ The question of consumer price valuation, it seems, is intricately connected with the consumer’s perception of the fairness of the transaction relative to other buyers.²⁵¹

Accusations of unfairness have been voiced particularly strongly against targeted dynamic pricing.²⁵² Commenting on the revelation of Amazon’s online dynamic pricing experiment in 2000, economist Paul Krugman wrote, “dynamic pricing is also undeniably unfair: some people pay more just because of who they are.”²⁵³

1. Understanding Pricing Unfairness

Unfairness can be a challenging concept. It involves the human desire to be treated with respect and decency, and the indignation of being misjudged, mistreated, and ignored. Whereas deception and misrepresentation cause clear consumer harm when they deny the buyer

248. See, e.g., *supra* Part III.D.6.

249. This assumes that the shopper generally has information about the price she pays. This generalization should be qualified with pricing practices that make it difficult for consumers to know how much they are actually paying, such as add-on pricing, long-term relational contracts, automatic charging.

250. Sarah Spiekermann, *Individual Price Discrimination – An Impossibility?* Mimeo 2–3 (2006), http://www.isr.uci.edu/pep06/papers/PEP06_Spiekermann.pdf.

251. *Id.*

252. See, e.g., Paul Krugman, *Reckonings; What Price Fairness?*, N.Y. TIMES (Oct. 4, 2000), <http://www.nytimes.com/2000/10/04/opinion/reckonings-what-price-fairness.html>.

253. *Id.* at 2.

the expected benefit of the bargain, unfair treatment evokes the buyer's outrage, even if no measurable harm has occurred.

In recent decades, economists and cognitive scientists have tried to better understand what makes individuals perceive pricing schemes as unfair. They consider unfairness usually as a subjective judgment of the buyer that a certain process or outcome is unreasonable, unacceptable, or unjust.²⁵⁴ The unfairness of the price is judged in comparison with prices offered to other buyers in similar situations.²⁵⁵ A judgment of unfairness is generally associated with negative feelings such as unease or guilt when the inequality is to the buyer's advantage, or outrage and anger when the inequality is to the buyer's disadvantage.²⁵⁶ Although the comparative judgment is made relative to other buyers, negative emotions associated with unfairness are directed toward the party seen as having caused the unfair situation—usually the seller.²⁵⁷ Studies show that buyers' perceptions of unfairness are highly influenced by the context and degree of similarity between a buyer's transaction and other comparable transactions.²⁵⁸

Researches have proposed various theories to describe the ways that buyers compare their transactions. Under "equity theories" of unfairness, buyers focus on the distribution of benefits between buyer and seller.²⁵⁹ Under "procedure theories" of unfairness, buyers focus on the procedure by which price is set.²⁶⁰ Under the "dual entitlement" theory, buyers presumably adjudicate the fairness of a transaction based on the positions of both buyer and seller—the transaction is perceived as fair if the buyer receives her entitlement to the terms of the reference transaction and the seller receives his entitlement to his reference point.²⁶¹

Perceptions of fairness are also influenced by various other factors, among them, the perceived reasons for the differences in price, the ongoing relationship of trust between buyers and sellers, and the social norms of a particular market.²⁶² The effects of violating norms of fairness are just as varied. Experiments with the "ultimatum game" have demonstrated that buyers are frequently willing to punish a seller and walk away from otherwise beneficial transactions when they perceive

254. Lan Xia et al., *The Price is Unfair! A Conceptual Framework of Price Fairness Perceptions*, 68 J. MKTG. 1, 1 (2004).

255. *Id.* at 1–2.

256. *Id.* at 2.

257. *Id.* at 3.

258. *Id.* at 2–3.

259. See Spiekermann, *supra* note 250, at 2–3.

260. See, e.g., *id.*

261. Daniel Kahneman et al., *Fairness as a Constraint on Profit Seeking: Entitlements in the Market*, 76 AM. ECON. REV. 728, 729–30 (1986).

262. Xia et al., *supra* note 254, at 3; Spiekermann, *supra* note 250, at 5–6.

the offer as unfair.²⁶³ Buyers who encounter unfair prices sometimes take no action but subjectively lower the value of the product in their own eyes and report dissatisfaction, disappointment and outrage toward the seller.²⁶⁴ Buyers may take action by complaining or demanding a refund, and may protect themselves from future disappointment by quitting the seller or acquiring more information in advance.²⁶⁵ They may also retaliate against the seller by switching to a competitor or spreading negative opinions and reviews of the product.²⁶⁶

Not surprisingly, those who pay a comparatively higher price report stronger negative feelings of unfairness than those who pay lower prices.²⁶⁷ Consumers who face a take-it-or-leave-it price by the seller are more likely to complain of unfairness than those who are given an opportunity to self-select the price level they pay from a menu of options.²⁶⁸ The period of time between offered prices is an important factor, too—frequent price changes create a sense of unfairness while transactions set more than a month apart are almost never compared as reference transactions.²⁶⁹

Fair process, not just fair outcome, is important too. Buyers are more likely to view a price difference as fair if they understand the reasons for the difference and are offered a choice of pricing options, like signing up for a store loyalty card or agreeing to receive coupons.²⁷⁰ On the other hand, consumers are particularly enraged by pricing differences that appear arbitrary, or worse—prices that appear to be entirely an exploitation of market power or the seller's knowledge of the buyer's highest willingness to pay.²⁷¹

A survey of attitudes towards various price discrimination practices gives added support to the theories of price unfairness.²⁷² In total, 91% of the survey's respondents thought that it is unjust for a supermarket to charge separate individuals differently, and an equal percentage thought it was unjust for a store to charge them based on what the store knew

263. See Kahneman et al., *supra* note 261, at 736.

264. Xia et al., *supra* note 254, at 7–8.

265. *Id.*

266. *Id.*

267. Spiekermann, *supra* note 250, at 4.

268. Kelly L. Haws & William O. Bearden, *Dynamic Pricing and Consumer Fairness Perceptions*, 33 J. CONSUMER RES. 304, 307–09 (2006).

269. *Id.* at 306; Spiekermann, *supra* note 250, at 2.

270. Kannan & Kopalle, *supra* note 6, at 71–73, 79 (describing several forms of non-arbitrary price discrimination based on systems such as customer loyalty, coupons, and changes in the availability of goods that have been shown to cause less negative reaction among consumers).

271. See Spiekermann, *supra* note 250, at 2; see also Kahneman et al., *supra* note 261, at 734–36.

272. Turow et al., *supra* note 36, at 3, 22–23.

about them.²⁷³ Accordingly, 87% of respondents thought that it was wrong to charge different people different prices online for the same product during the same hour; 84% thought that websites ought to inform customers if they engaged in discriminatory pricing; 76% said that it would bother them to learn that other people pay less for the same products; and 64% responded that it would bother them to learn that other people get better discount coupons for the same products.²⁷⁴

2. Unfairness and Trust

Trust is a necessary condition of risk-taking in commercial relationships. Unfair treatment leads to a breakdown of the trust that a buyer places in a seller. A good definition of trust, in the context of organizational relations, is “the willingness of a party to be vulnerable to the actions of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective of the ability to monitor or control that other party.”²⁷⁵ This definition serves well for an understanding of consumer trust in sellers. Buyers allow sellers to identify them and reveal personal information through their repeated interaction with the seller, and do not expect to be adversely treated because of that disclosure of information. Consumers do not usually take special pains to verify whether the seller has secretly discriminated among its customers. Trust is built slowly through the interactions of buyers and sellers, and relies on the norms and practices of particular retail contexts. Those expectations of trust are frustrated when loyal customers in ongoing commercial relationships are treated as second-rate customers and are not offered the lowest prices by the seller.²⁷⁶ With trust broken on a wide scale, we can expect a marketplace of circumspect and risk-averse shoppers, who will be less willing to enter into commercial relationships.²⁷⁷ The repercussions could ripple through the market beyond reckoning.

273. *Id.*

274. *Id.*

275. Roger C. Mayer et al., *An Integrative Model of Organizational Trust*, 20 *ACAD. MGMT. REV.* 709, 712 (1995).

276. *See, e.g.*, Fisher, *supra* note 190, at 30. Fisher remarked that some of the harshest complaints that price discrimination is unfair are voiced when firms appear to “punish” loyal customers. *Id.* For example, Amazon’s pricing experiment in 2000 especially enraged its repeat customers. *Id.* at 11–12. Similarly, a number of years earlier, loyal Microsoft customers were incensed when the company charged existing customers the same price to upgrade MS Word to version 2.0 as it charged buyers of competing brands to switch to the same product. *See id.* at 30.

277. *See* Odlyzko 2003, *supra* note 6, at 355.

3. Remedying Unfairness: Self-Regulation of the Market

If unfairness is a matter of personal judgment, should government or the courts step in to regulate at all? Consumers are often in the best position to punish retailers who treat them unfairly.²⁷⁸ Naturally, retailers would be wise not to alienate and disappoint their customers. It stands to reason that retailers will avoid irksome pricing strategies that offer short-term gains but end up hurting their business in the long run. As the strong negative reaction to Amazon's dynamic pricing experiment in 2000 has shown, vocal consumer outrage can be a powerful deterrent against repeating similar practices.²⁷⁹ The public's dislike of unfairness, even in the face of other benefits, is likely to be a powerful factor that will limit the spread of price-discrimination strategies.²⁸⁰

Any attempt at regulation in the name of fairness would find it difficult to define in advance which kinds of practices are inherently unfair. The practices that consumers tend to accept as fair are rooted in highly contextual social conventions, not universal principles. Personal judgments of unfairness often take into account multiple factors to decide which transactions are comparable, which procedures are just, and which outcomes are equitable. The difficulty of defining unfairness in the abstract is a significant counter-argument against adopting sweeping market regulations on those grounds.²⁸¹

4. Technological Solutions for Monitoring Price Discrimination

Technological tools might help individuals monitor retailers' pricing practices. The research team of Mikians et al. suggests that their experimental simulated online identities could be adapted to serve as a watchdog tool for consumers to monitor when retailers are engaging in any form of online price discrimination.²⁸² Journalists have already used this kind of tool in the course of investigating price discrimination.²⁸³ Other technologies could also allow consumers to avoid price discrimination by allowing them to shop anonymously or with a fake

278. See Edwards, *supra* note 109, at 583.

279. See *id.* at 583–85.

280. Odlyzko 2003, *supra* note 6, at 357–58, 364–64.

281. See Edwards, *supra* note 109, at 589–91; Fisher, *supra* note 190, at 28–31; SPIEKERMANN, *supra* note 250, at 5–6 (discussing the subjective nature of “fairness perception”); see also KLOCK, *supra* note 36, at 359–63 (discussing the difficulties of extending the Robinson-Patman Act to the service market in addition to the consumer goods market).

282. Mikians et al., *supra* note 35, at 84.

283. E.g., Jeremy Singer-Vine et al., *How the Journal Tested Prices and Deals Online*, WALL ST. J., Dec. 24, 2012, at A1, available at <http://blogs.wsj.com/digits/2012/12/23/how-the-journal-tested-prices-and-deals-online/>.

identity.²⁸⁴ These tools allow consumers to respond to surreptitious, targeted pricing practices they find most unfair by replacing blind trust with vigilant suspicion and taking personal protective steps against discrimination.

5. Remediating Unfairness through Government Regulation

Yet even with individual consumer action and technological tools, we can expect that a certain portion of unscrupulous sellers would continue to employ unfair pricing practices. A wasteful technological arms race between sellers and buyers might ensue. If so, should government regulators sometime intervene against unfair pricing?

The regulatory power of the Federal Trade Commission extends to unfair business practices²⁸⁵ but it has been reluctant to use that power against price discrimination practices. Mark MacCarthy argues that the FTC should expand its reliance on its “unfairness” mandate to curtail a variety of harmful information practices, including consumer price discrimination.²⁸⁶ He argues that public regulation based on the unfairness standard is appropriate to prevent the kind of information harms that currently are not addressed under a privacy paradigm built upon consumer notice and consent.²⁸⁷ This approach comports with the scope of the FTC’s enforcement authority, which is limited to acts that are “likely to cause substantial injury to consumers which is not reasonably avoidable by consumers themselves and not outweighed by countervailing benefits to consumers or to competition.”²⁸⁸

The meaning of the term “unfairness” in the FTC Act is very different than that used by behavioral economists. The Act makes the meaning of “unfair” very close to that of “deceptive.”²⁸⁹ Still, MacCarthy’s argument is a persuasive call for regulatory intervention

284. Acquisti & Varian, *supra* note 36.

285. 15 U.S.C. § 45(a)(1) – (2) (2013). The relevant sections read:

(1) Unfair methods of competition in or affecting commerce, and unfair or deceptive acts or practices in or affecting commerce, are hereby declared unlawful.

(2) The Commission is hereby empowered and directed to prevent persons, partnerships, or corporations . . . from using unfair methods of competition in or affecting commerce and unfair or deceptive acts or practices in or affecting commerce.

Id.

286. Mark MacCarthy, *New Directions in Privacy: Disclosure, Unfairness and Externalities*, 6 I/S: J.L. & POL’Y FOR INFO. SOC’Y 425, 478–80 (2010–2011).

287. *Id.*

288. 15 U.S.C. § 45(n) (2013).

289. *See id.* § 44.

against unfair retail practices that consumers can't easily detect or avoid. The recent FTC action against "history sniffing" by ad networks is a good start, even if it is connected only indirectly to retail pricing.²⁹⁰

To summarize, some price discrimination practices can seem patently unfair, especially when done surreptitiously against consumers who are not given reason or explanation of the treatment they are given. Improved technological abilities to price discriminate create greater temptations for sellers to violate the consumer's trust and act in ways they may perceive as unfair. This sense of unfairness can break down the trust of buyers in sellers. The marketplace might correct itself, and technical tools could allow consumers to monitor seller's prices, obviating the need for regulation. But when this fails to happen, especially in those instances when unfair pricing practices are difficult to detect, the FTC ought to use its existing "unfairness" mandate judiciously to restore trust in the market.

F. "It is Socially Unjust"

The idea of social justice is very different from the harm principle or fairness. Instead of looking at the individual transaction, the concept of social justice looks at the persistent harms to society over time. It has less to do with the equity between buyer and seller, and more to do with the way the price advantages and disadvantages are distributed to different consumer groups in society.

1. Walzer's "Spheres of Justice"

Philosopher Michael Walzer's argues²⁹¹ that just distributions of goods follow different criteria in different social spheres of human activity. Cars and haircuts can be bought for money, but political office should not. Food stamps are given according to need, but graduate degrees are not. Distributional Justice is not about achieving a wide distribution of goods approximating "simple equality". Rather, it is making sure that different goods are distributed appropriately in a "complex equality." Injustices arise when dominance in one sphere of social activity subverts the distributional criteria of goods in other social spheres and entrenches itself in the social structure. Power becomes tyranny; dominance becomes monopoly; social capital becomes a stultified cast system.

290. Federal Trade Commission, *supra* note 77. However, the FTC explains that its action against the practice of "History Sniffing" was based on its mandate to act against deceptive, rather than unfair, practices.

291. MICHAEL WALZER, SPHERES OF JUSTICE: A DEFENSE OF PLURALISM AND EQUALITY 3–30 (1983), *discussed in* NISSENBAUM, *supra* note 2, at 166–69.

With respect to the sphere of commerce, Walzer argues that although money can buy a great many things, there are certain goods deemed to be beyond its proper reach—human servitude, political power, the outcomes of trials, basic rights and freedoms. With few exceptions, almost all other goods can be bought for money and the free market is a just mechanism for allocating those goods in society. The price system is an appropriate means for people to assign value to the goods and services they exchange in order to achieve their own ends. Thus, free exchange of goods for a known price is the only just way to reward initiative, labor, talent, and risk-taking with the goods that each person seeks.²⁹²

When discussing the social justice of price discrimination, we are not talking about the distribution of products or services as such. Rather, we are discussing the distribution of price advantages and disadvantages—the opportunities to buy the same product at a discount or exclusion from those opportunities. Price discrimination challenges the idea of free market exchange as a just distributional criterion for goods in the market sphere because it distorts the price system. To understand this challenge, it is useful to think of price advantages in two ways: as a commodity acquired in free exchange or as a subversion of the free market mechanism itself.

2. A Bad Deal—The Payoffs for Disclosing Personal Information for Price Advantages

Price advantages can be thought of as a kind of market commodity. However, it is plain to see that they are usually not bought for money. In most cases, price advantages are given in exchange for personal information about consumers.

With the rapid growth of online marketing beginning in the 1990s, some scholars became troubled by the fact that personal privacy was eroding and the risks of data insecurity were increasing as retailers, ad networks, and consumer data brokers were learning to make billions of dollars from the collection and trade of consumer information. Consumers relinquish private information whenever they make a credit card purchase, use a store rewards card, agree to receive coupons, query search engines, use free e-mail services, surf for entertainment or information, or engage in social media. While consumers benefit from these free services, they do not receive direct compensation for the use of their information. These scholars view the unequal costs to consumers versus the benefits to large firms as a market failure, a sign that the market for personal information is inefficient. This inequality is

292. *Id.* at 95–108.

seen as a problem of social cost in which the harms of eroded privacy and growing insecurity are negative externalities imposed on consumers as a consequence of the free-for-all attitude towards personal information.²⁹³

A proposed answer for these scholars is to view personal information as a form of property—something that an individual should be free to withhold or exchange for value.²⁹⁴ Through a combination of legal protections, default rules, and technical tools, consumers could easily grant permission to their data and reap a just share of the rewards. The problem of online privacy would be solved. In fact, a number of companies are attempting to do precisely that, by creating “vaults” for individuals to control and capitalize on their personal data.²⁹⁵

Without engaging with the broader claims of this argument, the idea of a property right in personal information assumes that consumers can get a good deal from sharing their information, at least in theory. If consumers sell their information to advertisers, so the argument goes, they would happily enjoy free services, receive only ads and coupons that are relevant to them, and might even make a small profit. Everyone would win.

But if the relinquishment of personal information leads instead to disadvantages in pricing, could the market compensate a person for subjecting herself to adverse price treatment?

If the advantages and disadvantages of price discrimination are distributed equally throughout society, it is conceivable that consumers win some and lose some from the disclosure of information to retailers, but are better off overall. However, if certain individuals are regularly identified as low-value customers and suffer repeated disadvantages in the marketplace, then no amount of commercially viable compensation could ever make up for the harm they suffer. By surrendering their information, some individuals put themselves at a constant disadvantage while making others better off. For those individuals, providing personal information to facilitate price discrimination is always a losing proposition.

293. See David L. Baumer et al., *Tit for Tat in Cyberspace: Consumer and Website Responses to Anarchy in the Market for Personal Information*, 4 N.C. J.L. & TECH. 217, 269–71 (2002); Vera Bergelson, *It's Personal But Is It Mine? Toward Property Rights in Personal Information*, 37 U.C. DAVIS L. REV., 379, 384–91 (2003); Jerry Kang, *Information Privacy in Cyberspace Transactions*, 50 STAN. L. REV. 1193, 1246–67 (1998); Richard S. Murphy, *Property Rights in Personal Information: An Economic Defense of Privacy*, 84 GEO. L.J. 2381, 2407–16 (1995–1996); Paul Sholtz, *Transaction Costs and the Social Costs of Online Privacy*, 6 FIRST MONDAY (May 2001), <http://firstmonday.org/ojs/index.php/fm/article/view/859>.

294. See Natasha Singer, *A Vault for Taking Charge of Your Online Life*, N.Y. TIMES (Dec. 8, 2012), <http://www.nytimes.com/2012/12/09/business/company-envisions-vaults-for-personal-data.html?pagewanted=all>.

295. *Id.*

3. The Problem of Adverse Selection

Viewing price advantages as a commodity is also susceptible to the problem of adverse selection. If only the individuals who expect to gain an advantage share their information with sellers, then all the rest have no escape from the negative consequences, even if they themselves never bargained away their personal information.

The problem of adverse selection is demonstrated in the practice of supermarket loyalty cards, which offer lower prices to self-selected customers who get the card, while non-card-holders must pay full-price. All customers are free to acquire the cards, but the benefits of these cards only accrue to high-value customers who make large purchases. Supermarkets will sometimes offer special discounts on higher-end luxury products in order to garner the loyalty of high-value customers, while at the same time raising prices on staple items that are preferred by low-value customers. The less affluent customers end up paying more for basic products, and often have few other choices in their area. This has been criticized as a cross-subsidy of the wealthy by those of lesser means—essentially “paying the wealthy for being wealthy.”²⁹⁶

These kinds of loyalty discounts discourage more aggressive competition for customers and raise average prices overall. The term “loyalty discount” can lead to an increase in price to all consumers, including loyal ones.²⁹⁷ In this way, the exchange of consumer information for price advantages can end up regularly disadvantaging one group of consumers through the voluntary sharing of information by another group of consumers.

4. Price Discrimination and Social Sorting

Viewing the collection of consumer information as a voluntary exchange for free services and commercial benefits ignores the reality that the vast majority of information on consumers is in the hand of retailers and data brokers comes from sources over which the consumer has no knowledge, control, or way to opt-out. It is therefore misleading to think of the market advantages as the benefit of a free bargain. In most cases, it is more accurate to think of it as an involuntary distortion of the price system of value allocation.

“‘[M]y money is as good as anyone else’s’ has been a common American expression, but that may no longer be true,”²⁹⁸ warns Joseph

296. Amanda Conley & Laura Moy, *Paying the Wealthy for Being Wealthy: Why We Should Care About Information Privacy Even if We Have ‘Nothing to Hide’* (2011) (unpublished manuscript) (on file with author).

297. Elhauge, *Loyalty Discounts*, *supra* note 195, at 216–21.

298. TUROW, *NICHE ENVY*, *supra* note 18, at 189.

Turow. This statement sums up the fear that with price discrimination, market treatment is no longer tied the money in a person's pocket. It is Krugman's patently unfair condition where "some people pay more just because of who they are."²⁹⁹

The effects of social sorting are especially apparent in price discrimination practices such as individualized dynamic pricing and targeted coupons, which identify, profile, and sort individual customers. These practices demonstrate the financial motivations that lead businesses to sort consumers as a means of allowing them to attract the choicest customers (the "strong market") and exclude low-value consumers (the "weak market"). If people suffer repeated disadvantages because of personal attributes over the long run, such practices might create a market divided between a class of consumers who receive incentives and offers for the best products and services, and a class of consumers who are habitually ignored, underserved, and over-charged. This is especially true because a large part of the information provided by consumer data brokers pertains to persistent qualities, such as the neighborhood consumers live in, their income level, and their level of education. If this information is used to price discriminate, we may reasonably assume that the same individuals will routinely suffer the same treatment across different sellers.

Because of the effects of "symmetrical" and "asymmetrical" competition structures, two kinds of results are likely to occur. In some instances, those tagged as "weak market" consumers will be routinely ignored and excluded across the market. In other instances, the market will bifurcate into stores that cater exclusively to separate consumer groups. The common middle ground will tend to shrink in either case. These effects could be accentuated if discrimination is based on consumers' purchase history. When this is the case, choices become destiny, and consumers' past purchases will continually reinforce their respective advantages and disadvantages.

The polarizing tendency of price discrimination is already beginning to appear in the U.S. market. Stores are targeting ever-narrower segments of the consumer population. Discount supermarkets like Wal-Mart appeal especially to price-sensitive shoppers, while chains like Whole Foods cater to a more affluent clientele. Elsewhere, stores' sales staff lavishes personal attention on preferred, high-value customers while lower value customers routinely face long wait times for customer service and indifferent attention from staff. The division among consumer niches reaches price treatment, too. In department stores like Bloomingdales, preferred customers receive special offers, advance information about sales events that match their buying profile coupons,

299. Krugman, *supra* note 252.

and special discounts at the point of sale (these practices are sometimes called “pre-selling” or “clientelling”). Other stores actively try to dissuade low-value customers who only shop at sales (known to retailers as “cherry-pickers”) by adopting stricter rules on returns and price-matching and by discontinuing items and promotions that are favored by low-value customers.³⁰⁰

Over twenty years ago, philosopher Oscar Gandy described the logic that underlies the complex web of technologies that determine the treatment of individuals in consumer markets as the “panoptic sort”. Gandy pointed out that the technologies involved in social sorting are especially adept at avoiding individuals classified as risky or poor investments, rather than realizing social gains. Their effect is to victimize through avoidance of certain groups of people, who are persistently disfavored because of their race, gender, age, class, culture, and consciousness.³⁰¹ This exclusion goes beyond the mere disadvantages of not having enough money to pay, and amounts to an entrenchment of social classes already victim to past biases.

Helen Nissenbaum emphasized that the outrage over sorting comes from the feeling that individuals are held unreasonably or unfairly accountable for past behavior or social status.³⁰² Important decisions about individuals’ market standing are made without the guarantee of transparency, non-arbitrariness and relevant criteria. Consumer information brokers are particularly susceptible to this objection, since they take into consideration information that has little to do with past market behavior as indicators of future market choices. For Nissenbaum, the crux of the problem seems to be that assemblages of information about consumers are used to sort consumers in ways that are manipulative, paternalistic, and non-transparent.³⁰³ These sorting techniques reflect the power disparity between the strong market actors and the much weaker consumers.³⁰⁴

There is certainly a deep connection between non-transparent, secretive and heavy-handed pricing practices and the unjust allocation of price advantages. Marketing decisions are never explained to consumers, and the value judgments embodied in the algorithms of consumer profiling technologies are never explicitly stated. Social injustice thrives in this kind of opaqueness—an unjust pricing system is far less likely if retailers needed to publically answer to the individuals they exclude.

300. TUROW, NICHE ENVY, *supra* note 18, at 130–47.

301. *Id.* at 15–18.

302. *See* HELEN NISSENBAUM, PRIVACY IN CONTEXT: TECHNOLOGY, POLICY, AND THE INTEGRITY OF SOCIAL LIFE 206–11 (2010).

303. *See id.*

304. *Id.*

5. Is Social Sorting so Bad?

Some scholars disagree that new sorting technologies are inherently unjust. Lior Strahilavitz has argued (in the context of decisions such as employment, housing, jury selection, and immigration) that accepting “statistical” forms of discrimination based on analysis of factually accurate personal information might be preferable to “animus-based” discrimination against racial minorities.³⁰⁵ Placing a “curtain” over personal information may lead decision-makers to rely on the old sorting standbys of race, gender, and age.³⁰⁶ Strahilevitz stresses that price discrimination based on statistical analysis can sometimes have positive effects.³⁰⁷ Far from consistently disadvantaging the already disadvantaged, price discrimination sometimes allows poorer consumers access to products at a discounted price that would not otherwise be available to them.³⁰⁸

Similarly, Matthew Edwards argues that the injustices of price discrimination are best addressed by continuing existing policies for combating normatively disfavored wealth transfers and discrimination based on race, gender, age or disability, rather than attempt to achieve strict price equality for all consumers.³⁰⁹

These positions seem unsatisfying. The allocation of pricing advantages and disadvantages respectively to “high value” and “low value” consumers can be done without regard to race, gender, age, and still persistently disadvantage identifiable classes of consumers. Selective treatment for higher prices, worse service, and fewer opportunities adds a special sting to poverty. While unintentional, these judgments tend to align with forms of “invidious” discrimination. It may be true that when this happens, other retailers might choose to cater especially to the price-conscious shoppers with new discount options.³¹⁰ The result is an increasingly divided market. Stores and brands become closely identified with a specific kind of clientele and the wide common ground quickly vanishes. It is one thing when people are treated differently in the market as a result of their different buying power; it is another thing entirely when people are treated differently as a result of deliberate data-driven judgments by the sellers about the kind of people their clients are.

305. See Lior Jacob Strahilevitz, 102 NW. U. L. REV. 1667, 1676, 1712 (2008).

306. *Id.* at 1676.

307. *Id.* at 1733–34.

308. See *id.*; Lior Jacob Strahilevitz, *Toward a Positive Theory of Privacy Law*, 126 HARV. L. REV. 2010, 2027 (2013).

309. Edwards, *supra* note 109, at 592–93.

310. Strahilevitz, *supra* note 4, at 56–58.

6. A Call for Public Debate

A divided marketplace can have unpleasant consequences. Joseph Turow warns that increased reliance on niche marketing will lead to a “new culture of suspicion and envy” among classes of consumers.³¹¹ Although the social injustice is not the fault of any single seller, the market as a whole will suffer the cumulative outcome of the choices of retailers, even if they are sometimes pressed out of competitive necessity to adopt price discrimination technologies.

Adopting a cautious attitude toward price discrimination does not necessarily mean a “rigidly enforced consumer equality rule”³¹² of the kind Matthew Edwards decries. Indeed, any such rigid rule would be premature. But to dismiss the concerns over social injustice is dangerously complacent. At present, more empirical research is needed to determine the extent to which price advantages and disadvantages are distributed unequally and persistently among consumer groups. Although there is reason to believe that price discrimination is contributing to widening social gaps in the United States and elsewhere, better evidence is needed to support this conclusion. It is likely that the effects on society vary among different sectors of the economy and that many factors affect the distribution of price advantages. These should receive more serious study than the scope of this Article allows.

Greater public accountability is needed from the consumer data and marketing industries. People are entitled to know when their personal information goes into pricing decisions and how those determinations are reached. There needs to be a public debate about the legitimate tradeoffs between information disclosure and market advantages, and the kinds of personal information that should never be used to allocate market advantages.

To summarize, consumers might sometimes benefit from the bargain of personal information in exchange for price advantages, at least in theory. However, consumers have no real way to assess whether they are getting sufficient value for the information they relinquish. What’s more, other consumers could end up suffering persistent price disadvantages through adverse selection.

In many cases, however, price advantages are not exchanged for freely given information. Rather, they are the result of technologies of social sorting in the hands of retailers. The allocation of advantage is done far from the scrutiny of the consumers they sort and profile. There is good reason to suspect that price discrimination based on consumer profiling consistently disadvantages certain groups but the full extent of

311. TUROW, NICHE ENVY, *supra* note 18, at 182.

312. See Edwards, *supra* note 109, at 589, 596.

this phenomenon needs to be empirically studied.

To the extent it is happening, the allocation according to the buyer sorting and profiling challenges the liberal idea of the market as a just mechanism for the free exchange of valuable goods among individuals. Goods that ought to be freely allocated to anyone willing to pay their price are in fact being allocated, to some degree, according to the personal circumstances and identities of different buyers. As this trend grows, the social sphere of commerce is likely to become more divided and a “culture of suspicion and envy” could result. If this future is to be avoided, the public must engage in dialogue over the social consequences that result from the opaque allocation of price advantages in the market.

CONCLUSION

Proponents of information age marketing sometimes argue that their methods reproduce the close personal relationships that consumers used to enjoy with their trusted local shopkeepers in days gone by.³¹³ This is a rosy and unrealistic picture of how technology is changing the market. In truth, the human faces of the new marketing industry would probably resemble those of the salesmen in David Mamet’s play and subsequent film *Glengarry Glen Ross*.³¹⁴

In the play, four salesmen in a struggling real-estate agency are pitted in a cruel sales contest against each other. The office manager, Williamson, will not give the salesmen the good “leads”—the names of likely buyers purchased from a commercial data broker. To earn the good leads, they must close sales, but to close sales, they need the good leads. The desperate salesmen are driven to beg, lie, and steal in order to keep their jobs. In a moving scene, down-on-his-luck salesman Shelly Levene, pleads with Williamson: “Do I want charity? Do I want pity? I want sits. I want leads that don’t come right out of a phone book. Give me a lead hotter than that, I’ll go in and close it. Give me a chance. That’s all I want . . .”³¹⁵

The desire to make sales is human. A business that cannot find and attract its best customers is doomed to be crushed by the unforgiving competition. But that desire can corrupt those who will stop at nothing to reach prospective buyers and extract high prices from them. The marketing practices that have become possible by the rapid advances in information technology do not always deserve our sympathies.

313. Smith & Rimler, *supra* note 40, at 204.

314. See DAVID MAMET, *GLENGARRY GLEN ROSS* (1983).

315. *Id.* at 7.

Table 1, below, summarizes the crosscutting interactions between pricing practices, information needs, gathering methods, and the ethical concerns they create.

Table 1

Price Discrimination Type	What Firms want to know	How Sellers get Information	Possible Ethical Concerns
<p>“Perfect” first degree price discrimination [Unlikely to succeed in reality]</p>	<ul style="list-style-type: none"> • Identify individuals • Assess individuals’ willingness to pay. 	<ul style="list-style-type: none"> • Identify consumers by login, payment card, loyalty cards, cookies, or IP address. • Collect and mine consumers’ purchase history, demographic data, tastes, preferences, and shopping habits from data brokers. 	<ul style="list-style-type: none"> • Possible monopoly-like wealth extraction nearing consumers’ highest willingness to pay would lead to lower consumer welfare across the board. • Increases insecurity and erodes privacy • Unfair treatment of consumers. • Socially unjust allocation of price advantages, if the same individuals are persistently disadvantaged.
<p>Second degree price discrimination Loyalty cards, quantity discounts, two-part tariff, Versioning, bundling.</p>	<ul style="list-style-type: none"> • Quantity/quality demand dispersion and price elasticity among strong and weak markets. • Competitive structure (symmetry/asymmetry) 	<ul style="list-style-type: none"> • Mining consumer purchase histories. • Perform price experiments. 	<ul style="list-style-type: none"> • Risk of anticompetitive effects (if sufficient market power exists). • Socially unjust, if allocation of benefits to self-selected groups creates persistent disadvantages through adverse selection.

Price Discrimination Type	What Firms want to know	How Sellers get Information	Possible Ethical Concerns
<p>Third degree price discrimination Location-based discrimination; “Rough-and-ready” emographic profiling.</p>	<ul style="list-style-type: none"> • Identify individual or group demographic trait. • Dispersion of price sensitivities between groups. • Competitive structure (symmetry/asymmetry) 	<ul style="list-style-type: none"> • Identify consumers by login, payment card, loyalty cards, cookies, IP address, or other tracking tools. • Use demographic indicators such as browser or OS type. • Request demographic information directly from users. • Acquire basic demographic information about consumers from brokers. 	<ul style="list-style-type: none"> • Possibly lowers consumer welfare • Increases insecurity and erosion of privacy. • Socially unjust, if it persistently disadvantages certain groups based on inherent and irrelevant traits such as race, age, sex, etc.
<p>Price based on purchase history Loyalty discounts, introductory offers.</p>	<ul style="list-style-type: none"> • Identify consumers • Recognize strong and weak markets. • Competitive structure (symmetry/asymmetry) 	<ul style="list-style-type: none"> • Collect and mine consumers’ purchase histories held by the seller itself. • Offer introductory offers or loyalty discounts. • Perform price experiments. 	<ul style="list-style-type: none"> • Could lower overall social welfare or consumer welfare. • Unfair treatment of consumers
<p>Consumer profiling using aggregated data [e.g. from consumer data brokers] Personalized dynamic posted prices; targeted coupon; product customization.</p>	<ul style="list-style-type: none"> • Identify individuals • Assess individuals’ willingness to pay. • Discover switching costs, tastes, search costs. • Competitive structure (symmetry/asymmetry) 	<ul style="list-style-type: none"> • Identify consumers by login, payment card, loyalty cards, cookies, IP address, or other tracking tools. • Acquire and mine consumers’ purchase history across industries. • Acquire information on consumer demographic data, tastes, preferences, 	<ul style="list-style-type: none"> • Overall welfare decrease due to competition inefficiencies, prisoner’s dilemma, and non-welfare-enhancing competition. • Increases insecurity and erosion of privacy. • Raises search costs for lower available prices.

Price Discrimination Type	What Firms want to know	How Sellers get Information	Possible Ethical Concerns
		and shop-ping habits from public records. <ul style="list-style-type: none"> • Track online and offline activity and habits. • Aggregate and mine information to create fine-grained profiles and e-scores. 	<ul style="list-style-type: none"> • Unfair treatment of consumers. • Socially unjust allocation of price advantages if persistently disadvantages the same individuals or groups.
Pricing based on search cost and price obfuscation (“noise”)	<ul style="list-style-type: none"> • Correlation between certain human traits and a higher search cost. 	<ul style="list-style-type: none"> • Offer occasional discounts, coupons, etc. • Engage in dynamic pricing. • Vary prices across marketing channels. • Offer coupons to likeliest strong market. • Discriminate in favor of price-comparison websites. • Offer discounts only to customers who haggle or complain. 	<ul style="list-style-type: none"> • Lowers consumer welfare. • Raises search costs for lower available prices. • Unfair treatment of consumers. • Socially unjust allocation of price advantages if the same individuals or groups persistently suffer higher search costs.

The discourse over price discrimination must consider how different practices require different kinds of information, and in turn, raise different ethical concerns. Price discrimination is not one single practice—it is many. Although the general context of discussion is retail marketing, there are many particular shopping contexts. Purchasing from a giant online retailer like Amazon is not the same as browsing at a local boutique; shopping for groceries at a supermarket is not like buying a car. Each setting is governed by different norms, relationships, and expectations.

Price discrimination practices can cause a variety of harms. More and more sellers are experimenting with price discrimination practices.

This trend may lead to lower prices and better choices for consumers. But it may also cause some consumers to suffer from higher prices and fewer choices. Consumers are likely to bear the costs of lost privacy and greater information insecurity. The market as a whole could suffer as competing firms are caught in a prisoner's dilemma and forced to invest in costly technologies and non-welfare-enhancing competition for fleeting market advantages.

When consumers are treated unfairly, they feel outrage and lose their trust in retailers. In the long run, price discrimination could lead to unjust social consequences if individuals or groups suffer persistent disadvantages.

Certain kinds of information needed for price discrimination to succeed were not available in the past, or were prohibitively expensive to acquire and slow to apply. New technologies have radically altered the ability of retailers to price discriminate, and have created new ways to do so.

Technologies for identifying consumers have made price discrimination more feasible by allowing firms to easily target individuals while making it more difficult for them to remain anonymous and hide relevant traits and habits. It has become easier to engage in dynamic pricing and to vary prices across marketing channels in order to take advantage of differences in search costs between the shoppers; indeed, these new pricing methods even frustrate the savviest consumers sometimes. The ability to record and analyze past shopping behavior makes it easier to differentiate among shoppers based on their purchase history. This is not merely a change in degree from old marketing practices; it represents a different kind of commercial environment that requires a rethinking of favorable attitudes toward price discrimination.

One of the most dramatic changes from past practices is the new ability to aggregate unfathomable amounts of data. Consumer data brokers are a multi-billion dollar industry that provides retailers with an intimate profile of nearly every U.S. citizen. Data aggregation makes it possible to price discriminate based on consumer purchase history and segment shoppers to narrow and specific categories. It also allows retailers to design their price structures and promotions much more efficiently. Although it is unclear how this ability is being applied in practice, the predictive power of data mining already has many people imagining the day when retailers will be able to guess each shopper's highest willingness-to-pay, bringing to reality nightmarish scenarios. At present, this possibility seems remote, but the future potential of data mining technologies for pricing is anyone's guess.

Data aggregation is also responsible for some of the gravest concerns over privacy. Statistical algorithms judge the buying power of

consumers based on factors such as age, marital status, children, home ownership, and address—factors one cannot easily change. Aggregators also consider habits and opinions that ordinary people would see as irrelevant or inappropriate for the allocation of commercial advantages. If aggregators take into consideration past shopping behavior, then present judgments about buyers' likely actions become a self-fulfilling prophecy. All of this strikes people as patently unfair.

The concern that data-driven price discrimination reinforces social advantages and disadvantages is a very different from the individual welfare harms and unfairness complaints. The impact of pricing methods on social justice is cumulative and operates on society as a whole, rather than particular to individual transactions. This impact should be closely monitored.

Many pricing practices depend on keeping them secret from consumers. Some practices—dynamic pricing, differential pricing across marketing channels, and discrimination based URL or browser type—depend on consumers not knowing that they are subject to price discrimination at all. When discovered, such pricing methods make consumers feel cheated. Other practices, like targeted coupons, are cloaked in an air of “it’s-just-business” statistical value-neutrality while consumers are left guessing as to which segments of society benefits from them most. Secrecy also enshrouds the robust trade in consumer personal information, as we have seen.³¹⁶ Terms are buried in arcane privacy policies, if they are available at all. By contrast, price discrimination practices conducted openly raise far fewer and more remote concerns. Effects on competition and social may remain. However, these methods are accepted and favored by most shoppers.

Secrecy harms consumers. Control over one's personal information is meaningless without the ability to understand the consequences of information sharing. The secrecy of pricing decisions contributes to the popular feeling that they are deceptive, harmful to consumers, and unfair. The social injustices and market harms that are caused by price discrimination go untreated because public scrutiny is unavailable. This must change. Price discrimination has become a matter of serious public concern. The public is entitled to answers from the companies that buy and sell their information.

4. Remedies

The variety of contexts, pricing practices, and possible harms, converge when it comes to those practices that are criticized as most obnoxious to consumers. Targeted and dynamic pricing methods, driven

316. *Supra* notes 51–59 and accompanying text.

by vast amounts of aggregated personal information, and carried out surreptitiously without opportunity for consumers to self-select, are also the most likely to be harmful, deceptive, unfair, and socially unjust.

Remedies must fit the expected harms. Some of the harms can be treated by pinpoint solutions—antitrust laws against monopolization and restraints of competition; private lawsuits over outrightly deceptive pricing; anti-discrimination laws to combat prices that are flagrantly based on nationality, race, religion, or gender; bans on data collection that violates established principles of privacy.

More generally, redressing the problems of unfair and deceptive pricing requires that consumers become better informed. This can be achieved if government and the media insist that retailers and data brokers come clean about their pricing practices. More specific duties of disclosure to consumers merit consideration but require a serious debate over the legitimate limits of sellers' information advantages.

There are also good grounds to consider placing certain limits on the collection of consumer personal information by retailers and data brokers. Although consumers can protect themselves with anonymizing technologies and price-comparison sites, it might be socially preferable to impose government regulation instead of a wasteful technological arms race. However, sweeping bans on the collection of consumer information would be unwise and overly restrictive of the free market. Pinpoint restrictions on certain collection methods (like the “history sniffing” case), and bans on kinds of information that should never be part of pricing decisions deserve case-by-case consideration.

The problem of unchecked price discrimination has taken its place among the pressing issues of the information age. It is time for politicians, regulators, the marketing industry and the public to respond to the challenge with appropriate and principled policies.