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AND COMPETITIVE BEHAVIOR**

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Abstract

We question the broad applicability of the assumption of profit maximization as the goal of the firm and investigate how variance in objective functions across different ownership structures affects competitive behavior. While prior work in agency theory has argued that firms may fail to engage in profit maximizing behaviors due to misalignment between the goals of owners and managers, we contend that we are unlikely to observe pure profit maximizing behavior even in the case of the perfect alignment of goals that exists in owner-managed firms. We compare the competitive behaviors of owner-managed and professionally managed firms and find that, contrary to the expectations of agency theory, professionally managed firms are more likely to engage in behaviors consistent with profit-maximization goals. Consistent with the view that owner-managers are less concerned with maximizing profits, we observe that the entry, exit, and pricing decisions of owner-managed firms are all relatively less responsive to the underlying economic attractiveness of the markets in which they operate.

Keywords: profit, behavior, goals, firms, market.

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INTRODUCTION

A fundamental question facing strategy scholars is why performance heterogeneity exists across firms. Critical to that inquiry is a discussion of *how* and *why* firms act in the way they do, i.e., what are the *goals* of the firm and the actions they take to attain those goals. The predominant assumption in the field of strategic management of the goal of the firm is profit maximization. Two of the field's most influential perspectives, industrial organization economics and the resource-based view adopt this assumption. For example, Porter (1980: 34) describes competitive strategy as “taking offensive or defensive actions to create a defensible position in an industry, to cope successfully with the five competitive forces and thereby yield a *superior return on investment* [emphasis added] for the firm.” Barney and Arikan (2001: 141) note that “resource-based logic adopts the assumption that firms are profit-maximizing entities.” The field's leading textbooks also reveal the prevalence of the profit-maximization assumption. Grant's (2002: 38) text “assumes that the primary goal of the firm is profit maximization” and states that “for most practical purposes, strategic management can be defined as a quest for profitability.”

Assumptions about the goals of the firm are critical because they are a foundational element of our efforts to understand, interpret, and predict firm behaviors. This paper contends that the field's predominant assumption of profit-maximization as the goal of the firm has limited our ability to predict and understand how firms go about attaining their goals through their competitive actions. We expect that firms not motivated by a goal of profit maximization will exhibit differences in competitive behavior from firms that pursue this goal.

A natural first question arising from our contention is whether it is reasonable to relax the assumption of profit maximization. We are certainly not the first to make this suggestion, and

the general observation that firm behavior may diverge from profit maximization is not, in and of itself, a novel claim. Agency theory, for example, examines the relationship between ownership structure and profit maximizing behavior. This perspective posits that the split between ownership and control in the modern corporation can lead to non-profit-maximizing behavior if the incentives of those in control (managers) are not aligned with those of owners. Thus, utility maximization at the individual level may impede profit maximization at the firm level. In the absence of aligned incentives, managers act to maximize their individual utility not organizational profit; i.e., if the decision makers in the firm do not share the goals of owners, individual utility maximizing behavior can lead to non-profit-maximizing behavior on the part of the firm. Only in the case of common ownership and control are incentives perfectly aligned, and agency theory would argue that the owner-managed firm most closely resembles the ideal profit-maximizing production unit as described in microeconomic theory. We challenge this view.

We contend that even in the case of perfect alignment between the incentives of owners and managers (i.e., owner-managed firms) that individual *utility* maximization can lead to non-profit-maximizing firm behavior. The entrepreneurship literature clearly suggests that entrepreneurs, a special kind of owner-manager, are motivated by both financial and a variety of non-financial considerations (e.g., Gatewood, Shaver and Gartner, 1995; Kolvereid, 1996; Kuratko, Hornsby and Naffziger, 1997; Carter, Gartner, Shaver and Gatewood, 2003). Similarly, the family-business literature suggests that family-owned firms tend to favor the preservation of family control, even at the expense of financial gains (Gomez-Mejia, Haynes, Nunez-Nickel, Jacobson, Moyano-Fuentes, 2007). These literature streams provide ample reason to believe that owner-managers are (at least partially) motivated by objectives other than profit maximization.

In other words, we expect that the owner-manager's utility function will not exactly equate to profit maximization but will include other objectives in addition to profit maximization. Therefore, it is not clear *ex ante* whether owner-managers will indeed act to maximize profits.

The comparison of owner-managed firms with "professionally managed" firms raises the question of which of these more closely resembles the ideal representation of profit maximization, a cornerstone of economic theory. Does the owner-managed firm controlled by a utility maximizing owner, whose utility could be partially driven by profit maximization, behave most closely as a profit maximizer? Or is the professionally managed firm, with managerial incentives and controls created to align manager goals with the profit-maximization goals of dispersed owners, most akin to profit maximization?

We address this question in the context of the field of competitive strategy. By comparing the competitive behavior of owner-managed firms with that of professionally managed firms, we aim to establish which of the two takes actions that are most consistent with the model of profit maximization. While most of the literature in competitive strategy has (implicitly) assumed that all players act as if they are maximizing profits, we challenge this assumption and explore the extent to which different kinds of actors deviate from the typically assumed objectives and behavior. It is important to understand what motivates competitive actors when competition unfolds. Assuming profit maximization, as is traditionally done, may lead to oversimplified models of competitive interaction. We hope that our study contributes to a more refined understanding of the motivating objectives of competitive agents and, ultimately, how this may affect the competitive landscape. Understanding this distinction is particularly important because of the significant role played by firms who may not be pure profit maximizers. The U.S. Census Bureau estimates that there over 22 million private businesses in the U.S.,

accounting for 40 to 60 percent of U.S. GDP (Scott Morton and Podolny, 2002). Moskowitz and Vissing-Jorgenson (2002) estimate that individuals' investments in private business equal \$5.7 trillion, only slightly trailing investments in public equity of \$7.3 trillion.

We empirically investigate our expectations in the context of local competition between owner-managed and professionally managed establishments, by comparing the competitive behavior of each of these ownership types. We find evidence suggesting that entry, exit, and pricing decisions for owner-managed firms are less consistent with profit maximization than for professionally managed firms.

THEORETICAL BACKGROUND AND PRIOR LITERATURE

The assumption of profit maximization as the goal of the firm in strategic management flows naturally from the close connection between strategy and economics. As Rumelt, Schendel and Teece (1991: 5) note, "as never before, [strategic management] academics have adopted the language and logic of economics." The firm of neoclassical economics is a profit maximizing entity, a production function that transform inputs into outputs. It produces so that marginal cost equals marginal revenue and chooses an optimal size and output mix based on the characteristics of its production function. Underlying all of the decisions is optimization, serving the firm's overall goal of profit maximization. This goal of profit maximization follows from the definitions of economic theory. In standard economic theory, resources may either be consumed by individuals or used by firms in production. *Consumption* takes place in the household while *production* takes place within the firm. Consumption creates utility, so household decisions are driven by utility maximization. Production does not create utility, so it is driven by profit maximization.

What is obscured in the traditional approach, however, is that the theory fundamentally rests on a utility maximization foundation. Firms maximize profits because firm owners can use those profits to consume and increase their utility. As Demsetz (1983: 378) notes, the “entire process is concerned with utility maximization, but some activities, identified as production (for use by others), deliver utility indirectly to factor owners through the easing of their household budget constraints.” Thus, a key assumption underlying our typical view of firms as profit maximizing entities is that owners’ utility maximization goals are best served by firm profit maximization. We believe that the applicability of this assumption is related to the ownership structure of the firm, where ownership structure concerns “the relative amounts of ownership claims held by insiders (management) and outsiders (investors with no direct role in the management of the firm)” (Jensen and Meckling, 1976: 305). To illuminate this point, we compare the case of dispersed ownership versus concentrated inside ownership.

In the case of diffuse owners who do not also work in the firm, the assumption of the equivalence of utility to profit seems quite reasonable. Diffuse, external owners have no ability to extract utility directly from the operations of the firm. The only source of utility available to them is the stream of monetary rewards flowing from the firm that the owners can utilize for consumption and utility. So, in the case of dispersed, external ownership using profit as a proxy for utility seems quite reasonable.

When we consider the case of concentrated, internal ownership, however, the situation is quite different. Owner-managers may utilize the firm for *both* consumption and production. Owner-managers will consume within the firm when the consumption possibilities offered there are not available elsewhere (e.g., utility gained from work autonomy or leading an organization) or when the cost of the utility received is lower than if consumption took place in the household

(e.g., if tax policy allows certain expenses to be deducted from business but not personal income). Firms can provide their owner-managers with “nonpecuniary income associated with the provision of general leadership and with the ability to deploy resources to suit one’s personal preferences” (Demsetz and Lehn, 1985: 1161-1162).

The above view provides an interesting contrast to agency theory, which is also concerned with how ownership structure, especially the split of ownership and control, might affect the profit maximizing behavior of the firm. Jensen and Meckling (1976) define the agency relationship as a contract under which one party (the *principal* or owner in our case) engages another party (the *agent* or manager in our case) to perform some service on the principal’s behalf. As part of this relationship, the principal delegates some decision-making authority to the agent and wishes to induce the agent to act in the principal’s best interests. Agency theory posits that we may observe departures from profit maximizing behavior due to the split between ownership (principals) and management (agents) because managers are interested in maximizing their own utility and do not necessarily share the profit maximizing goals of owners. Berle and Means (1932: 141) summarize this view, “Have we any justification for assuming that those in control of the modern corporation will also choose to operate it in the interests of the owners?”

As noted above, however, the assumption of a goal of simple profit maximization for owners appears to be reasonable only for dispersed owners. Agency theory appears to ignore the fact that owner-managers, who wish to maximize their own utility, may take actions that are inconsistent with profit maximization if those actions serve to increase their individual utility. It is not that these owner-managers do not operate the firm in the “interests of owners” as concerned Berle and Means. Rather, it is that the interests of concentrated owners are not restricted simply to profits. As Demsetz (1983: 382-383) observes, “It is clearly an error to

suppose that a firm managed by its only owner comes closest to the profit-maximizing firm postulated in the model firm of economic theory. The owner-manager of such a firm may or may not be motivated only by the search for profit.”

Given the high degree of owner management in start-up firms, the entrepreneurship literature is another stream of research that should be particularly relevant to the issue of the goals of owner-managers. Defining entrepreneurship is obviously not an uncontroversial task¹; however, regardless of the specific definition of entrepreneurship, much of the empirical evidence regarding the choice to engage in entrepreneurial activities reflects the importance of nonpecuniary motives. This evidence takes a broad view of entrepreneurship, including activities such as self-employment and starting / investing in a new venture. Although our particular focus in this research is on those who own and manage their own ventures, evidence from broader categorizations does inform us on the potential non-financial motivations of owner-managers. Below, we review evidence in three categories that bear upon this issue. We first discuss studies that examine the financial returns to activities related to entrepreneurship relative to other activities. Second, we review evidence comparing the satisfaction levels of organizationally employed versus the self-employed. Finally, we consider the reasons offered by prospective and current business owners for why businesses are launched and continued.

Studies of the economic returns to entrepreneurial activities generally indicate that the economic returns are insufficient to adequately compensate owners, leading to speculation that nonpecuniary returns make up the difference. As one example, Hamilton (2000) used data from the 1984 panel of the Survey of Income and Program Participation and showed that the self-

¹ Some would restrict entrepreneurship to apply only acts of an innovative nature (e.g., Schumpeter, 1934; Drucker, 1985). Others focus on the discovery, evaluation, and exploitation of opportunities to create future goods and services (Shane and Venkataraman, 2000). A final group of scholars argues that the definition should simply apply to those who start new ventures (e.g., Gartner, 1988).

employed make significantly less than wage workers. Little evidence existed that the earnings differences were due to low-ability individuals selecting into self-employment. Moskowitz and Vissing-Jorgensen (2002) examined the returns to investing in U.S. nonpublicly traded equity relying on data from the Survey of Consumer Finances from 1989-1988. They found that the returns to households investing in private equity were no higher than the returns to public equity, a surprising result given the high level of concentration and poor diversification of private equity investment. Of the private equity owned by households, around 75 percent is owned by households for whom it constitutes at least half of their total net worth, and a single private company represents on average over 70 percent of the total investment value for these households. Finally, Kerins, Smith and Smith (2004) estimated the opportunity cost of capital for entrepreneurial investments, finding rates in excess of 30% for entrepreneurs with at least 15% of their total wealth invested in a particular venture. This 30% opportunity cost of capital is significantly higher than the realized returns to private equity estimated by Moskowitz and Vissing-Jorgensen (2002).

Comparisons of self-employed and organizationally employed individuals also support the non-financial rewards of working for oneself. Kolvereid (1996) investigated the reasons given for self-employment versus organizational employment in a group of 372 Norwegian business-school graduates using a classification scheme of 11 types of reasons for choosing between self-employment and organizational employment. He found that self-employed individuals were more likely to give reasons like authority, autonomy, challenge, and self-realization as reasons for their career choice. Using three broad U.S. surveys, Hundley (2001) found similar evidence that the self-employed were more satisfied than organizational workers and that this higher satisfaction mainly flowed from more autonomy, flexibility, and skill

utilization along with higher feeling of job security. Benz and Frey (2008) used panel data from Germany, Great Britain and Switzerland to show that self-employed individuals have higher job satisfaction than the organizationally-employed, even controlling for income gained and hours worked.

Finally, a large body of research indicates the importance of nonpecuniary motives to entrepreneurs. Studies of both prospective and current business owners indicate that businesses are considered and sustained for both financial and non-financial reasons. Gatewood, Shaver, and Gartner (1995) surveyed a sample of potential entrepreneurs who attended a start-up seminar at a small business development center about their motivations for founding a new business. Six types of answers accounted for 93% of the total top two reasons offered – identification of a market need (29%), autonomy/independence (18%), desire to make more money (18%), desire to use knowledge and experience (16%), enjoyment of self-employment (7%), and desire to show that it could be done (5%). Kuratko, Hornsby and Naffziger (1997) also found that a mix of financial and non-financial rewards explained why owners sustained their venture. Four factors accounted for over 60% of the variance: Extrinsic Rewards (29% of variance), Independence/Autonomy (14%), Intrinsic Rewards (10%), and Family Security (8%). Using a sample drawn from high-technology industry in British Columbia, Amit, MacCrimmon and Zietsma (2001) examined the wealth motivations of entrepreneurs and compared them to motivations of managers who rejected entrepreneurship. Wealth attainment was significantly less important and less salient to entrepreneurs relative to an aggregate of 10 other decision dimensions in the decision to found a venture. Approximately 40 percent of the entrepreneurs indicated they would have still been willing to launch their venture even if another employment alternative offered a higher probability of attaining their most desired level of wealth.

Our argument to this point can be summarized as follows. Economic theory is built on a foundation of utility maximization, but by its definition that consumption takes place in the household and production within the firm, it assumes profit maximization as the goal of firm owners. While this assumption seems reasonable for firms with dispersed ownership whose ownership and control is split (the main concern of agency theory), its applicability is less obvious in owner-managed firms, especially considering the body of empirical studies that indicate the importance of nonpecuniary returns to entrepreneurial activity. Thus, we expect that owner-managed firms will maximize utility, which may include both financial and non-financial components.

In contrast to the owner-managed case, we contend that professionally managed firms with dispersed owners are more likely to be profit maximizers despite the concerns enunciated by agency theory. The agency problems introduced by the split between ownership and control can be overcome via several mechanisms. First, decision making control can be separated from the locus of utility benefits. Managerial decision rights may be restricted such that decisions are instead made by or require the ratification of owners or their representatives (e.g., board members). Similarly, in the case of hierarchical organization, decision making rights can be assigned to managers other than those who would directly gain from particular decisions. For example, if local managers of a geographically diverse organization potentially gain non-pecuniary benefits from certain decisions made at the local level, those decision rights can be assigned to regional or corporate level managers who do not benefit from the local non-pecuniary benefits. Second, incentive pay can be used to align the goals of managers toward profit maximization. Statistics indicate that the use of incentive pay is widespread. For example, a recent survey of over 2,000 companies in the United States indicates that over 80% of

employees receive some form of variable pay and that percentage climbs to 93% for executives and officers (World at Work, 2008). Byrd, Parrino, and Pritsch (1998) report that median incentive compensation is 72% of total compensation for CEOs of Fortune 500 firms. Finally, a host of other non-monetary incentives exist that encourage profit-maximizing behavior on the part of managers such as the desire to avoid punishment, the quest to advance in intra-company “promotion tournaments,” and the need to establish a good reputation in the managerial labor market. Overall, the growth and prominence of literature concerned with agency problems has led firms to dedicate a great deal of effort to solving these problems. We expect, therefore, that professionally managed firms, on average, are more likely to engage in behaviors consistent with profit maximization. We now turn to our consideration of differences in three types of competitive behavior: entry, exit and pricing.

HYPOTHESIS DEVELOPMENT

Entry and Exit

We first consider the role of nonpecuniary motives on entry and exit behavior. We will contend that the relationship between the economic attractiveness of a particular market and entry/exit behavior differs due to heterogeneity in objective functions. Professional managers are more influenced by expected future profitability and are therefore more likely to enter, and less likely to exit, more economically attractive markets. In contrast, owner-managers are influenced by idiosyncratic non-monetary objectives and evaluate these in addition to market attractiveness. This focus on non-monetary objectives weakens the relationship between the likelihood of entrepreneurial entry and exit and measures of the economic attractiveness of a market.

We first consider entry decisions. Firm entry is one of the key drivers of industry

competition and evolution. The innovative entry of new organizations and products within an industry contributes to the “perennial gale of creative destruction” facing incumbents (Schumpeter, 1942: 84). The gale is indeed perennial, as entry is common with large numbers of companies entering most markets in most years (Geroski, 1995). With new firms’ potential to upset the status quo, Porter (1980) includes the threat of entry as one of the Five Forces in his well-known model of competition.

In the traditional economic perspective, entry is expected to occur when incumbent firms are earning above-normal returns. That is, pure profit-maximizing firms evaluate the attractiveness of entering a particular market based on the likelihood of earning abnormal profits. A firm will enter a market when the expected discounted value of future profits exceeds entry costs. As Geroski (1995) notes, a very simple model captures this prediction: $E = \beta(\pi^c - F) + \mu$, where E is entry into an industry at a particular point in time, π^c is expected profits generated from entry, F is the cost of entry and β is an unknown parameter that measures the speed of entry in response to profitable opportunities. While the speed of entry in response to profitable opportunities has been described as “fairly slow” (Geroski, 1995: 428), the weight of empirical evidence does indicate an increasing positive relationship between expected profitability and entry.

Entry decisions of firms who also possess non-financial motives will not purely be evaluated on the basis of expected future profits, however. Eisenhauer (1995) presents a model of an entrepreneur’s decision to launch a new venture versus continuing in wage work. The entrepreneur’s decision rule is to launch the new venture if the expected utility from launching exceeds the expected utility of wage work. The expected utility of launching is a function of the entrepreneur’s current wealth plus the net present value of earnings from the venture along with

the working conditions the entrepreneur expects to have in the new venture (the utility of being an entrepreneur). The utility from wage work is a function of current wealth plus wages and the working conditions of wage work. Formally, the decision rule is to launch if $U(A_o + E(Y), C_v) > U(A_o + Y_o, C_o)$. This model nicely captures the fact that non-financial considerations will enter into the decision-making of the owner-manager; wage work offers the potential for utility from non-financial factors; however, the wage worker has a much lower degree of control in determining those conditions. As one example of non-financial returns that might impact owner-manager decision making, an owner-manager may derive psychic enjoyment from operating a business in her hometown or in a particularly physically attractive location; this owner-manager would thus consider both market profitability and utility gained from locating in a particular geographic area in the evaluation of the entry decision into a particular market. In contrast, while professional managers may also derive utility from particular locations, they are constrained by the profit considerations of external owners, to the extent that that the firm i) requires owner ratification of entry decisions, ii) institutes incentives or controls to influence the behavior of their professional managers, or iii) assigns decision or ratification rights to other managers within the organization who would not benefit from the utility generated by particular location choices.

Unsurprisingly, the entry decisions of both owner-managers (utility maximizers) and professional managers (profit maximizers) are impacted by expected future profits in the above models. An interesting question, however, is whether the nature of this relationship might differ due to heterogeneous firm objectives; that is, whether the relationship might be weaker for firms with an objective of maximizing utility rather than profits. Some empirical evidence indicates a relatively weak relationship between economic motives and self-employment choices. Parker

(2003: 379) found that the choice between self-employment and paid employment “is not robustly related to pecuniary factors in general.” These findings are consistent with earlier work by Aronson (1991) and Hamilton (2000) indicating that the majority of self-employed workers in the United States do not switch to paid employment despite the greater income-earning opportunities there. While it seems somewhat implausible that entry decisions by owner-managers will be totally unrelated to projected future profits, we expect that their focus on non-financial returns will result in a weaker relationship between measures of the economic attractiveness of a particular market and the probability of entry.

H1: The positive relationship between the economic attractiveness of a market and likelihood of entry will be stronger for professionally managed firms than for owner-managed firms.

We also consider the relationship between the economic attractiveness of a market and the likelihood of exit. Exit is also a very common part of the empirical landscape of business, and entry and exit rates tend to be positively correlated (Geroski, 1995). As in the case of entry, we expect that professional managers will evaluate the net present value of continuing in business, which is a function of the economic attractiveness of the market, versus the shut-down value of the business. In contrast, owner-managers will consider the non-financial returns of continuing operations in addition to the financial returns. This view is consistent with the findings of Gimeno, Folta, Cooper and Woo (1997) who demonstrated a negative association between psychic income and the propensity to exit. They found that owners who offered non-financial motivations for being in business were less likely to exit given similar levels of financial performance. In summary, we contend that this focus on non-pecuniary benefits leads

to a weakening of the negative relationship between measures of the economic attractiveness of a particular market and the probability of exit.

H2: The negative relationship between the economic attractiveness of a market and likelihood of exit will be stronger for professionally managed firms than for owner-managed firms.

Pricing Behavior

In addition to prior research that has focused on entry and exit actions as important competitive behaviors (e.g., Baum and Korn, 1996; Boeker, Goodstein, Stephan, and Murmann, 1997), pricing has featured prominently as another important competitive action (e.g., Evans and Kessides, 1994; Gimeno and Woo, 1996). We have argued above that nonpecuniary motives impact entry and exit behaviors; we similarly expect that they will influence competitive activity reflected in the pricing behavior of firms. We contend that the prices of owner-managed firms will be less responsive to the underlying economic attractiveness of their local markets.

In the economic view of competition within markets, prices and quantities sold are outcomes of the interplay of supply and demand. Holding supply constant, as demand increases, firms have the ability to charge higher prices. We therefore unsurprisingly expect that firms located in more economically attractive markets characterized by higher levels of demand will have higher prices. However, this relationship will not be as strong for owner-managed firms because owner-manager objective functions are not solely concerned with economic returns.

Owner-managers receive utility from both financial and non-financial returns, and the literature provides support for the idea that aggressive price increases in response to higher market demand may jeopardize one such source of non-financial return. Recognition is one important non-financial motivator for entrepreneurs (Scheinberg and MacMillan, 1988; Shane,

Kolvereid and Westhead, 1991; Birley and Westhead, 1994; Carter, Gartner, Shaver and Gatewood, 2003), and firms can gain greater recognition through higher sales volumes. An owner-manager interested in higher sales will be more reluctant to raise prices when demand is high.

Uncertain demand will contribute to this tendency to price lower when demand is higher. Although past or current market demand conditions can be used as a guideline for expected future demand conditions facing the firm, residual uncertainty inevitably remains. When firm decision makers are uncertain of the demand for their products, they must compare the costs and benefits of overpricing versus underpricing. In the case of owner-managers who gain additional utility from higher sales levels, the costs of overpricing in response to higher market demand with its attendant revenue sacrifice will be higher than the costs of underpricing. These owner-managers would prefer to make an underpricing rather than an overpricing error. In contrast, professional managers gain no relative utility benefit from underpricing, and we therefore expect that the relationship between market attractiveness will be stronger for these professionally managed firms.

H3: The positive relationship between the economic attractiveness of a market and firm prices will be stronger for professionally managed firms than for owner-managed firms.

METHODS

Sample

Investigation of our research questions requires an empirical setting that includes observation of the exit, entry, and pricing behavior of both owner-managed and professionally managed firms. One such appropriate setting is the hotel industry, which consists of a wide range of firms, including owner-managed hotels to individual units of professionally managed

corporations. Local competition characterizes this industry, as hotels compete with others in the same geographic area but not with hotels in other parts of the state or country (Baum and Mezias, 1992). We draw our sample from the hotel industry in the state of Texas over 34 quarters covering the years 1997 through mid-2005. A mix of independent and chain hotels comprised the sample; the hotel chains operate branded units both through franchise relationships and by company ownership of individual units.

Two primary sources provided the data for our analyses. The first is a publicly available tax file from the State of Texas Comptroller's Office, which provides quarterly reporting of the state's Hotel Occupancy Tax along with the hotel name, hotel location, owner name/address, hotel capacity, and quarterly revenues. The second data source is a private database from Source Strategy, Inc., a leading hotel consultant that maintains data on Texas hotels from 1976 through the present. This database included the same hotels and also reports quarterly. In addition to the hotel name, their data also included the average quarterly occupancy rate, price, and revenue per available room for each hotel.² The first database has been used among others by Chung and Kalnins (2001) and Vroom and Gimeno (2007) while the second database has been used in previous studies such as Conlin and Kadiyali (2006) and Vroom and Gimeno (2007). To focus on hotels and motels as opposed to other types of lodging options that are included in the data set (such as bed and breakfasts and recreational vehicle parks), independent hotels with average room capacities under ten were dropped from the data set.

We utilized the zip code as the definition of the boundaries of an establishment's local market. Although some of the prior literature has used broader county/city-level definitions (e.g.,

² The average room price (average daily rate or ADR), the occupancy rate, and the average revenue per available room (RevPAR) are the three most commonly used performance indicators in the hotel industry. The relationship between these three measures is as follows: revenue per available room = occupancy rate * average room price.

Conlin and Kadiyali, 2006), we believe that narrowing to the zip code level better approximates the choice set consumers review when selecting a hotel. This market definition is consistent with previous studies of the Texas hotel industry (Chung and Kalnins, 2001; Kalnins and Chung, 2004; Vroom and Gimeno, 2007). During the eight and one-half years included in the data, over 4,000 hotels operated across more than 850 local Texas markets, and the number of hotels grew by 3.3 percent annually.

Dependent Variables and Modeling Approach

Each of our hypotheses required a different dependent variable and modeling approach as described in more detail below.

Entry. To investigate differences in the entry behavior of owner-managed and professionally managed firms, we considered the probability that a particular market would experience entry by either of the two firm types in each quarter of the data set. We derived our dependent variable of interest, entry, from a focal hotel's first appearance in the database. Using all of the potential market-period combinations, we modeled the probability of entry by firm-type i in market m at time t using logistic regression. A total of 1,043 cases of entry were included in the data set, which equals an average of 35 hotels per quarter.

Exit. For the exit regressions, we modeled the probability that a given hotel would exit from the dataset. Our dependent variable for these models was a binary dependent variable coded "1" if the hotel exited during a particular quarter and "0" otherwise analyzed using logistic regression. A total of 334 hotels exited over the course of the data set.

Pricing. The dependent variable in these analyses was the logged average daily price of an individual hotel room. To control for potential unobserved sources of heterogeneity that might impact prices, we utilized hotel-level fixed effects regression to model prices.

Independent and Control Variables

Our primary independent variable across the regressions is a dummy variable indicating whether a hotel was owner-managed or professionally managed. All company-owned units are defined as professionally managed. To determine the ownership type of franchised and independent units, we defined a hotel to be owner-managed if its owner's zip code as reported in the State of Texas records was the same as the zip code of the hotel. Typically owners who also manage their hotel live relatively close to their establishment. Living nearby (e.g., in the same zip code) allows the owner to closely monitor and supervise their property, even if they have professional staff assisting them in the management of the hotel. In contrast, living farther away, close supervision would not be feasible and would require the use of control and decision-making systems similar to those of professionally managed organizations. Of the 3,289 hotels operating at the mid-point of the data set, 1,789 (54%) were owner-managed and 1,491 (46%) were professionally managed. We also considered an alternative definition in which we defined hotels to be owner-managed if the hotel owner lived within the state and owned no more than a single hotel. This broader definition of owner-management resulted in 2,240 (68%) hotels being classified as owner-managed.

Entry. Our interest is in how the entry behavior of owner-managers and professional managers differ in response to measures of market attractiveness. Our primary measure of the attractiveness of a particular market is the average occupancy rate (the percentage of occupied rooms) across all hotels in the zip code. Mean occupancy rates in a particular zip code reflect the strength of local market demand conditions. When demand is high relative to supply, market occupancy, market prices, and market profitability all tend to increase, suggesting that mean occupancy level is a good indicator for the economic attractiveness of the market.

We also controlled for other factors that may impact entry to particular markets. We utilized the logarithm of market capacity (the total number of rooms of all hotels in the zip code) as well as the logarithm of the total number of competing hotels to control for variations in supply conditions. We also included a lagged measure of market concentration, calculated as the sum of the squared market shares of all hotels in the zip code. Market mean occupancy and the other market-level controls were lagged four periods (one year) to reflect the fact that entry decisions are made well in advance of the actual observation of the opening of the hotel.

Other zip code level controls include measures of the level of economic activity within the zip code, drawn from the 2002 Zip Code Business Patterns available from the U.S. Census Bureau. We included counts of the total establishments in the zip code along with counts of retail, gas, and manufacturing establishments. We also controlled for the income level, population, and number of housing units within the zip code using data drawn from the 2000 U.S. Census.

Finally, we controlled for the location of a particular market based on its classification as either rural (coded “1”) or metropolitan (coded “0”) in the Source Strategy data and for possible unobserved seasonal and macroeconomic trends in the economy with a set of quarterly dummy variables for each period.

Exit. The exit models include the same set of independent and control variables as the entry models, although the market-level measures were lagged one period instead of four due to the fact that exit decisions are likely made more closely in time to the observation of exit in the data set. In addition, we added firm-level controls of hotel capacity and the segment in which the hotels operated to capture any differences in exit behavior across hotels of different size and quality. We utilized the Smith Travel Research (STR) Chain Scales to classify hotels into four

segments (Economy, Midscale, Upscale, and Luxury). Independents were classified into these segments based on their average room price over the life of the data set.

Pricing. In addition to the hotel-level fixed establishment effects that control for unobserved sources of heterogeneity, these regressions included fixed segment and period effects. Market-level controls included market capacity (number of competitors and room capacity) and concentration as described above. We also controlled for whether any competitors exited or entered during the quarter as well as for whether the focal hotel itself exited at some point during the focal quarter. Finally, we included controls for whether the hotel was a franchised or company-owned unit (with independent being the excluded category).³

RESULTS

We begin by reviewing some descriptive statistics related to our choice of mean market occupancy as a measure of market attractiveness. Table 1 compares prices, entry activity, and exit activity across markets above and below the median market occupancy level. The average daily price of a hotel room in more attractive markets is over 17 percent higher than the average price in less attractive markets. We also see that attractive markets draw nearly twice as many entrants while also experiencing much lower exit rates.

----- Insert Table 1 about here-----

Entry

Table 2 presents the results of the entry analysis. Because we have multiple observations for each zip code market, the logistic regression models utilized robust standard errors, clustered to adjust for intrazip correlation. The positive coefficient on *Market Occupancy* in Model 1 indicates that markets with higher levels of occupancy are more likely to experience entry. The

³ We excluded any time-invariant measures from the fixed effects regressions because these time-invariant effects are captured by the fixed establishment effects. Segment and franchise / company-owned controls are included because some hotels switch segments and ownership structure over the course of the data set.

coefficient of 2.7106 indicates that a one percent (0.01) increase in market occupancy is associated with 2.75 percent increase in the odds that a market will experience entry.⁴ We can also interpret logit coefficients in terms of marginal effects on the underlying probability, i.e., how much a one-unit change in the variable changes the probability of entry. Because the logit model is a non-linear estimator, the *Market Occupancy* coefficient estimate *does not* provide this marginal effect. The marginal effect on the probability that the dependent variable (entry) equals one is estimated by $\beta_i \left[\frac{e^{-x\beta}}{(1+e^{-x\beta})^2} \right]$, and its magnitude is contingent on the values of all of the independent variables. To calculate the marginal effect, we follow the standard practice of setting all other independent variables at their mean value. The market occupancy marginal effect indicates that an increase of one percentage points in market occupancy is associated with an increase of 0.0003 in the probability of that a market will experience entry. While this marginal effect may seem small, it represents a significant impact given the relatively low predicted rates of entry in a particular zip code in a particular year. For example, raising market occupancy from 58% (the mean) to 71% (one standard deviation above the mean) increases probability of entry from 0.017 to 0.023, an increase of over 35% in the probability of entry.

Model 2 introduces the interaction of *Owner Manager * Market Occupancy*. Hypothesis 1 predicts that the positive relationship between market occupancy and probability of entry will be weaker for owner-managed firms. While Model 2 includes a significant negative interaction on the interaction term, we conducted further investigation prior to concluding support for Hypothesis 1. Conclusions about the sign and significance of interaction effects in non-linear models, such as the logistic regression model, can *not* be made by simple examination of the coefficient of interacted variables because the interaction effect in such models is a function of

⁴ To interpret the coefficient in terms of its effect on the odds (p/[1-p]), calculate exp(coefficient) and subtract 1. $\text{Exp}(2.7106/100) - 1 = 2.75\%$.

the interaction coefficient as well as the coefficient of each interacted variable and the values of all the other independent variables (Huang and Shields, 2000; Ai and Norton, 2003; Hoetker, 2007). To assess whether the interaction effect was significant, we calculated the interaction effect for each observation as suggested by Norton, Wang, and Ai (2004).⁵ Using this technique, we found that over 90% of the observations had a significant ($p < 0.05$ using one-tailed test) negative interaction; thus, we conclude support for Hypothesis 1. Figure 1 presents a graphical depiction of the form of the interaction. Both owner-managers and professional managers are more likely to enter as market attractiveness increases; however, this relationship is weaker for owner-managed firms, implying that owner-managed firms' entry decisions are less driven by market attractiveness than those of professionally managed firms.

These results were robust to our alternative definition of owner-manager. We also ran a random effects logit model to determine whether controlling for additional, unobservable zip code characteristics would impact our results. The substantive results of the analysis were robust to this alternative specification.

----- Insert Table 2 about here-----

----- Insert Figure 1 about here-----

Exit

Table 3 provides the results of our exit analysis. Because we have multiple observations per hotel, the logistic regression models utilized robust standard errors, clustered to adjust for intrafirm correlation. The negative coefficient on *Market Occupancy* in Model 3 indicates that hotels in markets with higher occupancy levels are less likely to exit. The coefficient of -5.0956 indicates that a one percent (0.01) increase in market occupancy is associated with 5.22 percent decrease in the probability of exit. The marginal effect of this variable on the probability of exit

⁵ Interaction effects were calculated using the *inteff* command in Stata version 9.2.

indicates that an increase of one percentage point in market occupancy is associated with a decrease of 0.00008 in the probability that a hotel will exit. And, again, while this marginal effect initially appears small, it represents a significant impact given the low predicted rates of firm exit. For example, raising market occupancy from 55% (the mean) to 66% (one standard deviation above the mean) decreases probability of exit from 0.0015 to 0.0009, an decrease of 40% in the probability of exit.

Model 4 adds the interaction of *Owner Manager * Market Occupancy*. Hypothesis 2 anticipates that the negative relationship between market occupancy and probability of exit will be weaker for owner-managed firms. Model 4's significant positive interaction implies that the negative main effect is indeed weaker (less negative) for owner-managed firms. Calculating the interaction effect for each observation confirmed this result, with over 70% of the observations having a positive significant ($p < 0.05$ using one-tailed test) interaction effect. We conclude support for Hypothesis 2. Figure 2 depicts the interaction effect graphically. Both owner-managers and professional managers are less likely to exit as market attractiveness increases; however, this relationship is weaker for owner-managed firms, suggesting that exit decisions for owner-managed firms are less driven by market attractiveness than for professionally managed firms.

Our exit results were also robust to our alternative definition of owner-manager. We also ran a random effects logit model to determine whether controlling for additional, unobservable firm characteristics would impact our results.⁶ The substantive results of the analysis were robust to this alternative specification.

----- Insert Table 3 about here-----

⁶ We rejected the fixed effects estimator because it can not be estimated for groups whose outcomes do not vary (hotels that never exit). These hotels represent a large portion of the data, and their exclusion may potentially bias results.

----- Insert Figure 2 about here-----

Pricing

Table 4 presents the results of our analysis for the pricing behavior of hotels using a fixed effects regression specification using robust standard errors, clustered to adjust for intrafirm correlation.⁷ The positive coefficient on *Market Occupancy* in Model 5 indicates that hotels in markets with higher prior quarter occupancy levels have higher prices. The significant negative coefficient of -0.0374 on the interaction of *Owner Manager * Market Occupancy* in Model 6 indicates that this positive relationship is weaker for owner-managed firms, consistent with the prediction of Hypothesis 3. While both owner-managed and professionally managed firms price higher when demand conditions are more favorable, this relationship is stronger for the professionally managed firms, which suggests that owner-managed firms' pricing policies are less influenced by profit-maximization considerations than those of professionally managed firms.

----- Insert Table 4 about here-----

DISCUSSION

We set out with the purpose of testing how the ownership and management structure of the firm affects competitive behaviors. We questioned whether the absence of agency issues in owner-managed firms results in these firms most closely approximating the ideal profit-maximizing production unit of microeconomic theory. Instead, we argued that owner-managers' ability to use the firm for both production and consumption coupled with the presence of non-financial objectives results in owner-managers whose utility maximization goals may not be fully consistent with profit maximizing behavior on the part of the firm. In comparing these

⁷ Results of a Hausman test indicated that the fixed effects specification was preferred to a random effects specification.

firms to professionally managed organizations with controls and incentive programs designed to align managerial goals with the profit-maximization goals of specialized owners, we predicted that the professionally managed firms would exhibit competitive behaviors more consistent with the goals of profit maximization. Overall, our evidence clearly supports this expectation. Across three types of competitive actions (entry, exit, and pricing), professionally managed firms were more responsive to the underlying economic conditions of the markets in which they compete.

We now consider potential alternative explanations for our findings. First, one might argue that a key difference between owner-managed and professionally managed firms is their access to resources, and this difference might explain the variance in their entry behaviors. If more economically attractive markets are more expensive to enter and professionally managed firms have better access to financial resources, this would also explain the relationship we observe. While our data do not allow us to entirely rule out this explanation, we believe that resource heterogeneity does not account the differences we observe in competitive behaviors for several reasons. First, as one rough measure of the cost of entry into different markets, we examined entry patterns into rural and metropolitan markets. If resource differences constrain the entry ability of owner-managed firms, we would expect to see much lower rates of owner-manager entry into metropolitan markets relative to the entry rates of professionally managed firms into these markets. We found that 85.7% of the professional manager entries were into metropolitan markets while 81.3% of the owner-manager entries were into these metropolitan markets. While owner-managers do enter more costly metropolitan markets at lower rates, they still enter at very high rates and the difference between the two types of firms is not particularly large. Second, and more importantly, resource differences would not provide an alternative explanation for the exit and pricing findings. In particular, if owner-managers are more

resource-constrained, we would expect to see their exit decisions be *more* responsive to the economic attractiveness of the market not *less* responsive as we observed.

Another potential alternative explanation is differences in the sophistication of owner-managers and professional managers. That is, we may observe weaker responsiveness to market conditions from owner-managed firms because they are not sophisticated or knowledgeable enough to understand the correct response. Again, we can not rule this explanation out with the data we have available; however, we do find this possibility somewhat implausible. We specifically chose an obvious measure of the economic attractiveness of the local market that is available to both professional- and owner-managers, and we believe it does not take a high level of knowledge or sophistication for an owner-manager to understand that markets with higher occupancy levels provide more attractive economic conditions.

Our findings provide some interesting links to other literature streams. A recent series of papers (Schulze et al., 2001; Schulze, Lubatkin and Dino, 2002; Lubatkin et al., 2005) have questioned how well family firms approximate the theoretical profit-maximizing entity devoid of agency problems. These authors have argued that family firms face serious agency challenges that may result in managerial behaviors inconsistent with the profit-maximization goals of the family owners because some owners are actively involved in the management of the firm, while others are passive owners. While we do not disagree with this view, we would argue that we may still observe non-profit-maximizing behavior by family-owned and controlled firms *even in the absence of agency issues*. Similar to owner-managed firms, family-managed firms may also use the firm for both production and consumption.

Our findings also relate to research in the competitive dynamics literature. This research stream investigates competitive interactions among firms and posits three implicit drivers of

competitive action or response – a firm’s awareness of a competitive relationship and/or competitors’ initiatives, its motivation or incentive to do so, and its capability to act or respond (Chen, 1996; Chen, Su and Tsai, 2007; Smith *et al.*, 2001). Our work relates strongly to the motivation driver with our argument that owner-managed firms have motivations other than profit maximization that drive their competitive behaviors. A promising extension of this work would be to more fully integrate it with the competitive dynamics literature to examine whether owner management affects other factors studied closely in this research stream such as the propensity to initiate and/or respond to competitive actions and the speed at which moves are made.

Although our focus in this paper has been on the comparison of competitive behaviors of owner-managed and professionally managed firms, an interesting extension of this work would be to examine how the presence of owner-managed firms affects the competitive behaviors of professionally managed firms. Are owner-managed firms seen as weaker competitors because of their lack of profit-maximizing behavior such that professionally managed firms might seek them out as easy prey? How might the lower responsiveness of owner-manager prices to market conditions affect the pricing strategies of professionally managed firms? These are just a few of the questions that might extend this work to provide a richer view of the impact of owner-managed firms on the nature of competition within a particular industry or market.

Finally, we note that our results are not without limitations. First, our arguments are built on the foundation of utility maximization and the presence of non-financial objectives of owner-managed firms. While the prior literature provides ample support for the assumption of non-financial goals on the part of owner managers, we do not directly measure variations in the goals of firm owners within the study. It may be the case that some owner-managers are indeed pure

profit maximizers; however, even if this were true, we do not believe it negates the findings of our study. Indeed, to the extent that some owner-managers are profit maximizers that would have made it less likely that we would have observed the results found in the study. Nevertheless, a more direct measure of owner motivation would have provided a closer connection between our theoretical arguments and empirical findings. Second, a concern that is applicable to any single-industry study is the issue of generalizability. We believe that our findings should generalize, however, to any industry in which a significant number of owner-managed firms are in competition with professionally managed firms.

CONCLUSION

This research addresses a fundamental issue in the field of strategic management and competitive behavior more specifically. The quest of the strategic management field to explain differences in firm performance is inextricably linked to its assumptions about the motivations driving those actions. Despite its focus on heterogeneity across firms, we have argued that the field has largely adopted the profit maximization assumption from economic theory and ignored other potential objective functions. The main claim of our research is that the field of strategic management needs to recognize and investigate the impact of another level of heterogeneity across firms, heterogeneity in objective functions. We maintained that ownership structure impacts the objective function of the firm. Owner-managers are motivated by utility maximization while specialized owners (owners who do not also have a management role in the firm) are motivated by profit maximization. This individual-level heterogeneity leads to heterogeneity in the goals of the firm, and we argued that professionally managed firms with specialized owners are more likely than owner-managed firms to have profit maximization as the goal of the firm, contradicting the general view of the principal-agent literature, which proposes

that the separation between ownership and control distracts from profit maximization. This heterogeneity in firm goals leads to heterogeneity in competitive behavior. Our findings indicate that professionally managed firms are more likely to engage in behaviors consistent with profit-maximizing activities. The entry, exit, and pricing decisions of owner-managed firms are all relatively less responsive to the underlying economic attractiveness of the markets in which they operate. A clearer understanding of the goals of the firm improves our ability to explain and understand their behaviors.

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TABLE 1

Comparison of Price Level, Entry Activity, and Exit Activity across Different Market

Occupancy Levels

	Market Occupancy below Median	Market Occupancy above Median
Average Room Price	\$50.21	\$58.85
Number of Entries	360	683
Number of Exits	215	119

TABLE 2
Logistic Regression Analysis of Market Entry

	Model 1	Model 2
Owner Manager	0.0990 (0.0747)	1.6081** (0.3889)
Market Occupany	2.1706** (0.3909)	3.5997** (0.5265)
Owner Manager * Market Occupancy		-2.6386** (0.6618)
Market Capacity	0.0929 (0.0772)	0.0927 (0.0772)
Market Competitors	0.7497** (0.1724)	0.7488** (0.1724)
Market Concentration	0.5611 (0.3867)	0.5425 (0.3857)
Rural	-0.1684 (0.1056)	-0.1686 (0.1057)
Zip Code Total Establishments	-0.0002 (0.0003)	-0.0002 (0.0003)
Zip Code Retail Establishments	0.0006 (0.0011)	0.0006 (0.0011)
Zip Code Gas Establishments	0.0031 (0.0065)	0.0033 (0.0065)
Zip Code Manufacturing Establishments	0.0029+ (0.0017)	0.0029+ (0.0017)
Zip Code Housing Units	-0.0000 (0.0000)	-0.0000 (0.0000)
Zip Code Income	0.0000 (0.0000)	0.0000 (0.0000)
Zip Code Population	0.0000 (0.0000)	0.0000 (0.0000)
Constant	-7.1361** (0.5367)	-7.9577** (0.5950)
Period Fixed Effects	YES	YES
Observations	45,832	45,832
Log-Likelihood	-4538	-4527
Chi-Sq	809.7**	800.5**
Psuedo-R-Sq	0.0882	0.0903

** $p < 0.01$, * $p < 0.05$, + $p < 0.1$

Robust standard errors in parentheses

TABLE 3
Logistic Regression Analysis of Firm Exit

	Model 3	Model 4
Owner Manager	-0.6049** (0.1268)	-1.5904** (0.4717)
Market Occupancy	-5.0956** (0.5708)	-6.1129** (0.7252)
Owner Manager * Market Occupancy		1.9896* (0.9274)
Hotel Capacity	-0.0072** (0.0022)	-0.0067** (0.0022)
Market Capacity	-0.3702* (0.1655)	-0.3712* (0.1643)
Market Competitors	0.4213+ (0.2279)	0.4139+ (0.2274)
Market Concentration	-0.1478 (0.4698)	-0.1673 (0.4701)
Rural	-0.4316** (0.1517)	-0.4244** (0.1520)
Zip Code Total Establishments	0.0003 (0.0004)	0.0003 (0.0004)
Zip Code Retail Establishments	-0.0013 (0.0015)	-0.0014 (0.0015)
Zip Code Gas Establishments	0.0047 (0.0113)	0.0038 (0.0114)
Zip Code Manufacturing Establishments	-0.0002 (0.0034)	-0.0003 (0.0034)
Zip Code Housing Units	0.0001* (0.0000)	0.0001* (0.0000)
Zip Code Income	0.0000 (0.0000)	0.0000 (0.0000)
Zip Code Population	-0.0000* (0.0000)	-0.0000* (0.0000)
Constant	-0.7894 (0.8683)	-0.2843 (0.8661)
Fixed Segment Effects	YES	YES
Fixed Period Effects	YES	YES
Observations	92,845	92,845
Log-Likelihood	-1961	-1958
Chi-Sq	541.0**	565.1**
Pseudo-R-Sq	0.114	0.115

** $p < 0.01$, * $p < 0.05$, + $p < 0.1$

Robust standard errors in parentheses

TABLE 4**Fixed Effects Regression Analysis of Firm Pricing**

	Model 5	Model 6
Owner Manager	-0.0044 (0.0047)	0.0154 (0.0108)
Market Occupany	0.2080** (0.0100)	0.2305** (0.0138)
Owner Manager * Market Occupancy		-0.0374* (0.0177)
Market Capacity	0.0054 (0.0108)	0.0048 (0.0108)
Market Competitors	-0.0138 (0.0141)	-0.0122 (0.0141)
Market Concentration	-0.0070 (0.0304)	-0.0055 (0.0304)
Competitor Exit	0.0101** (0.0024)	0.0101** (0.0024)
Competitor Entry	0.0143** (0.0015)	0.0142** (0.0015)
Hotel Capacity	-0.0000 (0.0001)	-0.0000 (0.0001)
Hotel Exit	-0.0538** (0.0103)	-0.0537** (0.0103)
Franchised Hotel	0.0653** (0.0114)	0.0654** (0.0114)
Company-Owned Hotel	0.0730** (0.0151)	0.0728** (0.0151)
Constant	3.6452** (0.0604)	3.6332** (0.0605)
Fixed Establishment Effects	YES	YES
Fixed Segment Effects	YES	YES
Fixed Period Effects	YES	YES
Observations	105,329	105,329
Number of hotid	4,187	4,187
F-Value	137.8**	136.6**
R-Sq-Between	0.6145	0.6151
R-Sq-Within	0.1088	0.1090

Robust standard errors in parentheses

** $p < 0.01$, * $p < 0.05$, + $p < 0.1$

FIGURE 1

Effect of Market Occupancy on Probability of Entry

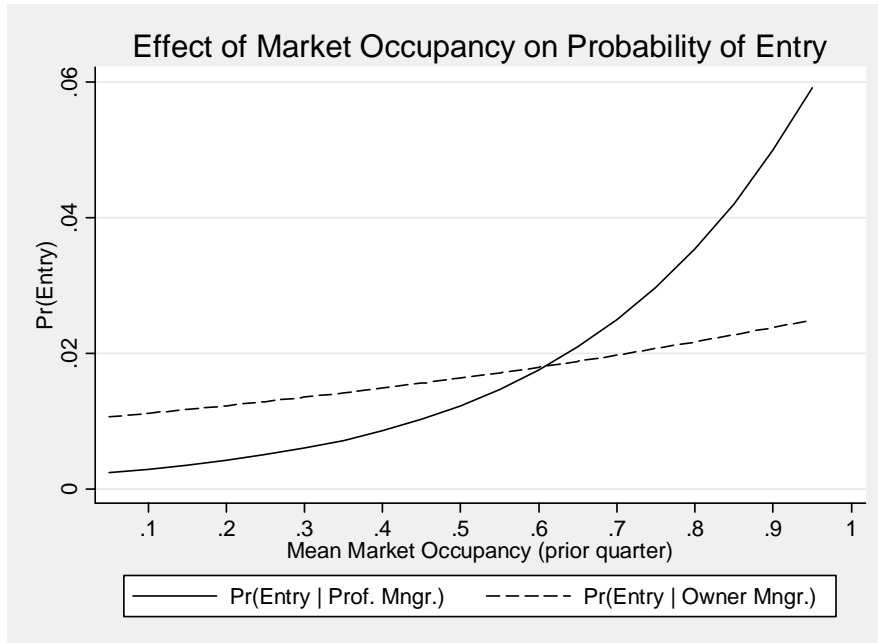


FIGURE 2

Effect of Market Occupancy on Probability of Firm Exit

