The Effects of Institutional Holdings and State Ownership on Hotel Firm Performance in China

ABSTRACT

This paper examines the effects of institutional holdings and state ownership on hotel firm performance in China by employing panel regression analysis. The results show that institutional holdings as a whole and domestic institutional holdings have different effects on the performance of Chinese hotel firms. There is an inverted U-shaped relationship between institutional holdings/domestic institutional holdings and hotel performance measured by Tobin's *Q*, and an upright U-shaped relationship between domestic institutional holdings and return on assets/return on equity. However, the level of foreign institutional holdings was found to have no significant impact on hotel firm performance in China. Finally, state ownership has a negative impact on Tobin's *Q*. Implications for the Chinese hotel industry are discussed.

KEYWORDS: Institutional holdings; state ownership; hotel firm performance; monitoring; China

Introduction

Tourism has become an important constituent of China's economy thanks to the Open Door policy of 1978. Over the past three decades, many international hotel chains gradually entered China and helped boost the development of its hotel industry (WTTC, 2012). China's hotel industry grew from a base of only 137 hotels with 15,539 guestrooms in 1978 (Pine and Phillips, 2005) to 11,180 star-rated hotels with 1.5 million guestrooms in 2014 (CNTA, 2015). This growth was coupled with surging demand for hotel accommodation, particularly from domestic tourists. China's development policy "Belt and Road," announced in 2013 and carried out since 2015, was expected to bring about noteworthy opportunities for the tourism and hotel industries (Zheng, 2017). To sustain hotel development in China and capitalize on the policy, the determinants of hotel performance deserve careful examination. Among the many possible determinants of hotel firm performance, ownership structure is one important factor (Wei, Xie, & Zhang, 2005).

The ownership structure of Chinese firms is complicated and has undergone a series of changes. Prior to 1978, state-owned and collectively owned enterprises constituted 77.6% and 22.4%, respectively, of China's exclusively public-ownership economy (State Council, 2015) and were administered by industrial ministries within the structure of China's centrally planned economy. Many enterprises thus had a very high level of state ownership (SOP) and their performance was generally deemed unsatisfactory and undesirable (Vining & Boardman, 1992). To improve firm performance, the Chinese government initiated split-share and structural reform by issuing tradable shares to the public and as a result, state holdings decreased (Qi, Wu, & Zhang, 2000).

State-owned enterprises' (SOE) as a proportion of the total number of industrial enterprises (with annual sales over RMB 5 million) decreased from 39.2% in 1998 to 4.5% in 2010; their industrial assets dropped from 68.8% to 42.4% of total industrial assets during the same period

(World Bank, 2013). China opened its equity market to foreign institutional investors in 2003. At present, listed Chinese firms are typically owned by five groups of shareholders: the state, legal persons (including domestic and foreign institutional investors), holders of tradable A-shares (mostly individuals), and employees.

Despite the great efforts made to privatize SOEs, the state has maintained a strong influence in many publicly listed hotel firms (Chen & Kim, 2010). While the profitability of China's SOEs increased, with a reported average return on equity (ROE) growing from 2.2% in 1996 to 15.7% in 2007, they still underperformed non-state firms by about 10% (World Bank, 2013). SOEs' underperformance relative to their non-state counterparts was possibly caused by their failure to prudently separate management from ownership, thus leading to poor monitoring of state assets (Tisdell, 1990). The distinction between already-complicated ownership and management in state-owned hotels is often blurred, resulting in bureaucratic structure and control, and a lack of unity in decision-making (Mak, 2008; Yu & Gu, 2005), thus hindering expansion and growth (Pine, 2002).

In the case of developed economies, the role of institutional investors has gradually shifted from that of pure investors (not engaging in corporate management decisions and simply executing an "exit policy" when dissatisfied with the management or stock performance) (Bathala, Moon, & Rao, 1994) to a more active one by voicing disagreement with the management (Pound, 1992). With their significant holdings, institutional investors find it more beneficial and lucrative to monitor the actions of firm managers in order to boost stock performance than to exit and sell their stocks at a loss. The behavioral change of institutional investors, coupled with their professional investment knowledge, could allow better monitoring of corporate governance (Black & Coffee, 1994; Tsai & Gu, 2007a, 2007b), thus may affect corporate decision-making and performance (Crutchley, Jensen, Jahera, & Raymond, 1999).

Since 2000, institutional investors have become a strong force in China's security market

(Li & Li, 2008) and China's publicly listed hotel firms also have institutional holdings (IH) that are held by both domestic and international legal entities, including mutual funds, insurance companies, government agencies and the like. They capitalized on China's hotel reform in shifting hotel ownership from the state to nongovernment business enterprises (Tang, Xi, Chen & Wang, 2006; Yu & Gu, 2005). While empirical studies have shown inconsistent results regarding how institutional ownership may have influenced corporate performance in various industries, the mixed results may be attributed to different model specifications, corporate performance measures or even sample selection. Since China's Open Door policy of 1978, the hotel industry is among those who have maintained a close linkage with international consortiums and developed to a high level of marketization (Wang, Li & Wang, 2008). Whether and to what extent the presence of institutional investors (whether foreign or domestic), together with SOP, may have influenced the firm performance of the Chinese hotel industry is a topic worth exploring.

The remainder of the paper is organized as follows. Section two reviews the empirical research on the links between ownership structure and firm performance. Data and variables are described in section three. Section four presents the panel regression models and test results. Discussions and implications are provided in the fifth section. The final section concludes the study.

Literature review

The relation between institutional ownership and firm performance

Note that the relationship between institutional ownership and firm performance is delineated through *efficient monitoring theory*, *conflict of interest theory*, and *strategic alignment theory* (Pound, 1988). Efficient monitoring theory states that institutional investors have greater expertise in monitoring firm management at a lower cost than individual shareholders.

Consequently, a positive relationship between institutional ownership and firm performance can be expected.

Conflict of interest theory suggests that, in view of other profitable business opportunities with the firm, institutional investors may be compelled to cast their votes in line with management's will, even when it is against their own fiduciary duty to their investors. Strategic alignment theory argues that institutional investors and managers may find it mutually beneficial to cooperate, which could reduce benefits resulting from monitoring by large shareholders. Accordingly, the conflict of interest and strategic alignment theories predict a negative relation between institutional ownership and firm performance.

Empirical studies of the relationship between ownership structure and firm performance have shown mixed results (e.g., Agrawal & Knoebe, 1996; Chaganti & Damanpour, 1991; Demsetz & Lehn; 1985; Gu & Kim, 2001; Han & Suk, 1998; McConnell & Servaes, 1990; Seifert, Gonenc & Wright, 2005). In some studies in accounting and finance, institutional ownership has been found to have significant impacts on firm performance. Using a sample of firms listed on the New York Stock Exchange (NYSE) in 1992, Steiner (1996) observed a significant and positive relationship between institutional ownership and firm performance as measured by Tobin's *Q*.

Gedajlovic, Shapiro and Buduru (2003) found equity holdings held by financial institutions to be positively associated with Japanese firm profitability as measured by return on assets (ROA) during the period 1986–1991. Using stock returns (SR) as a measure of firm performance for 301 NYSE/AMEX firms during the period 1988–1992, Han and Suk (1998) found that SR were positively related to institutional ownership; they attributed this relationship to effective monitoring of institutional investors. In the hospitality industry, using data collected from 1999 to 2003, Tsai and Gu (2007a, 2007b) found that institutional ownership is a significant and positive determinant of firm performance as measured by a proxy

for Tobin's *Q* in the restaurant and casino industries, respectively. They pointed out that institutional investors may help restaurant and casino firms mitigate the agency problem caused by the separation of management from ownership, thus enhancing firm performance.

As previously mentioned, allowing institutional investors to invest in state-owned hotel firms may lead to better monitoring of corporate governance (Yu & Gu, 2005) because it may help reduce conflicts of interest between shareholders and managers. Institutional investors have professional experience in gathering and analyzing information. As a result, they could act as effective monitors of corporate governance (Tsai & Gu, 2007a, 2007b).

Nevertheless, since tourism enterprises, including hotel firms, may contribute directly or indirectly to wider society, it is not unusual for government to assist industry in obtaining funding from the security market and incentivizing investment in the tourism sector (Wang & Xu, 2011). Such government intervention may complicate firms' governance and potentially prevent institutional investors from engaging effectively with these firms, thus leading to the firms' underperformance (Webb, Beck & Mckinnon, 2003). Institutional investors may also have conflicts of interest and conspire with managers to benefit themselves at the expense of other shareholders (Sun & Tong, 2003). From the above, we thus hypothesize that:

H1: Institutional ownership could positively or negatively influence hotel firm performance in China.

As noted by Pound (1988), when domestic institutional holdings (DIH) are low, institutional investors may be less efficient monitors of firms due to conflicts of interest, leading to firms' underperformance. However, when their holdings reach and exceed a certain level, institutions' goal to help maximize the firm's value coincides with that of outside shareholders who then act as efficient monitors of firm managers, resulting in better firm performance.

Wei *et al*. (2005) used a sample of 5,284 firm-year observations of China's partially privatized former state-owned enterprises from the period 1991–2001 and found that IH not only significantly and negatively impacted firm performance as measured by a proxy for Tobin's *Q* but also exhibited a significant convex U-shaped relationship. That is, there is a non-linear relationship between IH and firm performance as institutional investors increase their holdings. Therefore, we hypothesize that:

H2: Institutional ownership has a U-shaped relationship with hotel firm performance in China.

On the one hand, foreign direct investment usually has a significant impact on both economic development and on employment in the country receiving the investment, as has been the case of Vietnam since 1987 (Sadi & Henderson, 2001). As a result of financial globalization and industries' structural changes, China's economy may be gradually affected by foreign investments. Many studies support the notion that issuing shares to foreign institutional investors improves the performance of listed firms in developing economies.

Kim (2011) stated that foreign ownership, when it becomes more concentrated, helps reduce agency problems and has a positive impact on corporate performance because foreign investors may provide better technological, financial, and human expertise, international experience, knowledge of business operations, and will often pressure local firms to restructure their operations (Gurbuz & Aybars, 2010; Huang & Shiu, 2009; Romalis, 2011). Peter, Svejnar and Terrell (2005) investigated firms in Russia and demonstrated that their efficiency is high when they are foreign-owned. Makhija and Spiro (2000) concluded that ownership stakes of foreigners are positively related to share values.

Bai, Liu, Lu, Song and Zhang (2003) found that Chinese companies with either a B- or H-share listings tend to perform better. Seifert *et al*. (2005) found a strong positive relationship

between foreign ownership of equity in Japan and firm performance. Wei *et al*. (2005) also found that foreign ownership in China's privatized firms is significantly and positively related to firm value. Thus, issuing shares to foreign investors is considered an efficient corporate governance mechanism to increase market performance.

On the other hand, using a sample of data for Japanese manufacturing firms during 1986–1991, Gedajlovic, Yoshikawa and Hashimoto (2005) found that, while institutional ownership influenced firm performance as measured by ROA at the 0.1 level, there was no relationship between foreign ownership and ROA. Qi *et al*. (2000) examined a sample of firms listed on the Shanghai Stock Exchange (SHSE) from 1991 to 1996 and found that foreign holdings have a negative impact on firms' ROE. Phung and Le (2013) used a sample of Vietnamese listed firms on the Ho Chi Minh Stock Exchange during 2008–2011 and found that foreign ownership negatively impacted firm performance.

Domestic institutional owners may be government-affiliated and less profit-driven, hence they are less vigilant in their monitoring role, leading to an undesirable influence on firm performance (Ramaswamy, Li & Veliyath, 2002). Examining China's newly privatized firms during 1994-1996, Wei and Varela (2003) found that domestic institutional ownership doesn't appear to help improve performance. As a result, the effects of domestic and foreign institutional ownerships on hotel firm performance may differ. We thus hypothesize that:

H3: The impacts of domestic and foreign institutional ownership on hotel firm performance in China are different.

The relation between SOP and firm performance

SOP is still the dominant ownership type in China. The relationship between SOP and firm performance has inspired many empirical studies; however, the results have been mixed. Qi *et al*. (2000) found that state equity ownership negatively influenced operating performance as

measured by ROE of a sample of listed firms on the Shanghai Stock Exchange (SHSE) during 1991-1996. Wei and Varela (2003) examined another sample of SHSE-listed firms during 1994-1996 and found that SOP negatively impacts firm performance as measured by Tobin's *Q* and monthly SR, where Tobin's *Q*-SOP exhibits a convex relation.

Sun and Tong (2003) found SOP to have a negative impact on firm performance in 634 state-owned enterprises listed on China's two stock exchanges from 1994 to1998. Wei *et al*.'s (2005) study also found state holdings to negatively impact firm performance as measured by a proxy of Tobin's *Q*, and that relationship was a convex one. Nevertheless, Hovey, Li and Naughton (2003) found no relation between SOP and firm performance as measured by a proxy of Tobin's *Q* in 97 randomly selected Chinese listed firms during 1997 – 1999. Given these empirical results, we include SOP as a control variable and hypothesize that:

H4: SOP is negatively related to hotel firm performance in China.

In short, we found no consensus on the relationship between institutional ownership and corporate performance. However, theories underlying the relationship between ownership and firm performance predict positive, negative, or no statistically significant relationship, depending on the tradeoffs between the positive and negative effect. Moreover, there is little research on the association between share holdings and corporate performance of hotel firms in China, given the critical role of the hotel industry and the opportunities created by the "Belt and Road" policy. The findings of this study will provide insight into how China's share reform may have influenced the performance of hotel firms, and how corporate governance in the transitional economy can be improved.

Data and variables

The study models IH and SOP variables, firm performance measures, and control variables to

examine the impact of institutional ownership and SOP on the performance of six selected hotel firms listed on the Chinese stock markets: Century Plaza, Huatian, Lingnan, Dadonghai, Jinjiang, and Jinling. These hotel firms were included in this study for their having complete firm performance data during the sample period. All data during the period of the fourth quarter of 1996 and the first quarter of 2014 were taken from the financial database of the *Taiwan Economic Journal* (TEJ).

Institutional and SOP variables

The ownership structure of listed Chinese firms is quite sophisticated and has certain unique features which are not found in developed economies. Shares are classified as A-shares (i.e., state shares, legal-person shares, tradable A-shares, and employee shares), B-shares, H-shares, N-shares, S-shares, and L-shares. Until 2003, when China implemented qualified foreign institutional investors (QFII), A-shares were reserved for domestic investors and the others are designated for overseas investors. A-shares and B-shares are both listed on the SHSE and the Shenzhen Stock Exchange (SZSE). B-shares are shares with stock rights not belonging to Chinese citizens, who are not allowed to trade B-shares. The market for B-shares is separate from the market for A-shares. Stocks of B-shares are denominated in U.S. dollars on the SHSE and in Hong Kong dollars on the SZSE. H-shares, N-shares, S-shares, and L-shares are in firms listed in Hong Kong, New York, Singapore, and London, respectively.

All hotel stocks included in this study were A-shares and non-tradable shares including state shares, domestic institutional shares, and foreign institutional shares, which accounted for two-thirds of shares outstanding. The original purpose of non-tradable shares was to ensure that SOEs would not fall into private or foreign hands when China implemented non-tradable share reform (European Central Bank, 2011).

The variable of IH is the ratio of total institutional shares to total non-tradable shares (Tsai & Gu, 2007a, 2007b). The variable of DIH is measured by dividing total domestic institutional

shares by total non-tradable shares (Wei & Varela, 2003) and the variable of FIH is measured as percentages of total shares held by foreign institutional investors (Wei *et al*., 2005). The variable of SOP is measured as the percentage of total shares held by the state divided by the total non-tradable shares (Hovey *et al.*, 2003; Wei *et al.*, 2005; Chen, 2013).

Firm performance measures

In our study we adopted four firm performance measures: ROA, ROE, SR, and a proxy for Tobin's *Q* (*Q*). The first two are accounting measures focusing on past performance and the latter two are finance measures emphasizing firms' future growth opportunities.

First, ROA is computed as net income divided by average total assets:

$$ROA = \frac{Net\ income}{Total\ assets} \times 100\% \qquad (1)$$

where both the amount of net income and total assets are values at the end of each quarter. ROA, a measure of profit per dollar of assets, is a commonly used and useful indicator of how profitable a firm is in generating earnings from its total assets (Schmidgall, 2006).

Second, ROE is defined as net income divided by average total equity:

$$ROE = \frac{Net\ income}{Total\ equity} \times 100\% \qquad (2)$$

where the amount of total equity is also the value at the end of each quarter. ROE is a measure of a firm's efficiency in generating profits from every dollar of shareholders' equity. Liu and Hung (2006) stated that *ROE* measures the rate of return or net benefit flowing to shareholders from capital investments.

Third, *SR* measures a hospitality firm's stock performance and is calculated as:

$$SR_t = \ln\left(\frac{Stock\ price_t}{Stock\ price_{t-1}}\right) \times 100\% \qquad (3)$$

where stock price is the closing price at the end of each quarter. As Heiman (1988) noted, while there are various indicators of a company's financial success, its stock price is considered to be one of the most important because it conceptually reflects the market's perception of the

firm's future performance. Han and Suk (1998) argued that long-term stock returns effectively capture corporate performance and have important implications for the business community.

Last, Q is defined as the ratio of market value of a firm to the replacement costs of its assets (RC):

$$Q = \left(\frac{Market\ value}{RC}\right) \times 100\%. \qquad (4)$$

Q is a commonly used corporate performance measure in the finance literature (Hovey *et al*., 2003; Ng, Yuce & Chen, 2009; Tian & Estrin, 2008; Wei & Varela, 2003). According to Lindenberg and Ross (1981), Tobin's Q is high when the firm has valuable intangible assets (e.g., monopoly power, goodwill, patents) in addition to its physical capital. Therefore, a higher Tobin's Q indicates a firm's greater future growth potential. Nevertheless, in practice it is rather difficult to estimate the denominator (Lindenberg & Ross, 1981). Therefore, in our study a proxy for Tobin's Q proposed by Chung and Pruitt (1994) is adopted, and defined as the book value of total assets plus the market value of common equity minus the sum of the book value of common equity and deferred taxes (from the balance sheet), all divided by the book value of total assets.

Control variables

We include variables that are known to influence firm performance as control variables to avoid any bias in the results. First, firm size (SIZE), measured by the natural logarithm of the total assets at the end of each quarter, is included as a control variable since both growth opportunities and Tobin's Q are likely lower for larger firms (Agrawal & Knoeber, 1996). Therefore, SIZE is expected to influence firm performance negatively. Welch (2003) stated the necessity to include firm size as a control variable in modeling the association between ownership structure and corporate performance.

Second, the growth rate of gross domestic product in China ($\Delta \mathrm{GDP}_t$) is computed as:

$$\Delta GDP_{\mathrm{t}} = \ln\left(GDP_t / GDP_{t-1}\right) \times 100\%, \qquad (5)$$

Where GDP_t is the gross domestic product at the end of quarter *t*. ΔGDP indicates changes in economic condition (Chen, 2007; Kim, Chen & Jang, 2006), to guard against the possibility that the ownership effect on hotel firm performance is likely to be masked by economic condition and income. As noted by Chen (2010), the hotel industry is very sensitive to economic conditions; shifts in economic conditions can have a great impact on the success of hotel firms. Therefore, $\Delta\mathrm{GDP}_t$ is expected to be positively related to firm performance.

Third, financial leverage (LEV), measured by the debt ratio (total debt divided by total equity), is used to capture the value-enhancing effect of corporate tax shield (Morck *et al.*, 1988) or the value-reducing effect when future interest payments are made with more valuable money than was borrowed when a relative deflation is observed (Demsetz & Villalonga, 2001). Therefore, either a positive or a negative relationship between *LEV* and hotel firm performance may be expected.

Fourth, the growth rate of sales revenue ($\Delta\mathrm{SALES}_{\mathrm{t}}$) is calculated as:

$$\Delta SALE_{\mathrm{t}} = \ln\left(SALE_t / SALE_{t-1}\right) \times 100\%, \qquad (6)$$

where $\mathrm{SALES}_{\mathrm{t}}$ is the total sales revenue at the end of quarter *t*. $\Delta SALES$ indicates a firm's future growth opportunities (Chen, Hou & Lee, 2012). A positive relationship is expected between $\Delta\mathrm{SALES}_{\mathrm{t}}$ and hotel firm performance.

Model and empirical results

Model estimation and method

In this study we conducted panel regression analysis to examine the impact of IH and SOP on the performance of hotel firms listed on the Chinese stock markets. Panel data contain both a cross-sectional and a time series dimension and, therefore, they can reflect not only the differences between subjects in cross-sectional information, but also the changes within

subjects over time in the time-series data. The use of panel data is also appropriate in treating unobserved heterogeneity among firms, which often appears in cross-sectional studies, reducing the problems associated with multicollinearity and estimation bias, and specifying the time-varying relationship between the dependent and independent variables (Baltagi, 2005; Hsiao, 1986).

Our study first examines IH as a whole and then separates them into domestic and foreign holdings. Using the firm performance measure as the dependent variable, in the first regression model (model I) we include only the variable of IH (i.e., IH, DIH, and FIH, respectively) and its squared-term (i.e., IH^2, DIH^2, and FIH^2, respectively). In the second regression (model II), in addition to the institutional ownership variables, we add state SOP and four control variables: firm size (SIZE), growth of sales (ΔSALES), growth of gross domestic product (ΔGDP), and financial leverage (LEV). The estimated models are as follows.

Model I: $$Hotel\ firm\ performance = \beta_1 + \beta_2 IH + \beta_3 IH^2 + \varepsilon_1. \quad (7)$$

Model II: $$Hotel\ firm\ performance = \beta_1 + \beta_2 IH + \beta_3 IH^2 + \beta_4 SOP + \beta_5 SIZE + \beta_6 \Delta SALES + \beta_7 \Delta GDP + \beta_8 LEV + \varepsilon_2. \quad (8)$$

IH and IH^2 are replaced with (DIH and DIH^2) and (FIH and FIH^2), respectively, in models I and II when examining the linear and quadratic relationship between DIH (FIH) and hotel firm performance in China.

According to the panel regression equations, there is a curvilinear relationship between institutional (domestic or foreign) holdings and hotel firm performance (in terms of ROA, ROE, SR, or *Q*) if β_3 is significantly different from zero. In particular, there is an upright or an inverted U-shaped effect of IH (DIH or FIH) on hotel firm performance if both β_2 and β_3 are significantly different from zero. For example, if both $\beta_2 = 0$ and $\beta_3 = 0$ can be rejected, and the coefficient of IH on ROE is significantly positive (negative) and the coefficient of IH^2 on ROE is significantly negative (positive), this indicates that the relationship between IH and

ROE is an inverted U-shape (an upright U-shape). The relationship between IH and hotel firm performance (ROA, ROE, SR, or *Q*) is also linear rather than curvilinear if β_2 is significantly different from zero ($\beta_2 = 0$ is rejected) and β_3 is not significantly different from zero ($\beta_3 = 0$ is not rejected). In addition, according to Eq. (2), there is a linear relationship between SOP and hotel firm performance in China if β_4 is significantly different from zero, i.e. $\beta_4 = 0$ can be rejected ($\beta_4 \neq 0$).

When estimating the panel regression tests based on models I and II, we consider three types of estimation method: pooled ordinary least square (OLS), the fixed effects and random effects methods (Dimitrios, 2005). The pooled OLS method estimates a common constant for all cross-sections, meaning that there are no differences between estimated cross-sections. At the same time, the fixed effects method assumes that, although the intercept may differ among the subjects, each subject's intercept is time-invariant, not varying over time (Baum, 2006). The difference between the fixed effects and random effects methods is that the constants of the latter for each section are random parameters.

An *F*-test is performed to help determine whether the pooled OLS or the fixed effects method is more appropriate for estimating the model. The null hypothesis is that all constants are the same and the common constant (pooled OLS) method is applicable. If an *F*-statistic is larger than the critical value in the *F*-test, we can reject the null hypothesis and conclude that the fixed effects method is more appropriate than the pooled OLS method. Otherwise, the pooled OLS method is more appropriate. Furthermore, if the fixed effects method is more appropriate than the pooled OLS method, the Hausman (1978) test is used to check whether the fixed or random effects method should be applied to perform the estimation of panel regression tests.

Empirical results

Tables 1 and 2 show descriptive statistics and Pearson correlation coefficients of the study variables, respectively. DIH ranged from 0% to close to 50% with an average of 8.79%, and FIH ranged from 0% to 30.65% with an average of 3.5%. SOP ranged from 0% to 75% with an average of around 20.7%, indicating that SOP is still the dominant ownership type in hotel firms listed on the Chinese stock markets. The mean of proxy *Q*, 0.662, shows that the average performance of hotel firms was mediocre (Lindenberg & Ross, 1981). Another notable point is that listed hotel firms rely less on debt financing than on equity financing, with an average debt ratio of 45.9% and a median of 19.38%.

[Insert Table 1]

[Insert Table 2]

The results of the *F*-test and Hausman test shown in table 3 reveal that panel regressions based on models I and II are statistically significant for the dependent variables ROA and ROE with respect to IH and DIH, indicating that the fixed effects method is more appropriate than the pooled OLS to estimate these models. The remaining models were estimated using pooled OLS.

[Insert Table 3]

The empirical results of the panel regression tests based on models I and II are summarized in tables 4-6; table 4 shows results related to IH, table 5 to DIH, and table 6 to FIH. Panel A of each table shows the results of the panel regression analysis with only the institutional ownership variable of interest (i.e., IH, DIH, and FIH and their respective quadratic terms) while panel B has added control variables.

[Insert Table 4]

As shown in panel A of table 4, three of the four panel regression models were significant in explaining variations in hotel firm performance as measured by ROA ($F = 2.8490$, $p < .01$), ROE ($F = 2.0833$, $p < .05$), and *Q* ($F = 56.9685$, $p < .01$). Although IH as a whole did not have

any impact on hotel firm performance as measured by ROA, ROE, and SR, *IH* not only exhibited a significant impact on hotel firm performance as measured by *Q* ($t = 10.65, p < .01$), but also revealed that this impact took an inverted U-shaped form (i.e., convex) with a significant IH^2 coefficient ($t = -9.98, p < .01$).

After adding SOP and four control variables, as shown in panel B of table 4, all four models were significant in explaining variations in the four hotel performance measures with significant *F* statistics. IH ($t = 4.71, p < .01$) and IH^2 ($t = -6.15, p < .01$) again showed significant impact on *Q*. Both SIZE and SOP were found to negatively influence ROA and *Q*. ΔGDP was positively related to ROA, ROE, and SR, and ΔSALES related positively to ROE and negatively to SR. Finally, LEV was only negatively related to ROE.

[Insert Table 5]

Similar to table 4, panel A of table 5 shows that three out of the four panel regression models were significant in explaining variations in hotel firm performance as measured by ROA ($F = 7.6681$, $p < .01$), ROE ($F = 3.9677$, $p < .01$), and *Q* ($F = 52.5607$, $p < .01$). Nevertheless, DIH by themselves exhibited various impacts on hotel firm performance as measured by ROA, ROE, and *Q*. DIH not only exhibited a significant negative impact on hotel firm performance as measured by ROA ($t = -3.76, p < .01$) and ROE ($t = -2.20, p < .05$), but also showed that such impact was U-shaped (i.e., concave).

Similar to the results of IH, DIH influenced *Q* both linearly ($t = 9.55, p < .01$) and non-linearly ($t = -8.08, p < .01$). After adding the five control variables, as shown in panel B of table 5, all four models were significant in explaining variations in the four hotel performance measures with significant *F* statistics. DIH and DIH^2 again showed a similar significant impact on ROA ($t_{DIH} = -3.74, p < .01$; $t_{DIH^2} = 5.16, p < .01$), ROE ($t_{DIH} = -3.66, p < .01$; $t_{DIH^2} = 4.47, p < .01$), and *Q* ($t_{DIH} = 3.68, p < .01$; $t_{DIH^2} = -4.33, p < .01$). While SIZE was found to negatively relate to both ROA and Q, SOP was only negatively related to *Q*. Both ΔSALES and ΔGDP

were found to positively relate to ROE and SR and, furthermore, ΔGDP was positively related to ROA. Finally, LEV was only negatively related ROE.

[Insert Table 6]

When examining FIH separately, as shown in panel A of table 6, none of the panel regression models significantly explained variations in hotel firm performance. Neither FIH nor FIH^2 exhibited any impact on the four firm performance measures. After adding the five control variables, in contrast to those in panel A, the four panel regression models in panel B significantly explained variations in the four firm performance measures. Nevertheless, FIH and FIH^2 were still not related to any firm performance measures. While SIZE was found to be positively related to ROA, it and SOP were found to be negatively related to *Q*. ΔGDP had positive and significant impacts on ROA, SR, and *Q*.

Finally, LEV was only negatively related to ROE. Based on the empirical results obtained above, we concluded that *H1* and *H2* are partially supported in that, first, both IH and DIH exhibited various positive and negative impacts on the four performance measures and the relationships were either *upright or inverted U-shaped*. *H3* is supported as DIH and FIH exhibited different impacts on hotel firm performance and *H4* is partially supported because of SOE's negative impact on *Q*.

Discussion and implications

Developed under a unique Chinese planned economy with a high level of marketization and support from the government, the Chinese hotel industry has evolved vastly in the past decades. In this study, IH (both domestic and foreign) as a whole were found to exhibit an inverted U-shaped relationship with *Q*, but not with ROA, ROE, and SR. That is, increasing shareholdings held by institutions at first helps improve *Q* up to a point, after which additional shareholdings held by institutions gradually lead to deterioration of *Q*. It is possible that as institutions

increase their shareholding level, when dissatisfied with the management, they first express their views to the management (echoing the efficient monitoring theory) and therefore, firm performance improves. However, when shareholdings held by institutions go beyond the optimal point, or institutions dissatisfied with the management hold excessive shares, it becomes too costly for institutions to simply sell off all the shares. Therefore, conflict of interest and strategic alliance between management and institutions may occur and harm firm performance.

It should be noted that Tobin's *Q* differs from other accounting measures in terms of time perspective, the measuring entity and being forward-looking (Demsetz & Villalonga, 2001). When investing in Chinese hotel firms on the Chinese stock markets, institutions concerned more about what the management will achieve in the future than on what they had accomplished in the past. In attracting investment from institutions, managers of listed hotel firms are advised to put more effort on devising and deploying strategies leading to greater future growth, such as seizing the opportunities associated with the "Belt and Road" policy (Zheng, 2017) and pursuing economies of scale (Gu, 2005).

A clearer picture of the IH-hotel firm performance relation is revealed when partitioning IH into DIH and FIH. While FIH alone did not exhibit any impact on the four hotel firm performance measures, DIH was found only to negatively impact both ROA and ROE in an upright U-shaped relationship but also to positively influence *Q* in an inverted U-shaped relationship. That is, most of the impact of *IH* on the performance of Chinese hotel firms came from domestic institutional investors, and such finding contradicts Gu's (2005) study that domestic ownership was not a factor to hotel performance. This study found that, as shareholdings held by *DIH* increase, hotel firm performance in terms of accounting measures deteriorates to a certain shareholding level, after which both ROA and ROE start to pick up. However, the opposite was observed when measuring hotel firm performance by *Q*: as

shareholdings held by domestic institutional investors increase, hotel firm performance first improves to a certain shareholding level, after which additional shareholdings held by institutions gradually lead to deterioration of *Q*.

While the above results seem to suggest contradictory impacts of DIH on various hotel firm performance measures in China, they are in fact rather logical. It is possible that as domestic institutional investors increase their shareholdings in the stocks of hotel firms, when they exercise their monitoring role by voicing their views on firm strategies and directions with the management, the resulting accounting measures of performance are not reflected and improve as quickly as they increase their positions. That is, the percentage change of the numerator for both ROA and ROE (i.e., the net income) was not proportionate to that of the denominator (i.e., the total assets and owners' equity), thus leading to deteriorating ROA and ROE until reaching a certain shareholding level. Afterwards, domestic institutional investors' monitoring efforts seemed to start paying off, enhancing ROA and ROE measures. Domestic institutional investors therefore have longer-term incentives and shareholding power to monitor and guide the behavior of management and can play a significant role in corporate governance in accordance with efficient monitoring theory.

These relationships between DIH and ROA/ROE and between DIH and *Q* are critical to Chinese hotel firms and imply that an optimal point exists between DIH and ROA, DIH and ROE, as well as between DIH and *Q*. Thus we calculate the three optimal points based on the coefficients estimated from model (1) in this study as follows:

$$ROA = 0.0223 - 0.0067\ DIH + 0.0002\ DIH^2 \quad (9)$$

$$ROE = 0.0374 - 0.0086\ DIH + 0.0002\ DIH^2 \quad (10)$$

$$Q = 0.3615 + 0.0957\ DIH - 0.0019\ DIH^2 \quad (11)$$

After taking the first derivative with respect to DIH for the three equations above, we can solve DIH for each of the equations: DIH is approximately 17.30% for equation (3), as shown in

figure 1; 16.41% for equation (4), as shown in figure 2; and 25.18% for equation (5), as shown in figure 3. What these optimal levels of DIH with respect to ROA, ROE, and *Q* mean is that Chinese hotel firms may seek to increase and attract domestic institutional shareholders from an average of 8.79% to above 17.3% in order to have a positive DIH impact on both ROA and ROE, but no more than 25% in order to ensure a positive DIH effect on *Q*.

[Insert Figure 1]

[Insert Figure 2]

[Insert Figure 3]

It should be noted that the proposed optimal points are calculated as averaged values of all six sampled hotels for the sample period (1996–2014), and thus may not be precisely applicable to each individual firm. As the results are evident in our study, hotels in our study could benchmark their DIH level against our proposed optimal points to determine whether they shall continue to engage or disengage domestic institutional investors in enhancing their performance in terms of ROA, ROE and *Q*.

A possible explanation for *FIH*'s insignificant effect on Chinese hotel firm performance could be the small number of shareholdings of foreign institutions (with an average of 3.5% shareholdings held by foreign institutions as compared to 8.79% by domestic ones), thus reducing their ability to exert their professional knowledge and monitor firms. Kaur and Gill (2007) argue that foreign institutional investors tend to operate on the principle of portfolio diversification with only their financial investment relation to the firm. Therefore, foreign institutional investors in Chinese hotel firms lack both sufficient incentive and ownership power to contribute directly to corporate governance for the purpose of enhancing firm performance. The result has been poor management activity of foreign institutional investors.

Although QFII was introduced by the Chinese government in 2003 to gradually open up its capital market, foreign institutional investors' influence on the performance of hotel firms was

not evident in our study. With the evidence of DIH's impact on Chinese hotel firm performance obtained in our study, it is likely that FIH might also exert due influence if their shareholdings increase in the future. As argued by Seifert *et al*. (2005), capitalizing on foreign institutional investors' expertise in professional investment and corporate governance can probably help Chinese hotel firms improve their firm performance even further. Chinese hotel firms, with support from the Chinese security authorities and on the basis of a high level of marketization, should work on encouraging and attracting more foreign institutional shareholders so that they have both incentives and the power to exercise their monitoring expertise for the benefit of the Chinese hotel industry.

Our test results also show that state holdings were negatively related to hotel firm performance as measured by *Q*, which supports the findings of Wei and Varela (2003), Wei *et al*. (2005), Gunasekarage, Hess and Hu (2007), and Tian and Estrin (2008). The negative relationship clearly reflects the fact that some Chinese hotel firms were still under the influence of SOP and hence have less opportunity for future growth. For the benefit and healthy development of the Chinese hotel industry, the governing authorities should make efforts to continue reducing state influence in hotel firms however still maintain their support for the development of the industry.

Conclusion and future research directions

This study examined the impacts of IH and SOP on the financial performance of publicly listed hotel firms in China from the fourth quarter of 1996 to the first quarter of 2014 via panel regression tests. The study provides insight into the effects of ownership structure on hotel firm performance in a unique emerging economy. The results suggest that, to enhance hotel firm performance in China, it is necessary to increase DIH and reduce SOP.

From individual investors' perspective, the findings are useful for the evaluation of their

investment portfolios. For example, they may compare a hotel firm's IH as a whole or its DIH specifically against the proposed optimal points suggested in the study to gauge possible future performance. This criterion, however, should be used in conjunction with other significant portfolio evaluation criteria when making investment decisions.

Share reform in China is still a work in progress for those firms who plan to go public, the possible impact of IH and SOP on firm performance may be different in other hospitality and tourism sectors. This research on the relationship between ownership structure and firm performance can be extended to other hospitality industries, such as airlines and restaurants. It would be interesting to compare how and to what extent various types of institutional and state ownership affect the financial performance of different hospitality industries. Moreover, each country has its own security laws and ownership structures and thus future studies should compare the influence of ownership structure on the financial performance of hotel firms in different countries.

There are limitations associated with the study. First, the research results are limited to the hotel firms sampled during the study period and may not be generalized to other economies outside of mainland China. Second, while seasonality in quarterly stock return in the Chinese stock markets was not evident (Mookerjee & Yu, 1999), in our study we did not take seasonal influence into consideration and therefore, the research results should be interpreted with caution.

References

Agrawal, A., & Knoeber, C. R. (1996). Firm performance and mechanisms to control agency problems between managers and shareholders. *Journal of Financial and Quantitative Analysis*, *31*(3), 377-397.

Andrea, B., Bernardo. B., & Marianna, C. (2011). The stock market reaction to the 2005 non-tradable share reform in China. European Central Bank, Working Paper Series, 1339.

European Central Bank. (2011, May). *The stock market reaction to the 2005 non-tradable share reform in China*. (ECB Working Paper No. 1339). Frankfurt am Main, Germany: Beltratti, A., Bortolotti, B. & Caccavaio, M.

Bai, C. E., Liu, Q., Lu, J., Song, F. M. & Zhang, J. (2003). Corporate governance and market valuation in China. *Journal of Comparative Economics*, *32*(4), 599-616.

Baltagi, B. H. (2005). *Econometric analysis of panel data*. Chichester, UK: John Wiley & Sons.

Bathala, C. T., Moon, K. P. & Rao, R. P. (1994). Managerial ownership, debt policy, and the impact of institutional holdings: an agency perspective. *Financial Management*, *23*(3), 38–50.

Baum, C. F. (2006). *An introduction to modern econometrics using Stata*. Boston, MA: Stata Press.

Black, B. S. & Coffee, J. C. Jr. (1994). Hail Britannia: Institutional investor behavior under limited regulation. *Michigan Law Review*, *92* (7), 1997-2087.

Chaganti, R. & Damanpour, F. (1991). Institutional ownership, capital structure, and firm performance. *Strategic Management Journal*, *12*(7), 479–491.

Chen, M. H. (2007). Interactions between business conditions and financial performance of tourism firms: evidence from China and Taiwan. *Tourism Management*, *28*(1), 188–203.

Chen, M. H. (2010). The economy, tourism growth and corporate performance in the Taiwanese hotel industry. *Tourism Management*, *31*(5), 665-675.

Chen, M .H & Kim, W. G. (2010). Hotel valuation in China: A case study of a state owned hotel. *Cornell Hospitality Quarterly*, *51*(3), 426-445.

Chen, M. H. (2013). Risk determinants of China's hotel industry. *Tourism Economics*, *19(1)*, 77-99.

Chen, M. H., Hou, C. L. & Lee, S. (2012). The impact of insider managerial ownership on financial performance of publicly traded Taiwanese hotels. *International Journal of Hospitality Management*, *31*(2), 338-349.

Chung, K. H. & Pruitt, S. W. (1994). A simple approximation of Tobin's q. *Financial Management*, *23*(3), 70–74.

CNTA. (2015). *China star-rated hotels statistics*. Retrieved from http://www.cnta.gov.cn/zwgk/tzggnew/gztz/201507/t20150706_720300.shtml.

Crutchley, C. E., Jensen, M. R. H., Jahera, J. S., Jr. & Raymond, J. E. (1999). Agency problems and the simultaneity of decision making: the role of institutional ownership. *International Review of Financial Analysis*, *8*(2), 177- 197.

Demsetz, H. & Lehn, K. (1985). The structure of corporate ownership: Causes and consequences. *Journal of Political Economy*, *93*(6), 1155-1177.

Demsetz, H., & Villalonga, B. (2001). Ownership structure and corporate performance. *Journal of Corporate Finance, 7*(3), 209–233.

Dimitrios, A. (2005). *Applied econometrics: A modern approach using EViews and Microfit.* New York, NY: Houndmills, Basingstoke, Hampshire, Palgrave Macmillan.

Gedajlovic., E., Shapiro, D. M. & Buduru., B. (2003). Financial ownership, diversification and firm profitability in Japan. *Journal of Management & Governance*, *7*(3), 315-335.

Gedajlovic, E., Yoshikawa, T. & Hashimoto, M. (2005). Ownership structure, investment behavior and firm performance in Japanese manufacturing industries. *Organizational Studies*, *26*(1), 7-35.

Gunasekarage, A., Hess, K. & Hu, A. J. (2007). The influence of the degree of state ownership and the ownership concentration on the performance of listed Chinese companies. *Research in International Business and Finance*, *21*(3), 379–395.

Gurbuz, A. O. & Aybars, A. (2010). The impact of foreign ownership on firm performance, evidence from an emerging market: Turkey. *American Journal of Economic and Business Administration*, *2*(4), 350-359.

Han, K. C. & Suk, D. Y. (1998). The effect of ownership structure on firm performance: Additional evidence. *Review of Financial Economics*, *7*(2), 143–155.

Hausman, A. (1978). Specification tests in econometrics. *Econometrica, 46*(5), 1251–1271.

Heiman, R. (1988). Effects of key issues on the financial performance of hospitality firms. *Hospitality Education and Research Journal*, *12*(1), 83-90.

Hovey, M., Li, L. & Naughton, T. (2003). The relationship between valuation and ownership of listed firms in China. *Corporate Governance: An International Review*, *11*(2), 112–122

Hsiao, C. (1986). *Analysis of panel data,* New York, NY: Cambridge University Press.

Huang, R. D. & Shiu, C. Y. (2009). Local effects of foreign ownership in an emerging financial market: evidence from qualified foreign institutional investors in Taiwan. *Financial Management*, *38*(3), 567-602.

Kaur, P. & Gill, S. (2007). The effects of ownership structure on corporate governance and performance: an empirical assessment in India. *Research Project NFCG*, *2008*.

Kim, H. Y., Chen, M. H. & Jang, S. C. (2006). Tourism expansion and economic development: The case of Taiwan. *Tourism Management*, *27*(5), 925–933.

Kim, B. (2011). Do foreign investors encourage value-enhancing corporate risk taking? *Emerging Markets Finance and Trade, 47*(3), 88-110.

Lindenberg, E. B. & Ross, S. A. (1981). Tobin's q ratio and industrial organization. *Journal of Business*, *54*(1), 1–32.

Liu, Y. C. & Hung, J. H. (2006). Services and the long-term profitability in Taiwan's banks. *Global Finance Journal*, *17*(2), 177-191.

Li, W. A. & Li, B. (2008). An empirical study on the effect of institutional investors participating in corporate governance based on the data of 2004-2006. *Nankai Business Review, 1*, 4-14.

Mak, B. (2008). The future of the state-owned hotels in China: stay or go? *International Journal of Hospitality Management*, *27*(3), 355-367.

Makhija, A. K. & Spiro, M. S. (2000). Ownership structure as a determinant of firm value: Evidence from newly privatized Czech firms. *Financial Review*, *35*(3), 1-22.

McConnell, J. J. & Servaes, H. (1990). Additional evidence on equity ownership and corporate value. *Journal of Financial Economics*, *27*(2), 595-612.

Mookerjee, R. & Yu, Q. (1999). Seasonality in returns on the Chinese stock markets: The case of Shanghai and Shenzhen. *Global Finance Journal, 10*(1), 93-105.

Morck, R., Shleifer, A. &Vishny, R. W. (1988). Management ownership and market valuation: an empirical analysis. *Journal of Financial Economics*, *20*(1-2), 293-315.

Ng, A., Yuce, A. & Chen, E. (2009). Determinants of state equity ownership, and its effect on value/performance: China's privatized firms. *Pacific-Basin Finance Journal*, *17*(4), 413-443.

Oak, S. & Dalbor, M. C. (2008). Institutional investor preferences for lodging stocks. *International Journal of Hospitality Management*, *27*(1), 3-11.

Peter, K. S., Svejnar, J., & Terrell, K. (2012). Foreign investment, corporate ownership, and development: Are firms in emerging markets catching up to the world standard?. *Review of Economics and Statistics*, *94*(4), 981-999.

Phung, D. N., & Le, T. P. V. (2013). Foreign ownership, capital structure and firm performance: Empirical evidence from Vietnamese listed firms. *IUP Journal of Corporate Governance, 12*(2), 40-58.

Pine, R. (2002). China's hotel industry: serving a massive market. *Cornell Hotel and Restaurant Administration Quarterly*, *43*(3), 61-70.

Pine, R. & Phillips, P. (2005). Performance comparisons of hotels in China. *International Journal of Hospitality Management*, *24*(1), 57-73.

Pound, J. (1988). Proxy contests and the efficiency of shareholder oversight. *Journal of Financial Economics*, *20*(1-2), 237–265.

Pound, J. (1992). Beyond takeovers: Politics comes to corporate control. *Harvard Business Review*, *70*(2), 83–93.

Qi, D., Wu, W. & Zhang, H. (2000). Shareholding structure and corporate performance of partially privatized firms: Evidence from the Chinese listed companies. *Pacific Basin Finance Journal, 8*(5), 587-610.

Romalis, J. (2011). The value of foreign ownership. *Economic and Business Review, 13*(1-2), 107-118.

Seifert, B., Gonenc H. & Wright J. (2005). The international evidence on performance and equity ownership by insiders, blockholders, and institutions. *Journal of Multinational Financial Management*, *15*(2), 171-191.

State Council (2015). Diverse Economic Elements. Retrieved from http://www.gov.cn/english/2006-02/09/content_183845.htm.

Steiner, T. L. (1996). A reexamination of the relationships between ownership structure, firm diversification, and Tobin's *Q*. *Journal of Business and Economics*, *35*(4), 39-48.

Sun, Q. & Tong, W. H. S. (2003). China share issue privatization: The extent of its success. *Journal of Financial Economics*, *70*(2), 183–222.

Tang, F. F., Xi, Y., Chen, G. & Wang, R. (2006). Ownership, corporate governance and management in the state-owned hotels in the People's Republic of China. *Cornell Hotel and Restaurant Administration Quarterly*, *47*(2), 182-191.

Tian, L. H. & Estrin, S. (2008). Retained shareholding in Chinese PLCs: Does government ownership always reduce corporate value? *Journal of Comparative Economics*, *36*(1), 74–89.

Tisdell, C. (1990). Separation of ownership and management, markets, their failure and efficiency: Possible implications for China's economic reforms. *Asian Economies, June,* 41-55.

Tsai, H. & Gu, Z. (2007a). The relationship between institutional ownership and casino firm performance. *International Journal of Hospitality Management*, *26*(3), 517–530.

Tsai, H. & Gu, Z. (2007b). Institutional ownership and firm performance: empirical evidence from U.S.-based publicly traded restaurant firms. *Journal of Hospitality and Tourism Research*, *31*(1), 19-38

Vining, A. R. & Boardman, A .E. (1992). Ownership versus competition: Efficiency in public

enterprises. *Public Choice*, *73*, 205–239.

Wang, C. P. & Xu, H. G. (2011). Government intervention in investment by Chinese listed companies that have diversified into tourism. *Tourism Management*, *32*(6), 1371-1380.

Wang, Q., Li, W. & Wang, X. (2008). Jiu dian jing ying guan li xin lun [Hotel management new theory]. Beijing, China: China Financial & Economic Publishing House.

Webb, R., Beck, M. & Mckinnon, R. (2003). Problems and limitations of institutional investor participation in corporate governance. *Corporate Governance: An International Review*, *11*(1), 65-73.

Wei, Z. B. & Varela, O. (2003). State equity ownership and firm market performance: Evidence from China's newly privatized firms. *Global Finance Journal*, *14*(1), 65–82.

Wei, Z., Xie, F. & Zhang, S. (2005). Ownership structure and firm value in China's privatized firms: 1991-2001. *Journal of Financial and Quantitative Analysis*, *40*(1), 57-108.

Welch, E. (2003). The relationship between ownership structure and performance in listed Australian companies. *Australian Journal of Management*, *28*(3), 287-305.

World Bank (2013). *China 2030: Building a modern, harmonious, and creative society*. Washington, DC: Development Research Center of the State Council, the People's Republic of China.

WTTC (2012). The Comparative Economic Impact of Travel & Tourism: The Authority on World Travel & Tourism. Retrieved from http://www.wttc.org/research/economic-research/benchmark-reports/the-comparative-economic-impact-of-travel-tourism.

Yu, L. & Gu, H. (2005). Hotel reform in China: A SWOT analysis. *Cornell Hotel and Restaurant Administration Quarterly*, *46*(2), 153–169.

Zheng, L. (2017). *Tourism exchanges increase via Belt and Road Initiative*. Retrieved from http://english.cctv.com/2017/05/14/ARTIHtayDomuaaUJzDDG1UjH170514.shtml