Incumbent audit firm pricing: a response to entry of the Big Four accounting firms in India

Barri Litt, Vikram Desai and Renu Desai
Department of Accounting, Nova Southeastern University, Fort Lauderdale, Florida, USA

Abstract

Purpose – The purpose of this paper is to explore the audit price reactions of local accounting firms to the entry of the Big Four accounting firms into the Indian audit market, providing unique insight into emerging market dynamics.

Design/methodology/approach – Using financial data from Indian audit clients for a ten-year period from 1996 to 2005, the authors conduct a multivariate regression analysis based on extant audit fee literature.

Findings – This study finds evidence of a price-cutting strategy on behalf of the local incumbent accounting firms in response to the entry of the Big Four firms. It also shows small-sized incumbent firms to cut prices more drastically relative to medium-sized incumbent firms.

Originality/value – This study provides empirical insight into the pricing dynamics of professional services in an emerging market setting. Such insight is increasingly important in our evermore globalized economy where emerging markets are frequently the targets of expansion.

Keywords Audit fees, Audit pricing, Big Four, Entry, Incumbent

Paper type Research paper

1. Introduction

In today's globalized economy, examining the dynamics of expansion is increasingly important. In this study, we explore the reactions of local incumbent accounting firms to the expansion of the Big Four[1] accounting firms into the Indian audit market. We specifically examine their pricing behavior in light of these powerful new entrants. This setting provides unique insight into emerging market expansion dynamics. Unlike in developed nations such as Canada, England, and the USA where the Big Four accounting firms have long been well established in the market, in India government regulation limited the presence these firms to a negligible level prior to 1995 (The New Indian Express, 2002). Thus, the Indian accounting profession was traditionally dominated by small and medium-sized firms, creating a very local and competitive audit market without the presence of large-sized audit firm domination. However, since the relaxation of government prohibition of the Big Four firms in 1995, the market shares of these firms has increased substantially (The Chartered Accountants Action Committee, 2002). In fact, as of 2004 the Big Four firms accounted for about 62 percent of audit fees charged in the Indian audit market (Business Today, India Today, 2006)[2].

Given this tremendous growth, our study examines the reactions of local Indian accounting firms to these powerful new entrants. We specifically explore their pricing behavior post-entry. While other competitive behaviors may occur in response to entry, we examine incumbent pricing responses due to their observability (Simon, 2005) and frequent manipulation in the face of new entrants (Hauser and Shugan, 1983; Kumar and Sudarshan, 1988; Gruca *et al.*, 1992).

Journal of Accounting in Emerging Economies
Vol. 5 No. 4, 2015
pp. 382-394

2042-1168
DOI 10.1108/JAEE-05-2013-0021

New entrants increase market competition, which may be beneficial to clients as they introduce new products and force incumbents to become more efficient and innovative (Geroski, 1995). However, it is clear that incumbents have strong incentive to deter new entrants in order to protect their relative market shares. Upon entry of new market participants, incumbents must decide on the most effective response in the face of increased competition (Simon, 2005). In our study, we examine the response strategy employed by the local Indian accounting firms in light of the entry of the Big Four accounting firms. This examination is valuable given the lack of accounting literature on incumbent pricing behavior in emerging markets such as India.

We use financial data for Indian audit clients for a ten year period from 1996 to 2005 to construct an audit fee regression model. The results of our multivariate regression analysis provide evidence of significant audit price reductions upon entry of the Big Four accounting firms into the Indian audit market. This finding supports the theory of price cutting on behalf of the local incumbent firms in order to be more competitive with the powerful new entrants. It also suggests a "lowballing" strategy on behalf of the Big Four firms in order to penetrate the Indian audit market (DeAngelo, 1981; Hay *et al.*, 2006).

Furthermore, our analysis yields evidence of small-sized incumbent firms reducing prices more drastically than medium-sized incumbent firms in reaction to the new entrants. This finding supports the notion of less-established firms as more likely to cut prices (Simon, 2005), and more established, organizationally complex firms as less likely to cut prices in response to new entrants (Smith *et al.*, 1992).

This study provides valuable empirical insight into the pricing behaviors of local incumbent professional service firms when faced with powerful new entrants in an emerging market setting. These expansion dynamics are becoming increasingly important in our evermore globalized world in which emerging markets are frequently the targets of expansion.

2. The Indian accounting profession and entry of the Big Four firms

Prior to 1949, the Indian accounting profession was controlled and regulated by the Indian government. This authority was subsequently granted to the Institute of Chartered Accountants of India (ICAI) through the Chartered Accountant Act of Institute of Chartered Accountants of India (ICAI), 1949. This act established the ICAI as the primary regulatory body for the Indian accounting profession, responsible for developing uniform standards of practice and ensuring strategic development of the profession. It also gave the ICAI responsibility over the profession's licensing, testing, certification, training, and disciplinary actions (The Chartered Accountants Action Committee (CAAC) For A Level Playing Field, 2002). Furthermore, the ICAI is India's national standard setting body for accounting and auditing standards, now largely consistent with international standards.

Presently, there are 115,000 members of the ICAI, with an additional 250,000 students pursuing membership. While nearly 70 percent of its members were in practice as of January, 2001, less than 10 percent of its member firms had five or more partners. Table I presents a size distribution of Indian firms to provide a clearer picture of the profession. At this time, there were approximately 10,000 listed companies in India (Cho, 2010). The relatively small firms comprising the Indian accounting market were able to provide auditing services to these listed companies (CAAC For A Level Playing Field, 2002). This setting of small to medium-sized firms is the foundation for our analysis of the effects of the Big Four firm entry into the Indian audit market (CAAC For A Level Playing Field, 2002).

Table I.
Size distribution of certified accounting firms in India (as of January, 2001)

Number of partners	Number of firms	Percentage of total firms
2	7,161	63.97
3	2,104	18.79
4	796	7.11
5	375	3.35
6	305	2.72
7	206	1.84
8	101	0.90
9	61	0.54
10	34	0.30
11-20	52	0.46

Source: The above information is compiled using The Chartered Accountants Action Committee (CAAC): 2002 report/data

The Big Four firms were able to penetrate this market through measures taken by the Indian government in response to a pending foreign exchange crisis in 1991. These measures were largely influenced by the International Monetary Fund. In them, authorities reasoned that the Big Four firms were needed to facilitate the free flow of foreign direct investment into India by multinational corporations and investment bankers. They claimed these investors would be more comfortable with large accounting firm consultants advising them on best investing practices in India (CAAC For A Level Playing Field, 2002).

The Big Four firms could not, however, provide statutory audit services due to provisions in The Indian Companies Act (1956), which allowed only local accounting firms to conduct statutory audits. To circumvent these policies, the Big Four firms entered into arrangements with some of the relatively larger local firms, turning them into "surrogate firms" who could then conduct audits on their behalf (CAAC For A Level Playing Field, 2002). We present these surrogate firm relationships in Table II. Each of the Big Four firms became affiliated with at least one surrogate firm which was already well established in the traditional areas of audit and assurance services (www.ICAI.org). The Big Four firms were thereby able to indirectly but powerfully penetrate the traditionally localized Indian audit market.

3. Prior literature

3.1 Entry pricing literature

Incumbent firms may adopt alternative non-pricing responses to the threat of new firm entry (Geroski, 1995); however, these responses, such as increased service offerings, are extremely difficult to observe and quantify (Simon, 2005). Therefore, this study

Table II.
Big Four accounting firms and their surrogate firms in India

Big Four firm	Agreement year	Surrogate firm
KPMG	1995	Bharat S. Raut & Co.
Ernst & Young	1995	S.R. Batliboi & Co.
Deloitte & Touche	1995	P.C. Hansotia & Co; Fraser & Ross; C.C. Choksi & Co.
	1999	S.B. Billimoria
	2004	A.F. Ferguson & Co.
Pricewaterhouse Coopers	1997	Lovelock & Lewis

specifically examines incumbent pricing behavior due to its measurable nature. In doing so, we are able to provide insight into an observable trend that may occur upon entry of major multinational firms into predominantly localized markets.

Extant research has examined incumbent price reaction to the entry of new firms. While theoretical research is largely consistent in suggesting price cutting as a means of deterring or competing with entrants, the empirical research in this area has been less conclusive (Geroski, 1995). Studies examining the airline industry (Joskow *et al.*, 1994; Windle and Dresner, 1995), the retail grocery industry (Marion, 1998), and the retail tire industry (Bresnahan and Reiss, 1991) all find empirical support for incumbent price cutting following new market entrants. However, a study examining the retail cereal industry finds no such price cutting upon entry (Thomas, 1999). And other studies have even uncovered opposing results when analyzing the pharmaceutical and car manufacturing industries (Frank and Salkever, 1997; Yamawaki, 2002).

Given this inconsistency of empirical findings, Yamawaki (2002) posits that incumbent pricing reactions may be industry specific, or even firm specific, depending on the incumbent's ability to respond given its relative resource position. This study examines pricing behavior in an audit market, providing insight into another potentially industry-specific reaction. Furthermore, in our additional analysis of firms based on their relative size, we shed light on firm-specific characteristics that may influence pricing reactions, as suggested by Yamawaki (2002).

In his 2005 study, Simon attempts to empirically examine Yamawaki's (2002) theories on industry and firm-specific pricing reactions. Simon (2005) notes that the lack of empirical research in this area may be due to a lack of firm-level pricing data. In an attempt to bridge this empirical gap, Simon (2005) examines firm price responses for an 11-year period from 1990 to 2000. The study finds that firms more likely to cut prices upon entry are those that are relatively newer in age, engage in more diversified multi-market activities, and operate in more concentrated markets, as all of these factors increase incentives to respond via pricing. We explore these incentives by examining the difference in pricing responses for small and medium-sized firms in our analysis.

3.2 Pricing expectations in an audit setting

Professional service industries have certain characteristics, including government regulation, public interest focus, and professional association-based self-regulation, that set them apart in many respects from other industries (Crittenden *et al.*, 2003). Our examination of incumbent pricing in the context of the Indian audit services market, provides insight into pricing strategies and reactions in this differentiated industry.

Extant audit pricing research suggests that accounting firms initially offer lower fees in order to obtain new clients, knowing they will likely be able to earn excess profits in the later years – a strategy known as "lowballing" (DeAngelo, 1981; Hay *et al.*, 2006). The longer the auditor-client relationship, the more knowledgeable the auditor becomes on the industry and operations of the client. This knowledge allows the auditor to improve audit effectiveness and efficiency. With awareness of this increased efficiency in later years, auditors tend to reduce fees in earlier years in order to attract and retain clients. Ettredge and Greenberg (1990) report audit fees under a new auditor to be about 25 percent lower than the latest fees charged by the preceding auditor. Furthermore, the extensive meta-analysis of audit fee studies conducted by Hay *et al.* (2006) reveals that the majority of studies in this area find a negative and significant association between the presence of a new auditor and audit fee pricing. Their own multivariate regression yields a consistent result. This widely held association

suggests that the Big Four firms may have been offering lower initial prices upon entrance, forcing the local incumbent firms to cut prices in order to remain competitive.

Another applicable theory supported by the literature is that of Big Four accounting firms commanding price premiums for their services (Palmrose, 1986; Francis and Simon, 1987; Hay *et al.*, 2006). Hay *et al.*'s (2006) meta-analysis finds strong support for Big Four firms' association with higher audit fees. Proposed reasons for these Big Four price premiums include their established reputations, provision of higher quality audits, higher auditor training costs, higher potential litigation loss due to their "deep pockets," and their powerful positions in many oligopolistic audit markets (Simunic, 1980; Craswell *et al.*, 1995; Che-Ahmad and Houghton, 1996; Moizer, 1997; Hay *et al.*, 2006). DeAngelo (1981) argues that clients relate the size of an accounting firm to the quality of the audit it provides. He describes the inherent difficulty of objectively evaluating audit quality that leads rational clients to devise alternative measures, often looking to the size of the providing audit firm. Therefore, the largest accounting firms will likely be perceived as supplying the highest levels of audit quality. Additionally, Klein and Leffler (1981) propose a brand name model that suggests the Big Four accounting firms develop and maintain reputations for quality in order to secure and protect quasi-rents arising from their investments in building their brand names (Johnson and Lys, 1990). That is, the Big Four firms incur costs of brand name development that, in turn, allow them to demand higher audit fees from clients. These higher fees are also consistent with extant research (e.g. Pearson and Trompeter, 1994) that presents evidence of large multinational accounting firm expertise justifying a quality-differentiated fee premium. The higher audit fees charged by the Big Four accounting firms suggests that the local Indian firms may not have had to cut audit fees to remain competitive. Perhaps they may have been able to raise audit prices to be more in line with the new entrants to the market.

4. Research question development

4.1 Pricing responses of local incumbent accounting firms

Given the audit fee theories presented, it is unclear whether the local Indian firms would cut prices in order to remain competitive, keep prices the same, or increase prices in light of fee premiums charged by the entering Big Four firms. These pricing responses are largely dependent on the entry strategy employed by the Big Four firms. If these firms select a market penetration strategy and engage in "lowballing," the local firms may have to reduce prices in order to retain their clients and market share. Alternatively, if the Big Four firms adopt a premium pricing strategy, the local firms may maintain or even increase their audit fees in consideration of the higher fees of the new entrants.

Since the Big Four firms were only permitted to engage Indian audit clients through association with local surrogate firms at this time, it is not clear whether they would be able to command the traditional Big Four price premiums. Their fees may instead be dictated by the local reputation of the affiliated Indian surrogate firms. Furthermore, given their investment in brand development across the new market, the Big Four firms may pursue an aggressive fee-cutting strategy in order to capture market share.

An additional consideration is the intangible nature of accounting and auditing work that results in some level of product differentiation in the market (Schonberger, 1980; Parasuraman *et al.*, 1985). Given the varying nature of audits, firms could be perceived as providing differentiated levels of assurance based on the quality of their audit services. While firms in differentiated markets may employ more than one

competitive weapon (Gatignon and Hanssens, 1987), extant literature suggests that incumbents in these markets almost always adjust prices post-entry (Hauser and Shugan, 1983; Kumar and Sudarshan, 1988; Gruca *et al.*, 1992). If the market does in fact perceive differential quality for the Big Four firms based on their size (DeAngelo, 1981), reputation (Klein and Leffler, 1981), or some other differentiation, the local firms may be forced to cut prices to remain competitive, even if the Big Four firms charge their traditional fee premiums.

In order to gain insight into these complex issues, our first research question examines the audit pricing reactions of local Indian accounting firms to the entry of the Big Four firms. In doing so, we can explore both incumbent and new auditor strategy in emerging markets such a India:

RQ1. Did local incumbent accounting firms significantly reduce their audit fees post-entry of the Big Four firms into the Indian audit market?

4.2 Pricing responses of medium- and small-sized local firms

Simon (2005) reveals several incentives for incumbent firm pricing behavior in response to new entrants. First, he describes an inverse association between age and propensity to cut prices. Older firms are more well established and have greater accumulated knowledge and experience, giving them the ability to continuously reduce costs and prices. This limits their tendency to reduce prices further upon new entries to the market. Second, Simon (2005) describes a direct association between multi-market firms and propensity to cut prices. The diversified nature of these firms allows them to cut prices in a particularly competitive facet of the market, making them more competitive with new entrants. Lastly, Simon (2005) describes a direct association between market concentration and propensity to cut prices. He acknowledges the counter-intuitive nature of more aggressive cost-cutting in less-competitive markets, but explains that firms with more highly concentrated profits have greater incentive to cut prices in the face of new competition, as they have more to lose by not fighting the entry.

In order to examine these incentives in our setting, we must first understand the market structure of the local Indian audit profession during this time. In 2001, it was comprised of 52 medium-sized accounting firms (11-20 partners[3]) and approximately 11,143 small-sized accounting firms (less than 10 partners) (CAAC For A Level Playing Field, 2002). We analyze the price reaction tendencies of these firms using Simon's (2005) incumbent pricing incentives. Since the medium-sized local firms may have a relatively longer, more established presence in the market, they may be less likely to cut prices relative to the smaller firms. Conversely, their more diversified service offerings and greater concentration of profits among the smaller number of medium-sized firms suggests that these firms may be more likely to cut prices relative to smaller firms. This tension underscores our second research question examining the pricing responses of medium and small-sized local Indian accounting firms to the Big Four entry:

RQ2. Are local medium- or small-sized incumbent accounting firms more likely to reduce audit fees post-entry of the Big Four firms into the Indian audit market?

5. Sample selection and method

Our sample consists of 206 publicly held companies selected from the Bombay Stock Exchange-500 Index for a span of ten years from 1996 through 2005[4]. Consistent with extant audit fee research, we exclude firms in the financial industry (see Simunic, 1980).

Under The Indian Companies Act (1956), all public companies are required to disclose audit fees and non-audit fees in their annual reports. Thus, we were able to collect this and other financial information for our sample companies from their publicly available annual reports[5].

To investigate the pricing response of local incumbent firms to the entry of the Big Four firms, we use a longitudinal fixed-effects audit fee model for all observations from 1996 to 2005. For the fixed-effects specification, we include within-client variation. The purpose of this modeling technique is to compare the incumbent audit fees charged to a client at the time of entry in 1996 to the incumbent audit fees charged to the same client after the primary entry period of ten years, averaging these differences across all incumbent accounting firm observations in the sample.

Based on extant audit fee literature synthesized in the audit fee meta-analysis conducted by Hay *et al.* (2006), we derive the following audit fee model:

$$LAUD = b_0 + b_1{}^{*}LTOT + b_2{}^{*}ROI + b_3{}^{*}LOSS + b_4{}^{*}DE + b_5{}^{*}CARAT + b_6{}^{*}ENTRY + b_7{}^{*}IAUD\_MED + b_8{}^{*}IAUD\_SML + error$$

The variables are defined as follows: *LAUD* is the natural logarithm of audit fees; *LTOT* is the natural logarithm of total assets; *ROI* is net income divided by total assets; *LOSS* is 1 if loss reported in current or prior year, and 0 otherwise; *DE* is long-term debt divided by total assets; *CARAT* is current assets divided by total assets; *ENTRY* is 1 if observation is within the first five years post-entry (1996-2000), and 0 otherwise (2001-2005); *IAUD_MED* is 1 if medium local accounting firm (11-20 partners), and 0 otherwise; and *IAUD_SML* is 1 if small local accounting firm (ten or less partners), and 0 otherwise.

Geroski (1995) suggests it would take approximately five years for the Big Four firms to reach a competitive par with the incumbent accounting firms. Thus, we present results for our model measuring the incumbent pricing responses for the first five years post-entry in our *ENTRY* indicator variable. Additionally, we compare our coefficients indicating the incumbent audit firm as medium (*IAUD_MED*) or small (*IAUD_SML*) to determine whether these firm characteristics moderate the pricing response of the incumbent firms.

6. Results

Table III presents the descriptive statistics for our sample. These statistics indicate the mean incumbent pricing response for the first five years post-entry (captured by our *ENTRY* indicator variable) is approximately 44 percent. That is, approximately 44 percent of the incumbent accounting firms cut audit fees in the first five years post-entry of the Big Four firms into the Indian market. With regard to our audit firm size distinction, our descriptives reveal medium-sized local accounting firms to represent about 23 percent of our sample, while small-sized accounting firms represent about 46 percent of our sample, and the remainder is comprised of the surrogate firms affiliated with the Big Four as pictured in Table II. The price reaction of all local Indian firms is captured in our model, with the effects of the medium- and small-sized firms differentiated through their indicator variables.

Table IV presents a "within-client" correlation matrix to reflect only those variations within each client. This supports our fixed-effects specification, which only exploits the variation within each client in order to more accurately assess longitudinal audit fee changes. Results for the correlation matrix indicate that there are no issues with multicollinearity[6].

Variable	Mean	SD
LAUD	5.76	0.510
LTOT	9.67	0.620
ROI	0.10	0.119
LOSS	0.06	0.241
DE	0.38	0.310
CARAT	0.69	0.410
ENTRY	0.44	0.490
IAUD_MED	0.23	0.411
IAUD_SML	0.46	0.490

Notes: $n = 206$. Variables are defined as follows: *LAUD*, the natural logarithm of audit fees; *LTOT*, the natural logarithm of total assets; *ROI*, net income divided by total assets; *LOSS*, 1 if loss is reported in current or prior year, and 0 otherwise; *DE*, long-term debt divided by total assets; *CARAT*, current assets divided by total assets; *ENTRY*, 1 if observation is within the first five years post-entry (1996-2000), and 0 otherwise (2001-2005); *IAUD_MED*, 1 if medium local accounting firm (11-20 partners), and 0 otherwise; *IAUD_SML*, 1if small local accounting firm (ten or less partners), and 0 otherwise

Table III.
Descriptive statistics

Variable	1	2	3	4	5	6	7	8	9
1. *LAUD*	1.000								
2. *LTOT*	0.532	1.000							
3. *ROI*	0.146	−0.126	1.000						
4. *LOSS*	0.041	0.046	−0.271	1.000					
5. *DE*	−0.150	0.061	−0.339	0.170	1.000				
6. *CARAT*	0.003	−0.386	0.285	−0.068	−0.193	1.000			
7. *ENTRY*	−0.330	−0.073	−0.136	−0.033	0.080	−0.109	1.000		
8. *IAUD_MED*	0.166	0.111	−0.001	0.030	0.016	−0.067	0.220	1.000	
9. *IAUD_SML*	−0.292	0.014	−0.110	−0.024	0.101	−0.116	0.294	−0.505	1.000

Notes: $n = 206$. Variables are defined in Table II

Table IV.
Within-client correlation matrix

Table V presents our model and regression results for both research questions (*RQ1* and *RQ2*). With regard to our first research question, the results show the coefficient for *ENTRY* to be negative and statistically significant, suggesting that incumbent accounting firms cut audit prices post-entry of the Big Four firms into the Indian audit market. More specifically, the *ENTRY* coefficient is −0.19, which translates into an average audit fee reduction of about 21 percent for local Indian accounting firms in the first five years post-entry (1996 -2000)[7]. Since we use a fixed-effects model, which calculates within-client price changes for every incumbent firm and then averages these changes, it is important to note that while the average audit fee reduction is about 21 percent, this does not indicate the price reduction for every incumbent accounting firm.

With regard to our second research question, the results similarly report the coefficients for *IAUD_MED* (medium-sized incumbent firms) and *IAUD_SML* (small-sized incumbent firms) as negative and statistically significant (−0.124 and −0.402, respectively). This suggests price cutting behavior for both medium- and small-sized local firms post-entry of the Big Four; however, the disparity in these coefficients suggests that small-sized firms cut audit prices more on average than

Variables	Coefficient	*t*-Statistics	*p*-Value
Intercept	−1.226	−5.560	0.000
LTOT	0.755	33.910	0.000
ROI	0.212	0.048	0.000
LOSS	0.044	2.090	0.030
DE	−0.145	−0.781	0.000
CARAT	0.135	5.870	0.000
ENTRY	−0.194	−17.39	0.000
IAUD_MED	−0.124	−4.330	0.000
IAUD_SML	−0.402	−8.380	0.000
F-statistic		29.950	0.000
Adjusted R^2		0.880	

Table V.
Regression results: fixed effects

Notes: $Model: LAUD = b_0 + b_1{}^*LTOT + b_2{}^*ROI + b_3{}^*LOSS + b_4{}^*DE + b_5{}^*CARAT + b_6{}^*ENTRY + b_7{}^*IAUD\_MED + b_8{}^*IAUD\_SML + error$. Variables are defined in Table II

medium-sized firms (approximately 50 percent for small-sized accounting firms as compared to approximately 13 percent for medium-sized accounting firms). This finding supports Simon's (2005) conjecture of less-established firms being more likely to cut prices.

7. Summary and conclusions

The results of our statistical analysis show significant audit price reductions by local incumbent accounting firms during the period of entry of the Big Four firms into the Indian audit market. Based on extant literature, the incumbent firms could have cut prices to be competitive with new entrants potentially offering initially lower audit fees, keep prices the same, or increase prices in light of fee premiums charged by the entering Big Four firms. The results of our study support the first reaction of price cutting on behalf of the Indian incumbent firms in order to be more competitive with the new entrants.

These findings also provide insight into the potential entry strategy of the Big Four firms in emerging markets such as India, as they indicate the potential of "lowballing" on behalf of these entering firms in order to penetrate the audit market, forcing local firms to cut their prices to remain competitive (DeAngelo, 1981; Hay *et al.*, 2006). Another potential explanation of the downward price reactions of the local firms is that the audit market could be perceiving differential quality for the Big Four firms based on their size (DeAngelo, 1981) or reputation (Klein and Leffler, 1981), forcing local firms to cut audit fees to remain competitive. Additionally, this result may be partially driven by the historically low rate of new entrants into the Indian audit market due to barriers to entry. Because of this, when incumbent accounting firms were faced with serious competition from the Big Four, they may have been motivated to cut prices to protect their market shares and salvage some monopolistic profits (Hannan, 1979; Cool *et al.*, 1999).

Whatever the underlying cause, our study provides valuable empirical insight into the pricing behaviors of local incumbent professional service firms in an emerging market setting when faced with powerful new entrants. Our results indicate the propensity for incumbent firms to significantly reduce prices in order to remain competitive with new entrants. This insight provides important reference for similar entry events in our progressively globalized world in which emerging markets are increasingly the targets of expansion.

Furthermore, our results indicate that small-sized local incumbent accounting firms cut prices more than medium-sized firms in reaction to new, powerful market entrants. Given that the small-sized firms are likely to be younger and less well established, this finding supports Simon's (2005) theory of these firms also being more likely to cut prices. Another potential explanation for the more aggressive pricing response of the small-sized firms follows a theory by Smith *et al.* (1992). They suggest that firms with more complex organizational structures are less likely to respond to competitive attacks of new entrants. Given the medium-sized firms are larger and more likely to have greater organizational complexity, they would also be less likely than the smaller firms to cut prices. These findings of size as a moderator in incumbent pricing behavior provide valuable insight into professional service market dynamics in emerging economies such as India.

Overall, our study's examination of audit pricing reactions in an emerging economy sheds more light on the behavior of the accounting profession in the face of globalization and expansion into developing nations. This insight can help practitioners and academics alike to better understand the pricing strategies and dynamics at play as emerging markets continue to face the entrance of powerful global players. As the business world continues to become an international playing field, this understanding will become increasingly relevant and valuable to companies, auditors, regulators, and society at large.

We do note certain limitations with regard to the interpretation and generalizability of our findings. As previously noted, we particularly examine incumbent pricing responses due to their observability (Simon, 2005) and frequent manipulation in the face of new entrants (Hauser and Shugan, 1983; Kumar and Sudarshan, 1988; Gruca *et al.*, 1992). We acknowledge the limitation this creates, as the local incumbent accounting firms may respond to entry with non-price strategies; for example, through increased advertising, upgraded service packages, or overall increased service quality. However, we note that these non-price responses tend to create additional firm costs, potentially leading to price increases (or margin reductions). Thus, these non-price responses may cause spurious, positive price reactions to appear upon entry (Simon, 2005). This, in turn, would create a bias against finding a negative pricing reaction, ultimately strengthening the significantly negative pricing result found in our study.

Another limitation of our study is the absence of non-listed companies from our sample. As most of these companies would be audited by smaller audit firms, it is possible these smaller firms reduced prices for their listed clients but not for their smaller privately held clients. It would be interesting to examine the responses of local accounting firms in the private sector of the Indian audit industry upon entry of the Big Four firms.

Additionally, we acknowledge that while we show price reduction behavior upon entry of the Big Four firms, it is not clear whether this reduction had any impact on the quality of the audits provided. Although we do not currently have the data to conduct such an analysis, this provides an interesting prospect for future research in this area.

Lastly, we have not examined potential changes in supply conditions. For example, client industry could impact the level of specialization and thus pricing of the audit. Additionally, a reduction in audit costs due to technological innovations over time is possible, potentially leading to lower prices, yielding a downward bias on our pricing reaction results (Geroski, 1995). Future research could examine such conditions, including an analysis of the relative differences in technological sophistication between firms of different sizes.

Notes

1. We note that during our period of study, the largest multinational accounting firms went from the Big Five to the Big Four in 2002. This does not affect our analyses, which use indicator variable for firms audited by small local firms, medium local firms, or by large multinational accounting firms. However, we note it here as we refer to these largest firms as the "Big Four" throughout the paper to be consistent and current with today's reference to these firms.
2. India Today derived this information from the Prime Academy Report, which used publicly available data of about 1,394 listed Indian companies as of March 31, 2004. Please visit http://businesstoday.intoday.in/story/some-don%E2%80%99t-like-it-big/1/3781.html for more information.
3. During this time, the Chartered Accountant Act restricted the allowable number of firm partners for the local Indian firms to 20. Therefore, medium local accounting firms are those with 11-20 partners.
4. We note that due to the lack of a sophisticated corporate database in India (such as Compustat in the USA), we went to the Securities and Exchange Board of India web site and obtained information for as many firms as possible with complete data between 1996 and 2005. This yielded our sample.
5. We obtained compact discs from sources within the Bombay Stock Exchange containing annual report data for these companies. Data collection proved to be an arduous task, as it involved copying and pasting data from image files of annual reports into excel files before running our statistical tests.
6. All the variance inflation factors reported were less than 1 for the entire sample.
7. Since our dependent variable is log transformed, the effect of the dependent variable decreasing by 0.19 is given by $e^{0.19} = 1.21$, or an average fee decrease of about 21 percent.

References

Bresnahan, T. and Reiss, B. (1991), "Entry and competition in concentrated markets", *Journal of Political Economy*, Vol. 99 No. 5, pp. 977-1009.

Business Today and India Today (2006), "Some donâ€™t like it big", available at: http://businesstoday.intoday.in/story/some-don%E2%80%99t-like-it-big/1/3781.html (accessed January 10, 2010).

Che-Ahmad, A. and Houghton, K.A. (1996), "Audit fee premiums of big eight firms: evidence from the market for medium-size UK auditees", *Journal of International Accounting, Auditing and Taxation*, Vol. 5 No. 1, pp. 53-72.

Cho, Y.J. (2010), "Indian capital market", *Recent Developments and Policy*, pp. 112-136, available at: https://aric.adb.org/pdf/aem/external/financial_market/India/india_cap.pdf (accessed June 1, 2011).

Cool, K., Roller, L. and Leleux, B. (1999), "The relative impact of actual and potential rivalry on firm profitability in the pharmaceutical industry", *Strategic Management Journal*, Vol. 20 No. 1, pp. 1-14.

Craswell, A.T., Francis, J.R. and Taylor, S.L. (1995), "Auditor brand name reputations and industry specializations", *Journal of Accounting and Economics*, Vol. 20 No. 3, pp. 297-322.

Crittenden, V., Davis, L.R., Simon, D.T. and Trompeter, G. (2003), "Deregulation of professional accounting services in the United Kingdom: integrating marketing and accounting", *Journal of Strategic Marketing*, Vol. 11 No. 1, pp. 37-53.

DeAngelo, L.E. (1981), "Auditor size and audit quality", *Journal of Accounting and Economics*, Vol. 3 No. 3, pp. 183-200.

Ettredge, M. and Greenberg, R. (1990), "Determinants of fee cutting on initial audit engagements", *Journal of Accounting Research*, Vol. 28 No. 1, pp. 198-210.

Francis, J.R. and Simon, D.T. (1987), "A test of audit pricing in the small-client segment of the US audit market", *The Accounting Review*, Vol. 62 No. 1, pp. 145-157.

Frank, R.G. and Salkever, D.S. (1997), "Generic entry and the pricing of pharmaceuticals", *Journal of Economics and Management Strategy*, Vol. 6 No. 1, pp. 75-90.

Gatignon, H. and Hanssens, D.M. (1987), "Modeling marketing interactions with application to salesforce effectiveness", *Journal of Marketing Research*, Vol. 24 No. 3, pp. 247-257.

Geroski, P.A. (1995), "What do we know about entry?", *International Journal of Industrial Organization*, Vol. 13 No. 4, pp. 421-440.

Gruca, T.S., Kumar, R. and Sudarshan, D. (1992), "An equilibrium analysis of defensive response to entry using a coupled response function model", *Marketing Science*, Vol. 11 No. 4, pp. 348-358.

Hannan, T. (1979), "Limit pricing and the banking industry", *Journal of Money, Credit and Banking*, Vol. 11 No. 4, pp. 438-446.

Hauser, J.R. and Shugan, S.M. (1983), "Defensive marketing strategies", *Marketing Science*, Vol. 2 No. 4, pp. 319-360.

Hay, D.C., Knechel, W.R. and Wong, N. (2006), "Audit fees: a meta-analysis of the effect of supply and demand attributes", *Contemporary Accounting Research*, Vol. 23 No. 1, pp. 141-191.

Institute of Chartered Accountants of India (ICAI) (1949), "The Chartered Accountants Act", available at: www.ICAI.org (accessed June 1, 2007).

Johnson, B.W. and Lys, T. (1990), "The market for audit services: evidence from voluntary auditor changes", *Journal of Accounting and Economics*, Vol. 12 Nos 1-3, pp. 281-308.

Joskow, A., Werden, G.J. and Johnson, R.L. (1994), "Entry, exit, and performance in airline markets", *International Journal of Industrial Organization*, Vol. 12 No. 4, pp. 457-471.

Klein, B. and Leffler, K.B. (1981), "The role of market forces in assuring contractual performance", *Journal of Political Economy*, Vol. 89 No. 4, pp. 615-641.

Kumar, R. and Sudarshan, D. (1988), "Defensive marketing strategies: an equilibrium analysis based on decoupled response function models", *Management Science*, Vol. 34 No. 7, pp. 805-815.

Marion, B. (1998), "Competition in grocery retailing: the impact of a new strategic group on BLS price increases", *Review of Industrial Organization*, Vol. 13 No. 4, pp. 381-399.

Moizer, P. (1997), "Auditor reputation: the international empirical evidence", *International Journal of Auditing*, Vol. 1 No. 1, pp. 61-74.

Palmrose, Z. (1986), "Audit fees and auditor size: further evidence", *Journal of Accounting Research*, Vol. 24 No. 1, pp. 97-110.

Parasuraman, A., Ziethaml, V.A. and Berry, L.L. (1985), "A conceptual model of service quality and its implications for future research", *The Journal of Marketing*, Vol. 49 No. 4, pp. 41-50.

Pearson, T. and Trompeter, G. (1994), "Competition in the market for audit services: the effect of supplier concentration on audit fees", *Contemporary Accounting Research*, Vol. 11 No. 1, pp. 115-135.

Schonberger, R.J. (1980), "Purchasing intangibles", *Journal of Purchasing and Materials Management*, Vol. 16 No. 3, pp. 25-27.

Simon, D. (2005), "Incumbent pricing responses to entry", *Strategic Management Journal*, Vol. 26 No. 13, pp. 1229-1248.

Simunic, D.A. (1980), "The pricing of audit services: theory and evidence", *Journal of Accounting Research*, Vol. 18 No. 1, pp. 161-190.

Smith, K., Grimm, C. and Gannon, M. (1992), *Dynamics of Competitive Strategy*, Sage, Newbury Park, CA.

The Chartered Accountants Action Committee (CAAC) For A Level Playing Field (2002), *White Paper on Multinational Accounting Firms Operating in India*, The Chartered Accountants Action Committee (CAAC) For A Level Playing Field, Chennai, pp. 1-141.

The Indian Companies Act (1956), available at: www.netlawman.co.in/acts/companies-act-1956.php (accessed June 1, 2007).

The New Indian Express (2002), "The big four presence in India", available at: www.indianexpress.com/livearchives/indianexpress/2002/ (accessed August 1, 2007).

Thomas, L. (1999), "Incumbent firms' response to entry: price, advertising, and new product introduction", *International Journal of Industrial Organization*, Vol. 17 No. 4, pp. 527-555.

Windle, R. and Dresner, M. (1995), "Airport choice in multiple-airport regions", *Journal of Transportation Engineering*, Vol. 121 No. 4, pp. 332-337.

Yamawaki, H. (2002), "Price reactions to new competition: a study of US luxury car market, 1986-1997", *International Journal of Industrial Organization*, Vol. 30 No. 1, pp. 19-39.

Corresponding author
Dr Barri Litt can be contacted at: bl381@nova.edu