

Research note: Internationalization of US publicly traded restaurant companies – a transaction cost economics perspective

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In the internationalization literature of economics, many theories have been applied to various issues, but transaction cost economics remains significant among other prominent theories. The original intention of transaction cost economics was to explain the nature of firms in general; however, the approach has subsequently been applied to international operations. Despite the prevalent use of the theory to explain internationalization issues, few empirical examinations have been undertaken through its application in the hospitality literature. This study therefore examines the internationalization of US publicly traded restaurant companies through transaction cost economics.

Keywords: transaction cost economics; internationalization; internationalization theory; US restaurant industry; interaction effect

Internationalization, a key trend in the world economy during past decades, has led many researchers to explore important economic and financial issues in the global setting. One thread of the many essential international issues is finding an explanation for the existence of multinational enterprises (MNEs) and their associated performances and value-adding propositions.

One of the main theories which attempts to explain these internationalization issues in the financial economics literature is the theory of transaction cost economics (TCE). This theory stems from Coase's (1937) seminal work, *The Nature of the Firm*, and many economists have contributed to the literature by advancing and refining Coase's concepts.

Coase (1937) argues that costs occur through markets (that is, transaction costs) and a firm exists when a private company, as a superior institution, can minimize such transaction costs by internalizing transactions. TCE underwent

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further, significant expansion by Williamson (for example, Williamson, 1975, 1979, 1991). TCE attempts to explain the determination of a firm's structure, especially in the context of the extent of its vertical integration. In other words, TCE basically questions whether or not certain products or processes for completing the products should occur in the market among multiple firms or in a single firm with a hierarchical structure. TCE proposes transactional costs as the critical determinant of such a decision, and the point of minimized transactional costs determines the extent of a firm's vertical integration. Earlier work of Williamson (1975, 1979) was content with the idea that two forms existed in which transactions took place: market-wide and single firm with hierarchy. However, later, Williamson revised the previous proposal with a theory that added a hybrid dimension to recognize overlooked business forms in the economy (Williamson, 1991).

In hybrid markets, contracts focus more on relationships between parties and flexibilities that allow certain adjustments to be incorporated during the life of the contract. Examples of such forms are: franchising, joint programmes and long-term contracts. According to Williamson's revised view of TCE (1991), the hybrid forms are beneficial to firms that present, for example, relative medium-level asset specificity, interdependence between parties and administrative control. When considering franchising as a key expansion strategy for the US restaurant industry (Andrew *et al.*, 2006), a valuable examination is whether or not such a particular proposed form (that is, franchising as a hybrid market form) in fact benefits the industry. The TCE theory focused originally on all firms in general, but certainly extended to the international setting as well (Hennart, 2001).

According to TCE, when certain service industries, such as the restaurant industry, extend their operations to foreign countries, they are more likely to franchise operations rather than use foreign direct investment (FDI), because a low risk exists for information, technology or know-how dissipation (Hennart, 2001). Theoretically, then, following TCE's argument for the restaurant industry, the franchising strategy, not FDI, would be a more efficient growth strategy for expansion into foreign countries.

Therefore, this study proposes that restaurant firms will make a positive impact on their performances only when they increase the degree of internationalization (DOI) without increasing FDI proportionally. In other words, it is hypothesized that an interaction effect should exist between DOI and FDI on firm performance, and such interaction should have a negative effect for restaurant firms with international operations.

Methodology

Model

The main model of this study is presented below:

$$PERF = \alpha_0 + \alpha_1 DOI + \alpha_2 FDI + \alpha_3 DOI \times FDI + \alpha_4 LEVERAGE + \alpha_{5-28} YEAR\ DUMMIES_{83-06} + \varepsilon,$$

where *PERF* represents firm performance, estimated by: (i) earnings before interest, taxes and depreciation and amortization (EBITDA) scaled by sales; and (ii) Tobin's $Q = (MVE + PS + DEBT)/TA$, where *MVE* is the product of a firm's stock price and the number of common shares outstanding; *PS* represents the liquidating value of outstanding preferred stock; *DEBT* is the value of short-term liabilities net of short-term assets plus the book value of long-term debt; and *TA* represents the book value of total assets (Chung and Pruitt, 1994). *DOI* represents the degree of internationalization, estimated by dividing the number of properties operated in foreign countries by the total number of properties; *FDI* represents foreign direct investment, estimated by the log of total assets; and *LEVERAGE* represents a firm's capital structure, estimated by dividing total liabilities by total equity. The model includes *YEAR DUMMIES* to control for any possible year effects, of which 24 dummy variables represent the years 1983–2006. The base year is 1982.

Main factors

Estimating *DOI* occurs by dividing the number of properties operated in foreign countries by the total number of the firm's properties. To estimate *FDI*, the study used the log of total assets. The reason for estimating *FDI* by total assets is the result of restaurant firms' increasing their assets only when they actually use *FDI* in foreign countries, not when they franchise in those countries. A limitation of using total assets as a proxy for *FDI* is that total assets include all assets, both domestic and international. However, when considering *TCE* as the original general theory for all firms, not only for international firms, the theory should hold true domestically, internationally, or as a composite. In the case of this study, total assets in fact represent general direct investment including *FDI*. The interaction effect between *DOI* and *FDI* ($DOI \times FDI$) is the analytical basis for examining the study's hypothesis.

Control variables

The model includes two control factors. First, a firm's leverage ratio (*LEVERAGE*) controls for any effects arising from a restaurant's differing capital structures, as is common in many hospitality financial studies (for example, Kang *et al.*, 2010). Second, 24 years of dummy variables (*YEAR DUMMIES*) control for any possible year effects. These 24 year dummy variables represent the years 1983–2006, with 1982 as the base year.

Many financial studies often include firm size to control for the size effect, and financial studies widely use the log of total assets as a proxy for firm size. However, the current study does not include an explicit firm size variable because the *FDI* variable (estimated by total assets) can, for the most part, represent both *FDI* and firm size.

Dependent variable

This study uses two measures to represent a restaurant firm's performance (*PERF*): (i) earnings before interest expense, taxes, depreciation and amortization (*EBITDA*), and (ii) Tobin's *Q*. First, the study uses *EBITDA* to represent a firm's operating performance. This study scales *EBITDA* by sales

to standardize the measurement according to firm size. This has been done in particular because the current study cannot include a firm size control variable, as discussed earlier. Second, the study uses Tobin's Q to represent a firm's value performance. Tobin's Q is considered a good measure compared to accounting (for example, return on assets) and stock return measures because, while typical accounting performance and stock return measures only reflect a firm's past performance or perspective, Tobin's Q reflects the firm's future perspective (Lang and Stulz, 1994).

Data

The study collected data from two main sources: (i) firms' annual reports (10Ks) filed with the US Securities and Exchange Commission; and (ii) *Compustat*, a database that collects and organizes financial data from 10Ks. Examination of the 10Ks of publicly traded US restaurants provided the number of properties operated in foreign countries and firms' total number of properties to measure the degree of internationalization. To retrieve other financial data (for example, total assets, sales, EBITDA, total liabilities, total stockholders' equity, etc), the study used the *Compustat* database. The study eliminated outliers identified based on Mahalanobis distance scores for each of the two regression models, one with EBITDA as a dependent variable and the other with Tobin's Q . The final data resulted in a total sample of 89 (87) firm observations for EBITDA (Tobin's Q) for 1982–2006. The small sample size is attributable mainly to including only restaurant firms with international operations, and also to having information missing for the number of properties.

Findings

Table 1 provides a descriptive summary of the data. Total assets have a mean value of US\$5,113,000,000 and range from US\$26,000,000 to US\$29,989,000,000 million. Mean value of sales is US\$4,096,000,000, with a maximum value of US\$21,586,000,000 and a minimum value of US\$30,000,000, while EBITDA varies from US\$1,000,000 to US\$5,827,000,000, with a mean value of US\$1,002,000,000. Tobin's Q shows a mean value of 2.07 and ranges from 0.35 to 4.04. This indicates that, on average, the US restaurant companies sampled appear to have their market values at a level double their replacement costs. Average DOI percentage is 18.7%, with a minimum (maximum) of 0.1% (58.1%). Last, debt-to-equity ratio (*LEVERAGE*) has a mean value of 0.90 and ranges from 0.21 to 4.02.

The study performs a fixed-effects, panel-data regression analysis to examine the study's hypothesis; Table 2 presents the findings. The coefficient of DOI shows a positive and significant impact on firm performance when measured by EBITDA, with a t -value of 10 (p -value less than 0.001); such coefficient should be interpreted as an impact only when FDI is zero (Friedrich, 1982). FDI impacts EBITDA negatively and significantly with a t -value of 13.89 (p -value less than 0.001), but again, such a coefficient should be interpreted as an effect only when DOI is zero, as Friedrich (1982) warned. The interaction

Table 1. Descriptive summary.

| Variable | N | Min | Max | Mean |
|----------------|----|----------------|--------------------|-------------------|
| Total assets | 89 | US\$26 million | US\$29,989 million | US\$5,113 million |
| DOI | 89 | 0.1% | 58.1% | 18.7% |
| Sales | 89 | US\$30 million | US\$21,586 million | US\$4,096 million |
| Leverage ratio | 89 | 0.21 | 4.02 | 0.90 |
| EBITDA | 89 | US\$1 million | US\$5,827 million | US\$1,002 million |
| Tobin's Q | 89 | 0.35 | 4.04 | 2.07 |

Notes: DOI represents the degree of internationalization, estimated by dividing the number of properties operated in foreign countries by the total number of properties. The leverage ratio is calculated by dividing total debt by total equity. EBITDA represents earnings before interest, income taxes, depreciation and amortization expenses. Tobin's $Q = (MVE + PS + DEBT)/TA$, where MVE is the product of a firm's stock price and the number of common shares outstanding; PS represents the liquidating value of outstanding preferred stock; $DEBT$ is the value of short-term liabilities net of short-term assets plus the book value of long-term debt and TA represents the book value of total assets (Chung and Pruitt, 1994).

Table 2. Pooled regression analysis.

Panel I.

$$EBITDA = \alpha_0 + \alpha_1 DOI + \alpha_2 FDI + \alpha_3 DOI \times FDI + \alpha_4 LEVERAGE + \alpha_{5-28} YEAR DUMMIES_{83-06} + \varepsilon$$

| Variable | DOI | FDI | DOI×FDI | LEVERAGE |
|------------|----------|-----------|---------|----------|
| Coeff | 0.86 | -1.19 | -0.19 | -0.13 |
| t -Value | 10.00*** | -13.89*** | -2.37* | -2.06* |
| N | 89 | | | |
| Adj R^2 | 0.767 | | | |
| F -value | 11.7*** | | | |

Panel II.

$$Tobin's Q = \alpha_0 + \alpha_1 DOI + \alpha_2 FDI + \alpha_3 DOI \times FDI + \alpha_4 LEVERAGE + \alpha_{5-28} YEAR DUMMIES_{83-06} + \varepsilon$$

| Variable | DOI | FDI | DOI×FDI | LEVERAGE |
|--------------------|--------|-------|---------|----------|
| Coeff | -0.496 | 0.462 | 0.194 | -0.039 |
| t -Value | -0.673 | 1.548 | 0.219 | -0.282 |
| N = 87 | | | | |
| Adj $R^2 = 0.00$ | | | | |
| F -value = 0.772 | | | | |

Notes: * and *** significance level of 0.05 and less than 0.001, respectively. All data are at firm level. EBITDA represents a firm's accounting performance, estimated by log of earnings before interest, taxes, depreciation and amortization. Tobin's Q represents a firm's value performance, estimated as follows: Tobin's $Q = (MVE + PS + DEBT)/TA$, where MVE is the product of a firm's stock price and the number of common shares outstanding, PS represents the liquidating value of outstanding preferred stock, $DEBT$ is the value of short-term liabilities net of short-term assets plus the book value of long-term debt and TA represents the book value of total assets (Chung and Pruitt, 1994). DOI represents the degree of internationalization, estimated by dividing the number of properties operated in foreign countries by the total number of properties. FDI represents foreign direct investment, estimated by log of total assets. DOI×FDI represents an interaction term of DOI and FDI. LEVERAGE represents the firm's capital structure, estimated by debt to equity ratio. Results of YEAR DUMMIES are not reported in the table due to limited space and the relatively insignificant importance of the variables.

effect of DOI and FDI ($\text{DOI} \times \text{FDI}$) appears to be negative and statistically significant, supporting the proposed hypothesis (t -value = -2.37 ; p -value < 0.05).

In estimating the interaction term between DOI and FDI, a multicollinearity issue arises because, without care, introducing an interaction term will often cause severe correlation between the two variables. To reduce the possibility of such correlation, the study first calculated a mean value for each of the DOI and FDI variables and then calculated the differences between the mean value and each observation value. The interaction term was created by combining these two centred values for DOI and FDI, subsequently analysed in the study (Tabachnick and Fidell, 2001). The study also estimated variance inflation factors (VIFs), and none posed a severe multicollinearity problem; the largest VIF was 2.76 and remained within an acceptable range (Ott and Longnecker, 2001). The study included 24 YEAR DUMMIES in the analysis, but did not present results of those dummy variables due to the limited space in the table and their relatively insignificant importance as control factors.

The study performs the same analysis with Tobin's Q as a dependent variable. The findings suggest that neither the model as a whole nor any independent variable explain Tobin's Q as being statistically significantly (F -value = 0.772; adjusted $R^2 = 0.00$). The sample size was 87 not 89, because two sample observations were identified as outliers based on Mahalanobis distance scores and thus were eliminated from the analysis.

Conclusion

The main findings of the study are mixed. First, the results of EBITDA support the proposed hypothesis that US restaurant firms should not seek to use FDI as their international expansion strategy but, in terms of operating performance (EBITDA), should employ franchising to further international growth.

The findings of this study with regard to Tobin's Q , however, present a statistically non-significant impact of the interaction term for the value performance of US restaurant firms. This suggests that even with the increased operating performance, the practice of increased franchising, rather than using FDI, does not seem to have benefited US restaurant firms in terms of their value performance when the firms expand their business into foreign countries. This may imply that the financial market does not interpret the increased operating performance as sustainable in the long-term, but considers such increase as non-sustainable or not derived from the franchising strategy. Also possible is that the franchising strategy might benefit the restaurant firms in a different way and with a different magnitude when comparing domestic and international operations. However, these are all empirical questions that need further investigations in the future.

This study provides several practical, managerial and educational implications as well. The findings have benefit not only for the executives and managers of US restaurant firms, but also for their investors and analysts. Restaurant executives and managers may incorporate the findings in developing their international expansion strategies. According to the study's results, executives and managers may be advised to increase franchising more when

expanding to foreign countries if the core goals focus on enhancing operating performance to gain market share in the international setting. However, when the goal is to achieve a value addition, the franchising strategy may not be the best choice, especially for the more mature and larger restaurant firms. Restaurant industry financial analysts and investors may also use this study's findings to evaluate and revise restaurant investment portfolios. When considering the addition or deletion of particular restaurant securities in portfolios, the international expansion of US restaurant firms can be evaluated on the basis of their degrees of franchising or owning. However, financial advisors should be careful to balance the restaurant firm's operating and value performance identified in this study. The findings also enrich the tourism and hospitality economics literature and provide tourism and hospitality educators with more insightful perspectives on the franchising strategy in the international expansion setting.

References

- Andrew, W.P., Damitio, J.W., and Schmidgall, R.S. (2006), *Financial Management for the Hospitality Industry*, Prentice Hall, Upper Saddle River, NJ.
- Chung, K.H., and Pruitt, S.W. (1994), 'A simple approximation of Tobin's Q ', *Financial Management*, Vol 23, No 3, pp 70–74.
- Coase, R.H. (1937), 'The nature of the firm', *Economica*, Vol 4, pp 386–405.
- Friedrich, R.J. (1982), 'In defense of multiplicative terms in multiple regression equations', *American Journal of Political Science*, Vol 26, No 4, pp 797–833.
- Hennart, J.-F. (2001), 'Theories of the multinational enterprise', in Rugman, A.M., ed, *Oxford Handbook of International Business*, Oxford University Press, New York, pp127–149.
- Kang, K.H., Lee, S., and Huh, C. (2010), 'Impacts of positive and negative corporate social responsibility activities on company performance in the hospitality industry', *International Journal of Hospitality Management*, Vol 29, No 1, pp 72–82.
- Lang, L.H.P., and Stulz, R.M. (1994), 'Tobin's Q , corporate diversification, and firm performance', *Journal of Political Economy*, Vol 102, No 6, pp 1248–1280.
- Ott, R.L., and Longnecker, M. (2001), *Statistical Methods and Data Analysis*, 5th edn, Duxbury Press, Pacific Grove, CA.
- Tabachnick, B.G., and Fidell, L.S. (2001), *Using Multivariate Statistics*, 4th edn, Allyn and Bacon, Needham Heights, MA.
- Williamson, O.E. (1975), *Markets and Hierarchies*, Free Press, New York.
- Williamson, O.E. (1979), 'Transaction-cost economics: the governance of contractual relations', *Journal of Law and Economics*, Vol 22, pp 233–261.
- Williamson, O.E. (1991), 'Comparative economic organization: the analysis of discrete structural alternatives', *Administrative Science Quarterly*, Vol 36, 269–296.