Submission: 4th July 2016

Revision: 5th October 2016

Revision: 18th January 2017

Accepted: 4th March 2017

'Understanding restaurant firms' debt-equity financing

Abstract

Purpose – The aim of this study was to extend the understanding of restaurant firms' overall debt and equity financing practices by considering what drives equity financing. More importantly, this study attempted to identify whether or not an optimal financial leverage point exists in the relationship between debt financing and equity financing for restaurant firms.

Design/methodology/approach – This study used fixed-effects regression models with a sample of 1,549 unbalanced firm-year panel data to identify restaurant firms' financial practices and the impacts of financial constraints.

Findings – First, restaurant firms tend to issue long-term debt in order to pay back existing debt. However, the amount of debt does not exactly match the debt's maturity. Second, small restaurant firms' net debt financing, as well as net equity financing, has an inverted-U shaped relationship with financial leverage. Lastly, the effect of financial leverage on external financing significantly differs between small and large restaurant firms.

Practical Implications – Restaurant firms routinely use both debt and equity financing interchangeably to manage their financial constraints and target debt ratio. Further, firm size is an important indicator of financial constraints, while equity financing plays an important role in managing an optimal target debt ratio.

Originality/value – This study is unique in that it considers determinants of restaurant firms' long-term debt financing as well as equity financing. This study also examines differences in long-term debt and equity financing practices between financially constrained and unconstrained firms.

1. Introduction

Modern corporate finance literature often cites two main theories to explain firms' financial decisions: trade-off theory and pecking order theory (Myers, 1984; Myers & Majluf, 1984). In traditional corporate finance models, firms determine whether or not to use external financing, and if so which type (e.g., either debt or equity), by weighing the benefits and costs of debt financing. In contrast, pecking order theory suggests that due to information asymmetry firms prefer to use retained earnings first, followed by debt, and then stocks. Therefore, if external funding opportunities are available firms will use debt in order to cover internal cash flow deficits until they hit debt capacity (Shyam-Sunder & Myers, 1999). Consequently, based on pecking order theory it is reasonable to expect that firms issuing stock have greater financial leverage than firms issuing debt.

However, according to an empirical study by Lemmon and Zender (2010), firms issuing stock have less financial leverage than firms issuing debt. Further, Shyam-Sunder and Myers (1999) and Myers (2001) revealed that U.S. firms used more equity financing than debt financing between 1980 and 1990, which also casts doubt on the general principle of the pecking order theory. Additionally, restaurant managers have explicitly stated that the primary motivation of IPOs (e.g., Bloomin' Brands Inc., CKE Inc., Chanticleer Holdings Inc., Noodles & Company, and El Pollo Loco Holdings Inc. during the period of 2011 to 2013) is to pay down existing debt (NRN, 2014) rather than invest in growth. Under pecking order theory, this is not a reasonable financial behavior since equity financing is more expensive than debt financing unless a firm has exhausted its debt capacity. If this is the case, then how can we explain the discrepancy between restaurant firms' theoretical and empirical financial practices?

Despite comprehensive theoretical debates on the determinants of financial choices, previous studies have not fully captured the important role of equity financing, especially in firms with limited access to financial markets. This is particularly important given that restaurant firms frequently use equity financing (Jang & Kim, 2009; Jang & Ryu, 2006). Some even use both debt and equity financing simultaneously rather than a unilateral financing option, which also cannot be clearly explained by either the trade-off or pecking order theory. Why do restaurant firms use costly equity financing before reaching their debt capacity, especially firms with little financial leverage? What circumstances impede restaurant firms from obtaining sufficient debt and force them to seek supplementary equity financing?

The theory of optimal capital structure explains that a firm has a target debt ratio when it uses external financing or pay off existing debt (Hovakimian et al., 2001; Flannery & Rangan, 2006; Frank & Goyal, 2009). Nevertheless, studies have paid little attention to the effect of equity financing on target debt ratio even though they are inter-related. The theory of optimal capital structure also claims that a firm's optimal capital structure differs depending on size, profitability, market conditions, and the industry (Frank & Goyal, 2009). Among various financial aspects, firm size is one of the most reliable predictors of difficulty obtaining external financing. In fact, small firms consistently encounter more financial obstacles than large firms (Schiffer & Weder, 2001; Beck & Demirguc-Kunt, 2006). Therefore, we expected that restaurant firms' optimal capital structures and financial choices between debt and equity would differ significantly based on their financial difficulties.

Capital structure and financing behavior have been studied in the hospitality industry (e.g., Dalbor & Upneja, 2002; Gu, 1993; Jang & Kim, 2009; Jang et al.,

2008; Mao & Gu, 2008; Tang & Jang, 2007). Yet, the focus has been limited to the general features of debt financing behaviors, such as debt maturity matching practices or common determinants of debt financing. More research is necessary to explain the rationale behind restaurant firms' specific financing behaviors. Specifically, to date no studies have examined restaurant firms' equity financing, even though equity financing is an important source of external funds for financially constrained restaurant firms.

Therefore, the aim of this study was to fill the gaps between the theoretical and empirical evidence and extend the understanding of restaurant firms' overall debt and equity financing practices by considering what drives equity financing. More importantly, this study attempted to identify whether or not an optimal financial leverage point exists in the relationship between debt financing and equity financing in restaurant firms.

Specifically, the objectives of this study were: (1) to examine restaurant firms' long-term debt and equity financing decisions based on debt maturity (e.g., short-term, mid-term, and long-term) and (2) to identify restaurant firms' long-term debt and equity financing behaviors based on firm size (e.g., small and large), which is a proxy for financial constraints. This study is unique in that it considers determinants of restaurant firms' long-term debt financing as well as equity financing. This study also examines differences in long-term debt and equity financing practices between financially constrained and unconstrained firms. Therefore, this study expects to contribute to a better understanding of the financial behaviors of restaurant firms and provide useful information for managers of financially constrained restaurant firms to help them make better financial decisions.

2. Literature review

2.1. Trade-off theory vs. Pecking order theory

Trade-off theory suggests that a firm chooses its financing source by comparing the costs and the benefits of debt financing (Myers, 2001). In other words, agency costs and the risk of bankruptcy encourage firms to reduce debt, while tax benefits and the potential for fewer free cash flow problems push firms to acquire more debt. Thus, firms tend to adjust their financial leverage in order to move toward an optimal capital structure. Additionally, firm size has a positive influence on debt financing since large firms can more easily access financial markets. Further, the risk of bankruptcy is lower than for small firms, which lowers the costs of financing with debt. Thus, large firms are expected to use more debt than small firms under trade-off theory.

In contrast, according to pecking order theory (Myers, 1984; Myers & Majluf, 1984) firms make financing choices based in part on asymmetric information between better-informed firm managers and less-informed investors. Small firms have even greater information asymmetry problems than large firms. Thus, pecking order theory argues that financing preferences reflect the relative costs of different funding sources. Firms first choose internal financing and favor debt than equity when they need external funds. In other words, issuing equity is the last option and used to avoid triggering excessive financial leverage (firms only using debt financing). Myers and Majluf (1984) suggested that a firm's debt financing depends on its deficit level of internal financing rather than an optimal capital structure. However, the pecking order model generally does not explicitly propose optimal debt ratios (Shyam-Sunder & Myers, 1999).

Nevertheless, empirical studies highlight the significant weaknesses of the pecking order model. Shyam-Sunder and Myers (1999) and Myers (2001) pointed out that U.S. firms issue more stock than debt. Particularly during the 1980s and 1990s, firms obtained a large amount of external financing through equity financing. Later, Fama and French (2002) and Frank and Goyal (2003) found that high-growth small firms are the primary issuers of stock financing and use more than large firms (Lemon & Zender, 2010). Based on these findings, they concluded that small high-growth firms do not follow the pecking order theory. Similarly, Jang and Kim (2009) and Jang and Ryu (2006) revealed that a restaurant firm's equity has a strong relationship with its current assets regardless of firm size. They suggested that using equity financing to fund current assets is not a temporary measure for restaurant firms but instead a normal practice.

Speaking to this discrepancy, Lemmon and Zender (2010) recently suggested that firms issue equity because they are constrained by debt capacity. For this reason, firms with limited debt capacity have little financial leverage prior to issuing new stock. Further, they found that when firms are not constrained by debt capacity they issue more debt instead of stock and vice versa. Their findings imply that a firm's financial constraints and debt capacity play an important role in explaining financial behaviors that cannot be clearly explained by either trade-off or pecking order theory.

2.2. Proposed hypotheses

In order to understand restaurant firms' external financing practices, this study begins with the overall financial conditions of the restaurant industry. In general, restaurant firms suffer from low profit generating ability, which is one of the main reasons they have difficulty accessing public debt markets (Mao & Gu, 2008). Some

firms even need external financing (e.g., equity financing) to maintain operational assets, such as cash, inventory, and other current assets (Jang & Ryu, 2006). For this reason, this study expects that a restaurant firm's initial motivation for long-term debt financing is closely related to its existing long-term debt. In other words, restaurant firms have to refinance their long-term debt when it is due because even large firms cannot pay off existing long-term debt with internally generated cash flows. Consequently, the lender is likely to have more power in the refinancing decision, which adds significant transaction costs (Cantillo & Wright, 2000).

Furthermore, due to the weak financial condition of most restaurant firms, they may not be in a situation where they can choose the best financing option (e.g., matching debt maturity). Thus, they may refinance debt and follow investors' or lenders' requests despite the additional transaction costs. To minimize these transaction costs, restaurant firms tend to obtain extra funds for other purposes, such as investments or operating costs, when they refinance existing debt. Therefore, while the total amount of debt financing is related to the amount of long-term debt to be retired, the amounts may not match exactly.

However, the additional debt financing needed to refinance may be negatively related to the mid-term portion of a firm's long-term debt (e.g., due after 2-3 years) since limited debt capacity can function as a financial constraint. The long-term portion of a long-term debt (e.g., debt due after 3 years) is also expected to negatively influence the amount of debt financing, similar to the mid-term portion of long-term debt. That is, if more long-term debt is due in the near future, it is likely to reduce the amount of debt that is refinanced that year.

In contrast, it is expected that equity financing is not used to directly pay back existing debt since stock financing is more expensive than debt financing and, thus, is

the least favorable financing option. In other words, when restaurant firms have to pay off the current portion of long-term debt, they primarily choose debt financing rather than stock financing due to differences in financing costs. This makes the relationship between stock issuance and the retirement of long-term debt insignificant. However, if restaurant firms have a large amount of mid- and long-term debt due (e.g., due after 2 years), the amount of long-term debt financing will be constrained by the amount of the mid-term and long-term portions of long-term debt (e.g., due after 2 years). This is because firms also have to obtain additional external financing in order to pay off the mid-term portion of long-term debt the following year. Otherwise, firms' financial leverage would remain high even after paying off the short-term portion of long-term debt. This forces restaurant firms to use more equity in order to either mitigate financial burdens or enhance debt capacity by reducing financial leverage. Thus, equity financing may be positively related to the mid-term and long-term portions of long-term debt.

Overall, this study proposed that restaurant firms' primary motivations for long-term debt financing and equity financing are quite different and financial constraints (or debt capacity) influence financial choices differently. Thus, the following hypotheses are proposed:

H1a: *A restaurant firm's long-term debt issuance is positively related to the retirement of long-term debt.*

H1b: *A restaurant firm's stock issuance is not significantly related to the retirement of long-term debt.*

H2a: *A restaurant firm's long-term debt issuance is negatively related to the mid-term portion of long-term debt (e.g. due in 2 to 3 years).*

H2b: *A restaurant firm's stock issuance is positively related to the mid-term portion of long-term debt (e.g. due in 2 to 3 years).*

H3a: *A restaurant firm's long-term debt issuance is negatively related to the long-term portion of long-term debt (e.g. due after 3 years).*

H3b: *A restaurant firm's stock issuance is positively related to the long-term portion of long-term debt (e.g. due after 3 years).*

Based on the competing theoretical and empirical findings discussed above, recent studies argued that industry and firm specific aspects affect financial decisions. Shyam-Sunder and Myers (1999) and Lemmon and Zender (2010) suggested that firms tend to fund cash flow deficits with debt, but the level of debt capacity across firms is heterogeneous. Fama and French (2002) and Frank and Goyal (2003) recognized that financial behaviors greatly differ between financially constrained and unconstrained firms. Although firms' financial characteristics have been shown to vary quite a bit based on the identification criterion of financial constraints, most studies agree that financially constrained firms are smaller than financially unconstrained firms (Fazzari et al., 1988; Cleary, 1999; Almeida et al., 2004; Bhagat et al., 2005; Cleary et al., 2007). In fact, firm size is one of the most reliable indicators of financial obstacles and small companies consistently encounter greater difficulty with debt financing than large corporations (Schiffer & Weder, 2001; Beck & Demirguc-Kunt, 2006). Along similar lines, other researchers have suggested that it is important to examine small firms' financial behaviors in order to understand how

financial constraints influence financial decisions (Guariglia, 2008; Cassar & Holmes, 2003; Hall et al., 2000; Hamilton & Fox, 1998; Brealey et al., 1997; Ang, 1991). This means that firm size should be carefully considered as an important indicator of financial constraints.

In general, small firms are considered more financially constrained than large firms due to their highly volatile cash flows and lower debt capacity (Schiffer & Weder, 2001; Beck & Demirguc-Kunt, 2006). In contrast, large firms are considered less financially constrained than small firms due to their larger debt capacity and lower debt costs. Thus, it is possible to have two opposing views on financial leverage for large firms: large firms may have more financial leverage because they are well situated to use debt, while they could also have less financial leverage due to their inherently larger debt capacity. Similarly, empirical studies also showed mixed evidence regarding the relationship between firm size and financial leverage (Rajan & Zingales, 1995; Titman & Wessels, 1988; Faulkender & Petersen, 2006). The discrepancy may arise because large firms can access both debt and equity financing with less financial friction compared with small firms.

Dalbor and Upneja (2002) suggested that large restaurant firms have higher financial leverage because they can afford higher transaction costs. Jang and Kim (2009) also found that firms of different sizes have different financial behaviors and revealed that large restaurant firms use more long-term debt than small firms. It is generally agreed that large restaurant firms are more likely to use more long-term debt compared to small restaurant firms. However, this study expected that if a firm's debt ratios were high, the firm would decrease debt financing and increase equity financing in order to lower financial leverage. Further, we assumed that large restaurant firms

would favor equity financing over debt financing as financial leverage increases if they have already exploited favorable long-term debt.

Therefore, large restaurant firms' financial leverage has a negative relationship with net debt financing, but a positive relationship with equity financing. However, the relationship between financial leverage and external financing may not be strong because large firms are less financially constrained. Thus, the following hypotheses are proposed:

H4a*: There is a negative relationship between a large restaurant firm's financial leverage and its net amount of long-term debt financing.*
H4b*: There is a positive relationship between a large restaurant firm's financial leverage and its net amount of equity financing.*

As previous studies specified, small firms face more severe informational asymmetries than large firms in terms of the financial market (Beck et al., 2008; Coleman et al., 2016). Consequently, small firms have limited access to the formal financial market and have to rely on either insider financing or informal financial markets until they become more desirable to lenders. Hence, information asymmetry is a serious issue for small firms that have little financial leverage (or no debt). In other words, if large restaurant firms maintain low financial leverage they can obtain external debt or access financial markets more easily. In contrast, when small restaurant firms have fairly low financial leverage, it is because they do not have enough credit history or credibility, which limits their access to financial markets. Further, small firms' cash flows are more volatile than large firms' cash flows. Accordingly, small firms usually have a higher risk of default. To compensate for this

higher risk, lenders expect higher returns and tend to charge small firms higher interest rates. Cassar and Holmes (2003) argued that financial options are either unavailable or too costly for small firms.

Regardless of financial leverage, small restaurant firms are likely to have financial constraints, unlike large restaurant firms. Thus, if small restaurant firms with little financial leverage increase long-term debt financing up to a particular financial leverage point, it may indicate that they have reduced serious information asymmetry problems and are more appealing to lenders. As financial leverage increases, the available amount of net long-term debt financing can gradually increase as well. Hence, the relationship between financial leverage and the amount of net long-term debt financing may be positive for small firms until they reach a certain point of financial leverage, which is not the case for large firms. In contrast, the relationship can turn negative after that point due to increasing financial burdens. This means that the net amount of long-term debt financing decreases as financial leverage increases.

Similarly, if small restaurant firms with little financial leverage increase long-term debt financing they can positively appeal to equity investors. In addition, simply using equity financing decreases a firm's financial leverage. Thus, the relationship between financial leverage and the amount of net equity financing may be positive for both small and large restaurant firms until they reach excessive financial leverage. However, once financial leverage reaches an excessive point, investors may avoid increasing their investments due to the high level of financial risk. Nevertheless, the financial leverage point up to which firms can increase equity financing will be higher than the financial leverage point up to which firms can increase debt financing because restaurant firms can lower financial leverage simply by using equity financing. Specifically, the excessive financial leverage point will be much higher for

large restaurant firms than small restaurant firms. Further, only a few large restaurant firms will reach excessive financial leverage point in terms of equity financing. For this reason, unlike small restaurant firms, the negative relationship between financial leverage and net stock issuance beyond an excessive financial leverage point will be insignificant for large restaurant firms.

Therefore, this study suggested that an inverted-U shaped relationship exists between financial leverage and the amount of external financing used (both debt and equity financing) by small restaurant firms. Thus, the following hypotheses are proposed:

H5a*: A small restaurant firm's financial leverage and net amount of long-term debt financing have an inverted-U shaped relationship.*

H5b*: A small restaurant firm's financial leverage and net amount of equity financing have an inverted-U shaped relationship.*

3. Methodology

3.1. Data

This study used financial data for publicly traded restaurant firms in the U.S. from 1973 to 2012. The data was extracted from the COMPUSTAT database to construct a sample of U.S. restaurant firms with a Standard Industry Code (SIC) of 5812. This study excluded firms with missing data in an important variable, firms with less than a million dollars in assets or revenue, and firms with less than 5 years of data. Thus, this study used 1,549 unbalanced panel data (firm-year observations) from 134 firms.

3.2 Variables

The dependent variables used in the first part of this study are debt financing ($\text{total long} - \text{term debt issued}_{t}/\text{total assets}_{t-1}$) and equity financing ($\text{total stock issued}_{t}/\text{total assets}_{t-1}$). For independent variables, this study used retired debt (debt due in or within 1 year), debt due in 2 to 3 years (or debt due in 3 to 4 years_{t-1}), and debt due after 3 years (or debt due after 4 years_{t-1}). Details of each independent variable are summarized in Table 1. Retired debt is a proxy for short-term financial need since firms initially use debt financing to refinance debt due within 1 year. A firm's lagged market to book value ratio (growth opportunity), lagged sales growth ratio, lagged operating profit ratio, and lagged firm size were used as control variables in this study. For further analyses, the net amount of debt financing after retirement of long-term debt ($(\text{total long} - \text{term debt issued} - \text{total long} - \text{term debt retired})_{t}/\text{total assets}_{t-1}$) and the net amount of stock financing after repurchasing stock ($(\text{total stock issued} - \text{total stock purchased})_{t}/\text{total assets}_{t-1}$) were also dependent variables (Hovakimian et al., 2004).

For additional analyses, the total samples' median value of assets was used to divide the firms into small and large groups in order to identify the impacts of financial constraints on the relationship between financial leverage and external financing. Lastly, the square term of financial leverage was used to identify whether a curvilinear relationship exists between financial leverage and external financing for small restaurant firms.

To test the multicollinearity issue, the Variance Inflation Factor (VIF) of independent variables was checked. The VIF for all independent variables was less

than 1.75 and the mean VIF was not greater than 1.24, which confirms that the models have no multicollinearity problems.

(Insert Table 1 here)

3.3. Statistical Analysis

This study used six models to identify restaurant firms' unique financial behaviors. First, fixed-effects regression analysis was used to observe the impacts of long-term debt maturity on long-term debt and equity financing (models (1) and (2)). Then, fixed-effects regression analysis was used to ascertain the relationship between financial constraints (financial leverage) and additional external financing (net amount of long-term debt and net amount of stock financing) (models (3), (4), (5), and (6)).

To determine which models to use, the fixed-effects or random-effects models, this study applied a Hausman test and evaluated whether the unobserved errors were correlated with the independent variables within firms (Greene, 2003). The test results rejected the null hypothesis in all models $\left(\chi^2 = 50.87,\ p < 0.0001\ (1),\ \chi^2 = 63.28,\ p < 0.0001\ (2),\ \chi^2 = 72.68,\ p < 0.0001\ (3),\ \chi^2 = 123.62,\ p < 0.0001\ (4),\ \chi^2 = 66.35,\ p < 0.0001\ (5),\ \chi^2 = 176.14,\ p < 0.0001\ (6)\right)$. Thus, this study chose the fixed-effects models and used robust standard error in all of the models to minimize bias from heterokedasticity in the residuals.

First, this study investigated the effects of long-term debt maturity on long-term debt financing using model (1). In this model, $RetiredDebt_{i,t}$ is the amount of retired long-term debt within 1 year. Then, the model was compared with the results of equity financing using model (2).

$$Debtissue_{i,t} = \beta_0 + \beta_1 * RetiredDebt_{i,t} + \beta_2 * Debt\ due\ in\ 3\ to\ 4\ years_{i,t-1} + \beta_3 * Debt\ due\ after\ 4\ years_{i,t-1} + \beta_4 * MTV_{i,t-1} + \beta_5 * Growth_{i,t-1} + \beta_6 * OperatingProfit_{i,t-1} + \beta_7 * Size_{i,t-1} + \epsilon_{i,t} \quad (1)$$

$$Stockissue_{i,t} = \beta_0 + \beta_1 * RetiredDebt_{i,t} + \beta_2 * Debt\ due\ in\ 3\ to\ 4\ years_{i,t-1} + \beta_3 * Debt\ due\ after\ 4\ years_{i,t-1} + \beta_4 * MTV_{i,t-1} + \beta_5 * Growth_{i,t-1} + \beta_6 * OperatingProfit_{i,t-1} + \beta_7 * Size_{i,t-1} + \epsilon_{i,t} \quad (2)$$

This study examined the impact of firms' existing debt on external financing using models (3) and (4). The dependent variables were net financing ratios after subtracting the amount of retired debt or repurchased stock. Thus, the models remove the influence of refinancing and instead consider the unique effects of financial constraint on external financing. In other words, the models identify firms' varied financial behaviors due to their level of financial constraints. As was explained in the discussion of the hypotheses, this study proposed that the effect of financial leverage on external financing is curvilinear when restaurant firms are small. Thus, the square term of leverage was inserted in models (5) and (6).

$$NetDebtissue_{i,t} = \beta_0 + \beta_1 * Leverage_{i,t-1} + \beta_2 * MTV_{i,t-1} + \beta_3 * Growth_{i,t-1} + \beta_4 * OperatingProfit_{i,t-1} + \beta_5 * Size_{i,t-1} + \epsilon_{i,t} \quad (3)$$

$$NetStockissue_{i,t} = \beta_0 + \beta_1 * Leverage_{i,t-1} + \beta_2 * MTV_{i,t-1} + \beta_3 * Growth_{i,t-1} + \beta_4 * OperatingProfit_{i,t-1} + \beta_5 * Size_{i,t-1} + \epsilon_{i,t} \quad (4)$$

$$NetDebtissue_{i,t} = \beta_0 + \beta_1 * Leverage_{i,t-1} + \beta_2 * Leverage_{i,t-1}^2 + \beta_3 * MTV_{i,t-1} + \beta_4 * Growth_{i,t-1} + \beta_5 * OperatingProfit_{i,t-1} + \beta_6 * Size_{i,t-1} + \epsilon_{i,t} \quad (5)$$

$$NetStockissue_{i,t} = \beta_0 + \beta_1 * Leverage_{i,t-1} + \beta_2 * Leverage_{i,t-1}^2 + \beta_3 * MTV_{i,t-1} + \beta_4 * Growth_{i,t-1} + \beta_5 * OperatingProfit_{i,t-1} + \beta_6 * Size_{i,t-1} + \epsilon_{i,t} \quad (6)$$

4. Results

4.1 Descriptive information

Table 2 presents descriptive statistics of the restaurant firms' financial information. Surprisingly, many restaurant firms (678 observations) used both long-term debt and equity financing within the same fiscal year. This is greater than the number of firms that used only debt financing (380 observations) or only equity financing (334 observations). Further, the number of firms that used only debt financing (380 observations) was similar to the number of firms that used only equity financing (334 observations). The results reveal that equity financing is an important and frequently used external financing source in the restaurant industry.

Furthermore, firms that issued long-term debt showed higher financial leverage (62.38%) than firms that issued stock (52.75%). Specifically, firms that issued debt had higher long-term debt ratios (40.71%) than firms that issued stock (32.78%). This indicates that restaurant firms use equity financing even when they have low financial leverage and not only as a final resort. Interestingly, restaurant firms that did not issue any external financing had the highest financial leverage (67.30%) and current debt ratios (26%), compared with firms that issued debt (62.38% and 21.67%) and firms that issued stock (52.75% and 19.97%). Further, firms without any external financing showed the lowest sales growth (1.5%), ROA (1.83%), and asset size (186 million dollars) among the three groups, which indicates severe financial constraints. In other words, financial constraints may hinder restaurant firms from using external financing.

In terms of firm size, larger firms showed higher long-term debt ratios (40.34%) and lower current debt ratios (19.04%) than smaller firms (33.17% and

24.61%). Larger firms issued more debt (12.71%) but less stock (1.64%) than smaller firms (10.83% and 2.39%). Small firms issued slightly less long-term debt (10.83%) than their retired debt (11.59%). The results imply that small restaurant firms may be reluctant to increase financial leverage due to financial constraints, even though they have lower financial leverage (57.78%) than large firms (59.38%). In all three groups, however, restaurant firms issued much more long-term debt than the amount of long-term debt due within a year. In addition, restaurant firms' amount of net debt financing was much smaller than the amount of total debt issued. Thus, the results support that refinancing is the initial motivation for debt financing in restaurant firms.

(Insert Table 2)

4.2 Hypotheses testing

To identify the relationships between debt maturity and financial decisions, a fixed-effects regression analysis was conducted using model (1). As shown in Table 3, the results revealed that the amount of retired existing long-term debt had significant positive effects on long-term debt issuance for firms that issued debt, which supports hypothesis 1a. This means that restaurant firms issue significant amounts of long-term debt in accordance with long-term debt retirement. Interestingly, this study also found a significant positive relationship between net stock issue ratio and retired debt, signifying that restaurant firms also obtain equity financing when they pay off long-term debt. Thus, the result rejected hypothesis 1b. However, the relative amount of long-term debt financing to the amount of retired long-term debt is larger than the amount of stock financing. The finding suggests that

although restaurant firms primarily rely on long-term debt financing for their financial needs, they also use equity financing as a complement.

Further, debt due in 2 and 3 years had a significant negative effect on the debt issued ratio, which supported hypothesis 2a, suggesting that the amount of long-term debt issued is controlled by the mid-term portion of long-term debt. That is, restaurant finance managers consider reducing the amount of long-term debt issued when they have a large amount of debt due in 2 and 3 years.

On the contrary, firms that issued stock showed a significant positive coefficient for debt due in 2 years, which means that restaurant firms with a large amount of debt due in 2 years tend to issue new stocks. Thus, the results partially support hypothesis 2b. However, debt due in 3 years and after did not have a significant relationship for firms that issued debt or stock. Thus, the results did not support either hypotheses 3a or 3b.

The results confirm that long-term debt financing is the primary external financing option for restaurant firms and motivated by the need to refinance existing long-term debt. However, the amount of long-term debt due in 2 and 3 years drives restaurant firms to use less long-term debt financing with more equity financing.

(Insert Table 3)

This study also tested another fixed-effects regression model using models (3) and (4) for large restaurant firms. In these models, the net amount of debt and stock issued was used instead of the total amount of debt and stock financing in order to identify the effects of financial constraints on external financing over the amount of refinancing. As shown in Table 4, this study did not find a significant relationship

between financial leverage and net long-term debt financing for large restaurant firms, although the coefficient of financial leverage showed a negative sign. Thus, the results do not support hypothesis 4a for large restaurant firms. No significant relationship was found for firms that issued stock either. Thus, the results also do not support hypothesis 4b for large restaurant firms.

One plausible reason for the insignificant relationship between external financing and financial leverage for large restaurant firms is that they may not have a strong motivation to pursue firm growth. In other words, large restaurant firms may not typically maximize debt financing for capital investments even if they have enough debt capacity. Another possible reason is that financial leverage may not be a significant financial constraint for large restaurant firms and they can access debt financing regardless of the level of financial leverage. If this is the case, large restaurant firms would not have any reason to use costly stock financing even under circumstances where they have high financial leverage.

(Insert Table 4)

Table 5 shows a significant inverted-U shaped relationship between financial leverage and external financing for small restaurant firms in models (5) and (6). Thus, the results supported hypotheses 5a and 5b. For comparison purposes, the model without the squared term of financial leverage is also presented in Table 5. For firms that issued debt, the linear equation ($R^2 = 0.03$) did not explain the model well compared to the model with the squared leverage term ($R^2 = 0.09$). However, for firms that issued stock, R^2 was similar between the models with a linear equation ($R^2 = 0.20$) and the squared leverage term ($R^2 = 0.22$). Thus, it could be concluded

that the model with the squared leverage term better captures the relationship between financial leverage and external financing as hypothesized.

For the small restaurant firm models, the signs of the quadratic terms were negative and significant, suggesting inverted U-shaped patterns. To obtain the leverage points at which restaurant firms can maximize their net debt and equity issuance, this study applied partial derivatives of net long-term debt (or equity) financing with respect to financial leverage, the results of which can be seen in Table 5. Then the equation was set at zero as follows:

∂ *Net debt issued ratio* / ∂ *leverage* = 0.7647 - 2 × 0.6991 × *Leverage* = 0

Leverage = 0.7647 / 1.3982 = 0.5469

∂ *Net equity issued ratio* / ∂ *leverage* = 0.9629 - 2 × 0.5369 × *Leverage* = 0

Leverage = 0.9629 / 1.0738 = 0.8967

Thus, for small restaurant firms the leverage points that maximized their net debt and equity issuance were 54.69% for long-term debt financing and 89.67% for stock financing. In other words, small firms can increase both long-term debt and stock financing until their financial leverage reaches 54.69%. After that point, small firms should reduce long-term debt issuance due to financial constraints. However, they can continue to increase equity financing until their financial leverage reaches 89.67%. Because debt financing is more expensive than equity financing, the leverage point that maximizes restaurant firms' net debt financing is the optimal leverage point for external financing. As expected, the maximum leverage point for net equity financing is much higher than the maximum leverage point for net long-term debt financing.

As presented in Table 2, average financial leverage for small firms was approximately 58%, which is slightly higher than the optimal leverage point for net long-term debt financing. Therefore, this study highlighted that small restaurant firms currently utilize slightly more debt financing than their optimal leverage point for net long-term debt financing. This study also revealed that equity financing is not a last resort but instead a common instrument for restaurant firms to reduce financial burdens.

(Insert Table 5)

5. Discussion and conclusions

5.1 Conclusions

The main objective of this study was to investigate restaurant firms' debt and equity financing behaviors based on debt maturity and financial constraints. Restaurant firms generally have difficulty accessing financial markets for many reasons, such as low profitability, high risk of bankruptcy, and severe market competition. For the same reasons, external financing is necessary for restaurant firms to grow and survive. Although many restaurant firms exist in the U.S., there has been little research in terms of restaurants' financing behaviors. Therefore, this study will help to explain restaurant industry-wide debt and equity financing behaviors.

This study revealed several important empirical findings. First, restaurant firms issue long-term debt mainly to refinance existing debt, but the amount of long-term debt issued is not the same as the amount of debt retired. In other words, while restaurant firms use debt financing to refinance debt due within 1 year, they also borrow more to prepare for long-term debt that has not matured yet. Additionally, the

amount of long-term debt financing is constrained by the amount of debt due in 2 and 3 years. Consequently, mismatched debt financing often causes extra financial expenses, including additional transaction costs. In contrast, restaurant firms use equity financing as a form of external financing, as well as to reduce their financial leverage. Not surprisingly, equity financing is not the last choice for restaurant firms but instead is an important and routine external financing source. In fact, many restaurant firms use both debt and equity financing at the same time.

Lastly, this study identified the significant influence of firm size on both debt and equity financing behavior. The results suggest that firm size is a good indicator of financial constraints. As firm size increases, financial constraints become less significant and ultimately insignificant when a firm is large enough. This study revealed an inverted-U shaped relationship between financial leverage and debt financing/equity financing for small firms but not for large firms (this result was not reported in the paper). These findings indicate that certain financial constraints exist for small firms in terms of both long-term debt financing and equity financing. If small firms cannot access public debt markets, equity financing becomes the only option. This leaves small firms with less leverage, which is usually not the case for large firms. Equity financing also plays an important role in reducing financial leverage when a small firm's financial leverage is too high. It is assumed that equity financing is not directly related to a firm's debt capacity; rather it is related to the firm's value generating capabilities and bankruptcy risks. Small restaurant firms can use equity financing until they start to face serious financial risks because shareholders are more tolerant of financial risks than lenders.

5.2 Theoretical implications

This study revealed that restaurant firms often use equity financing (Jang & Kim, 2009; Jang & Ryu, 2006) even when they have low financial leverage, which is contradictory to pecking order theory. Furthermore, restaurant firms routinely use both debt and equity financing interchangeably to manage their financial constraints and adjust their target debt ratios. For small restaurant firms with less financial leverage debt financing may not be available or the costs may be too high, leaving equity financing as a plausible solution (Fama & French, 2002; Frank & Goyal, 2003). Similarly, Coleman et al., (2016) suggest that the decisions of debt-equity financing in small privately held U.S. startup firms may be driven by necessity rather than by choice because of the difficulty in obtaining external financing sources. In their study, the largest number of small privately held U.S. startup firms used both debt and equity financing rather than choosing unilateral financing option in the startup year (Coleman et al., 2016). In this sense, we confirm that the equity financing is not the last financing option for the firms especially when they face high information asymmetry, business risks, and financial constraints and thus pecking order theory may not apply to small restaurant firms' financing behaviors.

5.3 Practical implications

This study also revealed that restaurant firms use debt financing to refinance. The amount of debt financing is influenced by the amount of debt due in 2 and 3 years but not by the amount of debt due after 3 years. Interestingly, the amount of equity financing is also positively related to the amount of debt due within 1 year and the amount of debt due in 2 years. That is, restaurant firms tend to reduce debt financing and increase equity financing based on the amount of debt due in 2 years. In other

words, restaurant firms are desperate to pay off debt that will mature within 2 years. These financial burdens limit their financial flexibility and force them to use equity financing at the same time.

Further, firm size is an important indicator of financial constraints for debt financing, as well as equity financing. Large firms are able to use debt financing regardless of their debt ratio but slowly turn to equity financing as their debt ratio increases in order to meet their target capital structure. Whereas, small firms have to rely first on equity financing even if their debt ratio is low. Hence, they then turn to debt financing instruments if they are available and, ultimately, manage their target financial leverage ratio as well. Consequently, both large and small restaurant firms tend to use complementary debt and equity financing strategies, which indicates the important role of equity financing in managing an optimal target debt ratio.

5.4 Limitations and future research

Despite this study's contributions, it is not free from limitations. For example, restaurant firms' external financing behaviors are significantly influenced by financial market conditions and government policy. However, firms' accounting information may not fully reflect the effects of these prospective economic and political changes. This limitation is not necessarily trivial, but it is beyond the scope of this study.

Another limitation is that this study only examined publicly traded restaurant firms, which have relatively more open sources of company information than private restaurant firms. Thus, the findings can be reinforced by comparing them with private restaurant firms that have less information available to public debt markets and face more serious asymmetric information issues than publicly traded firms. Further, this study did not consider different business segments within the restaurant industry, such

as limited-service vs. full-service restaurant firms or franchise vs. non-franchise restaurant firms. Therefore, it would be an interesting topic for future study to include private restaurant firms and various business settings.

Lastly, the main purpose of this study was not to identify the purpose of the external financing but rather focused on restaurant firms' specific financial behaviors and the impact of financial constraints on a number of financial decisions. In this study, we used firm size and financial leverage as proxies of financial constraint, but many other financial constraint measurements, such as dividends, credit rating, or financial constraint index, could be applied. In spite of such limitations, this study provides valuable implications to understand restaurant firms' different financing behaviors and the impacts of financial constraint on their financial decisions.

References

Almeida, H., Campello, M., & Weisbach, M. S. (2004). The cash flow sensitivity of cash. The Journal of Finance, 59(4), 1777-1804.

Ang, J. S. (1991). Small business uniqueness and the theory of financial management. *The Journal of Entrepreneurial Finance, 1*(1), 11-13.

Bhagat, S., Moyen, N., & Suh, I. (2005). Investment and internal funds of distressed firms. Journal of Corporate Finance, 11(3), 449-472.

Beck, T., & Demirguc-Kunt, A. (2006). Small and medium-size enterprises: Access to finance as a growth constraint. *Journal of Banking & Finance*, *30*(11), 2931-2943.

Beck, T., Demirgüç-Kunt, A., & Maksimovic, V. (2008). Financing patterns around the world: Are small firms different? *Journal of Financial Economics*, *89*(3), 467-487.

Brealey, R., Leland, H. E., & Pyle, D. H. (1977). Informational asymmetries, financial structure, and financial intermediation. *The Journal of Finance, 32*(2), 371-387.

Cantillo, M., & Wright, J. (2000). How do firms choose their lenders? An empirical investigation. *Review of Financial Studies, 13*(1), 155-189.

Cassar, G., & Holmes, S. (2003). Capital structure and financing of SMEs: Australian evidence. *Accounting & Finance, 43*(2), 123-147.

Cleary, S. (1999). The relationship between firm investment and financial status. The Journal of Finance, 54(2), 673-692.

Cleary, S., Povel, P., & Raith, M. (2007). The U-shaped investment curve: Theory and evidence. Journal of financial and quantitative analysis, 42(1), 1.

Coleman, S., Cotei, C., & Farhat, J. (2016). The debt-equity financing decisions of US startup firms. *Journal of Economics and Finance*, *40*(1), 105-126.

Dalbor, M. C., & Upneja, A. (2002). Factors affecting the long-term debt decision of restaurant firms. *Journal of Hospitality & Tourism Research, 26*(4), 422-432.

Fama, E. F., & French, K. R. (2002). Testing trade□off and pecking order predictions about dividends and debt. *Review of Financial Studies, 15*(1), 1-33.

Faulkender, M., & Petersen, M. A. (2006). Does the source of capital affect capital structure? *Review of financial studies*, *19*(1), 45-79.

Fazzari, S. M., Hubbard, R. G., Petersen, B. C., Blinder, A. S., & Poterba, J. M. (1988). Financing constraints and corporate investment. Brookings papers on economic activity, 1988(1), 141-206.

Flannery, M. J., & Rangan, K. P. (2006). Partial adjustment toward target capital structures. *Journal of Financial Economics, 79*(3), 469-506.

Frank, M. Z., & Goyal, V. K. (2003). Testing the pecking order theory of capital structure. *Journal of Financial Economics, 67*(2), 217-248.

Frank, M. Z., & Goyal, V. K. (2009). Capital structure decisions: which factors are reliably important? *Financial management, 38*(1), 1-37.

Greene, W. H. (2003). Econometric analysis. Pearson Education India.

Gu, Z. (1993). Debt use and profitability: A reality check for the restaurant industry. *Foodservice Research International, 7*(3), 135-147.

Guariglia, A. (2008). Internal financial constraints, external financial constraints, and investment choice: evidence from a panel of UK firms. *Journal of Banking & Finance, 32*(9), 1795-1809.

Hall, G., Hutchinson, P., & Michaelas, N. (2000). Industry effects on the determinants of unquoted SMEs' capital structure. *International journal of the economics of business, 7*(3), 297-312.

Hamilton, R. T., & Fox, M. A. (1998). The financing preferences of small firm owners. *International Journal of Entrepreneurial Behaviour & Research, 4*(3), 239-248.

Hovakimian, A., Hovakimian, G., & Tehranian, H. (2004). Determinants of target capital structure: The case of dual debt and equity issues. *Journal of financial economics*,

71(3), 517-540.

Hovakimian, A., Opler, T., & Titman, S. (2001). The debt-equity choice. *Journal of financial and quantitative analysis, 36*(01), 1-24.

Jang, S., & Kim, J. (2009). Revisiting the financing behavior of restaurant firms: The firm-size perspective. *International Journal of Hospitality Management, 28*(1), 177-179.

Jang, S., & Ryu, K. (2006). Cross-balance sheet interdependencies of restaurant firms: a canonical correlation analysis. *International Journal of Hospitality Management, 25*(1), 159-166.

Jang, S., Tang, C.-H. H., & Chen, M.-H. (2008). Financing behaviors of hotel companies. *International Journal of Hospitality Management, 27*(3), 478-487.

Lemmon, M. L., & Zender, J. F. (2010). Debt capacity and tests of capital structure theories.

Mao, Z., & Gu, Z. (2008). The relationship between financial factors and firm performance: empirical evidence from US restaurant firms. *Journal of Foodservice Business Research, 11*(2), 138-159.

Myers, S. C. (1984). The capital structure puzzle. *The Journal of Finance, 39*(3), 574-592.

Myers, S. C. (2001). Capital structure. *Journal of Economic perspectives*, 81-102.

Myers, S. C., & Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics, 13*(2), 187-221.

NRN. (2014). http://nrn.com/blog/looking-next-chipotle-investors-bid-restaurant-ipos

Rajan, R. G., & Zingales, L. (1995). What do we know about capital structure? Some evidence from international data. *The journal of Finance*, *50*(5), 1421-1460.

Schiffer, M., & Weder, B. (2001). *Firm size and the business environment: Worldwide survey results* (Vol. 43). World Bank Publications.

Shyam-Sunder, L., & C Myers, S. (1999). Testing static tradeoff against pecking order models of capital structure. *Journal of Financial Economics, 51*(2), 219-244.

Tang, C.-H. H., & Jang, S. (2007). Revisit to the determinants of capital structure: a comparison between lodging firms and software firms. *International Journal of Hospitality Management, 26*(1), 175-187.

Titman, S., & Wessels, R. (1988). The determinants of capital structure choice. *The Journal of Finance, 43*(1), 1-19.

Table 1. Dependent and independent variables

	Variables	Description
Dependent variables	Debt issued	Long term debt issued amount $_t$/ Total asset$_{t-1}$
	Stock issued	Stock issued amount$_t$ / Total asset$_{t-1}$
	Net debt issued	(Long term debt issued $-$ retired long term debt)$_t$/ Total asset$_{t-1}$
	Net stock issued	(Stock issued $-$ purchased stock)$_t$ / Total asset$_{t-1}$
Independent variables	Retired Debt	Retired long term debt $_t$/ Total asset$_{t-1}$
	Debt due in 2 to 3 years	Lon term debt due in 3 to 4 years$_{t-1}$ / Total asset$_{t-1}$
	Debt due after 3 years	Long term debt due after 4 years$_{t-1}$ / Total asset$_{t-1}$
	Market to book ratio	(Number of shares $*$ market price $+$ long term debt)$_{t-1}$ / Total asset$_{t-1}$
	Leverage	Total liability$_{t-1}$ / Total asset$_{t-1}$
	Growth ratio	Sales growth ratio$_{t-1}$
	Operating profit ratio	EBIT$_{t-1}$ / Total asset$_{t-1}$
	Firm Size	Log of total asset$_{t-1}$

Note: The COMPUSTAT number of Long-term debt issued, Stock issued, Retired long-term debt, and Purchased stock are 111, 108, 114, and 115, respectively. Debt due in 2 and 3 years are items number 91 and 92. The amount of Debt due after 3 years was calculated by subtracting debt due in 2 and 3 years from total long-term debts.

Table 2. Descriptive information

	Overall	Debt issued firms	Stock issued firms	No issued firms	Large firms	Small firms
Debt issued	0.1177	0.1732	0.1243	0.0	0.1271	0.1083
Stock issued	0.0202	0.0201	0.0309	0.0	0.0164	0.0239
Retired debt	0.1168	0.1552	0.1160	0.0516	0.1179	0.1159
Debt due in 1 year	0.0427	0.0512	0.0339	0.0447	0.0343	0.0515
Debt due in 2 years	0.0429	0.0518	0.0391	0.0359	0.0417	0.0443
Debt due in 3 years	0.0390	0.0418	0.0348	0.0473	0.0398	0.0380
Debt due after 3 years	0.1361	0.1427	0.1284	0.1727	0.1706	0.0995
Leverage	0.5859	0.6238	0.5275	0.6730	0.5938	0.5778
Current liability ratio	0.2183	0.2167	0.1997	0.2603	0.1904	0.2461
Purchased stock	0.0169	0.0168	0.0236	0.0042	0.0254	0.0086
Sales growth ratio	0.0810	0.0846	0.1045	0.0150	0.0834	0.0787
ROA	0.0282	0.0197	0.0466	0.0183	0.0461	0.0104
AT	541	600	699	186	1,042	40
Observations	1,549	1,058	1,012	157	774	775

Note: Debt or stock issued means the amount of debt or stock issued$_t$ over total assets$_t$; Large firms or small firms are the firms' asset size$_t$ compared to the industry median; Retired debt is the retirement of long term debt in debt or stock issued year$_t$ / total asset$_t$; Debt due in 1 year is the long term debt due in 2 year$_{t-1}$ / total asset$_{t-1}$; Debt due in 2 to 3 years is long term debt due in 3 to 4 year$_{t-1}$ / total asset$_{t-1}$; Debt due after 3 years is long term debt due after 4 year$_{t-1}$ / total asset$_{t-1}$; Leverage ratio is the ratio of total debt$_t$ over total asset$_t$; Current liability ratio is current debt$_t$ over total asset$_t$; Purchased stock is purchased stock$_t$ over total asset$_t$; Market to book ratio is (number of share $*$ market price + long term debt)$_t$ / total asset$_t$; Growth ratio is sales growth ratio$_t$; ROA is EBIT$_t$/ total asset$_t$; AT is total asset$_t$ in million dollars; Observations is number of firm year.

Table 3. Debt or stock financing and the maturity of existing debt

	Dependent variables	
	Debt issued ratio	**Stock issued ratio**
Independent variables		
Retired debt	1.0922***	0.0409*
	(0.0614)	(0.0237)
Debt due in 2 years	-0.3392***	0.1237**
	(0.0908)	(0.0590)
Debt due in 3 years	-0.1837**	0.0270
	(0.0903)	(0.0346)
Debt due after 3 years	-0.0258	0.0275
	(0.0683)	(0.0263)
Market to book ratio	0.0454**	0.0187**
	(0.0197)	(0.0094)
Growth ratio	0.0727**	-0.0081
	(0.0303)	(0.0442)
Operating profit	0.1042	0.0313
	(0.1448)	(0.1302)
Firm size	-0.0059	-0.0492***
	(0.0123)	(0.0142)
Observations	846	865
R^2	0.59	0.10

Note: Debt or stock issued ratio means the amount of debt or stock issued$_t$ over total asset$_{t-1}$; Retired debt is retirement of long term debt in debt or stock issued year$_t$ / total asset$_{t-1}$; Debt due in 2 to 3 years is long term debt due in 3 to 4 year$_{t-1}$ / total asset$_{t-1}$; Debt due after 3 years is long term debt due after 4 year$_{t-1}$ / total asset$_{t-1}$; Market to book ratio is (number of share $*$ market price $+$ long term debt)$_{t-1}$ / total asset$_{t-1}$; Growth ratio is sales growth ratio$_{t-1}$; Operating profit is $EBIT_{t-1}$/ total asset$_{t-1}$; Firm size is the log of total asset$_{t-1}$; Observations is number of firm year; *significant at 10%; **significant at 5%; ***significant at 1%.

Table 4. Net long-term debt/stock financing for large firms

	Dependent variables	
	Net Debt issued ratio	**Net Stock issued ratio**
Independent variables		
Leverage ratio	-0.1324	0.0157
	(0.1854)	(0.0153)
Market to book ratio	0.0382	0.0205**
	(0.0567)	(0.0099)
Growth ratio	-0.1315	0.0312*
	(0.0924)	(0.0185)
Operating profit	0.5282	-0.1454
	(0.4876)	(0.1094)
Firm size	0.0232	-0.0222**
	(0.0255)	(0.0093)
Observations	211	295
R^2	0.03	0.10

Note: Net debt or net stock issued ratio is the $net\ amount\ of\ debt\ issued_t$ (debt issued-retirement of debt) or $net\ amount\ of\ stock\ issued_t$ (stock issued-stock purchased) over total asset_{t-1}; Leverage ratio is the ratio of total debt_{t-1} over total asset_{t-1}; Market to book ratio is $(\text{number of share} * \text{market price} + \text{long term debt})_{t-1}$ / total asset_{t-1}; Growth ratio is sales growth ratio_{t-1}; Operating profit is $EBIT_{t-1}$ over total asset_{t-1}; Firm size is the log of total asset_{t-1}; Observations is number of firm year; *significant at 10%; **significant at 5%; ***significant at 1%.

Table 5. Net long-term debt/stock financing for small firms

	Dependent variables			
	Net Debt issued ratio		**Net Stock issued ratio**	
Independent variables				
Leverage ratio	-0.0787	0.7647***	0.3143***	0.9629**
	(0.1005)	(0.2329)	(0.0858)	(0.3919)
Leverage ratio^2	n/a	-0.6991***	n/a	-0.5369*
		(0.1907)		(0.2861)
Market to book ratio	0.0488*	0.0624**	0.0387	0.0466
	(0.0255)	(0.0282)	(0.0442)	(0.0484)
Growth ratio	-0.0001	0.0070	-0.0559	-0.0286
	(0.0412)	(0.0517)	(0.0951)	(0.0990)
Operating profit	-0.1628	-0.0507	0.3297	0.3040
	(0.4189)	(0.3110)	(0.2240)	(0.2166)
Firm size	-0.0086	-0.0094	-0.1313***	-0.1170***
	(0.0253)	(0.0304)	(0.0318)	(0.0323)
Observations	229	229	272	272
R^2	0.03	0.09	0.20	0.22

Note: Net debt or net stock issued ratio is the $net\ amount\ of\ debt\ issued_t$ (debt issued-retirement of debt) or $net\ amount\ of\ stock\ issued_t$ (stock issued-stock purchased) over total asset_{t-1}; Leverage ratio is the ratio of total debt_{t-1} over total asset_{t-1}; Market to book ratio is $(\text{number of share} * \text{market price} + \text{long term debt})_{t-1}$ / total asset_{t-1}; Growth ratio is sales growth ratio_{t-1}; Operating profit is $EBIT_{t-1}$ over total asset_{t-1}; Firm size is the log of total asset_{t-1}; Observations is number of firm year; *significant at 10%; **significant at 5%; ***significant at 1%.

‘Understanding Restaurant Firms’ Debt-Equity Financing

Author contact information:

1. Sung Gyun Mun
Ph.D. Candidate
School of Hospitality and Tourism Management,
Purdue University
Marriott Hall
900 W. State Street, West Lafayette, IN 47907, USA
E-mail: mun0@purdue.edu
Telephone: (732) 379-0969

2. SooCheong (Shawn) Jang, Ph.D.
Professor
School of Hospitality and Tourism Management,
Purdue University
Marriott Hall, Room 245
900 W. State Street, West Lafayette, IN 47907, USA
E-mail: jang12@purdue.edu
Telephone: (765) 496-3610
Fax: (765) 494-0327