DALAL STREET BLUES: THE SOCIO-ECONOMIC ENVIRONMENT AND THE DEMAND FOR BOLLYWOOD MOVIES

Anirban Mukherjee[1], Ping Xiao[2]

[1] Samuel Curtis Johnson Graduate School of Management, Cornell University,
Sage Hall, Ithaca, NY 14850, USA

[2] Melbourne Business School, University of Melbourne,
200 Leicester St, Carlton VIC 3053, Australia

Abstract

How far are we a product of our times—does what we watch vary with the macro environment? In this study, we investigate the influence of the socio-economic environment on movie demand in India. Through a detailed analysis of data describing revenues by movie theater, movie, and week, for all multiplex (multi-screen) movie theaters and all movies in India, we establish the influence of escapism (i.e., selective exposure to media to escape from reality) and positional consumption (i.e., consumption to obtain status) as key determinants of demand. Incorporating a rich set of attitudinal and economic measures, and accounting for variation in movie quality, market demand, and seasonality, we find that hard economic times increase the demand for more escapist movies. Conversely, during such times, demand decreases in theatrical locations where attendance is scarcer and hence more positional. Generalizing the results, our data suggest that the election of Narendra Modi in 2014, which ushered in a wave of economic optimism, decreased the demand for more escapist movies.

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Keywords: Escapism, Positional consumption, Economic environment, Bollywood movie industry

Bollywood (a portmanteau of Bombay and Hollywood), the Hindi film industry in India, is well known for its unique brand of "musicals" tailor-made to "provide three to four hours of escapism from the real world and take the audience to a world where good triumphs over evil, where love overwhelms hatred, and where people dance and sing in the midst of the pain and sorrows of life" (emphasis added, Niroula 2012). The immense and sustained popularity of Bollywood is often attributed to a need for emotionally escaping from economic hardships. As Manmohan Desai, a famous Indian film director often credited with inventing the Bollywood masala film, said: "I want people to forget their misery. I want to take them into a dream world where there is no poverty, where there are no beggars, where fate is kind, and god is busy looking after his flock" (quoted in Gill 1983).

A decade prior, watching movies in a multiplex in India also had a status motive. The modern multiplex (multi-screen) theater arrived late in India: the first multiplex theater in the country was opened in 1997. Across India, multiplex theatres have significantly better exhibition halls than older single-screen movie theaters, and thus a "capacity to endow members of their audience with enhanced social status due to their association with luxury and upper-class affluence" (quote from p. 161, Athique and Hill 2009; Chary 2009). Bollywood movies had always been an essential part of the social conversation in India. Multiplex theaters represented a new modern aesthetic, via a broader aspiration for globalization and modernity.

As Athique and Hill (2007) write: "[s]ince its inception a decade ago, the multiplex cinema in the subcontinent has become an intrinsic component of a new leisure infrastructure configured around the notion of a 'consuming class' keen to take its place amongst a 'global middle class" (p. 108). Ganti (2012) summarizes: "[w]hile the multiplex in the United States is synonymous with mainstream blockbuster cinema, aggressively oriented towards broad

audiences and mass appeal, in India the multiplex signifies exactly the opposite. In India … the multiplex is associated with … *social exclusivity*" (emphasis added, p. 25). Consequently, Govil (2015) writes: "[t]he multiplex theatre has become both a monument and a portal to the world of *conspicuous consumption* in late modern India" (emphasis added, p. 116).

The status motive relates to the theory of positional consumption. Veblen (1899) coined the phrase "conspicuous consumption," and its derivative "conspicuous leisure," to describe the overt displays of consumption (of leisure) that were common in his age as arising from a motivation to acquire social status. Underlying Veblen's pre-theoretic ideas was the need to signal economic resources. Bagwell and Bernheim (1996) formalized Veblen's intuition and characterized the conditions when "Veblen effects, the willingness to pay a higher price for a functionally identical good, arise from a desire to signal wealth" (p. 350).

Building on Veblen's ideas, Hirsch coined the term "positional" to describe the status-motive of potentially less ostentatious (less "conspicuous") consumption. Specifically, Hirsch theorized that the consumption of relatively scarce, socially desirable products may provide status. Hirsch termed the relative scarcity of a socially desirable product, "social scarcity," and suggested that from a status-motive perspective, social scarcities, unlike physical scarcities, are themselves "objects of consumption" (p. 19, Hirsch 1976). Positionality derives from both social desirability and relative scarcity. Demand at theatrical locations in which multiplex presence is relatively scarce is likely to be more positional, while demand at theatrical locations in which multiplex presence is relatively common is likely to be less positional.

Despite the theoretical richness and substantial anecdotal evidence, little has been formally established about the prevalence of escapism and positional consumption. This is

likely in part due to most prior studies relying upon self-reports and/or observational fieldwork, where observation is salient to the participants. As escapism and positional consumption relate to individuals' self-concept, the evidence and inferences from such studies is often tainted by the Hawthorne effect, i.e., "influenced by efforts to present oneself in a favorable light to interviewers and the self" (p. 8, Knobloch-Westerwick 2014; Ivanic and Nunes 2009).

Moreover, escapism and positional consumption speak to an individual's life circumstances, which are less amenable to manipulation in a laboratory than related theories (for example, mood management) that focus on situational factors as causative agents (see Estelami, Lehmann, and Holden 2001, for a similar argument in the context of price knowledge). Likely due to these challenges, Henning and Vorderer (2001) assess the extant evidence on escapism as "inconsistent and weak" (p. 102).

Prevalent evidence on conspicuous and positional consumption also almost entirely derives from material rather than experiential purchases[1], the canonical laboratory example being luxury handbags, perhaps due to an implicit underlying assumption that "experiences may ... be relatively poor choices for those hoping to convey wealth and status" (p. 1314, Carter and Gilovich 2012). This presumption, however, contrasts with both the omnipresence of status-tiered services geared to provide life experiences (for example, different classes of travel in airlines, cruises, and trains) and with the extravagant display of leisure activities that inspired Veblen, many of whose modern analogues (e.g., a theatre performance) are best characterized as experiential (van Boven and Gilovich 2003).

[1] P. 1305, Carter and Gilovich (2012) provide the following classification: "Material purchases are made with the intention of ownership and possession. They are typically physical objects, such as cars, clothing, jewelry, and various types of electronic gadgets, which endure in one's possession for an extended period of time. Experiential purchases, in contrast, are made with the intention of gaining some experience. They are intangible and impermanent, in the way of vacations, meals at restaurants, and music and theatre performances, and they endure primarily in memory."

Theory suggests a link between escapism and positional consumption, and the state of the economic environment—in prosperous times, consumers have a lesser need for escapism and a greater need for positional consumption, and in hard times, consumers have a greater need for escapism and a lesser need for positional consumption. For example, Euromonitor, a leading marketing intelligence firm, speculate about an increased need for escapism and a consequent increase in the sales of affordable "products and media that promise escapism" in a recent recession[2].

Some evidentiary support can be found in developed markets. Dhar and Weinberg (2015), in a study discussing the "measurement of interactions in non-linear marketing models", study theatrical attendance in the U.S. motion picture industry. They find consumer sentiment has a negative effect on movie attendance, and observe that their findings may be due to an increase in the demand for "escapist" movies in hard times (p. 6). Further, Kamakura and Du (2012) find evidence of consumers directing their spending in recessions towards categories that are lower in positionality from categories that are higher in positionality. They "… postulate that people care about their relative position in a society when it comes to expenditures in certain categories. In a recession, their desire to spend in … 'positional' categories will decrease, because there is no longer a need to spend as much to maintain the same social standing when others have reduced their expenditures." Dekimpe, Peers, and van Heerde (2016), in a study exploring the impact of economic conditions on the demand for international tourism, find evidence of an improvement of the economy leading to an increase in the demand for international tourism, in part, due to a need to signal "social standing" through the high "socio-cultural visibility" of international tourism (p. 25).

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[2] Let The Good Times Roll: How Global Consumers are Using Leisure and Escapism to Cope with Recession. Available at: http://www.euromonitor.com/let-the-good-times-roll-how-global-consumers-are-using-leisure-and-escapism-to-cope-with-recession/report.

Other evidence is found in the pop cultural vernacular. In 1952, Ian Fleming in Casino Royale, introduced an economically-ravaged post-war Britain to James Bond. Cookson (2015) writes: "[g]eopolitical danger in a foreign land, solace sought in a tropical paradise—it all too perfectly captures the anxieties and escapism that underwrite Fleming's entire [James Bond] series." And in a different example, consider the rise of the screwball comedy (a romantic comedy, characterized by a battle of the sexes) in the depression era. Mortimer (2010) writes: "[s]crewball comedy offered energy, fun, and playfulness, a world where chaos reigned supreme and resulted in happiness and hope for its hero and heroine. This was clearly in strong contrast to the harsh realities of life in mid-1930s America, offering an exhilarating sense of escapism and, ultimately, optimism, as the audiences remain comfortable in the knowledge that out of the chaos there will be a happy ending."

A common theme, however, is the over-reliance on evidence from Europe and the United States, and thus a Western cultural and economic context. This disregard of countries and cultures, while not uncommon (Steenkamp 2005; Burgess and Steenkamp 2006), is unfortunate, not only because of the growing economic importance of the emerging markets, but also because of their potential for international expansion and influence (for example, consider the global popularity of Psi's Gangnam Style). Further, much of Hollywood's recent growth has come from Asia and other emerging markets (Brzeski 2016). Therefore, insights on region-specific differences in entertainment needs are likely to be critical for the strategic global expansion of Hollywood. As such, the prior evidence is suggestive of cross-country and cross-cultural differences in both escapism and positional consumption, the focal constructs examined in our study (Schütte and Yoo 1997; Chen, Gau, and Wu 2014). In sum, it remains an open questions as to the extent to which Bollywood movie demand can be systematically and predictably linked to the socio-economic environment.

Our empirical setting is a carefully assembled, longitudinal data set of weekly revenues by movie and multiplex theatre, for all movies and multiplex theatres in India. Specifically, we measure changes in movie demand with changes in the following: (1) the consumer sentiment, (2) the return of the stock market, (3) the return of gold, and (4) the outcome of the 2014 Indian General Elections. Crucially, the data is sufficiently rich to control for several factors that may otherwise confound measurement, including product (movie) quality heterogeneity, market heterogeneity, seasonality, and simultaneity bias.

THEORETICAL BACKGROUND

Our paper builds upon the literature on escapism as it relates to the mass communication literature. For example, Greenberg and Wood (1999) review the literature on escapism through television soap operas; Raney, Smith, and Baker (2006) discuss escapism through video games, and Addis and Holbrook (2010) examine escapism through movies. The theory of escapism is related to the theory of mood management, which posits that individuals make entertainment choices "to diminish or terminate negative moods and to extend and enhance good moods" (p. 352, Knobloch and Zillmann 2002). However, while mood management theory focuses on situational factors, escapism focuses on life circumstances, as a determinant of selective exposure (p. 239-240, Knobloch-Westerwick 2014). Thus, for example, Addis and Holbrook (2010) operationalize escapism as an "eagerness to escape everyday reality" in their study of the psychological determinants of movie evaluations.

Escapism, in a broader sense than as conceptualized in the mass communication literature, is a vital component of the consumer behavior literature on experiential consumption. In a seminal article, Holbrook and Hirschman (1982) introduced the paradigm

of experiential consumption by suggesting that consumption may be "seen as involving a steady flow of fantasies, feelings, and fun" (p. 132). Holbrook and Hirschman (1982) suggested that differences in a need for "experiential consumption" may stem from differences in the "desire to escape reality" (p. 136). Subsequent research on experiential consumption has expanded on this viewpoint. For example, Hirschman (1983) measures escapist activities as those undertaken by individuals "to escape unpleasant realities and to distract themselves from unhappy events" and relates the need for escapism to a person's socio-economic circumstances; Babin, Darden, and Griffin (1994) suggest that escapism is a fundamental aspect of the hedonic value of a shopping experience (p. 646); and Pine and Gilmore (2011), in a recent influential book titled "The Experience Economy", argue that escapism is one of the four fundamental realms of a consumer's experience.

Our paper also builds on the literature on positional consumption. In an earlier section, we discussed the seminal contributions of Veblen and Hirsch. Since the publication of Hirsch's book, several theorists in economics and marketing have extended Veblen's and Hirsch's ideas to study the antecedents and consequences of social class. For example, a recent book by Piketty (2014), "Capital in the Twenty-First Century", despite its disturbing dystopic predictions, has deeply influenced the current political dialectic. And in the marketing literature, Ordabayeva and Chandon (2011) examine the link between income inequality and conspicuous consumption.

A wider body of work in sociology, psychology, and marketing has focused on the relation of a product with the social fabric in which it is embedded. For example, Belk (1988)'s seminal notion of the extended self includes positional possessions that help define an individual's connection with society as a part of the self; a notion that was recently revisited in light of the emergence of the digital world (Belk, 2013). In a similar vein, in two

seminal papers, Richins (1994a) proposes that possessions "serve to signal the owner's values to others" (p. 522) while Richins (1994b) argues that the value of a product resides in its public and its private meaning. Building on these papers, a stream of the literature has looked at the role of product characteristics (and particularly the role of brands) as signals of status. For example, in recent developments, Han, Nunes, and Drèze (2010) and Berger and Ward (2010) examine "signal subtlety" (or alternatively "brand prominence") on conspicuous consumption; Dubois, Rucker, and Galinsky (2012) find that consumers' preference for supersized food and drinks may have roots in status-signaling; and Bellezza, Gino, and Keinan (2014) find that signals of nonconformity may act as a form of conspicuous consumption.

In the empirical literature, a challenge is the identification of positional consumption. For example, Kamakura and Du (2012) use the findings of two prior papers to synthesize a category-based typology: Du and Kamakura (2008), who conduct a comprehensive cross-category analysis of household expenditures, and Heffetz (2011) who describes a national survey of households, which allows for an examination of the "signaling-by-consuming motive" in determining Engel curves (p. 1102). Pertinent to our paper, Kamakura and Du (2012) characterize leisure spending (for example, airfare and recreation) as being high in positionality (see Table 1, p.233).

We add to the growing literature on the role of the socio-economic environment as a driver of media consumption (Deleersnyder and Dekimpe 2016 for a recent review). For example, Deleersnyder, Dekimpe, Sarvary, and Parker (2004) investigate how the sales of consumer durables vary with the business cycle; Lamey, Deleersnyder, Dekimpe, and Steenkamp (2007) study private label adoption in recessions; Millet, Lamey, and Bergh (2012) find consumers differ in their use of approach or avoidance motivations across

different economic climes; Kamakura and Du (2012) show that consumer preferences and category budget allocations are affected by the state of the economy; van Heerde et al. (2013) investigate the cyclicality of price and advertising elasticities, while Gordon, Goldfarb and Li (2013) investigate the cyclicality of price elasticity; and Cha, Chintagunta, and Dhar (2016) study the impact of a recession on household purchases. Further, we answer prior calls for the use of disaggregate data to achieve a more fine-grained understanding of product- and market-heterogeneity (p. 191, van Heerde, Gijsenberg, Dekimpe, and Steenkamp 2013).

Finally, our study builds on research on the motion picture industry. For example, Neelamegham and Chintagunta (1999) and Elberse and Eliashberg (2003) study the diffusion of international box office receipts; Lehmann and Weinberg (2000) examine release timing in movie distribution; Chintagunta, Gopinath, and Venkataraman (2010) measure the impact of user ratings on box-office revenues; and Orhun, Venkataraman, and Chintagunta (2015) investigate the strategic decisions of exhibitors (see Kumb, Kunz, and Seigart 2016, for a recent review). Despite a very rich literature in media (film) studies and southeast Asian studies that both critiques Bollywood movies and uses Bollywood movies as a lens to understand and interpret the broader socio-political landscape in India, very limited attention has been paid to empirically analyzing the demand for Bollywood movies. Therefore, our paper also relates to the nascent marketing literature on the Bollywood movie industry (Rao and Hartmann 2015; Niraj and Singh 2015).

INSTITUTIONAL BACKGROUND AND DATA

The Indian film industry began with Raja Harishchandra in 1913, a silent feature film based on a parable in Hindu mythology. In 1931, the first talkie (film with sound), Alam Ara was released. Despite the nomenclature, the most important advantage of a talkie over a silent

film in India, was the incorporation of music and dance rather than the addition of spoken dialogue (Goddard 2003). N. R. Desai, a film distributor in the 1930s, remarked: "[w]ith the coming of the talkies, the Indian motion picture came into its own as a definite and distinctive piece of creation. This was achieved by music … it gives us musical entertainment, which even the best of Hollywood pictures cannot" (as quoted in p.10, Ganti 2012). In fact, such was the immediate appeal of music and dance that Indra Sabha, a 1932 talkie, had 72 songs! Due to the immense popularity of the talkies, even pre-independence (as a British colony), the Indian film industry was the world's third largest producer of movies (p. 23, Ganti 2012).

However, despite its long-standing social and economic prominence, empirical research on the Indian film industry has been scant, primarily due to the lack of reliable data. Prior to multiplex exhibition, the film distribution was organized around the sale of exhibition rights by (geographic) territory, from film producers to film distributors to movie exhibitors. Such contracts may be viewed as economically efficient for the industry, albeit not for the state, given the high entertainment taxes levied on movie exhibition and the reported high rate of tax avoidance in India. However, multiplex exhibition, being capital intensive, required corporatization. As major multiplex exhibitors are publicly listed, with publicly published financial information increasing the need for transparency and accountability, the industry evolved to the use of revenue sharing arrangements. While sanguine in the beginning, disputes soon emerged, culminating in a 2009 boycott by several movie producers of multiplex theatres. In 2011, in its first ruling, the Competition Commission of India (CCI) found in favor of the multiplex operators (under the banner of the Multiplex Association of India) and fined 27 movie producers for cartelization.

Fortunately, for the cause of our research, such legal and financial concerns led to the collation and release of point-of-sales data. Thus, we are able to collect a novel dataset, from

the archives of a prominent trade magazine, describing pan-India point-of-sales multiplex theatrical revenues in India. The data includes the weekly revenue of each movie in each multiplex theatre between September 2011 and August 2014. The sample consists of 91,326 movie-theatre-week observations, spanning 348 movies, across 382 multiplex theatres, over 153 weeks. Figure 1 describes the geographical scope of our data.

--- INSERT FIGURE 1 ABOUT HERE ---

In addition to the theatrical attendance data, we obtain information on consumer attitudes towards the economy. ZyFin Research constructs the Consumer Outlook Index for major Indian cities from a monthly survey of 3,000 representative consumers. The Consumer Outlook Index is an analogue of the Index of Consumer Sentiment (henceforth ICS) from the University of Michigan—Survey of Consumers. It measures the consumer sentiment in urban India based on their outlook towards employment, inflation and spending. The index is centered at 50, with a higher value of the index indicating that consumers are optimistic about the economy, and a lower value of the index indicating that consumers are pessimistic about the economy. We obtain data for the seven largest cities (Ahmedabad, Bangalore, Chennai, New Delhi, Hyderabad, Kolkata, and Mumbai) in India that jointly account for more than half of the urban population (those living in cities with more than 1 million people)[3]. Then to each theatre and each period, we assign the consumer sentiment index in the closest city (by geographical distance), in the corresponding period.

Finally, we add two measures to the dataset, which we motivate in the next section. First, we measure the weekly return of the Indian stock market. We operationalize this

[3] A city-wise population breakdown, from the 2011 census, is available at: http://censusindia.gov.in/2011-prov-results/paper2/data_files/India2/1.%20Data%20Highlight.pdf

variable via the most widely reported measure of the Indian stock market, the S&P BSE SENSEX[4]:

$$\Delta\ \text{Stock}_w = \left(\text{SENSEX}_w / \text{SENSEX}_{w-1}\right) - 1,$$

where SENSEX_w is the average closing value of the S&P BSE SENSEX across all trading days in week w.[5] Second, we measure the weekly return of gold at week w:

$$\Delta\ \text{Gold}_w = \left(\text{Price of gold}_w /\ \text{Price of gold}_{w-1}\right) - 1,$$

where Price of gold_w is the average daily price of gold in India (in Indian rupees) in week w.[6] Table 1A summarizes the descriptive statistics of the dataset, and Table 1B describes the correlation matrix of independent variables.

--- INSERT TABLES 1A AND 1B ABOUT HERE ---

CONCEPTUAL FRAMEWORK

We use the following measures and models in our study. First, we use consumer sentiment as a summary measure of consumer attitudes towards the economic environment. Second, we add two moderators derived of the density (and hence relative scarcity) of theatrical locations, and the content of each movie, to identify the roles of positional consumption and escapism on the response of movie demand to the economic environment. Third, we evaluate

[4] The S&P BSE SENSEX is a free-float market-weighted stock market index of 30 well-established and financially sound companies listed on Bombay Stock Exchange, which are chosen to be representative of the various industrial sectors of the Indian economy.

[5] The daily S&P BSE SENSEX data is from www.nseindia.com.

[6] The daily price of gold is from www.goldpriceindia.com.

if consumers respond to concurrent changes in the economic environment. We focus on changes in expectations of future economic circumstances (the return of the stock market), and changes in household wealth (the return of gold). Last, we consider the impact of the 2014 Indian General Elections on movie demand. In the remainder of this section, we describe the conceptual rationale for each measure, and the corresponding empirical models used to examine the effect of the measures on movie demand.

Consumer sentiment

The consumer sentiment[7] is a well-known summary measure of consumer attitudes towards the business climate that has been used often in the prior literature to assess the optimism/pessimism of consumers (for example, see Kamakura and Gessner 1986). Indeed, due to its conceptual appeal, several recent papers studying the impact of the economic environment on consumers have used consumer sentiment as a focal construct. For example, Hunneman, Verhoef, and Sloot (2015) study the role of consumer confidence in "store satisfaction and share of wallet formation". They argue that the use of consumer confidence is more appropriate than metrics such as changes in the GDP as the consumer confidence captures "consumers' subjective evaluations of their household's finances and their expectations about the economic climate" (p. 517). And Dhar and Weinberg (2015) argue for the use of the consumer sentiment to capture consumer attitudes towards the economic environment, given the "predictive power of ICS as a proxy for the economic environment" in their application of the proposed non-linear marketing models (see p. 7).

[7] As is common in the extant literature, we treat the terms "consumer sentiment" and "consumer confidence" interchangeably as they derive from two competing, but otherwise similar indices. Specifically, in the United States, "consumer confidence" refers to the Consumer Confidence Index (CCI) produced by the Conference Board, while "consumer sentiment" refers to the Index of Consumer Sentiment (ICS), produced by the University of Michigan—Survey of Consumers.

As the consumer sentiment is a direct measure of consumer attitudes, following Dhar and Weinberg (2015), we begin by estimating a model that considers the effect of consumer sentiment on movie demand:

$$\log(\text{Revenue}_{fmw}) = \alpha_f + \alpha_m + \alpha_s + \alpha_y + \alpha_{WSR} \cdot (\text{Weeks since release})_{fw} + \beta_1 \cdot (\text{Consumer sentiment})_{mw} + \varepsilon_{fmw},$$

where,

Revenue_{fmw}	= movie *f*'s revenue in multiplex-theatre *m* at week *w*,
α_f	= film-specific fixed effect to control for differences in product (movie) quality,
α_m	= multiplex-specific fixed effect to control for differences in movie demand across markets,
α_s	= fixed effect for each week in a calendar year, to control for the seasonality of movie demand[8],
α_y	= year-specific fixed effect to control for differences in movie demand across years,
α_{WSR}	= rate of revenue decrease post-release,
$(\text{Weeks since release})_{fw}$	= *w* – (week in which movie *f* was released),
β_1	= effect of consumer sentiment on movie demand, and
$(\text{Consumer sentiment})_{mw}$	= consumer sentiment in multiplex *m* at week *w*.

As the distribution of movie revenues is right-skewed, we log-transform the dependent measure. To account for the natural decline in demand with the length of time a movie plays in the movie theaters, we control for the number of weeks since theatrical release. β_1 is the focal coefficient of interest, as it measures the impact of consumer sentiment on movie demand.

Relative scarcity of multiplex attendance, and movie content

[8] Our results are substantively similar across the use of month- and week-specific (seasonality) fixed effects.

To help identify the role of positional consumption, we focus on differences in scarcity of multiplex theatre attendance (across multiplex theatres) and content (across movies). The density of multiplex theaters in India varies considerably across cities (Athique and Hill 2009). The development of a new multiplex theater in India is a long and tedious undertaking that depends on a complex confluence of legal and economic forces, and, perhaps to a unique degree, on local political patronage (Hill and Athique, 2013). As a consequence, there is a large variance in the configuration of multiplex theaters across India, with deep roots in both the city infrastructure and in the political machinations surrounding its evolution. The variance in multiplex density implies a variance in the social scarcity, and hence that in the positionality, of movie attendance (Gierl and Huettl, 2010): in neighborhoods with fewer multiplex theatres, multiplex attendance is more positional, while in neighborhoods with more theatres, multiplex attendance is less positional.

We follow Davis (2006) in measuring the number of multiplex theaters within a given geographic distance of a focal theater (# Theatres$_{mw}$). Davis (2006), in an American suburban context, considers three distance-rings of 5, 10 and 15 miles, and finds that movie theatres within a 5-mile radius have the dominant effect on the choices of consumers than those outside the 5-mile radius but within a 10 mile-radius. In the Indian context, we translate Davis' distance-rings to rings of 10 km (approximately 6.26 miles) and 15 km (approximately 9.32 miles). We use the measure derived from a 10-km radius in our primary analysis, and in a later section examine the robustness of our findings if using the measure derived from a 15-km radius. Substantively and statistically, both measures yield nearly identical results. We log-transform the count of neighboring theatres to account for its skewness. To facilitate interpretation, we normalize the log-count by subtracting its median. Thus, the intercept in

equation (4) below corresponds to the median theater by theatrical density (i.e., a theater with 5 neighbors in a 10-km radius).

To identify escapism, we focus on differences in movie content. The escapist masala film of Manmohan Desai in the seventies has over the decades been reformulated into two modern recipes — the action movie and the romantic comedy. The most recent avatar of the Bollywood action movie can be seen in Dabangg (Fearless), a movie released in 2010. Dabangg changed the structure and tenor of action movies in Bollywood. Shandilya writes: "Dabangg epitomizes a new genre of the action film, namely the action film as the masti (playful/naughty) film, which uses the carnivalesque to destabilize the generic conventions of the action film" (Shandilya, 2014). Describing the introductory scene of Dabangg, she writes:

> "… sequence sets up recognizable tropes from the genre of the action film – the hypermasculine action hero confronting mobsters, an enlarged phallic signifier with which he bullies the enemy into submission, and action choreography recognizable from iconic action films – only to subvert them by pronouncing them as *parody* and *farce*; the neon lights announce Khan as such, signaling to the viewer that she is entering a discursive space where *normality will be suspended*" (emphasis added, Shandilya, 2014).

The escapist action parody of Dabangg is mirrored in the modern Bollywood romantic comedy. For example, consider Chennai Express, the highest grossing film in our dataset. The following are the opening sentences of the film's review by two prominent movie critics: "[t]his Bollywood farce, dressed in the colourful costumes of a romantic adventure with music, is an oversize comedy and a couple of hours (plus intermission) of sheer escapism," (Urban 2013); "Shah Rukh Khan's escapist Eid holiday picture 'Chennai Express' has taken off like a runaway train …" (Frater 2013). Therefore, to identify movies

that are likely to be more escapist, we do the following. We look up each movie in our dataset on the Internet Movie Database (IMDb), a comprehensive repository of movie information that has been widely used in prior research on the movie industry (c. f. Orhun, Venkataraman, and Chintagunta 2016). We code a dummy variable (ACR_f) indicating if a movie fits the action, comedy, or romance genres as designated by IMDb editors.

To examine the moderating effects of theatre density and movie content, we substitute the following expansion in the baseline model described in equation :

$$\beta_1 = \beta_{med} + \beta_P \cdot \log(\#\ \text{Theatres}_{mw}) + \beta_E \cdot \text{ACR}_f,$$

where

β_{med}	= effect of consumer sentiment on the demand for movies at the median theater (by number of neighboring theatres),
β_P	= moderating effect of the number of neighboring theatres, corresponding to a reduction in positionality with reducing scarcity,
$(\#\ \text{Theatres})_{mw}$	= number of neighboring multiplex theatres within a 10-km radius of multiplex theatre *m* at week *w*,
β_E	= moderating effect of ACR_f corresponding to the movies likely being more escapist, and
ACR_f	= dummy variable indicating if movie *f* fits the action, comedy, or romance genres.

<u>Stock market, gold, the Indian General Elections</u>

We extend the empirical specification in the following ways. First, we investigate the weekly return of the Indian stock market ($\Delta_{\%}\ \text{Stock}_w$). The efficient market hypothesis suggests that in a period, the price of a liquid, freely-traded asset reflects all information pertinent to its pricing. Hence, the market returns in a period (the percentage change in an index representing a class of assets) is a summary measure of the unanticipated events in a period as they speak to the economic future (Mizik and Jacobson 2003, for a discussion on the efficient market hypothesis and stock market returns in the context of marketing variables

and economic conditions). Thus, an increase in the stock market, and hence a positive stock market return, is a signal of the events of the week being favorable for the economic future. A positive stock market return, implies an improved outlook for the future, and hence a lower demand for more escapist movies.

Second, we consider the weekly return of gold. Household wealth in India is concentrated in physical assets, with less than 2% of Indian households exposed to the financial markets (Bhowmick 2013). Within physical assets, gold has a special symbolic and financial prominence in India: India is the second-largest consumer of gold in the world[9], and gold is the largest liquid asset of Indian households. Hence, we use the weekly return of gold ($\Delta_{\%}\,\text{Gold}_{w}$) as a measure of the weekly change in household wealth. An increase in asset prices, increases household wealth, and thus increases positional consumption (in order for consumers to "keep up with the Joneses") (Kamakura and Du 2012). Thus, to the extent that demand is positional, an increase in the price of gold will increase the demand for movies in areas where multiplex theatres are relatively scarce (and hence where multiplex attendance is more positional).

Third, we investigate the impact of the 2014 Indian general elections. The Indian general elections are held every four years in India to constitute the Lok Sabha by electing members of parliament for all parliamentary constituencies of India, which in turn elects the Prime Minister of India. The 2014 Indian general elections were characterized by the clear mandate given to The National Democratic Alliance led by Narendra Modi (who won 336 of 543 seats). The prominent economist Terence James O'Neill, who coined the acronym BRIC, called the 2014 elections "the most positive development in India in 30 years" (Goyal 2014).

[9] http://www.statista.com/statistics/299638/gold-consumer-demand-by-top-consuming-country/.

Conceptually, the event study examines the extent to which our findings relating to escapism and positional consumption generalize to events that do not have a direct and immediate bearing on life's circumstances, and do not necessarily change concurrent economic conditions, but impact expectations of long-term economic growth and prosperity. Hence, we estimate a model where we consider the impact of the consumer sentiment, the stock market return, gold return, and the election, above and beyond the impact of consumer sentiment:

$$\begin{aligned}\log(\text{Revenue}_{fmw}) = {} & \alpha_f + \alpha_m + \alpha_s + \alpha_y + \alpha_{WSR} \cdot (\text{Weeks since release})_{fmw} \\ & + \beta_1 \cdot (\text{Consumer sentiment})_{mw} \\ & + \beta_2 \cdot (\Delta_{\%}\ \text{Stock})_w \\ & + \beta_3 \cdot (\Delta_{\%}\ \text{Gold})_w \\ & + \beta_4 \cdot \text{Election}_w + \varepsilon_{fmw},\end{aligned}$$

where

β_1	= effect of consumer sentiment on the demand for movies, modeled as in ,
$(\text{Consumer sentiment})_{mw}$	= consumer sentiment in multiplex *m* at week *w*.
β_2	= effect of stock return on the demand for movies, modeled as in ,
$(\Delta_{\%}\ \text{Stock})_w$	= stock return at week *w*,
β_3	= effect of gold return on the demand for movies, modeled as in ,
$(\Delta_{\%}\ \text{Gold})_w$	= gold return at week *w*.
β_4	= effect of election event on the demand for movies at the median theater (by number of neighboring theatres), modeled as in ,
Election_w	= election dummy, 1 if week *w* is after May 14, 2014.

RESULTS

Consumer sentiment

Column 1 in Table 2 reports our findings from the model in equation (3) without the interaction terms. The coefficient on consumer sentiment is negative and significant indicating that higher consumer sentiment lowers the demand for Bollywood movies. The

second column in Table 2 reports our findings for the model in equation (3) that includes the interaction terms. The coefficient on consumer sentiment corresponds to the impact of consumer sentiment on a movie that is not action, comedy, or romance, playing in a median multiplex theater (by number of neighboring theatres). The positive and significant coefficient on consumer sentiment indicates that demand rises with increasing consumer sentiment. This may be either due to the positive effect of positional consumption (for the median theater) being greater in magnitude than the negative effect of escapism, or due to consumers allocating more money to entertainment. Furthermore the effect of consumer sentiment is moderated by both ACR and log(# Theatres). The interaction of consumer sentiment and ACR is negative and significant, as suggested by escapism, indicating lower consumer sentiment increases demand for more escapist action-comedy-romance movies. The negative and significant interaction of consumer sentiment and log(# Theatres) shows that low consumer sentiment decrease demand in locations where multiplex attendance is scarcer, and hence more positional.

--- INSERT TABLE 2 ABOUT HERE ---

Stock return, Gold return and the Indian General Elections

Table 3 reports our findings for model in equation (5). As most households in India do not have significant financial assets, the return of stock ($\Delta_{\%}$ Stock) is unlikely to have a large impact on the positional consumption. Accordingly, we do not find an interaction of stock return and number of neighboring theatres. The interaction term of stock return and more escapist action-comedy-romance movies is negative and significant. Thus, a decrease in the stock market index, reflecting an increased need for escapism in hard economic times, leads to an increase in the demand for more escapist movies. The return of gold ($\Delta_{\%}$ Gold) has a (significant) positive effect on demand. Hence, we find that an increase in the price of

gold, increases movie demand. Further, the significant negative interaction of gold return and number of neighboring theatres shows that the impact of the change in the price of gold is mostly driven by positional consumption. Finally, the effect of the 2014 Indian general election is moderated by content but not by the number of neighboring theatres: the election of Modi reduced the demand for more escapist action-comedy-romance movies but the effect does not vary with the number of neighboring theatres.

--- INSERT TABLE 3 ABOUT HERE ---

Endogeneity

The three attitudinal and economic measures may be endogenous in the demand equation. For example, if movie demand changes the outlook of consumers, it may determine the stock market return, leading to a simultaneity bias. Therefore, we turn to the method of instrumental variables. An instrumental variable is a variable that is correlated with a potentially endogenous independent variable but uncorrelated with the error term. The extent to which a set of instrumental variables adds predictive power for a focal (potentially endogenous) variable, over and above other exogenous variables in the regression, is the relevance of the set of instruments. Relevant instrumental variables may be used to both test and control for the endogeneity of the independent variables.

We use the following prescription to test for endogeneity. First, we test for instrument relevance. For each potentially endogenous variable, we check if the partial F-statistic from a regression of the variable on the instruments and the set of exogenous variables is greater than 20 (Stock and Yugo 2005). Second, we form the residuals from an auxiliary regression of the potentially endogenous variable on the set of exogenous variables and the set of instruments. Third, we conduct a Durbin-Wu-Hausman test for endogeneity: we include the residuals from the auxiliary regression in the main model, and check for the significance of

the coefficient (i.e., does the t-test on the coefficient for the potentially endogenous variable reject the null of exogeneity).

We consider instruments linked to four sources of variation in our independent measures. First, we use the weekly market return of the S&P Asia 50, a stock market index "consist[ing] of 50 leading blue-chip companies that are drawn from four major Asian markets—Hong Kong, Korea, Singapore and Taiwan".[10] While, changes in the Asia 50 are likely to be correlated with changes in the measures of the Indian economy (and particularly, with the Indian stock market), as the underlying stocks of the index exclude companies based in India, changes in the index are not causally related to changes in movie demand in India. Second, we use the weekly change in the price of Brent crude[11]. A low price of crude signals strains in the global economy and hence poor future economic growth. However, the price of Brent crude is not materially affected by Bollywood movie demand in India. Third, we use the weekly change in the price of corn[12], a globally traded food commodity. The price of corn tracks food prices, which are a large component of both the consumer price index in India. However, as India is neither a major producer nor a major consumer of corn (corn is not a staple crop in India), the weekly change in the price of corn is not determined by Bollywood movie demand in India. Fourth, to account for regional differences in the extent of socio-economic development, and hence for the extent to which the preceding instruments explain local variations in the attitudinal measures, we interact these instruments with a dummy indicating the city closest to each multiplex theatre.

[10] http://asia.spindices.com/indices/equity/sp-asia-50.

[11] The crude oil data is from http://www.eia.doe.gov/.

[12] The corn data is from https://www.quandl.com/data/CME/CH2014-Corn-Futures-March-2014-CH2014-CBOT.

We find that the instruments are highly relevant (the partial F-statistic is greater than 20) for each of the three attitudinal and economic measures (consumer sentiment, stock market return, and gold return). And in all cases, the Durbin-Wu-Hausman test fails to reject the null hypothesis of the exogeneity[13]. Thus, we treat the three economic measures as not endogenous in our empirical model and analysis.

Robustness analyses

We begin by considering alternative definitions of our measures identifying escapism and positional consumption. First, we limit our definition of the dummy for action-comedy-romance movies to movies above the median by total revenue (summed across all weeks and all theatres). Second, we define our measure of the neighboring theatres as the number of theatres in a 15-km radius (instead of a 10-km radius). Third, we use an alternative stock index, the CNX NIFTY[14] instead of the BSE SENSEX to compute stock market returns. Results are summarized in Column 1, 2, 3 of Table 4, respectively. Our findings are consistent with the alternative measures tested across all focal specifications. The first column in Table 4 show that limiting the definition of ACR_f changes the estimate for the intercept of the interaction equation because more movies that are likely escapist (that is action, comedy, or romance movies that were not in the top 50% by total revenue) are now included in the intercept. Thus, the intercept includes more escapist movies in this robustness test. The other coefficients change in magnitude accordingly, but substantively provide the same implications. Finally, we winsorize the dependent variable to reduce the impact of outlier observations. Winsorization is a common technique in which observations smaller than the bottom 0.5% and larger than the top 0.5%, are assigned the value of the 0.5% and

[13] Results for the Durbin-Wu-Hausman test are available upon request.

[14] The daily CNX NIFTY data is from http://www.nseindia.com/. The BES SENSEX and CNX NIFTY differ in the weightage and number of stocks included, and in the formula used to compute the index.

99.5% observations respectively. Thus, the procedure curtails the leverage of outlier observations. The last column of Table 4 shows that our findings are robust to outliers.

-- INSERT TABLE 4 ABOUT HERE ---

Next, we consider four alternative hypotheses. Our findings may be influenced by religious festivals, as in these weeks, consumers may be both more optimistic and spend more time with their families, rather than in watching movies at a theatre. We add a dummy to the specification indicating if the week corresponds to Holi or Diwali, the two largest religious festivals across India. Column 1 in Table 5 shows that the festival dummy is not significant and our findings are robust to the addition of this control. Further, we consider the potential impact of the competitive environment. We use three analyses in which we introduce the number of competing movies being played at a multiplex theatre m in week w (# of $movies_{mw}$), the number of competing Action-Comedy-Romance movies being played at a multiplex theatre m at week w (# of ACR_{mw}), and log(# $Theatres_{mw}$) as additional controls. Columns 2 to 4 in Table 5 show that our findings are robust to the addition of these controls.

-- INSERT TABLE 5 ABOUT HERE ---

Finally, we add a dummy for the 6-week voting period immediately prior to when the election results were announced (i.e. from April 7, 2014 to May 15, 2014). As seen in Table 6, in sharp contrast to the period post-announcement of results, we find that in the voting period when there was high uncertainty about the election outcome, there was a lower demand for movies, but a higher demand for more escapist movies. This provides further support for our findings.

-- INSERT TABLE 6 ABOUT HERE ---

DISCUSSION

We utilize a unique dataset to establish the nature and extent of the impact of the economic environment on movie demand in India. Across a rich set of attitudinal and economic measures, the data suggests demand for Bollywood movies is escapist and declines in prosperous times. The positionality of movie consumption also varies with the scarcity of multiplex theatres: in locations with a fewer number of theatres, the evidence supports a stronger role of positional consumption than in locations with more theatres. On the other hand, a subset of movies that are likely more escapist in content, are more susceptible to the economic environment and show a sharper decline in demand with improving economic circumstances. Finally, we find that the 2014 Indian general election, which gave a clear mandate to Narendra Modi and ushered in the "Modi wave" of economic optimism, decreased the demand for more escapist movies.

Implications

Bollywood (and Hollywood) movie producers have often been vilified in the business press as slothful, with attendant calls to move from formulaic escapism to a grittier realism. For example, a recent article in Forbes titled "Bollywood's formula is getting stale" laments the lack of novelty and creativity in Bollywood movies and predicts an uncertain future for formula-driven storylines (Cain, 2015). However, our analysis suggests that rather than being the artefact of a stale imagination, Bollywood's formulaic escapist fare addresses a deep-rooted need for escapism, which is amplified in hard economic times. Our findings also provide a rationale for the commercial success of escapist fantasy television series (for example, Game of Thrones) and movies (Disney's Star Wars franchise), as resulting from the recent great recession.

Our analysis suggests that leisure, and specifically watching movies in a multiplex, is a positional good, with the extent of positionality linked to the scarcity of neighboring multiplex theaters. While luxury goods manufacturers have long spoken about the need for exclusivity, they have also of late undertaken a rapid expansion in Asia. In such markets, to the extent that demand is positional, our findings suggest that marketing managers should be vary of indiscriminate growth, as expansion may reduce scarcity and hence dilute positionality. Thus, our findings suggest that corporations such as LVMH may consider reducing their distributional intensity in order to preserve the uniqueness, and thus relative scarcity of each brand, and its associated experience.

Our findings show that the effect of a change in the economic environment on consumers may differ across products and markets, and by the nature of the change in the economic environment. In our context, the differential impact of different measures reflecting different aspects of the economic environment, arises from changing needs for escapism and positional consumption. Thus, our findings suggest that managers should interpret with caution for insights derived from empirical specifications that omit crucial potential moderators of the impact of the economic environment.

Limitations and directions for future research

This research has some limitations that offer avenues for further research. First, although we have presented an expansive view of the economic environment, we are limited by data availability when studying the economic environment in India. For example, we would have preferred to supplement our economic measures with employment data. However, due to the complexity of Indian labor law and the prevalence of widespread underreporting in income taxes, we are unable to obtain a comparable, cogent dataset of such measures. With the continued development of India, we hope that increases in data specificity

will permit a more precise characterization of the economic environment.

Second, most of the extant work on escapism has focused on traditional media (movies, television, and video games) and traditional genres. The rise of escapism-driven new media (for example, life simulation video games such as Sims and massively multiplayer online world such as Second Life) suggests several interesting new research opportunities. Further, the anecdotal evidence suggests that escapism-oriented Western and Eastern comic art (for example, anime and manga in Japan) are rapidly growing in popularity. For example, consider the obsession of the lead characters in the popular sit-com, The Big Bang Theory with Comic-Con (the San Diego Comic-Con International). In recent years, the San Diego Comic-Con and its rival, the New York Comic-Con have been dueling for the title of being the largest show in North America (Salkowitz, 2015). Thus, while these genres were once fringe, they have now gone mainstream and are at the center of modern popular culture.

Third, many products combine escapism and positional consumption (luxury) in non-media categories. For example, consider a visit to Disneyland Resort (a major entertainment reserot). The experience of visiting Disneyland is escapist, with characters and rides drawn from the ensemble of characters and stories in the Disney universe. Yet, trips to Disneyland are also highly socially visible, particularly with social media such as Facebook, and hence positional. Or consider, in a different context, the Magnum brand of ice cream (owned by Unilever). Magnum, via its brand story, pricing, and marketing communications campaign, emphasizes both escapism and positional consumption (CSP Magazine 2014). For example, two of Magnum's slogans are: "For pleasure seekers" and "Enjoy the royal treatment." However, despite the clear practitioner interest, as evidenced by the growing prevalence of such brands and products, very limited formal attention has been paid to understanding product contexts that combine escapism and positional consumption.

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Table 1A: Descriptive Statistics

Variable	N	Mean	Median	Std. Dev.
Revenue	91326	372519	137196	692500
Consumer sentiment	91326	44.10	44.30	6.80
$\Delta_{\%}$ Stock	91326	0.52%	0.58%	1.89%
$\Delta_{\%}$ Gold	91326	-0.04%	0.03%	1.82%

Table 1B: Correlation Matrix

Variable	1	2	3
1 Consumer sentiment	1	-0.078	-0.001
2 $\Delta_{\%}$ Stock		1	-0.196
3 $\Delta_{\%}$ Gold			1

Table 2: Consumer Sentiment

Variables	(1)	(2)
Consumer sentiment	-0.0027 *** (0.0009)	0.0048 *** (0.0015)
Consumer sentiment * log(#Theatres)		-0.0040 *** (0.0005)
Consumer sentiment * ACR		-0.0103 *** (0.0016)
Weeks since release	-0.0553 *** (0.0032)	-0.0543 *** (0.0032)
R-squared	0.467	0.47
Adjusted R-squared	0.462	0.46

Model includes movie, multiplex, seasonality, and year fixed effects. Robust standard errors. Tests two-sided.
* = p < .1; ** = p < .05; *** = p < .01.

Table 3: Complete Model

Variables	
Consumer sentiment	0.0047 *** (0.0015)
Consumer sentiment * log(# Theatres)	-0.0040 *** (0.0005)
Consumer sentiment * ACR	-0.0105 *** (0.0016)
$\Delta_{\%}$ Stock	0.1572 (0.9009)
$\Delta_{\%}$ Stock*log(# Theatres)	-0.2933 (0.2226)
$\Delta_{\%}$ Stock*ACR	-3.8618 *** (0.9312)
$\Delta_{\%}$ Gold	3.9903 *** (0.9116)
$\Delta_{\%}$ Gold*log(# Theatres)	-0.6572 ** (0.2303)
$\Delta_{\%}$ Gold*ACR	1.1314 (0.9801)
Election	0.0586 (0.1141)
Election*log(# Theatres)	-0.0048 (0.0126)
Election*ACR	-0.4615 *** (0.0126)
Weeks since release	-0.0516 *** (0.0033)
R2	0.4705
Adjusted R2	0.4655

Model includes movie, multiplex, seasonality, and year fixed effects. Robust standard errors. Tests two-sided.
* = p < .1; ** = p < .05; *** = p < .01.

Table 4: Alternative Measures and Winsorization

Variables	Alternative Definition of ACR	Alternative Definition of # Theatres	Alternative Measure of Stock Market Return	Winsorize Dependent Measure
Consumer sentiment	0.0013 (0.0013)	0.0055 *** (0.0015)	0.0047 *** (0.0015)	0.0048 *** (0.0014)
Consumer sentiment * log(# Theatres)	-0.0040 *** (0.0005)	-0.0037 *** (0.0004)	-0.0040 *** (0.0005)	-0.0038 *** (0.0005)
Consumer sentiment * ACR	-0.0071 *** (0.0013)	-0.0106 *** (0.0016)	-0.0105 *** (0.0016)	-0.0099 *** (0.0015)
$\Delta_{\%}$ Stock	0.8071 (0.8630)	0.1871 (0.8987)	-0.2934 (0.8661)	-0.2063 (0.8633)
$\Delta_{\%}$ Stock*log(# Theatres)	-0.2868 (0.2228)	-0.2592 (0.1847)	-0.3591 * (0.2166)	-0.2722 (0.2109)
$\Delta_{\%}$ Stock*ACR	-4.7225 *** (0.9034)	-3.8408 *** (0.9314)	-3.3433 *** (0.8976)	-3.5616 *** (0.8933)
$\Delta_{\%}$ Gold	3.2099 *** (0.8147)	4.0936 *** (0.9108)	3.8933 *** (0.9172)	4.5563 *** (0.8608)
$\Delta_{\%}$ Gold*log(# Theatres)	-0.6508 *** (0.2305)	-0.5293 *** (0.1919)	-0.6847 *** (0.2325)	-0.7679 *** (0.2186)
$\Delta_{\%}$ Gold*ACR	2.0545 ** (0.9050)	1.1276 (0.9802)	1.1307 (0.9857)	0.5847 (0.9263)
Election	0.0861 (0.1116)	0.0561 (0.1142)	0.0457 (0.1137)	0.0523 (0.1074)
Election*log(# Theatres)	-0.0043 (0.0126)	-0.0046 (0.0106)	-0.0045 (0.0126)	-0.0029 (0.0120)
Election*ACR	-0.5030 *** (0.1306)	-0.4603 *** (0.1326)	-0.4484 *** (0.1323)	-0.4746 *** (0.1251)
Weeks since release	-0.0515 *** (0.0033)	-0.0515 *** (0.0033)	-0.0514 *** (0.0033)	-0.0513 *** (0.0031)

Model includes movie, multiplex, seasonality, and year fixed effects. Robust standard errors. Tests two-sided.
* = p < .1; ** = p < .05; *** = p < .01.

Table 5: Additional Controls

Variables	Festival dummy	# Movies	# ACR Movies	log (# Theatres)
Consumer sentiment	0.0048 *** (0.0015)	0.0056 *** (0.0015)	0.0052*** (0.0015)	0.0049 *** (0.0015)
Consumer sentiment * log(# Theatres)	-0.0040 *** (0.0005)	-0.0042 *** (0.0005)	-0.0043*** (0.0005)	-0.0028 *** (0.0008)
Consumer sentiment * ACR	-0.0105 *** (0.0016)	-0.0114 *** (0.0015)	-0.0116*** (0.0016)	-0.0105 *** (0.0016)
$\Delta_{\%}$ Stock	0.0103 (0.9027)	-1.7142 ** (0.8547)	-2.0569** (0.8541)	0.1773 (0.9007)
$\Delta_{\%}$ Stock*log(# Theatres)	-0.2827 (0.2227)	-0.1712 (0.2187)	-0.1993 (0.2190)	-0.2476 (0.2233)
$\Delta_{\%}$ Stock*ACR	-3.7356 *** (0.9326)	-1.9453 ** (0.8841)	-2.5299*** (0.8813)	-3.8695 *** (0.9310)
$\Delta_{\%}$ Gold	4.0423 *** (0.9131)	-1.3273 (0.8954)	0.2788 (0.9017)	4.0104 *** (0.9117)
$\Delta_{\%}$ Gold*log(# Theatres)	-0.6559 *** (0.2303)	-1.0179 *** (0.2264)	-0.9774*** (0.2273)	-0.6405 *** (0.2303)
$\Delta_{\%}$ Gold*ACR	1.0955 (0.9814)	2.5480 *** (0.9588)	2.2779** (0.9696)	1.1268 (0.9801)
Election	0.0543 (0.1143)	0.0165 (0.1114)	-0.0642 (0.1112)	0.0626 (0.1142)
Election*log(# Theatres)	-0.0047 (0.0126)	0.0152 (0.0125)	0.0085 (0.0124)	-0.0032 (0.0126)
Election*ACR	-0.4567 *** (0.1328)	-0.3921 *** (0.1283)	-0.4428*** (0.1279)	-0.4624 *** (0.1326)
Weeks since release	-0.0515 *** (0.0033)	-0.0502 *** (0.0031)	-0.0493*** (0.0031)	-0.0515 *** (0.0033)
Festival	0.0628 * (0.0350)			
# Movies		-0.2103 *** (0.0041)		
# ACR movies			-0.2223*** (0.0045)	
log(# Theatres)				-0.0828 * (0.0436)

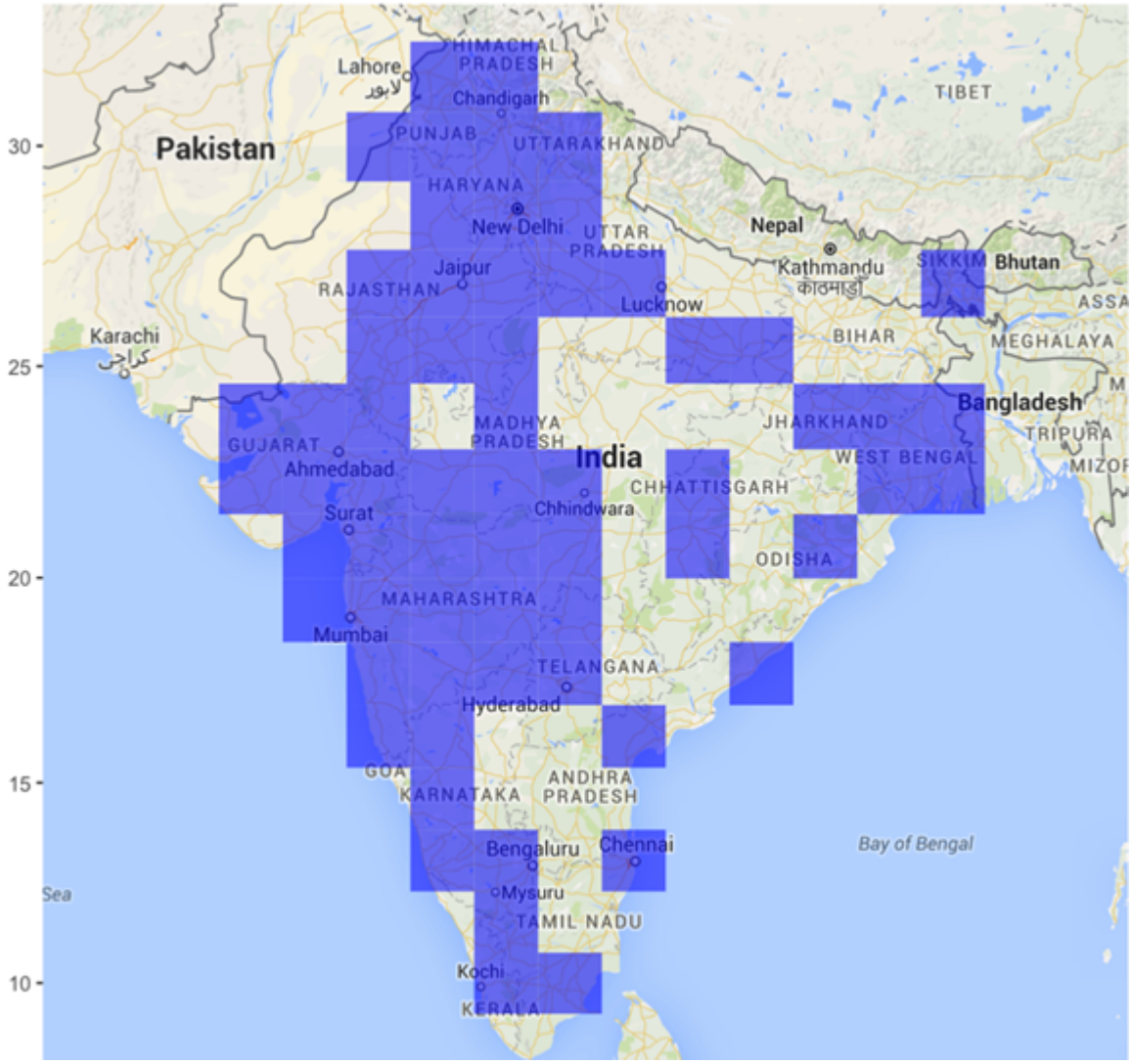
Model includes movie, multiplex, seasonality, and year fixed effects. Robust standard errors. Tests two-sided.
* = p < .1; ** = p < .05; *** = p < .01.

Table 6: Six-Week Period Prior to Election

Variables	
Consumer sentiment	0.0045*** (0.0015)
Consumer sentiment * log(# Theatres)	-0.0040*** (0.0005)
Consumer sentiment * ACR	-0.0104*** (0.0016)
$\Delta_{\%}$ Stock	0.0139 (0.9030)
$\Delta_{\%}$ Stock*log(# Theatres)	-0.2647 (0.2236)
$\Delta_{\%}$ Stock*ACR	-3.5649*** (0.9379)
$\Delta_{\%}$ Gold	5.0171*** (0.9185)
$\Delta_{\%}$ Gold*log(# Theatres)	-0.6786*** (0.2302)
$\Delta_{\%}$ Gold*ACR	0.0397 (0.9865)
Election	0.0634 (0.1150)
Election*log(# Theatres)	-0.0031 (0.0127)
Election*ACR	-0.4603*** (0.1359)
Voting	-1.5204*** (0.1138)
Voting * log(# Theatres)	0.0283 (0.0194)
Voting * ACR	1.5312*** (0.1245)
Weeks since release	-0.0515*** (0.0032)

Voting = Dummy for the period between 7 April 2014 and 16 May 2014.
Model includes movie, multiplex, seasonality, and year fixed effects. Robust standard errors. Tests two-sided.
* = p < .1; ** = p < .05; *** = p < .01.

Figure 1: Geographic Coverage of the Data



Note: Shaded regions (in blue) represent the geographic coverage of the data.