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Theory Of Under-And Overinvestment: An Empirical Examination Of value Creation And Destruction In Hospitality Firms

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THEORY OF UNDER- AND OVERINVESTMENT: AN EMPIRICAL EXAMINATION OF VALUE CREATION AND DESTRUCTION IN HOSPITALITY FIRMS

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DEDICATION

I dedicate this dissertation to my lovely wife and best friend, *Dondu*, who provided me her unconditional love and support.

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ABSTRACT

In this dissertation, I study underinvestment and overinvestment theories by examining the value creation and destruction in hospitality firms in three separate but coherent and cohesive research papers. In the first study, I analyze the extent to which financial constraints (underinvestment) and corporate governance (overinvestment) affect hotel firms' value around acquisition announcements. In addition to the traditional form of corporate structure (i.e., C-corporation), hotel firms extensively adopt the organizational forms of franchising and REIT, which might affect under- and overinvestment problems. Nonetheless, little is known whether capital investments create or reduce value for hotel-REITs and franchising hotel firms. The results show that acquisitions are viewed as overinvestments in franchising and hotel-REIT firms, suggesting that hotel firms adopt franchising and REIT to reduce overinvestment and agency problems. Although the average effect of financial constraints is larger for financially constrained firms, weak corporate governance seems to be more problematic than financial constraints for hotel firms. In the second study, I examine the sensitivity of capital and franchising investments to internal funds in the hotel industry. While financially constrained firms rely on internal funds to reduce underinvestment problems, they may also rely on franchising to expand their investments. However, if firms are not constrained, internal funds may lead to overinvestment problems and franchising may exacerbate problems with empire building. By estimating the investment-cash flow

sensitivity, I find that the availability of internal funds reduces underinvestment problems more than it causes overinvestment problems. Furthermore, both financial constraints and agency costs lead firms to expand through franchising. In the third study, I investigate the relationship between marginal cash and firm value and the extent to which franchising, financial constraints, and corporate governance affect this relationship in hotel firms. The results show that cash is more valuable for financially constrained firms relative to unconstrained firms, while it is less valuable for poorly-governed firms relative to well-governed firms. Also, financial constraints have a greater effect on the marginal value of cash than weak corporate governance. While franchising could solve underinvestment problems, it makes poorly-governed firms more vulnerable to overinvestment.

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CHAPTER 1

GENERAL INTRODUCTION

Most hospitality firms adopt the organizational form of franchising business investment model, which requires little or no capital investment. Yet, they also undertake investments that require substantial capital investment such as development and acquisition of hotel properties and mergers. The quote by Marriott sums up the idiosyncratic characteristics of the hospitality industry in terms of adopted business model, and investment and financing strategies.

> *"Our emphasis on long-term management contracts and franchising tends to provide more stable earnings in periods of economic softness, while adding new hotels to our system generates growth, typically with little or no investment by the company…. We, along with owners and franchisees, continue to invest in our brands by means of new, refreshed, and reinvented properties, new room and public space designs, and enhanced amenities and technology offerings."*

It is clearly stated in the Marriott's management discussion and analysis of financial condition statements above that franchising and management contracts are chosen to expand the business.

The hotel industry has different characteristics than other industries given the fact that it adopts franchising business model extensively for investment and expansion with no or little capital investment. Furthermore, unlike other industries, such as manufacturing industries, *service* is the main product in the hotel industry. The intangible and perishable attributes of the hotel industry's end-product; *service* hinder the mass production and storage of the product for future use, as opposed to other industries, such as manufacturing industries, where the end-product is tangible and durable. Nonetheless, investments in the hotel industry requires substantial capital spending for delivering the *service*, which makes hotel business, similar to manufacturing industries, a capital-intensive industry. While the firms in the hotel industry undertake investments that require substantial capital, such as mergers and acquisitions, which are prevalent corporate strategies in the hotel industry (Canina, Kim, & Ma, 2010), they extensively rely on franchising for expansion and growth. Typically, franchisors do not need substantial capital resources for franchising investments, which could be used as an alternative investment tool when franchisors lack necessary capital to expand the business (Hunt, 1973). Furthermore, hotel investments may take a large amount of time to build a new hotel project considering the fact that developing a new hotel division requires not only financing the project but also requires meeting local standards and approvals, such as zoning, land use, and site development. However, it may be difficult for a firm to simultaneously operationalize these investments national and/or global level and reach economies of scale. Therefore, in an era of global economy, franchising could be an efficient investment model for firms in the service industry to rapidly meet the

increased demands of fast-growing economy. Additionally, the majority of the hotel investments consist of properties, which depreciate in value by time and require maintenance, refurbishment, and renewal; hence, they require periodic capital expenditures to maintain the service quality. Hotel guests continue to demand enhanced hotel facilities and amenities, which necessitate a continuing investment in innovative and advanced technologies. Therefore, the high level of competition in local, regional, and global scale in the hotel industry may put hotel companies out of business if they cannot provide the contemporary facilities and amenities. Furthermore, hotel firms aim to increase their market shares by building a recognized brand name, which requires a rapid growth by increasing the sales within the existing hotel properties and/or developing/acquisitions of new hotels. Similar to franchising investments, acquisitions also allow firms to expand rapidly in both domestic and foreign markets, as the acquisition strategy eliminates the time necessary for developing a new hotel project from the ground. However, franchising is especially beneficial for franchisors in international expansions because it enables firms to expand into foreign markets with bearing little or no capital investment risk, in which the risk is shifted to the franchisee in exchange for the franchisor's expertise and brand name (Alon, Ni, & Wang, 2012).

There are two plausible theories that explain why firms adopt franchising as an investment tool. First, capital scarcity theory posits that firms adopt franchising as an alternative to company-owned investment because raising external finance through debt or equity markets makes the net present value (NPV, hereafter) of the company-owned unit investment negative. Thus, firms with growth prospects expand through franchising in order to fund the growth because they do not need to allocate substantial capital for

expansion through franchising (Oxenfeldt & Kelly, 1968-1969; Oxenfeldt & Thompson, 1968-1969). Along the same line, Myers and Majluf (1984) argue that there are informational asymmetries between firms and outside investors, and raising capital to undertake investments beyond the internal funds could be costly. In other words, Myers and Majluf (1984) put forwards the idea that if internal funds are not sufficient to undertake a positive NPV project, firms will bypass the project because raising external funds increases the project's cost to a level that makes the positive NPV project negative. Thus, firms face underinvestment problem due to financial constraints since they cannot undertake all value-increasing projects. Accordingly, the organizational form of franchising could be a solution to reduce underinvestment problem for hotel firms that face asymmetric information problems.

Second, agency theory asserts that firms adopt franchising to eliminate agency costs that arise due to incentive conflicts between unit managers and the firm (Brickley & Dark, 1987; Brickley, Dark, & Weisbach, 1991). In other words, firms can eliminate the agency costs generated by separation of ownership and control through franchising because franchised units are compensated by the residual claims of their particular units, while a fixed salary compensates unit managers. However, the agency theory argues that franchised units are not free of agency costs, and thus a conflict of interests may arise between franchised units and the firm. In general, the conflict of interests between the franchisees and the firm arise from franchisees' incentives to free ride on the trademark (free riding) by providing low quality service to non-repeat customers, whereas disparities between unit managers and the firm may arise from managerial shirking and

perquisites taking (Lafontaine, 1992). Although firms can monitor the unit managers' performances, the monitoring cost is so high that it makes the investment unprofitable.

While a number of studies examined the determinants of investing in franchises, the effects of franchising on hotel firms' overall value, on hotel firms' marginal value of cash, and the relation between internal funds and hotel firms' investments along the lines of financial constraints and exposure to empire building have not been studied at least in the English published literature. Nicolau (2002) analyzes the announcement of the opening new hotel effects on firm's performance, and Graf (2009) examines the effects of hotel entry mode choices (franchise, management contract, and company-owned hotel) to international markets on firm's performance. However, previous studies that test the capital scarcity theory consider all franchising firms as having external financing problems at the same level. Therefore, empirical studies, which examine the capital scarcity theory of franchising, lack serious identification problems regarding the capital scarcity of the firms because the degree of financial constraints may vary greatly across firms. A method that classifies firms as constrained and unconstrained based on the degree of financial constraints is necessary to test whether firms adopt franchising due capital scarcity. Beginning with the seminal work by Fazzari, Hubbard, Petersen, Blinder, and Poterba (1988) that links investment-cash flow sensitivity to financial constraints, a number of financial constraint indices have been developed to identify firms' financial constraint levels (see e.g., Almeida, Campello, & Weisbach, 2004; Hennessy & Whited, 2007; Lamont, Polk, & Saa-Requejo, 2001; Whited & Wu, 2006). The classification based on these indices are expected to resolve the methodological flaw in previous empirical studies that examine the capital scarcity theory of franchising by showing the

extent to which unavailability of internal funds lead constrained and unconstrained firms to expand through franchising. Furthermore, former studies do not investigate to what extent franchising affect the underinvestment and overinvestment problems in the hotel industry. Questions such as why firms adopt the franchising business investment model, how is firm value affected along the dimensions of franchising and capital investment, and the extent to which financial constraints (underinvestment) and exposure to empire building (overinvestment) affect firms' investments and firm value remain to be answered.

The capital scarcity theory of franchising and asymmetric information problems suggests that financial constraints lead hotel firms to adopt the franchising business investment model. Thus, the following proposition is offered for testing purposes:

Proposition 1: *availability of internal funds lead hotel firms to undertake capital investments.*

Proposition 2: *under- and overinvestment problems moderate the relationship between internal funds and capital investments.*

The agency theory of franchising suggests that firms adopt franchising when the agency costs that are associated with the disparity between unit managers and the firm are higher than the agency costs that are associated with the conflict of interests between franchised units and the firm. Therefore, the following proposition is offered based on the agency theory of franchising for testing purposes:

Proposition 3: *monitoring costs of unit managers lead hotel firms to adopt the franchising business investment model.*

One of the main objectives of the firm is to maximize shareholders' value, and the value is maximized when the optimal investment level is reached. Accordingly, deviations from the optimal investment level deteriorate firm value. An investment below (underinvestment) or above (overinvestment) the optimal investment level deteriorates firm value. While the *irrelevance theorem* developed by Modigliani and Miller (1958) postulates that firms' investment decisions are independent from financing decisions, a stream of literature finds support for the underinvestment problem described by Myers and Majluf (1984) showing that financially constrained firms rely on internal funds for investments more than unconstrained firms (see e.g., Lamont et al., 2001). In addition to expanding through franchising, hotel firms make investments that require substantial capital spending, such as developing/building and acquisitions of hotels to reach their optimum investment level and maximize firm value. This particular investment method makes the hotel business a capital-intensive industry similar to manufacturing industries (Houthakker, 1979; Tsai & Gu, 2012). The majority of the hotel investment consists of properties, which depreciate in value by time and require maintenance, refurbishment, and renewal. Hence, these investments require periodic capital expenditures to maintain the service quality. However, it may be difficult for a firm to simultaneously operationalize these investments at national and/or global level and to reach economies of scale. Myers and Majluf (1984) argue that firms will bypass all projects that require financing beyond internal resources because raising external finance will make the projects unprofitable. Therefore, firms will rely on internal funds (i.e., cash and cash flow) to undertake capital investments and hence they may face underinvestment problems.

Contrary to the financial constraint theoretical framework, investment-cash flow sensitivity could be due to managerial overinvestment of free cash flow (i.e., resources at managers' discretion) (Kaplan & Zingales, 1997). On one hand, investment-internal funds sensitivity might be an indication of financial constraints and hence it suggests underinvestment problem (Fazzari et al., 1988). On the other hand, the relationship between internal funds and investments could also be due to exposure to empire building and hence it suggests overinvestment problem (Stein, 2003). According to Jensen (1986), managers of firms with free cash flow may invest beyond the optimal investment level by undertaking value-decreasing projects to build empires. While the availability of internal funds may reduce underinvestment problems described in Myers and Majluf (1984), it may intensify overinvestment problems described in Jensen (1986). Although investors and the capital market may enact internal and external governance mechanisms to control managerial desire to build empires, there are strategies in which managers can protect their positions against the disciplinary role of capital market. Market for corporate control is one of the external governance mechanisms that disciplines managers of firms through takeover threat (Jensen & Ruback, 1983). However, antitakeover provisions (or ATPs, lawful rules that protect corporations against takeovers) reduce the probability of takeover; hence, they protect managers from being replaced. Additionally, the existence of major shareholders provide an internal governance mechanism to control managers' actions (Shleifer & Vishny, 1986). Much of the existing research tested these theories on overall stock markets including all industries[1]. Although the results of existing research could be generalizable across all industries, it may not well capture industry idiosyncratic

[1] Most of these studies excluded regulated industries such as financial firms.

characteristics such as the hotel industry. Furthermore, it is a stylized fact that franchising is the most commonly adopted business investment model in the hotel industry. To void this gap in the literature, this dissertation therefore examines the effects underinvestment and overinvestment and the organizational forms of franchising and REIT on hotels' firm value, investment-internal funds sensitivity, and the value of cash holdings.

While sensitivity of capital investment to internal funds is well documented, little is known the extent to which this relationship is due to financial constraint or empire building (Kaplan & Zingales, 1997; Stein, 2003). Thus, while firms may adopt franchising due to financial constraints, they may also be exposed to empire building if managers seek private benefits. In other words, although the informational asymmetries and the capital scarcity theory of franchising suggest that firms adopt franchising as a solution to reduce underinvestment problem, there are at least two ways, in which franchising firms may overinvest. First, most hotel firms undertake investments that require substantial capital spending (e.g. company-owned hotel investments and acquisitions) in addition to franchising investments. Jensen (1986) argues that managers of firms with free cash flows and unused borrowing powers are more likely to complete negative NPV projects. Thus, an investment that requires substantial capital spending like the development or the acquisition of a hotel could be an overinvestment. Accordingly, managers of firms with desires to build empires may undertake investments that benefit them but not necessarily the shareholders. Hence, hotel firms that adopt the franchising investment business model might also face overinvestment problems. Second, in a model where market share is considered as an investment, Chevalier (1995) showed that managers with a desire to build empires could overinvest in the market share. While

increasing the market share increases the sales and ultimately benefits the managers, it may not benefit the shareholders. Thus, firms that adopt the franchising business investment model might be overinvesting in the market share by increasing the number of franchise units in the system. In summary, both underinvestment and overinvestment problems distort firm value. While the franchising business investment model might be a solution to reduce underinvestment problem, firms that adopt franchising might overinvest if managers have a desire to build empires. Accordingly, the following propositions are offered for testing purposes:

Proposition 4: *there is a relationship between investments and firms' value.*

Proposition 5: *there is a relationship between firm value and cash holdings.*

Proposition 6: *under- and overinvestment problems and organizational forms moderate the relationship between investments and firms' value.*

Proposition 7: *under- and overinvestment problems and organizational forms moderate the relationship between investments and internal funds.*

Proposition 8: *under- and overinvestment problems and organizational forms moderate the relationship between firm value and cash holdings.*

Furthermore, the hotel industry consists of real estate investment trusts (REITs) and C-corporation structures. The major difference between Hotel REITs and traditional corporations is that shareholders of Hotel REITs are exempt from corporate taxation on distributed dividends. However, to qualify as a REIT, the firm has to meet the criteria required by the Internal Revenue Code related to asset ownership, income generation, and

most importantly dividend payouts (Gu & Kim, 2003). That is, REITs must distribute 90% of their taxable income to shareholders every year, which leave them with little internal funds available to undertake investments, and hence they must seek external funds for expansion (Beals & Arabia, 1998). Consequently, while the REIT could be useful to mitigate overinvestment problems, Hotel REITs may face severe underinvestment problems given that they are required to distribute most of their income. However, this is ultimately an empirical question. Therefore, I offer the following propositions to be tested:

> ***Proposition 9:*** *underinvestment problems are higher within the REIT organizational form relative to C-corporations.*
>
> ***Proposition 10:*** *overinvestment problems are lower within the REIT organizational form relative to C-corporations.*

This dissertation research is based on the underinvestment theory (Myers & Majluf, 1984) and overinvestment (Jensen, 1986) theory suggesting that financial condition of the firms influence the investment decisions and the capital scarcity (Oxenfeldt & Thompson, 1968-1969) and agency (Rubin, 1978) theories of franchising suggesting that monitoring cost and lack of financial resources lead hotel firms to undertake franchising organizational form. The two central hypotheses of the proposed dissertation research are 1) both underinvestment and overinvestment deteriorate firms' value; 2) both capital scarcity and monitoring cost lead firms to undertake franchising as their investment model. While there is extensive empirical evidence showing that investment decisions depend on the financial condition of the firm under imperfect

capital market conditions, the extent to which the relationship is due to the degree of financial constraints or empire building is not well explained (Stein, 2003). Furthermore, empirical studies that examine the capital scarcity and agency theories of franchising lack serious methodological problems regarding the identification of capital scarcity of the firms and monitoring cost proxies. Therefore, identification of the effects of the financial constraint and exposure to empire building levels can contribute to solve the extent to which the relationships between investment and firm value and investment and internal funds are due to underinvestment and overinvestment problems, explain why firms adapt franchising investment business model, and show the efficacy of Hotel-REITs and franchising organizational forms on mitigating underinvestment and overinvestment problems.

The purpose of this dissertation is threefold: (1) to investigate the extent to which investments affect hotel firms' value by examining the effects of financial constraints, corporate governance mechanisms, and organizational forms of franchising and REIT on acquisitions; (2) to examine the sensitivity of capital and franchising investments to internal funds; (3) to examine the extent to which franchising, financial constraints, and corporate governance affect the marginal value of cash in hotel firms.

More specifically, first, the effects of financial constraints and corporate governance mechanisms on hotel firms' abnormal returns that are associated with acquisitions are examined to determine the extent to which investments create value in some firms and reduce value in others. Second, the abnormal returns associated with franchising hotel firms' acquisition announcements are analyzed to determine the extent to which franchising is due to financial constraints, agency cost, or weak corporate

governance. Third, abnormal returns associated with hotel-REITs' acquisition announcements are investigated to identify whether the REIT is due to financial constraints, agency cost, or poor corporate governance. Fourth, the relation between internal funds and hotel firms' investments are analyzed by classifying firms into constrained and unconstrained portfolios using financial constraints indices, and dictatorship and democracy portfolios using corporate governance indices. Also, the effects of franchising experience and internal funds on the proportion of franchised divisions are examined to determine why firms adopt franchising investment. Furthermore, the relation between marginal cash holdings and firm value is investigated in order to determine the marginal value of cash holdings in hotel firms. Moreover, the effects of financial constraints and corporate governance on the relation between marginal cash holdings and firm value are examined in order to determine the extent to which asymmetric information or agency problems are more costly for firms. Lastly, the effect of franchising on the relation between marginal cash holdings and firm value is analyzed in order to determine why firms adopt franchising investment.

Accordingly, this dissertation seeks to answer the following research questions.

1) How is firm value affected along the dimensions of financial constraint and exposure to empire building?

2) Does the REIT organizational form solve the overinvestment problem? Or, does it increase the underinvestment problem?

3) To what extent financial constraint and exposure to empire building affect investment-cash flow sensitivity?

4) Why do firms adopt the franchising business investment model?

5) How is firm value affected along the two lines of franchise and company-owned unit investments?

The results show that financially constrained hotel firms gain significantly positive returns, while firms with weak corporate governance experience negative gains around the acquisition announcements. Acquisitions are positively received when they indicate underinvestment problems, while they are negatively viewed when they are an indication of overinvestment problem. The joint effects of financial constraints and corporate governance show that financial constraints have more effect on firm value than corporate governance. However, most of the firms seem to have weak corporate governance mechanisms, suggesting that hotel firms are more exposed to empire building than financial constraints. Although the majority of the hotel firms have weak corporate governance mechanism, the investment-internal funds sensitivity is greater for financially constrained firms than for dictatorship firms. In other words, financially constrained firms rely more on internal funds than do dictatorship firms, which indicates that the relationship between internal funds and investment is mostly due to financial constraints. Similarly, the marginal value of cash is greater for financially constrained hotel firms than for unconstrained hotel firms, while it is lower for poorly-governed firms than for well-governed firms. The coefficient of marginal cash is greater for financially constrained firms than for poorly-governed firms, suggesting that the asymmetric information problem is more costly than agency problems. The hotel-REITs and franchising firms experience negative returns, suggesting that these firms are more likely to make poorer acquisitions relative to C-corporation counterparts. The results from the examination of the marginal value of cash holdings in firms that expand through

franchising indicates that franchising could be utilized as a solution for underinvestment and agency problems; however, it seems to magnify overinvestment problems in poorly-governed firms.

The remainder of this dissertation is organized as follows: Section 2 presents the first essay titled *"The effects of financial constraints and corporate governance on hotel firms' value"*. Section 3 presents the second essay titled *"The sensitivity of hotel firms' investment to internal funds: The role of financial constraints and agency problems"*. Section 4 presents the third essay titled *"The value of cash holdings in hotel firms: The role of franchising, financial constraints, and corporate governance"*. Section 5 concludes.

CHAPTER 2

THE EFFECTS OF FINANCIAL CONSTRAINTS AND CORPORATE GOVERNANCE ON HOTEL FIRMS' VALUE

2.1 Introduction

Corporations undertake investments in a variety of forms to expand their business and create value for stockholders. Mergers and acquisitions (M&A), which generally require substantial capital investments, are common investment methods in publicly traded hotel firms (Canina et al., 2010). M&A allow hotel firms to expand rapidly in both domestic and foreign markets and the acquisition strategy eliminates the excessive time for launching a new hotel property from the beginning.

However, an acquisition could be a value-increasing or decreasing project for a firm. On the one hand, Myers and Majluf (1984) argue that there is a wedge between the cost of internal and external funds due to asymmetric information problems, and firms with growth opportunities might abandon value-increasing projects, which can lead to underinvestment problems. These firms are considered financially constrained and are expected to undertake value-increasing investments to reach optimal investment level, wherein the firm value is maximized. Therefore, financially constrained firms may expand through M&A to overcome the asymmetric information problems that are prevalent in capital markets (Khatami, Marchica, & Mura, 2014). Consequently, shareholders would react positively to the news of a major hotel acquisition.

The purpose of this study is to examine shareholders' reactions to news of acquisitions in the hotel industry. If many hotel firms are financially constrained, then such news would be positively received. On the other hand, Jensen and Ruback (1983) show that M&A announcements have on average neutral effects on acquiring firms' returns. Given that managers often pursue M&A deals despite the lack of obvious value creation, they conclude that CEOs frequently build empires "by increasing the scope of firm well beyond a level that maximizes shareholder wealth" (Avery, Chevalier, & Schaefer, 1998, p. 24). Indeed such M&A strategies may benefit managers more than they do the shareholders who own the firm. Many external and internal corporate governance mechanisms have been instituted to prevent management from undertaking value-decreasing projects (see Bebchuk, Cohen, & Ferrell, 2006; Cremers & Nair, 2005; Gompers, Ishii, & Metrick, 2003; Shleifer & Vishny, 1986). For example, the quality of internal governance can be increased by a larger fraction of shareholders that are institutional investors, and the quality of external governances can be improved with fewer antitakeover provisions (ATPs). This study analyzes stock market reactions to announcements of acquisitions by hotel firms to determine if overinvestment is a major problem in this industry.

The organization structure of a hotel firm may affect whether hotel chains are financially constrained or have governance problems. Many firms in the hotel industry expand via acquisitions using franchising investment. In this model, franchisors shift the capital investment risk to the franchisees in exchange for their expertise and brand name. Alon et al. (2012) show that this strategy works especially well in global hotel expansions. Unlike other industries, such as manufacturing, *service,* which is intangible

and perishable, is the main product in the hotel industry; yet it requires substantial capital investments to deliver the *service*. Also, hotel investments depreciate rapidly and often require expensive refurbishment. Therefore, in addition to difficulties of financing hotel properties and excessive time required to meet local standards and approvals, such as zoning, land use, and site development, hotel investments demand periodic capital expenditures to sustain the service quality. Moreover, strong competition in the global hotel industry requires an ongoing investment in innovative and advanced technologies to meet ever-higher quality from hotel guests. These attributes of the hotel industry make hotel business a capital-intensive industry. Therefore, franchising could be an efficient investment model for financially constrained hotel firms to meet the increased demands of their industry (Oxenfeldt & Thompson, 1968-1969)

Although franchising investments require little or no capital expenditures and they enable firms to expand rapidly, franchising could make overinvestment easier for empire-building CEOs. Jensen (1986) argues that managers of firms with free cash flow tend to show inept or wasteful investment behavior by overinvesting in rather value-decreasing projects. In the case of franchising firms, managers might have too much access to financing, which is generated through franchising and royalty fees, and hence they can make poor investment choices in acquisitions. Therefore, franchising might be a useful corporate strategy to control the managerial desire to build empires, if firm is solely expand through franchising because a new franchised division will not require substantial capital investment. However, empire-building CEOs of firms that expand through mixed method (i.e., franchising and capital investments) might intensify overinvestment problems.

Another type of organizational structure that could affect financial constraints or governance problems in the hotel industry is the real estate investment trust (REIT). Hotel firms might have high cash flows, which could create agency problems if the managers' interests are not aligned with those of shareholders. Unlike the C-corporation structure, hotel-REITs must distribute 90% of their earnings to the shareholders. Hence, firms with agency problems may adopt the REIT organizational form to legally force managers to distribute most of firms' income to shareholders. However, a hotel-REIT might be constrained from making positive NPV investments because they will be remained with only 10% of their income. Therefore, while the REIT could be useful to mitigate overinvestment problems, hotel-REITs may face severe underinvestment problems given that they are required to distribute most of their income. Nonetheless, this is ultimately an empirical question, in which the hotel industry provides a unique setting that allows examination of the effects of under- and overinvestment problems on the firm value.

Using a sample of acquisitions in the hotel industry, this study investigates the extent to which investments create value in some firms and reduce value in others by examining the effects of financial constraints, corporate governance mechanisms, and organizational forms of franchising and REIT on hotel firms' value. More specifically, the effects of financial constraints, corporate governance mechanisms, franchising, and REIT on hotel firms' abnormal returns that are associated with acquisition announcements are examined.

The results show that financially constrained hotel firms gain significantly positive returns, while firms with weak corporate governance experience negative gains

around the acquisition announcements. Acquisitions are positively received when they indicate underinvestment problems, while they are negatively viewed when they are an indication of overinvestment problem. The joint effects of financial constraints and corporate governance show that financial constraints have more effect on firm value than corporate governance. However, most of the firms seem to have weak corporate governance mechanisms. The hotel-REITs and franchising firms experience negative returns, suggesting that these firms are more likely to make poorer acquisitions relative to C-corporation counterparts.

The remainder of the paper is organized as follows: Section 2 reviews the relevant literature and develops the study hypotheses. Section 3 describes the empirical approach of this study. Section 4 presents the results from the analyses of the effects of financial constraints and corporate governance mechanisms on hotel firms' value. Section 5 concludes.

2.2 Literature Review and Hypotheses Development

Myers and Majluf (1984) argue that there are informational asymmetries between firms and outside investors and thus raising capital to undertake investments beyond the internal funds could be costly. Therefore, firms will bypass the value-increasing project if internal funds are not sufficient to undertake a positive net present value (NPV) project because raising external funds increases the project's cost to a level that makes the positive NPV project negative (Myers & Majluf, 1984). Accordingly, firms that face underinvestment problems due to asymmetric information are considered financially constrained (Fazzari et al., 1988). In general, financially constrained firms are small and

young and have greater investment opportunities. Almeida et al. (2004) find that financially constrained firms keep higher amount of cash to undertake value-increasing projects because the opportunity cost of internal finance is lower than the opportunity cost of external finance. Therefore, financially constrained firms are expected to use the resources to undertake value-increasing projects to reach the optimal investment level and to maximize the firm value. A marginal investment is expected to create more value in financially constrained firms relative to unconstrained firms (Denis & Sibilkov, 2009). Alshwer, Sibilkov, and Zaitats (2011) showed that financially constrained firms are more likely to use stocks in acquisitions and keep the cash for different investments suggesting that constrained firms alleviate the asymmetric information faced in capital markets when acquiring a firm. In other words, constrained firms reduce the wedge between external and internal finance in acquisitions because informational asymmetries between the acquiring firms and the target company could be fewer in relation to the capital markets. Recently however Khatami et al. (2014) show that financially constrained firms gain more from the acquisitions relative to unconstrained firms regardless of the method of payment suggesting that constrained firms make better investment decisions because they have limited funds but higher unexploited investment opportunities. Overall, financially constrained firms are expected to have positive returns from the acquisitions regardless of the method of payment because they may successfully manage to exercise investment opportunities either by internally generating the cash necessary or using stocks, where they are able to reduce asymmetric information problem faced in capital markets, to undertake the investment. The following hypotheses are driven based on the underinvestment theory:

H1a: *There is a positive relationship between hotel firms' abnormal returns that are associated with acquisition announcements and financial constraint indices, as financial constraints increase so does the hotel firms' abnormal returns.*

H1b: *Abnormal returns that are associated with acquisition announcements are higher for financially constrained firms than for financially unconstrained firms.*

Instead of bypassing the positive NPV projects due to financial constraints, the capital scarcity theory of franchising posits that firms adopt franchising as an alternative to the company-owned investment (Oxenfeldt & Kelly, 1968-1969). That is, firms with growth prospects expand through franchising in order to fund the growth because they do not need to allocate substantial capital for expansion through franchising. Oxenfeldt and Kelly (1968-1969) argue that firms will expand through franchising when they lack internal resources and ultimately will buy back franchisees and become wholly owned chains when they mature. Hunt (1973) provides empirical evidence showing that with increased size and age firms tend to buy back franchised units. Similarly, Caves and Murphy (1976) show that franchising firms are inclined to grow through wholly owned hotel establishments with maturity rather than franchising. Hunt (1973) argues that franchising is very similar to raising stock for expansion in which franchisees are the source of financial resources rather than stockholders. While studies that empirically examine the capital scarcity theory assume that all firms that adopt franchising are financially constrained (see e.g., Brickley & Dark, 1987; Combs & David J., 1999), the degree of financial constraints may vary significantly across firms (Fazzari et al., 1988). Thus, the franchising investment model could be a solution to reduce underinvestment problems for financially constrained firms to overcome underinvestment problems

(Myers & Majluf, 1984; Oxenfeldt & Kelly, 1968-1969). Accordingly, both underinvestment and capital scarcity theories predict the following hypothesis:

H2a: *There is a positive relationship between hotel firms' abnormal returns that are associated with acquisition announcements and franchising.*

H2b: *Abnormal returns that are associated with acquisition announcements are higher for financially constrained franchising firms than for unconstrained franchising firms.*

Conversely, Rubin (1978) suggests that capital scarcity theory cannot be a good explanation of franchising. He argues that raising external finance through traditional channels, such as debt and equity markets, is less costly than franchising because franchisees will have undiversified investments and hence they will require higher expected return. He instead posits that firms adopt franchising to overcome the agency conflicts between divisional managers and the central company in which divisional managers might shirk from their responsibilities. However, the agency theory predicts that franchised divisions are not free of agency costs and thus a conflict of interest may arise between franchised divisions and the firm (Brickley et al., 1991). In general, this conflict of interest arises from two sources: (1) franchisees' incentives to free ride on the trademark by providing low quality service to non-repeat customers and (2) disparities between divisional managers and the firm related to managerial shirking and consumption of perquisites (Brickley & Dark, 1987). Although firms can monitor the divisional managers' performances, the monitoring cost may be so high that it is unprofitable. Typically, the cost of monitoring divisional managers is higher than the cost of franchisees' free-riding on the trademark when the hotel property is located remotely

from headquarters of the franchising firms. Therefore, firms will prefer franchising over company owned divisions when the expansion of the hotel network will take place in geographic areas that are located far from headquarters (Brickley & Dark, 1987). However, empirical evidence is mixed with some studies finding support in favor of the agency theory of franchising (see e.g., Brickley & Dark, 1987; Brickley et al., 1991; Combs & Ketchen, 2003; Roh & Kwag, 1997), while other studies show that both capital scarcity and agency costs lead firms to adopt franchising (see e.g., Combs & David J., 1999; Lafontaine, 1992; Norton, 1988). The agency theory of franchising postulates that the cost of free riding is higher for the divisions that require high levels of investments, and hence firms will own the division that requires high levels of investment rather than franchising it (Brickley et al., 1991). This suggests the following hypotheses:

H3a: *There is a positive relationship between the relative deal size and franchising hotel firms' abnormal returns, as the relative deal size increases so does the franchising hotel firms' abnormal returns.*

H3b: *The franchising hotel firms' mean abnormal returns that are associated with acquisition announcements are significantly different from zero.*

Franchising may help solve these agency problems, but in the context of hotel expansion it may exacerbate another. In particular, Jensen (1986) argues that managers of firms with free cash flows and unused borrowing power are more likely to build empires by undertaking projects that benefit them but not necessarily the shareholders. Managers tend to waste the free cash flow by investing in value-decreasing projects, instead of distributing it to the shareholders, which creates overinvestment problems. Therefore,

Jensen (1986) suggests that firms should distribute the free cash flow to shareholders and fund the projects by raising external funds to eliminate overinvestment problems. An extensive body of empirical literature provides evidence supporting the argument made by Jensen (1986) that empire building firms experience negative returns from acquisitions (Chen & Ho, 1997; Doukas, 1995; Lang, Stulz, & Walking, 1991). A hotel investment that requires substantial capital spending could be an overinvestment and franchising could make these easier for empire-building CEOs.

While early studies used investment opportunities that are measured by Tobin's Q (see e.g., Lang, Stulz, & Walking, 1989) and the amount of free cash flow (see e.g., Doukas, 1995; Lang et al., 1991) to identify empire building firms, recent studies utilize internal and external corporate governance mechanisms. Gompers et al. (2003) analyze the effects of the external governance mechanism on the firm value using an external governance index that consists of 24 ATPs and find that managers protected by more ATPs make poorer investments. Increased numbers of ATPs reduce the disciplinary role of market for corporate control and provide weaker shareholders' rights, which, in turn, make it difficult to replace the manager. In other words, more ATPs increase agency cost between managers and shareholders; hence, managers are more likely to build empires. Similarly, Bebchuk et al. (2006) examine the effects of the external governance mechanism on the value of firms using an alternative index that only consists of six of the 24 ATPs used by Gompers et al. (2003). They conclude that while this parsimonious index negatively affects the firm value, the remaining 18 ATPs do not affect the firm value. The six ATPs are presence of staggered board, limit to shareholders bylaw amendments, limit to shareholders charter amendments, golden parachutes, supermajority

requirement to approve a merger, and poison pills. Along the same line, Bebchuk and Cohen (2005) investigate the presence of staggered board effect on the value of the firm and find that firms with staggered board of directors have significantly lower firm value. Additionally, Shleifer and Vishny (1986) show that the existence of large investors increases the quality of internal governance. Similarly, Cremers and Nair (2005) and Dittmar and Mahrt-Smith (2007) analyze the effect of internal governance mechanism using the percentage shareholding by institutional investors that are greater than 5% on the firm value and find that firm value increases with increased amount of institutional investors. More recently, Masulis, Wang, and Xie (2007) show that firms with more ATPs and/or lower amount of institutional investors make poorer acquisitions suggesting that poor internal and external governance mechanisms negatively affect firms' value. Therefore, managers of firms with weak corporate governance mechanisms are more likely to make poorer acquisitions and move beyond the optimal investment level relative to managers of firms with strong corporate governance mechanisms. Accordingly, overinvestment theory predicts the following hypothesis:

H4a: *There is a negative relationship between hotel firms' abnormal returns that are associated with acquisition announcements and corporate governance indices.*

H4b: *Firms' abnormal returns that are associated with acquisition announcements are lower for poorly-governed firms than for well-governed firms.*

In addition to corporate governance mechanisms, franchising investment model might be utilized as a control mechanism to prevent managerial overinvestment of free cash flows, as franchisor firms allocates little or no capital expenditure for expanding

through franchising. In other words, franchising could be a way of dealing with overinvestment problem and hence it might be utilized to supplement the corporate governance mechanism. Accordingly, franchising firms will be less likely to make acquisitions because acquisitions will be viewed as overinvestments. However, managers of firms that adopt franchising might waste company resources by making value-decreasing acquisitions, if their interests are not aligned with the shareholders. The following hypotheses are proposed for testing the above predictions:

H5a: *There is a negative relationship between hotel firms' abnormal returns that are associated with acquisition announcements and franchising.*

H5b: *Abnormal returns that are associated with acquisition announcements are lower for poorly-governed franchising firms than for well-governed franchising firms.*

Another organizational structure that is important for the hotel industry is that of the REIT. The major difference between hotel-REITs and traditional corporations is that shareholders of hotel-REITs are exempt from corporate taxation on distributed dividends. However, to qualify as a REIT, the firm has to meet the criteria required by the Internal Revenue Code (in the case of the US) related to asset ownership, income generation, and most importantly dividend payouts (Gu & Kim, 2003). That is, REITs must distribute 90% of their taxable income to shareholders every year, which leave them with few internal funds available to undertake investments, and hence they must seek external funds for expansion (Beals & Arabia, 1998). Consequently, while the REIT organizational form could be useful to mitigate overinvestment problems, it could lead to underinvestment problems. J. Kim and Jang (2012) compare the financial constraint

levels of Hotel REITs and C-corporation hotels based on Tobin's Q and show that hotel-REITs are more constrained than C-corporation hotels. However, a number of studies show that measuring financial constraint levels using Tobin's Q could be misleading because it is generally imprecise in capturing financial constraints well (Whited & Wu, 2006). Therefore, it is not clear whether the REIT corporate structure mitigates overinvestment problems or intensifies underinvestment problems relative to C-corporations. Analyzing whether hotel-REITs' profitability differs from C-corporation hotel based on return on assets, Tang and Jang show that hotel-REITs' and C-corporation hotels' profitability do not diverge. H. Kim, Mattila, and Gu (2002) suggest that expansion through acquisitions may create synergy and increase hotel-REITs' performances. Nonetheless, it has not been determined whether firms with different corporate structures perform differently in acquisitions. Therefore, based on the arguments in the literature regarding corporate structure differences on performance and under- and overinvestment problems, the following hypotheses are proposed:

H6a: *There is a relationship between hotel firms' abnormal returns that are associated with acquisition announcements and REIT.*

H6b: *Abnormal returns that are associated with acquisition announcements are higher for financially constrained REITs than for unconstrained REITs.*

H6c: *Abnormal returns that are associated with acquisition announcements are lower for poorly-governed REITs than for well-governed REITs.*

2.3 Empirical Approach

The observations with missing dependent variables are removed from the analysis and the observations with missing independent variables are replaced by the firm's median values. All the variables are winsorized from 1% and 99% level to remove the effects of outliers. One sample t-test and Wilcoxon-signed rank test are employed to analyze whether the CAR mean and median is significantly different from zero. Independent sample t-test is used to analyze the firms' CAR mean differences between constrained and unconstrained and dictatorship and democracy firm portfolios. Multivariate analyses are conducted utilizing the ordinary least squares (OLS) regression. OLS techniques may yield spurious results if the Gauss-Markov assumptions of OLS are violated. Therefore, the residuals of the model must be diagnosed to determine whether the estimated coefficients are best linear and unbiased (BLUE) (Gujarati, 2003). Residuals are diagnosed graphically, skewness and kurtosis values are examined, and Shapiro Wilk's test of normality is conducted to test the assumptions of normal distribution of residuals. Diagnostics revealed that the residuals are not normally distributed. Bootstrapping technique is used to produce standard errors and probability values based on normally distributed data. The reported standard errors and probability values are based on the bootstrapping sample analysis. The residuals are diagnosed for the presence of heteroscedasticity using White (1980) test. Most of the models' residuals appear to suffer from heteroscedasticity problem and hence MacKinnon and White (1985) adjustment method is used to obtain robust standard errors. The residuals are further diagnosed to test the presence of autocorrelation utilizing Wooldridge (2002) test. The data is clustered based on the firms to deal with the autocorrelation and provide

robust standard errors. Variance Inflation factors are examined for multicollinearity and all the values in all the models yield acceptable results. Accordingly, the estimated parameters of the model are BLUE and hence reliable.

3.1 Sample and Data

The data on acquisition announcements are obtained from Thomson Reuters Securities Data Corporation (SDC) Platinum Database for the period of 1990-2013. Initially, 633 announcements are identified that include both hotel-REITs and C-corporation hotels. However, the following criteria are required for the transactions to be included in the sample of the study:

1) The acquisition is completed.
2) The deal value is $1 million or higher.
3) The acquiring firm must have financial statement information available from the Compustat database and company filings from the US Securities and Exchange Commissions (SEC) EDGAR on the year of the announcement date and stock return data from the Center for Research in Security Prices (CRSP) on the month of the announcement date.
4) Acquiring firms are US companies that are traded on NYSE, NASDAQ or AMEX.

The announcements where the acquiring firms have more than one acquisition within three days of the announcements are excluded. The announcement data from the SDC Platinum Database are matched with the stock return data from CRSP, financial statement data from the Compustat, and the corporate governance data from the SEC

EDGAR. The final sample consists of 178 observations with 21 unique firms over the period of 1995-2013. The bootstrap method is used to produce standard errors and probability values based on larger bootstrap samples to deal with problems associated with small sample size.

2.3.2 Model Specification

The dependent variable is the acquiring firm's cumulative abnormal returns (CAR). The independent variables are the organizational forms and financial constraint and corporate governance indices. Deal and acquiring firm characteristics are used as control variables.

The dependent variable CAR is measured around the acquisition announcement dates using standard event study methodology following Brown and Warner (1985). The announcement dates are obtained from SDC. Daily stock returns, expected returns, and CAR are analyzed. Daily stock returns are calculated for the 3-day event period (-1, 1) around the announcement dates as follows.

$$R_{it} = \frac{P_{it}}{P_{it-1}} - 1 \qquad (1)$$

where R_{it} is the actual return on share *i* on day *t*, P_{it} is the price for share *i* on day *t*, and P_{it-1} is the price of share *i* on day *t-1*. To estimate the expected return, for each event, we employed the market model. The market model is a simple OLS regression model. The parameters are estimated via OLS regression using 200 (-11 to -210) trading day daily returns prior to the event windows; note that the sample size is 200 for each event. The model specified as follows.

$$E(R_{it}) = a_i + \beta_i R_{mt} + e_{it} \quad (2)$$

where $E(R_{it})$ is the expected return on share i on day t, R_{mt} is the market return, which is the value-weighted return, on day t, e_{it} is the random disturbance term, and a_i and β_i are the market model parameters. For each day of the event window, the abnormal returns are computed as the difference between actual return and the expected return, which is the estimated return in the absence of the event, using the following equation:

$$AR_{it} = R_{it} - E(R_{it}) \quad (3)$$

where AR_{it} is the abnormal return on share *i* on day *t*. The dependent variable CAR is constructed as 3 (-1, 1) day cumulative abnormal returns around the announcement date, where zero is the event day, of the acquisitions.

The data for constructing the financial constraint indices is obtained from the Compustat database based on the firms' financial statements. The Kaplan and Zingales (1997) (KZ), the Whited and Wu (2006), and the Size and Age (Hadlock & Pierce, 2010) financial constraint indices are used as measures of financial constraints. The, KZ, WW, and SA financial constraint indices are constructed following the methodologies used in Lamont et al. (2001), Whited and Wu (2006), and Hadlock and Pierce (2010), respectively as follows.

$$KZ\ Index = -1.00019\times CF - 39.36\times TDIV - 1.3\times Cash + 0.282\times Q + 3.139\times TLTD \quad (4)$$

$$WW\ Index = 0.93 - 0.09\times CF - 0.06\times DIVPOS + 0.02\times TLTD - 0.04\times LNTA + 0.1\times ISG - 0.035\times SG \quad (5)$$

$$SA\ Index = -0.737 \times Size + 0.043 \times Size^2 - 0.040 \times Age \quad (6)$$

where *CF* is the cash flow, which is the income before extraordinary items (item 18) plus depreciation and amortization (item 14) divided by total assets (item 6); *TDIV* is the total dividends (item 21+ item 19) divided by total assets (item 6); *Cash* is the cash and short-term investments (item 1) divided by total assets (item 6); *Q* is the Tobin's Q equals to total assets (item 6) plus CRSP December Market Equity, which is measured by the firm's December closing price on CRSP (item 199) times common shares outstanding (item 25), minus common equity (item 60) minus balance sheet deferred taxes (item 74) divided by total assets (item 6); *DIVPOS* is an indicator that is equal to one if the firm pays dividends and zero otherwise; *TLTD* is the total long term debt (item 9) divided by total assets (item 6); *LNTA* is the natural logarithm of total assets; *ISG* is the sample firms' average sales growth; *SG* is the firm's real sales growth; *Size* is natural logarithm of total assets; and *Age* is the number of years the firm has been on Compustat with a non-missing financial data information. Items are Compustat annual items and they are lagged 1 year with the exception of item 6, which is lagged 2 years (the constant term, 0.938, in the WW index is obtained from Franzoni (2009)).

A higher score of the indices indicates more financial constraints and hence higher underinvestment problems. The firms are sorted into two portfolios as constrained (above median) and unconstrained (below median) based on KZ, WW, and SA financial constraint index values.

The Investor Responsibility Research Center (IRRC) publishes 24 ATPs, which decrease the ability of the investors to replace the manager, for about 2,000 large

corporations. However, the publications do not comprise the firms in this study sample. Therefore, the data is hand-collected from firms' 14-A, S-1, S-4, S-11, F-1, F-4, and 10-K statements, certificate of incorporation, and shareholders' rights plan on the SEC EDGAR. The external governance index (BCF Index), which consists of six ATPs, is constructed following the criteria used in Bebchuk et al. (2006). The six provisions are the presence of staggered board, limitation on amending corporate bylaws, limitation on amending the charter, supermajority requirement to approve a merger, golden parachutes, and poison pill. Basically, the BCF index is the total number of ATPs of firms that takes the value from one to six, where higher values indicate poor external governance and hence higher overinvestment problems. Additionally, following Bebchuk et al. (2006), dictatorship and democracy portfolios are created based on the firms' number of ATPs, in which firms with three or more ATPs are included in the dictatorship portfolio, while firms with two or less ATPs are included in the democracy portfolio. Also, following Bebchuk and Cohen (2005) the presence of staggered board is used as an alternative governance measure, where the presence of staggered board indicates poor governance.

As a measure of internal governance mechanism, institutional block holdings is utilized following Cremers and Nair (2005) and Dittmar and Mahrt-Smith (2007). The block holdings index is constructed as the sum of percentage of shares held by the firm's institutional investors that are greater than 5% ownership of the firm's outstanding shares. To construct this measure, the data on institutional share holdings is obtained from the Thomson Financial Institutional Holdings (13F) Database, which collects information on institutional shareholdings from the SEC 13-F filings.

Furthermore, two dummy variables are created to capture the effects of organizational forms, which are denoted as "franchising", where firms that adopt the franchising take the value of one and zero otherwise, and "REIT", where firms that are registered as REITs take the value of one and zero otherwise. Also, four interaction variables that are termed "constrained franchising", "poorly-governed franchising", "constrained REIT", and "poorly-governed REIT" to measure the differences between constrained and unconstrained franchising firms, and constrained and unconstrained REIT firms, poorly-governed and well-governed franchising firms, and poorly-governed and well-governed REIT firms.

A strand of literature has documented that acquisitions could be either value-creating or decreasing events for the shareholders of acquirer firms depending on the acquiring firm's and target firm's characteristics and the method of payment (see e.g., Fuller, Netter, & Stegemoller, 2002; Jensen & Ruback, 1983; Travlos, 1987). In general, acquisitions of privately held firms create value for the shareholders, while acquisitions of publicly traded companies do not create value (Fuller et al., 2002). Furthermore, Heron and Lie (2002) show that stock-financed acquisitions destroy value, whereas cash-financed acquisitions have neutral effects on the value of the firms. Travlos (1987) documents that stock-financed acquisitions of publicly traded companies destroy value, while those of privately held companies create value. Therefore, to capture the target ownership status, three dummy variables are created which are termed "public", "private", and "subsidiary", where they take the value of one if the target is public, private, and subsidiary firm, respectively, and zero otherwise. Two dummy variables are created to capture the method of payment effect that are denoted as "all cash", where

acquisitions paid by cash take the value of one and zero otherwise, and "combo", where acquisitions paid by stocks or a combination of cash and stocks take the value of one and zero otherwise. The deal characteristics are used as additional control variables. Specifically, relative deal size, which is the natural log of target size divided by the acquirer's market value (item 199 times item 25), method of payment, and target characteristics are used to control for the deal characteristics. Roll (1986) argues that larger firms are more likely to make poorer acquisitions and destroy value of the firm. Moeller, Schlingemann, and Stulz (2004) find evidence supporting this argument by showing that large firms experience negative returns from acquisitions. Analyzing the effects of Tobin's Q on acquisition returns, Lang et al. (1991) show that Tobin's Q have a positive effect on the firm value. Jensen (1986) posits that free cash flow and leverage indicate the firm's exposure to empire building suggesting that managers of firms with high free cash flow and low leverage are likely to destroy shareholders' wealth in acquisitions. Following the literature, total assets (item 6), Tobin's Q, free cash flow (the ratio of operating income before depreciation [item 13] minus interest expense [item 15] minus total income taxes [item 16] minus capital expenditures [item 128] to total assets), and leverage (the ratio of total debt [item 9 + item 34] to total assets [item 6]) are used to control for acquiring firm characteristics.

The following models are used to estimate the effects of corporate governance, financial constraints, franchising, and hotel-REIT on the acquiring firms' returns utilizing panel OLS regression analysis.

$$CAR_{it} = a_0 + \beta_i I_{it} + \sum_{k=1}^{n} \beta_k X_{kt} + e_{it} \quad (7)$$

$$CAR_{it} = a_0 + \beta_i I_{it} + \beta_6 I_{it} F + F + \sum_{k=1}^{n} \beta_k X_{kt} + e_{it} \quad (8)$$

$$CAR_{it} = a_0 + \beta_i I_{it} + \beta_6 I_{it} REIT + REIT + \sum_{k=1}^{n} \beta_k X_{kt} + e_{it} \quad (9)$$

where CAR is the acquiring firm *i*'s cumulative abnormal return at time *t, I* is either the corporate governance index of the firm *i* at time *t* or financial constraint index*, F is* the franchising and *REIT* is the hotel-REIT dummy variables, *X* represent a set of control variables of the firm *i* at time *t* that includes the acquiring firm's total assets, Tobin's Q, free cash flow, leverage, and relative deal size and all cash, private, and subsidiary dummy variables. e is the error term and a_0, β_i, and β_k are the models' parameters.

Table 2.1 Summary Statistics

Variables	Mean	Median	Std. Dev.
Total Assets	7.48	7.42	1.28
Free Cash Flow	-0.06	-0.01	0.14
Tobin's Q	4.14	2.22	6.47
Leverage	0.53	0.50	0.19
Relative Deal Size	0.15	0.03	0.31
KZ Index	1.87	1.31	7.69
WW Index	0.63	0.62	0.09
SA Index	-3.45	-3.39	0.38
BCF Index	4.19	4	1.54
Staggered Board	0.72	1	0.44
Block Holdings	0.06	0	0.10
Franchising	0.32	0	0.46
REITS	0.54	1	0.49

The summary statistics of the independent and control variables are presented in Table 2.1. Three different financial constraints and corporate governance indices are used in order to conduct the analyses based on alternative measurements of financial constraints and corporate governance mechanisms.

2.4 Empirical Results

This section presents the determinants of acquirer returns. Firms are grouped as financially constrained and unconstrained and poorly- and well-governed based on the financial constraints and corporate governance indices. The relationships between acquirer returns and the financial constraint and governance mechanism are estimated utilizing the OLS regression analysis to determine the effects of financial constraint and corporate governance mechanism on hotel firms' returns.

Table 2.2 Cumulative Abnormal Returns of Acquiring Hotel Firms

		Whole Sample	Franchising Firms	Non-Franchising Firms	Hotel-REITs	C-Corporation Hotels
CAR	Mean	0.008[b]	0.001	0.008[c]	0.001	0.016[b]
	Median	0.001	0.006	-0.001	-0.001	0.006
	Average change in Dollar Value (Mil.)	10.58	34.79	-0.82	-9.92	35.15
	Number of obs.	178	57	121	97	81

a, b, and c indicate 1, 5, and 10% statistical significance (α) levels, respectively based on two tailed tests.

Table 2.2 displays the CAR of the whole, franchising, non-franchising, hotel-REITs, and C-corporation hotel firm samples. The mean CAR is positive in all of the categories and the C-corporation hotels have the highest returns relative the hotel firms in other samples. As can be seen from the table the non-franchising hotel firms, on average, experience higher returns than franchising firms; and the C-corporation hotels have higher returns than hotel-REITs. Although the returns are only statistically significant for the non-franchising and C-corporation hotel groups, the dollar value of the returns underline the economic significance of the losses. Therefore, these preliminarily

analyses indicate that managers of franchising and hotel-REITs firms make relatively poorer acquisitions.

Table 2.3 The CAR Mean Differences

Financial Constraint Criteria	Constrained (Con)	Unconstrained (Un)	t-value	Dollar Value (mil.) Con	Un
KZ Index	0.012	-0.002	-1.72[c]	17.70	-0.85
WW Index	0.013	0.006	-0.78	6.38	5.78
SA Index	0.102	0.009	0.05	5.26	-4.37
Corporate Governance Criteria	Democracy	Dictatorship	t-value	Dollar Value (mil.) Democracy	Dictatorship
BCF Index	0.024	0.002	2.74[a]	21.71	6.70
Block Holdings	0.012	0.004	-1.24	14.78	6.82

a, b, and c indicate 1, 5, and 10% statistical significance levels, respectively.

The independent sample t-test is conducted to analyze the CAR mean differences between constrained and unconstrained firms and between the firms in the democracy and dictatorship portfolios. Table 2.3 presents the results of these tests. The CAR means differ between constrained and unconstrained firms based on the KZ index of financial constraints; and between democracy and dictatorship firms based on BCF index of corporate governance. The differences are statistically and economically significant. According to the KZ index, firms in the constrained portfolio gain $17.70 million, while unconstrained firms lose $0.85 million around the acquisition announcements. Similarly, based on the BCF index, the firms in democracy portfolio gain, on average, $21.71 million, while the firms in dictatorship portfolio gain only $6.7 million around the acquisition announcements. These results suggest that corporate governance and financial constraint levels affect value of the hotel firms and that underinvestment appears to destroy more value than underinvestment. Although the mean differences are not

statistically significant when differences are measures utilizing other financial constraints and corporate governance indices, they are economically significant.

To further investigate other possible causes of cumulative abnormal returns, multivariate analysis are employed. The effects of financial constraint indices on acquiring hotel firms' returns are analyzed using the whole sample and the constrained and unconstrained portfolio of firms, where constrained portfolio includes firms with financial constraint index score above median score and unconstrained portfolio includes the firms that have financial constraint index score below median score each year.

Table 2.4 The effects of Financial Constraints on Acquiring Hotel Firms' Returns

Financial Constraint Indices	1			2			3		
	Whole	Con	Un	Whole	Con	Un	Whole	Con	Un
WW Index	0.10[a] (2.76)	0.27[a] (4.04)	0.09 (1.10)						
KZ Index				0.001 (1.16)	0.008[c] (1.54)	-0.005 (-0.49)			
SA Index							0.011 (1.22)	0.048 (1.23)	0.015[c] (1.49)
Intercept	-0.05[b] (-2.47)	-0.19[a] (-3.90)	-0.043 (-0.99)	0.007[b] (1.97)	0.007 (1.09)	0.002 (0.83)	0.046 (1.44)	0.16 (1.28)	0.064[c] (1.67)
Number of obs.	178	89	89	178	89	89	178	89	89
Number of Bootstrap obs.	936	936	936	936	936	936	936	936	936
Adjusted R^2	0.042	0.18	-0.001	0.002	0.003	-0.001	0.003	0.02	0.002

CAR is the dependent variable. Robust z-statistics are in parentheses. a, b, and c indicate 1, 5, and 10% statistical significance level.

The results from the Table 2.4 show that only the coefficient of WW index is significant (0.10, p=0.01) using the whole sample and dividing the sample based on the constrained

and unconstrained firms. The coefficients of financial constraint indices are not significant for unconstrained firms.

Table 2.5 The effects of Financial Constraints on Acquiring Hotel Firms' Returns: Constrained vs. Unconstrained

Financial Constraint Indices	1		2		3	
	Con	Un	Con	Un	Con	Un
WW Index	0.27[a] (3.33)	-0.21 (-1.03)				
KZ Index			-0.01 (-0.70)	-0.001 (-0.36)		
SA Index					0.13[a] (2.40)	0.004 (0.19)
Control variables						
Acquirer Characteristics						
Total Assets (Log)	0.001 (0.15)	-0.02 (-1.38)	-0.003 (-0.24)	0.004 (0.44)	-0.001 (-0.80)	-0.01 (-0.75)
Free Cash Flow	-0.003 (-0.09)	0.27 (0.97)	0.09 (1.01)	-0.012 (-0.06)	-0.08[c] (-1.79)	0.23 (1.31)
Tobin's Q	-0.001 (-0.22)	-0.01 (-1.35)	0.008 (0.55)	0.001 (0.21)	-0.001 (-0.29)	-0..01[c] (-1.78)
Leverage	-0.009 (-0.42)	0.023 (0.60)	-0.003 (-0.05)	-0.014 (-0.29)	-0.07[a] (-2.65)	-0.08 (-1.38)
Target Characteristics						
Relative Deal Size	-0.006 (-0.28)	-0.01 (-0.22)	0.03 (0.59)	-0.011 (-0.28)	-0.01 (-0.80)	0.02 (0.42)
Cash	-0.012 (-0.94)	0.01 (1.57)	0.004 (0.31)	-0.001 (-0.09)	-0.014 (-0.95)	0.01 (1.08)
Private	0.027 (0.81)	-0.09 (-1.51)	-0.016 (-0.28)	0.012 (0.26)	0.07[c] (1.90)	-0.03 (-0.93)
Subsidiary	0.01 (0.33)	-0.08 (-1.29)	-0.014 (-0.24)	0.02 (0.41)	0.06[c] (1.65)	-0.03 (-0.91)
Intercept	-0.20[a] (-2.70)	0.39 (1.52)	0.07 (0.67)	-0.04 (-0.44)	0.40[b] (2.36)	0.23[a] (2.38)
Number of obs.	89	89	89	89	89	89
Number of Bootstrap obs.	936	917	599	654	916	935
Adjusted R^2	0.16	0.15	0.22	-0.02	0.21	0.11

CAR is the dependent variable. Robust z-statistics are in parentheses. a, b, and c indicate 1, 5, and 10% statistical significance levels, respectively based on one-tailed tests.

However, conducting the analysis without classifying firms as financially constrained and unconstrained might be less than perfect. Therefore, following the methodologies in the previous literature (see e.g., Kaplan & Zingales, 1997), the samples are sorted into portfolios of constrained and unconstrained firms to better capture the financial constraint effect on the firm value**.**

Table 2.6 The effects of Corporate Governance on Acquiring Hotel Firms' Returns

Corporate Governance Indices	1	2	3	4
BCF Index	-0.008[b]			
	(-1.73)			
Staggered Board		-0.008		
		(-0.63)		
Block Holdings			0.001	
			(0.03)	
Dictatorship				-0.035[b]
				(-2.22)
Control variables				
Acquirer Characteristics				
Total Assets (Log)	0.002	-0.003	-0.002	0.001
	(0.48)	(-0.97)	(-0.67)	(0.22)
Free Cash Flow	0.033	-0.007	-0.003	0.48
	(0.63)	(-0.16)	(-0.09)	(0.92)
Tobin's Q	0.001	0.001	0.001	0.001
	(0.16)	(0.12)	(0.77)	(0.07)
Leverage	-0.002	-0.022	-0.018	-0.017
	(-0.10)	(-0.98)	(-0.98)	(-0.75)
Deal Characteristics				
Relative Deal Size	-0.012	-0.013	-0.001	-0.017
	(-0.53)	(-0.55)	(-0.01)	(-0.81)
Cash	0.08	0.004	0.003	0.017
	(0.88)	(0.49)	(0.41)	(1.47)
Private	0.001	0.001	-0.004	0.003
	(0.03)	(0.02)	(-0.14)	(0.11)
Subsidiary	0.04	0.004	-0.004	0.008
	(0.15)	(0.14)	(-0.14)	(0.30)
Intercept	0.031	0.054	0.036	0.376
	(0.68)	(1.12)	(0.81)	(0.84)
Number of obs.	178	178	178	178
Number of Bootstrap obs.	936	936	936	936
Adjusted R^2	0.033	0.001	-0.02	0.06

CAR is the dependent variable. Robust z-statistics are in parentheses. a, b, and c indicate 1, 5, and 10% statistical significance levels, respectively based on one-sided tests.

Table 2.5 reports the results of the analysis of financial constraint effects on acquiring firms' returns with controlling for acquiring and deal characteristics. The coefficients of WW and SA indices of financial constraints are positive and significant (0.27, p=0.01 and 0.13, p=0.01, respectively) for the constrained firms' portfolio, while the coefficient of KZ index of financial constraints is not significant. These results provide support for the hypotheses drawn from the underinvestment theory (*H1a and H1b*) that financially constrained firms gain significantly higher returns than unconstrained firms, suggesting that managers of financially constrained firms make better acquisitions than those of unconstrained firms using their internal resources.

The effects of corporate governance indices on acquiring hotel firms' returns are analyzed. Table 2.6 presents the OLS regression analyses of acquiring hotel firms' returns based on corporate governance indices controlling for acquirer and deal characteristics. The results from Table 2.6 show that BCF index (continuous variable form) significantly and negatively affect the cumulative abnormal returns, suggesting that an addition of one provision decreases the CAR by 0.8%. Similarly, firms in the dictatorship portfolio have 2.3% lower abnormal returns than firms in the democracy portfolio utilizing dictatorship (dummy variable form) index of corporate governance. However, the coefficients of block holdings, staggered board, and the variables that control for the acquirer and deal characteristics are not statistically significant. Overall, these results provide support for the overinvestment hypotheses (*H4a and H4b*) that firms with poor governance mechanisms experience negative gains from the acquisitions relative to the firms with better governance mechanisms. These results indicate that

managers of the firms that are protected by more ATPs make poorer acquisitions in which managers may receive personal benefits.

Table 2.7 The joint effects of Financial Constraints and Corporate Governance

Financial Constraint Indices	1	2	3	4
WW Index	0.29[a] (3.02)	0.27[a] (2.62)		
SA Index			0.18[b] (2.28)	0.13[c] (1.71)
Corporate Governance Indices				
Dictatorship	-0.04[a] (-2.81)		-0.04[a] (-3.05)	
BCF Index		-0.006 (-1.20)		-0.02[a] (-2.91)
Control variables				
Acquirer Characteristics				
Total Assets (Log)	-0.001 (-0.12)	0.001 (0.12)	0.01 (0.65)	-0.003 (-0.19)
Free Cash Flow	0.033 (0.77)	0.007 (0.16)	-0.04 (-0.83)	-0.005 (-0.10)
Tobin's Q	0.001 (-1.16)	-0.001 (-1.01)	-0.001 (-1.10)	-0.001 (-0.60)
Leverage	0.013 (0.48)	0.007 (0.25)	-0.08 (-2.67)	-0.06[b] (-1.97)
Deal Characteristics				
Relative Deal Size	-0.04[b] (-2.16)	-0.031[c] (-1.71)	-0.04[c] (-1.85)	-0.04 (-1.95)
Cash	-0.015 (-1.35)	-0.01 (-0.88)	-0.03[b] (-2.23)	-0.03[b] (-2.37)
Private	0.03[c] (1.69)	0.017 (1.55)	0.06[b] (2.14)	0.04 (1.29)
Subsidiary	0.02 (0.95)	0.004 (0.14)	0.05[c] (1.75)	0.03 (0.98)
Intercept	-0.19[c] (-1.81)	-0.19[c] (-1.68)	0.60[a] (3.16)	0.53[a] (2.92)
Number of obs.	89	89	89	89
Adjusted R^2	0.31	0.25	0.30	0.29

CAR is the dependent variable. Robust z-statistics are in parentheses. a, b, and c indicate 1, 5, and 10% statistical significance levels, respectively based on one-sided tests.

In order to determine the joint effects of under- and overinvestment problems for financially constrained firms, effects of financial constraints and corporate governance mechanisms on acquirer returns are examined. Table 2.7 presents the results of these analyses. The results from the Table 2.7 show that while the relationship between

corporate governance indices and the acquirer returns are significantly negative, there is a positive and statistically significant relationship between financial constraint indices and acquirer returns.

More specifically, one unit decrease in the quality of corporate governance decreases firm value by 0.2% and 0.4% based on the BCF index and dictatorship dummy variable, one unit increase in financial constraints increases firm value by 29% and 18% based on WW Index and SA Index, respectively. Although financially constrained firms make value-increasing acquisitions to fund their growth, poor corporate governance mechanisms have negative effects on returns. However, the degree of financially constraints has more affect on returns than weak corporate governance mechanisms. Therefore, these results suggest that financially constrained firms, albeit poorly-governed, make value-increasing investment choices.

Table 2.8 presents the effects of franchising and REIT organizational forms on acquiring hotel firms' returns and reports the differences between constrained and unconstrained and between poorly- and well-governed franchising and hotel-REITs. Column 1 shows the returns of franchising and hotel-REITs relative to the returns of hotels that are registered as C-corporation that do not adopt franchising. Both the franchising and REIT coefficients are negative and significant, suggesting that organizational forms of franchising and REITs have lower returns than C-corporation hotels that do not franchise. The results provide support for the hypothesis (*H6a*) postulated for the REIT organizational form; however, they fail to provide support for the hypothesis (*H2a*) drawn from the capital scarcity theory of franchising.

Table 2.8 The effects of Franchising and REIT Forms on Acquisitions' Returns

Independent Variables	1	2	3	4	5
WW Index		0.21[a] (2.67)	0.28[a] (3.58)		
BCF Index				-0.01[c] (-1.83)	-0.01[a] (-2.85)
Franchising	-0.04[a] (-3.28)	0.02 (1.48)		-0.02 (-0.48)	
REIT	-0.05[a] (-3.56)		-0.01 (-1.06)		-0.10[b] (2.57)
Constrained Franchising (Franchising**x**WW Index)		-0.04[b] (-1.76)			
Poorly-Governed Franchising (Franchising**x**BCF Index)				0.01 (0.16)	
Constrained REIT (REIT**x**WW Index)			-0.03[b] (-1.97)		
Poorly-Governed REIT (REIT**x**BCF Index)					0.02[b] (2.36)
Control Variables					
Acquirer Characteristic					
Total Assets (Log)	0.003 (0.80)	0.003 (0.59)	0.01[a] (2.44)	0.001 (0.36)	-0.01 (-0.25)
Free Cash Flow	-0.04 (-1.31)	-0.007 (-0.16)	0.05 (1.39)	0.01 (0.28)	0.07 (1.64)
Tobin's Q	0.001 (0.38)	-0.001 (-0.12)	-0.008 (-0.91)	0.001 (0.26)	0.001 (0.26)
Leverage	-0.02 (-1.12)	-0.02 (-0.75)	-0.02 (-0.99)	-0.002 (-0.10)	-0.03 (-1.07)
Deal Characteristic					
Relative Deal Size	-0.01 (-0.93)	-0.005 (-0.29)	-0.02 (-1.04)	-0.01 (-0.69)	-0.02 (-1.15)
Cash	0.008 (0.58)	0.02 (1.40)	0.03[b] (1.75)	0.005 (0.34)	0.02 (1.27)
Private	0.01 (0.58)	-0.04 (-0.24)	-0.005 (-0.28)	0.001 (0.03)	0.001 (0.01)
Subsidiary	0.02 (0.95)	-0.002 (-0.13)	-0.001 (-0.01)	0.004 (0.23)	0.005 (0.33)
Intercept	0.03 (0.84)	-0.17[b] (-1.81)	-0.24[a] (-2.81)	0.04 (1.00)	0.08[c] (1.73)
Number of obs.	178	178	178	178	178
Adjusted R^2	0.07	0.06	0.08	0.03	0.06

CAR is the dependent variable. Robust z-statistics are in parentheses. a, b, and c indicate 1, 5, and 10% statistical significance levels, respectively based on two-sided tests.

Column 2 measures the difference between financially constrained and unconstrained franchising firms. Although the coefficient of franchising variables loses significance and

changes sign when the interaction variable is included, the interaction term of constrained franchising is negative and statistically significant ($p<0.05$). Therefore, the hypothesis (*H2b*) drawn from the capital scarcity theory of franchising is not supported; as these results indicate that financially constrained franchising firms make poorer acquisitions. Similarly, column 3 reports the differences between financially constrained and unconstrained REIT firms. Although the coefficient of WW index is positive, the coefficients of REIT and the interaction term of constrained REIT are negative and hence the *H6a* is not supported, which imply that REIT firms make poorer acquisitions regardless of the degree of financial constraints. Column 4 analyzes the difference between poorly- and well-governed franchising firms. Although the coefficient of the BCF index of corporate governance is negative and statistically significant, coefficients of franchising and the interaction terms are not statistically significant. Column 5 investigates the difference between poorly- and well-governed hotel-REITs. While coefficients of BCF index and REIT dummy variables have negative and statistically significant signs, the coefficient of the interaction term has a positive and statistically significant sign, which fails to support the hypothesis *H6c*. In summary, the constrained REIT firms' acquisitions are viewed negatively, while poorly-governed REIT firms' acquisitions are positively received. These results either imply that franchising and REIT hotels tend to overinvest or the financial constraints and corporate governance indices do not well capture the constraints and governance measures.

Furthermore, the negative returns of franchising hotels provide support for the other hypothesis (*H3b*) of agency theory of franchising that monitoring cost of divisional managers are higher than the cost of franchisees' to free ride on the trademark because

the expansion of the hotel business may take place in geographic areas that are remotely located from the headquarters. However, the negative coefficients of relative deal size in all specifications fail to provide support for one of the hypothesis (*H3a*) drawn from the agency theory of franchising,

2.5 Conclusions

This study explains why investments that require substantial capital, such as acquisitions, create value in some hotel firms while they reduce value in other firms. The hotel industry is chosen to investigate these effects for two reasons. First, building an additional hotel requires substantial capital investments and time; and hence, hotel firms commonly use mergers and acquisitions as a corporate strategy to accelerate their expansions (Canina et al., 2010). Second, contrary to the firms in other industries, such as manufacturing industries, hotel firms extensively utilize franchising investment, which require little or no capital investment, to expand their operations. Therefore, hotel industry provides a unique setting to investigate the effects of under- and overinvestment problems on the firm value.

On the one hand, financially constrained hotel firms gain significantly higher returns than unconstrained firms, suggesting that acquisitions could be a way of dealing with the informational asymmetries for constrained firms; firms with underinvestment problems move toward the optimal investment level, where the firm value is maximized, by undertaking an additional investment.

On the other hand, dictatorship firms experience negative gains from the acquisitions relative to the democracy firms, suggesting that managers of hotel firms that

are protected by more ATPs destroy value by overinvesting in negative NPV projects and shift firms away from the optimal investment level.

While both under- and overinvestment problems are problematic for the firm, the joint examination of the effects of financial constraints and corporate governance mechanisms on acquirer returns suggests that underinvestment problems are more destructive for the firm. In other words, underinvestment problems has more effect on firm value than overinvestment problems, which suggest that weak corporate governance mechanisms, albeit detrimental, asymmetric information or financial constraints have more effect on firm value than poor governance mechanisms. However, most of the firms in this study sample appear to have weak corporate governance mechanisms. That is, although the degree of financial constraints has relatively more effect on firms' value, overinvestment is more common problem than underinvestment in the hotel industry.

Furthermore, shareholders of franchising firms perceive acquisitions negatively, which suggests that the franchising firms overinvest. Similarly, hotel-REITs' acquisitions are viewed negatively, which indicates that these firms face overinvestment problems. However, the overinvestment problem does not seem to be due to weak corporate governance mechanisms, but rather these firms are either over-levered or highly expanded prior to making acquisitions. Also, this study provides partial support for the agency theory of franchising that the cost of free riding is higher for the divisions that are remotely located vis-à-vis the headquarters and hence firms should franchise the division that are remotely located from the headquarters rather than owning it.

In summary, the results show that investments that move firms toward the optimal investment level affect firm value more than investments that shift firms beyond the optimal investment level, relatively. On the one hand, managers of firms with weak corporate governance mechanisms are likely to make poorer acquisitions by undertaking value-decreasing investments, which create overinvestment problems and move firms above the optimal investment level. Therefore, corporations need to institute external and internal corporate governance mechanisms to control such managerial desire. In particular, firms with higher ATPs should eliminate provisions and attract more institutional investors to increase the quality of internal and external corporate governance mechanisms and refrain from value-decreasing acquisitions. On the other hand, financially constrained firms are expected to undertake value-increasing investments by using the internal resources to mitigate informational asymmetries, which create underinvestment problems and forces firms to operate below the optimal investment level. Financially constrained firms have limited funds but higher unexploited investment opportunities; and thus, they undertake value-increasing projects using internal resources or stocks. Financially constrained firms may be able to reduce the wedge between external and internal finance in acquisitions, where informational asymmetries between the acquiring firms and the target company could be fewer in relation to the capital markets (Alshwer et al., 2011; Khatami et al., 2014). Therefore, financially constrained firms should undertake investments that require substantial capital investment through acquisitions, as acquisitions could be a method of reducing informational asymmetries for those firms. While franchising could be an alternative method of investment that mitigate under- and/or overinvestment problems, the results

provide evidence against the general notion in previous studies that examined the theories of franchising and found that franchising is only due to either capital constraints or agency costs (see e.g., Combs & David J., 1999; Lafontaine, 1992; Norton, 1988). On the contrary, franchising firms experience significantly negative gains from acquisitions, suggesting that franchising could be a tactic for dealing with overinvestment problems. While financially constrained firms may fund the growth opportunities via franchising model, franchising firms should take restrictive actions to control managers from making acquisitions. Although there seems to be additional factors that might explain why unconstrained firms adopt franchising, postulations of the agency theory of franchising are partially supported. Hotel-REIT organizational form does not seem to cause underinvestment problems; however, it does eliminate overinvestment problems, which suggests that distributing the free cash flow to shareholders may halt managerial desire to build empires. Hotel-REITs are more likely to make value-increasing investments and improvement of internal and external corporate governance mechanisms in hotel-REITs could make this corporate structure more efficient than C-corporation hotels.

Although the findings of the study make significant contributions to the corporate finance, franchising, and hospitality literature, this study is not free from limitations. While this study reports significant evidence that underinvestment is more depreciating than overinvestment, the analyses are limited to gains from acquisitions; hence, future studies may examine the effects of different investments on the firm value. Testing the underinvestment, overinvestment, and franchising theories using different sample of industries would substantiate the results of this study. The results from the OLS analysis that examines the effects of corporate governance on the firm value yield low Adjusted

R-square values. Although these low values could be seen as a limitation or constraints due to small sample size, studies in corporate finance literature that examines these issues reports similar results. Dittmar and Mahrt-Smith (2007), who has developed the internal corporate governance index using 3,950 observations, report R-square values of 0.02 and 0.04. Therefore, the small numbers are not due to small sample sizes. Rather, these low values are due to the nature of such studies. Although unobservable effects of firms' financial policies and investment opportunities might create omitted variable bias, firms' investment and financial policies and investment opportunities are not disclosed because of the crucial competition factors that determine a firm's success. Instead, alternative proxies are used to capture firms' policies from information available to the public. Yet, corporate finance studies may still have low explanatory powers due to the possible omitted variables. Therefore, future models employing additional explanatory, macro and firm level, variables might improve the explained variance.

CHAPTER 3

THE SENSITIVITY OF HOTEL FIRMS' INVESTMENT TO INTERNAL FUNDS: THE ROLE OF FINANCIAL CONSTRAINTS AND AGENCY PROBLEMS

3.1 Introduction

The majority of investments in the hotel industry consists of property, which depreciate in value over time and require maintenance, refurbishment, and renewal to maintain the level of service demanded by a chain's customers (Houthakker, 1979; Tsai & Gu, 2012). Therefore, to expand nationally or globally hotel corporations often must finance major capital expenditures, such as developing/building and acquisitions of hotels (Canina et al., 2010), in addition to the financing required to maintain the quality of existing properties. Myers and Majluf (1984) argue that firms will bypass projects that require financing beyond internal resources because raising external finance will make some of the projects unprofitable. Therefore, firms will rely on internal funds (i.e., cash and cash flow) to undertake capital investments and hence they underinvest. Fazzari et al. (1988) argue that firms with high degree of investment-cash flow sensitivity are financially constrained and lack the internal funds for making all positive net present value investments.

However, Kaplan and Zingales (1997) dispute the interpretation of the coefficients in the investment-cash flow sensitivity regressions and they argue that the relationship between internal funds and investments could be due to either financial constraints or agency problems related to empire building. According to Jensen (1986), managers of firms with free cash flow may invest beyond the optimal investment level by undertaking value-decreasing projects to build empires. Although investors and the capital market may enact internal and external governance mechanisms to control managers' actions, these efforts may not fully prevent entrenched managers from destroying firm value. Thus, a high sensitivity of investment to cash flow in the hotel industry may instead reflect a problem with managers that overinvest (Lamont, 1997).

This study examines the sensitivity of capital investments to internal funds to determine the extent to which the relationship between internal funds and investments is due to financial constraints or to problems with empire building. We consider the sensitivity of investments to internal funds for financially constrained firms by using the measures of financial constraints found in Almeida, Campello, & Weisbach (2004), Hennessy & Whited (2007), Lamont, Polk, & Saa-Requejo (2001) and Whited & Wu (2006). The sensitivity of investment to internal funds is expected to be higher for poorly governed firms relative to well-governed firms. We measure the quality of corporate governance with the number of anti-takeover provisions (ATPs), which are indexed in Gompers et al. (2003) and Bebchuk et al. (2006); (Cremers & Nair, 2005; see e.g., Gompers et al., 2003), and the existence of major shareholders (Cremers & Nair, 2005; Shleifer & Vishny, 1986).

A further consideration that is important for the hotel industry is the ability to expand the supply of "internal funds" for investment by utilizing the organizational form of franchising. Franchising reduces the required capital expenditures of the franchising chain, thus allowing investments that require financing beyond the available internal funds(Oxenfeldt & Thompson, 1968-1969). Franchising also enables firms to expand into foreign markets with bearing little or no capital investment risk, where risk is shifted to the franchisee in exchange for the franchisor's expertise and brand name (Alon et al., 2012)

However, while franchising could be a beneficial strategy for firms to expand their growth, an alternative view is that it could make overinvestment easier for empire-building CEOs. An investment that requires substantial capital spending could create overinvestment problems in franchising firms, if managers of firms with desires to build empires use the capital provided by franchisees to undertake investments that are not beneficial to shareholders and possibly not even to franchisees. A second goal of this study is to examine the effects of franchising in light of the potential role of internal funds on investment.

The results show the investment-internal funds sensitivity is greater for financially constrained firms than for dictatorship firms. However, the majority of the hotel firms have weak corporate governance mechanisms, suggesting that hotel firms are exposed to empire building problems more than to foregone investments that arise from financial constraints. These results suggest that financially constrained firms use mostly internal resources for investments because of difficulties in raising external finance. Although dictatorship firms also retain internal funds for investments, managers of dictatorship

firms tend to use internal resources to undertake value-decreasing projects. Also, firms utilize franchising to reduce underinvestment and agency problems.

The remainder of this paper is organized as follows: Section 2 reviews the relevant literature and develops the study hypotheses. Section 3 describes the methodology of this study. Section 4 presents the results from the analyses of the sensitivity of capital and franchising investments to internal funds. Section 5 concludes.

3.2 Literature Review and Hypotheses Development

In a world with friction, Myers and Majluf (1984) suggest that there is a wedge between external and internal finance, and for some firms this wedge might be so high that it could make a firm abandon the projects. The main argument is that there is asymmetric information between firms and outside investors and borrowers that increases the cost of external finance substantially, especially for issuing equity. Akerlof (1970) presents a study on the market for lemons that suggests outside, less-informed buyers will offer a lower price, and sellers with inside information will not accept the less-informed buyers' terms. The difference between the buyer and seller prices is due to asymmetric information between the buyer and seller. In general, the asymmetric information problem mainly arises from the conflicts of interest between current and prospective shareholders (Greenwald, Stiglitz, & Weiss, 1984; Myers & Majluf, 1984). More specifically, Myers and Majluf (1984) argue that the capital market is imperfect and there is an adverse selection problem in raising external funds, while internal funds have no adverse selection problem. This will lead to an underinvestment problem that arises from

adverse selection, and firms will abandon positive NPV projects that need financing beyond this point.

Although retaining internal funds could mitigate underinvestment problems, it may lead to overinvestment problems if managers use the free cash flow to undertake investments that benefit them but not necessarily the shareholders. According to Jensen (1986, p. 323) "free cash flow is cash flow in excess of the required funding of projects that have positive NPV when discounted at the relevant cost of capital." Managers have incentive to invest the free cash flow to increase their compensations even if the investment has negative NPV. Consequently, managers tend to invest more when the firm has more internal resources instead of distributing them to the shareholders. Similarly, this also makes the investment sensitive to the available internal funds; that is, investments increase with the available internal funds. However, in this case, contrary to the underinvestment theory, firms face overinvestment problems.

In a nutshell, bondholders and shareholders have different incentives, and the conflicts of interest between bondholders and shareholders might leave firms in suboptimal investment level. On the other hand, managers and shareholders might have different incentives if the manager is not aligned with shareholders, and the conflicts of interest between managers and shareholders might cause overinvestment problem.

In accordance with the capital market imperfection and asymmetric information literature, Fazzari et al. (1988) demonstrate that firms with information problems would rely on internal funds to undertake possible positive NPV investments. Fazzari et al. (1988) suggest that firms that exhaust all the internal funds available will have greater

investment-cash flow sensitivity. Because external finance is costly, firms' investments will be financially constrained to internal finance, and financially constrained firms will forgo possible value-increasing projects.

. While some empirical studies provide evidence of investment-cash flow sensitivity, supporting the underinvestment theory (e.g., Fazzari & Peterson, 1993; Whited, 1992), others find support for a link between investment-cash flow sensitivity and the overinvestment theory (e.g., Christie & Nanda, 1994; Devereux & Schiantarelli, 1990).

To overcome the mixed empirical evidence, Vogt (1994) develops an identification strategy to analyze the link between investment-cash flow sensitivity and underinvestment and overinvestment theories. Accordingly, in firms with Tobin's Q lower than unity, high investment-cash flow sensitivity suggests overinvestment distortions, while in firms with Tobin's Q higher than unity, high investment-cash flow sensitivity suggests underinvestment distortions. Results showed that high investment-cash flow sensitivity could be due to both financial constraints, and hence underinvestment problems, and exposure to empire building, and hence overinvestment problems, depending on the firm's investment opportunities measured by Tobin's Q.

However, Kaplan and Zingales (1997) argue that there is no strong theoretical reason for investment-cash flow sensitivity to increase monotonically with the degree of financial constraints, suggesting that sensitivity of investment to internal funds could be due to the managerial desire to build empires. Furthermore, a number of studies show that Tobin's Q is not a reliable measure of financial constraint and/or exposure to empire

building because it is generally an inaccurate proxy especially for small firms (Whited & Wu, 2006).

Consequently, alternative measures of financial constraints (see e.g., Almeida et al., 2004; Hennessy & Whited, 2007; Lamont et al., 2001; Whited & Wu, 2006) and exposure to empire building (or corporate governance) (see e.g., Bebchuk et al., 2006; Cremers & Nair, 2005; Gompers et al., 2003) indices have been developed using different specifications and variables. Consistent with the financial constraint predictions, Almeida et al. (2004); Whited and Wu (2006); Hennessy and Whited (2007); Denis and Sibilkov (2009); and Hadlock and Pierce (2010) provide evidence that financially constrained firms retain greater cash and cash flow than unconstrained firms to overcome underinvestment problems. Overall, the theoretical framework of the underinvestment problem described by Myers and Majluf (1984) suggests that the sensitivity of investments to internal resources is higher for financially constrained firms than for unconstrained firms and thus the following hypotheses are offered for testing purposes:

H1: *Investment-internal funds sensitivity is greater for constrained firms than for unconstrained firms.*

> ***$H1_a$:*** *Investment-cash sensitivity is greater for constrained firms than for unconstrained firms.*
>
> ***$H1_b$:*** *Investment-cash flow sensitivity is greater for constrained firms than for unconstrained firms.*

Internal funds might be difficult to measure because there is not a single accounting item (or variable) for the internal funds. Cash and/or cash flows are used as proxies for internal

funds in previous studies (see e.g., Denis & Sibilkov, 2009; Fazzari et al., 1988) and thus the main hypothesis is divided into two testable hypotheses.

Although the literature provides substantive evidence on investment sensitivity to internal funds, as previously pointed out, it is not clear whether the sensitivity of investment to internal funds is due to financial constraints or managers' desire to build empires (Stein, 2003). Using external and internal corporate governance indices developed by Gompers et al. (2003); Bebchuk and Cohen (2005); and Bebchuk et al. (2006), and Cremers and Nair (2005) and Dittmar and Mahrt-Smith (2007), respectively, Masulis et al. (2007) show that poorly-governed firms (or dictatorship firms) make poorer investment decisions compared to well-governed firms (or democracy firms). Therefore, the overinvestment theory suggests that poorly-governed firms rely more on internal funds to undertake investments than well-governed firms. However, there is no known study that investigates the sensitivity of investment to internal funds in the context of overinvestment or the managerial desire to build empires using recently developed corporate governance indices. Hence, the following hypotheses are drawn from the overinvestment theory:

H2: *Investment-internal funds sensitivity is greater for dictatorship firms than for democracy firms.*

> ***$H2_a$:*** *Investment-cash sensitivity is greater for dictatorship firms than for democracy firms.*
>
> ***$H2_b$:*** *Investment-cash flow sensitivity is greater for dictatorship firms than for democracy firms.*

Franchising may help solve these over- and under-investment problems; however, it could make overinvestment easier for empire-building CEOs. On the one hand, franchising might be a useful corporate strategy to reduce underinvestment problems because a new franchised division does not require a substantial capital investment. Oxenfeldt and Kelly (1968-1969) develop the capital scarcity theory of franchising, which is analogous to underinvestment theory, suggesting that small and young firms face capital scarcity and hence these firms may expand through franchising when the internal funds are not sufficient to undertake company-owned investments. Expansion via franchising could be a solution to mitigate underinvestment problems, in which firms might expand through franchising when they lack necessary internal funds. Hence, a negative relationship between internal funds and proportion of franchised divisions is expected. Similarly, a positive relationship between capital investments and internal funds is anticipated. The following hypotheses are developed based on the capital scarcity theory of franchising:

H3: *Internal funds negatively affect proportion of franchised divisions in financially constrained franchising firms.*

> ***$H3_a$:*** *Cash negatively affects the proportion of franchised divisions in financially constrained franchising firms.*
>
> ***$H3_b$:*** *Cash flow negatively affects the proportion of franchised divisions in financially constrained franchising firms.*

H4: *Investment-internal funds sensitivity is greater for constrained franchising firms than for unconstrained franchising firms.*

$H4_a$: *Investment-cash sensitivity is greater for constrained franchising firms than for unconstrained franchising firms.*

$H4_b$: *Investment-cash flow sensitivity is greater for constrained franchising firms than for unconstrained franchising firms.*

On the other hand, while franchising can be used as a mechanism to reduce overinvestment problems, an investment that requires substantial capital spending could intensify these problems in the context of hotel expansions. Jensen (1986) argues that managers tend to waste the free cash flow by investing in value-decreasing projects, instead of distributing it to the shareholders. In particular, managers of franchising firms might have excess cash, which is generated through franchising and royalty fees, at their discretion and hence they can make bad investment choices when undertaking a company-owned hotel investment. While firms could reduce agency problems when expanding through franchising because franchising does not require a substantial investment, franchising model could exacerbate overinvestment problems when expanding via company-owned divisions because managers would have more access to cash and might waste firms' resources. The overinvestment theory suggests that poorly-governed franchising firms rely more on internal funds to undertake capital investments than well-governed franchising firms. The following hypotheses are generated for testing purposes:

H5: *Investment-internal funds sensitivity is greater for dictatorship franchising firms than for democracy franchising firms.*

$H5_a$: *Investment-cash sensitivity is greater for dictatorship franchising firms than for democracy franchising firms.*

$H5_b$: *Investment-cash flow sensitivity is greater for dictatorship franchising firms than for democracy franchising firms.*

In the case of the agency theory of franchising, Brickley and Dark (1987) posit that the cost of free riding on the trademark is higher in industries with non-repeat costumers (non-repeat in terms of one individual division, but not the overall brand), such as hotels; hence, firms will expand through company-owned divisions, and monitoring cost increases with increased distance from the headquarters; hence, firms will expand through franchised divisions. While the former postulation is unrealistic because hotel firms rely extensively on franchising, the latter postulation is a general fact that hotels almost exclusively expand via franchising in foreign markets, where the distance is remote from the headquarters (Graf, 2009). Furthermore, Lafontaine (1992) argues that franchisors' experience in developing a franchise system, as measured by the proportion of franchised divisions in the former year, decreases franchisees' cost of free riding on the trademark and hence firms prefer franchising expansion over company-owned divisions with increased experience in franchising. Therefore, the following hypothesis is offered for testing purposes:

H6: *Franchisors' experience in franchising positively affects proportion of franchised divisions.*

3.3 Methodology

The observations with missing dependent variables are removed from the analysis and the observations with missing independent variables are replaced by the firm's median values. All the variables are winsorized from 1% and 99% levels to remove the effects of outliers. Ordinary least square regression analysis may generate spurious relationships if the error term is correlated with independent variables. A spurious relationship may arise due to omission and/or possible endogeneity of independent variables in the model. In general, the determinants of investments, such as firms' financial policies and investment opportunities, are not observable and the relation between investment and internal funds might be endogenously determined (Kaplan & Zingales, 1997). Although previous studies use Tobin's Q to account for omitted investment opportunities, Tobin's Q could be an inapt proxy in capturing unobservable investment opportunities (Lamont, 1997). Therefore, the analyses are conducted utilizing the first-difference Generalized Methods of Moments (GMM) panel estimator developed by Arellano and Bond (1991) to account for possible endogeneity problems that may arise due to the unobservable effects of firms' financial policies and investment opportunities and to eliminate firm specific heterogeneity in the model.

The GMM is a dynamic panel data model that produces asymptotically normal, consistent, and efficient coefficient estimates. While the GMM estimator does not require the error terms to be normally distributed, the error terms must be free of serial correlation (Arellano & Bond, 1991). The GMM allows estimation of unknown population parameters using the lagged dependent variable as an additional regressor and the available sample's moment conditions, where the difference between sample values

of dependent variable and expected values of population parameters approximates to zero. Furthermore, lagged independent variables are used as instrumental variables to account for the effects of omitted variables and endogeneity problems in GMM (Blundell & Bond, 1998).

3.3.1 Sample and Data

The sample of this study consists of public hotel companies in the United States (US) that have financial data available on the COMPUSTAT annual database and company filings on the US Securities and Exchange Commissions (SEC) EDGAR at any time over the period of 1993-2013. The beginning of the sample period is limited to the year 1993 because company filings are only available from the beginning of 1993 at SEC. The final sample consists of 312 firm-year observations with 41 unique firms. The dependent variables are obtained from the COMPUSTAT annual database and SEC EDGAR. The data for constructing the financial constraint indices and independent and control variables are obtained from the COMPUSTAT annual database. The Investor Responsibility Research Center (IRRC) publishes the 24 antitakeover provisions (ATP), which decrease the ability of the investors to replace the manager, for about 2,000 large corporations. However, the publications do not comprise the firms in this study sample. Therefore, the data for constructing external governance proxies are hand-collected from firms' 14-A, S-1, S-4, S-11, F-1, F-4, and 10-K statements, certificate of incorporation, and the shareholders' rights plan that are available on the SEC EDGAR. The institutional block holdings data, which is used as a proxy for constructing the internal governance proxy, is obtained from Thomson Financial Institutional Holdings (13F) Database.

3.3.2 Summary Statistics

The summary statistics of dependent, independent, and grouping variables are presented in Table 3.1 along with the correlation matrix of these variables. Three different measures of financial constraints and corporate governance indices are used to test the extent to which these indices capture the same information in terms of financial constraints and exposure to empire building of firms in this study sample.

Table 3.1 Summary Statistics and Correlations

	Mean	Std. Dev.	Investment	Cash	Cash Flow	KZ Index	WW Index	Cleary Index	BCF Index	Staggered Board
Investment (Mil.)	0.10	0.16	1							
Cash (Mil.)	0.07	0.09	0.30[a]	1						
Cash Flow (Mil.)	0.06	0.07	0.04	0.09[c]	1					
KZ Index	-67.49	93.01	0.02	-0.07	-0.72[a]	1				
WW Index	1.90	6.03	-0.04	-0.05	0.04	-0.04	1			
Cleary Index	-0.37	4.11	0.06	-0.03	0.01	-0.18[a]	0.01	1		
BCF Index	3.58	1.82	-0.07	-0.13[a]	-0.03	0.00	0.07	0.11[b]	1	
Staggered Board	0.69	0.45	0.01	-0.02	0.11[b]	-0.08[c]	-0.03	0.06	0.30[a]	1
Block Holdings	0.08	0.14	-0.06	-0.03	0.02	-0.01	-0.06	-0.05	0.03	0.07

a, b, and c indicate 1, 5, and 10% statistical significance levels, respectively based on two-sided tests.

According to the correlation analysis results, investment is positively correlated with cash and cash flow, but the correlation between investment and cash is not statistically significant at conventional levels. While three of the financial constraints indices are negatively correlated with cash, none of the correlation coefficients are statistically significant. Similarly, three of the corporate governance indices are negatively correlated with cash, but the correlation coefficient is only statistically significant for the relation between cash and the BCF index. The cash flow is correlated

positively with the WW and the Cleary indices and negatively with the KZ index. However, the correlation coefficient is only statistically significant for the relation between cash flow and the KZ index. Although cash flow is correlated positively with the staggered board and block holdings and negatively with the BCF index, the correlation coefficient is only statistically significant for the relation between cash flow and the BCF index.

Furthermore, the KZ index is negatively correlated with the WW index and the Cleary index; however, the correlation coefficient is only statistically significant for the relation between the KZ index and the Cleary index. Although the sign of the correlation coefficient between the WW index and the Cleary index is positive, it is not statistically significant. The corporate governance indices are all positively correlated with each other. However, the correlation coefficient is only statistically significant for the relation between the BCF index and the staggered board. These results suggest that different financial constraints and corporate governance indices capture different information in regards to firms' financial constraint levels and the quality of corporate governance mechanisms. Therefore, the use of different index measures is necessary to capture more information about firms' degrees of financial constraints and exposure to empire building.

3.3.3 Model Specification

The dependent variables are the investment as measured by capital expenditures (item 128) and the proportion of franchised divisions as measured by the number of franchised divisions over the total number of franchised and company-owned divisions.

The independent variables are cash, which is measured by cash and short-term investments (item 1), and cash flow as measured by the income before extraordinary items (item 18) plus depreciation and amortization (item 14). Tobin's Q might have positive or negative effects on investment depending on the firms' degree of financial constraints and exposure to empire building (Fazzari et al., 1988; Vogt, 1997). Jensen (1986) suggests that leverage reveals the firm's exposure to empire building in which managers of firms with low leverage and exposure to empire building are likely to depreciate firms' value. Following the literature, size as measured by total assets (item 6); Tobin's Q as measured by total assets (item 6) plus CRSP December Market Equity, which is measured by the firm's December closing price on CRSP (item 199) times common shares outstanding (item 25), minus common equity (item 60) minus balance sheet deferred taxes (item 74); and leverage (the ratio of total debt [item 9 + item 34] to total assets [item 6]) are used to control for firms' characteristics. Dependent, independent, and control variables are adjusted by total book assets (item 6) with the exception of the proportion of franchised divisions. Financial constraint and corporate governance indices are used as grouping variables to sort firms as constrained and unconstrained and dictatorship and democracy portfolios based on the degree of financial constraints and corporate governance mechanisms, respectively.

The Kaplan and Zingales (1997) index, the Whited and Wu (2006) index, and the Cleary index (Hennessy & Whited, 2007) are utilized to sort the firms as constrained and unconstrained based on firms' financial constraint levels. The, KZ, WW, and Cleary financial constraint indices are constructed following the methodologies used in Lamont

et al. (2001), Whited and Wu (2006), and Hennessy and Whited (2007), respectively as follows.

$$KZ = -1.00019\times CF - 39.36\times TDIV - 1.3\times Cash + 0.282\times Q + 3.139\times TLTD \quad (1)$$

$$WW = 0.93 - 0.09\times CF - 0.06\times DIVPOS + 0.02\times TLTD - 0.04\times LNTA + 0.1\times ISG - 0.035\times SG \quad (2)$$

$$Cleary = -0.12\times CURAT - 1.90\times TLTD + 0.001\times COVER + 1.46\times IMARG + 2.03\times SG - 0.05\times SLACK \quad (3)$$

where *CF* is the cash flow, which is the income before extraordinary items (item 18) plus depreciation and amortization (item 14) divided by total assets (item 6); *TDIV* is the total dividends (item 21+ item 19) divided by total assets (item 6); *Cash* is the cash and short-term investments (item 1) divided by total assets (item 6); *Q* is the Tobin's Q; *DIVPOS* is an indicator that is equal to one if the firm pays dividends and zero otherwise; *TLTD* is the total long term debt (item 9) divided by total assets (item 6); *LNTA* is the natural logarithm of total assets; *ISG* is the sample firms' average sales growth; *SG* is the firm's real sales growth; *CURAT* is the current assets (item 4) divided by current liabilities (item 5); *COVER* is the interest coverage and measured as earning before interest and taxes (item 3 minus item 14) over interest expense (item 15) plus preferred dividend payments (item 19) divided by one minus tax rate, where tax rate equals to income taxes (item 16) divided by operating income before depreciation (item 13) minus depreciation and amortization (item 14) minus interest expense (item 15); *IMARG* is the net income (item 18) divided by sales (item 12); and *SLACK* is the financial slack measured as cash and short-term investments (item 1) plus 0.5 times inventory (item 3) plus 0.7 times accounts

receivable (item 2) minus short term loans (item 196) divided by net fixed assets (item 8). Items are Compustat annual items and the constant term, 0.93, in the WW index is obtained from Franzoni (2009). A higher score of the indices indicates more financial constraints and hence higher underinvestment problems. The firms are sorted into two portfolios as constrained (upper tercile; i.e., firms that have upper 33% of index values) and unconstrained (bottom tercile) based on KZ, WW, and Cleary financial constraint index values.

Three different corporate governance indices are utilized to identify firms' quality of governance mechanisms. Gompers et al. (2003) analyze the effects of the external governance mechanism on firm value using an external governance index that consists of 24 ATPs and find that managers protected by more ATPs make poorer investments. Increased numbers of ATPs reduce the disciplinary role of market for corporate control and provide weaker shareholders' rights, which, in turn, make it difficult to replace the manager. In other words, more ATPs increase agency cost between managers and shareholders; hence, managers are more likely to build empires. Similarly, Bebchuk et al. (2006) examine the effects of the external governance mechanism on the value of firms using an alternative index that only consists of six of the 24 ATPs used by Gompers et al. (2003). They conclude that while this parsimonious index negatively affects the firm value, the remaining 18 ATPs do not affect the firm value. The six ATPs are presence of a staggered board, limit to shareholders bylaw amendments, limit to shareholders charter amendments, golden parachutes, supermajority requirement to approve a merger, and poison pills. Along the same line, Bebchuk and Cohen (2005) investigate the presence of a staggered board effect on the value of the firm

and find that firms with a staggered board of directors have significantly lower firm value. Additionally, Shleifer and Vishny (1986) show that the existence of large investors increases the quality of internal governance. Similarly, Cremers and Nair (2005) and Dittmar and Mahrt-Smith (2007) analyze the effect of internal governance mechanism using the percentage shareholding by institutional investors that are greater than 5% on the firm value and find that firm value increases with increased amount of institutional investors. The external governance index (BCF Index), which consists of six ATPs, is constructed following the criteria used in Bebchuk et al. (2006). The six provisions are the presence of a staggered board, limitation on amending corporate bylaws, limitation on amending the charter, supermajority requirement to approve a merger, golden parachutes, and poison pill. Basically, the BCF index is the total number of firms' ATPs that takes the value from one to six, where higher values indicate poor external governance and hence higher overinvestment problems. Following Bebchuk et al. (2006), firms are sorted into dictatorship and democracy portfolios based on the firms' number of ATPs, where firms with three or more ATPs are included in the dictatorship portfolio, while firms with two or less ATPs are included in the democracy portfolio. Also, following Bebchuk and Cohen (2005), firms are sorted into dictatorship and democracy portfolios based on the presence of a staggered board, where firms with a staggered board are included in the dictatorship portfolio, while firms without a staggered board are included in the democracy portfolio. As a measure of internal governance mechanism, institutional block holdings is utilized following Cremers and Nair (2005) and Dittmar and Mahrt-Smith (2007). Similarly, firms are sorted into dictatorship and democracy portfolios based on the firms' amount of institutional investors, where firms that have institutional ownership

5% or less of the firm's outstanding shares are included in the dictatorship portfolio, while firms that have institutional ownership greater than 5% of the firm's outstanding shares are included in the democracy portfolio.

The following model is used to analyze the sensitivity of investment to internal funds in constrained and unconstrained and dictatorship and democracy firms' portfolios:

$$I_{it+1} = \beta_1 I_{it} + \beta_2 C_{it} + \beta_3 CF_{it} + \beta_4 X_{it} + e_{it} \quad (4)$$

and the following model is used to examine the determinants of franchising investments:

$$FD_{it} = \beta_1 FD_{it-1} + \beta_2 C_{it} + \beta_3 CF_{it} + \beta_4 X_{it} + e_{it} \quad (5)$$

where *I* is the firm *i*'s capital expenditure at time *t* and *t+1, FD* is the firm *i*'s proportion of franchised divisions at time *t* and *t-1, C* is the firm *i*'s *cash and short term investments at time t, CF* is the firm *i*'s cash flow at time t, *X* represents a set of control variables of the firm *i* at time *t* that includes the firm's leverage, Tobin's Q, and size. e is the error term and β_1, β_2, β_3 and β_4 are the models' parameters.

3.4 Empirical Results

This section presents the summary statistics and the results of multivariate analyses that examine the extent to which sensitivity of investment to internal funds varies between constrained and unconstrained; and between dictatorship and democracy firms. The multivariate analyses are conducted utilizing first-difference GMM to account for the possible endogeneity problem between investment and internal funds; that is, the lagged dependent variable is added as an additional explanatory variable and lagged independent variables are used as instrumental variables.

Table 3.2 presents the effects of internal funds on investment without classifying firms based on the financial constraints or corporate governance indices. Column 1, 2, and 3 analyze the sensitivity of investment to cash, cash flow, and cash and cash flow, respectively.

Table 3.2 The effects of Internal Funds on Capital Investments

Independent Variables	(1)	(2)	(3)
$Investment_t$	0.29^a (3.30)	0.33^a (3.83)	0.25^a (2.96)
$Cash_t$	0.30^a (3.00)		0.30^a (2.99)
$Cash\ Flow_t$		0.21 (1.42)	0.14 (0.97)
$Leverage_t$	0.13^b (2.52)	0.08 (1.62)	0.12^b (0.98)
Tobin's Q_t	-0.01 (-0.76)	-0.01 (-0.62)	-0.01 (-0.37)
$Size_t$	-0.11^a (8.97)	-0.12^a (-9.11)	-0.11^a (-8.84)
Wald Test	301.01^a	282.56^a	307.84^a
Sargan Test	132.86	147.56	147.47
AR(1) z-stat.	-5.17^a	-5.10^a	-5.21^a
AR(2) z-stat.	-0.29	-0.05	-0.13
Number of Obs.	312	312	312

Investment is the dependent variable as measured by capital expenditure at year t+1. Z-statistics are in parentheses. a, b, and c indicate 1, 5, and 10% statistical significance levels, respectively based on two-tailed tests. All models control for year fixed effects. AR (1) and AR (2) are the error term tests of first and second order serial correlations, respectively.

The coefficient of cash in column 1 is positive and statistically significant. The coefficient of cash flow in column 2 is also positive but it is statistically insignificant. Column 3 reports the results of simultaneous inclusion of cash and cash flow variables. The analysis yields results similar to those in Column 1 and 2. These preliminary results provide support for the relationship between investments and internal funds. However, in order to determine the extent to which the sensitivity of investment is due to financial constraints and/or exposure to empire building further analyses are conducted sorting firms into constrained/unconstrained and democracy/dictatorship portfolios.

Table 3.3 presents the effects of internal funds on investment for the constrained and unconstrained firm portfolios. The firms are sorted into constrained and unconstrained portfolios based on the KZ, WW, and Cleary indices.

Table 3.3 The effects of Internal Funds on Capital Investments: Constrained vs. Unconstrained Firms

Financial Constraint Criteria	KZ Index	WW Index	Cleary Index
		Constrained Firms	
$Investment_t$	-0.15 (-0.11)	0.41[a] (3.32)	-0.47[b] (-2.42)
$Cash_t$	0.50[a] (3.55)	0.52[a] (3.08)	0.52[a] (3.38)
$Cash\ Flow_t$	0.43[b] (2.27)	-0.08 (0.28)	0.72[a] (2.80)
$Leverage_t$	0.14[c] (1.79)	0.07 (0.98)	0.22[a] (2.79)
Tobin's Q_t	0.01 (0.57)	-0.01 (-1.42)	0.03[a] (3.40)
$Size_t$	-0.11[a] (6.05)	-0.07[a] (-2.83)	-0.13[a] (-6.52)
Wald Test	165.20[a]	74.77[a]	205.65[a]
Sargan Test	93.07	59.00	50.33
AR(1) z-stat.	-2.03[b]	-1.55	-1.66
AR(2) z-stat.	0.50	-0.60	0.76
Number of Obs.	102	103	99
		Unconstrained Firms	
$Investment_t$	-0.10 (-0.48)	-0.32[a] (-3.55)	0.41[a] (3.41)
$Cash_t$	-0.13 (-0.75)	0.38[a] (3.09)	0.27[c] (1.66)
$Cash\ Flow_t$	0.41 (1.47)	0.06 (0.34)	-0.44 (-1.56)
$Leverage_t$	0.10 (1.05)	0.12 (1.30)	0.18 (1.46)
Tobin's Q_t	0.11[c] (1.74)	0.02[a] (3.67)	-0.01 (-0.18)
$Size_t$	-0.16[a] (-4.65)	-0.11[a] (-3.06)	-0.17[a] (-3.88)
Wald Test	130.94[a]	172.37[a]	115.18[a]
Sargan Test	39.00	96.01	44.36
AR (1) z-stat.	-1.01	-0.40	-1.58
AR (2) z-stat.	-2.29[b]	-0.20	-0.01
Number of Obs.	111	106	115

Investment is the dependent variable as measured by capital expenditure at year t+1. Z-statistics are in parentheses. a, b, and c indicate 1, 5, and 10% statistical significance levels, respectively based on two-tailed tests. All models control for year fixed effects. AR (1) and AR (2) are the error term tests of first and second order serial correlations, respectively.

Prior to interpreting the coefficient estimates, overall significance of the model, validity of instruments, and the presence of serial correlation in the error terms must be investigated. Wald statistic, which is a test of the joint significance of the coefficient estimates, shows that the coefficients are jointly significant. The Sargan test of over-

identifying restrictions is employed to examine the validity of the instrumental variables as recommended by Blundell and Bond (1998). The Sargan test statistic has the null hypothesis of instrumental validity. The results suggest that the variables used to account for possible endogeneity problems are valid instruments. Also, the first, *AR(1)*, and second order, *AR(2)*, serial correlation tests, which have the null hypotheses of no serial correlations, are used following Arellano and Bond (1991). According to the results, the error terms have no serial correlations and thus it can be proceed with the interpretation of coefficient estimates. The results show that the sensitivity of investment to cash is positive and significant for constrained firms' portfolio based on three of the financial constraint indices, and the coefficients are greater relative to the sensitivity of investment to cash in unconstrained firms' portfolio. Specifically, the sensitivity of investment to cash is 0.50 ($p<0.01$), 0.52 ($p<0.01$), and 0.52 ($p<0.01$) for constrained firms, while it is -0.13, 0.38 ($p<0.01$), and 0.27 ($p<0.1$) for unconstrained firms based on the KZ, WW, and Cleary indices. The investment-cash flow sensitivity is also greater for constrained firms than for unconstrained firms based on the KZ and Cleary indices, and the relationship is positive and significant for constrained firms. Although the investment-cash flow sensitivity is smaller for constrained firms' portfolio than for unconstrained firms' portfolio, it is not significant for either of the portfolios based on the WW index. Overall, the results support the hypotheses (*H1: H1a and H1b*) drawn from the underinvestment theory that the sensitivity of investment to internal funds is greater for constrained firms than for unconstrained firms, suggesting that there is wedge between internal and external finances and hence financially constrained firms rely on internal funds to undertake value-increasing projects.

Table 3.4 The effects of Internal Funds on Capital Investments: Dictatorship vs. Democracy Firms

Governance Criteria	BCF Index	Staggered Board	Block Holdings
		Dictatorship Firms	
$Investment_t$	0.33[a] (3.78)	0.30[a] (3.36)	0.30[a] (3.16)
$Cash_t$	0.40[b] (2.57)	0.14 (1.21)	0.50[a] (3.38)
$Cash\ Flow_t$	-0.19 (-0.97)	-0.01 (-0.05)	0.23 (1.14)
$Leverage_t$	0.15[a] (2.64)	0.10 (1.64)	0.14[c] (1.68)
Tobin's Q_t	-0.01 (-1.23)	-0.01 (-0.49)	-0.01 (-0.23)
$Size_t$	-0.10[a] (-7.07)	-0.13[a] (7.56)	-0.12[a] (-7.68)
Wald Test	224.60[a]	271.76[a]	165.96[a]
Sargan Test	129.53	94.76	108.17
AR(1) z-stat.	-5.24[a]	-4.00[a]	-3.78[a]
AR(2) z-stat.	0.56	0.65	-0.66
Number of Obs.	203	220	187
		Democracy Firms	
$Investment_t$	-0.23 (-1.29)	-0.32[c] (-1.96)	-0.03 (-0.28)
$Cash_t$	0.13 (1.02)	0.47[b] (2.31)	0.06 (0.51)
$Cash\ Flow_t$	0.64[a] (2.77)	0.28 (1.24)	-0.10 (-0.60)
$Leverage_t$	-0.07 (-0.69)	-0.08 (-0.67)	0.01 (0.09)
Tobin's Q_t	0.01[b] (2.47)	0.02[a] (2.89)	0.01 (1.16)
$Size_t$	-0.10[a] (-3.76)	-0.10[a] (-5.64)	-0.12[a] (-4.18)
Wald Test	105.07[a]	96.63[a]	318.38[a]
Sargan Test	62.95	75.22	60.81
AR(1) z-stat.	-3.05[a]	-4.23[a]	-1.87[c]
AR(2) z-stat.	-1.44	-0.25	0.68
Number of Obs.	109	92	125

Investment is the dependent variable as measured by capital expenditure at year t+1. Z-statistics are in parentheses. a, b, and c indicate 1, 5, and 10% statistical significance levels, respectively based on two-tailed tests. All models control for year fixed effects. AR (1) and AR (2) are the error term tests of first and second order serial correlations, respectively.

Table 3.4 illustrates the effects of internal funds on investment for the dictatorship and democracy firms' portfolios. The firms are sorted into dictatorship and democracy portfolios based on the BCF index, the presence of a staggered board, and the amount of block holdings. Wald statistics show that the coefficients are jointly significant for each model. The Sargan test, which is used to test over-identifying restrictions, statistics suggest that the instruments are valid for all the models. The statistics from the first, *AR(1)*, and second order, *AR(2)*, serial correlation tests show that the error terms have no serial correlations. The results show that the sensitivity of investment to cash is positive

and significant for dictatorship firms' portfolio based on the BCF index and the block holdings criteria, and the coefficients are greater relative to the sensitivity of investment to cash in democracy firms' portfolio. Particularly, the investment-cash sensitivity is 0.40 ($p<0.05$) and 0.50 ($p<0.01$) for dictatorship firms, while it is 0.13 and 0.06 for democracy firms based on the BCF index and the block holdings classifications. The investment-cash flow sensitivity, which is positive and statistically significant, is greater in democracy firms' portfolio compared to dictatorship firms' portfolio based on the BCF index criterion. Accordingly, firms that have less than five percent institutional investors rely more on internal funds than firms that have more than five percent institutional investors. In the same vein, investment-cash sensitivity is greater for dictatorship firms, in which managers of firms are protected by more ATPs, than for democracy firms. However, the investment-cash flow sensitivity is not significant for dictatorship firms based on any of the corporate governance classifications. More interestingly, although the sensitivity of investment to cash is positive for dictatorship firms' portfolio based on the presence of a staggered board criterion, it is not statistically significant and it is smaller than the investment-cash sensitivity in democracy firms, which may indicate that the presence of a staggered board may not be a good proxy for exposure to empire building. Overall, the results support the first hypothesis (*H2: H2a*) drawn from the overinvestment theory that the sensitivity of investment to internal funds is greater for dictatorship firms than for democracy firms.

Table 3.5 depicts the determinants of franchising investment for all, constrained, and unconstrained franchising firm samples. The firms are classified into financially constrained and unconstrained franchising firms based on the WW index. Wald statistics

show that the coefficients are jointly significant for each model. The Sargan test of over-identifying restrictions statistics suggests that the instruments are valid for all the models. The statistics from the first, AR(1), and second order, AR(2), serial correlation tests show that the error terms have no serial correlations. The results show that the relation between internal funds (cash and cash flow) and franchising investment is negative for all, constrained, and unconstrained franchising firm sample analyses. While the coefficients of cash and cash flow are not statistically significant for the analyses of all and unconstrained franchising firm samples, the coefficient of cash flow is statistically significant for the constrained franchising firm sample analysis. Therefore, the results partially support the hypotheses (*H3a*) drawn from the capital scarcity theory of franchising and underinvestment theory, which suggests that financially constrained firms expand through franchising to mitigate underinvestment problems.

Table 3.5 Determinants of Franchising Investments

	All Franchising Firms	Constrained Firms	Unconstrained Firms
Franchised Divisions$_{t-1}$	0.29[c] (1.52)	0.41[b] (1.79)	0.31[b] (2.18)
Cash$_t$	-0.17 (-0.28)	-0.59 (-0.65)	-0.54[c] (-1.48)
Cash Flow$_t$	-0.87 (-1.06)	-2.97[b] (-2.01)	-0.42 (-0.52)
Leverage$_t$	-0.55[b] (-2.29)	-0.93[b] (-1.92)	-0.43[b] (-2.02)
Tobin's Q$_t$	0.07[a] (3.55)	0.27[a] (4.04)	0.01 (0.48)
Size$_t$	-0.03 (-0.34)	-0.32[b] (-1.90)	0.30[a] (3.94)
Wald Test	30.08[a]	24.16[a]	132.00[a]
Sargan Test	43.73	28.63	41.83
AR(1) z-stat.	-1.25	-1.26	-0.87
AR(2) z-stat.	0.11	-0.47	0.66
Number of Obs.	65	34	31

Franchising Divisions is the dependent variable as measured by the number of franchised divisions over number of franchised and owned divisions at year t. Z-statistics are in parentheses. a, b, and c indicate 1, 5, and 10% statistical significance levels, respectively based on one-tailed tests. All models control for year fixed effects. AR (1) and AR (2) are the error term tests of first and second order serial correlations, respectively.

The coefficients of lagged dependent variable in Table 5, which signifies proportion of franchised divisions in year t-1, are positive for all, constrained, and

unconstrained franchising firm sample analyses. Therefore, the results support the hypothesis (*H6*) drawn from the agency theory of franchising that firms expand through franchising with increased experience in developing a franchise system, suggesting that firms may expand through franchising to eliminate the agency costs of divisional managers.

The sensitivity of investment to internal funds is further investigated to determine if the sensitivity is greater in constrained/unconstrained and dictatorship/democracy franchising firms' portfolios. Table 3.6 presents the results of these analyses. The results show that constrained franchising firms rely more on cash than unconstrained franchising firms. However, the coefficients of cash flow are statistically insignificant for both constrained and unconstrained franchising firms' portfolios.

Table 3.6 The effects of Internal Funds on Capital Investments: Franchising Firms

Financial Constraints/Corporate Governance Criteria	Constrained Firms	Unconstrained Firms	Dictatorship	Democracy
$Investment_t$	0.32^a (2.58)	0.22^b (2.44)	0.25^a (4.03)	-2.38^b (-2.04)
$Cash_t$	0.34^c (1.80)	-0.27 (-0.91)	0.18 (0.92)	-0.19 (-0.48)
$Cash\ Flow_t$	-0.10 (-0.53)	0.48 (0.79)	0.13 (0.43)	1.94^c (1.93)
$Leverage_t$	0.07 (1.33)	-0.04 (-0.58)	0.12^b (0.98)	-5.45^b (-2.07)
Tobin's Q_t	-0.02 (-2.28)	0.01 (0.45)	-0.05^a (-2.63)	-0.16^b (-2.48)
$Size_t$	0.01 (0.23)	0.08 (0.91)	-0.11^a (-8.84)	2.15^b (2.27)
Wald Test	163.52^a	89.69^a	180.91^a	222.31^a
Sargan Test	40.64^a	33.28^a	40.79^b	17.46^a
AR(1) z-stat.	-2.86^a	-2.67^a	-2.64^a	-1.81^c
AR(2) z-stat.	-1.25	1.28	-0.02	-2.51^b
Number of Obs.	45	39	46	38

Investment is the dependent variable as measured by capital expenditure at year t+1. Z-statistics are in parentheses. a, b, and c indicate 1, 5, and 10% statistical significance levels, respectively based on two-tailed tests. All models control for year fixed effects. AR (1) and AR (2) are the error term tests of first and second order serial correlations, respectively.

These results support the one hypothesis (*H4a*), while they fail to support the other hypothesis (*H4b*) drawn from the capital scarcity theory. The coefficient of cash on

dictatorship firms' portfolio suggests that poorly governed firms rely more on cash than well-governed firms; however, the result is statistically insignificant. The coefficient of cash flow is also insignificant for dictatorship firms' portfolio and it is smaller than the coefficient of cash flow in democracy firms' portfolio. These results could be due to either small sample size or that the corporate governance index does not measure the overinvestment problems well.

3.5 Conclusions

While both underinvestment and overinvestment theories suggest that the availability of internal funds increases investments (Fazzari et al., 1988; Jensen, 1986; Myers & Majluf, 1984), it is less well understood the extent to which the investment-internal funds sensitivity differs between firms with underinvestment problems and firms with overinvestment problems. This study investigates the role of internal funds on capital investments in the hospitality industry based on the firms' degree of financial constraints and exposure to empire building. Firms are classified into constrained and unconstrained portfolios using the KZ, WW, and Cleary financial constraint indices and the results show that financially constrained firms rely more on internal funds than do unconstrained firms. This finding suggests that financially constrained hotel chains accumulate internally generated funds to undertake value-increasing projects.

Firms are further categorized as dictatorship and democracy portfolios using the BCF index, the presence of a staggered board, and the amount of institutional shareholders in order to determine the extent to which the sensitivity of investment to internal funds varies between dictatorship and democracy firms. The results indicate that

investment-internal funds sensitivity is greater for dictatorship firms, which are likely overinvesting due to empire building managers. The results substantiate the overinvestment theory propositions of Jensen (1986) and indicate that shareholder value is more likely to be maximized in democratic hotel firms.

The determinants of franchising investments are analyzed to examine the predictions of the agency and capital scarcity theories. The results show that the relationship between the proportion of franchised units and internal funds is not significant when the analysis is conducted by pooling all the firms that adopt franchising in a single sample. However, this relationship might be different for financially constrained and unconstrained firms, this study resolves the methodological flaw that exists in previous empirical studies testing the capital scarcity theory of franchising regarding the identification of firms' financial constraint levels. Using financial constraint indices, firms that adopt franchising are further sorted into financially constrained and unconstrained categories in order to compare the extent to which constrained and unconstrained firms depend on internal funds to undertake franchising investments. The relation between proportion of franchised units and cash flow is negative for financially constrained firms, suggesting that financially constrained firms expand through franchising when they lack internal resources. Conversely, the coefficients of cash and cash flow are not statistically significant for unconstrained firms, as these firms may adopt franchising for reasons other than financial constraints, one of which is the monitoring cost of divisional managers.

To summarize, financially constrained firms allocate greater cash and cash flow than unconstrained firms to overcome underinvestment problems, while managers of

dictatorship firms retain more cash and cash flow than democracy firms to build empires. Although both underinvestment and overinvestment theories suggest that investment increases with the available internal funds, they have different policy implications. Underinvestment theory suggests that firms should retain internal funds to undertake investments, while overinvestment theory suggests that firms should distribute the internal funds to the shareholders and raise debt to undertake further investments. According to the results from the analyses of this study, it can be argued that investment-internal funds sensitivity is greater for financially constrained firms than for dictatorship firms. These results suggest that financially constrained firms use mostly internal resources for investments because of difficulties in raising external finance due to asymmetric information. Although dictatorship firms also retain internal funds for investments, these firms could raise external funds to undertake value-increasing projects; however, managers of dictatorship firms tend to use internal resources to undertake value-decreasing projects due to the managerial desire to build empires. This study advances the underinvestment and overinvestment literature by showing the extent to which the sensitivity of investment to internal funds differs between financially constrained and dictatorship firms.

The findings of this study have practical implications. Accordingly, hospitality firms should allocate internal resources efficiently based on the degree of financial constraints and exposure to empire building to adjust investments to reach the optimal investment level, where the firm value is maximized. On the one hand, firms with overinvestment problems should eliminate the ATPs to increase the quality of external governance mechanism. Reducing the number of ATPs will not only increase the quality

of external governance mechanism, but it may also drive more institutional investors to the firm, which increases the quality of internal governance and controls managerial desire to build empires. Increased quality of internal and external governance will force managers to distribute the internal resources to the shareholders and to raise external funds for undertaking positive NPV projects. On the other hand, financially constrained firms should retain the internal funds to finance all the positive NPV projects to alleviate the informational asymmetries and to reach the optimal investment level. This study further contributes to an explanation of the capital scarcity and agency theory of franchising by examining determinants of franchising investments in hotel firms. Accordingly, firms adopt franchising due to both capital scarcity and agency cost, suggesting that franchising could be a way of dealing with asymmetric information and the monitoring cost of divisional managers. Therefore, financially constrained firms may expand through the franchising model when they lack internal resources to undertake value-increasing projects.

Despite its contribution to the corporate finance and franchising literature, this study has limitations. Although the findings of this study provide significant evidence that financially constrained firms rely more on internal funds than do dictatorship firms, the analyses are limited to the sensitivity of investment to internal funds comparisons. Therefore, future research may investigate the role of internal funds on firm value to determine the extent to which internal funds affect firm value in financially constrained and dictatorship firms. While the determinants of franchising investments are analyzed to test the agency and capital scarcity theories of franchising, future studies are necessary to examine the determinants of capital investments and the extent to which franchising and

capital investments affect firm value. Moreover, although the results might be generalizable to firms in other industries, the analyses are limited to hotel firms. Thus, testing the theories of underinvestment, overinvestment, and franchising in sample groups from different industries would corroborate the findings of this study.

CHAPTER 4

THE VALUE OF CASH HOLDINGS IN HOTEL FIRMS: THE ROLE OF FRANCHISING, FINANCIAL CONSTRAINTS, AND CORPORATE GOVERNANCE

4.1 Introduction

The hotel business is one of the most capital-intensive industries in the service industry (Houthakker, 1979; Tsai & Gu, 2012) because a substantial capital investment is required to build a new hotel property or to renovate an existing one. Therefore, hotel firms may need external funds to develop and/or acquire an additional hotel property, which are common investment strategies in the hotel industry (Canina et al., 2010). However, the high cost of external finance could turn a positive net present value (NPV) of an investment to negative due to asymmetric information problems between the company and outside investors. Firms that face asymmetric information problems do not undertake all positive NPV investments that require financing beyond the available internal funds because the opportunity cost of internal finances may be lower than the opportunity cost of external finances (Myers & Majluf, 1984). As a result, such firms encounter underinvestment problems due to financial constraints. In other words, they rely more heavily on internal resources (i.e., cash holdings) to fund their growth due to the high cost of external finance.

Therefore, retained cash can be more valuable for financially constrained firms relative to unconstrained firms. A stream of corporate finance literature finds empirical evidence that financially constrained firms hold more cash and retain more of their cash flows than unconstrained firms (Almeida et al., 2004). Furthermore, Faulkender and Wang (2006) and Denis and Sibilkov (2009) show that the marginal value of cash holdings is higher for financially constrained firms than for unconstrained firms. This study examines the effects of financial constraints on the marginal value of cash in the hotel industry. The marginal value of cash is expected to be higher for financially constrained hotel firms.

Although greater cash holdings may reduce underinvestment problems, it may cause overinvestment problems. Jensen (1986) argues that managers of firms with free cash flows and unused borrowing powers are more likely to complete negative NPV projects and hence greater cash holdings might be less valuable in poorly-governed firms. Studies by Pinkowitz, Stulz, and Williamson (2006) and Dittmar and Mahrt-Smith (2007) report results that are consistent with the view that the marginal value of cash is lower in firms with agency problems or poor governance mechanisms. This study investigates the role of corporate governance mechanisms on the marginal value of cash in the hotel industry. Shareholders would place greater value on the marginal cash holdings in well-governed firms relative to poorly-governed firms because empire-building CEOs might waste the retained marginal cash by investing in value-decreasing projects.

Even if firms retain internally generated funds in order to eliminate underinvestment problems, internal funds may not be sufficient to undertake all value-increasing projects. As an alternative, hotel firms may expand their businesses via the franchising business investment model, in addition to developing hotel properties or making acquisitions. The capital scarcity theory of franchising suggests that firms utilize franchising when they lack the necessary capital to fund their growth because franchisor firms do not need substantial capital resources for franchising investments (Hunt, 1973; Oxenfeldt & Thompson, 1968-1969). Real estate properties comprise the majority of investments in the hotel industry and they require periodic capital expenditures for maintenance, renovation, and restoration to sustain the quality of service provided. Franchising could especially be beneficial for franchisors in the global market because it allows them to expand into foreign markets while undertaking little or no capital investment risk. In franchising, the risk is transferred to franchisees in exchange for the franchisor's know-how and trademark (Alon et al., 2012). While franchising might be a practical tool for expansion when firms lack necessary internal resources, the marginal cash might be more valuable for franchising firms because it allows firms to undertake a company-owned hotel investment. Shareholders of franchising firms will place greater value on cash, if franchising is viewed as an investment method to mitigate underinvestment problems.

Franchising may help solve underinvestment problems, but in the context of hotel expansion it may exacerbate overinvestment problems. Although hotel firms extensively rely on franchising for their growth, they continue to make acquisitions, which requires substantial capital expenditures. The acquisition strategy enables hotel companies to

grow quickly in both domestic and foreign markets by eliminating the time required for developing a new hotel project from the ground up. However, an investment that requires substantial capital spending could be an overinvestment because managers that desire to build empires may undertake value-decreasing investments with the excess cash holdings generated through franchising and royalty fees. Shareholders of franchising firms will place lower value on cash if franchising is perceived to worsen overinvestment problems.

Overall, greater cash holdings could eliminate underinvestment problems or create overinvestment problems. Extant studies show that the marginal value of cash is greater for financially constrained firms than for unconstrained firms (see e.g., Faulkender & Wang, 2006) and it is lower for poorly-governed firms than for well governed firms (see e.g., Dittmar & Mahrt-Smith, 2007). However, little is known which of these problems has a greater effect on the marginal value of cash. Furthermore, many hotel chains start business with few wholly owned establishments, and instead expand rapidly via franchising. Yet, why firms choose franchising investment model is not clear. While firms may expand through franchising when they lack internal resources, franchising might aggravate overinvestment problems. However, this is ultimately an empirical question.

The purpose of this study is to examine the extent to which franchising, financial constraints, and corporate governance affect the marginal value of cash in hotel firms. First, the relation between marginal cash holdings and firm value is investigated in order to determine the marginal value of cash holdings in hotel firms. Second, the effects of financial constraints and corporate governance on the relation between marginal cash holdings and firm value are examined in order to determine the extent to which

asymmetric information or agency problems are more costly for firms. Lastly, the effect of franchising on the relation between marginal cash holdings and firm value is analyzed in order to determine why firms adopt franchising investment.

The results show that the marginal value of cash is greater for financially constrained hotel firms than for unconstrained hotel firms, while it is lower for poorly-governed firms than for well-governed firms. The coefficient of marginal cash is greater for financially constrained firms than for poorly-governed firms, suggesting that the asymmetric information problem is more costly than agency problems. The results from the examination of the marginal value of cash holdings in firms that expand through franchising indicates that franchising could be utilized as a solution for underinvestment problems in financially constrained firms; however, it seems to magnify overinvestment problems in poorly-governed firms.

The remainder of the paper is organized as follows: Section 2 reviews the relevant literature and develops the hypotheses. Section 3 describes the methodology of this study. Section 4 presents the results from the analyses of the effects of financial constraints, corporate governance mechanisms, and franchising on the marginal value of cash. Section 5 concludes.

4.2 Literature Review and Hypotheses Development

An extensive body of research suggests that external and internal finances are not perfect substitutes. Myers and Majluf (1984) assert that entrepreneurs experience difficulties conveying true information of their firm to the market and thus firms with asymmetric information problems forego possible growth opportunities because external

finance is so costly. Fazzari et al. (1988) show that firms are financially constrained if their investments are highly sensitive to internal funds (i.e., cash and cash flows). While Fazzari et al. (1988) argue that high investment-internal funds sensitivity indicates that firms are financially constrained in their investments, Kaplan and Zingales (1997) argue that investment cash-flow sensitivity cannot be a good measure of financial constraint because it may also be an indication of overinvestments of free cash flows. Jensen (1986) suggests that managers of firms with free cash flows and unused borrowing powers are more likely to complete negative NPV projects. In other words, a firm could have high level of exposure to empire building, if the manager seeks private benefits.

A number of studies have developed methods that measure firms' quality of corporate governance mechanisms and degree of financial constraints. Gompers et al. (2003) and Bebchuk et al. (2006) have developed indices based on antitakeover provisions (or ATPs, legal regulations that shield firms against hostile takeovers) that measure the quality of external governance mechanism, which is known as the market for corporate control that prevents management from undertaking value-decreasing projects. According to Shleifer and Vishny (1986), the presence of larger shareholder groups increases the quality of internal governance. Cremers and Nair (2005) have developed a measure that can assess the quality of internal governance mechanism based on the amount of institutional investors in a firm. Similarly, several indices have been developed that measure firms' degree of financial constraints based on the information that firms disclose on their financial reports (see e.g., Almeida et al., 2004; Hadlock & Pierce, 2010; Hennessy & Whited, 2007; Lamont et al., 2001; Whited & Wu, 2006).

Consistent with the underinvestment theory, Almeida et al. (2004); Whited and Wu (2006); Hennessy and Whited (2007); Denis and Sibilkov (2009); and Hadlock and Pierce (2010) show that financially constrained firms hold more of their cash and cash flow than unconstrained firms to overcome financial constraints. Furthermore, Faulkender and Wang (2006) provide evidence that the value of cash is greater for financially constrained firms than for unconstrained firms. More recently, Denis and Sibilkov (2009) find evidence supporting the previous theoretical and empirical studies that the marginal value of cash holdings is higher for financially constrained firms than for unconstrained firms. In general, financially constrained firms are expected to use internal resources to maximize the firm value by undertaking value-increasing projects. Therefore, shareholders of financially constrained firms place greater value on cash than unconstrained firms because the marginal cash in financially constrained firms reduces the underinvestment problems that arise due to the asymmetric information problem (i.e., the wedge between external and internal finances). Accordingly, the following hypotheses are offered based on the theoretical framework of underinvestment:

H1a: There is a positive relationship between the marginal dollar of cash and firm value.

H1b: The marginal value of cash is greater for financially constrained firms than for unconstrained firms.

Although the literature provides substantial evidence that the value of cash varies across firms based on the degree of financial constraints, a different stream of literature show that cash has lower value in poorly-governed firms and in firms with agency problems. Pinkowitz et al. (2006), investigating the effects of corporate governance

mechanisms on the value of internal funds, show that the value of cash is lower in firms with agency problems or weak governance practices relative to well-governed firms. Similarly, Dittmar and Mahrt-Smith (2007) provide empirical support consistent with this view that the marginal value of cash is lower in firms with agency problems or poor governance mechanisms. In other words, shareholders of weakly governed firms place lower value on the marginal cash holdings. Masulis et al. (2007) demonstrate evidence in favor of the overinvestment theory that managers of poorly-governed firms make poorer investments relative to managers of well-governed firms. Therefore, managers of poorly-governed firms retain internal funds to undertake investments that benefit them but not necessarily the shareholders; that is, managers of firms with desire to build empires may waste the marginal cash in value-decreasing projects and create overinvestment problems. Accordingly, overinvestment theory predicts the following hypotheses:

H2a: There is a negative relationship between the marginal dollar of cash and firm value.

H2b: The marginal value of cash is lower for poorly-governed firms than for well-governed firms.

While Myers and Majluf (1984) suggest that firms bypass projects that require external finance due to asymmetric information problems, financially constrained firms might utilize franchising to eliminate such underinvestment problems. If a firm is financially constrained, franchising might help because franchising requires little or no capital investment and immediately generates cash flows. Oxenfeldt and Thompson (1968-1969) propose the capital scarcity theory of franchising to explain why firms adopt it. According to this theory, firms that cannot raise external finance choose the

franchising business investment model for expansion and growth. While there are a number of studies that examine determinants of franchising investment, results are mixed. However, previous studies that test the capital scarcity theory of franchising assume a monotonic relationship between firms' internal resources and franchising investments (see e.g., Brickley et al., 1991; Combs & David J., 1999). The capital scarcity of firms may vary across firms and hence while some firms adopt franchising due to capital scarcity, other may adopt franchising for different reasons. That is, the capital scarcity theory's propositions may only pertain to financially constrained firms. Therefore, the hypothesis, which postulates that all franchising firms face financial constraints, is inappropriately deduced from the capital scarcity theory in former empirical studies. A method that measures firms' degree of financial constraints is necessary to test the extent to which firms adopt franchising due capital scarcity or financial constraints. Recently developed financial constraint indices (see e.g., Almeida et al., 2004; Hadlock & Pierce, 2010; Hennessy & Whited, 2007; Lamont et al., 2001; Whited & Wu, 2006) could be used to measure the extent to which firms face financial frictions and hence rely on internal resources and/or franchising for investments.

Although financially constrained firms could adopt franchising as a solution to underinvestment problem, firms that adopt franchising might as well face overinvestment problems if they are exposed to empire building. In other words, managers' mission might not be aligned with that of shareholders. In the case of franchising firms, cash flows generated through franchisees might lead managers to undertake value-decreasing investments that require substantial capital spending such as mergers and acquisitions (Lang et al., 1991). Such deals have been very frequent in hospitality industry in the last

two decades, with over 800 mergers and acquisitions (Chatfield, Chatfield, & Dalbor, 2012). Consequently, managers of hospitality firms might invest in negative NPV projects with the cash flow generated through franchised divisions rather than distributing dividends to shareholders.

Accordingly, shareholders of franchising firms will place greater value in cash, if franchising is pursued as an investment method to mitigate underinvestment problems. However, shareholders will place a lower value on franchising firms if franchising is viewed as exacerbating overinvestment problems. Therefore, the following hypothesis is proposed based on the franchising theories:

H3: There is a relationship between the marginal dollar of cash and the value of franchising firm.

While a positive relationship between the marginal cash and firm value suggests that firms expand through franchising to eliminate underinvestment problems, a negative relationship between the marginal cash and firm value indicates that franchising exacerbates overinvestment problems. It is also possible that some firms adopt franchising to reduce underinvestment problems, while for other firms the choice to use franchising is related to overinvestment problems. On the one hand, the marginal value of cash is expected to be higher for financially constrained firms that use franchising than for unconstrained franchising firms. On the other hand, shareholders of poorly-governed franchising firms will place lower value on cash relative to well-governed franchising firms. Therefore, the following hypotheses are drawn from the theoretical frameworks of under- and overinvestment, respectively:

H4: The marginal value of cash is greater for financially constrained franchising firms than for unconstrained franchising firms.

H5: The marginal value of cash is lower for poorly-governed franchising firms than for well-governed franchising firms.

4.3 Methodology

Multivariate analyses are employed to uncover the extent to which the marginal value of cash differs between constrained and unconstrained; between dictatorship and democracy; and between franchising and non-franchising firms. The observations with missing dependent variables are removed from the analysis and the observations with missing independent variables are replaced by the firm's median values. All the variables are winsorized from 1% and 99% level to eliminate the effects of outliers.

Ordinary least square (OLS) analysis may yield biased standard errors if the Gauss-Markov assumptions of OLS are violated. Therefore, the residuals of the model must be diagnosed to determine whether the estimated coefficients are best linear and unbiased (BLUE) (Gujarati, 2003). The residuals are diagnosed for the presence of heteroscedasticity and autocorrelation utilizing White (1980) and Wooldridge (2002) tests, respectively. However, the models' residuals appear to suffer from heteroscedasticity and autocorrelation problems. Wooldridge (2002) recommends the use of feasible generalized least square (FGLS) because it corrects for the heterogeneity and autocorrelation and produces robust standard errors. Therefore, multivariate analyses are conducted utilizing FGLS to account for the heterogeneity and autocorrelation problems in the models. Furthermore, FGLS produces asymptotically normally distributed

coefficient estimates, which relaxes the normality assumption of the OLS (Parks, 1967). Variance Inflation factors are further assessed for multicollinearity and all the values in all the models yield acceptable results. Hence, the estimated parameters of the models are reliable.

The following models are applied to examine the relationship between marginal cash and the firm value and the marginal value of cash for financially constrained, poorly-governed, and franchising firms relative to unconstrained, well-governed, and firms, which do not adopt franchising, respectively:

$$ER_{it} = a_0 + \beta_1 MC_{it} + \beta_2 MC_{it} FC + FC + \sum_{k=1}^{n} \beta_k X_{kt} + e_{it} \quad (1)$$

$$ER_{it} = a_0 + \beta_3 MC_{it} + \beta_4 MC_{it} G + G + \sum_{k=1}^{n} \beta_k X_{kt} + e_{it} \quad (2)$$

$$ER_{it} = a_0 + \beta_5 MC_{it} + \beta_6 MC_{it} F + F + \sum_{k=1}^{n} \beta_k X_{kt} + e_{it} \quad (3)$$

where *ER* is the firm *i*'s excess stock returns at time *t, MC* is the firm *i*'s change in cash at time *t, FC* is a financial constraints dummy variable, G is a corporate governance dummy or index variable, F is the franchising dummy variable, and *X* represents a set of control variables of the firm *i* at time *t* that includes the change in non-cash, change in earnings, leverage, and net financing. e is the error term and a_0, β_1, β_2, β_3, β_4, β_5, and β_6 are the models' parameters.

4.3.1 Data and Variable Construction

The sample of this study consists of public hotel companies in the United States (US) over the period of 1993-2013. The sample period begins in 1993 because company filings are only available then through the Securities and Exchange Commission's (SEC)

EDGAR database. The dependent, independent, and control variables and the data for constructing the financial constraint indices are obtained from the COMPUSTAT annual database. The institutional block holdings data, which is used as a proxy for constructing the internal governance proxy, is obtained from Thomson Financial Institutional Holdings (13F) Database. The Investor Responsibility Research Center (IRRC) publishes the 24 antitakeover provisions (ATP), which decrease the ability of the investors to replace the manager, for about 2,000 large corporations. However, the publications do not comprise the firms in this study sample. Therefore, the data for constructing external governance proxies are hand-collected from firms' 14-A, S-1, S-4, S-11, F-1, F-4, and 10-K statements, certificate of incorporation, and the shareholders' rights plan that are available on the SEC EDGAR. The final sample consists of 392 firm-year observations with 41 unique firms.

The dependent variable, *excess stock return (or firm value),* is the stock return over a fiscal year minus the return on a beta-matching portfolio. The benchmark portfolio is adapted from the forty-eight Fama- French value-weighted portfolios. Accordingly, the excess stock return is calculated as follows.

$$R_{it} = \frac{P_{it}}{P_{it-1}} - 1 \qquad (4)$$

$$ER_{it} = R_{it} - BR_{it} \qquad (5)$$

where R is the excess stock i's return during year t; P is the fiscal year closing price for stock i on year t (item 199); ER is the excess stock i's return during year t; BR is the return of stock i's benchmark portfolio during year t.

The independent variable is the change in cash (or marginal cash), which is measured by cash and short-term investments (item 1) in year *t* minus cash and short-term investments in year *t-1*. Based on the methodology used in the studies of Faulkender and Wang (2006) and Denis and Sibilkov (2009), the following variables are included in the models to control for the changes in the firm's profitability and book assets net of cash and the firm's leverage and net financing. Change in non-cash is measured by book assets (item 6) in year *t* minus book assets in year *t-1* less change in cash; change in earnings is measured as interest (item 15) plus earnings before extraordinary items (item 18) deferred taxes credits (item 50), and investment tax credits (item 51) in year *t* minus earnings in year *t-1*; leverage, which is defined as the ratio of total debt (item 9 + item 34) to total assets (item 6) in year *t*; and net financing, which is measured by the sale of common and preferred stock (item 108) minus purchase of common and preferred stock (item 115) plus long term debt issuance (item 111) minus long term debt redemption (item 114). Independent and control variables are adjusted by lagged market equity, which is defined as the number of common shares (item 54) times the fiscal year closing price for stock *i* on year *t* (item 199), with the exception of leverage. Therefore, the coefficient of change in cash indicates the marginal value of cash. Corporate governance and financial constraint indices are applied to categorize firms as constrained and unconstrained and dictatorship and democracy portfolios based on the degrees of financial constraints and corporate governance mechanisms, respectively. Furthermore, constrained (FC), governance (G) and franchising (F) dummy variables are created, where FC takes the value of one if the firm is financially constrained and zero otherwise;

G takes the value of one if the firm is poorly-governed and zero otherwise; and F takes the value of one if the firm is a franchising company and zero otherwise.

Three financial constraint indices are utilized to measure firms' financial constraint levels. Specifically, the Kaplan and Zingales (1997) (KZ) index, the Cleary index (Hennessy & Whited, 2007), and the Size and Age (SA) index are utilized to classify firms as constrained and unconstrained. The, KZ, Cleary, and SA financial constraint indices are constructed following the methodologies used in Lamont et al. (2001), Hennessy and Whited (2007), and Hadlock and Pierce (2010), respectively as follows.

$$KZ = -1.00019\times CF - 39.36\times TDIV - 1.3\times Cash + 0.282\times Q + 3.139\times TLTD \quad (6)$$

$$Cleary = -0.12\times CURAT - 1.90\times TLTD + 0.001\times COVER + 1.46\times IMARG + 2.03\times SG - 0.05\times SLACK \quad (7)$$

$$SA\ Index = -0.737\times Size + 0.043\times Size^2 - 0.040\times Age \quad (8)$$

where *CF* is the cash flow, which is the income before extraordinary items (item 18) plus depreciation and amortization (item 14) divided by total assets (item 6); *TDIV* is the total dividends (item 21+ item 19) divided by total assets (item 6); *Cash* is the cash and short-term investments (item 1) divided by total assets (item 6); *Q* is the Tobin's Q; *TLTD* is the total long term debt (item 9) divided by total assets (item 6); *SG* is the firm's real sales growth; *CURAT* is the current assets (item 4) divided by current liabilities (item 5); *COVER* is the interest coverage and measured as earning before interest and taxes (item 3 minus item 14) over interest expense (item 15) plus preferred dividend payments (item

19) divided by one minus tax rate, where tax rate equals to income taxes (item 16) divided by operating income before depreciation (item 13) minus depreciation and amortization (item 14) minus interest expense (item 15); *IMARG* is the net income (item 18) divided by sales (item 12); and *SLACK* is the financial slack measured as cash and short-term investments (item 1) plus 0.5 times inventory (item 3) plus 0.7 times accounts receivable (item 2) minus short term loans (item 196) divided by net fixed assets (item 8). *Size* is natural logarithm of total assets; and *Age* is the number of years the firm has been on Compustat with non-missing financial data information. Items are Compustat annual items. A higher score of the indices indicates more financial constraints and hence higher underinvestment problems. The firms are sorted into two portfolios as constrained (upper tercile; i.e., firms that have upper 33% of index values) and unconstrained (bottom tercile; i.e., firms that have lower 33% of index values) based on the KZ, Cleary, and SA financial constraint index values.

Three corporate governance indices are utilized to identify firms' quality of governance mechanisms. Gompers et al. (2003) analyze the effects of the external governance mechanism on firm value using an external governance index that consists of 24 ATPs and find that managers protected by more ATPs make poorer investments. Increased numbers of ATPs reduce the disciplinary role of market for corporate control and provide weaker shareholders' rights, which, in turn, make it difficult to replace the manager. In other words, more ATPs increase agency cost between managers and shareholders; hence, managers are more likely to build empires. Similarly, Bebchuk et al. (2006) examine the effects of the external governance mechanism on the value of firms using an alternative index that only consists of six of the 24 ATPs used by Gompers et al.

(2003). They conclude that while this parsimonious index negatively affects the firm value, the remaining 18 ATPs do not affect the firm value. The six ATPs are presence of a staggered board, limit to shareholders bylaw amendments, limit to shareholders charter amendments, golden parachutes, supermajority requirement to approve a merger, and poison pills. Similarly, Bebchuk and Cohen (2005) investigate the presence of a staggered board effect on the value of the firm and find that firms with a staggered board of directors have significantly lower firm value. Furthermore, Shleifer and Vishny (1986) show that the existence of large investors increases the quality of internal governance. Along the same line, Cremers and Nair (2005) and Dittmar and Mahrt-Smith (2007) analyze the effect of internal governance mechanism using the percentage shareholding by institutional investors that are greater than 5% on the firm value and find that firm value increases with increased amount of institutional investors. The external governance index (BCF Index), which consists of six ATPs, is constructed following the criteria used in Bebchuk et al. (2006). The six provisions are the presence of a staggered board, limitation on amending corporate bylaws, limitation on amending the charter, supermajority requirement to approve a merger, golden parachutes, and poison pill. Basically, the BCF index is the total number of firms' ATPs that takes the value from one to six, where higher values indicate poor external governance and hence higher overinvestment problems. Following Bebchuk et al. (2006), firms are sorted into dictatorship (i.e., poorly-governed) and democracy (i.e., well governed) portfolios based on the firms' number of ATPs, where firms with three or more ATPs are included in the dictatorship portfolio, while firms with two or less ATPs are included in the democracy portfolio. Also, following Bebchuk and Cohen (2005), firms are sorted into dictatorship

and democracy portfolios based on the presence of a staggered board, where firms with a staggered board are included in the dictatorship portfolio, while firms without a staggered board are included in the democracy portfolio. As a measure of internal governance mechanism, institutional block holdings is utilized following Cremers and Nair (2005) and Dittmar and Mahrt-Smith (2007). Similarly, firms are sorted into dictatorship and democracy portfolios based on the firms' amount of institutional investors, where firms that have institutional ownership 5% or less of the firm's outstanding shares are included in the dictatorship portfolio, while firms that have institutional ownership greater than 5% of the firm's outstanding shares are included in the democracy portfolio.

4.3.2 Summary Statistics

The summary statistics of dependent and independent, financial constraints, and corporate governance index variables are presented in Table 4.1 along with the correlation matrix of these variables.

Table 4.1 Summary Statistics and Correlations

	Mean	Std. Dev.	Excess Return	Cash	KZ Index	SA Index	Cleary Index	BCF Index	Staggered Board
Excess Return	-8.56	26.43	1						
Cash	0.07	0.09	-0.11[b]	1					
KZ Index	-67.49	93.01	-0.10[b]	-0.07	1				
SA Index	1.90	6.03	-0.22[a]	-0.05	-0.04	1			
Cleary Index	-0.37	4.11	0.05	0.05	-0.18[a]	0.01	1		
BCF Index	3.58	1.82	-0.02	-0.13[a]	0.00	0.07	0.11[b]	1	
Staggered Board	0.69	0.45	0.03	-0.02	-0.08[c]	-0.03	0.06	0.30[a]	1
Block Holdings	0.08	0.14	0.01	-0.03	-0.01	-0.06	-0.05	0.03	0.07

a, b, and c indicate 1, 5, and 10% statistical significance levels, respectively based on two-sided tests.

Three different measures of financial constraints and corporate governance indices are used to assess the extent to which these indices capture the same information in terms of financial constraints and corporate governance mechanisms of firms in this study sample. While the KZ index is negatively correlated with the Cleary and SA financial constraints indices, the correlation coefficient is only statistically significant for the relation between the KZ and Cleary index. Although the sign of the correlation coefficient between the Cleary and SA index is positive, it is statistically insignificant. The indices that measure the corporate governance mechanisms are positively correlated with each other. However, the correlation coefficient is only statistically significant for the relation between the BCF index and the staggered board. These results suggest that different financial constraints and corporate governance indices capture different information. Therefore, the use of different measures of financial constraints and corporate governance mechanisms is important to obtain more information about firms' degrees of financial constraints and corporate governance mechanisms. According to the results from the correlation analysis, excess return is negatively correlated with cash and the correlation coefficient is statistically significant at 5% significant level.

4.4 Empirical Results

This section presents the results of the regression analyses that examine the relationship between marginal cash and the firm value, as well as effects of financial constraints, corporate governance mechanisms, and franchising the relationship between marginal cash and the firm value. Firms are grouped as financially constrained and unconstrained and poorly- and well-governed based on the financial constraints and corporate governance indices. The relationships are estimated utilizing the FGLS

regression analysis to determine the effects of financial constraints, corporate governance mechanisms, and franchising on the marginal value of cash in hotel firms. Table 4.2 presents the regression analysis of the marginal cash holdings on the firm value without subjecting the sample to a financial constraints or corporate governance criteria (column 1) and based on the financial constraint indices controlling for firms' financial characteristics.

Table 4.2 Value of Cash Holdings: Constrained vs. Unconstrained Firms

Financial Constraints Criteria	No Criteria (1)	KZ Index (2)	SA Index (3)	Cleary Index (4)
Independent Variables				
Change in cash	2.97[a] (6.09)	1.80[a] (3.35)	3.30[a] (4.87)	1.61[b] (2.22)
Constrained*Change in Cash		5.14[a] (4.97)	-0.70 (-0.72)	2.59[b] (2.52)
Constrained dummy		0.47 (0.79)	0.35 (0.44)	-0.93 (-1.54)
Control Variables				
Change in non-cash	0.04[a] (13.05)	0.04[a] (12.42)	0.04[a] (12.21)	0.04[a] (11.30)
Change in earnings	-0.01 (-0.17)	-0.01 (-0.28)	-0.01 (-0.09)	0.01 (0.97)
Leverage	0.01 (0.93)	0.01 (1.45)	0.01 (0.97)	0.01 (0.45)
Net financing	0.01 (0.54)	0.01 (0.83)	0.01 (0.53)	0.01 (0.88)
Intercept	-33.87[a] (-19.62)	-34.07[a] (-20.12)	-33.97[a] (-19.54)	-33.51[a] (-19.47)
Number of obs.	392	392	392	392
Wald test of joint significance	9184.07	9805.40	9200.52	9383.77

The dependent variable is stock returns over the fiscal year minus the returns from forty-eight Fama-French value-weighted portfolios. All regressions control for year effects. Robust z statistics are in parentheses. a and b indicate 1 and 5 statistical significance levels, respectively based on two sided tests.

Before interpreting the coefficient estimates, overall significance of the model must be investigated. Wald statistic, which is a test of the joint significance of the coefficient estimates, shows that the coefficients are jointly significant for each model. The coefficient of change in cash (or the marginal value of cash) in Column 1 of Table 2 shows that the marginal value of cash is positive and statistically significant ($p<0.01$). The coefficient of the change in cash shows the value of marginal cash in firms, which is 2.97 dollar based on the column 1. Columns 2, 3, and 4 include the financial constraints dummy variables and an interaction term in order to capture the difference in the marginal value of cash between constrained and unconstrained firms. Although the coefficients of change in cash fluctuate between 1.61 and 3.30, they are still positive and statistically significant based on the financial constraints criteria in columns 2, 3, and 4. KZ and Cleary financial constraints indices provide evidence that cash is more valuable in financially constrained firms than unconstrained firms, as the coefficients of the interaction term, *constrained change in cash*, is positive and significant in columns 2 ($p<0.01$) and 4 ($p<0.05$). However, the coefficient of the interaction term is negative and statistically insignificant based on the SA financial constraints index. Accordingly, the marginal value of cash is between 2.59 and 5.14 dollar higher for financially constrained firms than for unconstrained firms. Therefore, the results support the underinvestment hypotheses (*H1a and H1b*) that there is a positive relationship between the marginal cash and firm value and that the marginal value of cash is greater for financially constrained firms than unconstrained firms. In contrast, the results fail to support the hypothesis (*H2a*), based on the overinvestment theory, that there is a negative relationship between the marginal cash and firm value. These results support the findings in studies that

examine the underinvestment theory (Denis & Sibilkov, 2009; Faulkender & Wang, 2006) that the marginal value of cash is higher for financially constrained firms than for unconstrained firms.

Table 4.3 Value of Cash Holdings: Poorly vs. Well Governed Firms

Corporate Governance Criteria	BCF Index (1)	Staggered Board (2)	Block Holdings (3)
Independent Variables			
Change in cash	4.79[a] (6.30)	4.67[a] (5.48)	2.48[a] (4.21)
Governance*Change in Cash	-2.97[a] (-3.09)	-2.59[b] (-2.41)	1.79 (1.53)
Governance dummy	0.20 (0.34)	-0.43 (-0.72)	0.63 (1.06)
Control Variables			
Change in non-cash	0.04[a] (13.54)	0.04[a] (13.15)	0.04[a] (12.88)
Change in earnings	-0.01 (-0.13)	-0.01 (-0.13)	-0.01 (-0.05)
Leverage	0.01 (0.66)	0.01 (0.69)	0.01 (0.94)
Net financing	0.01 (0.35)	0.01 (0.42)	0.01 (0.63)
Intercept	-33.92[a] (-19.80)	-33.57[a] (-19.05)	-34.15[a] (-19.58)
Number of obs.	392	392	392
Wald test of joint significance	9417.98	9351.75	9277.01

The dependent variable is stock returns over the fiscal year minus the returns from forty-eight Fama-French value-weighted portfolios. All regressions control for year effects. Robust z statistics are in parentheses. a and b indicate 1 and 5% statistical significance levels, respectively based on two sided tests.

Table 4.3 shows the regression analysis of the marginal cash holdings on the firm value based on the corporate governance indices controlling for firms' financial characteristics. Wald statistics show that the coefficients are jointly significant for each model. The coefficients of change in cash (or the marginal value of cash) in Columns 1, 2, and 3 of

Table 4.3 shows that the marginal value of cash, which ranges between 2.48 and 4.79 dollar, is positive and statistically significant ($p<0.01$). The interaction term, *governance change in cash*, illustrates the difference in the marginal value of cash between poorly and well-governed firms. The results from columns 1 and 2 show that cash is less valuable in poorly-governed firms relative to well-governed firms, based on the BCF index and staggered board criteria, and the coefficients are statistically significant.

Although the results from the column 3 demonstrate the opposite, the coefficient of the interaction term is statistically insignificant. The marginal value of cash is lower, ranging between 2.59 and 2.97 dollar, for poorly-governed firms than for well-governed firms. Therefore, the results support the hypothesis (*H2b*), drawn from the overinvestment theory, that the marginal value of cash is lower for poorly-governed firms than for well-governed firms. These results complements the findings in studies that examine the overinvestment theory (Dittmar & Mahrt-Smith, 2007; Pinkowitz et al., 2006) that the marginal value of cash is lower for dictatorship firms than for democracy firms.

Table 4.4 presents the regression analysis of the marginal cash holdings on the franchising firm value, controlling for firms' financial characteristics. Wald statistics show that the coefficients are jointly significant for each model. The columns 1, 3, and 4 of Table 4.4 present the analysis of the marginal cash holdings on the franchising firm value when the sample is restricted to franchising firms, while column 2 shows the analysis of the marginal cash holdings on the firm value for the full sample and including the franchising dummy variable.

Table 4.4 Value of Cash Holdings: Franchising Firms

	(1)	(2)	(3)	(4)
Independent Variables				
Change in cash	-7.30[a] (-3.47)	3.28[a] (6.73)	-13.96[a] (-5.54)	1.07 (0.49)
Franchising*Change in Cash		-10.98[a] (-3.66)		
Constrained*Change in Cash			16.55[a] (4.29)	
Governance*Change in Cash				-22.44[a] (-6.45)
Franchising dummy		0.23 (0.35)		
Constrained dummy			-0.92 (-1.04)	
Governance dummy				0.19 (0.23)
Control Variables				
Change in non-cash	-0.20 (-0.36)	0.04[a] (13.23)	0.29 (0.56)	0.18 (0.39)
Change in earnings	0.01 (0.10)	-0.01 (-0.14)	-0.01 (-0.11)	0.01 (0.12)
Leverage	0.01[b] (2.36)	0.01 (0.63)	0.01[c] (1.89)	0.01[c] (1.84)
Net financing	0.03[a] (3.91)	0.01 (0.19)	0.02[a] (3.43)	0.02[b] (2.40)
Intercept	-35.11[a] (-7.47)	-33.75[a] (-19.83)	-33.53[a] (-7.75)	-35.12[a] (-8.95)
Number of obs.	90	392	90	90
Wald test of joint significance	5296.17	9512.31	6436.31	7822.52

The dependent variable is stock returns over the fiscal year minus the returns from forty-eight Fama-French value-weighted portfolios. All regressions control for year effects. Robust z statistics are in parentheses. a, b, and c indicate 1, 5, and 10% statistical significance levels, respectively based on two sided tests.

The coefficient of change in cash (or the marginal value of cash) in column 1 of Table 4.4 shows that the marginal value of cash is negative and statistically significant ($p<0.01$). The results from the analysis, which is based only the sample of franchising firms, in

column 1 suggests that on average the marginal cash has a negative value in franchising firms. To further delineate these findings and to compare the difference in the marginal value of cash between franchising and non-franchising firms, a franchising dummy variable along with an interaction term of the franchising dummy variable and change in cash, franchising change in cash, are included in the model. Column 2 of Table 4.4 shows that while the marginal value of cash is positive and significant (3.28, $p<0.01$), marginal cash is less valuable in franchising firms relative to firms that do not adopt franchising.

Although the findings suggest that franchising firms' investors put lower value on a marginal dollar, it is not clear whether the relatively lower value of marginal cash is due to under- or overinvestment problems. To test this intuition, a financial constraints and corporate governance dummy variables are included in the analyses in columns 3 and 4 along with interaction terms, where financial constraints and corporate governance dummy variables are interacted with the change in cash variable, respectively. Parallel with the results from the analysis presented in column 1 of Table 4.4, the column 3 shows that the marginal value of cash is negative and statistically significant in franchising firms. Conversely, the results from the analysis in column 4 shows that the coefficient of marginal value of cash flips signs and loses significance. Yet, the coefficient of interaction term, *constrained change in cash*, is positive and significant (16.55, $p<0.01$), suggesting that the marginal value of cash is higher for financially constrained franchising firms than unconstrained franchising firms. Furthermore, the coefficient of interaction term, *governance change in cash*, is negative and significant (-22.44, $p<0.01$), which indicates that cash is less valuable in poorly-governed franchising firms relative to well-governed franchising firms. The results support hypotheses (*H3, H4, and H5*),

which posit that franchising firms differ depending on their financial constraints and governance. That is, the marginal value of cash is greater for financially constrained franchising firms than unconstrained franchising firms, while it is lower for poorly-governed franchising firms compared to well-governed franchising firms.

4.5 Conclusions

In perfect capital markets, where there are no asymmetric information problems, a positive NPV project is a value-increasing investment for the firm regardless of how the project is financed because the opportunity costs of external (i.e., debt and/or equity) and internal resources (i.e., cash) do not diverge. However, firms' investment and financing decisions are not independent of each other. Some firms face underinvestment problems if their cash is not sufficient (Myers & Majluf, 1984), while other firms face overinvestment problems when managers seek personal benefits from using firms' resources to build empires (Jensen, 1986). This study examines the relationship between firm value and marginal cash in the hotel industry based on the firms' degrees of financial constraints and the quality of corporate governance mechanisms. The hotel industry is chosen to investigate these effects for the following reasons. Similar to financially constrained firms in other industries, financially constrained hotel firms might retain available internal funds to undertake value-increasing investments. Unlike other industries, however, hotel firms expand their businesses via the franchising business investment model when their internal funds are not sufficient to undertake all value-increasing projects. Although firms take on the franchising model as a means to reduce underinvestment problems, franchising might exacerbate overinvestment problems in poorly-governed hotel firms. Franchising firms generate excess cash through franchise

and royalty fees from their franchisees. While financially constrained firms are expected to undertake value-increasing projects, managers of poorly-governed firms might invest in negative NPV projects. Therefore, the hotel industry provides a unique setting to investigate of the effects of under- and overinvestment problems on the marginal value of cash.

The results indicate that the marginal value of cash holdings is greater for financially constrained firms than for unconstrained firms, which suggests that financially constrained firms retain more of their cash to undertake positive NPV projects that would have been abandoned if internal resources were insufficient. Put differently, shareholders of financially constrained firms place higher value on the amount of increased cash holdings than do shareholders of unconstrained firms. More specifically, this study finds that a one-dollar increase in cash holdings increases firm value between 2.59 and 5.14 dollars in financially constrained firms compared to unconstrained firms. This finding likely reflects the fact that constrained firms' shareholders perceive the greater cash holdings as a solution to the underinvestment problems.

Additionally, this study sorts firms into dictatorship (i.e., poorly-governed) and democracy (i.e., well-governed) portfolios to determine the extent to which the marginal value of cash holdings varies between poorly and well-governed firms. The results show that the marginal value of cash is lower for dictatorship firms than for democracy firms, suggesting that managers of firms with weak corporate governance mechanisms keep more of their cash. This result is consistent with entrenched managers increasing their personal wealth or other benefits by investing in negative NPV projects that would have been rejected if firms' cash were insufficient. In other words, shareholders of poorly-

governed firms put lower value on the amount of increased cash holdings than do shareholders of well-governed firms. In particular, the marginal value of cash is 2.97 dollars lower in firms that have more than two ATPs relative to firms that have two or less ATPs. It is 2.59 dollars lower in firms that have a staggered board of directors. These results are consistent with managers of firms being protected by ATPs so that higher ATPs are more often associated with poorer investment decisions and overinvestment problems.

Analyzing the marginal value of cash in financially constrained and poorly-governed firms allows comparison of the costs of under- and overinvestment problems. Accordingly, this study provides indirect evidence that financial constraints (underinvestment problems), on average, has more effect on the marginal value of cash than poor corporate governance mechanisms (overinvestment problems).

Although firms may expand through franchising to avoid underinvestment problem, franchising might intensify overinvestment problems because the availability of excess cash might make overinvestment easier for empire-building CEOs. However, the determinants of franchising have not been previously examined from the overinvestment perspective. The results from preliminary analysis that does not categorize firms based on the degrees of financial constraints or the quality of corporate governance mechanism show that the marginal value of cash is negative, in which one dollar increase in cash decreases firm value by 7.30 dollar, for franchising firms. These results indicate that shareholders of franchising firms perceive that managers are likely to waste the increased cash in value-decreasing projects, such as investing in a company-owned division that has a negative NPV. This intuition is supported when the marginal value of cash in

franchising firms are compared with the non-franchising firms that the marginal value of cash is 10.98 dollar lower for franchising firms relative to non-franchising firms. However, when franchising firms are sorted into constrained and unconstrained and poorly- and well-governed categories, the results change dramatically. On the one hand, the marginal value of cash is 16.55 dollar higher for financially constrained franchising firms than unconstrained franchising firms, suggesting that shareholders of franchising firms put place greater value in cash because greater cash holdings allow these firms to expand through company-owned division by avoiding costly external finances. In other words, financially constrained firms retain more of their cash to expand through company-owned divisions rather than franchised divisions, which would have been the case if internal resources were insufficient. On the other hand, the marginal value of cash is 22.44 dollar lower for poorly-governed franchising firms than well governed franchising firms, which indicates that shareholders of poorly-governed franchising firms perceive that managers retain more of their cash to increase their wealth by investing in negative NPV projects that would have turned down if external resources are needed. Accordingly, while financially constrained firms may expand through franchising to eliminate underinvestment problems, poorly-governed franchising firms make themselves vulnerable to overinvestment problems, where managers of poorly-governed franchising firms waste the greater cash holdings by pursuing projects that increase their wealth but not necessarily the shareholders.

The practical implications of this study are noteworthy. While some hotel firms are financially constrained and hence they face underinvestment problems, majority of hotel firms seem to have poor governance mechanisms and hence they are subject to

overinvestment problems. Financially constrained hotel firms should retain more of their cash instead of distributing them to shareholders or expand through franchising to eliminate underinvestment problems. While well-governed firms could also keep more of their cash or expand through franchising to grow their businesses, franchising might exacerbate overinvestment in poorly-governed firms. That is, obtaining cash through franchising and royalty fees might make overinvestment easier for empire building CEOs, who should not have kept excess cash in the first place. These results suggest that both franchising and retained cash allow managers of firms to expand their operations. While expanding through franchising or excess cash creates value in financially constrained firms, stock market investor should watch for firms with more than two ATPs and less than five percent institutional investors, as these firms will have poor governance mechanisms and are likely to waste firms' resources.

Despite its significant contribution to the existing corporate finance and franchising literature, this study is not free from limitations. Although this study provides significant evidence that financially constraints (underinvestment problems) has more effect on the firm value than weak corporate governance mechanisms (overinvestment problems), the analyses are restricted to the analyses of the marginal value of cash utilizing financial constraints and corporate governance proxies. Future studies are needed that examine the sensitivity of investment to internal funds, the effects of capital expenditures on firm value, and the extent to which mergers and acquisitions affect firm value to corroborate the findings of this study. This study shows that franchising could be due to eliminate both under- and overinvestment problems by providing indirect evidence that the marginal value of cash is greater for financially constrained and well-governed

franchising firms than for unconstrained and poorly-governed franchising firms, respectively. However, future studies are required to investigate the determinants of investments in franchising firms by analyzing the association between marginal investments and firm value. Also, while the results of this study can be generalizable, the analyses are constrained to hotel firms; hence, testing these theories in different industry samples could substantiate the outcomes of this study.

CHAPTER 5

GENERAL CONCLUSIONS

The purpose of this dissertation is threefold. First, to examine why investments that require substantial capital, such as acquisitions, create value in some firms while they reduce value in other firms by examining the effects of financial constraints, corporate governance mechanisms, and franchising and REIT organizational forms on hotel firms' investments. Second, to investigate the role of internal funds on capital investments based on firms' degrees of financial constraint and exposure to empire building in the hospitality industry. Third, to analyze the relationship between firm value and marginal cash based on firms' degrees of financial constraint and the quality of corporate governance mechanisms in the hotel industry to determine which one of these problems has more of an effect on the marginal value of cash. Figure 5.1 presents these proposed relationships.

In a perfect capital market, a positive NPV project is a value-increasing investment for the firm, regardless of how firms choose to finance their projects because the opportunity costs of external (i.e., debt and/or equity) and internal resources (i.e., cash) do not diverge (Modigliani & Miller, 1958). However, in an imperfect capital market, firms' investment and financing decisions are not independent of each other. This dependence may result in two outcomes that are detrimental to the firm value.

On the one hand, firms could face underinvestment problems if they do not have enough cash to undertake a positive NPV project because raising external funds increases the project's cost (Myers & Majluf, 1984).

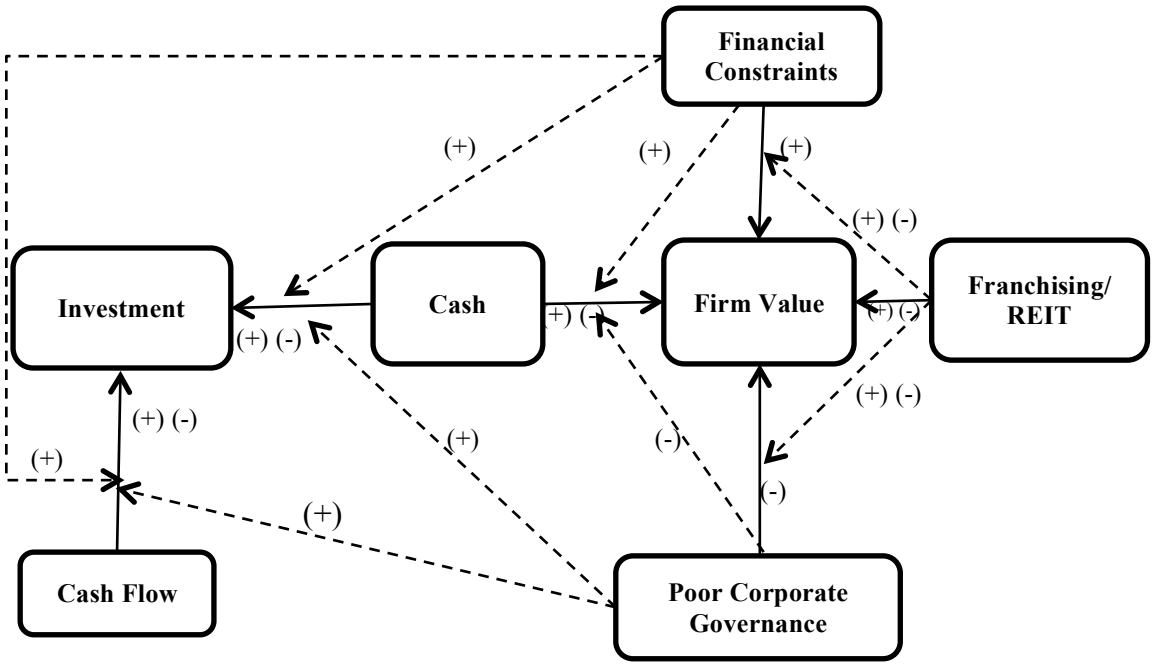

Figure 5.1 The Nomological Network: An Illustration of the Under- and Overinvestment Theoretical Frameworks

Firms with underinvestment problems (i.e., financially constrained firms) retain more of their cash to undertake value-increasing projects and reduce underinvestment problems. Greater cash holdings allow financially constrained firms to undertake positive NPV investments that would have otherwise been abandoned due to the premium on external finances relative to firms' cash. Shareholders of financially constrained firms place higher value in retained cash relative to shareholders of unconstrained firms,

On the other hand, firms' internal resources may create overinvestment problems if the manager of a firm seeks personal benefits from investing in projects beyond the level that maximizes firm value (Jensen, 1986). Managers of firms with weak corporate governance mechanisms hold more of their cash to exploit personal benefits through investments in value-decreasing projects. This managerial desire creates overinvestment problems. Shareholders of firms with weak governance mechanisms or agency problems place lower value in cash holdings compared to value placed by well-governed firms' shareholders.

Although increased cash and cash flows might alleviate underinvestment problems, they may create overinvestment problems. Both problems depreciate firm value. The marginal value of cash is lower for poorly governed firms than for well-governed firms due to agency problems (Dittmar & Mahrt-Smith, 2007; Pinkowitz et al., 2006). Parallel with these arguments, former studies have found that the marginal value of cash is greater for financially constrained firms than unconstrained firms due to asymmetric information problems (Denis & Sibilkov, 2009; Faulkender & Wang, 2006). It is evident that both underinvestment and overinvestment theories propose that the availability of internal funds increases investments (Fazzari et al., 1988; Jensen, 1986; Myers & Majluf, 1984). It is less well understood the extent to which the investment-internal funds sensitivity varies between firms with underinvestment problems and firms with overinvestment problems. This dissertation examines shareholders' reactions to news of acquisitions in the hotel industry to determine whether under- or overinvestment is a major problem in this industry.

Both under- and overinvestment theories suggest that investments increase with the available internal funds. However, these theories have different implications. Investment-internal funds sensitivity and retained cash in poorly-governed firms indicate overinvestment problems. Conversely, this sensitivity and accumulated cash indicate underinvestment problems in financially constrained firms. This dissertation seeks to explain whether under- or overinvestment is a more detrimental problem for a firm in the hotel industry.

The hotel industry is chosen to investigate effects of under- and overinvestment problems for three reasons. First, building an additional hotel requires substantial capital investments and time. Hence, hotel firms commonly use mergers and acquisitions as a prevalent corporate strategy to accelerate their expansions (Canina et al., 2010). An acquisition could be a value-increasing or decreasing project for a firm. Second, contrary to the firms in other industries, such as manufacturing industries, hotel firms utilize the franchising investment model to expand their operations, which requires little or no capital investment. Franchising could be an efficient investment model for financially constrained hotel firms (Oxenfeldt & Thompson, 1968-1969). Franchising could also make overinvestment easier for empire-building CEOs. An investment that requires substantial capital spending in franchising firms could be an overinvestment because managers that desire to build empires may undertake value-decreasing investments with the excess cash holdings generated through franchising and royalty fees. Third, in addition to the traditional form of corporate structure (i.e., C-corporation), hotel firms extensively adopt the REIT organizational form, which might further affect under- and overinvestment problems. Unlike the C-corporation structure, hotel-REITs must

distribute 90% of their earnings to the shareholders. Firms with agency problems may adopt the REIT organizational form to legally force managers to distribute most of firms' income to shareholders. However, a hotel-REIT might be constrained from making positive NPV investments because they will be left with only 10% of their income. The hotel industry provides a unique setting to investigate the effects of under- and overinvestment problems on the firm value and investments.

Firms are classified into constrained and unconstrained portfolios using the KZ, WW, SA, and Cleary financial constraint indices to determine the extent to which firm value, investment-internal funds sensitivity and the marginal value of cash vary between constrained and unconstrained firms. The results show that financially constrained firms gain significantly higher returns than unconstrained firms in acquisitions, suggesting that acquisitions could be a way of dealing with the informational asymmetries for constrained firms. Firms with underinvestment problems move toward the optimal investment level, where the firm value is maximized, by undertaking an additional investment.

Financially constrained firms rely more on internal funds than do unconstrained firms, suggesting that financially constrained firms accumulate their internally generated funds to undertake value-increasing projects. These results substantiate the findings in previous empirical studies that examine the underinvestment theory (see e.g., Almeida et al., 2004; Denis & Sibilkov, 2009; Fazzari et al., 1988). The findings support the underinvestment theory propositions that the opportunity cost of external funds is higher than the opportunity cost of internal funds due to informational asymmetries. Financially

constrained firms rely on internal funds in order to invest in positive NPV projects and move toward the optimal investment level, where the firm value is maximized.

The marginal value of cash holdings is greater for financially constrained firms than for unconstrained firms, which suggests that financially constrained firms retain more of their cash to undertake positive NPV projects that would have abandoned if internal resources were insufficient. In other words, shareholders of financially constrained firms place higher value in the amount of increased cash holdings than do shareholders of unconstrained firms. More specifically, one dollar increase in cash holdings increases the firm value between 2.59 and 5.14 dollar more in financially constrained firms compared to unconstrained firms because constrained firms' shareholders perceive the greater cash holdings as a solution to the underinvestment problems that arise due to the informational asymmetries. These results support the findings in studies that examine the underinvestment theory (Denis & Sibilkov, 2009; Faulkender & Wang, 2006) that the marginal value of cash is higher for financially constrained firms than for unconstrained firms.

In a separate set of analyses, firms are further categorized as dictatorship and democracy portfolios in order to determine the extent to which firm value, investment-internal funds sensitivity, and the marginal value of cash vary between dictatorship and democracy firms. The results show that firms with poor governance mechanisms experience negative gains from acquisitions relative to the firms with better governance mechanisms. Managers of firms that are protected by more ATPs make poorer acquisitions in which they destroy value by overinvesting in negative NPV projects and shift firms away from the optimal investment level.

Investment-internal funds sensitivity is greater for dictatorship firms, which are exposed to empire building, than for democracy firms. The results substantiate the overinvestment theory propositions of Jensen (1986). Empire-building managers of firms with excess internal resources might make value-decreasing investments, which drive firms above the optimal investment level and create overinvestment problems. Although the overinvestment theory predicts that investment-internal funds sensitivity is higher in firms that are exposed to empire building, this is the first study that analyzes the sensitivity of investment to internal funds in this context by using recently developed corporate governance proxies. The findings of this dissertation advance the literature by providing empirical evidence that supports the theoretical arguments of Kaplan and Zingales (1997) and Stein (2003) that investment-internal funds sensitivity could be due to the managerial desire to build empires.

The marginal value of cash is lower for dictatorship firms than for democracy firms. This result suggest that managers of firms with weak corporate governance mechanisms keep more of their cash to increase their wealth by investing in negative NPV projects. In other words, shareholders of poorly-governed firms place lower value in the amount of increased cash holdings than do shareholders of well-governed firms. In particular, the marginal value of cash is 2.97 dollar lower in firms that have more than two ATPs relative to firms that have two or less ATPs; and 2.59 dollar lower in firms with the presence of a staggered board of directors. The difference in the marginal value of cash between poorly and well-governed firms is due to the fact that managers of firms protected by more ATPs are more likely to make poorer investment decision and create overinvestment problems. These results complements the findings in studies that examine

the overinvestment theory (Dittmar & Mahrt-Smith, 2007; Pinkowitz et al., 2006) that the marginal value of cash is lower for dictatorship firms than for democracy firms.

Analyzing the effects of financial constraints and corporate governance mechanisms allows the comparison of the under- and overinvestment effects on the firm value, investment-internal funds sensitivity, and the marginal value of cash holdings. These comparisons determine the extent to which under- or overinvestment problems are more problematic for a firm and hence show whether under- or overinvestment problems are more value-decreasing. Financially constrained firms allocate greater cash and cash flow than unconstrained firms to overcome underinvestment problems, while managers of dictatorship firms retain more cash and cash flow than democracy firms to build empires. Although both underinvestment and overinvestment problems deteriorate firm value, these theories have different policy implications. Underinvestment theory suggests that firms should retain internal funds to undertake investments, while overinvestment theory suggests that firms should distribute the internal funds to the shareholders and raise debt to undertake further investments. The results show that while one unit decrease in the quality of corporate governance decreases firm value by 0.8% based on BCF index, one unit increase in financial constraint increases firm value by 29% and 13% based on WW Index and SA Index, respectively. A marginal investment increases firm value more in underinvesting firms than it decreases firm value in overinvesting firms.

While the sensitivity of investment to cash flow is 0.72 for financially constrained firms based on the Cleary index, it is 0.23 for dictatorship firms based on the block holdings proxy. Similarly, the sensitivity of investment to cash is 0.50 for financially constrained firms based on the KZ index, while it is 0.40 for dictatorship firms based on

the BCF index. Investment-internal funds sensitivity is greater for financially constrained firms than for dictatorship firms. While investments increase with the availability of internal funds, firms that face underinvestment problems rely more on internal funds than do firms with overinvestment problems. These results suggest that financially constrained firms use mostly internal resources for investments because of difficulties in raising external finance due to asymmetric information. Although dictatorship firms also retain internal funds for investments, these firms could raise external funds to undertake value-increasing projects. Managers of dictatorship firms tend to use internal resources to undertake value-decreasing projects due to the managerial desire to build empires. This dissertation advances the underinvestment and overinvestment literature by showing the extent to which the sensitivity of investment to internal funds differs between financially constrained and dictatorship firms. First, the opportunity cost of external funds is higher than the opportunity cost of internal funds due to informational asymmetries; hence, financially constrained firms rely more on cash in order to invest in positive NPV projects. Second, managers of dictatorship firms are likely to undertake value-decreasing projects by retaining excess cash to build empires. Underinvestment theory suggests that firms should preserve more of their cash to undertake value-increasing investments and hence marginal cash holdings are perceived more valuable in financially constrained firms than unconstrained firms. The marginal value of cash holdings in financially constrained firms indicates the wedge between external and internal finances (i.e., the cost of asymmetric information), which ranges between 2.59 and 5.14 dollar. Overinvestment theory, however, suggests that firms should distribute the cash to shareholders and seek external finances to undertake additional investments and thus

greater cash holdings are less valued in dictatorship firms than democracy firms. The marginal value of cash holdings in firms with weak governance mechanisms shows the cost of agency problems, which fluctuates between 2.59 and 2.97 dollar. The results from the analyses in this dissertation provide indirect evidence that financial constraints (underinvestment problems), on average, have more effect on the marginal value of cash than poor corporate governance mechanisms (overinvestment problems).

The determinants of franchising investments are also examined to test the agency and capital scarcity theory postulations. On the one hand, the agency theory of franchising posits that franchisors' experience in developing a franchise system reduces the cost of franchise contracts, which decrease franchisees' cost of free riding on the trademark. Firms are more likely to expand through franchising investments with increased experience in franchising. The agency theory of franchising also posits that the cost of free riding is higher for the divisions that require high levels of investments and hence firms will own the unit that requires high levels of investment rather than franchising it.

On the other hand, the capital scarcity theory argues that firms undertake franchising investment when they do not have sufficient internal resources. While underinvestment theory suggests that firms should abandon the projects that need financing beyond the available internal resources (Myers & Majluf, 1984), the capital scarcity theory of franchising argues that firms may expand through franchising when they have insufficient internal resources for financing the growth through company-owned expansions because franchising demands no or little capital investment (Oxenfeldt & Thompson, 1968-1969). Previous studies that test the propositions of capital scarcity

theory conduct the analysis by pooling all the firms that adopt franchising in a single sample assuming that all firms that adopt franchising are financially constrained. In this dissertation, firms that adopt franchising are sorted into financially constrained and unconstrained categories in order to compare the extent to which constrained and unconstrained firms depend on internal funds to undertake franchising investments. Put simply, using financial constraint indices, this dissertation solves the methodological flaw that exists in previous empirical studies regarding the identification of firms' financial constraint levels.

Although firms may expand through franchising to avoid underinvestment problem, franchising might intensify overinvestment problems because the availability of excess cash might make overinvestment easier for empire-building CEOs. An investment that requires substantial capital expenditures in franchising firms could be an overinvestment if managers are not aligned with the shareholders. Empire-building CEOs may make value-decreasing investments with the excess cash holdings generated through franchising and royalty fees. The determinants of franchising have not been previously examined from the overinvestment perspective. This dissertation expands the franchising literature, *first,* by examining the extent to which franchising is due to financial constraints using indices that measure firms' financial constraints to resolve the identification problem existing in previous studies; *and second,* by testing whether franchising exacerbate managerial desire to build empires.

The results show that shareholders of franchising companies perceive acquisitions negatively. Although there is a positive relationship between acquisition returns and degree of financial constraints, the constrained franchising indicator shows that

shareholders perceive acquisitions negatively. However, the coefficient of franchising variable loses significance and changes its sign when the interaction variable is included. The negative and significant coefficient of franchising suggests that the franchising firms overinvest. The positive and significant coefficients of lagged franchised divisions in all, constrained, and unconstrained firms' samples provide evidence in favor of the agency theory postulation in Lafontaine (1992) that firms undertake more franchising investments with increased experience in franchising. The negative returns of franchising hotels provide support for the agency theory of franchising that monitoring cost of divisional managers are higher than the cost of franchisees' to free ride on the trademark because the expansion of the hotel business will take place in geographic areas that are remotely located vis-à-vis the headquarters. The negative coefficients of relative deal size in all specifications fail to provide support for the agency theory of franchising that with increased level of investment firms will own the division rather than franchising it.

The relation between the proportion of franchised divisions and internal funds is not significant when the analysis is conducted by pooling all the firms that adopt franchising in a single sample. However, the relation between proportion of franchised divisions and cash flow is negative for financially constrained firms, suggesting that financially constrained firms expand through franchising when they lack internal resources. Conversely, the coefficients of cash and cash flow are not statistically significant for unconstrained firms. These firms may adopt franchising for eliminating the monitoring cost of divisional managers. The results from preliminary analysis that does not categorize firms based on the degrees of financial constraints show that the marginal value of cash is negative. One-dollar increase in cash decreases firm value by 7.30 dollar

for franchising firms. These results indicate that shareholders of franchising firms perceive that managers are likely to waste the increased cash in value-decreasing projects, such as investing in a company-owned division that has a negative NPV. This intuition is supported when the marginal value of cash in franchising firms are compared with the non-franchising firms that the marginal value of cash is 10.98 dollar lower for franchising firms relative to non-franchising firms. However, when franchising firms are sorted into constrained and unconstrained portfolios, the results change dramatically. The marginal value of cash is 16.55 dollar higher for financially constrained franchising firms than unconstrained franchising firms, suggesting that shareholders of franchising firms place greater value in cash because greater cash holdings allow these firms to expand through company-owned division by avoiding costly external finances. Financially constrained firms retain more of their cash to expand through company-owned divisions rather than franchised divisions, which would have been the case if internal resources were insufficient. These results support the findings in Combs and David J. (1999), which show that while some firms adopt franchising due to financial constraints, others may adopt franchising due to agency costs. Franchising firms are further sorted into poorly and well-governed portfolios to examine the extent to which franchising exacerbate the overinvestment problems. The results show that the marginal value of cash is 22.44 dollar lower for poorly governed franchising firms than well governed franchising firms, which indicates that shareholders of poorly governed franchising firms perceive that managers retain more of their cash to increase their wealth by investing in negative NPV projects that would have turned down if external resources are needed. Analyses of the marginal value of cash in franchising firms based on the degrees of financially constraints and the

quality of corporate governance mechanisms contributes to the explanation of determinants of franchising. While financially constrained firms may expand through franchising to eliminate underinvestment problems, poorly governed franchising firms make themselves vulnerable to overinvestment problems. Managers of poorly governed franchising firms waste excess cash holdings by pursuing projects that increase their wealth but not necessarily the shareholders.

This dissertation further investigates the effects of the REIT organizational form on hotel firm value and the extent to which this organizational form affects firms' under- and overinvestment problems. Regardless of the degree of financial constraints and corporate governance mechanisms, the negative sings of REIT in all specifications suggests overinvestment problems. While poorly governed REIT firms' acquisitions are also positively received, the constrained REIT firms' acquisitions are perceived negatively. These results either imply that hotel-REITs tend to overinvest or the financial constraints and corporate governance indices do not well capture the constraints and governance. The positive sign of poorly governed REIT implies that the overinvestment is not due to poor corporate governance mechanisms, but rather these firms are financially constrained because they are over-levered or highly expanded prior to making acquisitions.

In summary, acquisitions are positively received when they indicate higher financial constraints that impede investments, while they are negatively viewed when they are an indication of empire building. The results show that investments that move firms toward the optimal investment level affect firm value more than investments that shift firms beyond the optimal investment level. On the one hand, managers of firms with

weak corporate governance mechanisms are likely to make poorer acquisitions by undertaking value-decreasing investments, which create overinvestment problems and move firms above the optimal investment level. Corporations need to institute external and internal corporate governance mechanisms to control such managerial desire. In particular, firms with higher ATPs should eliminate provisions and attract more institutional investors to increase the quality of internal and external corporate governance mechanisms and refrain from value-decreasing acquisitions.

On the other hand, financially constrained firms are expected to undertake value-increasing investments by using their internal resources to mitigate informational asymmetries, which create underinvestment problems and forces firms to operate below the optimal investment level. Financially constrained firms have limited funds but higher unexploited investment opportunities and thus they undertake value-increasing projects using internal resources or stocks. Financially constrained firms may be able to reduce the wedge between external and internal finance in acquisitions, where informational asymmetries between the acquiring firms and the target company could be fewer in relation to the capital markets (Alshwer et al., 2011; Khatami et al., 2014). Financially constrained firms should make investments that require substantial capital expenditure through acquisitions, as acquisitions could be a method of reducing informational asymmetries for those firms.

While franchising could be an alternative method of investment to mitigate under- and/or overinvestment problems, the results provide evidence against the general notion in previous studies that examined the theories of franchising and found that franchising is only due to either capital constraints or agency costs (see e.g., Combs & David J., 1999;

Lafontaine, 1992; Norton, 1988). On the contrary, franchising firms experience significantly negative gains from acquisitions, suggesting that franchising could be a tactic for dealing with overinvestment problems. While financially constrained firms may fund the growth opportunities via franchising model, franchising firms should take restrictive actions to control managers from making acquisitions. Although there seems to be additional factors that might explain why unconstrained firms adopt franchising, postulations of the agency theory of franchising are partially supported.

Hotel-REIT organizational form does not seem to cause underinvestment problems; however, it does eliminate overinvestment problems. These results suggest that distributing the free cash flows to shareholders halts managerial desire to build empires. These findings indicate that the firms with high payout ratio (90% in the REIT case) are not necessarily financially constrained, as opposed to the findings in J. Kim and Jang (2012) that use Tobin's Q, which is an inferior proxy in capturing financial constraints and thus it could be misleading (Whited & Wu, 2006), to classify firms as financially constrained and unconstrained.

The findings of this dissertation provide support for the financial constraints indices of the Kaplan and Zingales (1997) (KZ), the Whited and Wu (2006) (WW), the Size and Age (Hadlock & Pierce, 2010) (SA), and the Cleary (Hennessy & Whited, 2007) in terms of measuring firms degrees of financial constraints. Also, this dissertation complements the corporate governance proxies developed by Bebchuk et al. (2006), Cremers and Nair (2005), and Dittmar and Mahrt-Smith (2007) in terms of the efficacy of these proxies to measure the managerial desire to build empires. This dissertation fails to provide support for the presence of a staggered board, which is recommended by

Bebchuk and Cohen (2005), as a proxy for exposure to empire building or corporate governance.

The results of this dissertation have practical implications. These findings may help guide managers to allocate internal resources efficiently based on the degrees of financial constraint and exposure to empire building, and ultimately to adjust investments based on optimal investment level, where the firm value is maximized. Firms may improve investment policies and expanding through different investment models, such as franchising, and whether to register as C-corporation or REITs. The results also give guidance to shareholders on the role of corporate governance mechanisms in controlling managers' empire-building preferences. Hospitality firms should allocate internal resources efficiently based on the degree of financial constraints and exposure to empire building to adjust investments to reach the optimal investment level, where the firm value is maximized. On the one hand, firms with overinvestment problems should eliminate the number of ATPs to increase the quality of external governance mechanism. Reducing the number of ATPs will not only increase the quality of external governance mechanism, but it may also drive more institutional investors to the firm, which increases the quality of internal governance and controls managerial desire to build empires. Increased quality of internal and external governance will force managers to distribute the internal resources to the shareholders and to raise external funds for undertaking positive NPV projects. In particular, institutional shareholders create block holdings within the company with their voting power, which enhances the quality of internal governance mechanism. Improved internal and external governance mechanisms could impose the distribution of the excess cash to shareholders and hence managers will be forced to seek

external finances to undertake positive NPV projects. Pursuing external finances for a project through debt or equity markets will institute an additional control mechanism on managers, as these markets will not fund a negative NPV project.

On the other hand, financially constrained firms should retain their internal funds to finance all the positive NPV projects to alleviate the informational asymmetries and to reach the optimal investment level. This dissertation further contributes to an explanation of the capital scarcity and agency theory of franchising by examining determinants of franchising investments in hotel firms. Firms adopt franchising due to both capital scarcity and agency cost, suggesting that franchising could be a way of dealing with asymmetric information and the monitoring cost of divisional managers. Financially constrained hotel firms may expand through the franchising model when they lack internal resources to undertake value-increasing projects. Financially constrained firms in other industries with growth prospects should expand through franchising when they have insufficient cash to undertake positive NPV projects to avoid the costly external finances because franchising does not require substantial capital investment.

Corporations could adopt franchising as an additional corporate governance mechanism to solve overinvestment problems. Put simply, managers of franchising firms might be less likely to waste the marginal cash in value-decreasing projects because financing the growth through franchised divisions does not demand major capital expenditures and thus managers are expected to distribute the marginal cash to shareholders because these firms could raise external funds to expand through company-owned divisions if the project has a positive NPV. However, franchising alone is not sufficient to resolve overinvestment problems, rather it could be used as an additional

corporate strategy to improve the corporate governance mechanism of a firm. While hotel-REITs are more likely to make value-increasing investments, improvement of external corporate governance mechanism in hotel-REITs could make this corporate structure more efficient than C-corporation hotels.

Although the findings of this dissertation make significant contributions to the corporate finance, franchising, and hospitality literature, this dissertation is not free from limitations. While this dissertation reports significant evidence that underinvestment is more depreciating than overinvestment, the analyses are limited to gains from acquisitions. Future studies may examine the effects of different investments on the firm value. Although this dissertation provides significant evidence that financial constraint (underinvestment problems) has more effect on the firm value than weak corporate governance mechanisms (overinvestment problems), future studies are needed to examine the effects of capital expenditures on the firm value to corroborate the findings of this dissertation. In a model where market share is considered as an investment, Chevalier (1995) showed that managers with a desire to build empires could overinvest in the market share. While increasing the market share increases the sales and ultimately benefits the managers, it may not benefit the shareholders. Firms that adopt the franchising business investment model might be overinvesting in the market share by increasing the number of franchised divisions. Future studies may investigate the franchising firms' overinvestment behavior on the market share. The determinants of capital investments in firms that adopt franchising are examined to test the agency and capital scarcity theories of franchising. Future research is needed to investigate the determinants of franchising investment. Future studies may investigate the determinants

of investments in franchising firms by analyzing the association between marginal investments and firm value. While the results of this dissertation can be generalizable, the analyses are constrained to hotel firms. Testing the underinvestment, overinvestment, and franchising theories using different samples of industries would substantiate the results of this dissertation. The results from the OLS analysis that examines the effects of corporate governance on the firm value yield low Adjusted R-square values. Although these low values could be seen as a limitation or constraints due to small sample size, studies in corporate finance literature that examines these issues reports similar results. Dittmar and Mahrt-Smith (2007), who has developed the internal corporate governance index using 3,950 observations, report R-square values of 0.02 and 0.04. Therefore, the small numbers are not due to small sample sizes. Rather, these low values are due to the nature of such studies. Although unobservable effects of firms' financial policies and investment opportunities might create omitted variable bias, firms' investment and financial policies and investment opportunities are not disclosed because of the crucial competition factors that determine a firm's success. Instead, alternative proxies are used to capture firms' policies from information available to the public. Yet, corporate finance studies may still have low explanatory powers due to the possible omitted variables. Therefore, future models employing additional explanatory, macro and firm level, variables might improve the explained variance.

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