Journal of Business Ethics (2020) 161:479–496
https://doi.org/10.1007/s10551-018-3919-x

ORIGINAL PAPER

Stakeholder Orientation and Market Impact: Evidence from India

Arzi Adbi[1] · Ajay Bhaskarabhatla[2] · Chirantan Chatterjee[3,4]

Received: 29 August 2017 / Accepted: 7 May 2018 / Published online: 31 July 2018

Abstract
This study integrates insights from stakeholder theory and the literature on competitive dynamics and incumbent responses to entry. While research in economics and strategy has examined how market incumbents respond to new entrants, little is known about the heterogeneity in these responses to the entry of a stakeholder-oriented firm; our study addresses this research gap. Findings from a novel, longitudinal dataset of 206 granularly defined pharmaceutical markets in India suggest that stakeholder-oriented firm entry in these markets is associated with an impact on prices and product differentiation with heterogeneous responses from high-end and low-end incumbents. Specifically, entry by a stakeholder-oriented firm results in a reduction in prices and dosage sizes from high-end incumbents, whereas low-end incumbents respond in the opposite direction.

Keywords Stakeholder orientation · Market-entry · Incumbent response · Industrial organization · Pharmaceuticals

> *"How selfish soever man may be supposed, there are evidently some principles in his nature, which interest him in the fortune of others…."*
>
> Smith (1759)

Introduction

It is arguably the case that "*managing for shareholders*" versus "*managing for stakeholders*" has emerged as one of the most intensely debated topics in business scholarship. The former, still the more dominant narrative, assumes firms to be profit-maximizing and proposes maximizing shareholder value as the corporate objective (Friedman 1970; Sundaram and Inkpen 2004). The latter, an emerging narrative of how managers work, takes a stakeholder approach rejecting the thesis that business and ethics are separable (Freeman 2008, 2010; Jones 1995). Stakeholder theory prescribes managers to articulate a shared sense of value creation for stakeholders by clarifying how they want to do business and what relationships they want to create with their stakeholders (Donaldson and Preston 1995; Freeman et al. 2004, 2007).

However, it is unclear how much impact a firm's stakeholder orientation has on the market. As a firm's actions affect its peers (Fiss and Zajac 2004; Leary and Roberts 2014) and competitive interactions between firms influence market development (Cool et al. 1999; Simon 2005), examining the market impact of stakeholder-oriented firm entry can open a new line of inquiry in the stakeholder literature (Devinney et al. 2013; Klein et al. 2012). By stakeholder-oriented firm, we refer to a firm that cares equally about stakeholder well-being while meeting reasonable financial targets, a definition consistent with the well-accepted notion of stakeholder orientation (Berman et al. 1999; Jain et al. 2017; Miles 2017).

In the literature on the effects of entry on the market, scholars have studied incumbents' strategies in response to actual and potential entry (Bunch and Smiley 1992; Caves and Porter 1977; Constantatos and Perrakis 1997; Geroski 1995). While Goolsbee and Syverson (2008) analyzed the impact of potential entry on incumbents' strategies in the

✉ Chirantan Chatterjee
chirantan@gmail.com

Arzi Adbi
arzi.adbi@insead.edu

Ajay Bhaskarabhatla
bhaskarabhatla@ese.eur.nl

1 INSEAD, 1 Ayer Rajah Avenue, Singapore 138676, Singapore

2 Erasmus School of Economics, Erasmus University, Rotterdam, The Netherlands

3 Indian Institute of Management, Ahmedabad, India

4 Indian School of Business, Mohali, Punjab, India

airline industry, the impact of entry was argued at a more general level by Caves and Porter (1977). Much of this literature, however, assumes that the entrant firm is profit-maximizing and stays silent on how incumbents respond to the entry of a stakeholder-oriented firm.

Addressing this research gap, we directly examine the market impact of stakeholder-oriented firm entry in the Indian pharmaceutical industry. We do so by empirically investigating the effects of entry by our focal firm of interest, *Mankind Pharma*, on the high-end and the low-end incumbents' response. While several industries face ethical dilemmas, pharmaceutical industry is one where the pricing strategy forms the core of the dilemma between *innovation* encouraged by market-determined prices and consumers' *access* to "priceless goods" (Maitland 2002). Some studies have examined the issue of pricing in the context of pharmaceutical markets in developed countries (Balotsky 2009; Spinello 1992), however, there is insufficient empirical analysis on the antecedents of pricing in the context of developing countries with vast patient populations without access to vital medicines (Selvaraj et al. 2012; Vakili and McGahan 2016).

Theoretical Background and Hypotheses

Increasing Market Share and Stakeholder-Oriented Firm Behavior

Although recent works have started examining the role of "altruistic capital" (Ashraf and Bandiera 2017) and "profit with purpose" (Besley and Ghatak 2017a), there is limited guidance on how stakeholder-oriented firms would behave when their market share starts to rise.

Empirical evidence is unclear on how not-for-profit organizations behave with an increase in their market share. While Lynk (1995) argued that not-for-profit hospitals do not leverage their increased market power to increase prices, these findings were subsequently overturned in Dranove and Ludwick (1999). Deneffe and Masson (2002) argued that a social-welfare maximizing hospital would lower its private price if the share of insured patients (through Medicare or Medicaid) increases because reimbursement exceeds marginal costs. Yet, on the other hand, Duggan (2000) found that both for-profit and not-for-profit hospitals used the additional revenues from an increase in government reimbursements program to increase financial assets, as opposed to improving medical care for the poor. A recent empirical study also suggests that not-for-profits do not engage in any more socially beneficial activities than do for-profits when they possess increased market power (Capps et al. 2017).

Turning to the for-profit organizations, as profit-maximizing new entrants establish their brand and become more dominant in a market, some of them may command higher prices given their higher market power (Berry 1992; Borenstein 1989; Evans and Kessides 1993). This argument for profit-maximizing firms gets reinforced by the premise that capital markets can be myopic and may tend to undervalue investments in long-term (Flammer and Bansal 2017; Froot et al. 1992). Shareholder pressures for short-term results can lead to a paradoxical situation in which the sole pursuit of shareholder-value maximization may prevent managers from acting in shareholders' long-term best interest (Flammer and Kacperczyk 2016).

Building on the insight that stakeholder orientation can help a firm overcome the problem of temporal trade-offs (Flammer and Kacperczyk 2016), we argue that a stakeholder-oriented firm will not be expected to increase prices as its market share increases. As Berman et al. (1999) propose, a firm's stakeholder orientation can be due to *strategic* (perceived ability of stakeholder concern to improve firm's financial performance) or *intrinsic* (moral commitment shapes a firm's strategy and influences its financial performance) reasons. Irrespective of the reason driving the stakeholder orientation, the ability of stakeholder-oriented firms to overcome the temporal trade-offs persists. To the extent decreasing prices with an increase in a firm's market share can lead to improvement in a firm's (its owners) long-term financial performance, *strategic* stakeholder orientation of a firm will predict a decrease in prices with an increase in its market share. To the extent decreasing prices with an increase in a firm's market share can coincide with a firm's (its owners) moral commitments, *intrinsic* stakeholder orientation of a firm will also predict a decrease in prices with an increase in its market share. Thus, we predict a decline in the stakeholder-oriented firm's prices as it gains greater market dominance. Similarly, we predict a decline in the stakeholder-oriented firm's package size, an attribute of product differentiation, but one that also speaks to stakeholder orientation. We argue that lower package sizes are consumed by the neglected consumer segments, and therefore as the stakeholder-oriented firm's market share increases, it would decrease its package size.

Hypothesis 1A Stakeholder-oriented firm will decrease its prices with an increase in its market share.

Hypothesis 1B Stakeholder-oriented firm will decrease its package sizes with an increase in its market share.

High-End Incumbents Response to Entry

How might the entry of a stakeholder-oriented firm impact the high-end market incumbents? To examine this, we first draw from prior literature that has examined how incumbents respond to new entry in general. For example, newer, larger, and more-profitable incumbents have been found to respond relatively aggressively to entry (Khanna and Tice

2000; Simon 2005). It has been found that the prospect of new entry encourages price competition among incumbents and works against earning excess profits in oligopolistic markets (Geroski 1995). In contrast, however, building on Shaked and Sutton (1982), two recent theoretical models (Amaldoss and Shin 2011; Ishibashi and Matsushima 2009) propose higher prices for high-end incumbents in response to the entry of a profit-maximizing firm at the low-end of the market. Recent studies have also investigated the timing of incumbent responses to new entry (Goolsbee and Syverson 2008). Overall, the literature on incumbents' pricing responses to new entry has generated mixed evidence. Some studies have documented a rise in incumbent prices, while others have found a decline (Frank and Salkever 1997; Ishibashi and Matsushima 2009; Simon 2005).

Extant research has also examined incumbent responses on product differentiation along non-price dimensions. For example, Prince and Simon (2015) investigate incumbent responses on service quality. In theory, incumbents can adopt strategies to deter or contain entry (e.g., Wilson 1992). Despite substantive literature on the effects of entry, however, negligible evidence exists on how high-end incumbents respond to the entry of a stakeholder-oriented firm. As not all entrants fit with the assumption of a purely profit-maximizing firm, it is essential to examine and contrast the two sets of existing theories that feature entry by the profit-maximizing low-cost firms and entry by non-profits and public firms (Newhouse 1970) in order to develop predictions about the response to the entry by a stakeholder-oriented firm.

Studies using the pharmaceutical industry as their research context have shown that high-end, branded producers increase prices signaling their product differentiation after the entry of low-cost generics in the market for a homogeneous good (Frank and Salkever 1992, 1997; Grabowski and Vernon 1992). These price increases are especially prominent in a horizontally segmented market composed of price-sensitive consumers and price-insensitive, brand-loyal consumers, a phenomenon that has raised questions on business ethics in pharmaceutical pricing (Balotsky 2009; Hemphill 2010; Spinello 1992).

Merrill and Schneider (1966) examine a case in which one of the three existing private firms in a homogeneous market is nationalized. Their study shows that the public firm prices below private firms. De Fraja and Delbono (1989) study a model in which one public firm, with an objective function to maximize the sum of consumer and producer surplus, competes with n private firms in a homogeneous market. They show that the public firm prices at its marginal cost in Cournot competition and marginally above its marginal cost in Bertrand competition. In either case, the price of the homogeneous good is lower compared to the case in which $n+1$ private, profit-maximizing firms are competing in the market. Grilo (1994) extends these results to a market with vertical product differentiation and shows that whether the public firm chooses to produce a low-quality or a high-quality product is irrelevant to the decline in prices. In a model of a public firm with an objective function that places weights on consumer surplus, its own profit, and other producers' profits, White (2002) shows that as the weight on consumer surplus increases, prices fall relative to the duopoly case. Casadesus-Masanell and Ghemawat (2006) examine the evolution of market shares in a mixed duopoly, where one of the firms producing open-source software prices at marginal cost. They find that the incumbent offering proprietary software is likely to be less myopic in its pricing strategy. In summary, this stream of literature predicts lower prices from high-end incumbents in response to the entry of non-profit maximizing firms, e.g., state-owned firms and non-profits.

In addition to extant theory, the prediction of lower prices from high-end incumbents is consistent with the business wisdom that high-end incumbents will lower prices in the wake of a high-potential new entrant who is willing to compete on price as the high-end incumbents have margins to do so. The underlying assumption in this argument is that stakeholder orientation renders a firm a high potential, which is not unrealistic given that substantive empirical evidence shows a positive relationship between stakeholder orientation and firm performance (Berman et al. 1999; Flammer and Kacperczyk 2016; Henisz et al. 2014).

In addition to prices, incumbents' product differentiation along non-price dimensions can also be influenced by the entrant's objective function. For example, Casadesus-Masanell and Llanes (2011) argue that it is optimal for an incumbent to design partially open-source software in the presence of a completely open-source non-profit firm, reflecting a decline in product differentiation. Koenigsberg et al. (2010) derive theoretical results suggesting product differentiation in the form of smaller package sizes allow firms to charge a higher unit price and sell more units, particularly for products with a low usable life, consumption rate, and packaging cost. Thus, we argue that when a stakeholder-oriented firm enters the market with a smaller package size, one would expect that high-end incumbents will lessen their product differentiation and thus alter their own portfolio of package sizes towards that of the stakeholder-oriented firm.

Hypothesis 2A Stakeholder-oriented firm entry in a market will lead high-end incumbents to lower prices in the market.

Hypothesis 2B Stakeholder-oriented firm entry in a market will lead high-end incumbents to lessen product differentiation (with lower package sizes) in the market.

Low-End Incumbents Response to Entry

A related strand of the literature informs about the potential response from the low-end of the market arising from the entry of profit-maximizing firms (e.g., Amaldoss and Shin 2011). Mixed price responses have been found to the entry by a new antiulcer prescription drugs: incumbent prices rise with entry by a distant therapeutic substitute but fall if the entrant good is a close substitute (Perloff et al. 2005). This mixed pattern is consistent with Davis et al. (2004) who predict incumbents' response will be a function of firms' relative positions in product space, consumer preferences, and distribution of consumer types. From this perspective, a straight-forward prediction would be that if a firm enters the low-end of the market, then the low-end incumbents should respond with further lowering of the prices of their products. However, Amaldoss and Shin (2011) analyzed the role of size of the low-end market as an important boundary condition and showed that if the size of the low-end market is below a threshold, then an increase in the size of the low-end market may actually soften price competition, and incumbents could strategically choose their quality levels for product differentiation. While building further on the insights of Amaldoss and Shin (2011), we raise the possibility of another boundary condition: We argue that the nature of entrant firm's objective may have a bearing on how low-end incumbents' respond.

Standard economic models imply that profit-maximizing firms can produce the socially efficient array of products if the consumers have perfect information. However, in markets with information asymmetry, producers may have some discretion to misrepresent quality (Hansmann 1987). Unlike the high-end markets where the consumers are well educated and may suffer less from information asymmetry, the low-end markets are characterized by the not-well-informed consumers. In the absence of strong regulatory frameworks for consumer protection, the low-end market is therefore susceptible to opportunistic behavior by the low-cost profit-maximizing firms, a manifestation of which reflects in the pervasive substandard medicines in many developing countries (Bate et al. 2011; Bennet and Yin 2018).

Research in the context of the hospital industry additionally documents that an increase in the provision of socially desired services by a non-profit hospital affects the competitors' charity level as they aim to maintain their social prestige (Frank and Salkever 1991; Hirth 1997, 1999). Grabowski and Hirth (2003) found that low quality may result from opportunistic behavior by for-profit nursing homes, whereas an increase in market share of not-for-profit nursing homes can improve the quality of for-profit nursing homes as well as that of the overall market. They state: "This can be thought of as an 'Inverse Gresham's Law' under which the good (non-profits delivering the promised quality) drive out the bad (those for-profits attempting to exploit a poorly informed clientele by delivering less than the promised level of quality). Effectively, the non-profit sector exerts a beneficial, competitive spillover effect on the performance of the for-profit sector." (p. 3). As non-profits could disproportionately attract uninformed consumers, it could enable segmentation such that consumers of the for-profit sector are better informed than a random draw from the patient population, thus increasing the likelihood of for-profits to deliver the promised quality (Grabowski and Hirth 2003).

The underlying assumption in the above argument is a strictly enforced non-distribution constraint prohibiting payment of profits to owners or employees of the not-for-profit organizations. This non-distribution constraint supposedly motivates honest behavior by non-profits ensuring that they deliver the promised level of quality (Hansmann 1987). We argue that similar to how a non-distribution constraint may motivate honest behavior by non-profit entrants, a stakeholder orientation can also motivate honest behavior irrespective of whether the reason for stakeholder orientation of the entrant firm is strategic or intrinsic. If the reason is intrinsic, then moral commitments would motivate the stakeholder-oriented firm to abstain from engaging in opportunistic behavior. If the reason is strategic, then long-term value-creation prospect would motivate the stakeholder-oriented firm to refrain from short-termism. Research suggests that healthcare sector is ridden with conflicts of interest so long as the shareholder-value maximization objective dominates (Emanuel 1999). These conflicts of interest are either absent or negligible in non-profits, and similarly, these conflicts of interest are negligible in stakeholder-oriented firms (Freeman 2010; Gilmartin and Freeman 2002).

Thus, integrating the insights on incumbents' tendency to signal higher quality in response to increasing share of not-for-profit organizations with our argument that the stakeholder orientation of an entrant can motivate honest behavior (similar to how the non-distribution constraint of a not-for-profit can), we hypothesize that when low-end profit-maximizing incumbents face the entry of a stakeholder-oriented firm, they will increase their product quality reflecting in higher prices and lessening product differentiation with respect to the stakeholder-oriented firm in the form of higher package sizes.

Hypothesis 3A Stakeholder-oriented firm entry in a market will lead low-end incumbents to raise prices in the market.

Hypothesis 3B Stakeholder-oriented firm entry in a market will lead low-end incumbents to lessen product differentiation (with higher package sizes) in the market.

Institutional Background and Stakeholder-Oriented Firm

Prices in the Indian Pharmaceutical Industry

The early era of the Indian pharmaceutical industry witnessed two policy interventions: the patent legislation and the price-control regime. The Indian Patents Act of 1970 weakened patent protection by shortening patent life to 5–7 years and by eliminating product patents for pharmaceuticals. Price controls on essential drugs were strengthened to lower the prices of medicines. These changes have been associated with both a decline in the market share of MNEs (multinational enterprise) from over 70% in 1970 to 30% in the mid-1990 s and a corresponding decline in drug prices (Kapczynski 2009).

However, in the more recent era beginning in 1995, India signed the World Trade Organization-mandated Trade-Related Aspects of Intellectual Property Rights (TRIPs) agreement and harmonized its patent laws with the developed world. The extent of price controls declined from 347 drugs in 1979 to 76 in 1995, incentivizing MNE entry. In 2000, a policy change allowed 100% foreign direct investment (FDI) in the pharmaceutical industry to promote MNE entry. FDI in pharmaceuticals increased from $0.32 million in 1991 to $188 million in 2004. Since 2008, the market for corporate control has been active in this industry as the MNEs have acquired leading domestic firms: Abbott Laboratories acquired Piramal Healthcare Solutions; Daiichi Sankyo and Sanofi-Aventis bought stakes in Ranbaxy and Shantha Biotechnics. These changes have re-generated concerns of rising medicine prices consequently leading to policy actions: the reintroduction of price controls for a list of 348 essential drugs in 2013; contemplation of limits on FDI in the pharmaceutical sector; and additional oversight of foreign acquisition of domestic pharmaceutical firms for anticompetitive effects. Current price controls cover 17% of the pharmaceutical markets and contain loopholes, raising doubts about their effectiveness (Bhaskarabhatla et al. 2016; The Telegraph India 2016).

Emergence of a Stakeholder-Oriented Firm

To provide affordable medicines and improve access to vital drugs, India has developed and maintained state-owned pharmaceutical companies since the 1960s; however, their operations have been limited to a small number of essential drugs. In 2009, these state-owned companies accounted for only 1% of the $12.6 billion sales. Growing price dispersion, inefficiencies of state-owned firms, and limited public options created an opportunity for stakeholder-oriented firm entry into the pharmaceutical markets.

Mankind was founded in 1995 with a mission to make drugs more affordable. The founder, a former drug salesman in a less-developed north-Indian state, realized the need for affordable pricing to serve the vast consumer segment with limited purchasing power (Kakkar 2011). As the incumbents did not engage in competitive pricing and left the low-end market largely uncovered, Mankind entered smaller cities and towns with outsourced manufacturing. In an interview to the Economic Times in 2010, the founder stated:

> Mankind has always lived up to the meaning of its name that is always concerned about humankind. We at Mankind feel that in this poor country where market consumption per capita per annum doesn't even exceed Rs. 400 [approximately $6] out of which 60% medicines are consumed in metropolitan cities and Tier 1 towns out of India's total Rs 40,000 crore [approximately $7 billion] market. This means that India's two-thirds of the population consumes 40% of the balance. Considering the fact that the per capita income in Tier 2 towns and rural areas is very less providing them with affordable medicines is definitely a noble cause which we always believe.

The mission of Mankind as claimed by them lies in the maximization of access to medicines for low-income consumers (Kakkar 2011; Personal Interview 2014). For example, Mankind introduced a substitute for Zenflox, an antibiotic sold by one of India's leading generics producers, Ranbaxy, at Rupees 26, for only Rupees 6 (or ten cents). Similarly, Mankind introduced a substitute for GlaxoSmithKline's best-selling antibiotic at half the price. The founder notes that the "pharma companies did not pass on the decrease in bulk drug prices to patients; I did" (Kakkar 2011). Consistent with its mission to provide affordable medicine, Mankind seems to have low overhead costs and austere corporate offices. The founder notes that "there is no creamy layer; we do not have highly paid vice-presidents or presidents" (Bisserbe 2009). We must note, however, that we do not have data on executive compensation that would verify Mankind's claim about not having highly paid vice-presidents or presidents.

Identifying synergies between stakeholders (Freeman et al. 2010), Mankind claims to have devised and implemented an effective low-end business model that involved marketing the drugs to general physicians in smaller cities and towns rather than to the specialists located in metropolitan cities. In 2007, Mankind attracted private equity investment of $24 million from Chrys Capital. Its managing director, Sanjiv Kaul, states (Business Standard 2012):

At a time when no pharmaceutical company saw value at the bottom of the pyramid, Mankind started from the outskirts and gradually moved to the center.

Quantitative Test of Stakeholder Orientation

In this section, we explore whether some of the above qualitative evidence of Mankind's stakeholder orientation is consistent with quantitative analysis. In particular, we examined whether Mankind's claims about a business model identifying and realizing synergies with untapped stakeholders, such as general physicians in smaller cities and towns, holds true in the data. While the specialists located in large metropolitan cities are also important stakeholders in the industry, synergies with them are relatively less untapped by the incumbent pharmaceutical firms compared to the synergies with general physicians in non-metropolitan India. A core tenet of stakeholder theory is that stakeholder-oriented firms identify and create value from synergies with untapped stakeholders (Freeman 2010; Tantalo and Priem 2016). As reciprocity is a universal phenomenon, stakeholders reciprocate positively when they are treated positively (Bosse et al. 2009). Therefore, to identify whether Mankind qualifies as a stakeholder-oriented firm we test for the business model differences in the relative intensity of use of general physicians and specialists by Mankind versus other firms in metropolitan and non-metropolitan cities in India.

To conduct this quantitative test, we empirically analyze information from the IMS Medical Audit on prescriptions data from physicians. As IMS Health revised the panel of doctors first in January 2005 and then again in January 2008, we focus on prescriptions written by a stable panel of doctors from January 2005 to December 2007. These data, also used in other studies (Bhaskarabhatla and Chatterjee 2017; Dutta 2011), are disaggregated by metropolitan and non-metropolitan cities across North, East, West and South India. Our overall sample contained prescriptions across regions in 8717 brands spanning 212 ATC4-markets.

We estimate the following OLS regression for physician type p and brand i in ATC4-market j in month t separately for metropolitan cities and non-metropolitan areas in the North, South, East, and West of India:

$$\begin{aligned} y_{pijt} = {} & \beta Mankind_{ijt} + \gamma GeneralPhysician_p + \delta Mankind_{ijt} \\ & * GeneralPhysician_p + \lambda Cipla_{ijt} + \eta Cipla_{ijt} \\ & * GeneralPhysician_p + \theta_j + \kappa_t + u_{ijt}, \end{aligned} \quad (1)$$

where y_{pijt} is the number of prescriptions per region; θ_j captures market fixed effect, κ_t month fixed effects, and u_{ijt} the error term. *Mankind* is a dummy variable set to one if the brand belongs to Mankind. *GeneralPhysician* is a dummy variable set to one if the prescribing physician is a general physician. The data contain 18 other types of physicians, e.g., cardiologists, diabetologists. These analyses cannot control for physician characteristics in the panel as the data are aggregated to physician types nor can new prescriptions be distinguished from old ones. That said, to examine the possibility of a contrast with *Mankind's* stakeholder orientation, *Cipla* dummy is included as well. Cipla is a well-known low-cost producer of medicines in India discussed globally for its disruption of the AIDS drug market (Deshpande and Winig 2006). Cipla may also have shown stakeholder orientation in its evolution. However, it is now a publicly listed firm. To the extent that capital markets can show myopic behavior (Flammer and Bansal 2017; Froot et al. 1992) and shareholder pressures can introduce intertemporal tensions discouraging stakeholder orientation (Flammer and Kacperczyk 2016), it is possible that *Mankind* and *Cipla* might show different results.

Table 1 shows the results. The coefficient estimate of *GeneralPhysician* is positive and statistically significant, reflecting that general physicians, on average, prescribe three (Column 3) to 33 (Column 2) more prescriptions per brand and month across various regions in India in the IMS Medical Audit panel. *Mankind*, on average, has fewer prescriptions relative to other firms in the same region, controlling for month and market fixed effects. The main coefficient of interest, *GeneralPhysician* × *Mankind*, however, is positive, large in magnitude and statistically significant, reflecting the more intensive use of general physicians by *Mankind* in all four non-metropolitan cities in India, particularly in the North, South, and West. *Mankind* also employs general physicians intensively in the metropolitan cities in the North, the location of its headquarters. These results are consistent with Mankind's professed stakeholder-oriented business model that focuses on identifying and realizing synergies with general physicians in villages, towns, and non-metropolitan cities, who typically are relatively more untapped yet relevant stakeholders. In contrast, the interaction term *GeneralPhysician* × *Cipla* is relatively small in magnitude and sometimes not statistically significant.

Empirical Approach

Data

For hypotheses testing, we obtained data from IMS Health—a U.S. based firm that collects proprietary data on total units and sales (excluding those to hospitals and long-term care facilities) covering a sample of 3500 wholesalers and 55,000 retailers across India from 1999 to 2011. IMS Health data have also been used in prior research (Chatterjee et al. 2015; Chaudhuri et al. 2006; Dutta 2011) and we follow these studies in using the 4-digit anatomical therapeutic classification (ATC) markets in dataset covering oral antidiabetic

Table 1 A test of stakeholder orientation

Column	1	2	3	4	5	6	7	8
Region	North India		South India		East India		West India	
DV = Prescriptions by city type	Metro	Non-Metro	Metro	Non-Metro	Metro	Non-Metro	Metro	Non-Metro
GeneralPhysician	13.72*	33.55*	2.52*	14.11*	10.48*	7.44*	26.65*	13.83*
(= 1 if G.P.(MBBS) or G.P.(Non MBBS))	[0.41]	[0.55]	[0.50]	[0.48]	[0.24]	[0.17]	[0.67]	[0.43]
Mankind	− 12.72*	0.14	− 4.68*	− 13.26*	− 3.70*	− 1.90*	− 34.03*	0.46
	[0.59]	[0.84]	[1.77]	[0.63]	[0.38]	[0.25]	[0.44]	[0.91]
Cipla	11.69*	29.01*	− 12.91*	− 8.97*	− 3.44*	0.54†	14.79*	2.34*
	[0.69]	[0.99]	[0.66]	[0.47]	[0.27]	[0.25]	[1.08]	[0.45]
GeneralPhysician × Mankind	163.71*	137.28*	48.80*	126.67*	48.73*	23.48*	69.67*	125.55*
	[19.17]	[8.66]	[5.03]	[8.81]	[4.09]	[2.31]	[7.14]	[9.53]
GeneralPhysician × Cipla	58.19*	21.93*	3.15‡	1.06	− 5.64*	2.24†	− 15.13*	13.23*
	[5.17]	[3.98]	[1.63]	[1.50]	[0.75]	[1.09]	[2.82]	[2.60]
Constant	23.03*	22.03*	34.16*	26.18*	13.31*	8.35*	38.90*	16.22*
	[0.74]	[0.91]	[1.12]	[0.88]	[0.49]	[0.35]	[1.19]	[0.62]
N	5,962,428	5,962,428	5,962,428	5,962,428	5,962,428	5,962,428	5,962,428	5,962,428
ATC4-Market FE	Y	Y	Y	Y	Y	Y	Y	Y
Month FE	Y	Y	Y	Y	Y	Y	Y	Y
R^2	0.011	0.016	0.009	0.008	0.011	0.01	0.012	0.014

The level of analysis is Brand–ATC4–PhysicianType–Month. The sample comprises of prescriptions by region in 8717 brands spanning 212 ATC4s in 36 months (Jan-2005 to Dec-2007). Physicians are classified as G.P. (MBBS), G.P. (Non MBBS), cardiologist, chest TB specialist, dentist, diabetologist/endocrinologist, ENT specialist, gastroenterologist, gynecologist, nephrologist urologist, neurologist/neuro surgeon, ophthalmologist, oncologist, orthopedic, pediatrician, consulting physician, psychiatrist, dermatologist, general surgeon, plastic surgeon. GeneralPhysician dummy is set to one if the physician is a G.P. Heteroskedasticity-robust standard errors are in brackets

*$p < 0.01$

†$p < 0.05$

‡$p < 0.1$

drugs (A10B), anticoagulants (B01A), and cardiovascular drugs (C01–C10). The data contain 206 ATC4-markets, of which the stakeholder-oriented firm has entered 53, has coexisted with multinational enterprises (MNEs) in 48, and has entered in some but not all dosage forms in 48 markets. There are two reasons for the choice of these medicines. First, these represent a substantial portion (more than 15%) of sales in the Indian pharmaceutical industry. Second, these drugs are typically prescribed to patients rather than administered in hospitals (unlike, for example, cancer treatments), mitigating potential concerns with the data-collection procedure employed by IMS Health in India.

Estimation Framework

To test the hypotheses, we estimate specifications at two levels. First, we conduct firm-level analyses examining how Mankind's price and dosage changes with increase in its market share (to test Hypotheses 1A–1B). Second, we conduct market-level analyses examining how the high-end and low-end incumbents respond to Mankind's entry in these markets (to test Hypotheses 2A–2B and 3A–3B).

Firm-Level Analysis

To test Hypotheses 1A–1B, we estimate the following OLS regression model for firm i in ATC4-market j in month t:

$$y_{ijt} = \beta Mankind_{ijt} + \psi MarketShare_{ijt} + \phi Mankind_{ijt} \times MarketShare_{ijt} + X_{ijt}\gamma + \theta_j + \kappa_t + \delta_{jt} + u_{ijt} \quad (2)$$

where y_{ijt} is per-gram price (in log) or strength (in milligrams) averaged across dosage forms; the vector of explanatory variables X contains firm and market controls; θ_j captures market fixed effect, κ_t month and year fixed effects, δ_{jt} market–year fixed effects, and u_{ijt} is the error term. Thus, we control for factors specific to the industry over time, even if they differ in their effect on firms in individual markets over time. The seasonality in prices is accounted for by the month dummies; the economy-wide changes in the regulatory environment is accounted for by the year dummies, and input price inflation specific to a market and unobserved time-varying size of markets are accounted for by market-year dummies. A negative estimate (if economically and statistically significant) of ϕ, the main coefficient of interest, will reflect that the stakeholder-oriented firm lowers its price

and dosage strength as it gains greater market share and will thus test Hypotheses 1A–1B.

Market-Level Analysis

The impact of the stakeholder-oriented firm's entry on the market, to test Hypotheses 2A–2B (response of high-end incumbents) and 3A–3B (response of low-end incumbents), are estimated by the following regression model for ATC4-market j in month t:

$$y_{jt} = \beta MankindInMarket_{jt} + \gamma QuarterBeforeMankindEntryInMarket_{jt} + \partial MNEInMarket_{jt} + \lambda QuarterBeforeMNEEntryInMarket_{jt} + X_{ijt}\gamma + \theta_j + \kappa_t + \delta_{jt} + \in_{jt}, \quad (3)$$

where y_{jt} is log $P_{\max}$, log $P_{\min}$, $D_{\max}$ (D represents Dose), and $D_{\min}$.

The main coefficient of interest in Eq. (3) is β. A systematic decrease in the high-end incumbents' price and dose and a systematic increase in the low-end incumbents' price and dose in response to the stakeholder-oriented firm's entry will reflect a test of Hypotheses 2A–2B and Hypotheses 3A–3B respectively. Further, a systematic decrease (increase) in the high-end (low-end) incumbents' price and dose in response to an anticipated stakeholder-oriented firm's entry just before actual entry will reflect whether there is a strategic response from high-end (low-end) incumbents even ahead of the actual entry.

The singular focus on *Mankind* as a stakeholder-oriented firm does not adversely affect the empirical analyses of this study. If some of the other firms are themselves stakeholder-oriented firms as well, then classifying them as incumbents should lead to an underestimation of the effect of the stakeholder-oriented firm's entry. Our empirical set-up is thus a conservative test of the effects of stakeholder-oriented firm entry on the market.

Variables

Dependent Variables

We use Log *Price* as the dependent variable measuring log of prices per-gram of a drug. The data are disaggregated at the level of individual brand and dosage for each drug that a firm produces each month. As firms offer different dosages and packages, one cannot use stock keeping unit (SKU) level prices reported by IMS (India) directly for comparison across firms. Thus, the dependent variable is calculated using the formula:

$$\text{Log } Price_{ijt} = \text{Log}\left(\frac{10^3}{n} * \sum_n \frac{Price_{nijt}}{Strength(in\ mg) * N\ of\ Capsules\ in\ Strip * N\ of\ Strips\ in\ Pack}\right),$$

where $Price_{nijt}$ is the price listed in Indian Rupees in the IMS data, and $Price_{ijt}$ is the per-gram price of a drug sold by a firm i in market j in month t, and n represents the dosage form. The analyses are conducted after dropping a small (less than one) percentage of observations (vials, injections, and syrups) due to the difficulty in converting volume information to strength.

In the context of developing countries, the dosage form is a key product design attribute of medicines (Bennett and Yin 2018) and package sizes do not differ across dosage forms within a medicine. Consequently, dosage strengths become a key non-price dimension of product differentiation as firms choose the dosage strengths. Therefore, we use the dosage strength in milligrams, called *Dose*, as a measure of the non-price attribute of the product.

Independent Variables

The independent variable, *Mankind*, is a dummy variable denoting the stakeholder-oriented firm. *MarketShare* of firm i in ATC4-market j in month t is measured by dividing the revenues of firm i in market j in month t by the total revenues in market j in month t. Interaction of *MarketShare* with the *Mankind* dummy is the main coefficient of interest for Hypotheses 1A-1B as it examines how the outcomes of interest vary with increase in the market share of the stakeholder-oriented firm. The interactions of *MarketShare* with *MNE* dummy and with *Cipla* dummy show how the outcomes of interest vary with increase in the market share of these firms (MNE and Cipla) enabling a comparison with that of Mankind.

The main variable of interest, *Mankind in Market*$_{jt}$ indicates whether the stakeholder-oriented firm is present in ATC4-market j in month t. *Quarter Before Mankind Entry*$_{jt}$ is a dummy variable identifying the quarter before Mankind's entry in market j. According to India's Drugs and Cosmetics Act of 1940 (and Rules of 1945), new drugs manufacturing requires prior approval from the national and provincial regulators. The approval process involves several steps: manufacturing on a pilot scale (at least 100,000 tablets or capsules); establishing the stability of drug substances and formulations over a period of 6–12 months to determine shelf-life; and providing regulatory authorities with details about the production processes, packaging, and manufacturing locations. Interviews with drug regulators and company executives reveal that rival firms can observe the regulatory process. Therefore, given the observability of approval process, it is imperative to include the variable, *Quarter Before Mankind Entry*$_{jt}$. This empirical

strategy is similar to Goolsbee and Syverson (2008) as both airlines (analyzed in Goolsbee and Syverson 2008) and pharmaceuticals (analyzed in this study) are industries, where the incumbents can anticipate potential entry as these industries require non-trivial regulatory approvals.

Control Variables. We control for firm characteristics such as *Firm Age* in the market, the number of ATC4-markets, *N of Markets*, in which a firm is present. We also control for market characteristics such as the number of firms in the market, *N of Firms*, and market's age, *Market Age*. The effect of multinational enterprises is accounted for by using an *MNE* dummy for the firm-level analyses and an *MNE in Market* dummy for the ATC4-market-level analyses. The presence of more than one MNE is accounted for by using a control variable *MNE in Market* > *1*. The MNE measure is expected to provide a contrasting coefficient estimate to the stakeholder-oriented firm's coefficient estimate relative to the average firm in the market.

Results

Descriptive Analyses

Table 2 presents the descriptive statistics. Among the 206 ATC4-markets, *Mankind* entered 53 and did not enter 153 markets. Figure 1A plots market-level prices with and without Mankind's entry. The rapid growth in price dispersion is not explained by the changing composition of ATC4-markets over time or by inflation as both affect the average maximum and minimum prices of the composite drug similarly. The growth in drug prices and price dispersion are, however, consistent with prior descriptive evidence from the pharmaceutical markets in India amidst the increase in annual healthcare expenditures (Selvaraj et al. 2012). Further, Fig. 1B shows plots of the maximum and minimum price before and after 10 months of Mankind's entry in a 4-digit ATC market *Atorvastatin*. These plots indicate that maximum price appears to decrease while minimum price appears to increase after Mankind's entry.

Impact of Increasing Market Share on Stakeholder-Oriented Firm Behavior

Table 3 presents the results of Eq. (2) testing Hypotheses 1A–1B. The coefficient estimate of *Mankind* in Column 1 is −0.442, reflecting 36% $\left(=1-e^{-0.442}\right)$ lower price of *Mankind* compared to other firms. Similarly, the coefficient estimate in Column 2 is −3.137, reflecting 5.4% lower dosage strength of *Mankind* relative to the overall average dosage strength of 58 mg in the data. Thus, both the economic and statistical significance supplement the evidence observed earlier on the identification of *Mankind* as a stakeholder-oriented firm. In contrast, as expected the coefficient estimate of MNE dummy in Columns 1–2 is positive and statistically significant, reflecting that MNEs charge relatively higher prices and sell larger dosage forms within an ATC4-market.

The main coefficient of interest, the interaction term $Mankind \times ATC4\ MarketShare$, in Table 3 tests the Hypotheses 1A and 1B that predicted the stakeholder-oriented firm would decrease its prices and package size

Table 2 Descriptive statistics

Sample	153 ATC4 markets in which Mankind never entered					53 ATC4 markets in which Mankind entered				
Variable	*N*	Mean	SD	Min	Max	*N*	Mean	SD	Min	Max
P_{Max}	16,769	0.15	0.47	0.00	10	6258	0.20	0.44	0.00	4.04
P_{Min}	16,769	0.07	0.35	0.00	10	6258	0.04	0.20	0.00	2.88
P_{90}- P_{10}	16,769	0.08	0.29	0.00	8.25	6258	0.10	0.23	0.00	3.99
D_{Min}	16,769	41.8	80.8	0.1	600	6258	23.4	45.7	0.15	500
D_{Max}	16,769	86.8	134.3	0.1	1000	6258	101.6	168.9	0.2	1000
D_{90}- D_{10}	16,769	42.9	104.1	0	999.8	6258	43.2	80.2	0	500
Mankind in Market	16,769	0	0	0	0	6258	0.44	0.5	0	1
MNE in Market	16,769	0.42	0.49	0	1	6258	0.61	0.49	0	1
MNE in Market > 1	16,769	0.08	0.28	0	1	6258	0.41	0.49	0	1
Quarter Before MNE Entry	16,769	0.01	0.10	0	1	6258	0.02	0.13	0	1
Quarter Before Mankind Entry	16,769	0	0	0	0	6258	0.02	0.15	0	1
N of Firms in ATC4 Market	16,769	4.9	4.7	1	29	6258	21.8	16.1	1	65

Based on 156 months (1999–2011) data from IMS Health. Price (*P*) is in Indian Rupees. Dosage (*D*) is in milligrams. Subscripts Max and Min refer to the maximum and minimum in the market. MNE refers to a multinational enterprise. ATC4 refers to Anatomical Therapeutic Classification at the 4-digit level, and each ATC4 serves as a market. $P_{Min}=0.00$ implies the minimum price in the market is close to zero (6.1×10^{-7}) but not zero. Similarly, $P_{Max}=0.00$ implies the maximum price in the market is close to zero (9.3×10^{-5}) but not zero. Unit of observation is market–month

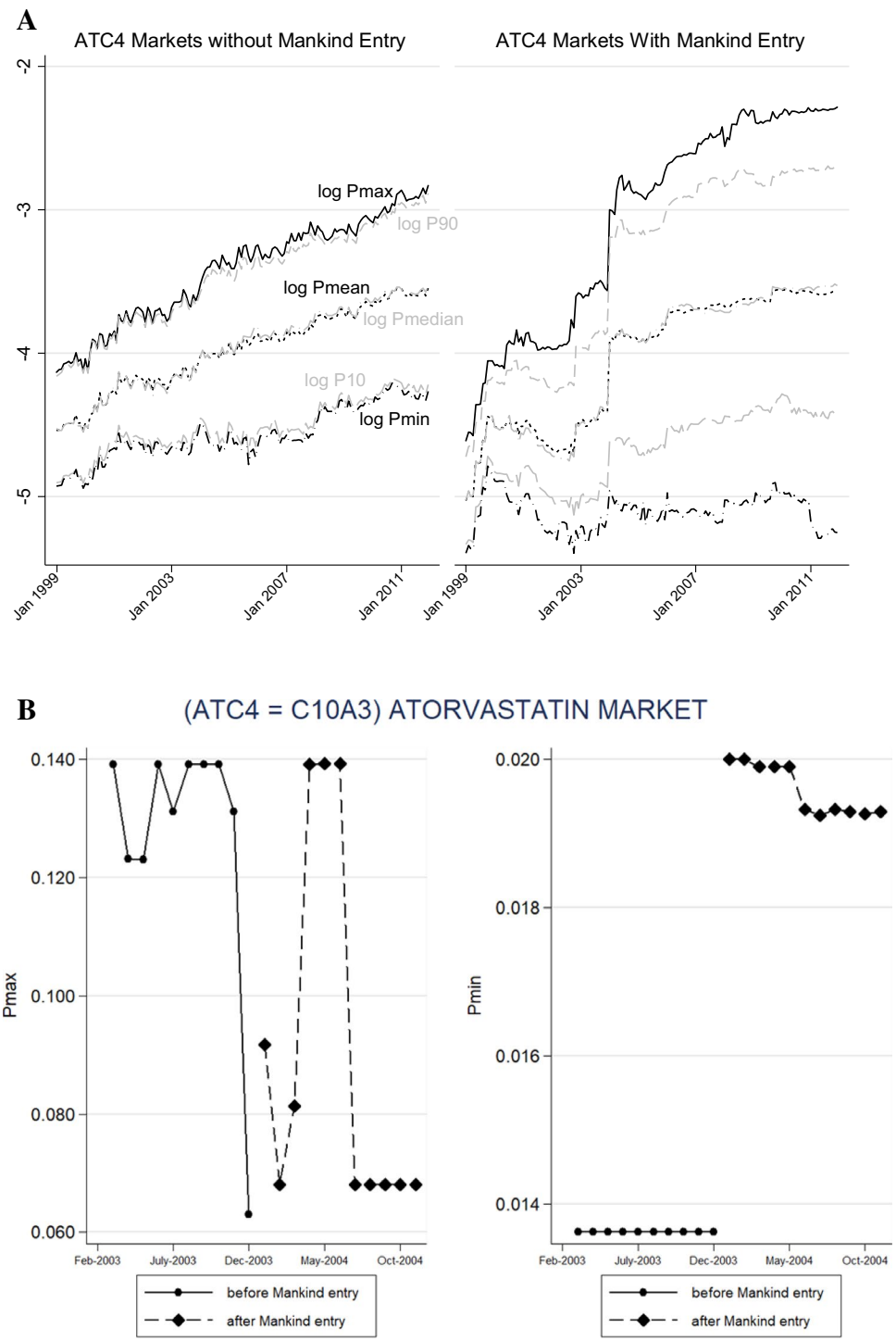

Fig. 1 **a** Price dispersion in Indian pharmaceutical markets. *Notes* Figure shows the evolution of the log of monthly prices of a strength-adjusted representative drug of 1 g in our sample. For example, the average of log of P_{max} is obtained by averaging maximum log of prices across all markets in a given month. **b** Price in an illustrative market before and after Mankind entry. *Notes* Figure shows the maximum and minimum price in 4-digit ATC (C10A3) *Atorvastatin* market before and after 10 months of Mankind entry in Jan-2004

(dosage) with an increase in its market share. The coefficient estimate of *ATC4 MarketShare* in Column 3 is 0.428, reflecting that for an average firm a 100% increase in market share is associated with a 53.4% increase in price. In contrast, the coefficient estimate of *Mankind* × *ATC4 MarketShare* is negative and statistically significant at 1% level in Columns 3 and 4, reflecting that Mankind's price per gram as well as dosage strength decrease by about 92% $\left(=1-e^{(0.428-2.991)}\right)$ and 168 (=185.25–17.39) milligrams respectively with a doubling of the market share. Thus, both economic and statistical significance of the results support Hypotheses 1A and 1B.

To further examine how the findings of the stakeholder-oriented firm contrast with the behavior of an average MNE or a low-cost firm facing shareholder pressures, *MNE* and

Table 3 Stakeholder-oriented firm behavior with an increase in market share

Column	1	2	3	4
Level of analysis	Firm–ATC4 market–month			
Markets in sample	All	All	All	All
D.V.	log *P*	Dose	log *P*	Dose
Mankind	−0.442* [0.036]	−3.137† [1.247]	−0.383* [0.037]	0.564 [1.330]
MNE	0.361* [0.066]	5.532‡ [2.888]	0.303* [0.088]	2.712 [3.107]
ATC4 Market Share			0.428* [0.115]	17.398* [5.382]
Mankind × ATC4 Market Share (Hypotheses 1A–1B)			−2.991* [1.024]	−185.25* [21.043]
MNE × ATC4 Market Share			−0.02 [0.284]	1.737 [9.411]
Cipla			−0.079† [0.034]	−1.165 [1.948]
Cipla × ATC4 Market Share			−0.367‡ [0.194]	−5.106 [6.352]
Market controls	Y	Y	Y	Y
Firm controls	Y	Y	Y	Y
Constant	−4.893* [0.066]	0.356 [3.8891]	−4.937* [0.076]	−1.54 [4.373]
N	218,343	218,343	218,343	218,343
Month FE	Y	Y	Y	Y
ATC4-Market FE	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
Year × ATC4-Market FE	Y	Y	Y	Y
R^2	0.796	0.791	0.797	0.792

The dependent variables are log price per 1 g of drug and Dose in milligrams. Market, month, year, and market × year fixed effects are included, and standard errors are clustered at the firm level

*$p < 0.01$

†$p < 0.05$

‡$p < 0.1$

Cipla dummies were interacted separately with *ATC4 MarketShare* in Columns 3 and 4. The coefficient of the *Cipla* dummy is negative and statistically significant, reflecting a 7.6% lower price relative to other firms in the market. Although the coefficient estimate of *Cipla* × *ATC4 MarketShare* is negative in Column 3, it is substantively smaller compared to the main effect of *ATC4 MarketShare*, resulting in a net increase in Cipla's price per-gram by about 6.3% $\left(= e^{(0.428-0.367)} - 1\right)$ as it doubles market share. Similarly, the coefficient estimate of *Cipla* × *ATC4 MarketShare* is negative but small in magnitude and not significant in Column 4, reflecting that Cipla's dosage strength choices within an ATC4-market are not significantly different from those of other firms. MNEs are also found to behave differently from Mankind in their pricing and dosage-form choices as they become more dominant. These findings reaffirm that there is heterogeneity in the behavior of stakeholder-oriented firm from both MNEs and low-cost firms facing shareholder pressures, such as *Cipla*.

These results were obtained from estimations that controlled for the *Number of firms* in the market. One may argue that Hirschman Herfindahl Index (HHI) should be used as a measure of market concentration. However, Kwoka (1998) documents that HHI measures could be biased in the presence of a competitive fringe. As Indian pharmaceutical markets have a small number of dominant firms and a large number of firms with relatively small market shares, we controlled for the *Number of firms* (measuring the number of substitute brands). Thus, we follow Kyle (2007) that uses *Number of firms* instead of market concentration and adopt the recommendation of Sutton (2007) for industries such as pharmaceuticals that feature multiple submarkets containing a large number of relatively small firms. As our analyses include both ATC4-market fixed effects and ATC4-market-year fixed effects, the choice of specific market share concentration index as a control variable should not materially impact the main results of our analyses. Nonetheless, we conducted additional analysis while also including HHI. Our results are robust and qualitatively similar in economic magnitude, direction, and statistical significance[1].

Impact of Stakeholder-Oriented Firm Entry on Market

Hypotheses 2A and 2B predicted that stakeholder-oriented firm entry would lead high-end incumbents to lower prices and package size (dosage). Testing these hypotheses, Table 4 presents the results obtained from estimating Eq. (3). The key explanatory variable of interest is *Mankind in Market*. The coefficient estimate in Column 1 is −0.088, statistically significant at 1% level, reflecting an 8.4% decline in the maximum price per-gram (averaged across dosage forms at the ATC4-market level) thus providing evidence with both economic and statistical significance in support of Hypothesis 2A. As the presence of Mankind's own observations may bias these results, we also estimate the models after removing Mankind's observations. The results, shown in Columns 1 and 3, are qualitatively similar and support Hypothesis 2A. Results similar to prices in Column 1 are obtained for dosage and presented in Column 5 of Table 4. The coefficient estimate of *Mankind in Market* is −6.847, statistically

[1] For a reference to additional robustness in our online supplement here and later, see: online supplement to this article: https://www.dropbox.com/s/2wt6x4elt94zei9/OnlineSupplement-StakeholderOrientationandMarketImpact.pdf?dl=0.

Table 4 Impact of stakeholder-oriented firm's entry on the market

Column	1	2	3	4	5	6	7	8
Level of analysis	ATC4 market–month							
Sample	Including Mankind		Excluding Mankind		Including Mankind		Excluding Mankind	
D.V.	log P_{max}	log P_{min}	log P_{max}	log P_{min}	D_{max}	D_{min}	D_{max}	D_{min}
Mankind in Market (Hypotheses 2A–2B; 3A–3B)	−0.088* [0.029]	0.163* [0.056]	−0.095* [0.029]	0.254* [0.052]	−6.847‡ [4.093]	3.288* [1.043]	−5.734 [3.878]	1.899† [0.795]
Quarter Before Mankind Entry	−0.023 [0.024]	0.099 [0.061]	−0.011 [0.021]	0.105‡ [0.059]	−4.280‡ [2.341]	0.416 [0.562]	−4.611† [2.303]	0.417 [0.564]
MNE in Market	0.049 [0.077]	−0.136 [0.101]	0.049 [0.077]	−0.17 [0.106]	15.233 [9.330]	−1.534 [3.558]	15.423‡ [9.329]	−1.528 [3.557]
MNE in Market > 1	0.038 [0.039]	0.03 [0.059]	0.038 [0.039]	0.032 [0.059]	9.554 [8.647]	1.484‡ [0.822]	9.554 [8.647]	1.500‡ [0.822]
Quarter Before MNE Entry	−0.028 [0.040]	0.034 [0.062]	−0.028 [0.040]	0.037 [0.063]	−7.933 [8.878]	1.002 [1.081]	−7.936 [8.879]	1.016 [1.081]
N Firms	0.038* [0.007]	−0.055* [0.007]	0.038* [0.007]	−0.056* [0.008]	1.666* [0.392]	−1.432* [0.375]	1.672* [0.392]	−1.433* [0.375]
Constant	−4.050* [0.042]	−4.150* [0.048]	−4.050* [0.042]	−4.119* [0.050]	65.705* [4.126]	55.699* [4.876]	64.918* [4.158]	55.563* [4.883]
N	23,207	23,207	23,207	23,207	23,207	23,207	23,207	23,207
Month FE	Y	Y	Y	Y	Y	Y	Y	Y
ATC4 Market-FE	Y	Y	Y	Y	Y	Y	Y	Y
Year FE	Y	Y	Y	Y	Y	Y	Y	Y
Year × ATC4 Market-FE	Y	Y	Y	Y	Y	Y	Y	Y
R^2	0.917	0.851	0.916	0.851	0.881	0.859	0.881	0.859

The dependent variables are the maximum or minimum of log price or dosage (in milligrams) at the market level. Mankind's observations are included in Columns 1, 2, 5, 6 and excluded in Columns 3, 4, 7, 8. Market, month, year, and market × year fixed effects are included, and standard errors are clustered at the market level

*$p < 0.01$

†$p < 0.05$

‡$p < 0.1$

significant at 10% level, reflecting an 11.8% decline (overall average dosage strength is 58 mg) in the maximum dosage strength and thus provide evidence in support of Hypothesis 2B. Removing Mankind's observations in Column 7 reveals a qualitatively similar decline in the maximum dosage strength, but it does not show statistical significance at 10% significance level (p value = 0.14).

Hypotheses 3A and 3B predicted that stakeholder-oriented firm entry would lead low-end incumbents to increase prices and package size (dosage). Columns 2 and 4 in Table 4 show the results testing Hypothesis 3A. The coefficient estimate of *Mankind in Market* in Column 2 is 0.163, statistically significant at 10% level, reflecting a 17.7% increase in the maximum price per-gram (averaged across dosage forms at the ATC4-market level) and thus provide evidence with both economic and statistical significance in support of Hypothesis 3A. These results hold even after excluding Mankind's own observations as shown in Column 4. Results similar to prices in Column 2 are obtained for dosage and presented in Column 6 of Table 4. The coefficient estimate of *Mankind in Market* is 3.288, statistically significant at 1% level, reflecting a 5.7% increase (overall average dosage strength is 58 mg) in the minimum dosage strength and thus provide evidence in support of Hypothesis 3B. These results hold even after excluding Mankind's own observations as shown in Column 8 although with some reduction in magnitude. Further, these results are qualitatively similar and robust to the inclusion of HHI (see footnote 1). While the magnitude and direction in Table S2 are comparable to that in Table 4, Columns 5 and 7 in Table S2 do not show statistical significance at 10% significance level (p value = 0.103 in Column 5 and p value = 0.14 in Column 7 that is same as Column 7 in Table 4).

Additional Analyses and Robustness Tests

This section documents the results of additional analyses and robustness tests. First, we conduct an additional analysis using *Cipla*, a prominent low-cost firm. It has a substantively

different ownership structure and faces shareholder pressures that distinguish *Cipla* from *Mankind* that is also a low-cost firm but with stakeholder orientation. Second, to examine incumbents' response to anticipated entry of *Mankind*, our main analysis used *Quarter Before Mankind Entry*. Following Goolsbee and Syverson (2008), we further analyze the timing of incumbent responses to Mankind's entry by including monthly time dummies before Mankind's entry. Third, while our main analyses examined the effects of high-end and low-end incumbents' response, our data also enables estimation of average outcomes. In this analysis, we also examine how the average price response corresponds to the dosage forms in which Mankind specifically enters within a market.

Falsification with Cipla

Analysis using *Cipla* addresses the potential concern that the price responses we observe in the market are not unique to a stakeholder orientation but may be observed in response to any low-cost firm even with profit-maximizing assumption. Table S3 (see footnote 1) shows the results. The coefficient estimate of *Cipla in Market* in Column 1 (response of high-end incumbents) is positive, *opposite* to that we observed earlier for Mankind, and is not statistically significant. Similarly, the coefficient estimate of *Cipla in Market* in Column 2 (response of low-end incumbents) is negative, *opposite* to that we observed earlier for Mankind, and is not statistically significant. Thus, these results reflect that Cipla's entry does not elicit incumbent price responses similar to that for Mankind's entry.

Anticipated Entry

Appendix Table 5 shows the results (also graphically depicted, see footnote 1) from additional analysis estimating the extent to which incumbents respond to Mankind's anticipated entry. The coefficient estimates of *Mankind in Market* in Columns 1 and 3 reflect a decrease in the maximum price per-gram after Mankind's actual entry. The coefficient estimates of the time dummies (measuring response to Mankind's anticipated entry) in Columns 1 and 3 are statistically significant during 4–7 months before Mankind's actual entry, reflecting a systematic incumbent response at the high end of the market before Mankind's actual entry. However, the high-end incumbents' prices in other months (e.g., 1–3 months in Columns 1 and 3) before Mankind's entry cannot be statistically distinguished from zero. Similarly, the coefficient estimates of *Mankind in Market* in Columns 2 and 4 reflect an increase in the minimum price per-gram after Mankind's actual entry thus revealing evidence of low-end incumbents' response to Mankind's actual entry. The coefficient estimates of the time dummies (measuring response to Mankind's anticipated entry) in Columns 2 and 4 are statistically significant in the 1 month before Mankind's actual entry, however, the low-end incumbents' prices in other months prior to Mankind's entry cannot be statistically distinguished from zero (Columns 2 and 4).

Within Market Average Responses at the Dosage Level

Appendix Table 6 shows the impact of Mankind's entry on average prices by leveraging Mankind's entry into some, but not all, dosages within ATC4-markets. If average price response is indeed driven by Mankind's entry and not due to some unobserved market characteristics, one should expect to see effects only in those dosage forms where Mankind enters and not see effects in dosage forms where Mankind does not enter. For example, if an ATC4-market has three dosage forms, 5, 10, and 15 mg tablets, and Mankind enters 5 mg but not the other dosage forms, the analysis considers 5 mg as the treated group whereas 10 and 15 mg as the control group within this ATC4-market. "Mankind has or will enter dosage form" controls for the average differences between the ATC4-markets in which Mankind ever enters and the markets in which Mankind does not enter. "Mankind in dosage form" estimates the difference in pricing in two different dosage forms in a market where one dosage submarket experiences entry by Mankind and the other does not. The sample used for estimations exclude five out of 53 ATC4-markets in which Mankind has entered, as these five markets do not exhibit any variation at the dosage-form level. Month fixed effects control for time trends before and after Mankind's entry. The coefficient of "Mankind in dosage form" in Column 1 reflects lower average prices in the treated dosage form relative to control dosage forms within the same ATC4-market. Columns 2 and 3 suggest the statistical significance of these results hold even after including the dosage-form fixed effects and ATC4-market-time fixed effects.

Conclusion

This study investigated the impact of stakeholder-oriented firm entry on the market. The high-end incumbents respond by lowering their prices and dosage, whereas the low-end incumbents respond by increasing their prices and dosage. These results are robust to various estimation methodologies and are specific to the focal stakeholder-oriented firm entry in these markets as similar results are not obtained in response to the entry of a low-cost firm facing shareholder pressures. By furnishing evidence on the market impact of stakeholder-oriented firm entry, this study contributes primarily by providing a new line of inquiry for extension of the stakeholder theory (Freeman et al. 2010). Given that a significant proportion of healthcare output is allocated via markets in many countries

(both developed and developing), further research opportunities exist in the industrial organization of healthcare markets (Gaynor et al. 2015). Building on our findings, future research can examine the impact of stakeholder orientation in related sectors such as hospitals, physician services, and health insurance.

Emerging markets, such as India, have historically used price controls to lower price dispersion for basic medicines. Such policies have been known to delay the launch of new drugs (Cockburn et al. 2016; Kyle 2007). This study finds that the stakeholder-oriented firm's entry is associated with a decline in price dispersion while increasing access to an under-served population. It implies that in mixed oligopoly contexts, where a state-owned firm could be vulnerable to political manipulation (White 2002), a stakeholder-oriented firm may be an effective option. However, we acknowledge that this study did not assess welfare implications of the entry of a stakeholder-oriented firm. While the results indicate a reduction of prices from high-end incumbents and a reduction of average prices in the dosage forms the stakeholder-oriented firm entered, the results also suggest an increase in prices from low-end incumbents in response to a stakeholder-oriented firm entry in those markets.

Our results are based on a single-industry and should be interpreted with caution. These findings are likely to apply in sectors with large social returns above any private returns such as microfinance, education, and affordable housing (Besley and Ghatak 2017b). More studies are needed to draw general conclusions however regarding the socio-economic consequences of stakeholder orientation. Given the archival data, endogeneity concerns cannot be completely ruled out. Although these are partially controlled for by the fixed effects in our analyses (and in our robustness tests), unobserved firm-specific shocks still cannot be ruled out. We hope that this work provides a context to build richer models of competition featuring stakeholder-oriented firms that do not have shareholder-value maximization as their sole objective. Future research could build on models such as Ishibashi and Matsumura (2006) to empirically test whether an entry by a stakeholder-oriented firm promotes R&D investment by incumbents in neglected geographies and diseases.

Acknowledgements The authors are grateful to the Section Editor, Julie Nelson and two anonymous reviewers for their comments and suggestions. The authors also thank Ernie Berndt, Iain Cockburn, Pilar García-Gómez, Maitreesh Ghatak, Ilze Kivleniece, Vineet Kumar, Richard Manning, Anita McGahan, Philipp Meyer-Doyle, Lilach Nachum, Enrico Pennings, Ivan Png, Rajnish Rai, Mike Scherer, Ken Shadlen, Jasjit Singh, K. Sudhir, Minyuan Zhao and the participants at the Academy of Management, Ghoshal Conference at the London Business School, Israel Strategy Conference, Asian Meetings of the Econometrics Society, SMS India Special Conference, DRUID Barcelona, Erasmus School of Economics seminar series (Health Group), INSEAD seminar series, Tilburg seminar series and NBER Productivity Lunch for their feedback and suggestions. Data from IMS Health India is gratefully acknowledged. Chatterjee acknowledges the Young Faculty Research Chair and Research Grant #7307A at IIM Bangalore and the Bharti Institute and Max Institute Research Fellowship at the Indian School of Business for this study. Usual disclaimers apply. Corresponding author can be reached at chirantan@gmail.com.

Disclosure The authors declare that none of the authors of this study are affiliated with the company, *Mankind*, in any way, and this study reflects their unbiased evaluation of the company for the time period covered in this study.

Funding This study is funded by Indian School of Business & IIM Bangalore Grant Number #7307A.

Compliance with Ethical Standards

Conflict of interest All authors declares that they have no conflict of interest.

Ethical approval This article does not contain any studies with human participants or animals performed by any of the authors.

Appendix

See Tables 5 and 6.

Table 5 Impact of stakeholder-oriented firm's anticipated entry on prices

Column	1	2	3	4
Level of Analysis	ATC4 market–month			
Sample	Including Mankind		Excluding Mankind	
D.V.	log PMax	log PMin	log PMax	log PMin
Mankind in Market	−0.122* [0.042]	0.174* [0.066]	−0.128* [0.042]	0.269* [0.067]
MNE in Market	0.048 [0.077]	−0.136 [0.101]	0.048 [0.077]	−0.171 [0.106]
MNE in Market > 1	0.038 [0.039]	0.031 [0.059]	0.038 [0.039]	0.033 [0.059]
Quarter Before MNE Entry	−0.028 [0.040]	0.034 [0.062]	−0.028 [0.040]	0.037 [0.063]
1 month Before Mankind Entry	−0.094 [0.057]	0.180† [0.091]	−0.055 [0.040]	0.193† [0.089]
2 months Before Mankind Entry	−0.045 [0.032]	0.082 [0.081]	−0.044 [0.032]	0.09 [0.082]
3 months Before Mankind Entry	−0.042 [0.031]	0.059 [0.082]	−0.041 [0.032]	0.069 [0.081]
4 months Before Mankind Entry	−0.051‡ [0.030]	0.056 [0.083]	−0.049‡ [0.030]	0.055 [0.083]
5 months Before Mankind Entry	−0.069† [0.033]	0.017 [0.078]	−0.068† [0.033]	0.024 [0.078]
6 months Before Mankind Entry	−0.069† [0.035]	−0.001 [0.081]	−0.068‡ [0.035]	0.012 [0.081]
7 months Before Mankind Entry	−0.073‡ [0.044]	0.011 [0.078]	−0.071 [0.044]	0.022 [0.078]
8 months Before Mankind Entry	−0.042 [0.035]	−0.097 [0.099]	−0.041 [0.035]	−0.089 [0.100]
9 months Before Mankind Entry	0.007 [0.031]	−0.067 [0.098]	0.009 [0.031]	−0.061 [0.100]
N Firms	0.038* [0.007]	−0.055* [0.008]	0.038* [0.007]	−0.056* [0.008]
Constant	−4.035* [0.042]	−4.125* [0.049]	−4.035* [0.042]	−4.096* [0.051]
N	23,207	23,207	23,207	23,207
ATC4-Market FE	Y	Y	Y	Y
Month FE	Y	Y	Y	Y
Year FE	Y	Y	Y	Y
Year × ATC4-Market FE	Y	Y	Y	Y
R^2	0.917	0.851	0.916	0.851

The dependent variables are the maximum or minimum of log price at the market level. Mankind's observations are included in Columns 1–2 and excluded in Columns 3–4. Market, month, year, and market × year fixed effects are included, and standard errors are clustered at the market level

*$p < 0.01$

†$p < 0.05$

‡$p < 0.1$

Table 6 Impact of stakeholder-oriented firm's entry on average prices

Column	1	2	3
Level of analysis	Firm–SKU–month		
Sample	48 ATC4-markets where Mankind has ever entered but not in all dosage forms of the market		
D.V.	log P	log P	log P
Mankind has or will enter dosage form	−0.110* [0.034]	–	–
Mankind in dosage form	−0.051† [0.022]	−0.028‡ [0.015]	−0.034† [0.016]
MNE	0.450* [0.102]	0.293* [0.061]	0.335* [0.057]
Mankind in dosage form × MNE	−0.114 [0.096]	0.042 [0.057]	0.001 [0.051]
Market controls	Y	Y	Y
Firm controls	Y	Y	Y
Constant	−8.405* [0.066]	−8.377* [0.085]	−8.356* [0.084]
N	290,680	290,680	290,680
Month FE	Y	Y	Y
ATC4-Market FE	Y	Y	Y
Dosage FE	N	Y	Y
Year FE	N	N	Y
Year × ATC4-Market FE	N	N	Y
R^2	0.51	0.74	0.76

We exploit the variation in the stakeholder-oriented firm's entry into specific dosage forms within a market by estimating the following equation for firm i in market j in dosage n in month t:

$$y_{ijnt} = \beta Mankind_{ijnt} + X_{ijt}\gamma + \alpha_n + \theta_j + \kappa_t + \delta_{jt} + u_{ijt},$$

where α_n captures dosage-form fixed effects or the average differences in the outcome between dosage forms that Mankind enters (treated groups) and does not enter (control groups). A negative estimate of β will reflect a lowering of the average incumbent price in response to the stakeholder-oriented firm entry into the dosage form within an ATC4-market. The sample for analyses is ATC4 markets in which Mankind has or will enter excluding those ATC4 markets where Mankind has entered all dosage forms leaving no variation in the dosage form to be exploited. "Mankind has or will enter dosage form" controls for the average differences between the markets in which Mankind enters and in which Mankind does not enter. "Mankind in dosage form" estimates the difference in pricing in two different dosage forms in a market where one dosage submarket experiences entry by Mankind and the other not. Standard errors are clustered at the firm level

*$p < 0.01$

†$p < 0.05$

‡$p < 0.1$

References

Amaldoss, W., & Shin, W. (2011). Competing for low-end markets. *Marketing Science, 30*(5), 776–788.

Ashraf, N., & Bandiera, O. (2017). Altruistic capital. *American Economic Review, 107*(5), 70–75.

Balotsky, E. R. (2009). Where strategy and ethics converge: Pharmaceutical industry pricing policy for Medicare part D beneficiaries. *Journal of Business Ethics, 84*, 75–88.

Bate, R., Jin, G. Z., & Mathur, A. (2011). Does price reveal poor-quality drugs? Evidence from 17 countries. *Journal of Health Economics, 30*(6), 1150–1163.

Bennett, D., & Yin, W. (2018). The market for high-quality medicine: Retail chain entry and drug quality in India. Review of Economics and Statistics (forthcoming).

Berman, S. L., Wicks, A. C., Kotha, S., & Jones, T. M. (1999). Does stakeholder orientation matter? The relationship between stakeholder management models and firm financial performance. *Academy of Management Journal, 42*(5), 488–506.

Berry, S. (1992). Estimation of a model of entry in the airline industry. *Econometrica, 60*(4), 889–917.

Besley, T., & Ghatak, M. (2017a). Profit with purpose? A theory of social enterprise. *American Economic Journal: Economic Policy, 9*(3), 19–58.

Besley, T., & Ghatak, M. (2017b). Pro-social motivation and incentives. *Annual Review of Economics*, 18 (forthcoming).

Bhaskarabhatla, A., & Chatterjee, C. (2017). The role of physicians in prescribing irrational fixed-dose combination medicines in India. *Social Science & Medicine, 174*, 179–187.

Bhaskarabhatla, A., Chatterjee, C., Anurag, P., & Pennings, E. (2016). Mitigating regulatory impact: The case of partial price controls on metformin in India. *Health Policy and Planning, 32*(2), 194–204.

Bisserbe, N. (2009). Testing Times for Mankind Pharma: The rising star needs new strategies to sustain its robust growth. Business-World, November Issue.

Borenstein, S. (1989). Hubs and high fares: dominance and market power in the U.S. airline industry. *Rand Journal of Economics, 20*(3), 344–365.

Bosse, D. A., Phillips, R. A., & Harrison, J. S. (2009). Stakeholders, reciprocity, and firm performance. *Strategic Management Journal, 30*(4), 447–456.

Bunch, D. S., & Smiley, R. (1992). Who deters entry? Evidence on the use of strategic entry deterrents. *Review of Economics and Statistics, 74*(3), 509–521.

Business Standard. (2012). Mankind Pharma set to tap core drugs market, July 19.

Capps, C., Carlton, D. W., & David, G. (2017). *Antitrust treatment of nonprofits: Should hospitals receive special care?* (p. w23131) Cambridge: National Bureau of Economic Research.

Casadesus-Masanell, R., & Ghemawat, P. (2006). Dynamic mixed duopoly: A model motivated by Linux vs. Windows. *Management Science, 52*(7), 1072–1084.

Casadesus-Masanell, R., & Llanes, G. (2011). Mixed source. *Management Science, 57*(7), 1212–1230.

Caves, R. E., & Porter, M. E. (1977). From entry barriers to mobility barriers: Conjectural decisions and contrived deterrence to new competition. *Quarterly Journal of Economics, 91*(2), 241–261.

Chatterjee, C., Kubo, K., & Pingali, V. (2015). The consumer welfare implications of governmental policies and firm strategy in markets for medicines. *Journal of Health Economics, 44*, 255–273.

Chaudhuri, S., Goldberg, P. K., & Jia, P. (2006). Estimating the effects of global patent protection in pharmaceuticals: A case study of quinolones in India. *American Economic Review, 96*(5), 1477–1514.

Cockburn, I. M., Lanjouw, J. O., & Schankerman, M. (2016). Patents and the global diffusion of new drugs. *American Economic Review, 106*(1), 136–164.

Constantatos, C., & Perrakis, S. (1997). Vertical differentiation: Entry and market coverage with multiproduct firms. *International Journal of Industrial Organization, 16*(1), 81–103.

Cool, K., Röller, L. H., & Leleux, B. (1999). The relative impact of actual and potential rivalry on firm profitability in the

pharmaceutical industry. *Strategic Management Journal, 20*(1), 1–14.
Davis, S., Murphy, K., & Topel, R. (2004). Entry, pricing, and product design in an initially monopolized market. *Journal of Political Economy, 112*(1), 188–225.
De Fraja, G., & Delbono, F. (1989). Alternative strategies of a public enterprise in oligopoly. *Oxford Economic Papers, 41*, 302–311.
Deneffe, D., & Masson, R. T. (2002). What do not-for-profit hospitals maximize? *International Journal of Industrial Organization, 20*, 461–492.
Deshpande, R., & Winig, L. 2006. Cipla. Harvard Business School Case 503 – 085.
Devinney, T. M., Mcgahan, A. M., & Zollo, M. (2013). A research agenda for global stakeholder strategy. *Global Strategy Journal, 3*(4), 325–337.
Donaldson, T.. Preston, L. E. (1995). The stakeholder theory of the corporation: Concepts, evidence, and implications. *Academy of Management Review, 20*(1), 65–91.
Dranove, D., & Ludwick, R. (1999). Competition and pricing by nonprofit hospitals: A reassessment of Lynk's analysis. *Journal of Health Economics, 18*(1), 87–98.
Duggan, M. (2000). Hospital market structure and the behavior of not-for-profit hospitals. *Rand Journal of Economics, 33*(3), 433–446.
Dutta, A. (2011). From free entry to patent protection: Welfare implications for the Indian pharmaceutical industry. *Review of Economics and Statistics, 93*(1), 160–178.
Emanuel, E. (1999). Choice and representation in health care. *Medical Care Research and Review, 56*(1), 113–140.
Evans, W. N., & Kessides, I. N. (1993). Localized market power in the US airline industry. *Review of Economics and Statistics, 75*(1), 66–75.
Fiss, P. C., & Zajac, E. J. (2004). The diffusion of ideas over contested terrain: The (non) adoption of a shareholder value orientation among German firms. *Administrative Science Quarterly, 49*(4), 501–534.
Flammer, C., & Bansal, P. (2017). Does a long-term orientation create value? Evidence from a regression discontinuity. *Strategic Management Journal, 38*(9), 1827–1847.
Flammer, C., & Kacperczyk, A. (2016). The impact of stakeholder orientation on innovation: Evidence from a natural experiment. *Management Science, 62*(7), 1982–2001.
Frank, R. G., & Salkever, D. (1992). Pricing, patent loss and the market for pharmaceuticals. *Southern Economic Journal, 59*(2), 165–179.
Frank, R. G., & Salkever, D. (1997). Generic entry and the pricing of pharmaceuticals. *Journal of Economics and Management Strategy, 6*, 75–90.
Frank, R. G., & Salkever, D. S. (1991). The supply of charity services by nonprofit hospitals: Motives and market structure. *Rand Journal of Economics, 22*(3), 430–445.
Freeman, R. E. (2008). Ending the so-called 'Friedman-Freeman' debate. *Business Ethics Quarterly, 18*(2), 153–190.
Freeman, R. E. (2010). Managing for stakeholders: Trade-offs or value creation. *Journal of Business Ethics, 96*, 7–9.
Freeman, R. E., Harrison, J. S., Wicks, A. C., Parmar, B. L., & De Colle, S. (2010). *Stakeholder Theory: The State of the Art*. Cambridge: Cambridge University Press.
Freeman, R. E., Martin, K., & Parmar, B. (2007). Stakeholder capitalism. *Journal of Business Ethics, 74*, 303–314.
Freeman, R. E., Wicks, A. C., & Parmar, B. (2004). Stakeholder theory and "the corporate objective revisited". *Organization Science, 15*(3), 364–369.
Friedman, M. (1970). The social responsibility of business is to increase its profits. *New York Times Magazine, 13*, 32–33.
Froot, K. A., Perold, A. F., & Stein, J. C. (1992). Shareholder trading practices and corporate investment horizons. *Journal of Applied Corporate Finance, 5*(2), 42–58.
Gaynor, M., Ho, K., & Town, R. J. (2015). The industrial organization of health-care markets. *Journal of Economic Literature, 53*(2), 235–284.
Geroski, P. (1995). What do we know about entry? *International Journal of Industrial Organization, 13*, 421–440.
Gilmartin, M. J., & Freeman, R. E. (2002). Business ethics and health care: A stakeholder perspective. *Health Care Management Review, 27*(2), 52–65.
Goolsbee, A., & Syverson, C. (2008). How do incumbents respond to the threat of entry? Evidence from the major airlines. *Quarterly Journal of Economics, 123*(4), 1611–1633.
Grabowski, D. C., & Hirth, R. A. (2003). Competitive spillovers across non-profit and for-profit nursing homes. *Journal of Health Economics, 22*(1), 1–22.
Grabowski, H. G., & Vernon, J. M. (1992). Brand loyalty, entry, and price competition in pharmaceuticals after the 1984 Drug Act. *Journal of Law and Economics, 35*(2), 331–350.
Grilo, I. (1994). Mixed duopoly under vertical differentiation. *Annals of Economics and Statistics, 33*, 91–112.
Hansmann, H. B. (1987). Economic theories of non-profit organizations. In W. W. Powell (Ed.), The non-profit sector: A research handbook (pp. 27–42). Bellevue, WA: Yale University Press.
Hemphill, T. A. (2010). Extraordinary pricing of orphan drugs: Is it a socially responsible strategy for the US pharmaceutical industry? *Journal of Business Ethics, 94*(2), 225–242.
Henisz, W. J., Dorobantu, S., & Nartey, L. (2014). Spinning gold: The financial returns to external stakeholder engagement. *Strategic Management Journal, 35*(12), 1727–1748.
Hirth, R. A. (1997). Competition between for-profit and nonprofit health care providers: Can it help achieve social goals? *Medical Care Research and Review, 54*(4), 414–438.
Hirth, R. A. (1999). Consumer information and competition between nonprofit and for-profit nursing homes. *Journal of Health Economics, 18*(2), 219–240.
Ishibashi, I., & Matsushima, N. (2009). The existence of low-end firms may help high-end firms. *Marketing Science, 28*(1), 136–147.
Ishibashi, I., & Matsumura, T. (2006). R&D competition between public and private sectors. European Economic Review, *50*(6), 1347–1366.
Jain, T., Aguilera, R. V., & Jamali, D. (2017). Corporate stakeholder orientation in an emerging country context: A longitudinal cross industry analysis. *Journal of Business Ethics, 143*(4), 701–719.
Jones, T. M. (1995). Instrumental stakeholder theory: A synthesis of ethics and economics. *Academy of Management Review, 20*(2), 404–437.
Kakkar, H. (2011). *A giant leap for mankind: From small beginnings, mankind is set to take the pharma sector by storm*. Outlook Business Magazine, December 24.
Kapczynski, A. (2009). Harmonization and its discontents: A case study of TRIPS implementation in India's pharmaceutical sector. *California Law Review, 97*, 1571–1650.
Khanna, N., & Tice, S. 2000. Strategic responses of incumbents to new entry: The effect of ownership structure, capital structure, and focus. *Review of Financial Studies, 13*(3), 749–779.
Klein, P. G., Mahoney, J., McGahan, A., & Pitelis, C. (2012). Who is in charge? A property rights perspective on stakeholder governance. *Strategic Organization, 10*(3), 304–315.
Koenigsberg, O., Kohli, R., & Montoya, R. (2010). Package size decisions. *Management Science, 56*(3), 485–494.
Kwoka, J. E. (1998). Herfindahl concentration with an import fringe and with supply constraints. *Review of Industrial Organization, 13*(4), 401–407.

Kyle, M. (2007). Pharmaceutical price controls and entry strategies. *Review of Economics and Statistics, 89*(1), 88–99.
Leary, M. T., & Roberts, M. R. (2014). Do peer firms affect corporate financial policy? *Journal of Finance, 69*(1), 139–178.
Lynk, W. J. (1995). Nonprofit hospital mergers and the exercise of market power. *Journal of Law and Economics, 38*(2), 437–461.
Maitland, I. (2002). Priceless goods: How should life-saving drugs be priced? *Business Ethics Quarterly, 12*(04), 451–480.
Merrill, W., & Schneider, N. (1966). Government firms in oligopoly industries: A shortrun analysis. *Quarterly Journal of Economics, 80*, 400–412.
Miles, S. (2017). Stakeholder theory classification: A theoretical and empirical evaluation of definitions. *Journal of Business Ethics, 142*(3), 437–459.
Newhouse, J. P. (1970). Toward a theory of nonprofit institutions: An economic model of a hospital. *American Economic Review, 60*(1), 64–74.
Perloff, J. M., Suslow, V. Y., & Seguin, P. J. (2005). Higher prices from entry: pricing of brand name drugs. Working Paper http://are.berkeley.edu/~perloff/PDF/match05.pdf.
Personal Interview. (2014). *Telephone interviews with Arjun Juneja and Sanjiv Kaul*, May 5.
Prince, J., & Simon, D. (2015). Do incumbents improve service quality in response to entry? Evidence from Airlines' on-time performance. *Management Science, 61*(2), 372–390.
Selvaraj, S., Hasan, H., Chokshi, M., Sengupta, A., Guha, A., Shiva, M., Srinivasan, S., Phadke, A., Gopakumar, K. M., Santhosh, M. R., & Menghaney, L. (2012). Pharmaceutical pricing policy: A critique. *Economic and Political Weekly, 97*(4), 20–23.
Shaked, A., & Sutton, J. (1982). Relaxing price competition through product differentiation. *Review of Economic Studies, 49*, 3–13.
Simon, D. (2005). Incumbent pricing responses to entry. *Strategic Management Journal, 26*, 1229–1248.
Smith, A. (1759). The theory of moral sentiments. A. Millar in the Strand: London.
Spinello, R. A. (1992). Ethics, pricing and the pharmaceutical industry. *Journal of Business Ethics, 11*(8), 617–626.
Sundaram, A. K., & Inkpen, A. C. (2004). The corporate objective revisited. *Organization Science, 15*(3), 350–363.
Sutton, J. (2007). Market structure: Theory and evidence. *Handbook of Industrial Organization, 3*, 2301–2368.
Tantalo, C., & Priem, R. L. (2016). Value creation through stakeholder synergy. *Strategic Management Journal, 37*(2), 314–329.
The Telegraph India. (2013). *Drug price control covers too little, riddled with loopholes*, November 22.
Vakili, K., & McGahan, A. M. (2016). Health care's grand challenge: Stimulating basic science on diseases that primarily afflict the poor. *Academy of Management Journal, 59*(6), 1917–1939.
White, M. D. (2002). Political manipulation of a public firm's objective function. *Journal of Economic Behavior and Organization, 49*, 487–499.
Wilson, R. (1992). Strategic models of entry deterrence. In R.J. Aumann & Hart, S. (Eds.), *Handbook of game theory* (Vol. 1, pp. 305–329). New York: Elsevier Science.