The “Veblen” Effect, Targeted Advertising and Consumer Welfare
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ABSTRACT

The technology of advertising in the twenty-first century allows for better targeting of consumers and better identification of consumer subgroups in the population. This makes it easier for firms to create in their advertising a desire to belong to the group identified with a product. We explore this kind of advertising in a monopoly model. The firm has an incentive to target this kind of advertising to the most lucrative segment of a particular social grouping and while advertising does create value for the consumer, it leads to an outcome where less output is sold at a higher price in a narrower or more segmented market than in the standard monopoly model. As a result even though consumers value the identification effect they are worse off. This is because the firm uses advertising to exploit a form of price discrimination and appropriate more surplus.

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1. Introduction

The “Veblen” effect, traditionally associated with “conspicuous consumption”, is in today’s parlance, associated with brand name products that are functionally equivalent to cheaper products but confer a social status valued by the consumer. However, unlike in Veblen’s era, this effect is no longer restricted to luxury goods. Hip people wear Brand X clothing, smart people buy that brand of appliance, and popular kids have that brand of toy. The social status or meaning system embedded in a brand name, such as in the Harley Davidson brand, is often the overarching goal of a firm’s advertising strategy. In recent years this goal has become more important as technological and social forces increase the value of brand identity and its power to the consumer.

This paper presents a simple monopoly model of advertising to create a Veblen effect; that is, advertising creates a desire for the consumer to belong to the reference group associated with the product. We show that a firm has an incentive to tailor its advertising messages to create a social identity for its product and to target its advertising at the most lucrative segment of a particular social grouping. This insight is consistent with what popular marketing gurus preach -“once you know who you are targeting, it is much easier to figure out which media you can use to reach them and what marketing messages will resonate with them.”

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2 http://www.marketingdonut.co.uk/, http://adage.com/blogs/
Our approach to advertising builds on the insights of identity economics in Akerlof and Kranton (2005) and Becker and Murphy (1993). It can be considered complementary to Wirgenfelt (1990), Clark and Horstman (2005) and Pastine and Pastine (2002, 2008) where advertising helps the consumer coordinate his or her consumption choices on the “popular” brand in a market of competing brands. Advertising can however create for the consumer a valued peer effect or group identification that is profitable for the firm even if there is no competition from a rival. If peers in the target group buy the advertised product, it reinforces the view to the consumer that this is the right choice for someone seeking to belong to that group.

We show that when advertising is designed to create this kind of “Veblen” effect, while it does create value for the consumer, it leads to an outcome where less output is sold at a higher price in a narrower or more segmented market than in the standard monopoly model. As a result, even though consumers value the identification effect, they are worse off. This is because the firm uses advertising to exploit a form of price discrimination and appropriate more surplus. The traditional monopolist has only price as a tool and hence, will maximize profit by serving more consumers at a lower price than the advertising monopolist who has both price and advertising tools.

2. A Monopoly Model of Identity and Peer Effect Advertising

The firm’s goal in advertising is to target a consumer group with messaging that creates a valued association to the brand and increases the willingness to pay. Suppose that a monopolist is selling a product of quality $V$ at constant marginal cost $c$, which we set equal to zero. Assume that there is a unit mass of consumers each of whom will buy at most one unit of the product. In the absence of advertising, the net surplus of the $i$th consumer is:
\[ U_i = \theta_i V - p \] if the good is purchased

\[ = 0 \] otherwise

where \( \theta_i \) is uniformly distributed over the interval \([0,1]\). The parameter \( \theta \) rank orders consumers by the intensity of their preference for the good, and could be related to income as well as other life style characteristics. The monopolist who does not advertise maximizes profit by choosing to serve the marginal consumer \( \hat{\theta}^M = \frac{1}{2} \), or a target consumer population of \( \frac{1}{2} \), at a price \( p^M = \frac{V}{2} \) and earns profit \( \pi^M = \frac{V}{4} \). Consumer surplus is \( CS = \frac{V}{8} \).

Advertising is a two-stage decision: in the first stage the firm decides how broad a segment of the consumer population to target with its campaign. The targeted segment is the focus of the campaign’s messaging that is launched in the second stage. The goal of the campaign is to create among the targeted consumers an identity and sense of belonging to a group of peer consumers. The peer group effect increases the value of buying the good. There is a trade-off in identifying the target market. Being “in” and a member of the group only works if some are “out”. Alternatively, the gains—in terms of increased willingness to pay—from buying the product and belonging to the group diminish as the group becomes less focused or a broader segment.

The choice of which segment of the \( \theta \) distribution to target in stage 1 depends on how the advertising messages resonate with the targeted group in stage 2. Denote the targeted group by \([1 - \hat{\theta}]\), where \( \hat{\theta} \) is the marginal consumer. In stage 2 the firm tries to create through its advertising a peer effect among the targeted consumers \([1 - \hat{\theta}]\) that increases each consumer’s willingness to pay by \( \alpha(\hat{\theta}) \). The peer effect or value of belonging to a group depends on how well defined, or in this context narrow, the group is. Accordingly, we assume that \( \alpha(\hat{\theta}) \) is a twice differentiable function and that \( \frac{\partial \alpha(\hat{\theta})}{\partial \hat{\theta}} > 0, \frac{\partial^2 \alpha(\hat{\theta})}{\partial \hat{\theta}^2} > 0 \), and \( \alpha(0) = 0 \).
These assumptions are consistent with the view that the broader or less focused is the targeted consumer population, the less strong is the peer effect that can be created by the advertising. Alternatively, the narrower is the target market, or the higher is \( \theta \), the stronger is the peer effect that can be created from advertising. Moreover, the assumption that \( \frac{\partial^2 \alpha(\theta)}{\partial \theta^2} > 0 \) implies that the marginal effect is increasing in the narrowness of the target market. This can be interpreted as the “keeping up with the Jones” dimension of identity and peer effects.

Advertising messages, the creativity of their message notwithstanding, are often ignored and do not resonate. There is some uncertainty about whether targeted consumers are in fact “reached” by a firm’s advertising messages. Denote by \( \varphi \) the extent to which a targeted consumer is “reached” and affected by the advertising and branding of the product. A firm is able to increase the likelihood that its campaign is effective by expending more resources, both on the quality and quantity of different messages. Denote by \( K(\varphi) \) the cost incurred by the firm to create with likelihood \( \varphi \) a peer effect in targeted group, and assume that \( K'(\varphi) > 0 \) and \( K''(\varphi) > 0 \). The benchmark or no advertising case is equivalent to setting \( \varphi = 0 \), and \( K(\varphi) = 0 \).

In stage 2 the firm designs and implements a campaign with likelihood \( \varphi > 0 \) that its advertising messages resonate with targeted consumers and creates a “Veblen” effect. The willingness to pay of consumer \( i \) is equal to \( \theta_i V + \varphi \alpha(\bar{\theta}) \), where \( \alpha(\bar{\theta}) \) is the value of the peer or Veblen effect created of belonging to the group and \( \theta_i \geq \bar{\theta} \). The profit-maximizing strategy is to sell the good at a price \( p^*(\varphi; \bar{\theta}) = \bar{\theta} V + \varphi \alpha(\bar{\theta}) \).

The firm chooses in stage 2 \( \varphi \) to maximize profit: \( \pi(\varphi; \bar{\theta}) = [v \bar{\theta} + \varphi \alpha(\bar{\theta}) - c][1 - \bar{\theta}] - K(\varphi) \), where \( c \), the unit cost of production is set \( c = 0 \). Suppose that \( K(\varphi) = \frac{1}{2} k \varphi^2 \). The
optimal advertising strategy is to \( \varphi^*(\hat{\theta}) = \frac{\alpha(\hat{\theta})(1 - \hat{\theta})}{k} > 0 \) for \( \hat{\theta} < 1 \). The optimal reach \( \varphi^* \) decreases as the cost of advertising or the parameter \( k \) increases. As the target audience becomes narrower, or as \( \hat{\theta} \) increases, the optimal reach \( \varphi^* \) increases for \( \alpha'(\hat{\theta})(1 - \hat{\theta}) > \alpha(\hat{\theta}) \).

Given our assumptions that \( \frac{\partial \alpha(\hat{\theta})}{\partial \hat{\theta}} > 0 \), \( \frac{\partial^2 \alpha(\hat{\theta})}{\partial \hat{\theta}^2} > 0 \), and \( \alpha(0) = 0 \) it is straightforward to show that the condition \( \alpha'(\hat{\theta})(1 - \hat{\theta}) > \alpha(\hat{\theta}) \) holds, and \( \frac{\partial \varphi^*(\hat{\theta})}{\partial \hat{\theta}} > 0 \). Firms choose a campaign with greater or more effective “reach” the more targeted or better defined is the intended consumer audience. The relationship \( \alpha'(\hat{\theta}^*) \frac{a(\hat{\theta}^*)}{(1 - \hat{\theta}^*)} \) implies that the marginal increase in the peer effect from an increase in \( \hat{\theta}^* \), (or a decrease in the target audience), is greater than the peer effect averaged over the target population. The optimal advertising strategy leads to a price: \( p^* = \hat{\theta}V + \frac{\alpha(\hat{\theta})^2(1 - \hat{\theta})}{k} \).

In Figure 1 we illustrate different demand functions that the firm faces for different choices of targeted groups \( (1 - \hat{\theta}) \) and the optimally chosen advertising strategies for that target. Observe that an increase in “reach” or \( \varphi \) is associated with higher \( \hat{\theta} \) and an increase in the elasticity of demand. This is true in Becker and Murphy (1993), but what is different here is that the greater elasticity of demand is associated here with less output being sold in a narrower market segment.
In stage 1 the firm chooses its target consumer segment, or equivalently $\hat{\theta}^*$ to maximize profit $\pi[\hat{\theta}, \varphi^*(\hat{\theta})] = \hat{\theta}V(1 - \hat{\theta}) + \frac{\alpha(\hat{\theta})^2(1-\hat{\theta})^2}{2k}$. The first and second order conditions for profit maximization are:

$$\pi_\theta = V(1 - 2\hat{\theta}^*) + \frac{\alpha(\hat{\theta}^*)(1-\hat{\theta}^*)}{k} [\alpha'(\hat{\theta}^*)(1 - \hat{\theta}^*) - \alpha(\hat{\theta}^*)].$$  \hspace{1cm} (2)$$

$$\pi_{\theta\theta} = -2V + \frac{[\alpha'(\hat{\theta}^*)(1-\hat{\theta}^*) - \alpha(\hat{\theta}^*)]^2}{k} + \frac{\alpha(\hat{\theta}^*)(1 - \hat{\theta}^*)[\alpha''(\hat{\theta}^*)(1 - \hat{\theta}^*) - 2\alpha'(\hat{\theta}^*)]}{k}.$$  \hspace{1cm} (3)
The second term in (2) is positive because $\alpha'(\theta^*) > \frac{\alpha(\theta^*)}{(1-\theta^*)}$ and so if the profit maximizing firm chooses to advertise, or if $\phi^*(\theta) > 0$, then it will choose a segment of the population to serve $[1 - \theta^*] < \frac{1}{2}$, and hence, restrict output or serve fewer consumers than the benchmark monopolist. It is straightforward to show as well that when $[1 - \theta^*] < \frac{1}{2}$ or $\theta^* > \frac{1}{2}$ the price set by the firm is greater than the simple monopoly price, i.e. when $\hat{\theta}^* > \frac{1}{2}$, $p^*(\hat{\theta}^*) = \hat{\theta}^*V + \phi^*(\hat{\theta}^*)\alpha(\hat{\theta}^*) > \frac{V}{2}$. And since when $\phi^*(\theta) > 0$ and advertising is profitable but costly, it follows that consumer expenditure, which in this case is equal to gross revenue, is greater than consumer expenditure under the benchmark monopoly case or $p^*(\theta^*)(1 - \theta^*) > \frac{V}{4}$.

It is also easy to show that despite the fact each consumer served derives increased utility from the identification and peer effects created through the firm’s advertising, total consumer surplus is lower. The impact of this kind of advertising is to serve fewer consumers at a higher price. This kind of advertising does not reduce consumer surplus because it “persuades” individuals to buy items they really do not need. Advertising of this type leads to lower consumer surplus because the firm is able to appropriate more of the consumer surplus created from advertising by serving fewer consumers at a higher price than it would if such advertising was not feasible.

3. **Conclusion**

Consumers often value brand names because the brand confers to the consumer a meaning and sense of belonging. We have shown in a simple monopoly model that advertising that creates this kind of brand identity can however leave consumers worse off. The “keeping up with the Jones” dimension of consumer aspirations and brand
building leads to both higher prices, less output, and lower consumer surplus. As the technology of advertising in the twenty-first century enables both explicit targeting and better identification of consumer subgroups, our result suggests that firms will increasingly use targeted advertising to appropriate more consumer surplus.

4. References


