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ABSTRACT

In e-commerce, there is a growing use of personalized pricing. Personalized pricing is the tailoring of an individual price to each individual consumer so that different consumers pay different prices for the same product. This practice relies on the use of big data regarding each consumer's unique elasticity of demand. The results of this practice include, on the one hand, a potential increase in output and, on the other, the almost complete transfer of welfare from consumers to sellers. It also causes potential reduction of welfare and other distributive effects. Personalized pricing rests, *inter alia*, on consumers' inability to arbitrage and thereby cause price convergence. To guarantee this inability, sellers often impose direct or indirect restraints, known as vertical restraints, that prevent consumers from re-trading the product.

This article examines the implications of the shift toward personalized pricing, including how online vertical restraints are often adopted to support personalized pricing. As argued herein, although the law explicitly prohibits both price discrimination and anticompetitive vertical restraints on trade, the developments in economic thought have led courts to approach each of these practices with a permissive stance. The problem is that vertical restraints that are imposed to sustain personalized pricing cannot be justified solely for doing so. The anticompetitive effects undermine the procompetitive effects underlying the tolerance toward price discrimination. To prevent that problem, this article argues that courts should adopt a stricter approach toward vertical restraints designed to sustain personalized pricing. Practically, it suggests increasing antitrust scrutiny by adopting a presumption that restrictive arrangements that are directly tied to personalized prices are anticompetitive. Accordingly, such behavior will suffice to make a *prima facie* case against these arrangements, which then can be rebutted by the defense by showing a procompetitive justification. To avoid over-litigation and chilling effects, this article suggests several exemptions from this presumption.

I. Introduction

An important conference is taking place next week, a few hours' drive from Professor A's town, and he is about to present a study he has been working on for a long time. He convinces Professor B to register with him so they can both visit friends. However, car rentals in Professor A's town are pricey this weekend, and he cannot get a reasonable price. All of a sudden, professor B calls, announcing there is a 50% discount at one of their town's car rental companies!

Professor A logs in to the exact same website his colleague mentioned but sees no discount. Turns out the ad Professor B saw said, "CAR RENTAL, 50% DISCOUNT – JUST FOR YOU!" so the discount was not available to professor A. He asks Professor B whether she could make the rental on his behalf so he can enjoy the price she got. She tries but finds out the car rental makes it explicit that the rental price is *just for her*, so she cannot rent for someone else. As Professor A would not dare miss the opportunity to present at this conference, he ends up paying the higher price the rental demanded.

In the age of e-commerce, variations of this frustrating story are constantly growing in many day-to-day commodity and service markets.[1] In these occurrences, sellers use personalized pricing—that is, a price (high or low) tailored to a particular consumer and to a particular time frame. Additionally, to sustain this practice, sellers impose contractual or other vertical restraints to limit the transferability of the product or service and to prevent a resale of the commodity under the exclusive price.[2] Because of these combined practices, in many markets, different consumers receive a different price proposition for the same product and are unable to share the advantage. Such occurrences are often annoying and are considered "unfair." The "free market" is believed to be one in which market forces work simultaneously to offer all consumers the same price.[3] However, personalized pricing and vertical restraints, together, eliminate single-price equilibrium.[4] The resulting distribution of prices, which counters the understanding of the free market, hints that market

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1. Oren Bar-Gill, *Algorithmic Price Discrimination When Demand is a Function of Both Preferences and (Mis) Perceptions*, 86 U. CHI. L. REV. 217, 224-25 (2019); ARIEL EZRACHI & MAURICE E. STUCKE, VIRTUAL COMPETITION: THE PROMISE AND PERILS OF THE ALGORITHM-DRIVEN ECONOMY, 89-94 (Harvard Univ. Press, 2016); Ariel Ezrachi, & Maurice E. Stucke, *The Rise of Behavioural Discrimination*, 37 EUR. COMPETITION L. REV. 485 (2016).

2. ANNA BERNASEK & D. T. MONGAN, ALL YOU CAN PAY 82 (Nation Books, 2015).

3. ROBERT S. PINDYCK & DANIEL L. RUBINFELD, MICROECONOMICS 8-9 (Pearson Education, Inc., 7th ed. 2009).

4. Daniel J. Gifford & Robert T. Kudrle, *The Law and Economics of Price Discrimination in Modern Economics: Time for Reconciliation?,* 43 U.C. DAVIS L. REV. 1235, 1240-41, 1253 (2010).

forces do not function well enough. Indeed, consumers' dissatisfaction and their intuition about market prices are not enough to set legal policy. However, it does raise the need to rethink these practices and their effects on the economy.

The economic literature on these practices exposes a complicated balance between their anticompetitive effects and their procompetitive effects. In particular, while personalized pricing may increase output, it has indecisive aggregate welfare effects, and it is likely to cause the almost complete transfer of welfare from consumers to sellers as well as other distributive effects. Another important point regarding personalized pricing is that it is based on data power, and accordingly, it is not always related to market power, which was the key factor in traditional price discrimination. As a result, even small firms can exercise it. The economic literature on vertical restrictive arrangements (i.e., arrangements between consecutive links in the distribution chain, such as producer and distributor; in contrast, "horizontal" restraints occur between competitors)[5] indicates that these arrangements cause additional harm to consumers, but at times, these arrangements may also be economically justified. For example, for increasing consumer choice or for encouraging inter-brand competition. This article highlights the concern that, unlike other justifications, the declared purpose to sustain personalized pricing is not a sufficient justification and that vertical restraints that are designed for that purpose undermines some of the procompetitive effects of personalized pricing.

Tracing back the legislative history reveals that Congress banned both these practices through two federal acts: the Sherman Act (prohibiting all restraints of trade)[6] and the Robinson-Patman Act (prohibiting price discrimination).[7] Nevertheless, under the influence of the Chicago School of Economics from the 1970s onward,[8] acknowledged that each of these practices, separately, may potentially increase consumer welfare. In response, courts narrowed their interpretations of these laws, stating that, at times, such practices will be allowed. Thus, price discrimination was allowed even when found to be extremely discriminatory, and even when it was practiced by powerful market players, as long as it was not exercised for the *creation* of power. Because personalized pricing is not designed to acquire a competitor's market power but only to extract more of the consumers' welfare, current interpretation of the Robinson-Patman Act does not prohibit personalized pricing as such. Additionally, the prohibition against

5. Bus. Elecs. Corp. v. Sharp Elecs. Corp., 485 U.S. 717, 730 (1988); Louis Kaplow, *The Meaning of Vertical Agreement and the Structure of Competition Law*, 80 ANTITRUST L.J. 563, 563 (2016), (interpreting vertical arrangements as unilateral conducts).

6. 15 U.S.C. § 1 (2018).

7. 15 U.S.C. § 13 (2018).

8. JOHN E. KWOKA & LAWRENCE J. WHITE, THE ANTITRUST REVOLUTION: ECONOMICS, COMPETITION, AND POLICY, 6-8 (Oxford Univ. Press Inc, 7th ed. 2019).

restrictive arrangements was also narrowed by subjecting claims against vertical agreements to a more complicated litigation standard. At no point did the courts consider the specific characteristics of vertical restraints designed to protect personalized pricing, which, as argued in this article, undermine the procompetitive effects of personalized pricing it pretends to protect. This article argues that in light of these special characteristics, as well as the technological developments that have transformed price discrimination into personalized pricing, increasing its scope and prevalence, vertical restraints designed to sustain personalized pricing should be closely examined.

Personalized pricing in e-commerce has drawn much public and scholarly attention. Most scholars have analyzed this practice as a private case of price discrimination, focusing on the extensive use of data to enable it and suggesting that this practice should be restricted. For example, Woodcock argued that personalized pricing requires a shift in the antitrust approach, through a campaign to deconcentrate American industries, the active use of big data to preserve consumer welfare, or a ban on the tailoring of prices.[9] Ezrachi and Stucke argued that information platforms that exercise behavioral pricing (data-based dynamic discrimination, which resembles personalized pricing) may cause negative distributive effects and should be closely examined.[10] Bernasek and Mongan argued that personalized pricing undermines the basic concepts of the market, shifting all the power to sellers.[11] In their book, they also discuss vertical restraints, which support personalized pricing, including restraints in the form of product customization.[12] Nevertheless, Bernasek and Mongan eventually made a proposal that overlooks the connection between personalized pricing and vertical restraints or product customization, calling for a worldwide movement to understand data and negotiate its use.[13] Bar Gill pointed to personalized pricing's potential harm to consumer welfare and called for exploring the potential of personalized law.[14] Chapdelaine reviewed personalized pricing from a broad perspective, going beyond competition to problems of fairness, privacy, or autonomy and recommended disclosure rules as well as complete banning of several pricing practices.[15] Generally speaking, the existing literature either condemns personalized pricing outright or the collection and abuse of data to achieve such personalized pricing. Yet, there is no focus on market practices that allow sellers to maintain personalized pricing or possible measures to restrict these practices.

9. Ramsi A. Woodcock, *Big Data, Price Discrimination, and Antitrust*, 68 HASTINGS L.J. 1371, 1376 (2017).
10. Ezrachi & Stucke, *supra* note 1, at 136.
11. BERNASEK & MONGAN, *supra* note 2, at 38-40.
12. *Id.* at 98-113.
13. *Id*. at 98-113.
14. Bar-Gill, *supra* note 1, at 223.
15. Pascale Chapdelaine, *Algorithmic Personalized Pricing*, 17 N.Y.U. J.L. & BUS. 1 (2020).

Similarly, scholars researching vertical restraints also discussed the effects of e-commerce. For example, by explaining that in e-commerce it is easier for sellers to design a contract that is overwhelming and confusing to consumers; therefore, such scholars claim that e-commerce contracts may harm consumer choice.[16] However, the literature so far has never highlighted the use of vertical restraints to sustain personalized pricing, nor has it attempted to rethink our tolerant approach toward these combined practices.

This article adds another dimension to this discussion by explaining how a particular type of vertical restrictive arrangements, albeit their promulgated purpose, undermines the procompetitive effects of personalized pricing, and by proposing a legal solution: to adopt a presumption according to which vertical restraints designed to sustain personalized prices are anticompetitive.[17] The use of such a presumption will improve enforcement against these practices, and yet, it can be rebutted in the appropriate circumstances. To reduce confusion in business function, this article calls for the adoption of several exemptions, by which these practices will not fall under the presumptive rule. Other justifications will have to be proven by defendants with the traditional litigation toolkit.

This article proceeds as follows: Part II examines the basic economics that underlie personalized pricing, the convergence of prices in competitive markets, and how restrictive arrangements may be used to prevent such convergence. Part III traces both the interpretation of the Robinson-Patman Act's prohibition of price discrimination and the Sherman Act's prohibition of vertical restrictive arrangements. Part IV makes a practical proposal to adopt a presumptive rule that will allow current law to adapt to the problem reviewed herein. Part V offers a conclusion.

II. Market Dynamics

This part describes the challenge of personalized pricing and the debate regarding its procompetitive and anticompetitive effects. It then moves on to explain how resale markets can lead to price convergence and the manner in which sellers use vertical restraints to prevent such resale and price convergence.

16. Mark R. Patterson, Antitrust Law in the New Economy, 150-51, 154-55 (Harvard Univ. Press, 2017).

17. Salil K. Mehra, *Price Discrimination-Driven Algorithmic Collusion: Platforms for Durable Cartels*, 26 Stan. J.L. Bus. & Fin. 171, 215-17 (2021)(suggesting that firms can collude in order to price discriminate together, and expressing concern that vertical agreements between suppliers and distributors will support such personalized pricing).

A. Personalized Pricing

Personalized pricing is a practice designed to tailor a product's price to each individual consumer's perceived value of the product.[18] Sellers use data collected about the consumer's previous online transactions and other activity and, with advanced data analysis techniques, micro-segment the market at the consumer level, tailor the terms of a deal to each particular consumer, and discriminate between consumers at a near-perfect level.[19] To use the example from the introduction, the seller may set the price for a consumer's rental service by relying on data relating to many factors, such as age, gender, marital status, travel preference (alone or with friends), health conditions, financial status (including checking account balance and whether the consumer had irregular expenses this month), typical travel frequency and destination, the purpose of the trip, the importance of the trip, and one's psychological inclination to make an impulsive purchase.

1. As a Private Case of Price Discrimination

In order to understand personalized pricing, it is useful to view it as a private case of price discrimination. In taking that perspective, personalized pricing is an efficient manner in which sellers can charge the consumer with the highest price she is willing to pay, a price termed by economists as "consumer's reservation price."[20] In such transactions, consumers enjoy no welfare advantage beyond the purchase itself. In economic terms, the delta between consumer welfare at the reservation price and consumer welfare at market price is known as "consumer surplus." So, personalized pricing is, to begin with, a practice that allows sellers to better identify the price under which the seller will be able to extract the entire consumer surplus.[21]

Accordingly, personalized pricing is a private case of price discrimination. However, price discrimination in brick-and-mortar commerce is not the same as personalized pricing we encounter in online commerce. The distinction between

18. ARIEL EZRACHI & MAURICE E. STUCKE, OECD DIRECTORATE FOR FINANCIAL & ENTERPRISE AFFAIRS – COMPETITION COMMITTEE, *Algorithmic Collusion: Problems and Counter* 12-16 (2017), https://www.oecd.org/officialdocuments/publicdisplaydocmentpdf/?cote=DAF/COMP/WD%282017%2925&docLanguage=En; EZRACHI & STUCKE, *supra* note 1, at 83; Rajnish Shankhdhar & Dr. Pragyan Dangwal, *Exploring Behavioral Pricing Practices on E-Commerce*, 3 INT'L J. OF HUMAN. AND MGMT. SCI. 179 (2015).

19. EZRACHI & STUCKE, *supra* note 1; EZRACHI & STUCKE, *supra* note 1, at 96-99; Bar-Gill, *supra* note 1, at 218-219.

20. EZRACHI & STUCKE, *supra* note 1, at 85.

21. *Id.* at 86; BERNASEK & MONGAN, *supra* note 2, at 3-4; Michael D. Guttentag, *Law and Surplus: Opportunities Missed*, 19 UTAH L. REV. 607, 611-12 (2019); Matthew A. Edwards, *Price and Prejudice: The Case Against Consumer Equality in the Information Age*, 10 LEWIS & CLARK L. REV. 559, 566 (2006); Woodcock, *supra* note 9, at 1380.

them derives from a typology created by the English economist Pigou—namely, "first degree," "second degree," and "third degree" discrimination.[22] "First degree" discrimination is one in which firms can charge every consumer the maximum price the consumer is willing to pay, thereby extracting the entire consumer surplus.[23] Personalized pricing (i.e., giving each individual a unique price) is approaching such perfect "first degree" discrimination (although it is commonly said not to have reached it yet).[24] In contrast, brick-and-mortar discrimination typically fails to discriminate against individual consumers and, therefore, elects a rougher form of discrimination, which can extract a smaller part of the consumer surplus.[25] Such discrimination could be "second degree" discrimination, in which pricing is set in correlation to the number of products purchased (e.g., quantity rebates), thereby, proposing lower prices to larger consumers and higher prices to smaller consumers, potentially excluding competitors from the market.[26] Alternatively, brick-and-mortar discrimination could be "third degree" price discrimination, which relies on general market segmentation. This form of discrimination is intended to better estimate consumers' willingness to pay (e.g., student, military personnel, or older adult discounts).[27]

There is abundant economic literature regarding the advantages and disadvantages of price discrimination, mainly focusing on the effects of "third degree" discrimination. A review of this entire scholarship exceeds the scope of this article.[28] Nonetheless, this article will review some of the considerations that are most relevant to the case at hand. The most essential economic argument in favor of price discrimination is that it is expected to increase output and, presumably, increase aggregate welfare.[29] The problem is that this economic outcome depends on a large set of assumptions regarding the market conditions in which the discrimination takes place, which do not necessarily materialize in the real world.[30]

22. Arthur Cecil Pigou, The Economics of Welfare, 279 (Macmillan and Co. Ltd., 4th ed., 1962).

23. *Id.* at 279; Pindyk & Rubinfeld, *supra* note 3, at 401-04.

24. David Ulph & Nir Vulkan, Electronic Commerce and Competitive First-Degree Price Discrimination (2000) (unpublished comment) (on file with the University of Bristol Department of Economics); Ezrachi & Stucke, *Virtual Competition*, *supra* note 1, at 96-99.

25. Pindyk & Rubinfeld, *supra* note 3, p. 402-404.

26. Pigou, *supra* note 22, at 279; Pindyk & Rubinfeld, *supra* note 3, at 404.

27. Pigou, *supra* note 22, at 279; Pindyk & Rubinfeld, *supra* note 3, at 404-07; Marius Schwartz, *Third-Degree Price Discrimination and Output: Generalizing A Welfare Result*, 80.5 Am. Econ. Rev. 1259, 1259 (1990).

28. For a comprehensive review, see OECD, Roundtable on "Price Discrimination" (2016), https://www.ftc.gov/system/files/attachments/us-submissions-oecd-2010-present-other-international-competition-fora/price_discrimination_united_states.pdf.

29. Fed. Trade Comm'n., A Tool for Inclusion or Exclusion? Understanding the issues, 4 (2016).

30. *See* Gifford & Kudrle, *supra* note 4, at 1252 (2010) (finding that "the academic literature established definite welfare results for price discrimination only for a small set of well-defined cases that in general, would be hard to identify in the real world… absent sufficient entry and sufficiently intense price competition, many counterintuitive and seemly perverse results are possible"); *see also* OECD Roundtable, *supra* note 28, at 3 (

While aggregate welfare effects are indecisive, price discrimination has undisputed distributive effects, including the following:

> (-) The fact that sellers extract more of consumer welfare creates a clear shift in welfare from consumers to sellers.[31] Assuming that these corporations are held by the wealthy and not by those who use most of their income for their living, this transfer of money will cause substantial distribution effects.
> (-) By giving some consumers discounted purchase opportunities while giving others purchase options above the otherwise single market price, price discrimination creates inequity between consumers, which could lead to increased wealth inequality and other aggravations of discrimination among classes.[32]

An additional problem associated with price discrimination is that, according to some commentators, the variation in prices for different consumers does not allow competition to shift from prices to services, a type of competition that consumers may prefer for some goods.[33]

Achieving the required balance between anticompetitive and procompetitive effects is difficult. Scholars debating whether price discrimination should be banned usually disagree regarding the term "consumer welfare," known to describe the goal of antitrust laws.[34] One prevailing interpretation of this term equates "consumer welfare" with the aggregate total welfare of "everyone" in the market.[35] This standard can include benefit to sellers. While such benefit is not immediately in the interest of consumers, it can later lead to increase in output, consumer choice, or innovation. Thus, increasing the welfare of those who shop. Proponents of this standard are likely to be more tolerant of price discrimination. Another interpretation could be using a "narrower, more familiar sense, equating it . . . with the surplus of final purchasers."[36] This standard is sensitive to the decrease in equality between sellers and consumers,[37] and as a result, proponents of this standard usually protest against price discrimination.

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quoting ______ "It could be argued that competition policy should prohibit price discrimination even if it permits simple monopoly pricing because price discrimination reduces static consumer welfare sufficiently more than simple monopoly pricing. However, such a claim has no basis in economics. Economic models show that 'price discrimination may increase or decrease consumer welfare depending on market conditions.'"); *W]elfare.* 75 AM. ECON. REV. 870 (1985).

31. *See* EZRACHI & STUCKE, *supra* note 1, at 24.

32. Federal Trade Commission Report, *supra* note 29.

33. *See*, e.g., Robert H. Bork, *The Rule of Reason and the Per Se Concept: Price Fixing and Market Division*, 75 YALE L.J. 373, 454-55 (1966).

34. JOHN J. FLYNN, HARRY FIRST & DARREN BUSH, FREE ENTERPRISE AND ECONOMIC ORGANIZATION: ANTITRUST, 25-26 (7th ed. 2014).

35. Woodcock, *supra* note 9, at1381-83.

36. Gifford & Kudrle, *supra* note 4, at 1260; Woodcock, *supra* note 9, at 1375, 1381-83.

37. Herbert Hovenkamp, *The Rule of Reason*, 70 FLA. L. REV. 81, 118-21 (2018).

The impact of personalized pricing, in the sense of the shift from "third degree" toward "first degree" discrimination, is a test case for the distinction between the two standards. Proponents of the aggregate welfare standard are still arguing over the overall effect of this change.[38] Some argue that this shift generates more opportunities for otherwise underserved consumers,[39] while others fear that this effect will be undermined in markets that are not sufficiently competitive.[40]

With no decisive increase of aggregate welfare, proponents of the narrower consumer welfare standard looking at the shift toward "first degree" discrimination meet a substantial and unequivocal transfer of welfare from consumers to sellers. This effect, if allowed to prevail and expand in many industries, could deprive end consumers of their buying resources, thus transferring their wealth to sellers. In the age of concentrated industries, the result will likely be the transfer of wealth from private, working class consumers to large corporations. Assuming that these corporations are held by the wealthy and not by those who use most of their income for their living, this transfer of money will cause substantial distribution effects. Bernasek and Mongan predict such an alarming scenario in which middle-class working families are deprived of their entire income so that they become unable to save to afford their living expenses.[41] With personalized pricing's potential ability to extract the entire welfare of consumers, this scenario may not be unrealistic.[42]

In addition to these concerns is the concern regarding exacerbation of the distributive welfare effects already associated with price discrimination, including the aggravation of wealth inequality and discrimination among classes.[43] Such concerns, although typically beyond antitrust analysis in the United States, may play a role in competition regimes in other places in the world.[44]

2. The Reliance on User Data

In addition to viewing personalized pricing as a private case of price discrimination, it is also helpful to focus on its reliance on user data. In personalized pricing, the seller knows all there is to know about consumer reservation prices,

38. Guttentag, *supra* note 21, at 645-49.

39. FED. TRADE COMM'N, supra note 29.

40. Gifford & Kudrle, *supra* note 4, at 1239-55; OECD Roundtable, *supra* note 28, at 3.

41. Bernasek & Mongan, *supra* note 2, ix-xii.

42. Woodcock, *supra* note 9, at 1374.

43. Gerhard Wagner & Horst Eidenmuller, *Down by Algorithms: Siphoning Rents, Exploiting Biases, and Shaping Preferences: Regulating the Dark Side of Personalized Transactions*, 86 U. Chi. L. Rev. 581 (2019); Bernasek & Mongan, *supra* note 2, at 111; Ezrachi & Stucke, *supra* note 1, at 120, 24-27..

44. Gifford & Kudrle, supra note 4, pp. 1272-1292; Ariel Ezrachi, *EU Competition Law Goals and The Digital Economy* (Draft, 2018).

accurate for the particular moment of the proposal.[45] Using this information, sellers can not only charge based on consumers' reservation price but can also use dynamic pricing, which enables the seller to change prices, ad hoc, to fit the consumer's reservation price in any particular moment.[46]

Additionally, in personalized pricing, the seller knows all there is to know about the consumer's psychological vulnerabilities, which may increase the chances of a purchase. The use of such data allows the seller to influence what the consumer's reservation price will be (e.g., increasing demand by exploiting biases and willpower vulnerabilities, using promotional decoys, engaging in price steering, increasing complexity, or employing drip pricing).[47] Economically speaking, a seller who is already price discriminating, using data-based personalized pricing, can also shift the demand curve to the right.[48] Moreover, with these new techniques, personalized pricing—unlike any other form of price discrimination—turns to both consumers' perceptions and misperceptions of the product proposition. The problem is that if consumer choice is based on a magnified misperception of product characteristics, it is less likely to generate consumer welfare,[49] even under the aggregate standard of consumer welfare.

Another distinction between traditional price discrimination and data-based personalized pricing has to do with the shift of the focus from the seller's market power toward the consumer's vulnerability. In the context of price discrimination, the seller was thought to be powerful enough to win the negotiation with any consumer and to receive the consumer's reservation price.[50] In contrast, under personalized pricing, any seller who controls strategic and valuable data about the consumer and holds the appropriate tools to analyze it (not necessarily a seller with market power) can discriminate in price and shift the demand curve to the right.[51] In that sense, it is data power (i.e., the control of data and tools required to use it), and not traditional market power, that can generate sales and that may distort the function of the market.[52] Data power is such a valuable asset that its use can easily lead to the exclusion of competitors who lack such power. Importantly, there are high access barriers to acquiring data power, including technological and legal

45. BERNASEK & MONGAN, *supra* note 2, at 67–93; Ezrachi & Stucke consider the ability to know all there is to know about consumer reservation price, as a developing one, which had not yet reached perfection. *See* EZRACHI & STUCKE, *supra* note 1, at 87–88.

46. EZRACHI & STUCKE, *supra* note 1, at 87–88.

47. EZRACHI & STUCKE, *supra* note 1, at 94–95, 97, 105–13.

48. *Id*. at 101.

49. Bar-Gill, *supra* note 1, at 219–20.

50. Pigou created his distinction between three types of price discrimination for a discriminating monopoly. PIGOU, *supra* note 22, at 278–79; See PINDYK ET AL., *supra* note 3, at 406–10, for a later work referring to price discrimination as a game theory problem unique to pricing with power.

51. Ezrachi & Stucke, *supra* note 1, at 101.

52. *Id*. at 113-15.

barriers in the collection and storage of data, problems of comparability in analyzing and synthesizing it, and behavioral barriers in its implementation into use.[53] Only those sellers that break these barriers and acquire sufficient control of unique consumer data will be able to exercise and benefit from personalized pricing.

To be sure, the shift from market power to data power does not override the influence of market power and competition over prices. Truly, market competition may cause prices to converge, despite data power. However, for such a process to take place, competition should be robust enough to make a sufficient influence. In the next section, this article turns to the process of price convergence and the various factors that should be calibrated correctly for that process to happen.

B. Market Forces that Cause Price Convergence

The process of price convergence can be best explained by the law of one price. The economic principle of the law of one price states that in perfectly competitive markets, prices will stabilize at single price equilibrium and that price discrimination is thus impossible.[54] This principle relies on multiple assumptions, including the existence of multiple sellers and buyers, product homogeneity, no search costs, no information asymmetries, no transaction costs, and no other market imperfections.[55] Because these assumptions are far from materializing in real-life markets, price dispersion is common,[56] and it is useful to describe the law of one price not as a permanent equilibrium but as an "attractor equilibrium," which means that market forces act to restore the single price equilibrium even if they fail to do so.[57]

E-commerce improves the market function and thereby improves the force of the attractor equilibrium, *inter alia*, by reducing search costs,[58] transaction costs,[59]

53. Daniel L. Rubinfeld & Michal S. Gal, *Access Barriers to Big Data*, 59 Ariz. L. Rev. 339, 349-68 (2017).

54. Ezrachi & Stucke, *supra* note 1, at 86–87.

55. James F. Nieberding & Robin A. Cantor, *Price Dispersion and Class Certification in Antitrust Cases: An Economic Analysis*, 14 J. Legal Econ. 61, 74–75 (2007).

56. *Id.* at 75; *see also* Mian Dai et al., *Is the Effect of Competition on Price Dispersion Nonmonotonic?: Evidence from the U.S. Airline Industry*, 96 Rev. Econ. & Stat. 161 (2014).

57. Karl Gunnar Persson, *The Law of One Price*, Econ. Hist. Encyc. (Feb. 10, 2008), https://www.eh.net/page/24/?s=fur.

58. *See* Michal S. Gal, *The Power of the Crowd in the Sharing Economy*, 13 L. & Ethics Hum. Rts. 29, 32-33 (2019); Juliet Schor, *Debating the Sharing Economy*, 4.3 J. Self-Governance & Mgmt. Econ., 7, 8-9 (2016); Samuel Fraiberger & Arun Sundararajan, *Peer-to-Peer Rental Markets in the Sharing Economy*, 6 (Sept. 10, 2017) (unpublished manuscript) (on file with N.Y.U. Stearns Sch. Bus.).

59. Online purchase can be concluded from home, using developed payment verification methods (Such as PayPal). Automated algorithms that are designed to facilitate the purchase process, known as digital assistants, will reduce transaction costs even more, potentially purchasing any commodity on behalf of the consumer. *See* Michal S. Gal & Niva Elkin-Koren, *Algorithmic Consumers*, 30 Harv. J. L. & Tech. 309, 320-21 (2017).

and information asymmetries.[60] Nevertheless, even in e-commerce, markets are not perfect.[61] For example, in e-markets that suffer from a scarcity of sellers,[62] there is concern about sellers collaborating so they can all impose similar price discrimination, restricting the ability of market forces to correct against it.[63] As this example shows, in imperfect competition, market forces even in e-commerce cannot be trusted to cause price convergence that will cancel the price differences of personalized pricing.

One prominent concern is that in a market in which all sellers personalize their prices, competing sellers, even without collaboration, will not offer a substantial promotion to a consumer with high reservation prices. Under this concern, consumers may enjoy price competition, but only to a limited extent, compatible with their individual positions on the demand curve. The result is that if personalized pricing expands in the market, even with no market power or competitor's collaboration, market competition will not fully correct against it.

One of the elements that has traditionally mitigated the concern of price discrimination is the development of resale markets, which are less inclined to exhibit such price discrimination, for reasons subsequently detailed.[64] This article begins with describing resale markets. Resale markets can materialize in various manners. They can offer used goods (e.g., a secondhand bookshop) or unused goods (e.g., resale of concert tickets, resale of stock from a bankrupt retailer);[65] permanent resale (i.e., ownership is transferred) or temporary resale (i.e., renting of durable goods for limited periods of time, such as books from the library);[66]

60. *See* Noga Blickstein Shchory, *Information Asymmetries in E-Commerce: The Challenge of Credence Qualities*, 1 J. HIGH TECH. L. 1, 20 (2020).

61. A prominent example of a market variable that is less affected by e-commerce, is the expensive transaction costs associated with shipment of heavy products (although inventory can be better managed in e-commerce). *See* Zhaolin (Erick) Li, et al., *Online Versus Bricks-And-Mortar Retailing: A Comparison of Price, Assortment and Delivery Time*, 53 INT'L J. PROD. RSCH. 3823, 3826-27 (2015); Another problem that is still prevalent in e-commerce is the information asymmetries of products' credence qualities. *See* Blickstein Shchory, *supra* note 600, at 26-29.

62. This will be the case with commodities that their production requires scale and proficiency, rather than with products that can be easily homemade (compare the production of hardware with handcrafts). *See* Gal, *supra* note 58, at 36-37.

63. *See* Mehra, *supra* note 17, at 213; Other scholars pointed, in general, to the concern that e-commerce facilitates competitors' collaboration even in markets with multiple sellers. *See* EZRACHI & STUCKE, *supra* note1, at 147, 149-51, 155-56; *see also* Michal S. Gal, *Algorithms as Illegal Agreements*, 34 BERKELEY TECH. L. J. 67, 104-05 (2019).

64. Take for example the Second Circuit's focus on the resale of ingot (referred to, in the holding, as the "secondary ingot market"), in United States v. Aluminum Co. of America, 148 F.2d 416, 425-26, 429 (2d Cir. 1945).

65. P. Van Cayseele, *Lemons, Peaches and Creampuffs: The Economics of a Second-Hand Market*, TIJDSCHNFT VOOR ECONOMIE EN MANAGEMENT 73, 78 (1993).

66. Schor, *supra* note 58, at 10; Cayseele, *supra* note 65, at 74-76, 79-80.

multiple sellers (e.g., eBay) or a concentrated marketplace (e.g., controlled by "specialist" secondhand dealers, like a secondhand bookshop, or by the primary seller making a resale, like car trade-ins).[67] This article focuses on permanent resale markets in which end consumers sell—that is, a highly distributed resale market known as "second hand" resale.

This article argues that, typically, sellers in "second hand" distributed resale markets are unlikely to use personalized pricing. The reason is that personalized pricing requires a costly investment in big data, which in turn creates an advantage for large, repeat market players with an increased interest in the market. In highly distributed resale trade, sellers generally do not possess big data and thus are unable to exercise personalized pricing, let alone personalized pricing that is in correlation to that exercised by primary market sellers. Indeed, the digital intermediary on which resale is performed may be able to price discriminate on the seller's behalf—for example, by using a discriminatory algorithm that sets personalized prices for transactions.[68] However, such intervention of the intermediary is only likely if the seller is a repeat market player, because an individual who only sells once would like to sell at the highest price possible and would have no interest in allowing the intermediary to discount on his behalf so another seller can charge more.

Basic intuition suggests that resale markets compete with, and thereby to some extent discipline, sellers in the primary market.[69] Importantly, the resale of products does not necessarily reduce overpricing per se, because at times a monopoly can capture the profits of the entire downstream market by overcharging for the additional value of a product that can be resold.[70] Additionally, the economic literature has proven that a monopoly that could not otherwise segment the market can use downstream trade to discriminate among consumers by restricting quantity and/or by raising prices. The monopoly then sells to those who attach high value to the product (including the value of a potential resale), who in turn sell to those who

67. Cayseele, *supra* note 65, at 81

68. *See How Uber's dynamic pricing model works*, Uber, https://www.uber.com/en-GB/blog/uber-dynamic-pricing/ (last visited Sept. 30, 2021); *See also* Hostfully*, An In-Depth Guide to Airbnb Smart Pricing [+Alternatives]*, (July 6, 2021), https://www.hostfully.com/blog/airbnb-smart-pricing-and-alternatives/.

69. Simon P. Anderson & Victor A. Ginsburg, *Price Discrimination via Second-hand Markets*, 38 EUROPEAN ECON. REV. 23, 23 (1994) ("A monopoly seller may gain or lose from the existence of a second-hand market"); United States v. Aluminum Co. of America 148 F.2d 416, 424-25 (2d Cir. 1945) (finding that while "secondary" markets do not compete at all in some uses, "for most purposes it competes upon a substantial equality with 'virgin'").

70. Peter L. Swan, *Alcoa: The influence of Recycling on Monopoly Power*, J. POL. ECON. 88, 76-99 (1980); Peter L. Swan, *Optimum Durability, Second-Hand Markets, and Planned Obsolescence*, 80 J. Pol. Econ. 575 (1972); Peter L. Swan, *Durability of Consumer Goods*, 60 Am. Econ. Rev., 884 (1970); John Rust, *When is it Optimal to Kill Off the Market for Used Durable Goods?*, ECONOMETRICA 54, 65-86 (1986); Anderson & Ginsburg, *supra* note 69, at 42-43; Cayseele, *supra* note 64, at 76-77; Justin P. Johnson, *Secondary Markets with Changing Preferences*, 42 RAND J. ECON. 555, (2011).

attach a lower value to it.[71] This potential resale (to a consumer who would not otherwise purchase the product) will be charged for by the monopoly in the first sale, increasing its profits.[72] However, if the monopoly could already personalize prices in the market at a near-perfect level, and is already extracting (almost) the entire consumer welfare in the transaction, then it has nothing to gain from a resale market. The resale market adds no new discrimination opportunity and offers no advantage to the monopoly.

Provided that the resale market is not used by itself to segment the market, with an active resale market, an arbitrage process will initiate. Consumers who received a low-price offer from the monopoly will resell the product to consumers willing to pay a higher price for it (in the example in the introduction, Professor B will rent the car for Professor A and maybe even charge some broker fee). Consumers will therefore refrain from buying at the monopoly's higher price to begin with (in the example, Professor A will not purchase directly from the rental company). Repeated arbitrage, in turn, will spill over into the primary market and lead to price convergence.[73] Such a process is supposed to generate welfare because, if output is limited, the process of arbitrage allows products to reach the consumers who value them most. As put by Schwartz, "uniform pricing allocates a given total output optimally (it leaves no unexploited gains from reshuffling output between markets), while discriminatory pricing in general will induce misallocations by distorting consumers' choices."[74]

Nevertheless, often such resale markets do not form and do not correct against personalized pricing. To understand why, this article starts with the theory of these markets. Like any sale of property, resale transactions shift property from low- to high-value uses.[75] For a transaction to be achieved, the resold products must have a high enough value for the consumer (or she will not buy it), a low enough value to the seller (or he will not sell it), and transaction costs that do not exceed the difference in values.[76]

E-commerce generally supports the development of active resale markets. As discussed above, e-commerce generally encourages the development of competitive markets typically by reducing search costs, transaction costs, and information asymmetries. To focus on the reduction in search costs, an important aspect of e-commerce is it's ability to match remote consumers with occasional remote sellers, thereby increasing the likelihood of distributed resale trade—in

71. Cayseele, *supra* note 65, at 75; Richard A. Epstein, *Why Restrain Alienation?* 85, 978-81 Colum. L. REV. 970 (1985).

72. Anderson & Ginsburg, *supra* note 69, at 24, 41-42; Cayseele, *supra* note 65, at 75.

73. Ezrachi & Stucke, *supra* note 1, at 86-87.

74. Schwartz, *supra* note 27, at 1259.

75. *See* Cayseele, *supra* note 65, at 78-79.

76. Epstein, *supra* note 71, at 827.

which private consumers purchase from other equally private market players who previously bought the product.[77]

Indeed, even in e-commerce, resale markets are more likely to form in some cases than in others: in thick markets (with many sellers and buyers), with reduced transaction costs (e.g., lower shipment costs), when resold products are more homogenous,[78] when information asymmetries are lower,[79] or when the product is more durable.[80] At times, resale may be prohibited by law (e.g., guns, liquor, or narcotics,[81] or due to IP rights protection from resale).[82] The result of these features limiting the creation of resale markets is that some products are less likely to be resold. In contrast, reservations for a service (e.g., a vacation, seats in the theater) or small durable products (e.g., books) are ideal candidates for highly distributed resale markets (e.g., eBay).

So, if these markets are possible, why, for so many products and services, are there no active distributed resale markets that restore, at least to some extent, single market price? The next section suggests an answer: their absence is due to vertical restraints, imposed by the original sellers.

C. Vertical Restraints That Prevent Price Convergence

As explained above, many factors may discourage the creation of a product's resale market. While some factors derive from product features or market conditions, vertical restraints are barriers to the creation of resale markets that derive from sellers' active efforts to eliminate resale. This article focuses on these restraints and particularly on vertical restraints that are designed to sustain personalized pricing, when the sole alleged justification for the restraint is to prevent price convergence that will counter the discrimination in price.

1. An Outline of Such Restraints

To eliminate resale trade, sellers must create a product value that can only be given to the consumers buying from the original seller, ensuring that it is not

77. Chris Anderson, The Long Tail: Why the Future of Business is Selling Less of More 15-16, 22, 87 (Hyperion, 2006).

78. Heterogeneity of resale products may be increased due to consumers' different "first hand" use of the products – e.g., reduced value of cars with increased mileage. *See* Fraiberger & Sundararajan, supra note 58.

79. *See generally* Henry N. Butler & Jason S. Johnston, *Reforming State Consumer Protection Liability: An Economic Approach*, 2010 Colum. Bus. L. Rev. 1, 45 (2010); Christopher Koopman et al., *The Sharing Economy and Consumer Protection Regulation: The Case for Policy Change*., 8 J. BUS. ENTREPRENEURSHIP & L. 529, 541-43 (2014); Gal, *supra* note 58; Schor, *supra* note 58, at 8.

80. Cayseele, *supra* note 65, at 78-79.

81. Epstein, *supra* note 71, at 973-78.

82. Herbert Hovenkamp, *Post-Sale Restraints and Competitive Harm: The First Sale Doctrine in Perspective*, 66 NYU ANN. SURV. AM. L. 487 (2010).

transferable to any consumer rebuying it in the resale market.[83] As will be further detailed bellow, the primary seller may achieve such a decrease in resale product value either by using an explicit contractual restriction or by personalizing the product sold.

The textbook example of explicit contractual non-transferability restraints is airline tickets. Airline tickets are often named, and the airline does not honor their use by another passenger. If a consumer does not want to take the flight, her only recourse is to return the tickets to the airline (often for a considerable cancelation fee).

The restriction over airplane ticket transferability is commonly justified by security reasons, a justification contested by some.[84] Although contested, this vertical restriction of transferability has never been challenged in courts as an antitrust offense (although it is described by Bernasek and Mongan as a "low hanging fruit" for the Federal Trade Commission (FTC) to pick).[85] Whether justified or not, it is clear that this restriction has a straightforward effect of preserving price discrimination in the markets. This article will explain why.

Commercial flights are often sold by digital merchants that act as online travel agencies (e.g., Expedia, Orbitz, Travelocity, Booking.com, eDreams) by matching airlines to potential consumers. These merchants micro-segment passengers and estimate the value each passenger attaches to an airline ticket based on numerous parameters collected about the user, such as: advanced or last minute purchase, number of tickets purchased, overall trip plans including preferable connections, the general and concrete purpose of the flight, or the resources the consumer will use to fund it. They then use these segmentations to price discriminate: two consumers can be offered similar seats on the same flight with the same terms for a substantially different price.[86]

One could expect a developed online resale market in this industry, which would mitigate price discrimination. After all, commercial flight tickets live up to most of the factors supporting resale markets. To start, these markets are relatively homogenous, since in each flight, many seats have incremental (if any) difference from other seats (same passengers' class, closely positioned in the plane, etc). Second, air-tickets are durable products that do not lose their value up until the

83. Epstein, *supra* note 71, at 972.

84. In essence, the concern is of unknown passengers logging with fake identities into the airplane; however, it is unclear how a restriction in the preliminary step of tickets *purchase* eliminates that concern. Moreover, several steps can mitigate the security concerns, e.g., allowing the resell only up until one month before the flight, or demanding the secondary consumer to make a symbolic credit-card deposit to prove she has a valid bank account in a friendly country. More about the debate regarding this security concern. Bernasek & Mongan, *supra* note 2, at 126-29.

85. *Id.* at 129.

86. *Id*. at 126-29; Ezrachi & Stucke, *supra* note 1, at 107-08.

flight takes place. Third, air-transportation markets are often thick (at least in popular routes, connecting big cities). Fourth, transaction costs of an e-ticket are low. Finally, with suitable digital intermediaries, search costs and information asymmetries are minimized. In particular, information about flight schedule, prices and services is affluent online, and most security and safety standards are so closely regulated that concern of information asymmetry is mitigated.[87] Nevertheless, in the e-tickets market, there is no viable resale market and no arbitrage process to prices. The reason is the contractual restrictions of transferability that prevent the creation of one.

In addition to explicit contractual restraints of resale, sellers may also take actions in the production or marketing process to indirectly limit the resale of products. Such steps may include personalizing the exterior design,[88] limiting the product warranty terms or replacements,[89] or customizing the entire product proposition to the particular consumer (e.g., by offering personalized financial products, such as loans and insurance policies,[90] or by creating a bundle of products that only fits one consumer and that can hardly be sold separately). Any such step, if appropriately tailored, can limit the transfer of the product, thereby preventing the formation of resale markets and preserving personalized prices.

To be sure any adjustment of the product to the consumer will have a somewhat limiting effect on the product's transferability, but not all, adjustments will have to have the anticompetitive effect of restraining trade. The restraining effect is derived, *inter alia*, from the market conditions (in an otherwise competitive market, the effect may be negligible) and from the level of specificity of the personalization (if the product is tailored to fit an individual consumer, a handful of consumers, or a more substantial market share).[91]

Again, even if there is an anticompetitive effect, the seller may have procompetitive justifications for this product customization, which may serve as a defense against antitrust liability. The typical justification for product customization

87. *See* Blickstein Shchory, supra note 60; Michael C. Mineiro, *Law and Regulation Governing U.S. Commercial Spaceports: Licensing, Liability, and Legal Challenges* 73 J. Air & L. Commerce 759 (2008); Omri Ben-Shahar & Carl E. Schneider, More Than You Wanted To Know: The Failure of Mandated Disclosure, 5 (Princeton University Press, 2014).

88. For a long list of customized products, see Bernasek & Mongan, *supra* note 2, at 96-104, 164-166; The list includes: customized information websites (different content to different users), customized food and drinks like muesli and tea, customized suits, customized gift baskets, etc. The technological development of 3D printers is about to take the customization abilities another step forward. *Id*. at 104-07; *See also* Michal S. Gal, *3D Challenges: Ensuring Competition and Innovation in 3D Printing*, 22 Vand. J. Ent. & Tech. L. 1, 36 (2019).

89. Anderson & Ginsburg, *supra* note 69, at 14; 18-19; Ronald H. Coase, *Durability and Monopoly*, 15 J.L. & Econ. 143, 147 (1972); Michael Waldman, *Durable Goods Theory for Real World Markets*, 17 J. Econ. Persp. 131 (2003).

90. *See* Bernard Marr, Big Data in Practice: How 45 Successful Companies Used Big Data Analytics To Deliver Extraordinary Results 81-87, 217-21 (Wiley, 2016).

91. Bernasek & Mongan, *supra* note 2, at 108-11.

is the creation of a broader variety of products and the expansion of consumer choice.[92] For example, a consumer may want to purchase a self-portrait and not a more generally appreciated piece of art. In these cases, despite anticompetitive effects, product customization can be competitively justified and therefore is properly protected by the law.

In e-commerce, both explicit restraints of transferability and product customization are becoming even more common. Among other reasons for the increase of prevalence, technological developments allow sellers to design product propositions that confuse sellers. If consumers cannot thoroughly read the contracts they click to agree to, cannot compare them, and cannot truly negotiate their terms, they are prone to agree to personalized contracts that inadequately limit the transferability of the products.[93] Furthermore, the literature has identified several manners in which consumers' ability to accurately assess online information has been harmed, including the overload of information accumulated from various sources, the increase of distractions, the increase of "push" information, the loss of experienced selling agents, and uncertainty as to the applicable law.[94] Additionally, technological developments cause an increase in the customization of products, which leads to unprecedented product diversity.[95] Such diversity makes the comparison of product propositions and product prices (let alone transferability) difficult.[96]

Not all cases in which firms both impose vertical restraints and exercise personalized pricing raise such a concern. To take the example from the introduction, a restriction of transferability of the rental lease toward young drivers may not prevent Professor B from transferring the rental lease to Professor A—or at least it does so only randomly. It is only when both product price and vertical restriction are directly tied to each other, and justified by the same attempt to price discriminate, that the concern in the center of this article arises. For such an example, consider the option that rental contracts limit the transferability to anyone who received a higher pricing offer. This article argues that such a restriction supports personalized pricing but undermines its procompetitive effects. The next section turns to analyze the competitive effects of such restrictions.

92. *Id.*; *see* Jack S. Hu, *Evolving Paradigms of Manufacturing: from Mass Production to Mass Customization and Personalization*, 7 PROCEDIA CIRP, 3, 3, 5 (2013).

93. PATTERSON, *supra* note 16, at 146- 62.

94. Shchory, *supra* note 60, at 13-15; BERNASEK & MONGAN, *supra* note 2, at 114-39.

95. DANIEL J. LEVITIN, THE ORGANIZED MIND: THINKING STRAIGHT IN THE AGE OF INFORMATION OVERLOAD, 5 (Dutton 2014).

96. BERNASEK & MONGAN, *supra* note 2, at 92-113.

2. Effects over Competition

The basic intuition suggests that when re-trade pushes toward price convergence, it does so by adding trade rather than reducing it, and this stimulation of competition is supposed to increase consumer welfare. This intuition was also stated by Gifford and Kudrle, who noted that "arbitrage would route the goods involved to their highest valued users, thereby eliminating an inefficiency connected with discrimination and increasing welfare." [97] To see how such additional trade takes place in a market in which output is already high (although not unlimited), the article describes three potential market dynamics.

First, it is assumed that people buy products they later find out they do not need. This could be because of a change of circumstances or a change in their preferences or could be the result of honest, inevitable mistakes. This article argues that in such occurrences, since product is not held by those who value it the most, there is an economic interest in allowing consumers to resell the product purchased. Limiting such resale forces people to hold products they do not want, i.e., the product will be held not by those who value it the most. Assuming that sellers are not always willing to accept a return of the product resold and it is unnecessarily efficient to force them to do so, the limit of resale reduces welfare.

Second, it is assumed that the technology of personalized pricing has not yet perfected to the level of "perfect" "first degree" discrimination. For example, people who have low online presence or are better at protecting their privacy will be harder to track and will not create sufficient data for their segmentation. Alternatively, limited analysis tools will lead to mistakes in consumer segmentation and discrimination. The ability of end consumers to re-trade allows the transfer of the product to consumers who value it more and, therefore, leads to an increased aggregate welfare.

Third, it is assumed that personalized pricing only discriminates within a limited group of consumers and leaves others with no access to discounted deals (e.g., older people or poor people who have no online presence).[98] As long as personalized pricing cannot reach the entire population, allowing resale presumably has a complementary effect of increasing opportunities to purchase to those unreachable by the firm exercising price discrimination.

As these three market dynamics demonstrate, if firms are allowed to impose vertical restraints along with their personalized pricing practices, consumer welfare is harmed. Recall that the article focuses on vertical restraints, when the sole alleged justification for the restraint is to prevent price convergence that will counter the discrimination in price. Since vertical restraints, as demonstrated, have

97. Gifford & Kudrle, *supra* note 4, at 1243.

98. FED. TRADE COMM'N, supra note 29, 27 n. 148.

anticompetitive effects, policy makers must consider whether the justification of sustaining price discrimination outweighs potential harm to competition.

To begin with, as the examples above demonstrate, an arbitrage process compliments, rather than overrides, personalized pricing. So, if the real purpose is to increase output and purchase opportunities to more consumers, then policy makers should support more trade, rather than a limitation of trade. Indeed, price convergence could potentially reduce incentives to invest in big data and pursue personalized pricing. However, as noted, the law of one price is only an "attractor equilibrium," inclining markets toward price convergence. Accordingly, even if vertical restraints will be allowed, price discrimination will not completely diminish, and incentives will not fade. Moreover, as data collection and analysis are developing and becoming ever more prominent, such investment may be less expensive and incentives to pursue it less fragile. Therefore, permitting vertical restraints only to preserve personalized pricing's incentives, which are expected to survive albeit the re-trade they limit, seems unnecessary.

As a result, this article points to a concern that vertical restraints designed to sustain personalized pricing harm competition, with no actual benefit to consumers. The next part turns to the insufficient existing law and the part that follows proposes a solution to this insufficiency.

III. The Existing Law Regarding Personalized Pricing and Vertical Restraints

In light of how vertical restraints support personalized pricing, it is valuable to consider existing law regarding both of these practices. The Robinson-Patman Act of 1936, which explicitly prohibits discrimination in price, and section 1 of the Sherman Act of 1890, which explicitly prohibits restraints on trade, including those vertically imposed.

A. Price Discrimination and the Robinson-Patman Act

The Robinson-Patman Act of 1936[99] explicitly bans differential pricing.[100] Although its language prohibits difference in prices, the act continues by allowing a firm to differentiate in price because of differences in costs.[101] Additionally, a *prima*

99. Robinson-Patman Antidiscrimination Act of 1936, Pub. L. No. 74-692, 49 Stat. 1526 (codified as amended at 15 U.S.C. § 13 (2012)).

100. Subsection (a) "Price; Selection of Customers.": "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 the effect of such discrimination may be substantially to lessen competition or tend to create a monopoly in any line of commerce…". *Id*.

101. By doing so, the law aligns with the economic approach that acknowledges discrimination only when prices bear different ratios to their marginal costs: "[p]rovided, that nothing herein contained shall prevent differentials which make only due allowance for differences in the cost of manufacture, sale, or delivery

facie claim of price discrimination can be rebutted by proving that price was set "in good faith to meet an equally low price of a competitor."[102] By adopting these provisions, the law protects sellers who differentiate in price because of sound business justifications.

The language of the act explicitly limits the prohibition to "where the effect of such discrimination may be substantially to lessen competition or tend to create a monopoly in any line of commerce."[103] This limitation is usually interpreted to apply either against a "primary line" or against a "secondary line" injury.[104] A "primary line" injury occurs when the producer reduces prices in a designated market, thereby causing injury to competitors in that market.[105] A "secondary line" injury occurs when some consumers are given a price advantage over other consumers so that the injury is at the purchaser's level.[106] In contrast, traditionally, the law is not applied to buyers who are end consumers; it is assumed that because end consumers are not links in the supply chain, they do not compete with one another and, therefore, no harm will be caused to competition.[107] However, this general approach overlooks the potential resale markets that may take place after the purchase by individual consumers and that such resale may turn these end consumers into competitors in the market.[108] For the sake of this article, which emphasizes the procompetitive effects of these resale markets, it is assumed that despite the unprecedented use of the Robinson-Patman Act in such circumstances, the law could be applied to individual consumers too, if they are potential resellers.

resulting from the differing methods or quantities in which such commodities are to such purchasers sold or delivered." *Id*.; *See also* Gifford & Kudrle, *supra* note 4, at 1239-40.

102. Robinson-Patman Antidiscrimination Act, *supra* note 101, §13 (b).

103. *Id*. §13(a).

104. *Price Discrimination: Robinson-Patman Violations*, FED. TRADE COMM'N, https://www.ftc.gov/tips-advice/competition-guidance/guide-antitrust-laws/price-discrimination-robinson-patman (last visited Nov. 10, 2021).

105. *Id*.

106. *Id*.

107. Edwards, *supra* note 21, at 580.

108. Li Xi v. Apple Inc., 603 F. Supp. 2d 464, 468 (E.D.N.Y, 2009) ("Plaintiffs assert that they were injured because they could not resell their iPhones for as high a profit as later purchasers. However, plaintiffs do not allege that they are competitors engaged in the business of reselling iPhones, that they are in actual competition with a favored purchaser, or that they even resold or attempted to resell their iPhones…. Thus, plaintiffs fail to allege actual competition with a favored purchaser or antitrust injury").

Shortly after its enactment, the Robinson-Patman Act was well enforced,[109] and the Supreme Court affirmed it both in primary line[110] and in secondary line[111] cases. Beginning in the 1970s, the Chicago school of economic thought, which greatly influenced antitrust policy, [112] criticized enforcement of the Robinson-Patman Act for preserving the existence of inefficient competitors who cannot compete with lower prices rather than promoting competition in price and product variety.[113] In accordance with this criticism, since the 1970s, Robinson-Patman enforcement sharply declined,[114] and there have even been (failed) attempts to repeal the act.[115] However, Robinson-Patman prevailed, and its weary enforcement continued,[116] accompanied by private suits that continued to be brought.[117] These cases enabled the Supreme Court, in two signature decisions, to narrow the application of the Act.

The first case was *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.* of 1993.[118] In its decision, the Court clarified that the Robinson-Patman Act's requirement to have an anticompetitive effect must be interpreted in light of other antitrust policies.[119] In particular, the primary line Robinson-Patman claim against predatory pricing must meet the standard required under section 2 of the Sherman Act.[120] For claims against a competitor applying a predatory pricing scheme, the plaintiff should prove that the scheme was designed to exclude competition, thereby seeking to monopolize the market, acquire control over market prices, and

109. Empirical evidence shows that this act was enforced by the FTC since shortly after its enactment, with a peak of enforcement during the Kennedy and Johnson administrations in 1961-1968. *See* D. Daniel Sokol, *Analyzing Robinson-Pattman*, 83 GEO. WASH. L. REV. 2064, 2072-74 (2015).

110. Utah Pie Co. v. Cont'l Baking Co., 386 U.S. 685 (1967). In this case, Utah Pie, which owned two-thirds of the Salt Lake City market share, sued national pie producers who had cut the frozen pie prices in Salt Lake City to become stronger in that market. The Supreme Court ruled in favor of Utah Pie, prohibiting a location-based discount.

111. FTC v. Morton Salt Co., 334 U.S. 37 (1948). In this case, the Supreme Court affirmed the FTC's cease-and-desist order against Morton Salt, which prohibited a quantity discount that was only given to five wholesalers, enabling them to profitably resale to smaller retailers.

112. KWOKA & WHITE, *supra* note 8, at 8-9

113. ELEANOR FOX & DANIEL CRANE, GLOBAL ISSUES IN ANTITRUST AND COMPETITION LAW 110 (Thomson Reuters ed., 2010).

114. Sokol, *supra* note 111, at 2072-74.

115. Repealing this act was recommended in four separate bipartisan reports to Congress (1955, 1969, 1977 and 2007). *See* ANTITRUST MODERNIZATION COMM'N, REPORT AND RECOMMENDATIONS i, iii (2007) https://govinfo.library.unt.edu/amc/report_recommendation/letter_to_president.pdf.

116. Sokol, *supra* note 111, at 2066-67.

117. Sokol, *supra* note 111, at 2083-84.

118. Brooke Group Ltd. v. Brown & Williamson Tobacco Corp., 509 U.S. 209, (1993). In this case, Liggett and Brown & Williamson entered a price war in the cigarette market. At some point, Brown & Williamson sold its branded cigarettes to wholesalers at a loss, so Liggett filed a suit, arguing that Brown & Williamson's discounts to wholesalers were in violation of the Robinson-Patman Act. *Id.* at 212-17.

119. *Id.* at 220.

120. *Id.* at 221.

recoup losses.[121] In *Brooke Group*, no such theory of harm was demonstrated.[122] Instead, the Court noted that the alleged predatory pricing scheme reduced prices and increased output in the markets,[123] the exact procompetitive effect that is typically set forth in favor of price discrimination.

In 2006, in *Volvo Trucks North America, Inc. v. Reeder-Simco GMC, Inc.*,[124] the Supreme Court expanded this approach toward secondary line discrimination cases by ruling for appellant Volvo, which argued that its dealer Reeder-Simco could not make a secondary line Robinson-Patman claim unless it proved that price discrimination caused harm to competition.[125] In its briefs, Volvo emphasized that, in fact, price discrimination was designed to attract business with different consumer groups, i.e., increase output.[126] The Court did not make a full analysis of anticompetitive effects versus procompetitive effects and instead explained that its decision not to extend Robinson-Patman's governance to the circumstances of the case construes the Act "consistently with broader policies of the antitrust laws."[127]

The result of this historic development is that while the Robinson-Patman Act survived the 1970s shift of approach, it was limited to resemble the Sherman Act's prohibition of monopolization.[128] Neither in *Brook Group* nor in *Volvo Trucks* did the Court explain how, under that interpretation of the law, the Robinson-Patman Act differs from the Sherman Act's prohibition of monopolization or, alternatively, why two laws pursue the exact same goal.[129] One way or another, today the Robinson-Patman Act is almost never successful in restricting price discrimination beyond the prohibition of monopolization, and its main influence is the imposition of high litigation costs.[130] A review of the scholarship of the time[131] and the arguments

121. *Id.* at 225.

122. *Id.* at 219.

123. *Id.* at 233.

124. 546 U.S. 164 (2006).

125. *See* Brief for Petitioner at 42, Volvo Trucks N. Am, Inc. v. Reeder-Simco GMC, Inc., 546 U.S. 164 (2006) (No. 04-905) (arguing that "Reeder offered no explanation of how Volvo could possibly benefit by reducing the competitiveness of its dealers").

126. In Volvo's words, "The price differential in such circumstances may simply reflect the fact that the manufacturer has less reason to offer price concessions to attract the business of certain retail customers – perhaps because sales to those customers are likely without discounts or because they provide less value to the manufacturer – and that the "disfavored" dealer's sales efforts are disproportionately focused on those retail customers." *Id.;* "Conversely, larger discounts may be a way for the manufacturer to encourage more intensive efforts by its dealer to sell to other retail customers, who would otherwise turn to a different manufacturer's products or who are particularly valuable customers." *Id.*

127. *See Volvo Trucks*, 546 U.S. at 180-81.

128. Woodcock, *supra* note 9, at 1375-79.

129. *See Volvo Trucks*, 546 U.S. at 187-88 (Stevens, J., dissenting) (noting that the majority's interpretation overlooked Congress' intention to protect small retailers from price discrimination).

130. Gifford & Kudrle, *supra* note 4, at 1271.

131. *See supra* notes 129-30; *see also infra* note 145 and accompanying text.

brought to court in *Volvo Trucks*[132] demonstrate that this shift was meant to protect the procompetitive effect that price discrimination has on the increase of output and consumer welfare.

Importantly, in the brick-and-mortar settings in which the *Brook Group* and *Volvo Trucks* cases took place, immediate distributive effects could be overlooked as long as market power was not illegally created, because market forces could be expected to correct such distributional problems.[133] Even if it is assumed that Sherman Act's prohibitions are successful in completely eliminating market power (an assumption problematic on its own),[134] in the online personalized pricing setting, this reliance on market forces is no longer enough. This is because firms that hold even slight, incremental market power and that attempt to acquire none can use data power to induce sales and capture more of the consumer surplus. As a result, the antitrust law's focus on market power is ill-suited to restrict price discrimination in the form of personalized pricing in the long run.

Nevertheless, the fact that the Robinson-Patman Act as currently interpreted is ill-suited to personalized pricing does not mean it should be amended. After all, as described in Section II.A, personalized pricing has potential positive effects over aggregate welfare, but clear negative effects over the narrower standard of consumer welfare. Since courts' use of the term "consumer welfare" is ambiguous and often attributed to either of the standards,[135] and since scholars still debate which standard is better, there is uncertainty as to whether the Robinson-Patman Act, as interpreted today, should be repealed, remanded, otherwise reinforced, or left as is.[136] The prevalence of personalized pricing, as such, may require an affirmative decision as to the appropriate standard under which antitrust law takes place.[137] This article leaves this query open. It is sufficient to note that Robinson-

132. In its briefs, Volvo argued that "Reeder offered no explanation of how Volvo could possibly benefit by reducing the competitiveness of its dealers," and claimed that in fact price discrimination was designed to attract business with different consumer groups. Brief for Petitioner at 42, Volvo Trucks N. Am, Inc. v. Reeder-Simco GMC, Inc., 546 U.S. 164 (2006) (No. 04-905); In Volvo's words, "The price differential in such circumstances may simply reflect the fact that the manufacturer has less reason to offer price concessions to attract the business of certain retail customers – perhaps because sales to those customers are likely without discounts or because they provide less value to the manufacturer – and that the 'disfavored' dealer's sales efforts are disproportionately focused on those retail customers. *Id.*; Conversely, larger discounts may be a way for the manufacturer to encourage more intensive efforts by its dealer to sell to other retail customers, who would otherwise turn to a different manufacturer's products or who are particularly valuable customers." *Id.*

133. *See supra* Section II.B.

134. Woodcock, *supra* note 9, at 1375-79.

135. Gifford & Kudrle, *supra* note 4, at 1260.

136. *See* Gifford & Kudrle, *supra* note 4, at 1252 (arguing that "[t]he law should view the possibility of harm from price discrimination with greater skepticism than it currently does"); Mehra, *supra* note 17, at 210-11 (calling to reuse antidiscrimination law); and Sokol, *supra* note 111, at 2064-65 (condemning the use of the Robinson Patman Act).

137. Woodcock, *supra* note 9, at 1375-79.

Patman, as currently interpreted, allows price discrimination because it embraces the potential procompetitive effects it can bring.

B. Vertical Restraints and the Sherman Act

The second relevant piece of existing law, the Sherman Act, is relevant for understanding the legal prohibition of vertical restraints. Section 1 of the Sherman Act forbids restraints of trade, as such.[138] Ever since the early days of the act, courts engaged with the question of the standard according to which the prohibition over restrictive arrangements should be litigated: whether the standard is a per se rule or rule of reason.

Per se illegality means that the conduct is intrinsically prohibited under each and every circumstance regardless of any possible business justifications.[139] The *rule of reason* standard means that the court is required to conduct a detailed market assessment before deciding the legality of the restriction.[140] To establish a rule of reason case, the plaintiff is required to prove that the defendant has market power and that the defendant imposed an anticompetitive restraint.[141] To alleviate this burden, the plaintiff is typically required to provide expert testimony identifying the market, pointing to market power, and supplying an anticompetitive effect theory.[142] The high litigation costs of the rule of reason are accompanied with high costs of detection and, just like simplistic rules, may increase error costs.[143] If the plaintiff succeeds in showing a *prima facie* anticompetitive harm, the burden shifts to the defendant to show a procompetitive justification. If that burden is met by the defendant, then the plaintiff can show that a less restrictive alternative could achieve the same ends. If no such less restrictive alternative is provided, then the court will balance between the anticompetitive and the procompetitive effects to decide whether the restriction is legal.[144] The problem with the rule of reason standard is that it leads to uncertainty, creates confusion in courts and in

138. *See* 15 U.S.C. § 1 (declaring that "[e]very contract, combination in the form of trust or otherwise, or conspiracy, in restraint of trade or commerce . . . is . . . illegal").

139. Hovenkamp, *supra* note 37, at 83.

140. *Id.*

141. Hovenkamp, *supra* note 37, at 101-02.

142. *Id.* at 98.

143. *Id.* at 98-99.

144. *Id.* at 103-04.

practice,[145] increases litigation costs,[146] and reduces enforcement.[147] The key benefit of the shift from a per se rule to the rule of reason is that it enabled courts to weigh the procompetitive effects that vertical agreements can have against the anticompetitive effects they cause, thus preventing unwarranted intervention with free markets when these arrangements contribute to competition.[148]

One of the key factors in courts' selection of the standard applied over the restrictive arrangement is its type: whether it is horizontal (between competitors) or vertical (between consecutive chains in the distribution channel).[149] Originally, both horizontal and vertical cases were judged under the per se standard.[150] This analogous approach cracked early on, when the Supreme Court exempted pre-contract resale price restraints from that rule, stating that a supplier can decide, before entering a contract, not to sell to a distributor that charges less than the supplier's required price.[151] In 1963, the Supreme Court held that vertical price restrictions were indeed illegal per se but that the illegality of other vertical restrictions would only be decided after considering the justification at trial[152]—that is, a rule of reason. Four years later, in 1967, the Supreme Court stepped back from this tolerance, finding that vertical territorial restraints were illegal per se,[153] just like horizontal territorial agreements.[154]

145. Richard A. Posner, *The Rule of Reason and the Economic Approach: Reflections on the Sylvania Decision*, 45 U. Chi. L. Rev. 1, 14 (1977).

146. *See* Hovenkamp, *supra* note 37, at 98; *See also* Note, Leegin'*s Unexplored "Change in Circumstance": The Internet and Resale Price Maintenance*, 121 HARV. L. REV. 1600 , 1611-12 (2008) [hereinafter Leegin'*s Unexplored "Change of Circumstances"*]; *See also* Note, Leegin'*s Unexplored "Change in Circumstance": The Internet and Resale Price Maintenance*, 121 HARV. L. REV. 1600 , 1611-12 (2008) [hereinafter Leegin'*s Unexplored "Change of Circumstances"*].

147. Leegin Creative Leather Prods., Inc. v. PSKS, Inc., 551 U.S. 877, 915 (2007) (Breyer, J., dissenting).

148. Hovenkamp, *supra* note 37, at 103-04; FED. TRADE COMM'N & U.S. DEP'T OF JUST., ANTITRUST GUIDELINES FOR COLLABORATIONS AMONG COMPETITORS 3 (2000), https://www.ftc.gov/sites/default/files/documents/public_events/joint-venture-hearings-antitrust-guidelines-collaboration-among-competitors/ftcdojguidelines-2.pdf.

149. Hovenkamp, *supra* note 37, at 86.

150. Dr. Miles Med. Co. v. John D. Park & Sons Co., 220 U.S. 373, 385, 404 (1911) (noting that vertical price restraint was originally judged under the per se rule), *overruled by* Leegin Creative Leather Prods., Inc. v. PSKS, Inc., 551 U.S. 877, 907 (2007); United States v. Trenton Potteries Co., 273 U.S. 392, 397-98 (1927) (discussing how horizontal price restraint was previously judged under the per se rule); *See also* Flynn et al., *supra* note 34, at 635-36.

151. United States v. Colgate & Co., 250 U.S. 300, 304, 306 (1919).

152. White Motor Co. v. United States, 372 U.S. 253 (1963).

153. United States v. Arnold, Schwinn & Co., 388 U.S. 365, 381-82 (1967) (noting that per se violations of the Sherman Act included "the control over the resale of Schwinn's products after Schwinn has parted with ownership thereof[,] and the effort[] thereafter to restrict territory or persons to whom the product may be transferred").

154. United States v. Topco Assocs., 405 U.S. 596, 608 (1972).

After years of ambiguity, in 1977, the Supreme Court returned to the question of standard in *Continental T.V., Inc. v. GTE Sylvania, Inc.*[155] In this case, the Court rejected the per se rule against vertical non-price restraints, applying the traditional rule of reason standard.[156] At the same time, the Court declined to overrule the per se rule for vertical price restraints, stating in a footnote that unlike other vertical restraints, the approach toward vertical price restraints is firmly established in antitrust law.[157]

The footnote distinguishing between price and non-price vertical restraints drew much criticism,[158] until it was finally reversed in 2007 with *Leegin Creative Leather Products, Inc. v. PSKS, Inc*.,[159] which held that vertical price agreements are no longer per se illegal and that from now on they would be reviewed under the rule of reason.[160] In this context, it is important to note that while the rule of reason standard was adopted for all vertical agreements, it was not adopted for horizontal price agreements[161] or for horizontal agreements aiming to boycott a competitor.[162]

The switch from the per se rule to the rule of reason in all vertical restraint cases required some justification. The fundamental argument supporting that switch is that while vertical restraints do reduce intra-brand competition by limiting the number of distributors competing for a group of customers (limiting the number of sellers for the same brand), these restraints increase inter-brand competition by allowing the manufacturer to achieve efficient product distribution (so brands compete among themselves in their distribution to the consumer).[163] The Court in both *GTE Sylvania* and *Leegin* expressed a concern that without vertical agreements, businesses would face an increased free-riding problem, in which discount vendors would steal customers from more expensive vendors who invest in advertising, customer education, and brand reputation.[164] Therefore, the Court

155. 433 U.S. 36, 50-51 (1977).

156. *Id.* at 58.

157. *Id.* at 51 n.18.

158. *See* Leegin*'s Unexplored "Change In Circumstance"*, *supra* note 148, at 1602-03.

159. Leegin Creative Leather Prods., Inc. v. PSKS, Inc., 551 U.S. 877, 907 (2007).

160. *Id.* at 899.

161. Horizontal price agreements had remained prohibited since early days. *See* United States v. Trenton Potteries, 273 U.S. 392, 398-400 (1927); Daniel B. Nixa, Note, *Internet Retailers and Intertype Competition: How the Supreme Court's Incomplete Analysis in* Leegin v. PSKS *Leaves Lower Courts Improperly Equipped to Consider Modern Resale Price Maintenance Agreements*, 11 Vand. J. Ent. & Tech. L. 461, 478 (2009).

162. Horizontal agreements aiming to boycott a direct competitor have also remained prohibited since early days. *See* Nynex Corp. v. Discon, Inc., 525 U.S. 128, 135 (1998); *See also* MM Steel L.P v. JSW Steel (USA) Inc. 806 F.3d 835, 848-49 (2015).

163. Cont'l T.V., Inc. v. GTE Sylvania Inc., 433 U.S. 36, 52-53 (1977); Gregory T. Gundlach & Riley T. Krotz, *Resale Price Maintenance: Implications of Marketing Trends for the Colgate Doctrine and the Leegin Factors*, 39 J. Pub. Pol'y. & mktg. 48, 52 (2020); Leegin Creative Leather Prods., Inc. v. PSKS, Inc., 551 U.S. 877, 889-91 (2007).

164. *Continental T.V.*, 433 U.S. at 54-55; *Leegin*, 551 U.S. at 891-92; *Leegin*, 551 U.S. at 913-14 (Breyer, J., dissenting).

was concerned that without vertical arrangements, the competition over better distribution would be impossible.[165] It therefore adopted a more tailored standard of illegality toward such agreements.

A close look at the *GTE Sylvania* and *Leegin* cases reveals that the brick-and mortar-setting in which they take place is fundamentally different from the online setting in which vertical restraints that sustain personalized pricing take place. There are four reasons that contribute to this difference.

First, neither *GTE Sylvania* nor *Leegin* involved restraints that were designed to sustain personalized pricing, and they had nothing to do with the Robinson-Patman Act. Accordingly, the Court did not consider the question whether the procompetitive effects of price discrimination, as such, deserve two floors of judicial protection: first, in surviving the Robinson-Patman prohibition of differentiated pricing; and second, in justifying a more tolerant approach toward vertical restraints that protect personalized pricing. The Court never analyzed the anti-competitive effects of such restraints, which, as noted in Section II.C.1, have anticompetitive effects and cannot be justified solely to protect personalized pricing.

Second, because e-commerce offers an increased variety of product brands and abundant selling platforms, the intra-brand and inter-brand competition takes place simultaneously. This simultaneous competition, in which different types of firms compete in different distribution channels, is called inter-type competition.[166] The decisions in *GTE Sylvania* and *Leegin* take into account the need to balance inter-brand and intra-brand competition,[167] but they overlook the inter-type competition prevalent in e-commerce.[168] In e-commerce resale, on which this article focuses, trade can take place simultaneously by primary market players and end consumers in various platforms that serve as distribution channels—that is, inter-type competition. The restrictions of transferability, as presented in Section II.C have a destructive effect over such inter-type trade, which the court—considering inter-brand and intra-brand competition alone—did not consider.

Third, the precedents were set in the context of restrictions imposed between the producer and the distributor.[169] This article looks at the restriction imposed in a different relationship: the seller and the end consumer, who may (or may not)

165. *Continental T.V.*, 433 U.S. at 54-56; *Leegin*, 551 U.S. at 891-92; *Leegin*, 551 U.S. at 913-14 (Breyer, J., dissenting).

166. Daniel B. Nixa, Note, *Internet Retailers and Intertype Competition: How the Supreme Court's Incomplete Analysis in* Leegin v. PSKS *Leaves Lower Courts Improperly Equipped to Consider Modern Resale Price Maintenance Agreements*, 11 VAND. J. ENT. & TECH. L. 461, 478-79 (2009).

167. *Id.* at 483-84.

168. *Id.* at 486-88.

169. *See Continental T.V.*, 433 U.S. at 37-38 (noting that the restriction was imposed by a television manufacturer over its retailers); *Leegin*, 551 U.S. at 882-83 (noting that the restriction was imposed by a leather manufacturer over its retailers).

decide, later on, to re-trade.[170] Indeed, because of the potential resale by an end consumer, an end consumer may be analyzed as a distributor, raising concerns, such as potential damage for the original seller's reputation, if the end consumer resells a used product with impaired qualities. However, if resale markets are sufficiently identified as such, the concerns for the original seller's reputation are mitigated. Accordingly, limitations over such a resale are less justified.

Finally, the Court in *Leegin* commented that restrictions imposed by entities with no market power are unlikely to have an anticompetitive purpose.[171] However, the concept of power, as has been so far analyzed in antitrust laws, does not capture the ability of firms holding data power to exercise personalized pricing.

In sum, when courts imposed the rule of reason standard over all vertical restraints, they did not consider the particular circumstances of online vertical restraints that are designed to sustain personalized pricing. The blanket tolerance toward vertical restraints is not sensitive to the individualized harm to competition entrenched in these agreements.

VI. Proposal: Changing the Judicial Standard of Review

The above review of existing law shows how Congress explicitly prohibited the practices of price discrimination and vertical restraints and how, under the influence of the Chicago school of economic theory, courts adopted a tolerant approach, permitting price discrimination almost altogether and applying the rule of reason standard over all vertical restraints, making them difficult to litigate. This article claimed that vertical restraints that are designed to sustain personalized pricing do not deserve such tolerance, and this part aims to fix the problem by making policy recommendations to increase their scrutiny.

The starting point is the *Leegin* decision, which was, as described in the previous part, the last time that the Supreme Court considered the appropriate rule to be applied to vertical restraints.[172] Importantly, in that decision, the Court was aware that the shift from per se illegality to a rule of reason analysis might create confusion, deter potential plaintiffs, and reduce enforcement.[173] It therefore indicated that over time, courts can develop presumptions, which shift the burden of proof from the plaintiff to the defendant, thereby taking an intermediate position between the per se rule and the rule of reason.[174]

This article suggests that vertical arrangements that are designed to sustain personalized pricing are exactly the type of cases in which the litigation process

170. *See* Brooke Group v. Williamson Tobacco Corp., 509 U.S. 209, 219, 233 (1993).
171. *Leegin*, 551 U.S. at 898.
172. *See* Gundlach & Krotz, *supra* note 165, at 48-54.
173. *Leegin*, 551 U.S. at 915 (Breyers, J., dissenting).
174. *Id.* at 898-99.

should be re-structured to relieve the high burden of the rule of reason and to encourage suits.

To do so, this article proposes that in cases of vertical arrangements designed to sustain personalized pricing, courts should restructure the litigation process by using a presumption that places the burden "in between" per se and the rule of reason. To avoid confusion in practice and in litigation, this article suggests that this shift in approach should be led by the antitrust agencies, declaring this interpretive standard and creating several "block exemptions," under which these practices are protected. The next part reviews the legal background for the proposal, followed by a delineation of the key features to its application.

A. The Proposed Legal Presumption

Throughout the years of antitrust litigation, it has been proven that the dichotomous distinction between per se illegality and the rule of reason is insufficient. In several Supreme Court cases, the Court recognized that while some restrictions may not fall under the criteria to become per se illegal, they are nonetheless so bluntly anticompetitive that they do not justify the full, costly rule of reason analysis.[175]

To fill the gap between per se and rule of reason, the courts have adopted several legal tools. The most renowned among them is the "quick look" standard, which in essence is a shortcut in proving the rule of reason elements and is therefore highly preferable among plaintiffs.[176] An alternative approach to the evidentiary standard in deciding between per se and rule of reason is the one developed in the scholarship describing the burden of proof required to condemn restrictive arrangements as a "sliding scale."[177] As antitrust scholars Areeda and Hovenkamp explain, there are "numerous variations in proof" that could be applied in antitrust cases; therefore, one should not conclude "that antitrust analysis is governed by three discrete silos denominated rule of reason, 'quick look,' or 'per se.' Rather, the variations are far too many to permit such a tripartite classification and are best described as creating a 'sliding scale' of antitrust analysis."[178] The "sliding scale" analysis suggested by them was quoted by the majority in *California Dental Ass'n v. Federal Trade Commission*,[179] noting that "the quality of proof required should vary with the circumstances."[180] Basically, the "sliding scale" is not a standard of its own,

175. *See* FTC v. Ind. Fed'n of Dentists, 476 U.S. 447, 465-66 (1986); NCAA v. Bd. of Regents of the Univ. of Okla., 468 U.S. 85, 117, 119 (1984); Nat'l Soc'y of Pro. Eng'rs v. United States, 435 U.S. 679, 695 (1978).

176. Hovenkamp, *supra* note 37, at 102, 122-23.

177. PHILLIP E. AREEDA & HERBERT HOVENKAMP, ANTITRUST LAW: AN ANALYSIS OF ANTITRUST PRINCIPLES AND THEIR APPLICATION ¶ 1508 (5th ed. 2021).

178. *Id*.

179. Cal. Dental Ass'n v. FTC, 526 U.S. 756, 780 (1999).

180. *Id*.

nor is it a new methodology to examine antitrust cases. Rather, this scale includes a range of legal rules, including "instantaneous balancing, 'facial' judgments, and categorical or presumptive propositions."[181]

By adopting an intermediate standard, either "quick look" or any other standard in the "sliding scale," the court can increase enforcement against an unwarranted practice and yet allow procompetitive effects, if relevant, to be heard.[182] This article argues that vertical restraints designed to sustain personalized pricing should be reviewed under such an intermediate standard. Using such an intermediate standard will address the concerns of unjustified harm to competition but, at the same time, attend to the development in law, respect the tradition already developed regarding vertical restraints, and ensure that the ideology and economics underlying these developments are not outweighed.

The first problem with the proposal to adopt such an intermediate standard for vertical agreements is the lack of precedent supporting the use of such a standard. To be sure, while the "quick look" standard has been recognized in theory in three Supreme Court cases, the Court, under the facts of each case, rejected it.[183] Accordingly, such litigation shortcuts have not penetrated well into antitrust practice and have generally been abandoned by lower courts.[184] One extraordinary exception is *Polygram Holding, Inc. v. Federal Trade Commission*.[185] In this case, the FTC used the term "inherently suspect" regarding a practice that was found to be of a "close family resemblance" to "another practice that already stands convicted in the court of consumer welfare."[186] The D.C. Circuit affirmed the FTC's use of an intermediate standard, stating that "if, based upon economic learning and the experience of the market, it is obvious that a restraint of trade likely impairs competition, then the restraint is presumed unlawful," and the burden shifts to the defendant to rebut.[187] The court also applauded the FTC's use of this standard, stating that "the Commission appears to acknowledge, *as it must*, that as economic learning and market experience evolve, so too will the class of restraints subject to summary adjudication."[188] This article considers this court's comment as an open

181. AREEDA & HOVENKAMP, *supra* note 179, ¶ 1508.

182. Hovenkamp, *supra* note 37, at 122-28.

183. *Id.* at 123; AREEDA & HOVENKAMP, *supra* note 179, ¶ 1508; The most notable example of such a ruling is that of *Cal. Dental Ass'n v. FTC*, in which the majority stated that arrangements can be condemned with no detailed market assessment, where "an observer with even rudimentary understanding of economics could conclude that the arrangements in question have anticompetitive effect on customers and markets." 526 U.S. at 769-70; However, in the specific circumstances of the case, just like in other Supreme Court examples, the court found that the FTC failed to convince the court to review its case under the "quick look" doctrine. *Id.*

184. Edward D. Cavanagh, *Whatever Happened To Quick Look?*, 26 U. MIA. BUS. L. REV. 39, 40, 67 (2017).

185. Polygram Holding, Inc. v. FTC, 416 F.3d 29, 35, 38 (D.C. Cir. 2005).

186. *Id.* at 36-37.

187. *Id.* at 36.

188. *Id.* at 37 (emphasis added).

invitation for governmental agencies responsible for antitrust enforcement to structure more of the litigation process.

A second hurdle in adopting an intermediate standard for vertical restraints that protect personalized pricing arises from the *NYNEX Corp. v. Discon* case,[189] in which the Supreme Court declared that vertical agreements to boycott a third party can only be analyzed under the rule of reason standard.[190] This statement was later interpreted by Areeda and Hovenkamp to prevent not only the per se rule but also the application of a "quick look" or any other intermediate standard for vertical agreements that lack a horizontal component.[191] With all due respect, such an interpretation was not what the Supreme Court meant, as it never attempted to analyze the "quick look," "sliding scale," or any other intermediate standard for the circumstances before it. Rather, it focused on the question of per se versus rule of reason and from those options chose the latter.[192] Moreover, the case had to do with a non-price vertical restriction, which is fundamentally different from vertical agreements that are designed to sustain personalized pricing. Additionally, the *NYNEX* case was decided in 1998. Back then, the Court could not have imagined the technologies that would evolve in the coming years, allowing personalized pricing and new, cutting-edge techniques to impose restraints over trade.[193] Because of these developments, along with their far-reaching effects over the economy (as described in previous parts), one should not infer from the Court's comment in *NYNEX* any more than what was explicitly in it.

A third challenge is that courts often state that a per se rule should only be for restraints that courts are familiar with and when they can predict with confidence that it would be invalidated in the overwhelming majority of instances under the rule of reason analysis.[194] Indeed, this article does not propose a per se rule, which could be a step too far. The per se rule's strict approach leaves no room to discuss procompetitive benefits, and in contrast, the use of a presumption leaves courts and litigants with some flexibility. Nevertheless, stepping away from the rule of reason also requires some justification. To that end, while the practices discussed are relatively new, they are, in essence, a development of practices known and analyzed for a long period of time: personalized pricing is the descendant of price discrimination, and online vertical restraints are the descendants of traditional

189. Nynex Corp. v. Discon, Inc., 525 U.S. 128, (1998).

190. *Id.* at 135; AREEDA & HOVENKAMP, *supra* note 179, ¶ 1508.

191. *Id.*

192. See *Nynex Corp.*, 525 U.S. at 136 (noting that precedent "makes the per se rule inapplicable, for the case before us concerns only a vertical agreement and a vertical restraint, a restraint that takes the form of depriving a supplier of a potential customer" and "a 'vertical restraint is not illegal *per se* unless it includes some agreement on price or price levels.'").

193. *See supra* Section II.A; *see also supra* notes 107-10 and accompanying text.

194. Leegin Creative Leather Prods., Inc. v. PSKS, Inc., 551 U.S. 877, 898-99 (2007).

restriction of transferability. Experience with those well-known ancestors suffices. Additionally, although such practices do not date back long, they are common and growing in frequency every day. With this growing number of events and the appropriate attention, the experience necessary can be gathered shortly.

Finally, the use of intermediate standards is typically justified when anticompetitive effects are strong, which triggers the simple, basic intuition that defendants must also present strong procompetitive effects.[195] Here, the anticompetitive effect underlying the vertical restraints does not necessarily exceed the anticompetitive effects of other restraints. Instead, the concern emphasized is the lack of a procompetitive effect, since, as was argued, competition and not restriction of competition should complement the procompetitive effects of personalized pricing. The article argues that in the absence of any meaningful procompetitive effect, the rule of reason is too tolerant of an approach.

B. Applying the Proposed Presumption

The first step in applying the proposal is defining the intermediate standard to be used. As noted, an intermediate legal standard could include the "quick look" or a sliding scale of legal rules, including "instantaneous balancing, 'facial' judgments, and categorical or presumptive propositions."[196] This article proposes a presumption according to which vertical restraints designed to sustain personalized pricing will suffice to establish a prima facie anticompetitive harm. Thus, the burden will shift to the defendant to show a procompetitive justification that exceeds the desire to protect the pricing scheme. Such legitimate justifications may be social goals (e.g., encouraging people from otherwise discriminated gender or race) or the need to adhere to other laws or regulations (e.g., restriction of gun resale). If that burden is met by the defendant, then litigation proceeds as in traditional rule of reason cases. The plaintiff should show that a less restrictive alternative could be used or, if not, ask the court to balance between the anticompetitive and the procompetitive effects of the restriction. In that final balancing stage, both the justification acknowledged as unrelated to personalized pricing and those that are connected to personalized pricing can be considered.

The second step in the proposal is to identify vertical restraints that are designed to sustain personalized pricing. To do so, this article proposes to seek a correlation between the pricing scheme and the restriction of transferability. If such a correlation exists, the restraints are to be identified as designed to sustain the pricing scheme. Moreover, if such a correlation cannot be said to be significant enough, and if there is no visible correlation between the restriction and other

195. Hovenkamp, *supra* note 37, at 125.

196. Areeda & Hovenkamp, *supra* note 179, ¶ 1508.

justifications, it will also qualify as designed "to sustain personalized pricing" and invoke the proposed presumption.

To take the example from the introduction, if the restriction of transferability to the rental lease is applied to contracts in which the price was discounted (banning the transferability to contracts under regular price), then that direct connection will suffice for the restriction to qualify as "designed to sustain personalized pricing." Moreover, if the restriction is not correlated with the pricing but also cannot be correlated to another justification, such as the drivers' driving experience or age, then the restraint should invoke the intermediate standard. Relatedly, regarding the tailored air ticket prices, because all contracts in this industry suffer a restriction of transferability, proving correlation between restriction and the pricing scheme may be impossible. However, if the restriction of transferability has no correlation to the usually mentioned security consideration,[197] then it should invoke the presumption.

In antitrust claims, it is the defendant and not the plaintiff who must claim business justifications. However, the proposal here is based on the need to verify the lack of correlation between the restriction and the justification before the defense is invoked. This article suggests that such claims should be invoked by the defendant in pretrial procedures, before a claim is filed. Such pretrial procedures should also allow a disclosure stage, in which the plaintiff will be entitled to receive evidence as to the firm's pricing practices as well as its use of restraining contracts or customization of products.

A third step that should be taken—at least until courts and litigants gain experience with this presumption—to avoid the initial flood of cases and the over-litigation that may allegedly follow, is to acknowledge several block exemptions from the presumption, under which traditional rule of reason will apply and under which the burden will remain on the plaintiff:

> (-) *Personalized prices do not exceed either 10% above or below the median product price* – Personalized pricing that only has a relatively small influence over the average product price should be considered part of the legitimate discretion of the seller and should therefore be exempted from the proposed presumption. This exemption is warranted to prevent the initial focus on cases that lead to relatively mild results over consumer price.
>
> (-) *Personalized prices are not used systematically, not based on data collection and analysis, or not imposed in a pricing scheme that segments the market into very small segments* – It is suggested that personalized pricing that is used occasionally and randomly, which occurs for a short period of time, or which can be seen as more closely related to "third degree" discrimination, will not suffice to invoke the presumption. This exemption is warranted to prevent the initial use of the presumption over traditional pricing schemes, which, as explained above, have a relatively low influence on market function.

197. *See supra* text accompanying note 92.

(-) *Personalized prices do not rely on market power nor on data power* – As previously discussed, in the age of big data, firms holding data power can exercise personalized pricing and extract more consumer welfare without holding any dominant market position. It is therefore recommended to establish that vertical restraints that are tied to personalized pricing may be prohibited even without market power as long as the seller holds data power (i.e., direct or indirect control of consumer data that allows personalized pricing). In contrast, if the seller holds neither market power nor data power, the presumption should not be applied.

A fourth point of implementation has to do with the distinction between contractual restraints and product customization. The article acknowledged that product customization can be a superior marketing approach and easily justified in light of expanding consumer choice and increasing product variety. Accordingly, product customization should invoke the presumption only in particularly suspicious circumstances, such as substantial correlation occurring between pricing and customization, personalized prices exceeding more than 30% above or below median product prices, or a seller having substantial market power and substantial data power. Courts may also want to distinguish between product customization that can be justified by the consumer welfare it derives and product customization that cannot be so justified—and that therefore seems arbitrary. To do so, it may inquire whether the product price is in any way correlated with the costs of the production, whether customization of the product adds any substantial value to the consumer, whether that added value justifies the tailored price, whether the consumer is allowed to give up the customized features of the product at a reasonable cost, and so on.

Finally, as a matter of practice, this article suggests that the adoption of this presumption should be promoted by the antitrust agencies (the FTC and the Department of Justice) in the spirit of the court's invitation in *Polygram Holding* and that these agencies should advance such presumptions. To do so, agencies should publish a formal opinion acknowledging the problem of personalized pricing sustained by vertical restraints and declare an intention to enforce them. Such an opinion should also promulgate the specific factors that are to be considered when enforcing against such practices and the exemptions to be applied, as described above. After this opinion is published, the agencies should launch an investigation of large, dominant firms that exercise personalized pricing and select appropriate cases to be brought to court, thereby paving the way for private plaintiffs to do the same.

V. Conclusion

This article shows how personalized pricing—an extreme example of price discrimination—could be affecting consumers' day-to-day lives, arguing that even if personalized pricing can be justified under some antitrust law standards, when vertical restraints are imposed solely to sustain it, they deserve legal condemnation.

This article then argues that by lowering the standard for suits brought against such vertical restraints, courts can take a step to adjust the law in the right direction.