

**THE FRANCHISE DECISION AND FINANCIAL PERFORMANCE:
AN EXAMINATION OF RESTAURANT FIRMS**

by

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B.S., National Chung-Hsing University, Taiwan, 1978
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AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

Department of Hotel, Restaurant, Institution Management & Dietetics
College of Human Ecology

KANSAS STATE UNIVERSITY
Manhattan, Kansas

2007

Abstract

In the last few decades, franchising has become a part of everyday life in the United States. Many firms in a variety of industries have adopted franchising as a method of doing business. Despite the importance of franchising, the literature on why firms initially choose to franchise and how franchising affects financial performance has been scant (Combs et al., 2004; Watson et al., 2005). The purposes of this study were 1) to examine how well agency theory, resource scarcity theory, risk-sharing theory, and specific knowledge theory justify the franchising decision, 2) to investigate whether franchising affects restaurant firms' market value and profitability, and 3) to investigate the relationship between the ownership mix, combination of franchised and company-owned outlets, and financial performance.

For the statistical analysis, the data were collected from the Standard and Poor's COMPUSTAT database, *Bond's Franchise Guide* and 10 K reports. A logistic regression model was developed to identify a set of variables that best differentiated firms engaged in franchise contracts from those that were not. The statistical results indicated that: 1) Young and growing firms used franchise more to increase the flow of resources. This result supported resource scarcity theory. 2) The degree of geographic dispersion and involvement in foreign countries increased the probability of a firm's decision to franchise. These results supported agency theory. 3) The decrease of specific knowledge requirements increased the franchising probability. This result supported specific knowledge theory.

T-tests and multivariate regression models were used to test how franchising affects firms' financial performance. The findings indicated that 1) franchised firms had

better financial performance than non-franchised firms, 2) the relationship between ownership mix and financial performance was curvilinear and the inverted U-shaped relationship suggested the existence of optimal ownership mix that can maximize a firm's financial performance, and 3) ownership mix not only directly affected a firm's intangible assets, but also indirectly affected a firm's intangible assets through advertising. This study found that a purely company owned or a purely franchised chain did not produce the best financial performance. Restaurant companies could use both company-owned and franchised units to leverage the strengths of one another, which will yield a better overall financial performance than if either structure was to operate alone.

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Paired sample t-tests and multivariate regression models were used to test how franchising affects firms' financial performance. The findings indicated that 1) franchised firms had better financial performance than non-franchised firms, 2) the relationship between ownership mix and financial performance was curvilinear and the inverted U-shaped relationship suggested the existence of optimal ownership mix that can maximize a firm's financial performance, and 3) ownership mix not only directly affected a firm's intangible assets, but also indirectly affected a firm's intangible assets through advertising. This study found that a purely company owned or a purely franchised chain did not produce the best financial performance. Restaurant companies could use both company-owned and franchised units to leverage the strengths of one another, which will yield a better overall financial performance than if either structure was to operate alone.

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Acknowledgements

I would like to express my appreciation to a large number of people who have provided me with love and support. Without their encouragement, I would not have been able to finish this dissertation.

First of all, I would like to express my appreciation to Dr. Shawn Jang, my major advisor, for his guidance, inspiration, and support during the whole process of my doctoral studies and the writing of this dissertation. I'd also like to appreciate Dr. Deborah Canter, my co-major professor, for her encouragement and assistance. I also want to thank my dissertation committee members, Dr. Rebecca Gould and Dr. Stacy Kovar, for their contributions and advice.

To my fellow graduate students in the Hotel, Restaurant, Institutional Management, and Dietetics Department: thank you for cheering me on and picking me up when I was low, and thank you for your friendship, you are not just colleagues but family.

To my daughter: thank you for spending so much time at 152 Justin Hall with me, you are my best friend.

To my son: thank you for proofreading all my studies for me, and thank you for being my biggest supporter.

To my husband: thank you for your endless love and support, I couldn't have done this without you stood by my side.

To my father and sisters: thank you for your love and encouragement. I wish mother could be here to share in our celebration of this accomplishment.

CHAPTER 1 - INTRODUCTION

According to the U.S. Department of Commerce, franchising is “a method of doing business by which a franchisee is granted the right to engage in offering, selling, or distributing goods or services under a marketing format which is designed by the franchiser.” In the last few decades, franchising has become a part of everyday life in the United States. Many firms in a variety of industries have adopted franchising as a method of doing business. In 2001, PricewaterhouseCoopers estimated that there were more than 767,000 businesses in the franchise system in the United States (U.S.), directly providing more than 9 million jobs, more than \$229 billion in payroll, and more than \$624 billion in output (PricewaterhouseCoopers, 2004). These businesses accounted for 3.2% of all U.S. business establishments. In general, two major environmental factors have contributed to the development of franchising. First, the shift towards the service sector in developed economies requires a higher degree of personal service (Brandenberg, 1989; Hall & Dixon, 1988). The change in lifestyles in the United States and Western Europe has placed a growing emphasis on service and convenience. Second, higher travel intensity, which has enhanced the value of a brand name, also contributes to the expansion of franchising (Mathewson & Winter, 1985).

Depending on the relationship between franchiser and franchisee, the franchising system can operate in two formats: product distribution franchising and business format franchising. Product distribution franchising is a relationship between the supplier and the dealer in which the franchiser grants the franchisee the right to use its trademark but may not provide a system to help the franchisee to run the business. Business format franchising, on the other hand, has an ongoing relationship between the franchiser and franchisee that not only includes product, service, and trademark, but also the entire concept of the business (U.S. Department of Commerce, 1988). Business format franchising is now much more widespread with 4.3 times as many establishments, providing 4 times as many jobs in 2001 as product distribution franchising (PricewaterhouseCoopers, 2004).

Not surprisingly, franchising also captures a sizeable portion of the restaurant industry and plays an important role in its success. According to PricewaterhouseCoopers (2004), more than 56% of fast-service restaurants and 13% of full-service restaurants are franchises. Consumer mobility and time constraints have increased the popularity of restaurant chains. To avoid losing time searching for a restaurant in unfamiliar locations, consumers are likely to select restaurants with national brand names over local restaurants (Mathewson & Winter, 1985; Sen, 1998). As a result, franchising has become a preferred method for expansion by many restaurant chains (Roh, 2002; Sen, 1998).

Despite the popularity of franchising among restaurant firms, however, the existing research has not fully studied various issues pertaining to the franchise decision in the restaurant industry. Over the last 20 years, a significant amount of franchising research has been conducted in various disciplines, including economics, law, marketing, and management science. Of particular interest is the motivation for firms to franchise rather than to expand through company-owned units (Brickley & Dark, 1987; Lafontain & Kaufmann, 1994). To date, several theories explain why firms franchise. Often, however, those theories do not share a common conclusion and/or are not compatible with each other. For instance, the common argument for franchising is resource scarcity (Caves & Murphy, 1976; Oxenfeldt & Tompson, 1968; Ozanne & Hunt, 1971), a theory advocated by both academics and industry experts. This approach tends to view franchising as a means to access scarce resources as a firm grows. The premise is that firms prefer company ownership to manage growth because they can expect a higher rate of return from company-owned outlets. However, young, small, growing firms have limited access to capital markets and will thus use franchising to raise or conserve capital. Therefore, franchising enables a firm to grow more quickly than otherwise in a capital constrained environment (Combs & Ketchen, 2003; Sen, 1998).

On the other hand, agency theory, another explanation for franchising, focuses on the efficiency of the incentive features of the franchise relationship (Carney & Geadjlovic, 1991; Combs & Ketchen, 1999; Norton, 1988; Rubin, 1978). According to agency theory, the advantage of franchising is that by transforming outlet managers into owners, franchising induces franchisees to maximize outlet profits and reduces the need for direct monitoring by the franchiser. Company-owned unit managers' behavior should

require more monitoring than the behavior of franchised-owned outlet managers. Consequently, firms franchise to reduce the need to monitor outlet managers, and as firms age and grow, the overall percentage of franchising increases.

Franchising offers a firm the benefits of vertical control over retail units without the investment in assets required by full integration. Nevertheless, many chains still choose full integration instead of franchising (e.g., Cheesecake Factory Inc. and P.F. Chang's China Bistro, Inc.). The debate continues among researchers: why do firms make the choice? Are there any firm-specific factors that affect the choice of organizational form?

While previous studies (Brickely & Dark, 1987; Carney & Gedajlovic 1991; Combs & Ketchen, 1999; Norton, 1988; Sen, 1998) attempted to address these questions, they used variations in the proportion of company-owned outlets among franchised companies to study why firms franchise. The data from non-franchisers was not included, and the question of why firms choose not to franchise is therefore not addressed. In other words, including firm-level data from both franchisers and non-franchisers is necessary to examine the “initiating” decision (Combs et al., 2004).

Another franchising-related research issue that has not been properly studied is the financial performance of the franchiser (Combs et al., 2004; Watson et al., 2005). A debate has developed among franchising practitioners, researchers, and support groups on the promise of the franchising method of distribution. On the one hand, many advocate franchising as a strategy for growth that limits the risk of failure. On the other hand, some researchers have questioned franchising success, claiming that it is no less risky than other methods of distribution or organizational forms (Alon et al., 2004). Generally, the existing empirical evidence of the financial performance of franchising is mixed (Aliouche & Schlenrich, 2005; Alon et al., 2004). Given the disagreement between the two research groups, a study using multiple performance measures to examine further the financial impact of franchising and factors that affect financial performance is needed. This work will not only expand our understanding of the effects of franchising, but also can provide information to management for their managerial and strategic decisions in the choice of organizational forms.

This study chose the restaurant industry as the field of study for various reasons. Franchising is the most prevalent organization form in this industry sector, both in terms of dollar sales and number of outlets (Kostecka, 1988), providing sufficient samples for empirical analysis. Furthermore, Bradach (1998) pointed out that the restaurant chains are an increasingly important force within the franchise industry. In 1995, fifteen of the twenty largest franchised chains were restaurants (“Top 50 Franchisers”, 1995), and nineteen restaurant chains exceeded sales of \$1 billion (Lombardi, 1996). In addition to their market power, restaurant chains are especially useful to study because they represent a relatively mature segment of the fast-growing business-format chain industry (Bradach, 1998). Alon (2001) and Dant et al. (1996) also suggest that researchers should focus on franchising in particular industries because industry effects may confound investigated relationships. Therefore, concentrating on a single industry allows the researcher to obtain an in-depth understanding of the industry and to control for competitive and industry variations. Finally, the restaurant industry has been the focus of much research (Combs & Ketchen, 1999; Hoover et al., 2003; Ketchen et al., 2006; Roh, 2002; Sen, 1998), which serves as an excellent basis for this study. In summary, concentrating research on restaurant franchising can increase our knowledge of the hospitality sector, the marketing discipline, and franchising itself (Alon et al., 2004).

Statement of Problem

Combs, Michael and Castrogiovanni (2004) suggested three primary franchising research issues: franchise initiation, subsequent propensity to franchise, and franchise performance. Franchise initiation refers to the decision of whether to franchise an existing business or not. For example, suppose a service business with growth potential and the service requires face-to-face contact with customers. In order to deliver the service economically to each customer, the business might need to develop a chain of geographically dispersed locations (Combs et al., 2004). The two common ways to grow a chain are internal development of firm-owned outlets and franchising. Thus, the first decision confronting the firm is whether or not to franchise their business. The subsequent propensity to franchise decision focuses on how much and where franchising

is used after initiation. Previous research on franchising has extensively investigated this second issue using industry-level data or sector-level data (Brickely & Dark, 1987; Carney & Gedajlovic, 1991; Combs & Ketchen, 1999; Norton, 1988; Sen, 1998). Less attention has been directed to identifying the factors that affect franchise initiation (Combs et al., 2004), and the empirical evidence of the effects of franchising on financial performance is scant (Aliouche & Schlenrich, 2005; Combs et al., 2004; Watson et al., 2005). Consequently, the following issues are not well understood:

- Why do firms franchise? Are there any factors that influence the choice of organizational forms?
- Do franchised firms have better financial performance than non-franchised firms?
- Are franchised firms less risky than non-franchised firms?
- Does the proportion of franchised outlets to total outlets affect franchised firms' financial performance?

Purposes and Objectives

The first purpose of this study was to apply several existing theoretical frameworks to investigate the factors that affect the choice of organizational forms thus providing insights to the franchising decision in the restaurant sector. The second purpose was to gain a complete understanding of the financial performance of franchising using multiple performance measures. Specifically, this study aimed to achieve the following goals in the restaurant industry:

- To investigate the factors that affect the franchising decision.
- To compare the accounting returns of franchised and non-franchised restaurant firms.
- To compare risks of franchised and non-franchised restaurant firms.
- To investigate whether the proportion of franchised outlets to total outlets (ownership mix) affects the financial performance of restaurant firms.

Significance of the Study

Franchising has gained significant interest both in academia and industry. From the perspective of entrepreneurship, franchising is a vehicle to enter business ownership (Shane & Hoy, 1996). From the perspective of marketing, franchising is an important distribution channel (Dant et al., 1996; Kaufmann & Rangan, 1990). From the perspective of management, franchising is an important organizational form (Combs & Ketchen, 1999). According to Combs, Michael and Castrogiovanni (2004), three key franchising research issues should be studied to understand the franchise phenomenon: franchise initiation, subsequent propensity to franchise, and franchise performance. Extensive research has been conducted on whether franchising increases access to scarce resources or reduces monitoring costs and if this explains the propensity to franchise (e.g., Alon, 2001; Brickely & Dark, 1987; Combs & Castrogiovanni, 1994; Hoover et al., 2003; Lafontaine, 1992; Norton, 1988; Sen, 1998). Less attention has been paid to why firms initiate franchising and how franchising affects financial performance. Combs et al. (2004) suggested shifting research emphasis toward those two issues to provide guidance to the entrepreneur considering whether to franchise an existing business and to understand how franchising affects an organization's performance. Responding to this call, this study applied existing theories (agency theory, resource scarcity theory, risk sharing theory, and specific knowledge theory) and used data from both franchised and non-franchised firms to investigate factors that might influence the decision. Multiple measures were selected to provide a more thorough assessment of the effects of franchising on financial performance.

Figure 1.1 displays the research plan that highlights the procedure for conducting this dissertation project. Overall, this study contributes to the understanding of franchising in at least three ways. First, this study applied several theories (resource scarcity, agency theory, risk sharing theory, and specific knowledge theory) to explain franchising initiation to add to our understanding of the franchising decision. Second, this study used data from both franchised and non-franchised firms to investigate the factors

that affect the choice of different organizational form, not just data from franchised firms or industry aggregate data. As Combs et al. (2004) suggested, a complete model of the franchising decision requires understanding of initiation at firm level from both franchisers and non-franchisers. Third, most previous studies used only sales, growth, or other single performance measures to investigate the effects of franchising on financial performance. This study used multiple measures, such as ROA, ROI, market-to-book ratio, and Tobin's Q, to provide a more thorough assessment. Moreover, this study also investigated whether a firm's proportion of franchised outlets to total outlets affects its financial performance. In summary, this study makes theoretical and empirical contributions to the understanding of why firms franchise, and provides information to guide restaurant managers in deciding whether franchising is an appropriate choice for their companies, as well as provide investors the information to evaluate their investment decisions.

Research Hypotheses

To achieve the objectives of the study, the following hypotheses were developed and investigated. The theoretical background of these hypotheses is presented in Chapter 2 of this proposal.

H1: Franchised firms in the restaurant industry are more geographically dispersed than non-franchised firms.

H2: Franchised firms are larger in terms of number of outlets than non-franchised firms.

H3: Franchised firms are more likely to be involved in foreign expansion than non-franchised firms.

H4: Franchised firms have a higher growth rate than non-franchised firms.

H5: Franchised firms have a lower debt-to-equity ratio than non-franchised firms.

H6: Franchised firms were younger when they started franchising than non-franchised firms.

H7: Franchised firms are less risky than non-franchised firms.

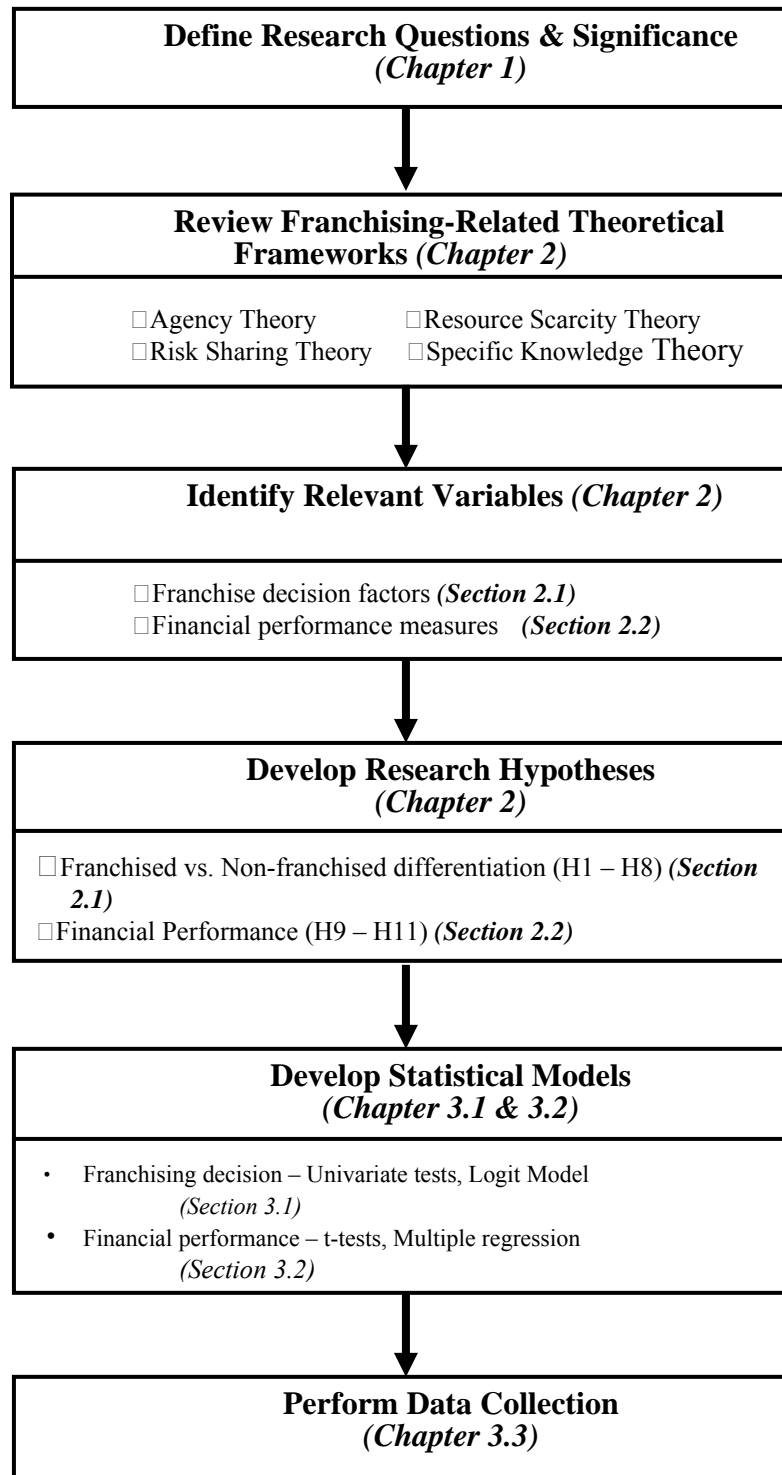
H8: Quick service restaurants are more likely to be franchised than other types of restaurants.

H9: Franchised firms have better financial performance than non-franchised firms.

H10: There is a nonlinear relationship between the proportion of franchised outlets and financial performance.

H11: The proportion of franchised units moderates the relationship between advertising and financial performance.

Figure 1 Research Plan



Definitions of Terms

Franchising: franchising is a method of doing business by which a franchisee is granted the right to engage in offering, selling, or distributing goods or services under a marketing format designed by the franchiser (The U.S. Department of Commerce).

Franchiser: the franchiser is the individual or business granting the business rights to other individual or business (Justis & Judd, 1998).

Franchisee: the franchisee is the individual or business granted the right to operate in accordance with the chosen method to produce or sell the product or service (Justis & Judd, 1998)

Quick-Service Restaurants: This study adapts the description of quick-service restaurants from Spears and Gregoire (2006):

“Quick-service restaurants provide a limited number of food items to a customer in a relative short period of time. Often the customer orders food at a counter and pays for it before eating. These restaurants are targeting working professionals and parents who want to have a meal served quickly at a low price.” (p. 13)

Ownership Mix: The mix of company-owned and franchised outlets (Lafontaine & Kaufmann, 1994).

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CHAPTER 2 - REVIEW OF LITERATURE

One of the most debated topics in franchising research is why a firm chooses to franchise rather than expand through company-owned units (Elango & Fried, 1997). Several theories have been applied to explain why firms franchise. This chapter reviews the theoretical foundation of the franchising decision based on agency theory, resource scarcity theory, risk sharing theory, and specific knowledge theory. The research hypotheses were developed based on various theories.

Theoretical Development

Agency theory

The most prevalent explanation for franchising is agency theory. According to agency theory, an agency relationship exists whenever one party (the principal) delegates authority to another (the agent) to perform the work (Fama & Jensen, 1983; Jensen & Meckling, 1976). The agent's and the principal's self interests may not be the same; hence, a conflict of interest may exist, and the principal must expend resources to insure that agents act in the principal's best interest. Agency theory focuses on the ability of the principal to monitor the behavior of an agent (Eisenhardt, 1989). The general problem with monitoring arises when it is difficult or expensive to conduct and when differences exist in risk preference and goals between the principal and agent (Jensen & Meckling, 1976). Because owners (principals) are compensated through residual claims on the profits of the firm and employees (agents) are compensated through wages, each is motivated differently and may behave differently (Eisenhardt, 1989; Shane, 1998). As a result, under conditions of uncertainty, the principals have to bear monitoring costs to ensure that employees are acting in the principals' best interest (Shane, 1998).

Agency theory partitions behavioral uncertainty into two parts: moral hazard and adverse selection (Jensen & Meckling, 1976). Moral hazard refers to the potential for agents to act in their own interest against the objectives of the principal when the

principal cannot adequately monitor agents' actions (Eisenhardt, 1989). Agents can engage in two types of moral hazard: sub-optimal effort and misdirected effort (Shane, 1998). Since managers' (the agents) compensation is fixed, they may tend to shirk their duties. They also have incentive to misdirect effort to personal goals such as obtaining bonuses or leisure time (Shane, 1998).

Another part of behavior uncertainty, adverse selection, involves the agent misrepresenting his or her abilities (Eisenhardt, 1989). The problem of adverse selection arises as a result of difficulty verifying the abilities of the employee. Potential employees have an incentive to cause the principal to believe that they have appropriate skills, training, and backgrounds for jobs. Given the incentive for adverse selection, firms must incur costs in gathering information to determine which jobs are appropriate to which new employees (Prescott & Visscher, 1980). The cost of gathering information to overcome an adverse selection problem grows as a firm grows.

To overcome these problems of behavioral uncertainty, agency theory offers two solutions. One is to invest in information systems such as budgeting systems, reporting procedures, boards of directors, and additional layers of management. Such an investment will reveal the agent's behavior to the principal. The more information the principal has, the harder it becomes for an agent to shirk duties or to misrepresent his/her abilities. The other option is to replace the wage contract with a hybrid organizational arrangement that provides a residual claim to an agent. Such an outcome-based contract aligns the goals of the agent and the principal and reduces the problems of moral hazard and adverse selection (Eisenhardt, 1988; Jensen, 1983; Shane, 1998). Franchising represents one type of outcome-based contract.

In summary, agency theory holds that managers (the agents) will tend to shirk their duties because their compensation is fixed. As a result, the firm will incur higher monitoring costs to ensure that managers act in the firm's best interests. In contrast, in a franchise agreement, the franchisee purchases the right to profit from a particular unit by paying franchise fees and royalties to the franchiser. Franchisees are the owner-managers who bear the residual of risk of a local operation. Since owner-managers of franchised units are compensated by residual claims from their particular units and they put their own capital at risk, they are more motivated to maximize the present value of the

franchise because effective management is the only way to recover the investment with acceptable long-run returns (Shane, 1996). Franchising provides firms a hybrid organizational form to minimize the costs of monitoring managers (Rubin, 1978).

Agency theory has received support from many empirical studies. For example, Brickley and Dark (1987) found that the cost of monitoring store managers seems to be the most important factor in making the franchise decisions. They suggested that franchising is more efficient than using company-owned outlets when it is difficult for the firms to monitor the behavior of individual outlets and when environmental uncertainty exists. Brickely, Dark and Weisbach (1991) found that the likelihood of franchising decreases as monitoring costs go down. Using publicly-traded restaurant chains between 1992 and 1995, Combs and Ketchen (1999) concluded that firms with high outlet-level asset specificity, low specific knowledge, and high geographic dispersion used franchising significantly more than other firms. Lafontaine (1992) also suggested geographic dispersion and increasing importance of the franchisee's inputs also increase franchisers' propensity to franchise, thus supporting agency theory.

The literature seems to agree that geographic dispersion is an important factor that increases monitoring costs under company ownership and thereby encourages franchising. As a firm enters geographic markets far removed from headquarters, the cost of monitoring outlet managers increases because more monitoring personnel are required and because travel-related expenses grow (Carney & Gedajlovic, 1991). Thus, companies that operate over a greater geographical area have more challenges in monitoring their outlets and controlling their operations and will prefer to franchise rather than own units in their system (Combs & Castrogiovanni, 1994; Norton, 1988). Accordingly, this study proposed the following hypothesis:

H1: Franchised firms in the restaurant industry are more geographically dispersed than non-franchised firms.

Another important variable frequently used in agency theory is system size. Many studies have found that system size is positively related to franchising (Combs & Ketchen, 2003). According to the agency theory, firms use franchising to minimize

monitoring costs as they expand into new and distant markets. As firms grow, the entrepreneurs must hire employees to undertake activities that the entrepreneurs themselves do not have time to undertake. Hiring new employees may increase adverse selection and moral hazard. Agency theory suggests that the more units in the system, the harder it is to monitor and control units, and the more likely firms will engage in franchising (Shane, 1998; Combs & Ketchen, 2003; Alon, 2001). In view of that, this study proposed the following hypothesis:

H2: Franchised restaurant firms are larger in terms of number of outlets than non-franchised restaurant firms.

Another commonly-cited factor for franchising in the increasing cost of monitoring is foreign expansion. In international operations, distance and time increase the level of uncertainty due to the information gap. It is very difficult and costly to gather and receive information about foreign operations in a timely manner. Moreover, cultural differences may increase the cost of gathering information (Fladmoe-Lindquist & Jacque, 1995). According to Hoover et al. (2003), firms encounter two types of costs when they own their own foreign units. First, expatriate managers are themselves a considerable cost. Expatriates are typically paid a premium as compensation for relocating their families to live in an unfamiliar culture. Second, cultural differences might mean that expatriate managers cannot adapt adequately to address local preferences. Using the percentage of total growth achieved through franchising that occurred in 91 restaurant chains between 1991 and 1993, Hoover et al. (2003) found foreign expansion increased the propensity to franchise. Fladmoe-Lindquist and Jacque (1995) also suggested that more geographic distance involved in monitoring foreign agents and more cultural distance meant that franchise arrangements were more likely. Accordingly, this study proposed the following hypothesis:

H3: Franchised restaurants in the restaurant industry are more likely to involve in foreign expansion than non-franchised restaurant firms.

Resource scarcity theory

Another popular explanation for franchising is resource scarcity theory. According to resource scarcity theory, franchising is designed to provide franchisers with the resources necessary to accelerate growth to reach minimum efficient scale and build brand name capital (Hunt, 1973; Norton, 1995; Oxenfeldt & Thompson, 1968). In particular, franchising can ease the financial constraints of growth and expansion in small- to medium-sized firms because the franchisee supplies the financing and the resources to facilitate franchiser growth (Caves & Murphy, 1976; Oxenfeldt & Thompson, 1968). Unlike a company-owned outlet, a franchised store is operated by a franchisee, an independent legal entity. Franchisees provide cash to the franchiser in the form of franchise fees and royalties, and provide investment in the outlet through the purchase of fixed assets (Lafontaine & Kaufmann, 1994). This not only relieves the franchiser of the need to raise cash for growth, but can also conserve capital and more quickly establish a distribution channel (Mcquire & Staelin, 1983). In addition to providing capital to franchisers, franchisees also offer managerial talent and local knowledge to fuel franchise growth (Minkler, 1992; Norton, 1988; Shane, 1998). According to Shane (1998), the franchise contract makes franchisee wealth depend mostly on the residual income at individual outlets. A franchisee invests a significant amount of money and time into his/her unit; thus, he/she is likely to purchase a franchise only if he/she has confidence in his/her own managerial abilities. Consequently, franchising can screen out applicants who lack the necessary managerial skills (Norton, 1988). Thus, franchising can help franchisers attract the requisite human capital for growth in a relative short time. Franchising also allows a firm to leverage its franchisees' local market knowledge as a firm expands into new geographic areas (Minkler, 1992).

Oxenfeldt and Kelly (1968) proposed that firms prefer wholly-owned operations to franchising, because they can expect higher rates of return from company-owned outlets. However, the desire to achieve economies of scale pressures firms to expand at a rate that may not be possible using internally-generated resources. Thus, young, small, and growing firms will use franchising to expand until they reach sufficient critical mass to generate economies of scale. Specifically, as the firm generates sufficient capital internally, the franchiser will focus on maximizing each outlet's returns. New franchising

will cease, and the franchiser would try to repurchase its most profitable outlets from franchisee. Eventually, a successful franchise system will become a company-owned chain.

Several empirical studies have supported using resource scarcity theory to explain franchise decision. In particular, they agree with Oxenfeldt and Kelly's (1969) suggestion for the phenomena of franchise redirection. For instance, Hunt (1973) found an aggregate trend towards company-operated units in the fast food franchising industry. Larger and older franchise systems increased the percentage of company-owned units between 1960 and 1971. Caves and Murphy (1976) observed a similar trend in company ownership in maturing industries. Anderson (1984) also concluded that the percentage of units owned by convenience stores and restaurant franchisers increased over a period of ten years. Sen (1998) investigated the use of franchising as a growth strategy in the US restaurant industry and found a close relationship between the use of franchising and outlet growth within the restaurant industry. His results also show larger chains used less franchising in their expansion strategies. By surveying franchisers, Dant (1995) revealed that capital scarcity influenced the initial decision to use franchising, supporting the leverage of franchising to overcome resource constraints argument. Martin and Justis (1993) examined how interest rates affect franchising, finding that franchising rises as interest rates increase and falls when rates decrease. Combs and Ketchen (1999) studied 91 publicly-traded restaurant chains, revealing that companies with capital constraints were more likely to use franchising for expansion. More recently, Alon (2001) also argued that firms with fewer resources rely more on franchising.

Despite this support in the literature, the resource scarcity theory has received stiff criticism from economists who suggest that franchising is an inefficient way to raise capital compared to capital markets (Norton, 1995; Rubin, 1978). For instance, Rubin (1978) argued that selling shares in the whole chain is a more efficient solution to the capital problem than franchising, because franchisees invest a significant portion of their net worth in one or a few outlets in the same area. As a result, the investment of the franchisee is much riskier than the overall franchise chain. It is more likely that the franchisee will demand a higher rate of return on his capital from the franchiser, resulting in a lower return for the franchiser. Responding to Rubin's (1978) argument, Lafontaine

(1992) suggested that franchisee capital might not come at a higher risk premium after all. She pointed out that franchisees have more incentives to exert effort than employees when they invest their own capital. Investors might recognize this motivational difference and would, therefore, demand higher rates of return. Hence, capital obtained from franchisees may be less expensive than capital from investors.

In summary, most of extant studies support the resource scarcity theory for franchising, despite some criticism of this theory. According to resource scarcity theory, franchising allows the franchised firm to use the franchisee's managerial and financial resources to grow rapidly (Kaufmann & Dant, 1996; Oxenfeldt & Kelly, 1969). Franchising also reduces franchised firms' time and effort in identifying and training new managers, which is a major constraint to growth (Penrose, 1959). Many studies have found that franchising reduces franchisers' time and effort in selecting outlet managers and increases franchisers' growth (Kaufmann & Dant, 1996; Shane, 1998; Thompson, 1994). Dant (1995) concluded that entrepreneurs perceive the opportunity for rapid growth as an important reason to franchise. Accordingly, the following hypothesis was developed:

H4: Franchised restaurant firms have higher growth rates than non-franchised restaurant firms.

Resource scarcity theory supports the idea that franchising is a relatively inexpensive way to expand operations, by increasing revenue through franchise fees, royalties, and sales to franchisees, and by substituting the franchisees' investment in local operations for the parent company's investment in the local operations. Hunt (1973) stated that firms choose to franchise units because they simply do not have access to the capital required to expand via company owned units. Norton (1995) argued the costs of debt should be higher and the debt/equity ratios should be lower for franchised companies, because of higher growth opportunities, more advertising, more intangible capital, and asymmetric information could generate higher costs of both debt and equity, and franchising is common where growth opportunities, advertising, intangible capital, and asymmetric information are substantial. In support of this idea, using a sample of 25

franchisers and a companion group of 25 non-franchisers, Norton (1995) found non-franchisers have higher debt-to-equity ratios than franchisers, thus showing the relevance of capital structure in situations where franchising is common. Accordingly, the following hypothesis was developed:

H5: Franchised restaurant firms have lower debt-to-equity ratios than non-franchised restaurant firms.

Finally, the resource scarcity theory also suggests that franchising varies over an organization's life cycle (Oxenfeldt & Kelly, 1969). Young, small, growing, and less liquid firms use franchising more to increase the flow of scarce resources (Alon, 2001; Anderson, 1984; Carney & Gedajovic, 1991; Comb & Ketchen, 1999; Hunt, 1973; Martin & Justis, 1993; Shane, 1998). In contrast, larger, older, firms with liquid capital reduce their proportion of franchised units. If resource scarcity is a major reason for franchising, we should find that franchised firms started their first franchised unit at younger age than non-franchised firms. Thus, based on the resource scarcity theory, this study proposed the following hypotheses:

H6: Franchised restaurant firms are younger when they started franchising than non-franchised restaurant firms.

Risk-sharing theory

Another theory behind franchising is the risk-sharing theory. Previous research has suggested that franchise contracts arise principally from the need to share risks (Lafontaine & Bhattacharyya, 1995). Namely, franchising allows franchisers and franchisees to share the risk of the future success of the franchised units.

According to risk-sharing theory, franchising allows franchisers to maintain control over profitable units with more predictable revenue while shedding relative risky locations with uncertain revenues (Combs & Castrogiovanni, 1994). Much research has provided empirical support for risk sharing by revealing that franchised units are

frequently located in remote locations with lower sales per unit than company-owned units (Brickley & Dark, 1987; Martin, 1988). For example, using data obtained from Franchise Annual and the Source Book of Franchise Opportunities, Martin (1988) found that franchisers tend to own or buy back the more profitable and less risky outlets and to franchise the less profitable and more risky outlets.

In addition, the input of franchisee capital into the business can reduce the capital investment required from franchisers and, consequently, reduce the capital requirements and capital risk (Lafontaine & Kaufmann, 1994). Moreover, franchising can reduce the volatility of franchisers' cash flow and risk. The cash flow from franchising is derived from sales-based royalties. Since sales revenue is never below zero, a sharing arrangement can reduce the franchiser's business risk, because the income stream is largely unaffected by any cost inefficiencies on the part of the franchisee (Caves and Murphy, 1976). For example, as Robert Nugent, CEO of Jack in the Box, noted "The economic advantage to franchising is that there is less risk to our income statement because we're not affected by the cost pressures" (Bradach, 1998, p. 68). On the other hand, a company-owned unit requires fixed capital investment, which increases the firm's operating leverage and risk. Overall, franchises provide firms with lower risk, low-cost access to markets that are not economically worthwhile for them to pursue through vertically integrated channels (Dahlstrom & Nygaard, 1994).

The risk-sharing argument has been supported in several studies. Norton (1988) used the root mean square error of change in sales to measure the risk and found that risk has a positive effect on franchisers' use of franchising. Using sector data from the U.S. Department of Commerce's Franchising in the Economy, Lafontaine (1992) found that risk increases the use of franchising and decreases the franchiser's share. Roh (2002) used the 3-year variance of operating cash flows to measure risk. He also found that risk decreases as the propensity to franchise units increases, supporting the risk-sharing argument. In summary, the investment of capital and manpower by franchisees in their outlets means that franchising requires less financial investment by franchisers and involves less capital risk than a company-owned network. Based on the risk-sharing argument, this study proposed the following hypothesis:

H7: Franchised restaurant firms are less risky than non-franchised restaurant firms.

Specific knowledge theory

The literature also suggests the transfer of specific knowledge between the principal and agent is another factor that might affect the franchise decision. Specific knowledge refers to the knowledge required to efficiently handle operations, improve efficiency, and promote products and services (Combs & Ketchen, 1999; Hoover et al., 2003). According to the specific knowledge explanation, the franchise appears to work best where operations are relatively simple and repetitive. In the service sector, homogeneity is a problem, so a company should be less inclined to use franchising when specific knowledge required in the job is high (Hoover et al., 2003). Michael (1996) also suggests that franchising does not fully utilize the franchisee's human capital. To use human capital to its fullest, the local operator and franchisee should make all decisions individually, forfeiting gains from standardization and scale. By contrast, the standardized product delivered by the franchise system requires that the franchiser make decisions such as marketing and product design centrally, without using the franchisee's human capital. Thus, industries that do not benefit from standardization will not franchise. Thus, the more important human capital is to production, the less likely the company is to franchise. Watson, Kirby, and Egan (2002) found that industries with high levels of franchise operations tend to have lower average earnings, suggesting lower human capital requirement. Hoover et al. (2003) suggested that as specific knowledge decreases, franchising increases.

The relationship between specific knowledge and franchise decisions has important implications for the format of quick-service restaurants. The common attributes of restaurant products and services are intangibility and heterogeneity. Intangibility creates a greater perceived risk for customers, who must rely on the promise of satisfaction without the opportunity to return the purchase, while heterogeneity implies a lack of uniformity of the service. In this regard, the challenge for restaurant firms is to

maintain control of quality and standards, keeping both aspects consistent throughout the entire organization. Among various types of restaurants, the specific knowledge required by quick-service restaurants is less intensive because of their limited menus and minimal customer service. Many quick service restaurant chains adopt a production line approach (e.g., McDonalds, Wendy's, Burger King) to simplify their production and reduce service variability (Bowen & Lawler, 1992; Power, 1992). By doing so, fast food service is, in many ways, like a manufacturing system rather than a traditional restaurant. Accordingly, this study proposes the following hypothesis:

H8: Quick service restaurants are more likely to be franchised than other types of restaurants.

Financial Performance

The rapid growth of franchising has attracted the interest of researchers from a variety of academic fields (Elango & Fried, 1997). Most of the franchising literature has focused on the motivation for franchising (Anderson, 1984; Alon, 2001; Carney & Gedajovic, 1991; Comb & Ketchen, 1999; Hunt, 1973; Kaufmann & Dant, 1996; Martin & Justis, 1993; Shane, 1998), plural form development (Bradach, 1997; Dant & Kaufmann, 2003), and the success and failure of franchising firms (Bates, 1995). However, financial performance has not been properly explored in the franchising literature (Combs et al, 2004; Watson et al., 2005). The dominant theories explaining the franchising phenomenon indicate that firms choosing to expand through franchising may have significant advantages over firms that grow through a corporate chain as described in the previous sections.

Overall, the literature suggests many potential advantages to the franchising model of growth. First, by reducing resource constraints, the franchisee finances the necessary investments, freeing the franchiser from the capital expense. Second, in providing managerial expertise, site managers invest in the site as the franchisee and earn profit after franchising fees, which allows most franchise managers to dedicate themselves to monitoring their business. Third, in most cases, the franchisee has better

knowledge of local market conditions, allowing a franchiser to leverage local market knowledge as it expands to new areas. Fourth, economy of scale in purchasing can be achieved more rapidly by a company choosing franchising than a company that expands through company-owned units (Aliouche & Schlenrich, 2005, Justis & Judd, 1998; Spinelli, et al., 2003). Aliouche and Schlenrich (2005) noted that low capital costs, motivated managerial expertise, and better local market knowledge are the key resources that can reduce a franchiser's overall risk and should have a significant positive impact on a franchiser's financial performance.

Given the success and popularity of franchising, it may seem obvious that franchising may help firms achieve superior financial performance. However, franchising practitioners, researchers, and support groups debate whether franchising can enhance a firm's financial performance through superior value creation (Alon et al., 2004). To address this question, a few studies have been conducted to compare the financial performance of franchised and non-franchised firms with inconclusive results. Spinelli, Birley and Leleux (2003) compared the monthly total returns (dividend plus capital gains) of 91 U.S. publicly held franchisers with the Standard and Poor's 500 Index between 1990 and 1999. They concluded that between January 1991 and July 1997, the franchiser index outperformed the S&P 500. However, for the remaining period the S&P outperformed the public franchiser index, eliminating all of the public franchiser's previous advantage. Aliouche and Schlenrich (2005) used Economic Value Added (EVA) and Market Value Added (MVA) to compare the financial performance of 24 U.S. public restaurant franchisers to 17 non-franchisers' performance. They found that 95.8% of the franchisers created market value versus 88.2% of the non-franchiser, and 62.5% of the franchisers created economic value versus 58.8% of the non-franchisers. They also found, on average, a franchiser created \$363.4 million in market value and \$13.3 million in economic value, while a non-franchiser created \$144.3 million in market value and \$3.2 million in economic value. They concluded that between 1993 and 2002, U.S. public restaurant franchisers have created more value than their non-franchiser competitors, and franchisers created a slightly higher market value and economic value than non-franchisers. Alon, Drtina, and Gilbert (2004) used the DuPont model to find the mean

return on equity (ROE) was 7.29% for non-franchised firms and 6.61% for franchised firms, but the difference between these means was not statistically significant.

To further investigate whether franchising can enhance a firm's financial performance and generate long-term economic profit to enhance shareholder value, this study will use multiple performance measures to compare franchised and non-franchised firms' performance. There are several methods for measuring financial performance, and each valuation method has its own strengths and weaknesses. One method of determining financial performance is to measure the market-to-book ratio and Tobin's Q (Day and Fahey, 1988). The market-to-book ratio and Tobin's Q approximate the stock market's perception of the value of the firm's present and future income and growth potential (Montgomery et al., 1984). Another method that can be used to indicate financial performance is accounting returns. Return on assets (ROA) and return on equity (ROE) are the usual measures of financial performance (Dickerson et al., 1997). The advantages of ROA and ROE are that (1) as ratios, they make possible the comparison of organizations of different sizes and (2) they are often publicly reported (McKee et al., 1989).

As discussed in this chapter, extant theory assumes that franchising allows the franchised firm to use the franchisee's managerial and financial resources to grow rapidly, to reduce capital requirements, to reduce monitoring costs, and to reduce risk (Alon, 2001; Anderson, 1984; Brickely et al., 1991; Carney & Gedajovic, 1991; Comb & Ketchen, 1999; Hunt, 1973; Lafontaine & Bhattacharyya, 1995; Martin, 1988; Martin & Justis, 1993; Shane, 1998; Srinivasan, 2006). Hence, franchising should increase a firm's return on assets (ROA) and return on equity (ROE). In addition, from the shareholder value point of view, franchising is useful in managing demand growth and uncertainty, creating relational, knowledge, and intellectual assets that can increase future cash flows while reducing risk (Sirivansan, 2006; Srivastava et al., 1998). Therefore, franchising should increase a firm's intangible value. Based on the literature and previous finding, this study developed the following hypothesis:

H9: Franchised restaurant firms have superior financial performance than non-franchised restaurant firms.

Another issue in the franchise performance is whether increasing the number of franchised units can increase a franchiser's financial performance. In particular, what is the optimal mix of ownership that can maximize a firm's shareholder value? According to agency theory, managers will tend to shirk their duties because their compensation is fixed. As a result, higher monitoring costs are incurred to ensure managers act in the firm's best interests (Jensen & Meckling, 1976). Franchising can solve this problem because franchisees are the owner-managers who bear the residual of risk of a local operation; they are more motivated to maximize the present value of the franchise because effective management is the only way to recover the investment with an acceptable long-run return (Shane, 1998). Therefore, the agency theory suggests that franchising should be the preferred method and franchising firms should perform better than those that retain ownership when conditions create a risk of shirking (Lafontaine, 1992; Shane, 1998; Sorenson & Sorensen, 2001). In addition, the risk-sharing theory suggests that investing franchisee capital in the business can reduce the capital investment required from franchisers, thus reducing franchisers' capital requirements and risks. As the Executive vice-president of a leading fish and chips chain remarked, "...with franchise units, you receive a smaller margin but the return on investment approaches infinity because there is no investment" (Bradach, 1998, p. 68). Therefore, restaurant firms with a high degree of franchising should perform better than non-franchised firms and franchising firms with a low degree of franchising.

Despite these advantages, franchising also creates certain disadvantages compared to company owned units. For example, franchisees might pursue personal benefits by reducing quality within their units to save costs and increase profits, while the losses by providing lower quality products or services are borne by other franchisees damaging the franchiser's brand name. Other disadvantages include less control over business processes, products, and profit in franchised units than in company owned units (Heide, 1994).

Many researchers argue that franchising and company-owned systems are not opposing but rather complementary organizational forms (Cliquet & Croizean, 2002; Sorenson & Sorensen, 2001). Using the organizational learning theory, Sorenson and Sorensen (2001) also contended that companies can gain the benefits of innovation and

knowledge transfer by having both company-owned units and franchised units. In a survey, Lafontaine and Kaufmann (1994) found that franchisors intend to continue to operate a combination of company-owned and franchised outlets. Bradach and Eccles (1989) stated that the existence of both company-owned outlets and franchised outlets positively affects the management of the other side of the business. Having franchised units can provide a source of market knowledge and innovative ideas that can be incorporated into the company owned units (Lafontaine & Kaufmann, 1994) and company-owned outlets allows companies to test policies and programs, and gain knowledge of operational details (Dant & Kaufmann, 2003). The experience gained from company-owned outlets also could be used to negotiate more control of the franchisees (Dant & Schul, 1992). Therefore, retaining a combination of company-owned and franchisees-owned outlets creates a synergy. A full company-owned system and a full franchised system may be unable to produce the best financial performance for a firm. Therefore, it is possible that a firm's financial performance improve as the proportion of its franchised outlets increase. Nonetheless, after a certain percentage, the financial performance might again decrease due to the increasing proportion of franchised outlets. Accordingly, this study proposed the following hypothesis:

H10: There is an inverted U-shaped relationship between the proportion of franchised outlets and financial performance.

Another issue related to franchising financial performance, one this study will investigate, is whether the proportion of franchised outlets moderates the relationship between advertising and financial performance. In general, advertising expenditures affect the value of an organization's intangible assets (Chauvin & Hirschey, 1993; Rao et al., 2004; Simon & Sullivan, 1993). Advertising can create market-based assets that may lower the costs of sales, create price premiums through brand equity, and generate competitive barriers, and therefore increase a firm's cash flows and intangible value (Srivastava et al., 1998). Brand name capital is the most important asset owned by a franchiser (Roh, 2002). In the restaurant industry, where asset intangibility is high, having a strong corporate logo, standardized facilities, etc. helps reduce intangibility in

the consumer's mind (Cross & Walker, 1987). Many franchisers use franchising as vehicle to penetrate markets and build brand name capital rapidly (Anderson, 1984). When a firm with more advertising also has a large proportion of franchised outlets, its advertising may be more effective because it can cover a large market and increase its level of brand equity (Srinivasan, 2006). Therefore, the higher the firm's advertising expenditures and the higher the proportion of its franchised outlets, the higher its intangible value should be.

However, franchising also creates the problem of free riding. Free riding problem arises when a franchisee does not deliver the guaranteed quality imposed by the franchise agreement. With inferior products and services, the franchisee can reduce the costs of his or her operation and increase profits; however, such actions can negatively affect the firm's product perception, its brand name, and its performance. Mathewson and Winter (1985) observed that the incentive for a franchisee to free ride increases with the rise in the franchiser's brand name strength. By examining evidence from both the restaurant and the hotel industries, Micheal (2000) also found that quality is negatively related to the percent franchising in the chain. His results suggest that the franchise contract increases free-riding and decreases quality in a decentralized service chain. Thus when a firm with more advertising and also has a higher proportion of franchised outlets, the increased free riding problems may reduce its intangible assets. Given these two opposite effects, this study hypothesized the following:

H11: The proportion of franchise units moderates the relationship between advertising and financial performance.

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CHAPTER 3 - METHODOLOGY

The preceding chapter presented the underlying theoretical arguments for the franchise decision. This chapter discusses testing franchising based on those theories and the related empirical evidence discussed in the preceding chapter. Several statistical models were developed for investigating the financial performance differences between franchised and non-franchised companies. The purpose of this chapter is to specify an procedure to accomplish the objectives of the research. A set of variables was identified to best differentiate firms engaged in franchise contracts from those that are not. Specific data from individual restaurant firms were used in this study. Although an analysis of a homogeneous industry such as the restaurant industry does not necessarily extrapolate to other industries, the major advantage of this approach is that we can control for competitive environment and industry variations.

Section 1 presents the data collection procedure. Section 2 defines variables and discusses the statistical models regarding the franchise decision. Finally, section 3 describes the variables and the statistical models used for testing the financial performance of franchised and non-franchised firms.

Data Collection

This research used secondary data for statistical analysis. The sample for this study consisted of publicly-held restaurant companies. All the publicly-held restaurant firms whose stocks were traded in the New York Stock Exchange (NYSE), the American Stock Exchange (AMEX), and the National Association of Securities Dealers Automated Quotations (NASDAQ) system from 1996 to 2005 and had share price information available on the Center for Research in Security Prices (CRSP) database were included in this study. The financial data used in this study were retrieved from the Standard and Poor's COMPUSTAT database, which provides annual accounting and stock market information for publicly traded firm on NYSE, AMEX, and NASDAQ, for the years

1996 through 2005, using SIC code 5812 for the restaurant sector. This database is one of the most widely used secondary data sources for academic researchers.

Data on the number of units, the number of states, foreign operations, and the percentage of franchised units to total units were collected from Bond's Franchise Guide and 10 K reports. Advertising expenditures data for the same time period were obtained from Advertising Ratios and Budgets published by Schonfeld & Associates, Inc. Advertising Ratios and Budgets covers publicly-traded companies and is based on the data from government filings and published

Franchise Decision Model

Variable specification

As detailed in the literature review, this study hypothesized that several variables synthesized from agency theory, resource scarcity theory, risk sharing theory, and specific knowledge theory would differentiate firms engaged in franchising from those that do not. If franchising companies are motivated by the desire to reduce monitoring costs, to raise capital, and to share risk, then the selected variables should exhibit measurable differences between the samples of franchised and non-franchised companies. To address the research questions, both univariate and multivariate methods were used.

Dependent variable. The primary objective of this study is to identify what motivates a company to pursue franchise contracts rather than keeping all restaurants wholly company-owned. Thus, the firms can be classified into two mutually exclusive categories. The dependent variable used in this study is discrete in nature and involves a situation in which one alternative or the other must be chosen. The dependent variable, franchising, is a dummy variable with 1 for the franchised firms and 0 for non-franchised firms.

Agency theory variables. The number of states in which the firm has operations was used as proxy variable for the geographic dispersion, a factor that has been studied extensively in retail chains (e.g., Combs & Ketchen, 1999; Lafontaine, 1992; Carney & Gedajlovic, 1991), to test hypothesis H1. The number of units of the firm was used as a

proxy variable to measure size to test hypothesis H2, and the number of countries in which the firm has operations was used to test hypothesis H3.

Resource scarcity theory variables. The percentage change in the number of units per year was used as a proxy variable for growth to test Hypothesis H4. The total debt-to-equity ratio was used to test Hypothesis H5. For franchised companies, the year the company started its first franchise was used to measure age and was used as a surrogate for the degree of system maturity and thus as a measure of a franchisor's access to resources (Lafontaine & Kaufmann, 1994; Lillis et al., 1976) to test Hypothesis H6. For non-franchised firms, a firm's actual age was used to test H6.

Risk sharing variables. Previous studies have used different ways to measure risk. Martin (1998) and Norton (1988) used variance of sales over time to measure risk to test whether the franchiser relies on franchising to reduce risk. On the other hand, Roh (2002) and Hanson (1992) used variance in operating cash flows to measure risk, arguing that lower business risk is likely associated with a higher proportion of franchised units. In this study, variance in operating cash flows was used to measure risk and to test Hypothesis H7.

Specific knowledge variable. A dummy variable, with 1 for quick-service restaurants and 0 for other types of restaurants, was used in this study to test Hypothesis 8. As previously discussed, quick-service restaurants tend to require less specific knowledge than other types of restaurants. When specific knowledge required for the operation is high, firms should be less likely to franchise. Thus, the expected sign of the coefficient for the dummy variable is positive.

Table 3.1 summarizes the variables selected for in this study to examine a firm's decision to enter franchise agreements. These variables were used in both the univariate tests and logit regression analysis.

Univariate tests

The univariate test was used to test the eight variables. Univariate tests involve comparing the mean value of (1) number of states (State), (2) Number of total units (SIZE), (3) number of countries (Foreign), (4) percentage change in number of units

(Growth), (5) debt ratio (Debt), (6) age (Age), (7) variance in operating cash flow (Risk), and (8) quick dummy (Quick).

To test the null hypotheses in the univariate tests, the mean value of each related variable was used as the appropriate test statistic to determine significant differences between firms engaged in franchising and those that are not. In order to perform the univariate test, variable group means and net differences were calculated by subtracting franchised firm means from the means of non-franchised companies. Failure to reject the null hypothesis would indicate that there is no significant difference in the mean values of the variables. On the other hand, rejection of the null hypothesis would offer support for the alternative hypothesis, indicating a significant difference between the mean values.

Table 3.1 Description of Variables of Univariate Test

Hypothesis	Variables	Description
	Franchising	1, if a firm is franchised; 0, otherwise
H1	States	Number of states a firm has operations
H2	Size	Number of total units
H3	Foreign	Number of countries a firm has operations
H4	Growth	Increase in number of units per year
H5	Debt	Total debt / Total equity
H6	Age	Age of the company started its 1st franchise unit
H7	Risk	Variance in operating cash flow
H8	Quick	1, if a firm is quick service restaurant; 0, otherwise

Logit model

To test the prediction of a firm's decision to franchise requires assessing the explanatory power of a single variable while holding constant the explanatory power of other independent variables. In this case, a multivariate regression approach is appropriate. Because the dependent variable is a dummy variable with 1 for the franchised firms and 0 for non-franchised firms, discriminant analysis and logit regression are both appropriate methodologies for solving classification problems involving two or more attributes (Hair et al., 1998). However, when the dependent variable has only two groups, logit regression may be preferred because discriminant analysis relies on strictly meeting the assumptions of multivariate normality and equal

variance-covariance matrices across groups. In contrast, logit regression does not face these strict assumptions and is more robust when these assumptions are not met (Hair et al., 1998). Logit models assure that the estimated probabilities lie in the range 0 to 1 by transforming the independent variables into a probability measure ranging from 0 to 1 (Hair et al., 1998).

In this study, multiple logit models were constructed and compared to identify a single model that is most able to discriminate between the characteristics of franchised and non-franchised firms. Logit estimation allows a comparison of the relative importance of the explanatory variables by defining the differences between the two groups. In addition, logit models allow analysis of the impact of a series of explanatory variables on the probability that firms will franchise.

In the logit model, a linear function of the explanatory variables is set equal to the logarithm of the ratio of the probability of engaging in franchise contracts and of not engaging in franchise contracts. With the logit analysis, the independent variables are transformed into a probability measure varying from 0 to 1 with the parameter estimates. This represents the amount that the independent variables increase or decrease with the probability of franchising or not franchising.

The logit regression model can be written as the follows:

$$\text{Log} [P(y) / ((1-P(y)))] = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k \quad (1)$$

where $P(y)$ = probability of franchising in the i th firm,

β_0 = an intercept,

X_i = the explanatory variables i ; $i = 1 - k$; k is the number of variables, and

B_i = coefficients of the i th explanatory variable.

From the logit model, the estimated value of the dependent variable can be interpreted as the predicted probability of an event happening, which lies between 0 and 1 (Hair et al., 1998). In this study, the estimated value of the dichotomous dependent variable was interpreted as the predicted probability of franchise or $P(y)$. By solving $P(y)$ from Equation 1, the predicted probability of franchise is described as

$$P(y) = e^y / (1 + e^y) \quad (2)$$

where e = the base of the natural logarithm, and $y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k$.

In this study, $e^y / (1 + e^y)$ represents the odds ratio in favor of undertaking the franchise contract. To classify sample firms into a franchised group and a non-franchised group, the logit (y) value of each sample firm was calculated based on the estimated model and then applied to the probability function, $P(y) = e^y / (1 + e^y)$. The specified models describe the effects of explanatory variables on the categorical response variable.

Financial Performance Model

Operationalization of financial performance variables

Dependent variables

As discussed in preceding chapter, there are several methods for measuring financial performance, and each valuation method has its own strengths and weaknesses. In this study, ROA, ROE, market-to-book ratio, and Tobin's Q ratio were used to measure financial performance. The market-to-book ratio was calculated by dividing price per share by book value per share, dividing total owner's equity by the number of shares outstanding. A firm creates value when the market-to-book ratio is more than 1.0, destroys value when market-to-book value is less than 1.0, and sustains value if the market-to-book ratio is 1.0 (Varaiya et al., 1987). Another measure of the value of a firm is Tobin's Q ratio, which plays an important role in many financial interactions (Chung & Puritt, 1994). Tobin's Q was developed by economist James Tobin as a predictor of a firm's future investments (Tobin 1969) Tobin's Q ratio is the ratio of the market value of the firm to the replacement cost of its tangible assets, such as property, plant, equipment, inventory, cash, and investment in securities (Tobin, 1969; Simon & Sullivan, 1993). This ratio has been used to explain a variety of corporate phenomena. For example, it has been used as a measure of returns from diversification (Lang and Stulz, 1994; Wernerfelt & Montgomery, 1988), as a measure of brand equity (Simon & Sullivan, 1993), and as an indicator of a firm's intangible value (Hirschey, 1982).

In spite of its influence in many important aspects of corporate finance, the actual applications of Tobin's Q ratio in practice have been limited because of the difficulty of acquiring all the information necessary to calculate it. Chung and Pruitt (1994)

introduced an accurate approximation of Q using commonly available variables in the COMPUSTAT database. This approximation of the q ratio explained 96.6% of the variability in Tobin's Q (Chung & Pruitt, 1994), and many practitioners and researchers have adopted it (Bharadwaj et al., 1999; Rao et al., 2004). Approximate Q is defined in the following formula:

$$\text{Approximate Q} = (\text{MVE} + \text{PS} + \text{DEBT}) / \text{TA} \quad (3)$$

where MVE = (share price) x (number of common stock outstanding),

PS = Liquidating value of the firm's preferred stock,

DEBT = (short-term liabilities – short-term assets) + (book value of long-term debt), and

TA = book value of total assets.

Because a firm's Q value is the ratio of its market value to the current replacement cost of its assets (Tobin, 1969), a Q value of 1 means that the market value of a firm is equal to the replacement cost of its tangible assets. Such firms have no intangible assets, such as intellectual property rights (patents, trademarks) and other capabilities and resources that differentiate them, reduce their costs, and provide competitive advantages. A Q-value more than 1.0 reflects a firm that has unmeasured sources of value: intangible assets. Generally, these intangible assets enable a firm to develop competitive advantages, create earnings and cash flows in excess of the return on its tangible assets, and achieve an abnormal return on invested capital relative to its competitors (Srivastava et al., 1998; Kerin & Sethuraman 1998). In other words, firms with intangible assets (Q ratios more than 1) have more potential for creating wealth for their shareholders than do firms without intangible assets (Kerin & Sethuraman, 1998).

The other method used in this study to indicate financial performance is accounting return: ROA and ROE. ROA was computed by dividing net income by average total assets. ROE was computed by dividing net income by average stockholder equity.

Independent Variables

The independent variable of interest is the proportion of franchised outlets. The proportion of franchised outlets was defined as the ratio of franchised to total number of outlets. A firm is wholly company owned when the proportion of franchised outlets value

is 0, fully franchised when the proportion of franchised outlets value is 1, and have both franchised and company owned units if the proportion of franchised owned outlets value lies between 1 and 0.

To estimate the net effects of a firm's franchising strategy on its ROA, ROE, market-to-book ratio, and Tobin's Q, several variables, identified in previous studies as having a significant relationship with firms' value, were controlled. The following summarizes the literature review for those variables.

(1) Advertising

Advertising can increase the value of an organization's intangible assets, such as its level of brand equity (Jones, 1995). Advertising can affect brand equity through brand associations, perceived quality, and user experience (Simon & Sullivan, 1993), which in turn generates financial value through enhanced cash flow attributable to customer loyalty, brand extensions, and higher profit margins (Singh et al., 2005). Advertising is effective in creating awareness, enhancing consumer knowledge, and influencing both short- and long-term consumer preferences, as well as generating additional revenue (Abdel-Khalik, 1975; Hirschey, 1982). Furthermore, advertising expenditures have a positive relationship with a firm's intangible assets (Chauvin & Hirschey, 1993; Rao et al., 2004; Simon & Sullivan, 1993). Moreover, Joshi and Hanessens (2004) have indicated that advertising has a positive and long-term influence on a firm's market value. Given these studies, a positive relationship between advertising and Tobin's Q and a positive relationship between advertising and market-to-book value were expected.

(2) Profitability

According to Hirschey (1982), current profit rate is an important and highly significant determinant of the market value of a firm. In general, a higher operating margin triggers expectations among investors of higher cash flow potential and drives intangible value. Many studies have used Tobin's Q to explain a number of diverse corporate phenomena and have found that Tobin's Q is positively affected by the firm's profitability (Bharadwaj et al., 1999; Rao et al., 2004). For example, in a study of brand strategy and the intangible value of a firm, Rao et al., (2004) reported that Tobin's Q correlates significantly and positively with the firm's operating margin. Therefore, we expected profitability to have a positive impact on Tobin's Q and market-to-book value.

In this study, I used net income divided by average book value of total assets (ROA) to measure a firm's profitability.

(3) Financial leverage

According to Miller and Modigliani (1961), leverage should not affect firm value. However, firms with higher leverage can enjoy tax shelters because they can deduct interest costs, resulting in better cash flow. Thus Tobin's Q should increase as leverage increases (Habib & Ljungqvist, 2005; McConnell & Servaes, 1990). On the other hand, increasing leverage also results in additional costs. As leverage increases, bankruptcy costs rise. Accordingly, Tobin's Q should decrease as leverage increases. Moreover, many studies have shown that firms with more growth opportunities are likely to have less leverage and higher Q values (Habib & Ljungqvist, 2005; Smith & Watts, 1992). Many empirical studies have found that leverage has a negative impact on Tobin's Q (Rao et al., 2004; Smith & Watts, 1992), so this study also expected a negative impact of leverage on both Tobin's Q and market-to-book ratio. Financial leverage was measured as the total debt to total assets.

(4) Firm size

The size of a firm affects its performance in many ways. Key features of a large firm are its diverse capabilities, the abilities to exploit economies of scale, and scope. These characteristics, by making operations more effective, allow larger firms to perform better than small firms (Ben-Zio & Shalit, 1975). Chauvin and Hirschey (1993) also argued that economies of scale enable large firms to enjoy advantages in cost of sales, labor cost, and advertising and promotion costs. Consequently, large firms produce higher profit, increasing their market value. Gu (1999) analyzed the financial performance of small and large casinos, finding that larger casinos had higher returns on investment and better return on assets ratios than small casinos. Upneja, Kim and Singh (2000) also found that larger casinos are more profitable than small casinos. In order to measure the relationship between a firm's franchising strategy and its financial performance, this study controlled the potential effects of firm size on Tobin's Q, market-to-book ratio, ROA, and ROE. Total number of units was used as measures of firm size in this study.

Table 3.2 provides a brief summary of the variables selected in this study to assessing a firm's financial performance. These variables were used in the multivariate regression analysis.

Table 3.2 Measurement of Financial Variables

Variable	Description
ROA	Net income/Average total assets
ROE	Net income/Average stockholders' equity
Market-to-book ratio	Price per share/Book value per share
Tobin's Q	(MVE + PS + DEBT) / TA
Growth	The number of units change per year
Financial Leverage	Total debt / Total equity
Advertising Ratio	Advertising expenditure/Total assets
Firm Size	Total number of units
Proportion of franchise outlets	Franchised outlets/Total outlets

Statistical models: Financial performance

To test hypotheses H10, this study used t-tests to examine the mean differences of franchised and non-franchised firms' ROA, ROE, market-to-book ratio, and Tobin's Q ratio. To test the financial performance difference between franchised and non-franchised firms, the variable group means and net differences were calculated by subtracting franchised firm means from the means of non-franchised companies. Failure to reject the null hypothesis would indicate that there is no significant difference in the mean values of the variables. On the other hand, rejection of the null hypothesis would offer support for the alternative hypothesis, indicating a significant difference between the mean values.

To test hypotheses H10 to H11, multiple multivariate regression models were used. The following regressions were conducted:

$$ROA = \beta_0 + \beta_1 \text{Size} + \beta_2 \text{Financial leverage} + \beta_3 \text{Proportion of franchise units} + \beta_4 (\text{Proportion of franchise units})^2 + \varepsilon \quad (7)$$

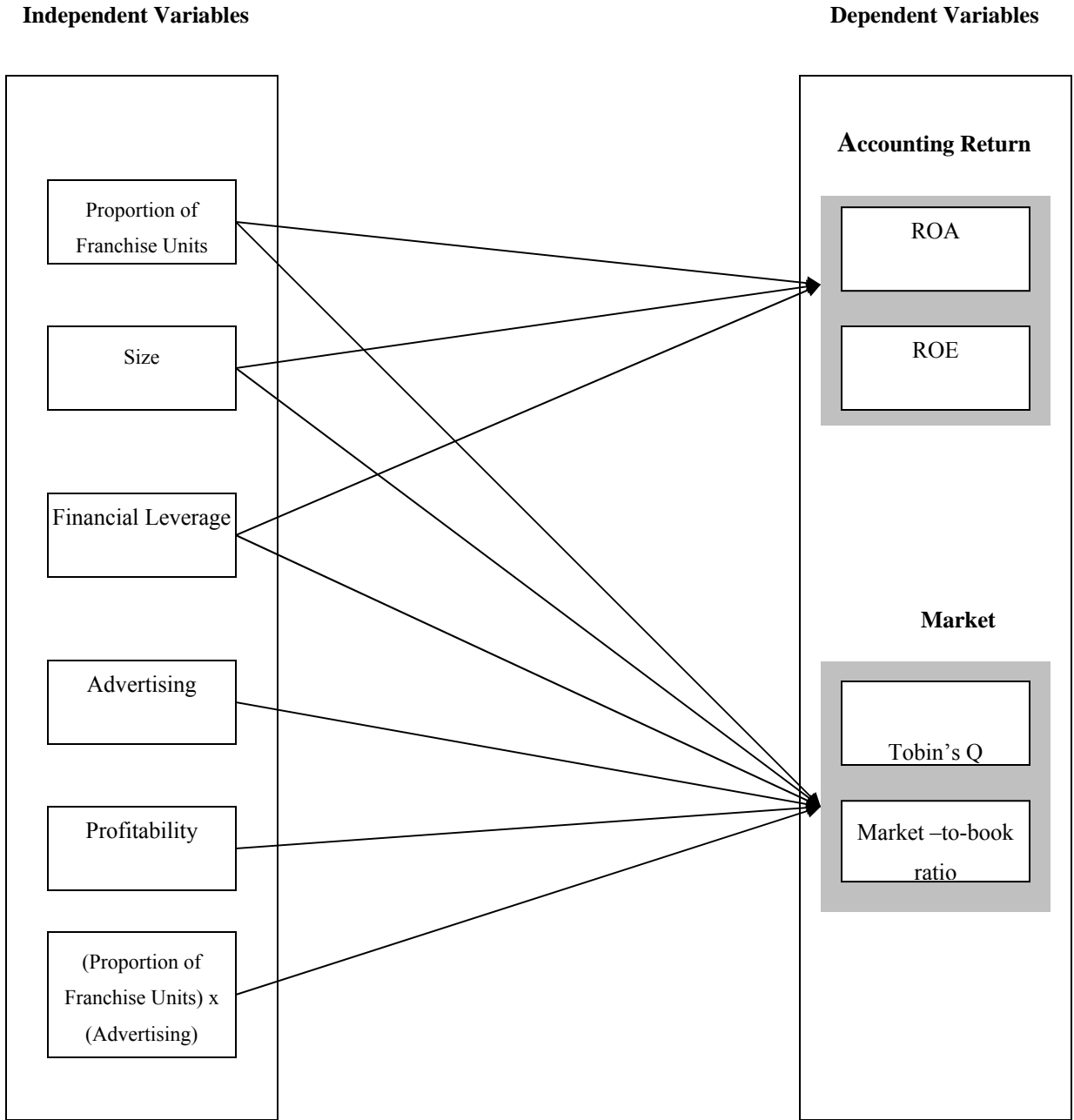
$$ROE = \beta_0 + \beta_1 \text{Size} + \beta_2 \text{Financial leverage} + \beta_3 \text{Proportion of franchise units} + \beta_4 (\text{Proportion of franchise units})^2 + \varepsilon \quad (8)$$

$$\begin{aligned} \text{Market-to-book ratio} = & \beta_0 + \beta_1 \text{ Size} + \beta_2 \text{ ROA} + \beta_3 \text{ Financial leverage} + \beta_4 \text{ Advertising} + \\ & \beta_5 \text{ Proportion of franchise units} + \beta_6 (\text{Proportion of franchise units})^2 + \beta_7 \\ & (\text{Advertising} \times \text{Proportion of franchise units}) + \varepsilon \end{aligned} \quad (9)$$

$$\begin{aligned} \text{Tobin's Q} = & \beta_0 + \beta_1 \text{ Size} + \beta_2 \text{ ROA} + \beta_3 \text{ Financial leverage} + \beta_4 \text{ Advertising} + \beta_5 \\ & \text{Proportion of franchise units} + \beta_6 (\text{Proportion of franchise units})^2 + \beta_7 \\ & (\text{Advertising} \times \text{Proportion of franchise units}) + \varepsilon \end{aligned} \quad (10)$$

Equation 7 was used to examine the relationships between proportion of franchise units and ROA, while controlling for firm size. Similar to Equation 7, Equation 8 was used to examine the relationships between proportion of franchise units and ROE, while controlling for firm size. Equation 9 was used to examine the relationship between proportion of franchised units and market-to-book ratio, and the moderator effects of proportion of franchise units on the relationship between advertising and market-to-book value, while controlling for other firm specific variables (profitability, financial leverage, and firm size). Like Equation 9, Equation 10 was used to estimate the relationship between proportion of franchised units and Tobin's Q, and the moderating effect of the proportion of franchised units on the relationship between advertising and Tobin's Q, while controlling for other firm specific variables (profitability, financial leverage, and firm size).

Figure 2 Effect of Franchising on Financial Performance



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CHAPTER 4 - DETERMINANTS OF THE FRANCHISE DECISION

Abstract

Franchising captures a sizeable portion of the restaurant industry and plays an important role in its success. Despite the importance of franchising to the restaurant industry, little has been done to study why restaurant firms initiate franchising. This study attempted to explain what influences the choice of organizational form of restaurant firms. A logistic regression model was developed to identify a set of variables that best differentiates firms engaged in franchise contracts from those that are not. The results indicated that 1) resource scarcity influenced restaurant firms' initial franchising decisions, 2) the degree of geographic dispersion and involvement in foreign countries increased the probability of a firm's initial decision to franchise, and 3) the decrease of specific knowledge requirements increased the probability of a firm's initial decision to franchise. Based on the statistical results, several suggestions are made that should help restaurant firms decide whether franchising is an appropriate choice for their operations.

KEYWORDS: Franchising, agency theory, resource scarcity, risk-sharing, specific knowledge, and restaurant.

Introduction

In the last few decades, franchising has become a part of every day life in the United States. Many firms in a variety of industries have adopted franchising as a method of doing business. In 2001, PricewaterhouseCoopers estimated that there were more than 767,000 businesses in the franchise system in the United States (U.S.), directly providing more than 9 million jobs, more than \$229 billion in payroll, and more than \$624 billion of output (PricewaterhouseCoopers, 2004). In general, two major environmental factors have contributed to the development of franchising. First, the change in lifestyles in the United States and Western Europe has emphasized service and convenience (Justis & Judd, 1998). Second, more travel, which has enhanced the value of a brand name, also contributes to the expansion of franchising (Mathewson & Winter, 1985).

In the restaurant industry, franchising also plays an important role in the growth of the industry. According to PricewaterhouseCoopers (2004), more than 56% of fast-service restaurants and 13% of full-service restaurants are franchises. Consumer mobility and time constraints have increased the popularity of restaurant chains. Consumers are likely to select restaurants with national brand names over local restaurants to avoid losing time searching for restaurants in unfamiliar locations (Mathewson & Winter, 1985; Sen, 1998). As a result, many restaurant chains have chosen franchising as the preferred method of expansion (Sen, 1998).

Despite the popularity of franchising among restaurant firms, however, existing research has not fully studied what influences the decision to franchise in the restaurant industry. For instance, franchising offers a firm the benefits of vertical control over retail units without the investment in assets required by a fully company-owned chain. Nevertheless, many chains still choose to own all units instead of franchising (e.g., Cheesecake Factory, Inc. and P.F. Chang's China Bistro, Inc.). The debate continues among researchers about why firms make such organizational choices. In particular, are there any firm-specific factors that affect the choice of organizational form? What existing theories can be applied to explain a firm's franchise decision?

While previous studies (Brickely & Dark, 1987; Carney & Gedajlovic 1991; Combs & Ketchen, 1999; Norton, 1988; Sen, 1998) attempted to address these questions,

they all used variations in the proportion of company-owned outlets among franchised companies to study the franchise decision. The data from non-franchisers were not included, and the question of why firms choose not to franchise was therefore not addressed. In other words, including firm-level data from both franchisers and non-franchisers is necessary to examine the “initiating” decision (Combs et al., 2004).

The purposes of this study were 1) to review the legitimacy of applying several existing theories, including agency theory, resource scarcity theory, risk-sharing theory, and specific knowledge theory, to investigate the factors that affect the franchising decision in the restaurant sector and 2) to provide information to assist restaurant managers in deciding whether franchising is an appropriate choice for their company.

Theoretical Foundation and Research Hypotheses

Agency theory

A number of studies have explained the existence of franchising through agency theory (Brickly & Dark, 1987; Lafontaine, 1992). According to agency theory, managers (the agents) tend to shirk their duties when their compensation is fixed. As a result, the firm will incur higher monitoring costs to ensure that managers act in the firm’s best interests. In the case of a franchise agreement, the franchisee purchases the right to profit from a particular unit by paying franchise fees and royalties to the franchiser. Franchisees are the owner-managers and bear the residual of risk of a local operation. Since owner-managers of franchised units are compensated by residual claims from their particular units and they put their own capital at risk, they are usually more motivated to run effective operations in order to maximize the present value of the franchise unit (Shane, 1996). Because franchising aligns the franchiser and the franchisee’s interests, the need for monitoring is reduced (Rubin, 1978).

Agency theory has received support from many empirical studies. For example, Dark and Brickley (1987) found that the cost of monitoring store managers seems to be the most important factor in making franchise decisions. They suggested franchising is more efficient than using company-owned outlets when it is difficult for the firms to

monitor the behavior of individual outlets and when environmental uncertainty exists. Brickely, Dark, and Weisbach (1992) found the likelihood of franchising decreases as monitoring costs go down. Based on a study of publicly traded restaurant chains between 1992 and 1995, Combs and Ketchen (1999) concluded that firms with high outlet-level asset specificity, low specific knowledge, and high geographic dispersion used franchising significantly more than other firms. Lafontaine (1992) also suggested geographic dispersion and the increasing importance of the franchisee's input also increase franchisers' propensity to franchise, thus supporting the agency theory.

The literature seems to agree that great geographic dispersion increases monitoring costs under company ownership and thereby encourages franchising. As a firm enters geographic markets far removed from headquarters, the costs of monitoring outlet managers increase because of the need for more monitoring personnel and travel related expenses (Carney & Gedajlovic, 1991). Thus, companies that operate over a wider geographic area face more challenges in monitoring their outlets and controlling their operations and should prefer to franchise rather than own units in their system (Combs & Castrogiovanni, 1994; Norton, 1998). Accordingly, this study proposes the following hypothesis based on agency theory:

H1: Franchised firms in the restaurant industry are more geographically dispersed than non-franchised firms.

Another important variable considered in agency theory is system size. Many studies note that system size relates positively to the franchising decision (Combs & Ketchen, 2003). According to the agency theory, firms use franchising to minimize monitoring costs as they expand into new and distant markets. As firms grow, the entrepreneurs must hire employees to undertake activities that the entrepreneurs themselves could not. Hiring new employees may increase adverse selection and moral hazard. Agency theory suggests that the more units in the system, the harder it is to monitor and control units, and the more likely firms will engage in franchising (Shane, 1996; Combs & Ketchen, 2003; Alon, 2001). In view of that, this study proposes the following hypothesis:

H2: Franchised restaurant have more outlets than non-franchised restaurant firms.

The other commonly-cited factor in the increasing cost of monitoring is foreign expansion. In international operations, distance and time increase the level of uncertainty attributable to the information gap. It is very difficult and costly to gather and receive information about foreign operations in a timely manner. Moreover, cultural differences may increase the cost of gathering information (Fladmoe-Lindquist & Jacque, 1995). Using the percentage of total growth achieved through franchising that occurred in 91 restaurant chains between 1991 and 1993, Hoover et al. (2003) found foreign expansion increased the propensity to franchise. Fladmoe-Lindquist and Jacque (1995) also suggested that more geographic distance involved in monitoring foreign agents and more cultural distance could lead to more franchise arrangements. Accordingly, this study proposes the following hypothesis:

H3: Franchised restaurants in the restaurant industry are more likely to become involved in foreign expansion than non-franchised restaurant firms.

Resource scarcity theory

Another explanation for franchising is resource scarcity theory. According to resource scarcity theory, franchising is designed to provide franchisers with the resources necessary to accelerate growth to reach minimum efficient scale and build brand name capital (Hunt, 1973; Norton, 1995; Oxenfeldt & Thompson, 1968). In particular, franchising can ease the financial constraints of growth and expansion in small- to medium-sized firms (Caves & Murphy, 1976; Oxenfeldt & Thompson, 1968). Unlike a company-owned outlet, a franchised store is operated by a franchisee, an independent legal entity. Franchisees provide cash to the franchiser in the form of franchise fees and royalties, and provide investment in the outlet through the purchase of fixed assets (Lafontaine & Kaufmann, 1994). Franchising not only relieves the franchiser of the need

to raise cash for growth, but can also conserve capital and more quickly establish a distribution channel (Mcquire & Staelin, 1983). In addition to providing capital to franchisers, franchisees also offer managerial talent and local knowledge to fuel franchise growth (Minkler, 1992; Norton, 1988; Shane, 1996). According to Shane (1996), the franchise contract requires that franchisees profit primarily from residual income at individual outlets. Franchisees invest a significant amount of money and time into their units; thus, they are likely to purchase a franchise only if they have confidence in their own managerial abilities. Thus, franchising may screen out applicants who lack the necessary managerial skills (Norton, 1988). In other words, franchising can help franchisers attract the requisite human capital for growth in a relative short time. Franchising also allows a firm to leverage its franchisees' local market knowledge as a firm expands into new geographic areas (Minkler, 1992).

Several empirical studies have supported resource scarcity theory in explaining franchise decisions in the restaurant industry. For instance, Sen (1998) investigated the use of franchising as a growth strategy in the US restaurant industry and found a close relationship between the use of franchising and outlet growth within the restaurant industry. His results also show larger chains used less franchising in their expansion strategies. By surveying franchisers, Dant (1995) revealed that capital scarcity influenced the initial decision to use franchising, supporting the leverage of franchising to overcome resource constraints argument. Combs and Ketchen (1999) studied 91 publicly traded restaurant chains, revealing that companies with capital constraints were more likely to use franchising for expansion. More recently, Alon (2001) also argued that firms with fewer resources rely more on franchising.

In summary, according to resource scarcity theory, franchising allows the franchised firm to use franchisee managerial and financial resources to achieve rapid growth (Kaufmann & Dant, 1996; Oxenfeldt & Kelly, 1969). Franchising also reduces the time and effort required to identify and train new managers, which is frequently a major constraint to growth (Penrose, 1959). Many studies have found that franchising reduces franchisers' time and effort in selecting outlet managers and increases franchisers' growth (Kaufmann & Dant, 1996; Shane, 1996; Thompson, 1994). Dant

(1995) concluded that entrepreneurs perceive the opportunity for rapid growth as an important reason to franchise. Accordingly, the following hypothesis is proposed:

H4: Franchised restaurant firms have higher growth rates than non-franchised restaurant firms.

Resource scarcity theory supports the idea that franchising is a relatively inexpensive way to expand operations, by increasing revenue through franchise fees, royalties, and sales to franchisees, and by substituting franchisee investment in local operations for parent company investment in local operations. Hunt (1973) stated that firms choose to franchise units because they simply do not have access to the capital required to expand via company-owned units. Subsequently, Norton (1995) argued that the costs of debt should be higher and the debt/equity ratios should be lower for franchised companies. More growth opportunities, more advertising, more intangible capital, and asymmetric information could generate higher costs of both debt and equity, and franchising is common where growth opportunities, advertising, intangible capital, and asymmetric information are substantial. Using a sample of 25 franchisers and a companion group of 25 non-franchisers, Norton (1995) found that non-franchisers have higher debt-to-equity ratios than franchisers, showing the relevance of capital structure in situations where franchising is common. Accordingly, the following hypothesis is proposed:

H5: Franchised restaurant firms have lower debt- to-equity ratios than non-franchised restaurant firms.

The resource scarcity theory also suggests that franchising varies over an organization's life cycle (Oxenfeldt & Kelly, 1969). Young, small, growing, and less-liquid firms use franchising to increase the flow of scarce resources (Alon, 2001; Anderson, 1984; Carney & Gedajovic, 1991; Combs & Ketchen, 1999; Hunt, 1973; Martin & Justis, 1993; Shane, 1996). In contrast, larger and older firms with liquid capital have fewer franchised units. If resource scarcity is a major reason for franchising, we should find that franchised firms started franchising in the very early stages to overcome

capital and managerial resource constraints. Thus, based on the resource scarcity theory, this study proposes the following hypothesis:

H6: Franchised restaurant firms are younger when they started franchising than non-franchised restaurant firms.

Risk-sharing theory

The third popular theory to justify the franchising decision is risk-sharing theory. Previous research has suggested that franchise contracts arise principally from the need to share risks (Lafontaine & Bhattacharyya, 1995). That is, franchising allows franchisers and franchisees to share the risk of the future success of the franchised units.

According to risk-sharing theory, franchising allows franchisers to maintain control over profitable units with more predictable revenue while shedding relative risky locations with uncertain revenues (Combs & Castrogiovanni, 1994). Much research has provided empirical support for risk sharing by revealing that franchised units are frequently located in remote locations with lower sales per unit than company-owned units (Brickley & Dark, 1987; Martin, 1988). For example, using data obtained from *Franchise Annual* and the *Source Book of Franchise Opportunities*, Martin (1988) found that franchisers tend to own or buy back the more profitable and less risky outlets and to franchise the less profitable and more risky outlets.

In addition, franchising can reduce the volatility of franchisers' cash flow and risk. The cash flow from franchising is derived from sales-based royalties. Since sales revenue is never below zero, a sharing arrangement can reduce the franchiser's business risk, because the income stream is not significantly affected by any cost inefficiencies on the part of the franchisee (Caves and Murphy, 1976). For example, as Robert Nugent, CEO of Jack in the Box, noted "The economic advantage to franchising is that there is less risk to our income statement because we're not affected by the cost pressures" (Bradach, 1998, p. 68). On the other hand, a company-owned unit requires fixed capital investment, which increases the firm's operating leverage and risk. Overall, franchises provide firms with lower risk and low-cost access to markets that are not economically

worthwhile for them to pursue through vertically integrated channels (Dahlstrom & Nygaard, 1994).

The risk-sharing argument has been supported in several studies. Using sector data from the U.S. Department of Commerce's *Franchising in the Economy*, Lafontaine (1992) found that risk increases the use of franchising and decreases the franchiser's share. Roh (2002) used the 3-year variance of operating cash flows to measure risk. He also found that the propensity to franchise units reduces risk, supporting the risk-sharing argument. In summary, the investment of capital and manpower by franchisees in their outlets means that franchising requires less financial investment by franchisers and involves less capital risk than a company-owned network. Based on the risk-sharing argument, this study proposes the following hypothesis:

H7: Franchised restaurant firms are less risky than non-franchised restaurant firms

Specific knowledge theory

The literature also suggests the transfer of specific knowledge between the principal and agent is another factor that might affect the franchise decision. Specific knowledge refers to the knowledge required to efficiently handle operations, improve efficiency, and promote products and services (Combs & Ketchen, 1999; Hoover et al., 2003). According to the specific knowledge explanation, the franchise appears to work best where operations are relatively simple and repetitive. In the service sector, homogeneity is a problem, so a company should be less inclined to use franchising when specific knowledge required in the job is high (Hoover et al., 2003). Michael (1996) also suggests that franchising does not fully utilize the franchisee's human capital. To use human capital to its fullest, the local operator and franchisee should make all decisions individually, forfeiting gains from standardization and scale. By contrast, the standardized product delivered by the franchise system requires that the franchiser make decisions such as marketing and product design centrally, without using the franchisee's human capital. Thus, industries that do not benefit from standardization will not franchise. Thus, the more important human capital is to production, the less likely the

company is to franchise. Watson, Kirby, and Egan (2002) found industries with high levels of franchise operations tend to have lower average earnings, suggesting lower human capital requirement. Hoover et al. (2003) suggested that as specific knowledge decreases, franchising increases.

The relationship between specific knowledge and franchise decisions has important implications for the format of quick-service restaurants. The common attributes of restaurant products and services are intangibility and heterogeneity. Intangibility creates a greater perceived risk for customers, who must rely on the promise of satisfaction without the opportunity to return the purchase, while heterogeneity implies a lack of uniformity of the service. In this regard, the challenge for restaurant firms is to maintain control of quality and standards, keeping both aspects consistent throughout the entire organization. Among various types of restaurants, the specific knowledge required by quick service restaurants is less intensive because of their limited menus and minimal customer service. Many quick service restaurant chains adopt a production line approach (e.g., McDonalds, Wendy's, Burger King) to simplify their production and reduce service variability (Bowen & Lawler, 1992; Power, 1992). By doing so, fast food service is, in many ways, like a manufacturing system rather than a traditional restaurant. Accordingly, this study proposes the following hypothesis:

H8: Quick service restaurants are more likely to be franchised than other types of restaurants.

Methodology

Sample selection and sources of data

The sample for this study was chosen from a list of 100 publicly traded restaurant firms in the Standard & Poor's *Compustat* database, based on their 4-digit Standard Industrial Classification (SIC) code of 5812, for the years 1996 through 2005. Next, firms with fewer than four outlets that did not constitute a chain ((Hawes & Crittenden, 1984; Combs & Ketchen, 1997), or were franchisees of chains, such as a Burger King or

Wendy's franchisee, were excluded from the sample. Among the initial set of 100 firms, 18 firms were dropped from the sample. As a result, our analyses cover 82 firms, observed for 721 firm-years. Most of firms provide 10 years information, but some firms enter or exit the sample between 1996 and 2005 and contribute fewer firm-years of data. Financial data was obtained from Standard & Poor's *Compustat* database. The number of franchised units and total units, the number of states, and foreign operations were collected from *Bond's Franchise Guide* and annual 10 K filings of each firm in the SEC's *Edgar* database.

Classifying Variables

Dependent variable. The primary objective of this study was to identify what motivates a company to pursue franchise contracts rather than keeping all restaurants wholly company-owned. Thus, firms could be classified into two mutually exclusive categories, franchise or non-franchise. The dependent variable, franchising, in this study is discrete in nature and involves a situation in which one alternative or the other must be chosen. Statistically, franchising is a dummy variable with 1 for the franchised firms and 0 for non-franchised firms.

Agency theory variables. The number of states in which the firm has operations was used as proxy variable for the geographic dispersion (Combs & Ketchen, 1999; Lafontaine, 1992; Carney & Gedajlovic, 1991) to test hypothesis H1. The number of units of the firm was used as a proxy variable to measure size to test hypothesis H2, and the number of countries in which the firm has operations was used to test hypothesis H3.

Resource scarcity theory variables. The change in the number of units per year was used as a proxy variable for growth to test Hypothesis H4. The total debt-to-equity ratio was used to test Hypothesis H5. For franchised companies, the year the company started its first franchise was used to measure age and was used as a surrogate for the degree of system maturity and thus as a measure of a franchisor's access to resources (Lafontaine & Kaufmann, 1994; Lillis et al., 1976) to test Hypothesis H6. For non-franchised firms, a firm's actual age was used to test H6.

Risk sharing variables. Previous studies have measured risk differently. Martin (1998) and Norton (1998) used variance of sales over time to measure risk to test whether

the franchiser relies on franchising to reduce risk. On the other hand, Roh (2002) and Hanson (1992) used variance in operating cash flows to measure risk, arguing that lower business risk is likely associated with a higher proportion of franchised units. In this study, variance in operating cash flows was used to measure risk and to test Hypothesis H7.

Specific knowledge variable. A dummy variable, with 1 for quick service restaurants and 0 for other types of restaurants, was used in this study to test Hypothesis 8. Quick service restaurants tend to require less specific knowledge than other types of restaurants, because quick service restaurants usually offer limited menus and minimal customer service (Power, 1992). When specific knowledge required for the operation is high, firms should be less likely to franchise. Thus, the expected sign of the coefficient for the dummy variable is positive.

Table 4.1 summarizes the variables chosen in this study to examine a firm's decision to enter franchise agreements. These variables were used in both the univariate tests and logit regression analysis.

Table 4.1 Variables Relate to a Firm's Decision to Enter a Franchise Agreement

Hypotheses	Variables	Description
	Franchising (dummy)	1, if a firm is franchised; 0, otherwise
H1	State	Number of states a firm has operations
H2	Size	Number of total units
H3	Foreign	Number of countries a firm has operations
H4	Growth	Increase in number of units per year
H5	Debt ratio	Total debt / Total equity
H6	Age	Age of the company started its 1 st franchise unit
H7	Risk	Variance in operating cash flow
H8	Quick (dummy)	1, if a firm is quick service restaurant; 0, otherwise

Statistical Analysis

The logit regression method was conducted to estimate a logit model with significant determinants that predict the probability that a firm will decide to franchise. Logit estimation allows the relative importance of the explanatory variables to be compared by defining the differences between the two groups. In addition, logit models allow analysis of the impact of a series of explanatory variables on the probability that firm uses franchising.

In the logit model, a linear function of the explanatory variables was set equal to the logarithm of the ratio of the probability of engaging in franchise contracts and of not engaging in franchise contracts. With the logit analysis, the independent variables were transformed into a probability measure varying from 0 to 1 with the parameter estimates. This represented the amount that the independent variables increase or decrease with the probability of franchising or not franchising.

The logit regression model can be written as the follows:

$$\text{Log} [P(y) / ((1-P(y)))] = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k \quad (1)$$

where $P(y)$ = probability of franchising in the i th firm,

β_0 = an intercept,

X_i = the explanatory variables i ; $i = 1 - k$; k is the number of variables, and

B_i = coefficients of the i th explanatory variable.

From the logit model, the estimated value of the dependent variable can be interpreted as the predicted probability of an event happening, which lies between 0 and 1 (Hair et al., 1998). In this study, the estimated value of the dichotomous dependent variable was interpreted as the predicted probability of franchise or $P(y)$. By solving $P(y)$ from Equation 1, the predicted probability of franchise is described as

$$P(y) = e^y / (1 + e^y) \quad (2)$$

where e = the base of the natural logarithm, and $y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k$.

In this study, $e^y / (1 + e^y)$ represents the odds ratio in favor of undertaking a franchise contract. To classify sample firms into a franchise group and a non-franchise group, the logit (y) value of each sample firm was calculated based on the estimated model and then applied to the probability function, $P(y) = e^y / (1 + e^y)$. The specified

models describe the effects of explanatory variables on the categorical response variable. In this study, firms with P(y) value of more than 0.5 were classified into the franchised group, and firms with P(y) value equal to or less than 0.5 were classified into the non-franchised groups.

Table 4.2 Group Means and Differences between Franchised and Non-franchised Companies

Variables	Franchised	Non-franchised	Mean difference	T-ratio
States (number of states)	28.89	14.84	14.05	12.776***
Size (units)	2368.79	153.06	2215.73	7.173***
Foreign (number of foreign countries)	11.33	0.18	11.15	9.426***
Growth (units)	122.21	8.19	114.02	6.204***
Debt ratio	3.05	4.30	-1.25	-.957
Age	8.10	23.82	-15.72	-15.707***
Risk	0.26	2.08	-1.82	-1.032
Quick (dummy)	0.47	0.17	0.30	9.216***

Note: ***p< .001

Results

Table 4.2 presents the mean values of the 8 predicting variables for the franchise group and non-franchise group of the model estimation sample. T-test statistics and related p values of the two groups are also presented. The t tests show that at the p value < .001 significance level, the two groups are different in 6 variables – State, Size, Foreign, Growth, Age, and Knowledge.

Comparing the two groups' means for geographic dispersion (measured by number of states in which a firm has operations) shows that the franchised restaurant firms operated in more states than non-franchised restaurant firms. This result supports H1 and suggests that franchised firms are more geographically dispersed than non-franchised firms. The mean value of total units is 2,369 units for franchised firms and 153 units for non-franchised firms. This result supports H2 and shows that, on average, franchised firms are larger than non-franchised firms. The t test also suggests that franchised firms have operations in more foreign countries than non-franchised firms,

supporting H3. These results support for agency theory predictions that franchising will be used in situation where monitoring costs are high, as with large geographical diverse firms. In terms of growth, the results show that, on average, franchised firms increased by 122 units per year and non-franchised firms increased by 8 units per year. The difference in growth variable is statistically significant at the $p < .001$ level. This result supports H4 and supports the resource scarcity explanation for franchising. The mean value of total debt to equity ratio was 3.05 for the franchised firms and 4.3 for non-franchised firms. However, the difference was not statistically significant. This result fails to support H5. Another variable used in this study as a proxy for resource scarcity is age. According to the theory of resource scarcity, young and growing firms should use franchising more to increase the flow of scarce resources. In this study, we used the year the franchiser started its first franchise unit to measure age and used the actual age to measure non-franchisers' age. The results show that the average age for franchised companies to start their first franchise is 8 years and that the average age of non-franchised firms is around 24 years. This supports H6 and the resource explanation that young firms use franchising more to increase the flow of scarce resources.

For the risk sharing explanation for franchising, the hypothesis predicts that the risk for franchised firms is lower than for non-franchised firms. From Table 4.2, the variation of operating cash flow is higher for franchised firms than non-franchised firms. However, the difference is insignificant. Thus, the results fail to support the risk sharing explanation for franchising, and H7 is not supported.

We used a dummy variable to test specific knowledge theory for franchising. The mean value of the Quick variable for the franchised firms was higher than for non-franchised firms. More than 47% of franchised firms were quick service restaurant chains, but only 17% of non-franchised firms were quick service restaurants. This result supports H8 and specific knowledge explanation for franchising.

To test which variables have relatively more explanatory power to discriminate between firms engaged in franchise contract and those that are not, logit regressions were performed to find the best model. Before logit regression, the data was screened for multicollinearity. Logit regression, like other multiple regressions, is very sensitive to extremely high correlation among predictor variables (Tabachnick & Fidell, 2001). By

inspecting the correlation among predictor variables (Table 4.3), we found the correlation between Size and Foreign is 0.94. The high correlation between Size and Foreign could

Table 4.3 Pearson’s Bivariate Correlations between Independent Variables

	States	Size	Foreign	Growth	Debt	Age	Risk	Knowledge
States	1							
Size	.41**	1						
Foreign	.48**	.94**	1					
Growth	.33**	.58**	.59**	1				
Debt	.06**	.15**	.12**	-.04	1			
Age	-.25**	-.13**	-.15**	-.105**	-.00	1		
Risk	-.06	-.01	-.02	-.01	-.01	.01	1	
Quick	.17**	.31**	.30**	.28**	.08*	-.04	.03	1

** Correlation is significant at the 0.01 level (2 tailed).

*Correlation is significant at the 0.05 level (2 tailed).

cause collinearity in logistic regression analysis. To confirm our concern, a preliminary regression was performed to investigate the tolerance levels of the independent variables: State, Size, Foreign, Growth, Debt Ratio, Age, Risk, and Knowledge. The results (Table 4.4) showed that the Size and Foreign variables have very low tolerance levels, 0.11 and 0.1, and very high variance inflation factors (VIF), 8.92 and 9.76. The low tolerance levels and high VIFs of Size and Foreign confirmed that these two are redundant variables and that we needed to delete one of them from the model to reduce multicollinearity (Tabachnick & Fidell, 2001).

Two logit regression models were run, one including all the independent variables except Size in the model (Model A) and the other one including all the independent variables except Foreign in the model (Model B), to test which model is better in discriminating franchise firms from non-franchise firms. With the significance level set at .05, the logit regression (model A) showed that among the seven independent variables, only four (Age, States, Foreign, and Quick) of the seven could best differentiate franchised restaurant firms from non-franchised restaurant firms. The logit estimated results are presented in Table 4.5.

Table 4.4 Tolerance Test of Prediction Variables

Independent Variable	Franchising	Tolerance	VIF
Intercept	.435 (12.36**)		
Size	-.352 (-3.09**)	.112	8.92
States	.304 (8.57**)	.726	1.378
Foreign	.354 (3.748**)	.102	9.76
Growth	-.010 (-.257)	.587	1.70
Debt	-.067 (-2.166*)	.956	1.05
Age	-.418 (-13.38**)	.936	1.07
Risk	-.030 (-.982)	.994	1.01
Quick	.300 (9.34**)	.884	1.13
R ²	.501		
Adjusted R ²	.494		
F value	68.56		
p-value	.000		

T ratio appears in the parentheses

* Significant at 5% level

** Significant at 1% level

The goodness-of-fit measures were examined to assess the statistical significance of the estimated model. The observed significance level (.000) associated with χ^2 for the model (428.23) indicated that the overall fitness of the logit model was significant. The goodness-of-fit measure showed that the estimated model was a significant model that could discriminate franchised restaurant firms from non-franchised restaurant firms with good accuracy. The Nagelkerke R², comparable to the R² in multiple regressions, is 0.718 indicating the good fit of the model. The classification accuracy rate was also examined

to assess how accurately the model discriminated between non-franchised restaurant firms and franchised restaurant firms.

Table 4.5 Results of the Logit Model Estimation

Variables	Model A	Odds Ratio	Model B	Odds Ratio
Intercept	.290 (.922)		.549 (3.328)	
Size			.004 (22.66**)	1.004
States	.031 (7.232*)	1.031	.009 (.397)	1.009
Foreign	.968 (21.982**)	2.632		
Growth	.007 (2.089)	1.007	.003 (.579)	1.003
Debt	-.035 (3.165)	.966	-.048 (6.345*)	.953
Age	-.134 (67.77**)	.874	-.146 (79.508**)	.864
Risk	-.004 (.271)	.996	-.005 (.381)	.995
Quick	1.489 (15.233**)	4.433	1.685 (22.076**)	5.394
-2 Log likelihood	339.20		373.285	
Model χ^2	428.23**		399.46**	
Nagelkerke R ²	.718		.682	

Wald test (z-ratio) appears in the parentheses

* Significant at 5% level

** Significant at 1% level

The result showed that the estimated model could discriminate franchised firms from non-franchised firms with 91.4% accuracy. The classification results are presented in Table 4.6.

Table 4.6 Model A Classification Summary

Actual Group	Number of Observation	Predicted Group		
		Non-Franchised	Franchised	Percentage Correct
Non-Franchised	261	245	16	93.9
Franchised	294	32	262	89.1
				91.4

As with Model A, the logit regression (model B) showed that four variables (Age, Size, Debt, and Knowledge) of the seven variables in the model could best differentiate franchised restaurant firms from non-franchised restaurant firms. The χ^2 for the model was 399.46, -2 log likelihood was 373.28, and Nagelkerke R^2 was 0.682 (428.23), and the hit ratio for this model was 90.3 (Table 4.7). Model B has a larger -2 log likelihood than Model A and a lower hit ratio than Model A, so model A was retained as the better model for discriminating franchise firms from non-franchise firms; it had better accuracy and was used to check predictive validity with the holdout sample.

Table 4.7 Model B Classification Summary

Actual Group	Number of Observation	Predicted Group		
		Non-Franchised	Franchised	Percentage Correct
Non-Franchised	261	240	21	92.3
Franchised	294	33	261	88.7
				90.3

The Wald test, the ratio of the unstandardized coefficient to its standard error, was used to test the significance of each of the coefficients in the logit model (Tabachnick & Fidell, 2001). Four variables (Age, State, Foreign, and Quick) were retained in the logit model, and all were significant at the 0.05 levels. The negative coefficient of the age variable showed a negative relationship between age and the firm's decision to franchise. This indicated that as restaurant firms age, the probability of a decision to franchise decreases, further supporting H6. The sign of the coefficient of States variable was positive and significant at the 0.05 level. In this study, we used the number of states in which a firm operates to measure geographic dispersion. The positive coefficient of States variable indicated that the more geographically dispersed a firm, the higher the probability of a decision to franchise supporting H1. As with the States variable, the sign of the coefficient of Foreign was positive and significant at the 0.01 level. In this study, we used the number of foreign countries in which a firm has operations to measure the degree of foreign expansion. The positive sign of Foreign variable indicated that the more

foreign countries in which a restaurant company has operations, the more likely a firm will franchise supporting H3. In this study, we hypothesized that quick service restaurants are more likely to franchise than other types of restaurants to test the specific knowledge explanation of franchising. The sign of the Quick dummy variable was positive supporting H8. The positive and significant dummy variable suggested that specific knowledge requirement had a significant effect on a restaurant firm's decision to franchise. This result supported the specific knowledge explanation of franchising.

To check the predictive validity of our model, we randomly withheld 20% of the observations. The estimated model (model A) could discriminate franchised firms from non-franchised firms with 89.7% accuracy (Table 4.8). This indicates a good degree of predictive validity of our model.

Table 4.8 Classification Summary of Holdout Sample

Actual Group	Number of Observation	Predicted Group		
		Non-Franchised	Franchised	Percentage Correct
Non-Franchised	69	60	8	98.2
Franchised	97	9	88	90.7
				89.7

Discussion and Conclusion

Franchising has gained significant interest both in academia and industry. According to Combs, Michael, and Castrogiovanni (2004), three key franchising research issues should be studied to understand the franchise phenomenon: franchise initiation, subsequent propensity to franchise, and franchise performance. Extensive research has been conducted on the subsequent propensity to franchise issue (e.g., Alon, 2001; Brickely & Dark, 1987; Combs & Castrogiovanni, 1994; Hoover et al., 2003; Lafontaine, 1992; Norton, 1988; Sen, 1998), but less attention has been paid to why firms initiate franchising. To bridge the gap, this study used agency theory, resource scarcity theory,

risk sharing theory, and specific knowledge theory to investigate which theory/theories can best explain why firms initiate franchise. This study used both univariate and logit estimations to identify major variables that discriminate between firms engaging in franchise contracts and those that do not. The logit analysis identified four variables (Age, State, Foreign, and Quick) that, in combination, can best distinguish the two groups.

Both the univariate and logit regression results indicate that agency theory, resource scarcity theory, and specific knowledge theory can explain why firms initiate franchising. The significant and positive signs of States and Foreign, two agency theory variables, indicate that as a firm expands geographically or increases foreign expansion, the probability that it will franchise increases. These results support the agency theory argument that firms use franchising to solve agency problems and to reduce monitoring costs. The other significant variable in the logit model is age, a resource scarcity variable. The negative sign of this variable indicates that as a firm age, the probability of franchising decreases. This finding is consistent with practitioners (Thomas, 1991) and managers (Dant, 1995), who have claimed that resource scarcity influences the initial decision to use franchising, supporting resource scarcity theory's argument that younger firms leverage franchising to overcome resource constraints. The last significant variable in the logit model is the Knowledge dummy variable, a specific knowledge variable. As expected, the probability that a firm will franchise increases as the specific knowledge requirement declines. Our finding supports the specific knowledge theory argument that the transfer of specific knowledge between the principal and agent is a factor that affects the franchise decision. However, our results do not support a risk-sharing explanation for franchising. Our results indicate that risk sharing does not seem to be related to the decision to initiate franchising. One possible explanation for the non-significant relationship between risk sharing and the decision to initiate franchising might be that risk sharing is not the major motivation to franchise. For example, in surveying franchisers, Dant (1995) found that the most frequently cited motives for franchising were market entry and growth, capital access and profits, access to managerial talent, and operational control and efficiency. Lillis et al. (1976) also found that in the penetration stage of the life cycle of a franchise, franchisee motivation was perceived as the most

important advantage identified by franchisers, followed by rapid market penetration, risk sharing, and entry capital.

Our findings support that firms choose franchising as an organizational form based upon resource demand, monitoring costs, and knowledge transferability of the firm. Certain firms are better suited to franchising than others. In particular, franchising most likely will be chosen by many firms which encounter resource problems and agency problems. Our findings contribute to the franchising literature in many ways. First, this study, to our best knowledge, is the first study that used both franchise and non-franchise firm-level data to investigate the factors that influence the choice of organizational form, which contributes to understanding why firms initiate franchising. In addition, this study applies not just one theory, but several theories (resource scarcity, agency theory, risk sharing theory, and specific knowledge) to explain why firms initiate franchising, thus adding to our understanding of the franchising decision. Furthermore, the findings of this study offer restaurant firms a basis for evaluating whether franchising is an appropriate choice for their companies. Potential franchisers need to focus their strategic attention on resources, monitoring costs, and level of specialized knowledge when making the decision to franchise or not to franchise. Potential restaurant franchisers also need to consider whether it is possible or practical to transfer the necessary operational knowledge to franchisees when deciding to franchise. If the operational knowledge needed to run the business is too much to transfer to franchisees or too costly to transfer, then franchising might not an appropriate method for growth of their company. Restaurant managers also need to understand that franchising can not reduce a firm's risk and its debt leverage, for which franchising is not effective.

Despite their theoretical and practical importance, the findings of this study are constrained by two major limitations which present potential subjects for further research. The first limitation is that we only concentrated on the restaurant industry. Concentrating on a single industry allows us to control for competitive and industry variations. Every industry, however, has a different structure, which might influence the choice of organizational form. Thus, this study's findings may not be generalized to other industries. Future studies can use data from several industries to investigate whether and how industry structure affects the choice of organizational form. The other limitation is

that this study used secondary data extracted only from publicly-traded restaurant companies. These companies usually are large established restaurant companies and have access to capital, so the factors that affect the choice of organizational form might not be the same as for new and small firms. Future studies can consider using a sample with both small and large firms to investigate additional factors that might influence the initial franchising decision, and to provide young or small firms with insight into the considerations they will face as they age, grow, or expand geographically.

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CHAPTER 5 - THE EFFECT OF FRANCHISING ON FINANCIAL PERFORMANCE

Abstract

Since the 1950s, franchises have significantly affected the US economy, generating a large proportion of its retail sales. However, despite the importance of franchising to the economy, little research has investigated the effect of franchising on financial performance in the restaurant industry. To contribute to the understanding of how franchising affects a firm's financial performance, this study investigated the relationship between 1) the combination of franchised and company-owned outlets (ownership mix) and 2) financial performance of restaurant firms between 1996 and 2005. Market-to-book ratio, Tobin's Q, ROA, and ROE were used to measure firm value and profitability. This study indicates that 1) franchised firms had better financial performance than non-franchised firms; 2) the relationship between ownership mix and financial performance was curvilinear, and the inverted U shaped relationship indicated the existence of an optimal ownership mix that can maximize a firm's financial performance; and 3) ownership mix not only had a direct effect on a firm's intangible assets, but also had an indirect effect on a firm's intangible assets through advertising.

KEYWORDS: Optimal ownership mix, financial performance, franchising, restaurant, advertising.

Introduction

Franchising is one of the fastest growing modes of retailing in the United States and the world (Dant et al., 2006). In a typical franchising contract, the franchisee gains the right to market a product or service using the brand name and operating methods of the franchiser. The franchisee must pay the franchiser upfront fees and royalties in exchange for this right. In return, the franchiser provides support to the franchisee. The more than 600,000 franchise business establishments in the United States generate more than \$800 billion in annual sales; representing 41% of all retail sales and 16% of GDP (Justis & Judd, 1998). In 2001, franchising contributed \$1.5 trillion to the US economy, employing more than 18 million people and more than \$500 billion in payroll (PricewaterhouseCoopers, 2004). Justis and Judd (2003) estimated that the number of franchised units will grow by 12 to 14%. A poll by the International Franchise Association (IFA) also indicated that franchises are expanding at approximately twice the rate of company-owned ventures (Bradach, 1998).

The rapid growth of franchising has attracted the interest of researchers from a variety of academic fields (Elang & Fried, 1997). Most of the franchising literature has focused on the motivation for franchising (Anderson, 1984; Alon, 2001; Carney & Gedajovic, 1991; Comb & Ketchen, 1999; Hunt, 1973; Kaufmann & Dant, 1996; Martin & Justis, 1993; Shane, 1996), plural form development (Bradach, 1997; Dant & Kaufmann, 2003), and the success and failure of franchising firms (Bates, 1995; Stanworth et al., 1998). However, financial performance has not been properly explored in the franchising literature (Combs et al., 2004; Watson et al., 2005). The dominant theories explaining the franchising phenomenon indicate that firms choosing to expand through franchising may have significant advantages over firms that grow through a corporate chain. Given the success and popularity of franchising, it may seem obvious that franchising may help firms achieve superior financial performance. However, franchising practitioners, researchers, and support groups continue to debate whether franchising can enhance a firm's financial performance through superior value creation (Alon et al., 2004). Several studies have compared the financial performance of

franchised and non-franchised firms with inconclusive results. Moreover, although franchising can indeed improve a firm's financial performance, to what extent a firm should franchise remains unknown. As many franchisers continue to operate a combination of company-owned and franchised outlets (Lafontaine and Kaufmann, 1994; Bradach, 1997), what would be the optimal level of the combination?

The purposes of this study are, therefore, to investigate whether franchising can enhance firms' financial performance and whether there is an optimal combination of franchised outlets and company-owned outlets (ownership mix) for maximizing financial performance. Moreover, with brand name capital as the most important asset owned by a franchiser (Norton, 1988), advertising should improve the value of an organization's intangible assets (Chauvin & Hirschey, 1993; Rao et al., 2004; Simon & Sullivan, 1993). Thus, this study also explores whether the combination of franchised outlets and company-owned outlets moderates the effect of advertising expenditures on firm value.

In the next section, we review the theoretical perspectives of the franchising decision to develop the research hypotheses; we then present and discuss the statistical results. Finally, we provide conclusions and implications based on the results.

Theoretical Foundation and Research Hypotheses

Resource scarcity and agency theory are frequently used to explain franchising decisions (e.g., Brickely & Dark, 1987; Carney & Gedajlovic, 1991; Combs & Ketchen, 1999; Norton, 1988; Sen, 1998; Oxenfeldt & Kelly, 1969). The theory of resource scarcity suggests that firms initiate franchising because of lack of capital (i.e., financial, human, or informational) for expansion and that franchisees were a necessary evil that were hard to control (Dant et al., 1996; Kaufmann & Dant, 1996; Oxenfeldt & Kelly, 1969). Thus, as soon as financial and human capital constraints relax, the resource scarcity argument predicts that company-owned outlets will increase as the franchiser moves toward completely company-owned outlets (Oxenfeldt & Kelly, 1969). The agency theory, on the other hand, focuses on monitoring. According to agency theory, firms franchise because they are unable to monitor their managers efficiently. Agency

theory holds that managers tend to shirk their duties when their compensation is fixed, so firms incur higher monitoring costs to ensure that managers act in the company's best interests. By contrast, franchisees purchase the right to profit from a particular unit by paying franchise fees and royalties to the franchisers. Because franchisees are owner-managers who bear the residual of risk of a local operation, they are less likely to shirk. Hence, monitoring is less necessary because owner-managers of franchised units are compensated by residual claims from their particular units and because they put their own capital at risk, motivating them to maximize the present value of the franchise (Shane, 1998). Agency theory, therefore, suggests that franchising should be a preferred organizational form throughout the life of a retail chain (Lafontaine & Kaufmann, 1994).

In short, the literature suggests many potential advantages to franchising. First, from the aspect of resource constraints, the franchisee finances the outlet, freeing the franchiser from the pressure of capital expense. Second, in providing managerial expertise, site managers invest in the site and earn profit after franchising fees, so most franchise managers monitor their own business effectively. Third, in most cases, the franchisee knows local market conditions better, allowing a franchiser to leverage local market knowledge as the company expands to new areas. Fourth, economy of scale (e.g., purchasing and advertising) can be achieved more rapidly by a company choosing franchising than a company that expands through company-owned units (Aliouche & Schlenrich, 2005, Justis & Judd, 1998; Spinelli et al., 2003). Fifth, by aligning franchiser and franchisee interests through a franchise agreement, franchising can reduce monitoring costs (Lafontaine & Kaufmann, 1994).

Despite the advantages of franchising, the debate continues over whether franchising can actually enhance a firm's financial performance (Alon et al., 2004). To date, only a handful of studies have compared the financial performance of franchised and non-franchised firms. Spinelli, Birley, and Leleux (2003) compared the monthly total returns (dividend plus capital gains) of 91 U.S. publicly held franchisers with the Standard and Poor's 500 Index between 1990 and 1999. They concluded that between January 1991 and July 1997, the franchiser index outperformed the S&P 500. However, for the remaining period, the S&P outperformed the public franchiser index. Aliouche and Schlenrich (2005) used Economic Value Added (EVA) and Market Value Added

(MVA) to compare the financial performance of 24 U.S. public restaurant franchisers to 17 non-franchisers' performance. They concluded that between 1993 and 2002, U.S. public restaurant franchisers have created more value than their non-franchiser competitors, and franchisers created a slightly higher market value and economic value than non-franchisers. Alon, Drtina, and Gilbert (2004) used the DuPont model and found the mean ROE was 7.29% for non-franchised firms and 6.61% for franchised firms, but the difference was not statistically significant.

In summary, how much franchising affects financial performance is still up for debate. Previous studies have not reached consistent conclusions, so further investigation is needed to assess the effect of franchising on financial performance, providing empirical evidence to future researchers and to industry. Based on the literature, we hypothesized:

H1: Franchised restaurant firms have better financial performance than non-franchised restaurant firms.

Ownership mix and performance

According to the agency theory, managers will tend to shirk their duties because their compensation is fixed, meaning that higher monitoring costs are incurred to ensure that managers act in the firm's best interests (Jensen & Meckling, 1976). Franchising can solve this problem (Shane, 1998). Therefore, agency theory suggests that franchising firms should perform better than those that retain ownership and hire managers (Lafontaine, 1992; Shane, 1998; Sorenson & Sorensen, 2001). In addition, the risk sharing theory suggests that incorporating franchisee capital in the business can reduce franchisers' capital requirements and risks. As the Executive Vice-president of Fishermen's Landing remarked, "...with franchise units, you receive a smaller margin but the return on investment approaches infinity because there is no investment" (Bradach, 1998, p. 68). Again, firms with more franchising should perform better than non-franchised firms and franchising firms with less franchising.

Despite these advantages, franchising also creates certain disadvantages compared to company owned units. For example, franchisees might pursue personal benefits by

reducing quality within their units to save costs and increase profits, with losses incurred by providing lower quality products or services are borne by other franchisees and ultimately causes damage to the brand name. Other disadvantages include less control over business processes, products, and profit in franchised units than in company owned units (Heide, 1994).

Many researchers have argued that franchising and company-owned systems are not opposing but rather complementary organizational forms (Cliquet & Croizean, 2002; Sorenson & Sorensen, 2001). Using the organizational learning theory, Sorenson and Sorensen (2001) also contended that companies can gain the benefits of innovation and knowledge transfer by having both company-owned units and franchised units. In a survey, Lafontaine and Kaufmann (1994) found that franchisors intend to continue to operate a combination of company-owned and franchised outlets. Practitioners also state that a mixture of company-owned and franchised units made the chain stronger than an exclusive reliance on one or the other (Bradach, 1997). Having franchised units can provide a source of market knowledge and innovative ideas that can be incorporated into the company-owned units (Lafontaine & Kaufmann, 1994), and company-owned outlets allow companies to test policies and programs and gain knowledge of operational details (Dant & Kaufmann, 2003). The experience gained from company-owned outlets also could be used to negotiate more control of the franchisees (Dant et al., 1992). Therefore, retaining a combination of company owned and franchisee owned outlets creates a synergy. A full company-owned system and a full franchised system might not be able to produce the best financial performance for a firm. Thus, a firm's financial performance may improve as the proportion of its franchised outlets increase, but after a certain point, the financial performance might begin to degrade with an increasing proportion of franchised outlets. Therefore, we hypothesized that there might be an optimal ownership mix level for best performance and that the relationship is curvilinear.

H2: There is an inverted U-shaped relationship between the proportion of franchised outlets and financial performance.

Ownership mix, advertising, and firm value

In general, advertising expenditures affect the value of an organization's intangible assets (Chauvin & Hirschey, 1993; Rao et al., 2004; Simon & Sullivan, 1993). Advertising can create market based assets that may lower the costs of sales, create price premiums through brand equity, and generate competitive barriers, and therefore increase a firm's cash flow and intangible value (Srivastava et al., 1998). Brand name capital is the most important asset owned by a franchiser (Norton, 1988). In the restaurant industry, where asset intangibility is high, having a strong corporate logo, standardized facilities, among other things, helps reduce intangibility in the consumer's mind (Cross & Walker, 1987). Many franchisers use franchising as way to penetrate markets and build brand name capital rapidly (Anderson, 1984). When a firm has a large proportion of franchised outlets, its advertising may be more effective because it can cover a large market and increase brand equity (Srinivasan, 2006). Therefore, the higher the firm's advertising expenditures and the higher the proportion of its franchised outlets, the higher its intangible value should be.

Nonetheless, the effect of advertising in franchising may be contingent on the proportion of ownership, due to the free ride phenomenon. Specifically, franchising could create the problem of free riding when a franchisee does not deliver the guaranteed quality imposed by the franchise agreement. Although the franchisee can reduce operation costs and increase profits with inferior products and services, this can negatively affect the firm's product perception, its brand name, and its performance. Mathewson and Winter (1985) observed that the incentive for a franchisee to free ride increases as the franchiser's brand name strength rises. By examining evidence from both the restaurant and the hotel industries, Micheal (2000) also found that quality is negatively related to franchising in the chain, suggesting that franchising increases free-riding and decreases quality in a decentralized service chain. Thus, when a firm with more advertising also has more franchised outlets, increased free riding may reduce its intangible assets. Given these two opposite effects, this study hypothesized the following:

H3: The proportion of franchise units moderates the relationship between advertising and financial performance.

Methodology

Sample selection and sources of data

The sample for this study consisted of publicly held restaurant companies. One hundred publicly traded restaurant companies on the New York Stock Exchange (NYSE), the America Stock Exchange (AMEX), and the National Association of Securities Dealers Automated Quotations (NASDAQ) were first drawn from the Standard and Poor's COMPUSTAT database with Standard Industry Classification (SIC) code of 5812. Of 100 restaurant companies, 18 firms were eliminated from the analysis because number of stores data for the ten-year study period (1996 – 2005) was not available. Thus, a total of 82 restaurant companies were available for the sample. To screen the database and to determine the final sample for subsequent data analysis, first, observations missing any components of the variables used in this study were deleted from the database. Second, any observed variables with extremely high or low values, not within three standard deviations of the mean, were eliminated from the database as outliers. In addition, some firms reported positive ROE that were mathematical anomalies, resulting from both negative net income and owners' equities, and negative financial leverage, resulting from negative owner's equities, were deleted from the data set. Thus, 592 observations for the restaurant firms were retained for analysis.

Dependent variables

Several methods are available to measure financial performance, and each valuation method has its own strengths and weaknesses. One method of determining financial performance is to measure the market-to-book ratio and Tobin's Q (Day and Fahey, 1988). The market-to-book ratio and Tobin's Q approximate the stock market's perception of the value of the firm's present and future income and growth potential (Montgomery & Wernerfelt, 1988). The higher the market-to-book ratio and Tobin's Q, the higher the value of the intangible assets of the firm. Another method that can be used as an indicator of financial performance is accounting returns. Return on assets (ROA)

and return on equity (ROE) are the usual measures of financial performance (Dickerson et al., 1997). ROA was computed by dividing net income by average total assets. ROE was computed by dividing net income by average stockholder equity.

Following extant performance studies (Alon et al., 2004; Bharadwaj et al., 1999; Rao et al., 2004), we used ROA, ROE, market-to-book ratio, and Tobin's Q ratio to measure financial performance. The market-to-book ratio was calculated by dividing price per share by book value per share. A firm creates value when the market-to-book ratio is more than 1.0, destroys value when market-to-book value is less than 1.0, and sustains value if the market-to-book ratio is 1.0 (Varaiya et al., 1987). Tobin's Q ratio plays an important role in many financial interactions (Chung & Puritt, 1994). It was developed by economist James Tobin as a predictor of a firm's future investments (Tobin, 1969). This ratio has successfully explained a variety of corporate phenomena. For example, it has been used as a measure of returns from diversification (Lang and Stulz, 1994; Montgomery & Wernerfelt, 1988), as a measure of brand equity (Simon & Sullivan, 1993), and as an indicator of a firm's intangible value (Hirschey, 1982).

Tobin's Q is defined as the ratio of the year-end total market value of the firm to the estimated replacement costs of assets. Due to the difficulty of acquiring all the information necessary to calculate it, an approximation of Q, introduced by Chung and Pruitt (1994), was used in this study to measure firm performance. Approximate Q is defined as the market value of common equity plus the liquidating value of preferred stock plus the book value of total debts minus the book value of short-term assets, and divided by the book value of total assets.

Independent Variables

The key independent variable in this study is the proportion of franchised outlets, defined as the ratio of franchised outlets to total number of outlets. A firm is fully company-owned when the proportion of franchised outlets value is 0, fully franchised when the proportion of franchised outlets value is 1, and have both franchise- and company-owned units if the proportion of franchised owned outlets value lies between 1 and 0.

To estimate the relationship between franchising and financial performance, several variables, identified in previous studies as having a significant relationship with firm value, were controlled for possibly causing a spurious correlation between franchising and financial performance. The following is the summary of extensive literature review for those variables.

The size of a firm affects its performance in many ways. Key features of a large firm are its diverse capabilities, the ability to exploit economies of scale, and scope. These characteristics make operations more effective, allowing large firms to perform better than small firms (Ben-Zio & Shalit, 1975). Chauvin and Hirschey (1993) also argued that economy of scale enables large firms to enjoy advantages in cost of sales, labor, and advertising and promotion. Consequently, large firms produce more profit, increasing their market value. Therefore, we included firm size, measured as log of total assets (SIZE), to account for firm size as it affects profitability and firm value.

According to Miller and Modigliani (1961), leverage should not affect firm value. However, firms with more leverage can enjoy tax shelters because they can deduct interest costs, resulting in better cash flow and higher performance indicators (McConnell & Servaes, 1990; Habib & Ljungqvist, 2005). On the other hand, increasing leverage also results in additional costs. As leverage increases, bankruptcy costs rise. Therefore, financial leverage and financial performance may have either a positive or a negative relationship. We had no *a priori* expectation for the sign of the leverage coefficient in this study. Financial leverage was measured as the total debt to total assets.

Advertising, measured as advertising expenditures to total assets, was included in market-to-book and Tobin's Q models to account for the possibility that advertising may affect a firm's intangible assets. Previous studies found that advertising is effective in creating awareness, enhancing consumer knowledge, influencing consumer preferences, and has a positive and long-term influence on a firm's market value (Abdel-Khalik, 1975; Chauvin & Hirschey, 1993; Jones, 1995; Josh & Hanessens, 2004; Hirschey, 1982; Simon & Sullivan, 1993; Rao et al., 2004). Thus, a positive relationship between advertising and Tobin's Q and a positive relationship between advertising and market-to-book value are expected.

Profitability, represented by ROA, was also included in market-to-book and Tobin's Q models to capture the potential effects of profitability on firm value. According to Hirschey (1982), current profit rate is an important and highly significant determinant of the market value of a firm. In general, a higher operating margin triggers expectations among investors of higher cash flow potential and drives intangible value. Many studies have found that firm profitability positively affects Tobin's Q (Bharadwaj et al., 1999; Rao et al., 2004). Therefore, a positive effect of ROA on market-to-book ratio and Tobin's Q are expected.

Table 5.1 provides brief summary of the variables selected in this study to assess firm financial performance. These variables were used in the multivariate regression analysis.

Table 5.1 Measurement of Financial Variables

Variable	Description
ROA	Net income/Average total assets
ROE	Net income/Average stockholders' equity
Market-to-book ratio (M/B)	Price per share/Book value per share
Tobin's Q (Q)	(MVE + PS + DEBT) / TA
Financial Leverage (DEBT)	Total debt / Total equity
Advertising Ratio (AD)	Advertising expenditure/Total assets
Firm Size (SIZE)	Total assets
Proportion of franchise outlets	Franchised outlets/Total outlets

Statistical Analysis

To test hypothesis H1 (*Franchised restaurant firms have better financial performance*), paired samples t-tests checked the mean differences of franchise and non-franchise firms' ROA, ROE, market-to-book ratio, and Tobin's Q ratio. To test hypothesis H2 (*There is curvilinear relationship between the proportion of franchised outlets and financial performance*), the following multiple multivariate regression models were used:

$$\text{Market-to-book ratio} = \beta_0 + \beta_1 \text{ Size} + \beta_2 \text{ ROA} + \beta_3 \text{ Financial leverage} + \beta_4 \text{ Advertising} + \beta_5 \text{ Proportion of franchise units} + \beta_6 (\text{Proportion of franchise units})^2 + \varepsilon \quad (1)$$

$$\text{Tobin's Q} = \beta_0 + \beta_1 \text{ Size} + \beta_2 \text{ ROA} + \beta_3 \text{ Financial leverage} + \beta_4 \text{ Advertising} + \beta_5 \text{ Proportion of franchise units} + \beta_6 (\text{Proportion of franchise units})^2 + \varepsilon \quad (2)$$

$$\text{ROA} = \beta_0 + \beta_1 \text{ Size} + \beta_2 \text{ Proportion of franchise units} + \beta_3 (\text{Proportion of franchise units})^2 + \varepsilon \quad (3)$$

$$\text{ROE} = \beta_0 + \beta_1 \text{ Size} + \beta_2 \text{ Proportion of franchise units} + \beta_3 (\text{Proportion of franchise units})^2 + \varepsilon \quad (4)$$

Equation 1 allowed us to examine the relationship between proportion of franchised units and market-to-book ratio, while controlling for other firm specific variables (profitability, financial leverage, and firm size). The squared term of proportion of franchise units was included to capture the potential nonlinear relationship between ownership mix and financial performance. Equation 2 estimated the relationship between proportion of franchised units and Tobin's Q, while controlling for other firm specific variables (profitability, financial leverage, and firm size).

Equation 3 examined the relationship between proportion of franchise units and ROA, while controlling for firm size and financial leverage. Equation 4 examined the relationship between proportion of franchise units and ROE, while controlling for firm size and financial leverage.

To test hypothesis H3 (*Proportion of franchise units moderates the relationship between advertising and financial performance*), an interaction term of advertising and proportion of franchise outlets was added to equations 1 and 2 to capture the potential moderating effect of proportion of franchise units on advertising and financial performance:

$$\text{Market-to-book ratio} = \beta_0 + \beta_1 \text{ Size} + \beta_2 \text{ ROA} + \beta_3 \text{ Financial leverage} + \beta_4 \text{ Advertising} + \text{Proportion of franchise units} + \beta_6 (\text{Proportion of franchise units})^2 + \beta_7 (\text{Advertising} \times \text{Proportion of franchise units}) + \varepsilon \quad (5)$$

$$\text{Tobin's } Q = \beta_0 + \beta_1 \text{ Size} + \beta_2 \text{ ROA} + \beta_3 \text{ Financial leverage} + \beta_4 \text{ Advertising} + \beta_5 \text{ Proportion of franchise units} + \beta_6 (\text{Proportion of franchise units})^2 + \beta_7 (\text{Advertising} \times \text{Proportion of franchise units}) + \varepsilon \quad (6)$$

Table 5.2 Pearson's Bivariate Correlations

	SIZE	ROA	DEBT	AD	Franchise %
SIZE	1				
ROA	.149**	1			
DEBT	-.005	-.020	1		
AD	-.065	-.182**	.025	1	
Franchise %	.047	.165**	.001	-.002	1

** . Correlation is significant at the 0.01 level (2 tailed).

Before statistical analyses were run, several steps ensured the validity of the econometric specification and related assumptions underlying the statistical models. First, we checked the normality of all the variables used in the models. As Barnes (1987) stated, company financial variables are seldom distributed normally, and the variables used in this study were no exception. To obtain normality, total assets, financial leverage, advertising, market-to-book, and Tobin's Q were natural log transformed, and the log-transformed variables were used in the multivariate regression analysis. Second, we checked for multicollinearity in our models. Multicollinearity reduces the predictive power of independent variables because the effects of the independent variables are mixed or confounded (Hair et al., 1998). As shown in Table 5.2, ROA was negatively correlated ($p < 0.05$) with advertising expenditure and positively correlated ($p < 0.05$) with proportion of franchised outlets, and firm size was positively correlated ($p < 0.05$) with ROA. The significant correlations between these independent variables could cause problems in multiple regression analysis. However, the VIFs (variance inflation factors) of our models were all less than 2, which indicated little likelihood of any multicollinearity effect on the parameter estimates (Hair et al., 1998). Third, heteroskedasticity could occur in cross-sectional models (Studenmund, 2006), so we conducted the White test (White, 1980) to detect any heteroskedasticity in our regressions. Heteroscedasticity does not cause OLS (ordinary least squares) coefficient

estimates to be biased. The variance of the coefficients, however, tends to be underestimated, inflating t-scores and sometimes making insignificant variables appear statistically significant (Studenmund, 2006). The results indicated that our models had significant heteroskedasticity properties of parameter estimates. Therefore, instead of OLS regressions, the heteroskedasticity-consistent standard errors (HCSE) suggested by White (1980) were applied to all the models to improve OLS estimates. Generally, HCSEs are higher than their OLS counterparts, resulting in lower t-scores and a reduced probability of statistically significant coefficients (White, 1980).

Table 5.3 Descriptive Statistics of Franchised and Non-Franchised Financial Variables

		Q	M/B	ROA	ROE	SIZE (million)	DEBT
Mean	All	1.35	2.29	3.73	7.72	756	3.30
	Franchising	1.43	2.60	4.97	10.44	1136	2.73
	Non-Franchising	1.26	1.94	2.21	4.34	291	3.99
Minimum	All	0.26	.12	-14.32	-48.94	1.62	.06
	Franchising	0.26	.16	-14.19	-48.94	6.58	.12
	Non-Franchising	0.35	.12	-14.32	-41.14	1.62	.06
Maximum	All	3.92	13.43	27.85	51.87	29989	244
	Franchising	3.56	13.43	27.85	51.87	29989	241
	Non-Franchising	3.92	10.78	16.39	51.03	3010	244
Std. Deviation	All	0.70	1.71	6.38	13.16	2794	16.97
	Franchising	0.70	1.44	6.31	11.80	3696	15.55
	Non-Franchising	0.70	1.86	6.14	13.97	501	18.58

Results

Descriptive Statistics

Table 5.3 presents the descriptive summary of the variables used in this study. The mean Q of the 88 sampled firms in our sample was 1.35 from 1996 to 2005. The mean Q value for franchised firms was higher than non-franchised firms. The mean market to book ratio (M/B) was 2.29. Consistent with Tobin's Q, the mean M/B for franchised firms was higher than for non-franchised firms. As with the results for Tobin's

Q, the mean ROA and ROE for franchised firms were higher than for non-franchised firms. In addition, the mean total assets of franchised firms was about US \$1136 million, with non-franchised firms at about US \$291 million. The mean debt to equity ratio of sample firms was 3.30. The mean debt ratio for non-franchised firms was higher than franchised firms, indicating non-franchised firms use more debt to finance their operation than franchised firms.

Table 5.4 Results of Financial Performance Difference between Franchised and Non-franchised Companies

Variables	Franchised	Non-franchised	Mean difference	T-ratio
ROA	4.97	2.21	2.76	5.861**
ROE	10.44	4.34	6.10	5.700**
Tobin's Q	1.43	1.26	0.17	2.853**
M/B	2.60	1.94	0.66	4.887**

** Significant at 1% level

Statistical Test Results

The Effect of Franchising on Financial Performance

Paired samples t-tests showed that the financial performances of franchised firms and non-franchised firms differed. Table 5.4 displays the results. For Tobin's Q, M/B, ROA, and ROE, the p-values were all less than 0.001, clearly indicating that the differences were significant. Franchised firms had higher Tobin's Q, M/B, ROA, and ROE than non-franchised firms, supporting Hypothesis 1.

Ownership Mix and Financial Performance

Table 5.5 shows the results of ownership mix on financial performance. As presented in Table 5.5, except for M/B, the proportion of franchise outlets and the squared term of proportion of franchise outlets significantly affected Tobin's Q, ROA, and ROE. In the M/B model, the coefficient of proportion of franchise outlets was positive, and the coefficient of squared term of proportion of franchise outlets was negative; however, neither coefficient was statistically significant at $p < 0.05$ level, Therefore, proportion of franchise outlets has no impact on the market-to-book value of

Table 5.5 Effects of Ownership Mix on Financial Performance of Restaurant Firms

Independent Variable	M/B	Tobin's Q	ROA	ROE
Intercept	-210 (1.94)	-.186 (-2.04)	-3.724 (-4.545**)	-6.823 (-4.836**)
ROA	.040 (11.01**)	.024 (7.08**)		
DEBT	.116 (2.85*)	-.036 (-1.20)	-2.618 (-8.347**)	-1.592 (-3.168*)
SIZE	.075 (4.56**)	.073 (5.44**)	1.153 (7.561**)	2.300 (8.851**)
AD	.053 (2.12*)	.037 (1.96*)		
Proportion of franchised outlets	.578 (1.812)	.496 (2.08*)	16.810 (5.929**)	30.099 (5.926**)
Sq. Proportion of franchised outlets	-.533 (-1.431)	-.680 (-2.04*)	-18.818 (-5.736**)	-32.023 (-5.339**)
R ²	.309	.285	.284	.211
Adjusted R ²	.301	.276	.278	.205
F value	38.764	32.259	46.923	37.594
p-value	.000	.000	.000	.000
N	528	492	567	567

* Significant at 5% level

** Significant at 1% level

restaurant firms. Hypothesis 2 is partially supported by these results. The positive sign of proportion of franchise outlets and the negative sign of squared term of proportion of franchise outlets indicate that an inverted U shaped relationship exists between financial performance and ownership mix, indicating an optimal ownership mix at which the financial performance is maximized. These coefficient estimates (in Table 5.5) imply that the proportion of franchised outlets relates positively to Tobin's Q up to about 72%, but after that the relationship is negative. Like the Tobin's Q model, the proportion of franchised outlets is also positively related to ROA and ROE up to about 89% and 94%, respectively, and then the relationship becomes negative. Furthermore, these coefficient estimates also imply that, everything else being equal, chains that franchised approximately 37% of their total units have the highest Q value and chains that franchised approximately 48% of their total units have the highest ROA and ROE.

Overall, our results support Bradach's (1998) claim that company owned and franchised units complement each other. On the one hand, franchising allows the use of franchisees' managerial and financial resources to reduce capital requirements, operating

costs, monitoring costs, and risk (Alon, 2001; Anderson, 1984; Brickely et al., 1991; Carney & Gedajovic, 1991; Shane, 1998; Srinivasan, 2006). On the other hand, franchisees may use free riding as franchising outlets increase, which can negatively affect a firm's product perception, its brand name, and its performance. The significant positive coefficient of proportion of franchise outlets and negative coefficient of the squared term of proportion of franchised outlets suggests that a firm's Tobin's Q, ROA, and ROE improve as proportion of its franchise outlets increase. However, the costs associated with managing franchisees are likely to outweigh gradually the benefits associated with the resources that franchisees provide and negatively affect financial performance.

Moderating Effect of Ownership Mix on the Financial Performance of Advertising

Because the proportion of franchise outlets variable does not have significant main effect on market-to-book value, we did not test Equation 5. To test Hypothesis 3, we added an interaction term of advertising and proportion of franchise outlets in Tobin's Q model (Equation 6) to test whether the proportion of franchise outlets moderates the effect of advertising on Tobin's Q. As presented in Table 5.6, the interaction term of advertising and proportion of franchise outlets do have a significant positive effect on Tobin's Q. The significant interaction term of advertising and proportion of franchise outlets indicates that ownership mix moderates the effect of advertising on Tobin's Q, which suggests that advertising is more effective if a firm has a high proportion of franchise outlets. The coefficient of the interaction term shows that for every 1% of increase/decrease of proportion of franchise outlets, the coefficient of advertising increases/decreases by 0.182. Moreover, as shown in the Q model (Table 6), the significant positive proportion of franchise outlets and interaction term of advertising and proportion of franchise outlets indicate that proportion of franchise outlets not only direct affects a firm's Tobin's Q but also contributes to the effectiveness of advertising to increase brand equity and firm value.

Table 5.6 Effects of Ownership Mix on Advertising Expenditure and Firm Value

Independent Variable	Tobin's Q	Tobin's Q	VIF
Intercept	-.186 (-2.04)	-.305 (-2.96)	
ROA	.024 (7.08**)	.023 (6.76**)	1.27
DEBT	-.036 (-1.20)	-.042 (-1.39)	1.15
SIZE	.073 (5.44**)	.074 (5.56**)	1.17
AD	.037 (1.96*)	.003 (.011)	1.05
Proportion of franchised outlets	.496 (2.08*)	1.097 (3.45**)	1.01
Sq. Proportion of franchised outlets	-.680 (-2.04*)	-.654 (-2.33*)	
AD x Proportion of franchised outlets		.182 (2.61**)	
R ²	.285	.292	
Adjusted R ²	.276	.282	
F value	32.259	27.840	
p-value	.000	.000	
ΔR^2		.007	
N		492	
	492		

* Significant at 5% level

** Significant at 1% level

Discussion and Conclusion

The extent theories that explain franchising have hypothesized that franchising allows franchise firms to use franchisees' managerial and financial resources to reduce capital requirements, monitoring costs, and risk. Thus, franchising should improve firm performance. Few studies have examined the relationship between franchising and firm performance. The conclusions of these studies, however, are inconclusive. Moreover, to date, to our best knowledge, no study has investigated the optimal level of combining company owned and franchised outlets to maximize firm performance. This study examined the impact of franchising on restaurant firm performance and thus, contributes to the body of knowledge on the restaurant industry.

Overall, our results show that firms choosing to expand through franchising may have significant advantages over firms that grow by opening company owned outlets. In particular, this study has found that franchise companies show stronger financial performance than non-franchise companies, as measured by market-to-book, Tobin's Q, ROA, and ROE, in the restaurant industry from 1996 to 2003. The results are robust to alternative measures of financial performance. More importantly, this study found that the relationship between proportion of franchise outlets and financial performance is curvilinear, an inverted U shaped relationship. This finding implies an optimal ownership mix that should maximize financial performance. This finding supports the argument that franchising and company-owned systems are not opposing but rather complementary organizational forms (Cliquet & Croizean, 2002; Sorenson & Sorensen, 2001). Having both company owned units and franchised units can create synergies, maximizing firm value. The inverted U shaped relationship indicates that as franchise outlets increase, the advantages of franchising will improve firm value and profitability but that too many franchises will hurt performance because the disadvantages of franchising will eventually outweigh its advantages. Apparently, there is a limit to improving financial performance through franchising.

This study also examined the moderating effect of ownership mix on advertising and firm value. The finding is that a mix in ownership not only directly affects a firm's intangible assets, but also indirectly affects a firm's intangible assets through advertising. This result confirms Srinivasan's (2006) argument that a firm with more advertising and a large proportion of franchised outlets finds its advertising more effective because it can cover a larger market and increase its level of brand equity (Srinivasan, 2006).

In conclusion, to our best knowledge, this study is the first study to investigate the relationship between ownership mix and financial performance, representing an important step towards empirically probing the fundamental question of how franchising affects financial performance. The findings of this study not only contribute to the literature on the franchising phenomena but also benefits executives, managers, franchisees, and investors in several ways. First, owners and managers of restaurant firms can use the findings to maximize their firm's values and profitability by adjusting the number of company owned and franchised outlets. Investors can use the information

provided by this study to assess a restaurant chain's value. Potential franchisees also can use the information to help them evaluate potential performance of franchisers before joining the franchise system.

Despite the theoretical and practical significance of the findings, this study is not free from limitations. The first limitation is that we only focus on restaurant industry. This focus allowed us to control for competitive and industry variations. However, other industries might have different competitive environments that influence financial performance. Thus, our findings may not generalize to other industries. Research on the relationship between franchising and firm performance should be extended to other industries to see if franchising can also serve as a performance enhancer.

Second, this study was restricted to a limited number of chain restaurants whose financial data was publicly accessible from Standard and Poor's Compustat. These companies usually are large, established restaurant companies with access to capital market; thus, the impact of franchising on financial performance might differ from small franchisers. Future studies can consider using a sample containing both small and large firms to investigate further the U-shape relationship between the combination of company owned and franchised outlets and financial performance. In addition, future study should also investigate whether other organizational operating characteristics (e.g., how many states or foreign countries the organization has operations) moderate the relationship between ownership mix and financial performance.

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SUMMARY AND CONCLUSION

Chains represent one of the dominant organizational forms of last few decades, and franchising is a very important part of these chain operations (Bradach, 1997). Since the early 1950s, the growth of chain organizations has outpaced the growth of the economy, reflecting the marketing power of these organizations and the value consumers place in them (Luxenberg, 1985).

Despite the importance of franchising to the economy, few theoretical or empirical studies have investigated why firms initiate franchising (Combs et al., 2004). In addition, little research has examined the relationship between franchising and financial performance (Alon et al., 2004; Combs et al., 2004; Watson et al., 2005). The purposes of this study were to apply several existing theoretical frameworks to the factors that affect the choice of organizational forms and to investigate the financial performance of franchising operations. Specifically, this study examined how well agency theory, resource scarcity theory, risk sharing theory, and specific knowledge theory can justify the franchising decision individually. Furthermore, this study used market-to-book ratio, Tobin's Q, ROA, and ROE as performance measures to investigate whether franchising affects restaurant firms' market value and profitability and to investigate the relationship between the proportion of franchised outlets (ownership mix) and financial performance.

Major Findings

In Study #1, eight hypotheses were proposed. T-tests and logistic regression models tested those hypotheses with the following results. The letter "S" indicates the hypothesis was supported and "NS" indicates the hypothesis was not supported.

H1: Franchised firms in the restaurant industry are more geographically dispersed than non-franchised firms. (S)

H2: Franchised firms are larger in terms of number of outlets than non-franchised firms. (S)

H3: Franchised firms are more likely to be involved in foreign expansion than non-franchised firms. (S)

H4: Franchised firms have a higher growth rate than non-franchised firms. (S)

H5: Franchised firms have a lower debt to equity ratio than non-franchised firms. (NS)

H6: Franchised firms are younger when they started franchising than non-franchised firms. (S)

H7: Franchised firms are less risky than non-franchised firms. (NS)

H8: Quick service restaurants are more likely to be franchised than other types of restaurants. (S)

The independent samples t-tests showed that at p value < 0.001 significance level, franchised and non-franchised groups were different in six variables – State, Size, Foreign, Growth, Age, and Knowledge. The results showed the franchised group was more geographically dispersed than the non-franchised group, supporting H1. The results also showed that franchised firms were larger than non-franchised firms and had operations in more foreign countries than non-franchised firms, supporting H2 and H3. The results also suggested that franchised firms expanded faster than non-franchised firms and that franchised firms started franchising very early to overcome capital and managerial resource constraints, supporting H4 and H6. The differences of total debt to equity ratio and variation of operating cash flows between franchised and non-franchised groups were not statistically significant. Therefore, H5 and H7 were not supported. A dummy variable was used to test H8. The mean value of the Knowledge variable for the franchised firms was significantly higher than that of non-franchised firms. Moreover, more than 47% of franchised firms were quick service restaurant chains, but only 17% of non-franchised firms were quick service restaurants. Accordingly, H8 was supported.

Note the logistic regression results also indicated that the combination of four variables, age, geographic dispersion, foreign expansion, and specific knowledge, can best distinguish franchised firms from non-franchised firms, which further supported H2, H3, H6, and H8.

In Study #2, Hypotheses 9, 10, and 11 were proposed. Independent samples t-tests and multivariate regression analysis tested these hypotheses.

H9: Franchised firms have better financial performance than non-franchised firms. (S)

H10: There is a nonlinear relationship between the proportion of franchised outlets and financial performance. (S)

H11: Proportion of franchise units moderates the relationship between advertising and financial performance. (S)

Paired samples t-tests results indicated that franchised firms had significant higher market-to-book ratio (M/B), Tobin's Q, ROA, and ROE than non-franchised firms. H9 was supported. Multivariate regression results showed that both the proportion of franchised outlets and the squared term of proportion of franchised outlets had significant effects on Tobin's Q, ROA, and ROE. However, proportion of franchised outlets did not have a significant impact on the market-to-book value. Therefore, H10 was partly supported. Additionally, results showed that the interaction term of advertising and proportion of franchised outlets had significant positive effects on Tobin's Q. The significant interaction term implied that ownership mix moderates the effect of advertising on Tobin's Q. H11 was supported by this result.

Conclusions and Implications

The primary objectives of this study were to investigate factors that affect franchise decision and the effects of franchising on financial performance. This study found that agency theory, resource scarcity theory, and specific knowledge theory can explain why firms initiate franchising and that the combination of geographical dispersion, foreign expansion, age, and specific knowledge variables could discriminate franchised firms from non-franchised firms with 91.4% accuracy. The significant and positive signs of geographic dispersion and foreign expansion, two agency theory variables, indicated that as a firm expands geographically or increases foreign expansion, the probability that it will franchise increases. The negative sign of age variable indicated

that as firm ages, the probability of franchising decreases. The significant and negative sign of specific knowledge dummy variable indicated that the probability that a firm will franchise increases as specific knowledge requirement declines. However, our results did not support a risk sharing explanation for franchising. One possible explanation for the non-significant relationship between risk sharing and the decision to initiate franchising might be that risk sharing is not the major motivation to franchise. For example, in surveying franchisers, Dant (1994) found that the top four most frequently cited motives for franchising were market entry and growth, capital access and profits, access to managerial talent, and operational control and efficiency.

Overall, our findings suggest that potential franchisers need to focus their strategic attention on resources, monitoring costs, and level of specialized knowledge in making a decision to franchise. Potential restaurant franchisers also need to consider whether it is possible or practical to transfer the necessary operational knowledge to franchisees when deciding to franchise. If the operational knowledge needed to run the business is too much to transfer to franchisees or too costly to transfer, then franchising might not an appropriate method to achieve growth. Restaurant managers also need to understand that franchising does not appear to reduce a firm's risk and its debt leverage.

This study also found that franchised companies had better financial performance than non-franchised companies, as measured by market-to-book, Tobin's Q, ROA, and ROE. More importantly, this study found that the relationship between proportion of franchised outlets and financial performance is curvilinear, an inverted U shaped relationship. This finding implies that there is an optimal ownership mix that maximizes financial performance. This important finding lends support to the argument that franchising and company-owned systems are not opposing, but rather complementary organizational forms (Cliquet & Croizean, 2002; Sorenson & Sorensen, 2001; Bradach, 1998). The inverted U shaped relationship indicated that as franchised outlets increase, the advantages of franchising, such as capital availability, risk sharing, and market penetration, will improve a firm's value and profitability. However, excessive levels of franchisee ownership are likely to hurt corporate performance because the disadvantages of franchising, such as free riding, loss of control, and loss of profit, will eventually outweigh its advantages. Therefore, firms need to balance the marginal costs and benefits

of using company owned and franchised outlets to maximize performance. Furthermore, this study found that ownership mix not only directly affects a firm's intangible assets, but also indirectly affects a firm's intangible assets through advertising. As suggested by Srinivasan (2006), for a firm with a large proportion of franchised outlets, advertising is more effective because of the larger market and the resulting increased level of brand equity (Srinivasan, 2006). Our findings offer valuable implications for restaurant managers. Namely, company owned and franchised units clearly have their own individual strengths and weaknesses. If an organization can use both company owned and franchised units to leverage the strengths of the other, then the overall financial performance will be better than if either structure operates alone.

In conclusion, this study identified the following situations as most suitable for franchising: (1) a firm is in the early stage of business and needs additional resources to grow; (2) a firm begins to expand geographically; (3) a firm is ready for foreign expansion; and (4) a firm's operations are relative simple and repetitive. More importantly, this study's findings suggest that no single theory available fully explains why firms initiate franchising. Furthermore, this study found that a purely company-owned or a purely franchised chain does not produce the best financial performance. If an organization can use both company owned and franchised units to leverage the strengths of the other, then overall financial performance will be enhanced.

Limitations and Suggestions for Future Research

Despite the theoretical and practical importance of this study, a few limitations were noted, which may suggest some potential subjects for further research. First, this study only used data from the restaurant industry to explain the initial decision to franchise and to investigate how franchising affects financial performance. However, every industry has a different structure and different competitive environments, which might influence the choice of organizational forms as well as financial performance. Thus, this study's findings may not generalize to other industries. Future research should examine other industries to see if and how industry structures affect the choice of organizational forms and whether franchising can also serve as a performance enhancer

in other industries. Second, the sample of firms examined here are all publicly traded restaurant companies. These companies are usually large, well-established companies with many outlets; thus, the factors that affect the choice of organizational forms and the impact of franchising on financial performance might be different for small franchisers. Future studies should be done to see whether the same factors hold true for small franchisers on the initial franchising decision and to see whether the inverted U-shape relationship between the proportion of franchised outlets and financial performance is consistent across industries. Third, the study did not test whether other organizational characteristics, such as geographic dispersion, system size, and the degree of foreign expansion, affect the optimal mix of company owned and franchised outlet. Future study should incorporate these factors into models to further investigate the optimal ownership mix.

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