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journal homepage: www.elsevier.com/locate/ijresmarPlayoff payoff: Super Bowl advertising for movies[☆]Jason Y.C. Ho^{a,*}, Tirtha Dhar^b, Charles B. Weinberg^b^a Simon Fraser University, 8888 University Drive, Burnaby, B.C., Canada V5A 1S6^b Sauder School of Business, University of British Columbia, 2053 Main Mall, Vancouver, B.C., Canada V6T 1Z2

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ABSTRACT

Marketers are increasingly making use of major TV events, such as the Super Bowl, to advertise their products. However, the economic value of such advertising is highly uncertain. Since an ad during the Super Bowl costs 2.5 times more per viewer reached than an ad during a network TV prime time show, developing methods for evaluating such advertising and for measuring its effects seems particularly important. Using the setting of the movie industry, this paper develops and estimates a model that includes both direct (on potential moviegoers) and indirect effects (on exhibitors) of regular and Super Bowl advertising. The model recognizes the endogeneity of advertising, and in particular develops a discrete choice model to control for the endogeneity of the Super Bowl advertising decision. The results indicate that Super Bowl advertising has a positive effect on box office revenues, but primarily through an indirect effect on exhibitors. In addition, regular TV advertising is more effective than Super Bowl advertising for initial advertising spending; a counterfactual analysis, by contrast, shows that for a movie already spending at our sample's average TV spending level of \$13 million, Super Bowl advertising has a greater effect on revenues than regular TV advertising.

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1. Introduction

Marketers, confronted on one hand by the increasing ability of consumers to avoid watching commercials aired during TV shows and on the other by the sheer clutter of TV advertising, have turned both to "stealth marketing," where their presence is largely hidden, and to major TV event advertising, where their presence is written bold. While an increasing number of papers look at the effects of stealth marketing (e.g., Russell, 2002; Mayzlin, 2006), little is known about major event advertising. Of all of the major TV events in the U.S., the annual broadcast of the Super Bowl (SB) is the most anticipated, discussed, and expensive. In this paper, our focus is on evaluating advertising during the Super Bowl, an iconic American event with more than 90 million viewers each year – the most viewed TV show in the US. The second most viewed show, the Academy Awards, attracts about half that number of viewers. To place a 30-second ad during the Super Bowl, marketers have to pay more than \$2.3 million. Despite such high cost, neither industry (*Advertising Age*, Jan 31, 2005) nor academia can provide much insight on the value of advertising during the Super Bowl in particular and major TV events in general.

A Super Bowl advertisement is not only the most expensive spot on TV in absolute terms, but is also 2.5 times more expensive per viewer reached than regular advertising. In 2004, a 30-second prime time network TV commercial cost approximately \$120,500, with a cost per thousand viewers (CPM) of \$19.85, compared to the estimated \$2.3 million cost of an advertisement during the 2004 Super Bowl, with a CPM of \$51.26. Given these cost economics, are there circumstances under which a Super Bowl advertisement is a better investment than an advertisement aired during a regular TV show?

To answer this question, we examine the market impact of Super Bowl advertising for movies. Using data on the U.S. movie industry from 2000 to 2002, we build a system of equations model to study the potential effects of Super Bowl advertising on both movie exhibitors and moviegoers. Our empirical results demonstrate that:

1. Super Bowl advertising for a movie influences the opening week box office revenues by indirectly attracting more movie exhibitors to show the movie, thus increasing product availability, which in turn increases initial box office revenues. Super Bowl advertising does not directly affect the moviegoers in the opening week (or in subsequent weeks).
2. Super Bowl advertising is not as effective as other TV advertising expenditures prior to the movie's release if both types of pre-launch TV advertising expenditures are evaluated at the same initial levels. On the other hand, given the presence of the well-documented diminishing returns to scale effect for advertising (see Vakratsas & Ambler (1999) for a review), we found that for a movie

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