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Acquisitions and shareholders' returns in restaurant firms: The effects of free cash flow, growth opportunities, and franchising

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ABSTRACT

Restaurant firms extensively expand through acquisitions. While acquisitions can be an efficient business strategy, the extant literature presented evidence showing that acquisitions can be value–increasing or –decreasing investments. However, why acquisitions increase or decrease firm value is not clear. Corporate finance and franchising theories collectively suggest that the value of acquisitions may depend on firms' free cash flow capacities, growth opportunities, and organizational forms. The purpose of this study is to examine the concurrent effects of free cash flows, growth opportunities, and franchising on restaurant firms' returns from acquisitions. The results showed that firms with high-free cash flows gain lower returns compared to firms with low-free cash flows, suggesting that acquisitions reduce underinvestment problems but also increase overinvestment problems. Franchising firms also gain lower returns compared to non-franchising firms; however, the availability of free cash flows exacerbates overinvestment problems in franchising firms. Theoretical and practical implications are discussed.

1. Introduction

Expansion through acquisitions has been a profound method for corporations because it provides acquiring firms an opportunity to grow without losing momentum in margins. Acquisitions also have potential benefits to improve earnings, reduce costs, achieve greater market shares, and increase shareholders' wealth (Kim and Zheng, 2014; Chatfield et al., 2011; Dogru, 2017). However, acquisitions are often associated with valuation concerns (i.e., liquid and/or fixed assets, etc.) and shareholders' reactions to price movements before, during, and after the acquisitions both in the short and long-run. Within this context, the neoclassical theory of acquisitions postulates that companies, acting in the best interest of shareholders, acquire another company only if the acquisition increases their value (Rosen, 2006). Empirical evidence, however, indicates that shareholders may not always enjoy positive wealth effects in acquisitions. In particular, returns from acquisitions depend on many other factors such as acquirer's size (Moeller et al., 2004), method of payment (Alshwer et al., 2011), target characteristics (Harford et al., 2012), and financial constraints (Dogru, 2017). Furthermore, acquisitions that are motivated with managerial overinvestment may be inferior acquisitions and may result in value-destruction rather than value-creation for shareholders (Jensen, 1986).

Neoclassical view of acquisitions suggests that firms engage in acquisitions to reallocate their scarce corporate assets to more productive uses (Maksimovic & Phillips, 2002), and increase profitability (Shleifer and Vishny, 2003). Hence, in the neoclassical view, acquisition decisions are believed to improve shareholder wealth (Salter and Weinhold, 1979; Seth, 1990), and managers and owners' interests are aligned (Cho, 2009). Accordingly, firms with high-growth opportunities are anticipated to make better acquisitions compared with firms with low-growth opportunities and increase shareholders' wealth (Arikan and Stulz, 2016). If the neoclassical view of the acquisitions holds, we should find support for this proposition. However, we do not overrule the possibility that CEOs of high-growth firms with high levels of free cash flows may pursue less than optimal acquisitions and cause overinvestment problems for such growth firms, leading to lower or negative shareholder returns. Taken together, it is clear that there are still puzzling views, findings, and evidences within this domain.

The overinvestment theory is also critical when calibrating acquisitions and shareholders' returns in restaurant firms with the effects of

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free cash flow, growth opportunities and franchising. This theory postulates that managers of firms with free cash flows might waste firms' resources on self–serving investment projects and hence create overinvestment problems (Jensen, 1986). Put simply, CEOs of firms with excess free cash flows at their discretion will undertake suboptimal investment projects by investing in negative net present value (NPV) investments financed with free cash flows for reasons including higher compensations (Masulis et al., 2007; Vogt, 1997), empire building (Shleifer and Vishny, 1997), and diversifying acquisitions (Morck et al., 1990). Relying on the overinvestment theory, we formulate that firms with high free cash flows pursue value-decreasing acquisitions, and consequently experience negative returns.

Franchise fees and ongoing royalties provide a steady stream of cash flows (Andrew et al., 2007) and a significant buffer to economic fluctuations (Roh, 2002). In line with this cash flow argument for franchising firms, we propose that fees and royalties collected from the franchising network increase available cash flows for franchisors and appeal CEOs of restaurant firms to make investments and acquisitions. We predict that CEOs' motivation to grow excessively via acquisitions using the cash flows generated from franchising network is likely to cause an overinvestment problem for franchising companies, and poor returns for their shareholders around the acquisitions (Dogru, 2017; Jensen, 1986). However, shareholders of franchising firms perceive acquisitions to be value-increasing or -decreasing depending on firms' free cash flow capacities and growth opportunities. While low-growth franchising firms with high levels of free cash flows are likely to make value-decreasing acquisitions, shareholders of franchising firms with high growth opportunities may perceive acquisitions to be value-increasing.

Although there is a substantial body of literature examining the returns to shareholders around acquisitions, the perplexing question of why acquisitions create value in some firms while they destroy value in other firms is not widely investigated. Therefore, using a sample of acquisitions conducted in the U.S. restaurant industry, we examine the effects of acquirer's free cash flows, growth opportunities and organizational acquisitions on shareholder returns using the overinvestment, underinvestment and franchising theories as the theoretical framework. Acquisition and franchising are extensively used expansion methods in the restaurant industry. The acquisition strategy for expansion and value creation allows restaurant firms to increase their market share more rapidly relative to developing new restaurants from the ground, and eliminates the heavy competition that exists in the restaurant industry (Chatfield et al., 2011). Yet, shareholders might still perceive acquisitions to be suboptimal investments.

This study attempts to contribute to the hospitality, corporate finance and franchising literature by conducting an empirical investigation of the implications of free cash flows, growth opportunities, and franchising in acquisitions within the context of the restaurant industry. In so doing, this study aims to advance the extant literature by answering to the perplexing question of why shareholders perceive some acquisitions to be value-increasing and other acquisitions to be value-decreasing investments. The findings of this study are further expected to provide managerial and practical implications to restaurant firms' shareholders, CEOs, board of directors, and creditors in terms of investment, financing, cash management, and payout policies.

2. Literature review and hypotheses development

2.1. Background on acquisitions and franchising in the restaurant industry

Expansion through acquisitions is a common and efficient growth strategy in the restaurant industry (Kizildag, 2015; Ozdemir et al., 2013; Kizildag and Ozdemir, 2017; Madanoglu et al., 2018; Park and Jang, 2011). Investigating the performance of restaurant firms following acquisitions, extant studies reported results showing that returns from acquisitions vary widely across the firms and that acquisitions can be value-increasing or -decreasing investments for a firm (Dogru, 2017; Park and Jang, 2011).

Yang et al. (2009) showed that acquiring hospitality firms produced excessive returns, whereas Sheel and Nagpal (2000) reported that acquiring hospitality firms experienced negative returns. The inconsistent findings from the extant studies might be due to the differences in the study periods, samples, and methodologies. The varying findings could also be attributed to certain contingencies that the previous studies have not focused on to address the perplexing question of why shareholders and stock markets perceive some acquisitions to be value-increasing and other acquisitions to be value-decreasing investments. Taken all together, a more nuanced exploration of this puzzle—and, subsequently, a more thorough understanding of this phenomenon—is needed to draw a much more accurate financial picture for restaurant companies, shareholders, and decision makers.

In addition to acquisition strategy, franchising has been a widely adopted business model in the restaurant industry because franchising enables restaurant firms to expand rapidly in domestic and international markets. Franchising might be particularly useful corporate strategy to reduce underinvestment problems because expansion through franchising does not require major capital spending (Oxenfeldt and Thompson, 1968-1969). However, franchising may also exacerbate overinvestment problem. Instead of distributing the excess cash to shareholders in the forms of dividends or making share repurchases, CEOs of franchising firms can make suboptimal investments in acquisitions to increase their personal wealth, which creates overinvestment problems (Combs et al., 2004; Dogru and Sirakaya-Turk, 2017). The postulations of overinvestment theory have not received ample attention within the context of franchising. That is, whether or not franchising exacerbates overinvestment problems has not yet been corroborated. Therefore, analyzing the concurrent effects of idiosyncratic characteristics in acquisitions by restaurant firms is a worthwhile attempt to fill a critical gap in the extant literature.

2.2. Underinvestment and overinvestment problems

Many corporate finance and franchising studies provide substantial evidence showing that shareholders' responses to the acquisitions depend on firms' underinvestment and overinvestment problems (i.e., Officer, 2011; Dogru and Sirakaya-Turk, 2017). These studies predominantly utilize the propositions of both underinvestment and overinvestment theories as the underpinning theoretical foundations to explain firms' value-increasing and value-decreasing activities.

Within the framework of the underinvestment theory, firms finance value-increasing projects with their internal funds, and they generally forego some of their positive NPV projects when internal funds are depleted because the cost of external funds would discount the value of investments to an unprofitable level (Myers and Majluf, 1984). As a result, these firms are considered to be financially constrained, and they eventually encounter underinvestment problems (Denis and Sibilkov, 2009). Such firms might be able to reduce or even eliminate asymmetric information problem encountered in capital markets in acquisitions and reduce underinvestment problems.

Overinvestment theory is originated from the conflicts between managers and shareholders regarding the use of free cash flows. When firms have excess free cash flows, CEOs might be motivated to spend the excess cash in self-serving investments (Jensen, 1986). That is, CEOs have an incentive to make more investments to increase their own compensation, prestige, and the resources under their control regardless of the profitability of the projects (Officer, 2011). While CEOs are inclined to pursue such self-serving investment strategies, shareholders would prefer the excess cash to be distributed in the form of dividends or share repurchases (Harford et al., 2012). In this case, inevitable conflicts arise between the agents and the principals causing overinvestment problems.

2.3. Free-cash flows and acquisitions

The existing literature on firm value creation through acquisitions offers essential insights, largely due to the wide variety of types and sizes of acquisitions. In particular, corporate finance and franchising theories collectively suggest that the value of acquisitions depend on firms' free cash flow capacities, growth opportunities, and organizational form (i.e., Combs et al., 2004; Denis and Sibilkov, 2009; Dogru, 2017).

On one hand, shareholders of firms with high free cash flows perceive acquisitions to be value-decreasing investments, whereas shareholders of firms with low levels of free cash flows perceive acquisitions to be value-increasing investments (i.e., Masulis et al., 2007). This is mainly because CEOs of firms with excess free cash flows at their discretion are expected to waste firms' resources on self-serving investment projects and thus increase overinvestment problems. This argument finds strong empirical evidence. Smith and Kim (1994) and Titman et al. (2004) reported that acquirers with high capacities of free cash flows experienced negative returns, whereas firms with limited free cash flows gained positive returns from acquisitions. Furthermore, Masulis et al. (2007) found that firms in which CEOs are less likely to be replaced gain lower returns from acquisitions. Oler (2008) also reported lower post-acquisition returns and operating performance in firms with higher free cash flows. Studies of Officer (2011) and Harford et al. (2012) have also reported similar findings.

On the other hand, firms that suffer from the underinvestment problem, which suggests that firms must reduce investment spending during periods when the internally generated cash flows are low to finance growth (Gay and Nam, 2019), due to limited free cash flows are expected to make value-increasing acquisitions because CEOs of these firms are able to reduce informational asymmetries in acquisition deals (Khatami et al., 2015). Indeed, Khatami et al. (2015) reported that financially constrained firms yield higher acquisition returns compared to non-constrained firms, which implies that constrained firms make better investment decisions partly because they have ample unexploited opportunities for growth. In support of this notion, Alshwer et al. (2011) examined the method of payments in acquisitions made by financially constrained firms, and demonstrated that financially constrained firms use substantial stock issues in acquisitions, and by this means mitigate the underinvestment problems. Moreover, consistent with the premises of the underinvestment problem, Denis and Sibilkov (2009) showed that firms with low levels of cash flows experienced higher returns from their investments relative to those with high levels of cash flows.

While there is also considerable recognition of the effects of free cash flows on firm value within the context of the hospitality industry, evidence regarding the effectiveness of any one mechanism is not persuasive (Canina and Kim, 2013; Oak and Dalbor, 2009). Sheel and Nagpal (2000), for instance, showed that hospitality firms experienced negative returns from acquisitions. However, Yang et al. (2009) reported that hospitality firms making acquisitions gained positive returns from acquisitions in the long term. In their analysis of returns from acquisitions in the restaurant industry, Chatfield et al. (2011) found that restaurant firms making acquisitions experienced neutral returns. While Park and Jang (2011) reported that restaurant firms experienced superior growth in the short term following their acquisitions, acquiring restaurant firms' growth resembled that of non-acquiring restaurant firms in the long term. More recently, Dogru (2017) found that financially constrained hotel firms gained higher returns from acquisitions compared to unconstrained hotel firms, suggesting that firms with limited or no free cash flows make better acquisitions than firms with higher free cash flow capacities. Dogru (2017) also documented that CEOs of hotel firms that are protected by more anti-takeover provisions make poorer acquisitions, suggesting that shareholders of firms with high free cash flows perceive these acquisitions to create overinvestment problems.

Considering the above discussed postulations of overinvestment and underinvestment theories, we formulate the following hypothesis to test the effect of acquiring restaurant firms' free cash flows on abnormal returns associated with acquisition announcements:

H1. *Abnormal returns associated with acquisition announcements are lower for restaurant firms with high free cash flows compared to firms with low free cash flows.*

2.4. Growth opportunities and acquisitions

Although the degree of firms' free cash flows can help explain why acquisitions can be a value-increasing or -decreasing for restaurant firms, quantifying the value of acquisitions solely based on the availability of free cash flows might be unconvincing because there are indicators other than the availability of free cash flows that can explain why acquisitions can be value–increasing or –decreasing (Officer, 2011). In this vein, the growth hypothesis suggests that high-growth firms make better acquisitions because they have unexploited investment opportunities (La Porta et al., 2000). Yet, firms with low-growth prospects might be under pressure to improve financial performance, and thus, the probability of making successful acquisitions decreases (Savor and Lu, 2009). Advocates consistently reported that firms with high-growth opportunities receive greater abnormal returns from acquisitions compared to firms with low-growth opportunities (i.e., Vogt, 1997). Thus, firms with high growth opportunities are expected to make superior acquisitions.

While the growth opportunity, as a standalone covariate, could explain firms' value in acquisitions, the combined effect of firms' growth opportunities with free cash flows might better explain firm value around acquisitions. Smith and Kim (1994) argued that CEOs of firms with low growth opportunities and high free cash flows are more likely to make investments that serve their interests. Vogt (1997) showed that firms with high growth opportunities and limited free cash flows gain positive abnormal returns from capital expenditure announcements. Officer (2011) found that shareholders of low-growth firms with high free cash flows react more positively to dividend announcements than shareholders of high-growth firms with low free cash flows. That is, distributing excess cash is perceived well by firms' shareholders, and it eventually decreases overinvestment problems and causes abnormal returns to surge for those low-growth firms. Based on the preceding discussion the following hypotheses have been developed.

H2a. *Abnormal returns associated with acquisition announcements are lower in low-growth firms when compared to the abnormal returns in high-growth firms.*

H2b. *Abnormal returns associated with acquisition announcements are lower in low-growth firms with high free cash flows, in contrast to those in high-growth firms with low free cash flows.*

2.5. Franchising and acquisitions

Franchising is a widely adopted organizational form of business in the restaurant industry, and it allows firms to expand rapidly and reach economies of scale (Brickley et al., 1991). However, acquisitions made by franchising firms can be value-increasing or -decreasing (Combs et al., 2004). The capital scarcity theory of franchising suggests that firms adopt franchising and may expand through acquisitions to reduce underinvestment problems (Oxenfeldt and Thompson, 1968-1969). If the underinvestment is the prevalent motivation for franchising firms to engage in acquisitions in addition to expand their franchise chain, we expect CEOs of franchising firms to make a concerted effort to make positive NPV acquisitions in an effort to achieve optimal investment level and maximize shareholders' wealth.

As a counter argument, the overinvestment theory suggests that acquisitions could exacerbate overinvestment problems in franchising firms. CEOs' incentives might not be aligned with shareholders' best interests, and therefore CEOs can be more motivated to make self-serving acquisitions to increase their compensation and power. In particular, CEOs of franchising firms could make acquisitions using the cash flows earned from franchisees in the form of franchise and royalty fees (Dogru, 2017). Being aware of CEO's self-serving interests and their propensity to use cash flows from franchising fees, shareholders of franchising firms often perceive acquisitions to be suboptimal investment projects (Jensen, 1986). Therefore, contrary to the capital scarcity theory of franchising, the overinvestment theory proposes negative abnormal returns for franchising firms in their acquisitions. Based on these postulations, we formulate the following hypotheses.

H3a. *Per the underinvestment problem, abnormal returns that are associated with acquisition announcements are higher in franchising restaurant firms compared to those of non-franchising restaurant firms.*

H3b. *Per the overinvestment problem, abnormal returns associated with acquisition announcements are lower in franchising restaurant firms compared to those of non-franchising restaurant firms.*

While the capital scarcity theory predicts higher returns in franchising restaurant firms, overinvestment theory postulates that franchising restaurant firms will experience lower returns in acquisitions. Parallel to both the theoretical and the empirical evidence regarding the effects of franchising on acquisitions, the lack of accord in the literature calls for a consolidated effort to scrutinize whether franchising reduces underinvestment problems or exacerbates overinvestment problems. Put differently, the simultaneous examination of the effects of franchising, availability of free cash flows, and growth opportunities can further delineate and strengthen the reasons for why acquisitions can be value-increasing or -decreasing investments (Dogru, 2017). Therefore, in addition to above mentioned individual hypotheses, the following hypotheses are proposed to concurrently test the postulations of the capital scarcity theory of franchising, under- and overinvestment theories, and the growth hypothesis. These additional tests are expected to reveal further insights regarding the implications of free cash flows and growth opportunities on the return efficiencies of franchising restaurant firm's around their acquisitions.

H4a. *Abnormal returns associated with acquisition announcements are lower in franchising firms with high free cash flows than in those firms with low free cash flows.*

H4b. *Abnormal returns associated with acquisition announcements are higher for the high-growth franchising firms than the abnormal returns of low-growth franchising firms.*

H4c. *Abnormal returns associated with acquisition announcements are lower for low-growth franchising firms with high free cash flows than the abnormal returns of high-growth franchising firms with low free cash flows.*

3. Methodological procedures

3.1. Sample selection and data

Restaurant companies were sorted by their four-digit SIC codes between the dates of January 1990 and December 2016 for matching purposes. Acquisition announcement data were obtained from Thomson Reuters Securities Data Corporation (SDC) Platinum Database. Accounting and financial information, monthly announcement dates, and available company filings for the publicly traded acquiring firms were obtained from both CRSP/COMPUSTAT merged files and the U.S. Securities and Exchange Commission (SEC) EDGAR database. We require the acquisitions to be completed and have a deal value of $1 million or higher. Also, the acquiring firm needed to 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, as well as stock return data from the Center for Research in Security Prices (CRSP) on the month of the announcement date. Also, acquiring firms were U.S. companies that were traded on NYSE, NASDAQ, or AMEX. The announcements in which the acquiring firms had made more than one acquisition within three days of the announcements were excluded from the analysis. Observations with missing dependent variables were removed from the analysis. Despite eliminations through the screening process, the final sample of 180 observations with 76 restaurant firms over the specified period adequately created a sufficiently extensive sample size from the population of the entire restaurant industry for the statistical analyses.

3.2. Construction of variables and estimation procedures

The indicators were constructed based on the tested empirical procedures from the existing literature so that empirical importance and both statistical and economic significance would be achieved for the hypothesis testing. The dependent variable is the acquiring firms' cumulative abnormal returns (CARs), which was measured around the acquisition announcement dates using standard event study methodology, following Brown and Warner (1985). For each event, we employed the Fama and French (1992) three factor model to estimate the abnormal return patterns using the Eventus software. The parameters were estimated via regressions using 200 (-43 to -242) trading day daily returns prior to the specified event windows. CARs were constructed as three (-1, 1) day mean cumulative abnormal returns around the announcement date, where zero is the event day, of the acquisitions. Mean differences tests were employed to analyze whether the mean coefficient of CARs was significantly different from zero and to examine the main differences in firms' CARs between firms with high and low free cash flows, high- and low-growth firms, and franchising and non-franchising firms. Multivariate and univariate analyses utilized the panel ordinary least square regression controlling for firm-year effects to investigate the extent to which the availability of free cash flows, growth opportunities, and franchising affects abnormal returns that are associated with acquisition announcements. Lastly, alternative estimation models (i.e., market models), estimation windows (i.e., -11 to -210 trading day daily returns prior to the event windows), and CARs (i.e., -2, 2; -5, 5) were also utilized to check the robustness of our main analyses. The results obtained from all of the analyses were consistent under different specifications of estimation models, estimation windows, and CARs. Table 1 presents the summary statistics of the yearly CARs along with the annual number of acquisitions.

Our independent variables are the availability of free cash flows, growth opportunities, and franchising. The ratio of operating income before depreciation to total assets was used to measure firms' availability of free cash flows (Fazzari et al., 1988; Vogt, 1997). Firms were sorted into 'low' and 'high' categories based on their respective free cash flow amounts. That is, firms below the median level of free cash flows were included in the category of low free cash flows, and firms above median level of free cash flows were categorized as firms with high free cash flows. Following the large investment literature, we use the market-to-book ratio as the proxy for growth opportunities (Denis and Sibilkov, 2009; Billett et al., 2007), and operationalize it as [(book value of assets - book value of equity + the market value of equity) / book value of assets]. Firms were sorted into low and high growth categories based on their respective growth opportunity values. Firms were assigned to the low-growth firm category if their growth opportunity levels were below median aggregate growth value in the full sample and vice versa.

Three dummy variables were created to observe the abnormal return cycles with acquisition announcements in firms with high free cash flows and low free cash flows, high-growth and low-growth firms, and

Table 1
Summary Statistics of Yearly CARs.

Year	Number of Acquisitions	Mean	Std. Dev.	Min	Max
1990	2	−0.0068	0.0257	−0.0250	0.0114
1991	5	0.0254	0.0319	−0.0053	0.0608
1992	8	0.0765	0.0867	−0.0665	0.2052
1993	8	−0.0162	0.1227	−0.3006	0.1067
1994	13	−0.0015	0.0652	−0.1194	0.1397
1995	12	−0.0118	0.0610	−0.0905	0.1213
1996	12	0.0355	0.0694	−0.0237	0.1908
1997	14	0.0237	0.1131	−0.2267	0.2634
1998	18	0.0412	0.0969	−0.0602	0.3647
1999	11	0.0042	0.0998	−0.2298	0.1252
2000	5	0.0411	0.0351	−0.0051	0.0909
2001	2	−0.0022	0.0129	−0.0113	0.0070
2002	6	0.0014	0.0422	−0.0677	0.0574
2003	6	−0.0006	0.0798	−0.1130	0.1167
2004	4	0.0304	0.1315	−0.0487	0.2272
2005	4	0.0062	0.0311	−0.0279	0.0472
2006	10	0.0634	0.0991	−0.0454	0.3217
2007	10	−0.0035	0.0443	−0.0936	0.0500
2008	5	−0.0008	0.0486	−0.0663	0.0550
2009	3	−0.0072	0.0722	−0.0505	0.0761
2010	1	0.1965	–	0.1965	0.1965
2011	4	0.0132	0.0740	−0.0388	0.1225
2012	6	−0.0181	0.0469	−0.0957	0.0501
2013	2	−0.0451	0.0049	−0.0486	−0.0416
2014	6	0.0034	0.0512	−0.0667	0.0779
2015	2	−0.0021	0.0224	−0.0179	0.0138
2016	1	0.0046	–	0.0046	0.0046

franchising and non-franchising firms. These dummy variables are denoted as “high free cash flows,” “low-growth firms,” and “franchising firms,” and take on a value of 1 if the firms are above the median level of free cash flows, below median growth opportunities, and have expanded via franchising; 0 otherwise. Applying the same logic, we constructed more dummy variables to examine the concurrent effects of free cash flows, growth opportunities, and franchising on abnormal returns around acquisition announcements. These dummy variables are denoted as “high free cash flows and low-growth,” “high free cash flows franchising firms,” “low-growth franchising firms,” and “high free cash flows and low-growth franchising firms” for firms that have low growth opportunities and high free cash flows, high free cash flows franchising firms, and low growth franchising firms, and if franchising firms possess high free cash flows and low growth opportunities. An additional four dummy variables— “public,” “private,” “subsidiary,” and “joint venture”—were also created to capture the effects of target firms’ public status on acquisition returns. Five dummy variables were also structured to capture methods of payment: “all cash,” “stock,” “combo,” “other,” and “unknown.” Finally, we established a set of dummy variables to fully capture the effects of diversification on abnormal returns from firm acquisitions. In this context, three dummy variables were specified as “target U.S.,” “target same industry” (for other restaurant firms), and “friendly acquisition.”. Any time a firm met the criterion of a dummy variable, the variable took the value of “1,” but otherwise it took the value of “0.”

Moreover, following prior studies (e.g., Officer, 2011; Park and Jang, 2011), we also quantified a number of variables that were included in our main model to control for acquiring firms’ and target firms’ characteristics and the method of payment. Specifically, these variables are total assets, Tobin’s Q (total assets plus CRSP December market equity divided by total assets), financial slack (the ratio of operating income before depreciation without interest expense, income taxes, and capital expenditures to total assets), leverage (the ratio of total debt to total assets), and relative deal size (the natural log of target size divided by the acquirer’s market value) (Moeller et al., 2004). The summary statistics of dependent, independent, control, and grouping variables are presented in Table 2, along with the correlation matrix of these variables.

The following main model is used to estimate the effects of the availability of free cash flows, growth opportunities, and franchising on abnormal returns that are associated with acquisition announcements, utilizing panel regression analysis.

$$CARs_{it} = a_0 + \beta_1 Y_{it} + \sum_{k=1}^{n} \beta_{2k} X_{ikt} + e_{it} \quad (1)$$

where the dependent variable, CARs, is the acquiring firm i’s cumulative abnormal return at time t, and Y is either high free cash flows, low growth opportunities, franchising, high free cash flows*low growth, high free cash flows*franchising, low growth*franchising, or high free cash flows*low growth*franchising. X represents a set of control variables of the firm i at time t that includes the acquiring firm’s total assets, Tobin’s Q, financial slack, leverage, relative deal size, methods of payment, target public status, and diversification dummy variables. Lastly, e is the error term and a_0, β_1, and β_{2k} are the model’s parameters.

4. Results and findings

This section presents the univariate and multivariate analyses of acquirer firms’ abnormal return patterns. Table 3 shows the results from the mean difference tests in detail. The CARs’ mean coefficient for the full sample indicates that restaurant firms, on average, gained positive abnormal returns from acquisitions.

In addition to the aggregate mean difference tests, we also applied independent mean comparison to subsamples of the full sample. In other words, the full sample was divided into three different portfolios based on firms’ availability of free cash flows, growth opportunities, and organizational forms. The results revealed that firms with high free cash flows gained negative abnormal returns from acquisitions, while the CARs for the firms with low free cash flows were positive, with the difference being statistically significant.

We also analyzed the portfolio created based on firms’ growth opportunities. While both high- and low-growth firms gained positive returns from acquisitions, low-growth firms’ returns were higher than those of high-growth firms. Similar patterns were seen in the organization form portfolios. Specifically, both franchising and non-franchising firms experienced positive cumulative abnormal returns from firm acquisitions. However, the abnormal returns for the non-franchising firms were higher than those of the franchising firms.

The parameter estimates that examine the effects of free cash flow capacities, growth opportunities, and franchising on CARs in acquisitions are presented in Table 4. While the analysis may be conducted utilizing the pooled ordinary least squares method, the coefficient estimates might be inefficient and/or biased because a heteroskedasticity problem may exist in the panel data (Greene, 2003), which is the nature of the dataset used in this study. Therefore, we utilize panel fixed effects and random effects models to overcome this issue and provide reliable and unbiased coefficient estimates. We further applied the Hausman test developed by Hausman (1978) to determine whether panel fixed or random effect model better fits the data. The results from the Hausman test (i.e., Chi-square) showed that panel random effect technique should be utilized in our models.

In the first column of Table 4, we examine the effects of the availability of free cash flows on acquiring firms’ abnormal returns, controlling for acquiring firm, target firm, and deal characteristics. The estimation for the firms with high free cash flows was negative and statistically significant (β: −0.037, at $p < 0.01$). This finding indicates that restaurant firms with higher free cash flows gained significantly lower returns compared to restaurant firms with low free cash flows. This outcome suggests that firms with high free cash flows could have distributed more dividends and/or invested more in financially feasible projects. Thus, these results support the first hypothesis, which is aligned with the underinvestment and overinvestment theories

Table 2
Summary of Selected Statistics.

Proxies	Descriptive Statistics			Proxy Correlations							
	Mean	Median	Std. Dev.	*CARs*	*Log Size*	*Tobin's Q*	*Free-Cash-Flows*	*Leverage*	*Relative Size*	*Financial Slack*	*Growth*
CARs	0.02	0.01	0.08	1							
Log Size (*Total Assets*)	5.05	5.19	1.72	−0.17[b]	1						
Tobin's Q	1.66	1.56	4.03	−0.13[c]	0.11	1					
Financial Slack	0.13	0.14	0.10	0.06	−0.12	0.06	1				
Leverage	0.20	0.14	0.19	0.17[b]	0.01	−0.14[b]	0.07	1			
Relative Size	0.25	0.08	0.57	0.18[b]	−0.35	−0.17[b]	0.06	0.49[a]	1		
Free-Cash- Flows	0.49	0.00	0.50	−0.25[a]	0.41	0.11	−0.04	−0.28[a]	−0.47[a]	1	
Growth	0.48	0.00	0.50	−0.15[b]	0.14	−0.18[b]	−0.17[b]	−0.06	−0.02	0.34[a]	1
Franchising	0.23	1.00	0.48	−0.09	0.02	−0.04	−0.18[b]	−0.24[a]	−0.28[a]	0.29[a]	−0.04

Note: [a, b,] and [c] denote 1, 5, and 10% statistical significance levels respectively.

proposing that CEOs of firms with high free cash flows make suboptimal investments.

The second column of Table 4 displays the effects of growth opportunities on acquiring firms' abnormal return characteristics, controlling for acquiring firm, target firm, and deal characteristics. The estimations showed that the mean coefficient for the firms with low growth opportunities is positive and statistically significant (β: 0.021, at $p < 0.1$). This signals that although restaurant firms face different levels of growth opportunities in markets, if growth opportunities alone were assessed, abnormal returns from firm acquisitions are positively affected. These results were not aligned with our growth hypothesis (H_{2a}). One possible reason for this could be that these restaurant firms might find rare investment opportunities in acquisitions. However, further examination of the joint effects of firms' growth opportunities with their free cash flow capacities on acquiring firms' CARs are necessary to confirm these findings.

The last column of Table 4 reports the results from the interaction model of high free cash flows and low growth effects. It appears from the regressions that the coefficient of the interaction for the firms with both high free cash flows and low growth is negative and statistically significant (β: −0.044, $p < 0.05$). This suggests that when restaurant firms have high free cash flows, they are more likely to waste firms' resources on suboptimal investment projects because of their low growth opportunities. Therefore, the interaction hypothesis (H_{2b}), which is developed based on the combined predictions of the underinvestment, overinvestment, and growth hypotheses, was supported by these findings.

We took additional precautionary steps to ensure that our results were not confounded by the individual effects of firms' free cash flows, and growth opportunities when abnormal return discrepancies from the acquisitions were analyzed. In this vein, the effects of restaurant firms' franchising structures, and the concurrent effects of their free cash flows and growth opportunities were further analyzed because the organizational choices of these firms are essential to the understanding of the cumulative return patterns from acquisitions. Table 5 presents these findings.

The first column of Table 5 demonstrates that the effect of franchising on acquiring firms' CARs controlling for acquiring firm, target firm, and deal characteristics is negative but statistically insignificant. This finding rejects both hypothesis (H_{3a} and H_{3b}) based on the underinvestment and overinvestment theories, suggesting that returns from the acquisitions of franchising restaurant firms are neutral. However, it is essential to test the joint effects of franchising and firms' free cash flows to further delineate these findings. In the second column, we examined this joint effect and found that the coefficient of the interaction between high free cash flows and franchising is still negative and statistically significant (β: −0.05, $p < 0.01$). This outcome indicates that if the restaurant firms with high free cash flows expanded through franchising, they still experience lower abnormal stock returns.

Our results suggest the opposite for restaurant firms that did not adopt franchising but had low free cash flows. These findings support our hypothesis H_{4a}, suggesting that the CEOs of franchising firms use the cash flows generated from franchise and royalty fees to make self-serving, rather than company-focused, acquisitions. These findings are aligned with the postulations of the overinvestment theory.

Additionally, to rule out the possibility that our results might be driven by a single interaction effect between the role of the free cash flow capacities and franchising on firms' abnormal return patterns from acquisitions, we estimated the combined effects of firms' growth opportunities and franchising on acquiring firms' stock returns, as proposed in hypothesis 4b. The coefficient of the interaction between firms' franchising activities and low growth opportunities was positive and statistically significant. That is, the presence of franchising enabled

Table 3
Univariate and Multivariate Analyses for Mean Differences in CARs.

Proxies	CARs Means						
	(1)	(2)		(3)		(4)	
	Full Sample	*High Free Cash Flows*	*Low Free Cash Flows*	*High- Growth*	*Low- Growth*	*Franchising*	*Non-Franchising*
No Criteria	0.017 (*2.73*)[a]						
Free Cash Flows		−0.003 (*3.23*)[a]	0.04				
Growth Opportunities				0.005 (*1.92*)[c]	0.03		
Franchising						0.01 (*1.33*)	0.03

Note: Numbers in parentheses are the *t-stats* for the corresponding proxies. [a] and [c] denote 1 and 10% statistical significance levels respectively.

Table 4
Panel Random Effects Regressions.

	Regression Models		
	1	*2*	*3*
High Free Cash Flows	−0.037[a]		
Low-Growth		0.021[c]	
High Free Cash Flows and Low-Growth			−0.044[b]
Acquirer Firm Characteristics:			
Log Size	−0.004	−0.006[c]	−0.004
Tobin's Q	−0.005	−0.006	−0.006
Financial Slack	0.007	0.004	0.005
Leverage	0.031	0.043	0.024
Relative Size	−0.003	0.001	−0.003
Target Firm and Deal Characteristics			
Target US	−0.041	−0.041	−0.043
Target Same Industry	0.003	0.001	0.001
Friendly Acquisition	−0.155[b]	−0.141[c]	−0.154[b]
Private	0.024	0.016	0.027
Public	0.046	0.035	0.049
Subsidiary	0.034	0.024	0.038
Combo	0.055[b]	0.045	0.051[b]
Other	−0.020	−0.014	−0.017
Stock	0.024	0.021	0.023
Unknown	0.018	0.001	0.003
Constant	0.209[b]	0.212[b]	0.216[b]
N	180	180	180
Hausman Test (FE vs. RE)			
Chi-Square	15.11	17.60	16.66
	(0.51)	(0.34)	(0.54)
R^2			
Within	0.15	0.10	0.15
Between	0.20	0.21	0.23
Overall	0.17	0.15	0.17
Wald Chi-Square	32.88[a]	29.44[a]	34.78[b]

Note: [a] denotes 1% statistical significance. [b] and [c] denote 5 and 10% statistical significance levels respectively.

Table 5
Panel Random Effects Regressions with Franchising.

	Regression Models			
	1	*2*	*3*	*4*
Franchising (*Aggregate*)	−0.021			
High Free Cash Flows (*Franchising*)		−0.050[a]		
Low-Growth (*Franchising*)			0.043[b]	
High Free Cash Flows and Low-Growth (*Franchising*)				−0.036[c]
Acquirer Firm Characteristics:				
Log_Size	−0.008[c]	−0.047	−0.006[c]	−0.006
Tobin's Q	−0.006	−0.007	−0.007	−0.006
Financial Slack	0.011	0.008	0.006	0.009
Leverage	0.036	0.031	0.003	−0.009
Relative Size	−0.002	−0.005	−0.001	−0.017
Target Firm and Deal Characteristics				
Target US	−0.040	−0.038	−0.040	−0.041
Target Same Industry	−0.001	0.008	0.005	−0.001
Friendly Acquisition	−0.147[c]	−0.155[b]	−0.149[c]	−0.155[b]
Private	0.024	0.027	0.025	0.030
Public	0.047	0.053	0.046	0.051
Subsidiary	0.035	0.037	0.032	0.041
Combo	0.056[b]	0.060[b]	0.052[b]	0.051[b]
Other	−0.016	−0.018	−0.012	−0.016
Stock	0.027	0.025	0.025	0.023
Unknown	−0.002	0.003	0.001	−0.001
Constant	0.22[b]	0.20[b]	0.22	0.14
N	180	180	180	180
Hausman Test (FE vs. RE)				
Chi-Square	14.03	14.01	13.68	17.92
	(0.52)	(0.66)	(0.68)	(0.46)
R^2				
Within	0.10	0.15	0.10	0.14
Between	0.20	0.23	0.24	0.21
Overall	0.15	0.17	0.16	0.16
Wald Chi-Square	27.88[b]	34.41[b]	31.89[b]	31.86[b]

Note: [a, b] and [c] denote 1, 5, and 10% statistical significance levels respectively. Numbers in parenthesis are probability values.

restaurant firms to gain positive abnormal stock returns from acquisitions, despite their inability to attain increased growth opportunities through other investing activities, such as capital projects.

The results extracted from the interaction analyses have indicated that while low growth opportunities do not adversely affect franchising restaurant firms' returns, the availability of firms' free cash flows negatively affects those anomalies in stock returns. Therefore, we tested the concurrent effects of firms' availability of free cash flows, growth opportunities, and franchising on acquiring firms' abnormal stock returns all together to obtain deeper observations in our outcomes. The core outcome of this analysis suggests that the abnormal stock returns for restaurant firms that adopt franchising, carry high free cash flows, and do not experience high growth were lower than firms with the opposite characteristics (β: −0.036, $p < 0.1$). Thus, we found a strong support for the hypothesis H_{4c}. Perhaps the most interesting aspect of this outcome is that franchising increases CEOs' power and thus CEOs of franchising firms focus on self-serving interests, which creates "shirking" between the agents and the principals, rather than value-increasing operational activities for both shareholders and the entire firm.

5. Discussions

Restaurant firms' strategic investment decisions are of paramount importance to these firms' efforts to maximize firm value and shareholders' wealth. This challenging task requires a broad assessment of both individual and blended effects of firms' growth prospects and financial and organizational structures. Hence, this study attempted to explain, unveil prominent reasons, and quantify why acquisitions can be either value-increasing or -decreasing for restaurant firms using corporate finance and franchising theories, such as the neoclassical theory, over- and underinvestment theories, and capital scarcity theory of franchising.

The results showed that the capacity for higher free cash flows appears to be the primary determinant of abnormal negative return patterns in acquisitions. This result suggests that shareholders of firms with high free cash flows perceive acquisitions as a mechanism to increase overinvestment problems. As a result, we observed that they subsequently placed lower value in acquisitions. However, shareholders of firms with limited cash flow capacities favored acquisitions as an effective solution to underinvestment problems, and they reacted positively to firms' acquisition announcements.

When we analyzed firms' growth opportunities, we noted that shareholders of low-growth firms react positively to acquisitions, suggesting that such firms may find a rare opportunity of growth in acquisitions. However, restaurant firms experience lower returns from acquisitions when they have low-growth opportunities but high free cash flows. This finding might be an indication that CEOs of these firms were likely to waste firms' resources on subordinate or self-serving investment projects; potentially creating overinvestment problems.

Although many restaurant firms adopt franchising as a solution or a precautionary mechanism against underinvestment problems, franchising may also lead to overinvestment issues. Our findings show that franchising firms experience neutral returns from acquisitions. However, the outcome changes when we analyze the effects of free cash flows in franchising firms' acquisitions. Our results showed that overinvestment problems are mostly aggravated in franchising restaurant firms when they possess excessive free cash flows. Contrary to postulations of the growth hypothesis, restaurant companies, which have

low-growth opportunities and engage in franchising activities, gained superior stock returns from acquisitions.

Overall, shareholders of firms with high free cash flows perceive acquisitions to increase overinvestment problems and thus place lower value to acquisitions. Shareholders of low-growth restaurant firms that adopt franchising consider acquisitions to be value-increasing investments. This is likely because they believe that these firms have reached the upper bounds of their expansion capacities through franchising and hence acquisitions become the best financial strategy to stimulate and maintain future growth prosperity. Yet, overinvestment problems are aggravated in franchising firms when these firms have high free cash flows. Also, low growth franchising firms experience lower returns when these firms have excess free cash flows. Collectively, our findings suggest that high free cash flow appears to be the major factor creating overinvestment problems and hence negatively effecting acquisition returns in restaurant firms.

6. Theoretical and practical implications

This paper develops an extensive outlook for restaurant firms regarding the effects of acquisitions on these firms' cumulative anomalies in stock returns based on critical underlying factors. We investigated why acquisitions can be value-increasing or -decreasing investments through different theoretical lenses, including the over- and under-investment theories, the neoclassical theory, the capital scarcity theory of franchising, and the growth hypothesis. These theories collectively suggest that firms' free cash flow capacities, growth opportunities, and organizational forms affect returns from acquisitions. Our findings corroborate the propositions of overinvestment theory of franchising that CEOs of franchising firms make self-serving acquisitions. Furthermore, our findings show that acquisitions seem to be an important tool for firms limited free cash flows, providing support for the underinvestment theory. This study contributes to the results from Dogru (2017), who showed that firms with underinvestment problems gain from acquisitions while hotel firms' value decreases when firms encounter overinvestment problems.

The conceptual aspect of our study offers several valuable practical merits and relevancy within the domain studied in this paper. Our findings indicate that the best financial outcomes occur when firms can adopt a rational blend of free cash flows based on feasible growth opportunities, along with institutionalized franchising activities for higher yields through acquisitions. Expansion through acquisitions is an important strategy to prevent firm executives from misspending excess cash and locking the firms into unfeasible financial projects since the executives might be inclined to serve their own interests instead of those of the shareholders.

In particular, firms with high free cash flows should not implement acquisition strategies without instituting strong corporate governance mechanisms to prevent executives from making suboptimal investment decisions. Firms can create an independent board of directors to monitor executives' actions and decisions on behalf of the firm in question. For instance, restaurant firms that adopt franchising might want to consider an asset-light investment strategy for additional capital investments and/or projects. Accordingly, firm executives are indirectly forced to distribute excess cash through dividends or share buybacks to avoid potential overinvestment problems. Obtaining additional debt can also prevent executives from making self-serving acquisitions due to the reduction in excess free cash flows.

Also, low-growth restaurant firms that adopt franchising should continue to make acquisitions because acquisitions might be their major expansion strategy to stimulate further financial and economic growth after reaching their optimal level of franchising. Through acquisitions, these firms can reduce underinvestment problems. However, high-growth restaurant firms that adopt franchising should not expand via firm acquisitions because shareholders of high-growth franchising firms might believe that executives should continue to exploit further franchising opportunities instead of making acquisitions.

7. Limitations and recommendations for future research

Although the findings from the analyses make contribution to hospitality, corporate finance, and franchising literature, this study has limitations that warrant avenues for future research. While we uncovered the critical links across restaurant firms' CARs based on the acquisition announcements, franchising and non-franchising structures, high and low free cash flows, and high and low growth opportunities, we have focused solely on financial outcomes, rather than any changes in the actual operating performance of the restaurant firms following the acquisitions. Future studies might explore the effects of acquisitions on post-merger stock return performances of acquiring restaurant firms to evaluate merger success over the long haul.

We also did not quantify psychological aspects of institutional investors, factor them into our empirical models, or explain the influence of those sentiments on restaurant firms' abnormal return decompositions through firm acquisitions. Thus, these areas might advance the related research by prompting additional predictive models and methods that adjust to investor and/or market sentiment that are created by the human behavior. Furthermore, our study delved deeper into shareholders' perceptions and restaurant firms' stock return reactions to firm acquisitions alongside their adoption of franchising. We did not factor in any proxies for behind-the-scenes corporate operations, such as capital structures (i.e., optimal blends of debt and equity sources) that also might affect the relationship between firm value and investments. Thus, investigating the interrelation between acquisitions, capital investment and the capital structures of restaurant firms within the context of under- and overinvestment problems can shed more light on why acquisitions or capital investments can be value-increasing or -decreasing investments for restaurant firms. Finally, the sample of this study is limited to the U.S. restaurant firms. Thus, the replication of this study in other industry and/or country settings will substantiate the findings of this study.

Despite the fact that we included all the restaurant firms that made acquisitions during this period with available data on COMPUSTAT and CRSP as explained in detail in the methodology section, the analyses are limited to studying stock return patterns from restaurant firm acquisitions that were announced within a specific period of time. Replication of this study in other sectors of hospitality and beyond this study period can contribute to corroborating the findings from this study.

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