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Temporary boycotts as self-fulfilling disruptions of markets

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Abstract

This paper demonstrates how equilibrium involving anticipated boycotts and actual boycotts can occur, even though consumers are negligible and only care about the price they pay and the timing of purchase. The model is a two-period durable goods monopoly game with demand uncertainty. First, a "non-boycott" equilibrium is characterized. Under regularity assumptions ruling out multiplicative uncertainty, there are additional equilibria in which the firm sets a low price in period 0, based on the anticipation that consumers will boycott whenever the price exceeds a threshold. Also, the augmented game, with a publicly observed sunspot, has equilibria in which boycotts occur on the equilibrium path with positive probability.

JEL classification: C73; D42; D83; L12

Keywords: Boycott; Sunspot; Monopoly; Demand uncertainty

1. Introduction

When each individual consumer has a negligible effect on the market, and derives utility only from his consumption bundle (of the good and money), it is usually assumed that collective action such as a consumer boycott cannot arise in equilibrium. If a consumer would purchase in the absence of a boycott, why would he forego the purchase to join a boycott? We show here that the expectation that all consumers will join a boycott can be self-fulfilling, without requiring a

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preference for punishing the firm, a preference for participating in a boycott or a fear of social pressure, bounded rationality, or other departures from the standard model of consumer behavior.

The setting is a two-period durable goods monopoly model with demand uncertainty. In the "non-boycott" equilibrium, the price in period 0, p_0^{NB} (NB for non-boycott) is such that consumers with sufficiently high valuations purchase, while consumers with lower valuations prefer to wait and hope for a lower price in period 1. The firm infers the state of demand based on period 0 sales, which affects the optimal price in period 1. A consumer with the cutoff valuation is indifferent between purchasing in period 0 and purchasing in period 1 at a price that will depend on the revealed state of demand. However, under certain regularity conditions, the subgame following the firm's choice of p_0^{NB} has another equilibrium in which no one purchases in period 0. If consumers boycott the product then the firm must set p_1 having learned nothing about demand, and it turns out that all consumers are better off delaying their purchase, making the boycott self-fulfilling. Central to the argument is the fact that a consumer receives private information about demand from the fact that he is in the market, and he receives additional information from his valuation.

Based on the result that the subgame following p_0^{NB} has a boycott equilibrium, a class of equilibria to the full game is characterized, in which an anticipated boycott induces the firm to set the period 0 price, p_0, less than p_0^{NB}. That is, consumers stand ready to boycott in period 0 if the price exceeds a threshold, and the firm is induced to acquiesce and choose p_0 equal to the threshold in order to avoid a boycott. Next, the game is augmented by a publicly observed sunspot variable after the firm sets p_0. If the boycott probability is small, then boycotts take place on the equilibrium path of the augmented game.

To be sure, many real world boycott movements result from objectionable behavior by firms or nations, and the theoretical literature exclusively considers this case. Baron (2001) and Baron and Diermeier (2007) model the interplay between a monopolist, who faces a cost of reducing its objectionable behavior, and an activist, who receives utility based on the firm's behavior and its own efforts in punishing the firm. The activist, being a large player, avoids the free rider problem faced by an individual consumer. Innes (2006) models an environmental activist who interacts with duopolistic polluters, and shows that boycotts can arise on the equilibrium path even with symmetric information. John and Klein (2003) study the purchase decisions of individual consumers who object to an "egregious act" on the part of the producer. Thus, consumers care directly about the firm's policy, but there is a free rider problem due to the absence of a large activist. Finally, Heijnen and van der Made (2012) consider a model in which some consumer types purchase less of the firm's product than they would under perfect information, in order to induce the firm to adopt a clean production process in the second period.

Not all real world boycotts involve egregious acts – sometimes consumers simply object to the high prices being charged. When the market for e-books was first taking off in 2007 and 2008, some Amazon Kindle e-book owners attempted to boycott e-books priced over $10, and Amazon decided to incentivize its authors to price at or below $10. This paper is not a model of the e-book industry, which is very complicated. However, some features of this industry are captured by the present model. This is a market in which there is significant uncertainty about optimal prices, both for e-books relative to print books during 2007 and 2008 and for new titles in general. Consumers are forward looking and decide on the timing of their purchase. It is difficult to see how social pressure can be applied to enforce a boycott, so the question of individual incentives emerges. An equilibrium of the model could involve the seller choosing an initial release price of $10, because it anticipates a boycott if it chooses a higher initial price. If the book turns out to be a best seller, the price is increased later.