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PRICE DISCRIMINATION

-- Note by Dennis W. Carlton --

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More documents related to this discussion can be found at
www.oecd.org/daf/competition/price-discrimination.htm

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ROUNDTABLE ON PRICE DISCRIMINATION

Note by Dennis W. Carlton[*]

1. Introduction

1. This note summarizes my reaction to the possibility of using competition policy to constrain price discrimination. It is based in large part on the OECD paper summarizing the literature on price discrimination.[1] Although that paper provides an excellent guide to the literature, it is not intended to be, and therefore should not be used as, a guide to policy. The reason is simple. Any economist well-trained in analytic methods can hypothesize a set of circumstances under which certain conduct is harmful to society. But without a demonstration that government officials have any ability to detect such behaviour reliably and could fix it easily, trying to fix a problem could make things much worse. My reading of the experience of competition policy in the United States is that competition policy is best used to deter cartels, stop anti-competitive mergers, and prevent the use of harmful exclusionary conduct. By exclusionary conduct, I mean conduct that excludes rivals and harms competition because any efficiencies associated with the conduct are insufficient to offset the harm. Price discrimination can, in some limited circumstances, be used as an exclusionary device that harms competition and the use of competition policy to prevent that conduct seems appropriate in those circumstances. But a general attack on how a firm prices when the firm charges different customers different prices is misguided and guaranteed to produce harm. Specifically, it is a misuse of competition policy to attack what is labelled in the OECD paper as non-exclusionary price discrimination. That category includes what the paper calls "exploitative" and "distortionary" price discrimination. [2] Neither of those two types of discrimination directly affects a firm's rivals. Anyone who believes differently about the desirability of attacking price discrimination that does not harm rivals should read the sorry history of the effect in the United States of the Robinson-Patman Act, an act that numerous expert panels have asked Congress to substantially modify or repeal.[3]

2. This paper is organized as follows. In Section II, I describe a few basic points about competition policy. From those points, my policy conclusions about price discrimination follow. Section III goes through the basics of price discrimination, explaining how it works, how common it is, the many forms it takes, and when it helps and when it hurts consumers. It also describes the difference between what the OECD paper calls non-exclusionary and exclusionary price discrimination. It evaluates some of the rationales for attacking non-exclusive price discrimination and shows that they are lacking. It then discusses exclusionary price discrimination which I interpret to be a form of exclusionary conduct and focus on those limited circumstances when it is appropriate to use competition policy to attack price discrimination.

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* Professor at the University of Chicago, National Bureau of Economic Research. Prof. Carlton would like to thank Ken Heyer and Gregory Pelnar for their comments.

1 Pike, Chris. 2016. "Price Discrimination – Background Note by the Secretariat," OECD Competition Committee (October 13).

2 *Id*., Sections 4 & 5.

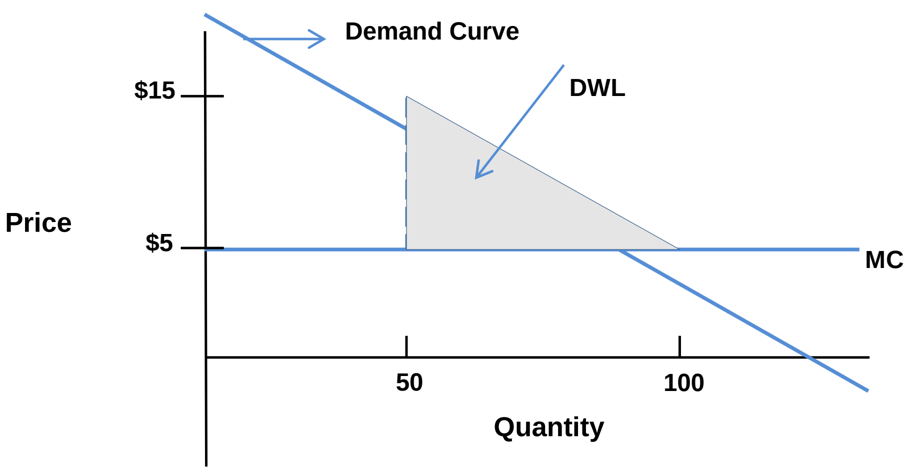
3 See, *e.g.*, Antitrust Modernization Commission. 2007. *Report and Recommendations* (April), p. 312.

2. Basic Principles of Competition Policy

3. I set out in this section some basic principles that underlie most competition policy. I do this because if one does not agree with the proposition that generally competition works pretty well for society and instead one thinks price controls by regulators are better or that a planned economy is better, there is not much to discuss. To those who doubt the superiority of the market economy to other organizations, I would point to the relative economic success of countries that rely more on markets rather than regulators to direct them. But that would be another paper.

4. The fundamental proposition of competition policy is that the process of competition produces desirable outcomes. This is not a mathematical theorem. There is nothing, I repeat nothing, in economics that proves that competition, for example, produces the best innovations. It is instead a proposition based on evidence. If one disagrees, then one should provide evidence to justify the basis for the disagreement and specifically point to examples where alternatives to market-based competition have provided superior outcomes to a policy of competition. The second principle is that monopoly is not itself an antitrust offence. By that I mean that despite the fact that every economics student learns of the harm monopoly imposes on society, it is not a violation of the antitrust laws to price at monopoly levels, at least in the Unites States, even though it imposes a deadweight loss on society. Figure 1 illustrates this point. The competitive price and quantity occur where price equals marginal cost (MC) and are $5 and 100 units, respectively. Under monopoly, the price rises to $15 and the quantity sold falls to 50. The per unit overcharge to consumers is $10 on the 50 units and the deadweight loss to society is the shaded triangle. The deadweight loss measures the static harm to society.

Figure 1. Deadweight Loss (DWL) from Monopoly



5. Why allow this harm, most introductory economics students ask? The answer is that the interpreters of the US antitrust laws recognized that the dynamic benefits from competition – the promise of gains motivating firms to come up with new products – is the essence of competition. Judges, not economists, figured this out – and thank goodness. Indeed, much of the improvement in our standard of living comes from product innovations.

6. The alternative view – there is something wrong, let's fix it – would have undoubtedly led to a much less innovative economy in which government officials would have the responsibility to figure out the right price to charge. Anyone who thinks price regulation is desirable should read the accounts of the distortions that price regulations caused and the positive effect of the deregulation of many industries in the

United States in the 1970s and 1980s. It is not that regulators are stupid, it is that the task is so formidable that the competitive process is superior to government officials setting prices.

7. Once you have agreed to the first two propositions, then it immediately follows that as long as price discrimination does not harm the competitive process – i.e., the way rivals compete with each other – then price discrimination should be fine. I will modify this slightly in the next section but the general point holds. Carlton and Heyer (2008) develop this point in more detail.[4]

8. The final principle I present is that whenever there is an inefficiency, that inefficiency creates a profitable incentive for some firm to remedy it. By that I mean, if some economist writes a paper saying that under certain circumstances an inefficient production process is used, one has to ask why firms would not have an incentive to fix that problem and, by eliminating the inefficiency, make more money. The answer, given long ago by Ronald Coase (1960), is that it must not be so easy to fix the problem.[5] The costs of doing so must outweigh the benefit. So, to say that a government agency can fix an inefficiency, one should explain why the government can do it but not the firm. This does not mean there is no role for government, just that the government is best used when there is some reason the private sector cannot fix the problem.

3. Price Discrimination

3.1 The Basics

9. Price discrimination occurs when an identical product is sold at different prices, usually to different individuals.[6] That seems pretty clear, but matters get complicated when the products are not exactly the same. Suppose that person 1 lives farther away than person 2. Is it price discrimination if the prices differ by more than the transport charge? Or should it be called price discrimination only if the ratio of price to marginal cost differs? Economists tend to favour the second definition because that implies a constant percentage mark-up, but laws forbidding price discrimination typically talk only about price differences, not the ratio of price to marginal cost, as being cost-justified.

10. Regardless of how one defines it, the fact of the matter is that price discrimination is ubiquitous. When I go to a grocery store – surely a segment where there is lots of competition – I can pay regular prices, or I can use discount coupons to lower the price to me, or I can use my membership number, if I am a regular customer, to accumulate benefits. Even if the prices that two customers pay are the same, price discrimination across groups can occur if, for example, the retailer advertises heavily to one group but not another. Although the price is the same, the retailer has manipulated the demand curves so that more of one type of a buyer shows up than another. More subtle ways of price discriminating can arise once one allows for product differences. If a firm wants to charge customers of one type more than another, the firm can design products that appeal more to one type than another. In such a setting, the two groups wind up consuming different products but the effect is similar to what happens under price discrimination.[7] Finally, consider something as simple as product placement. By placing the product in one store on a high shelf but

4 Carlton, Dennis, & Ken Heyer. 2008. "Extraction vs. Extension: the Basis for Formulating Antitrust Policy Towards Single-Firm Conduct," 4 *Competition Policy International* 285-305 (Autumn).

5 Coase, Ronald. 1960. "The Problem of Social Cost," 3 *Journal of Law and Economics* 1-44 (October).

6 It could also be called price discrimination when one individual faces a nonlinear price schedule and pays different marginal prices for the good depending on quantity bought. Quantity discounts would be an example.

7 See, *e.g.*, Carlton, Dennis, & Jeffrey Perloff. 2004. *Modern Industrial Organization*, fourth edition, Chapters 9 and 10.

placing it in another store on a low shelf, the firm can influence the frequency of sales at the two locations, and that too can be a way to induce greater purchases from one type of consumer than from the others. These are just some of the ways in which firms can implicitly price discriminate. There are many others. Some customers might want quick delivery, others not. Some might want credit, others not. Some might want service, others not. By pricing these various products differently, a firm can effectively engage in price discrimination. To try to figure out when these different products are being sold at "discriminatory prices" after adjusting for marginal cost differences would be a horribly complicated task and one that could be thwarted by the way a firm chooses to produce and price differentiated products.

3.2 Non-Exclusionary Price Discrimination – Exploitative

11. Price discrimination aimed at consumers is called non-exclusionary price discrimination in the OECD paper. This type of price discrimination can sometimes be good for both the firm and consumers. To see this, suppose that a firm with market power is charging a price, say $10, which is above the competitive level, and that the firm sells 100 units at that price. Suppose that the firm's costs are $5 per unit. Although the firm is charging a price above its costs and would still be above its costs if it lowered its price a bit, it does not have an incentive to lower its price in order to sell more because, although it likes to sell more, it loses revenue by having to cut price on its existing sales. Suppose there is an additional group of customers that would be willing to buy in total 10 units of the product if the price was $8. Included in that group is one individual who would even pay $9 for one unit if he or she had to. The firm will not have an incentive to lower the price down to $8 to all consumers because the firm's profits would fall from $500 ($5 x 100) to $330 ($3 x 110). However, if the firm could price discriminate and charge the lower price of $8 to only the customers in the additional group, then the firm would make more money by doing so. The firm would still make the $500 on the original customers, but now would add $30 to its profits from its sales to the new customers. Notice that both the firm and consumers are made better off by this price discrimination. Profits rise and consumers who would not otherwise obtain the good obtain it. Output rises.

12. Although we have just seen how price discrimination can be desirable from the viewpoint of consumers and the firm, it is also true that one can construct examples where this is not the case. Suppose that the firm has only 100 units to sell and that it has no cost of production. There are two groups that the firm can separately identify. Group 1 consists of 80 people each willing to pay $10 for one unit while Group 2 consists of lots of consumers each willing to pay $9 for one unit. If the firm cannot price discriminate, it will sell all 100 units at $9 apiece, thereby generating revenues of $900. But if the firm can price discriminate, it will sell 80 units to Group 1 at $10 and 20 units to Group 2 at $9, thereby earning revenues of $980. Consumers in Group 1 lose (they pay $10, not $9) but the firm gains. In this case, consumption remains unchanged at 100. Matters can be even worse than this, though. Suppose that Group 1 consists of 80 individuals but this time only 79 people are willing to pay $10 per unit with one person, Joe, willing to pay only $9.50. Suppose Group 2 consists of lots of consumers willing to pay $9 per unit. Then, the price discriminating firm will charge a price of $10 to Group 1 and $9 to Group 2. This time there is a consumer, Joe, in Group 1 who is willing to pay more than $9, but he does not get the good. Although 100 units are sold, the goods do not go to the consumers who value them most. This is an economic inefficiency. In fact, it is possible to construct examples where the price discriminating monopolist restricts output below the level that would emerge under no discrimination.

13. The OECD labels the bad discrimination as "exploitative" and labels the good one "ordinary." But figuring out what is good and bad discrimination from society's viewpoint is hard. Figuring out all the different consumers and their preferences, and then predicting whether each pricing decision by a firm will increase or decrease overall society welfare, or consumer welfare of Group 1 versus Group 2, is not only burdensome but also subject to lots of error. Moreover, scrutinizing the pricing decision of every firm to determine the effect on welfare of all the various groups would be a herculean task. Subjecting firms to liability based on some economist's estimates of the overall effect of the firm's pricing scheme would

impose burdens on a firm's pricing policy. A firm would have only a vague idea of what constitutes acceptable pricing. Such a situation likely would reduce all price discrimination, both the good and the bad.

14. Now I remind you this analysis is for the simple case where all buyers obtain the same good. Once one introduces different goods with different costs, or introduces more complicated pricing such as nonlinear pricing, it is easy to see how the complications of estimating the overall welfare effects of price discrimination skyrocket. It is simply an unmanageable task to try to prevent all forms of "bad" price discrimination and attempts to do so will impose burdens on firms and harm competition.

15. There is one further point that underscores one of the key principles I articulated earlier. If ,despite what I have said, you think your economists are so smart that they can do the relevant calculations, then why not also eliminate the ability of the firm to set a uniform monopoly price and simply tell the firm what price to charge, how much to produce, and, yes, what varieties of product to produce. The fact that this is not what is proposed is just another way of saying that there are many variables that a marketplace determines and interfering in that process will lead to undesirable outcomes. The history of centrally-planned economies confirms this view.

16. The OECD paper seems to suggest that the prevention of price discrimination may be desirable if by doing so the price that poor consumers pay is prevented from rising. There is no doubt that laws to protect the poor are desirable, but trying to do so by ferreting out those cases where the price discrimination causes the price to the poor to rise is a complicated task. It also leaves unanswered whether the government agency would also require firms to sell in poor neighbourhoods since one way to price discriminate is to strategically locate the outlets where one's goods are available. My main reaction to this justification for using competition policy to attack price discrimination is that competition policy aimed at the prevention of price discrimination that harms the poor is a very ineffective tool by which to help the poor. If I need to tighten a screw to fix a toy, I use a screwdriver. If I use a hammer to bang in the screw, I will fail to tighten the screw and will likely break the toy.

3.3 Non- Exclusionary Price Discrimination – Distortionary

17. The OECD paper labels price discrimination aimed at downstream competitors, not customers, as "distortionary." The reason it is called distortionary is because it distorts the competition between, say, several retailers, one of whom, for example, pays a lower wholesale price than its rival retailers. It is easy to see that such a situation could disadvantage some retailers compared to others. The OECD paper also explains how that distortion can lead to an economic inefficiency. But there are lots of economic inefficiencies in our economy. Coase (1960) teaches us that firms have an incentive to root out such inefficiencies, not because they are driven by moral considerations but because they can make more profit if they replace an inefficient distributor with an efficient one.[8] That means that, although one can hypothesize situations with inefficiencies, one needs to go further and explain how those inefficiencies can persist. The answer usually is that it is too costly to correct the inefficiency. To think that a government intervention can better ensure that retail distribution is efficient compared to a supplier's decisions is a bold assumption, again reminding one of the limitations of central planning. In fact, the example of distortionary discrimination cited in the paper relates to a large retailer having lots of bargaining power relative to other retailers and thereby getting a lower price. We can empirically test how well the theories of distortionary pricing stand up by looking at some evidence. In the United States, Walmart is a big retailer with a reputation for driving hard bargains with suppliers. What is the consequence of Walmart's

8 Coase, Ronald. 1960. "The Problem of Social Cost," 3 *Journal of Law and Economics* 1-44 (October).

expansion into an area? The evidence is overwhelming that such entry helps, not harms, consumers by lowering the price that consumers pay.[9]

18. This evidence regarding Walmart is similar to the evidence that scholars who have examined the Robinson-Patman Act in the United States have found. The Robinson-Patman Act was passed in response to political pressure from small grocery stores that wanted to stop the expansion of chain supermarkets such as A&P grocery stores.[10] A&P, like Walmart, apparently obtained low wholesale prices from suppliers and drove down retail grocery prices. Despite justifications about protecting society, the Robinson-Patman Act has been judged to be a protectionist measure that harmed consumers and raised prices. Numerous government-appointed panels, including the recent Antitrust Modernization Commission, have found the Robinson-Patman Act inconsistent with the goals of protecting competition and have advocated significant modifications or repeal.[11] I urge OECD countries not to repeat the errors of the United States. I should add that, though there has not been repeal of Robinson-Patman, the FTC has brought few, if any, cases recently and litigation in the area of Robinson-Patman is relatively rare. Some firms have figured out a way to avoid the Act by altering the “product” sold so that it is not identical across their customers. This is just one example of how the Act has failed to achieve its objective and has likely raised the cost of doing business to the detriment of consumers.

19. There is one topic discussed in the OECD’s paper in the section on distortionary price discrimination that I do think deserves attention from government agencies. It has to do with privacy. I am not sure a competition authority is the right agency to deal with the issue but I do know Europe has paid more attention to this issue than the United States. When a firm gathers the purchase history of the individual, unbeknownst to the individual, I understand how that can sometimes benefit the individual by enabling a firm to target product to him or her, but it also allows the firm to price discriminate. Who should own that information? Should I, as the consumer, have a property right in my own information? If so, should I be allowed to sell it to an intermediary who could figure out whether I am getting targeted by high-priced sellers because they have figured out that I have an inelastic demand? If an intermediary could do that for me, then that intermediary could also serve as my agent to buy a product, masking my demographic characteristics. That is, the individual’s protection against price discrimination could be provided by the market once the relevant authorities have established property rights in the information. That would seem to be a reasonable and superior solution to trying to regulate the prices that sellers offer to me.

3.4 Exclusionary Price Discrimination

20. Exclusionary conduct is a hard area for competition authorities to deal in because one of the benefits of competition is that inefficient firms fail. But it is also the case that we want those firms to fail as the result of the competitive process and not because some dominant firm has, for example, used its size advantage to preclude its rivals from obtaining efficient distribution. In the latter case, a dominant firm remains dominant not because it is efficient but because it is dominant and it has used its dominance to preserve its market power.

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9 See, *e.g.*, Basker, Emek. 2003. “Selling a Cheaper Mousetrap: Wal-Mart’s Effect on Retail Prices,”58 *Journal of Urban Economics* 203-29 (September).

10 See, *e.g.*, Ross, Thomas. 1984. “Winners and Losers under the Robinson-Patman Act,” 27 *Journal of Law and Economics* 243-71 (October).

11 I served on that Commission. See, Antitrust Modernization Commission. 2007. *Report and Recommendations* (April), Chapter IV.A.

21. There has been much written about the use of pricing to exclude rivals.[12] There is a close connection between the harms from exclusion from tie-in sales and from exclusionary price discrimination. Because of that close connection, one can tell whether competition laws are sensible if they treat the two types of behaviour similarly. If they do not, then the laws are poorly thought through.

22. In order for competition authorities to benefit the competitive process from attacking exclusionary price discrimination, the authorities must understand what is and is not exclusionary price discrimination. In general, firms should have no duty to deal with their rivals. So, for example, if Dennis Carlton calls up GM and says that he would like to use their plant for half a day to make some cars, GM can set a very high price to dissuade him from doing so even if that price is far in excess of the cost of using the GM plant. That behaviour should not be condemned as exclusionary price discrimination just because Carlton receives less favourable treatment than GM's own car division.[13]

23. The key ingredient in any exclusionary case involving price discrimination is a showing that there are strong scale economies in, for example, distribution and that the dominant firm is using its power to prevent rivals from getting access to those scarce distribution facilities, where any exclusion is not justified by efficiency concerns such as the prevention of free riding. Pricing arrangements that prevent a rival from reaching efficient scale therefore deserve scrutiny. One example of such pricing would be an arrangement under which the wholesale price that, say, a retailer pays depends on the retailer's purchases of a rival's product, as happens, for example, in market share contracts under which a firm grants a customer a discount if the customer commits to purchasing some share of all his purchases from the firm. Another more general example of how pricing restrictions can harm competition occurs in situations where a pricing contract contains restrictions on how a retailer can price a rival manufacturer's product. Such situations raise exclusionary issues that deserve scrutiny by competition authorities to see whether they are efficiency-justified or are instead used to harm competition. For an analysis of such contracts with applications to the harmful consequences of pricing restrictions in credit cards, see Carlton and Winter (2016).[14]

4. Conclusion

24. Using competition policy to attack exclusionary price discrimination –conduct that affects rivals and harms competition- seems appropriate under certain circumstances. In contrast, using competition policy to attack non-exclusionary price discrimination is a mistake.

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12 See, *e.g.*, Carlton, Dennis, Patrick Greenlee & Michael Waldman. 2008. "Assessing the Anticompetitive Effects of Multiproduct Pricing," 53 *Antitrust Bulletin* 587-622 (Fall).

13 See, Carlton, Dennis. 2001. "A General Analysis of Exclusionary Conduct and Refusal to Deal: Why Aspen and Kodak Are Misguided," 68 *Antitrust Law Journal* 659-83.

14 Carlton, Dennis and Ralph Winter, " Vertical MFNs and the Credit Card No-Surcharge Rule", Aug. 2016. A no surcharge rule is a rule that prevents a retailer from surcharging consumers for the use a credit card that is very costly for the merchant to accept compared to other methods of payment.