

Is Price Discrimination Harmful and should be Forbidden? a conceptual and theoretical Analysis

Alhaji Bukar Mustapha^{1*} Masoud Ali Khalid²

1. Department of Economics, University of Maiduguri, P.M.B 1069, Maiduguri, Nigeria
2. Ministry of Education, Kurdistan Region Government, Erbil /Iraq

* E-mail of the corresponding author: abmustaphaalibe@yahoo.com

Abstract

This paper attempts to provide a discussion on the ways in which price discrimination affects economic efficiency. The main proposition of competition policy is that perfect competitive markets are efficient and hence price discrimination is harmful. The study reviews the conceptual and theoretical views to identify the different effects of different types of price discrimination on social welfare. The study illustrates how incumbent firms can act to undermine competition in monopolistic market. The study further reveals that price discrimination may be seen as a precondition for efficient pricing and can lead firms to leave consumers with or without surplus than they would enjoy in its absence.

Keywords: Price discrimination; competition policy; efficiency, theoretical

1. Introduction

The main proposition of competition policy is the notion of the perfect competitive market is efficient. Imperfections are observed feature of the real world markets. Firms in most markets often find it profitable to segment consumers according to their demand elasticity and tend to price discriminate. Theoretically, Price discrimination applies to imperfectly competitive market but in a perfectly competitive market, firms lack power neither in the short nor in the long run to charge different prices.

In evaluating the impact of price discrimination in imperfect market environments, two associated comparisons are relevant for public policy: first, the welfare effect of price discrimination, that is, what is the welfare implications from allowing firms to price discriminate? Second, price discrimination and competition, that is, what are the effects of price discrimination on competition? The essay is divided into four sections. The second section describes some concepts. In the third section, we discuss the theoretical positions about the welfare effect of price discrimination; the third section analyses the effects of price discrimination on competition and the final section is the conclusion.

2. Conceptual issues

Price discrimination– Price discrimination is to charge buyers different prices for similar products with the same marginal cost of production. The rationale for firms to price discriminate is that some buyers are willing to pay more for a given product or services. This is only feasible when the following conditions can be satisfied: (i) customers can be segmented (ii) no arbitrage opportunities, that is buying in low-priced market and reselling in the high-priced market is infeasible. (iii) The elasticity of demand in each market must also be different so that the firm will charge a high price in the market where demand is less elastic, and less sensitive to price rise and vice versa.

In order to study the effects of price discrimination economists traditionally have classified price discrimination into three basic forms: (i) *first-degree or perfect price discrimination* – under first-degree (perfect) price discrimination, the seller captures all the Profits (consumer surplus) by charging each consumer's individual price just equal to the maximum price that consumers would be willing to pay. (ii) *Second-degree price discrimination* – under second-degree price discrimination the seller sets different prices such as, discount for bulk purchases, peak/off-peak or high/low peak period prices. (iii) *Third-degree price discrimination* – refers to when the seller offers different prices according to consumers' characteristics. For example, children, elderly students to pay less.

3. Discussions

3.1 *Effects perfect price discrimination on social welfare under*

There is no doubt about the welfare effects of first-degree price discrimination where the monopolist has perfect knowledge about each consumer's reservation price. The monopolist charges each customer according to his or her reservation price. That is, the monopolist supplies all consumers whose reservation price exceeds the monopolist marginal costs. This pricing policy allows the monopolist to convert the entire consumer surplus that exists in the non-discrimination case into producer's supernormal profits. Of course, the distribution of income might be less acceptable, but that is not an efficiency issue, it is an issue of fairness but the outcome is more efficient than in the uniform price setting because, the same welfare would be attained under Bertrand or perfect competition. In order to explain this, the following comparison is helpful:

- *Without discrimination-* if a firm is not allowed (or not possible) to price discriminate, the firm will set a single price to maximize profit, obviously, the chosen price will be above cost, and total surplus is not maximized. The problem is that only those whose maximum willingness to pay are above cost are served (even though it is efficient to serve all those whose willingness to pay are above or equal to marginal cost).
- *With-discrimination-* If a firm is permitted to discriminate, it will be possible (i.e. if the firm can somehow observe each consumer's reservation price) for a firm to charge each consumer the maximum possible (price equals marginal cost). This illustration seems utopia and should not be overemphasized, as it is difficult for firms to have full knowledge of consumers' preferences.

3.2 *Effects of second-degree price discrimination on welfare*

Second-degree price discrimination can also be welfare improving. For instance in a two-part tariff, consumers are required to pay a flat fee independent of the number of units purchased plus a variable portion which depends on the quantity of goods bought. In this case, though the firm charges a lower marginal price than the price under non-discrimination but will use the flat fee to extract surplus from consumers with lower amount of demand. The outcome is analogous to the first-degree described above but is less extreme than the latter because, the lower marginal price decreases the efficiency loss and thus improves welfare. (The flat fee compensates the lower marginal price).

3.3 *Effects of third-degree price discrimination on welfare*

The welfare effect of third degree price discrimination is ambiguous in general. If group-pricing leads to opening up of markets that would otherwise not been served at all, then there is potential welfare improvement. For example, if discrimination is allowed, suppose the size of the high-value market is sufficiently large compared to lower-value market, the firm can set a higher price in the high-value market and lower price in the low-value market but when discrimination is not permitted the firm will choose to serve the market with high-value only. In such cases, price discrimination results in a Pareto improvement: the high-value market's price is unchanged while the low-value market too is served, thus increases the surplus of consumers in the weak market as well as the firm's profit.

3.4 *Price discrimination and competition*

Price discrimination can act to lessen competitive pressure in a market in many ways at the detriment consumers. As illustrated in (Armstrong, 2006) when a multi-product firm faces a single-product rival, it is likely that bundling can act to reduce the intensity of competition. For example, there are two firms (A and B) and two products (X and Y) in the market: firm 'A' produces both goods while Firm 'B' can only produce the second Product. Also, suppose, both firms offer same version of the second product. It is also assumed that firms' production costs are normalized to zero.

If consumers placed different values to both products, if firm 'A' the multi-product firm sets unbundled prices for its products and it will set the monopoly price which is equal to one in its "captive" market. All profits are competed away for the second product, and that product's price is zero. Therefore, in case of unbundled pricing Firm A will get a profit while firm B gets nothing. When firm A adopts to bundle its products together, prior to the firms choosing prices, firm 'A' set a price for its bundled product while firm B set a price for its product. As a

result, bundling helps to distinguish the two firms' offerings: firm 'A' has a better offer because of its additional product in the bundle. We also find that the profits of both firms are higher when compared to a situation where firm 'A' prices its products separately. Thus, the effect of bundling on a multi-product firm's incentive to be aggressive to single-product rival is found to be ambiguous and that without a detailed data on consumer preferences, it is somehow difficult for an anti-trust authority to predict a priori the impact of bundling on competition.

Another way in which price discrimination might relax competition is Price-matching contracts. This is a situation when a firm promises buyers to match a lesser price charge by a rival firm if they can search for such a price. This kind of contracts is considered as price discrimination implying that the price a consumer pays for a product differs to other firms' prices based on their knowledge of the market condition and their willingness to search and to provide evidence of a lower price. Supposing, consumers have a complete knowledge about all rivals' prices and there are no transaction costs involved in documenting the lower prices, there is a clear chance of collusion. That is, the incentive for one firm to undercut another is not there since the low-priced firm will not get greater market share and will only lower its prices and that of its rivals. In this kind of framework, the policy that prohibits such kind of discriminatory practice would help restore competition in the market to the benefit of consumers. However, in a situation where such efforts of searching for prices and providing of the price offers involve costs, then there is a tendency for emergence of more conventional price discrimination because of the categorization of buyers based on their value of time. In this case, the collusive impact of "competitor-based" discrimination is dulled and consumers might be better off sometimes with this type of price discrimination.

Another important way in which price discrimination might act to relax competition arises when it leads to negative network effects. This externality is apparent in the telecommunications market where customers subscribe to a particular network based on the destination network. This type of discrimination is present, if a subscriber on a particular network faces a different call charge when he calls another subscriber on the same network or to a subscriber on a rival network. For example, if a leading firm in the telecommunication industry makes it expensive to make calls to people on rival networks than on their own network. This would have negative consequences for customers as a result of consumption externalities as a number of other individuals using the compatible or similar product affects the utility derived from consumption of services in the network industry. For example, a subscriber prefers to subscribe or join a particular network that gives him much benefit in terms of much number of contacts on that network, in order to make a greater fraction of their calls at the low-priced rates. Therefore, market with this kind of network externality will not be competitive, since newcomers find it difficult to attract new subscribers even with more favourable offers. Therefore, this form of price discrimination can act to limit competitive pressures to the detriment of consumers.

3.5 Effects of price discrimination on entry

The fundamental concern of competition policy on price discrimination is its effects on entry, because entries can be regarded as an equilibrating force; ensuing in normal profits and allocative efficiency. The effect of price discrimination on the number firms in a monopolistic market is that, it can increase or decrease profits in a market with a given number of firms. When there is free entry into the market the equilibrium number of firms will be larger but with price discrimination falls as the competition becomes tense the stronger firms will drive out the weaker ones. It is clear that free entry will result in too many firms entering from a total welfare perspective. In those cases where price discrimination raises profits, the resulting greater entry will only exacerbate the welfare costs of excessive entry. On the other hand, when price discrimination destroys profits, the excess entry problem will be seized to exist.

Another controversial aspect of price discrimination is the possible impact on the incumbent's ability to undercut prices as a strategy to prevent potential firms from entry. There are various ways in which price discrimination by an incumbent firm affects the incentives to enter its markets. Consider a case when an incumbent firm (multi-market) facing potential entry into one of its markets, if the incumbent is allowed to set different prices in its two markets, then it is expected that it will react more aggressively to entry than when it is not permitted (same price is set in both the competitive and the captive market). In the former case, the post-entry profit of the entrant is likely to be lower than in the latter when it cannot price discriminate. The potential firm will enter only if its expected profit covers its entry costs. There are cases to consider here. If the cost of entry is large, there will be no entry whether the incumbent can undercut price or not. In this case, the social desirability of price discrimination is exactly as in the standard monopoly case, and this is ambiguous in general. Likewise, if the entry cost is very small, entry will take place in spite of policy towards price discrimination.

The interesting issue is when the entry is profitable but only if the incumbent cannot price discriminate, so that a policy prohibiting price discrimination can induce entry. In such cases policy disallowing price discrimination is reasonable as this will bring in the entrant and increase competition. Also disallowing an incumbent the right to meet the price of a rival on a basis of price discrimination provides some protection against price assault to the entrant. While, the effect of banning price discrimination tends to weaken competition if the competitor is already in the market, but when the case of incentives are considered then the effect might be pro-competitive. However, as per welfare effects of prohibiting price discrimination in this context are not clear.

4. Conclusion

Generally, from the economic perspective, there is no clear-cut evidence that price discrimination has a deleterious effect on social welfare. However, price discrimination may be seen as a precondition for efficient pricing and can lead to more intense competition that benefits consumers. Price discrimination can also lead firms to leave consumers with no or less surplus than they would enjoy in its absence. The possibility of an incumbent firm to engage in price discrimination will typically have a discouraging effect on entry. It requires detailed information to decide when price discrimination is likely to be welfare improving or decreasing. Clearly, there are many instances where such price discrimination harms welfare and consumers, but given the amount of information required to decide on this, and given that rule against excessive pricing remain present in some jurisdictions for use with particularly egregious cases, it seems reasonable to give firms the benefit of the doubt.

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