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The determinants of financial structure: Evidence from Chinese listed hospitality companies

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THE DETERMINANTS OF FINANCIAL STRUCTURE: EVIDENCE FROM CHINESE LISTED HOSPITALITY COMPANIES

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ABSTRACT

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Although financial structure is crucial to company's sustainable development, rarely any efforts have been made to investigate financial structure in a Chinese hospitality industry setting. This thesis first explores financial structure of Chinese hospitality firms by using panel-data analysis.

All listed hospitality firms in China are included in the data sample. The study uses three methods to measure financial structure. They are total leverage ratio, long-term leverage ratio and short-term leverage ratio. Seven determinants, namely, firm size, growth, business risk, profitability, asset structure, listing years and state ownership structure are used to explain variations in leverage ratios. The result of the regression analysis reveals that firms with great profits and high risk level rely less on debts. Short-term and total leverage ratios decrease with the variable of firm size. Listing years impact firm's long-term leverage ratio negatively.

It is obvious that conventional financial structure theories based on developed economies are applicable to Chinese hospitality companies, but their explanatory power is limited, given Chinese hospitality firms distinctive features.

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CHAPTER 1

INTRODUCTION

Study Background

China's tourism industry is vigorously growing. In 2007, the domestic travelers reached 1.61 billion, spending 777.06 billion Chinese Yuan with an average expenditure per capita of 482.6 Chinese Yuan. The international tourist receipts ranked the seventh worldwide with a figure of 25.74 billion US dollars in 2004. The figure jumped to 37.23 billion in 2007 with the international tourist arrivals of 45.08 million. In the recent five years, the inbound and domestic tourism compound growth rate is 13.8% and 12.1% respectively, even higher than the growth rate of Chinese GDP (National Tourism Administration of the People's Republic of China [CNTA], 2008).

Closely related with tourism industry, hospitality firms in China are developing by leaps and bounds as well. Take lodging industry, a significant part of the hospitality industry, as an example. From 2000 to 2006, the number of star-rated hotels increased from 6029 to 12,751, an increase of 111%. In 2006, revenues of star-rated hotels are 148.29 billion Chinese Yuan, a growth of 10.1% compared with the last year (CNTA, 2007). WTO forecasts China's tourism industry will be the first in the world, accounting for 8.6% of total world market share by the year of 2020 (Ball, Horner, & Nield, 2007).

Financing is an inevitable concern for all Chinese hospitality companies in order to maintain

tremendous and sustainable development. Financing decisions are among the most critical decisions managers make (Keister, 2004). Financial structure choice is one important issue among financing decisions. It is defined by the mix or proportion of a firm's financing represented by debt or equity (Van Horne & Wachowicz, 2001). As a matter of fact, financial structure decisions are even more critical to hospitality firms, given the industry specific features. For example, lodging industry is very capital intensive. Compared with other industries, it requires more funding for land, building, fixture and equipment, and furniture (Kim, 1995). Financial managers of lodging companies must opt for a reasonable financial structure so as to increase a firm's value and simultaneously decrease its cost of capital (Van Horne & Wachowicz, 2001). Restaurant industry is risk intensive (Upneja & Dalbor, 2001). A restaurant firm may not be able to satisfy its obligation on excessive debt if its debt rate is too high. On the other hand, financial managers of restaurant firms are reluctant to pass by debt financing opportunities, since debt is the cheapest source of external capital (Kim, 1995).

With the establishment of various financial structure theories, numerous empirical research has been done to explore corporate financial structure. Most of them try to identify determinants of firm's financial structure (Huang & Song, 2006), because theories suggest that company selects financial structure relying on attributes that determine various benefits and costs associated with debt and equity financing (Titman & Wessels, 1988). Since all modern financial structure theories are established on the basis of US corporate financing strategies, most empirical studies aim to test the explanatory power of those theories in the background of developed economies. Titman and Wessels (1988) studied financial structure of 469 US manufacturing firms for a sampling period from 1974 to 1982 using factor-analytic technique.

Rajan and Zingales (1995) did financial structure research based on G-7 countries. Hence, our knowledge of corporate financing decisions has mostly been derived from developed economies, such as US and other G-7 countries (Booth, Aivazian, Demirguc-Kunt, & Maksimovic, 2001).

Financial structure in underdeveloped economies has been left unexplored until recently. Booth et al. (2001), after analyzing the financial structure of companies from 10 developing countries, demonstrated that conventional financial structure theories derived from developed economies work in developing countries as well, and factors affecting corporate financial structure are similar between developed and developing economies. Nonetheless, the influence of those factors is not consistent through all countries. For instance, the variable of business risk positively influences leverage ratio in four countries, including Mexico, India, Jordan and Thailand, while it has reverse impact on leverage ratio of the other six countries in the sample data. Given different country of origin, determinants of leverage ratio exert influence in different manner. China is now in transition from a centrally planned economy to a market-oriented economy, so the impacts of financial structure determinants in China could be distinctive as well.

Although Liu (1999), Chen (2004), Chen and Strange (2005) and Huang and Song (2006) have done some financial structure research studies in Chinese background, none of them are specifically designed for the Chinese hospitality industry. However, financial structure varies greatly across different industry segments. Integrated oil companies, utility, chemical, transportation, telecommunications, forest products and real estate corporations rely heavily on debt financing (Myers, 2001). On the other hand, some high-tech firms, such as Merck and Hewlett-Packard, as well as some service firms, such as Automatic Data Processing and

Netscape and some major pharmaceutical firms are heavy equity users (Brealey, Myers, & Marcus, 1999). Titman and Wessels' (1988) research studies confirm that companies in the same industry sector are more likely to have similar financial structure, since their business risks, profitability and asset structure are more comparable. Aggarwal (1981) underscores industry is the most important determinant of corporate financing. Liu's (1999) research shows that industry classification has effect on Chinese company's financial structure. He reveals that the more asset-intensive an industry, the more debts companies within the industry employ. Since the hospitality industry has many characteristics that differentiate it from other economic sectors, it is a must to analyze its financial structure individually.

Purpose of the Study

Hardly any study has been found done on the subject of financial structure of Chinese hospitality firms, even though a thorough research is long overdue. The purpose of the thesis is to study the financial structure of Chinese hospitality companies by examining the determinants that impact firms' financial structure decisions.

The study should shed some useful lights on the financial structure of Chinese hospitality firms. Since investors tend to evaluate borrowing behavior of other firms within the same industry (Chatfield & Dalbor, 2004), this study should also be of particular importance and fascination for both domestic and international investors interested in investing in Chinese hospitality industry, providing them with status quo of financial structure in Chinese hospitality firms.

Delimitation

The scope of the paper is delimited by the following factors:

1. The study has only included public hospitality companies listed in mainland China as its sample set. Those companies have main business operations in lodging, restaurant or tourism sector. The time period covering by the study is from 2004 to 2006.
2. The study adopts three leverage ratios, namely, total, long-term and short-term debt ratios to measure a hospitality company's financial structure. Seven key determinants, which is asset structure, profitability, business risk, firm size, growth, listing years and state ownership structure that have been proposed or demonstrated to be useful in explaining corporate financial structure variation by either theoretical or empirical studies, are tested in the research.

Structure of the Study

The roadmap of the thesis is as follows. In Chapter 2, various strands of financial structure theories are revisited at first, including the seminal Modigliani and Miller's (MM) theory (Modigliani & Miller, 1958), the trade-off theory (Myers, 1977), the pecking order theory (Myers & Majluf, 1984), and the agency theory (Jensen & Meckling, 1976). Then past empirical research done in hospitality field and Chinese setting are reviewed. The dataset of the study, the outcome and predictor variables and the research methodology are discussed in Chapter 3. Chapter 4 presents and discusses the findings of the empirical study. In Chapter 5, the conclusion, study implication, limitation, and the suggestion for future study are put forward.

Definition of Terms

1. Financial structure: details how a firm's assets are financed. It is a mix or proportion of a firm's short-term and long-term debts, preferred stock and common stock equity (Van Horne & Wachowicz, 2001). It should be noted that financial structure is different from the widely used concept of capital structure, which only includes permanent and long-term financing. Financial structure is usually measured by total, long-term or short-term debt/leverage ratios.

2. CSRC code: industry classification established by China Securities Regulatory Commission (CSRC). All sample companies in this study are defined by CSRC code K as social service firms, but fall into three different sub-sectors, which are hotel, restaurant and tourism.

3. Lodging firms: a group of firms which are defined by CSRC code K/ hotel with primary business operation area of providing lodging service for the general public.

4. Restaurant firms: a group of firms which are defined by CSRC code K/ restaurant with primary business operation area of providing food and beverage for on-premise or take-away consumption.

5. Tourism firms: a group of firms which are defined by CSRC code K/tourism with primary business operation area of inbound, domestic and outbound tourism, the development of scenic spots or theme parks, and the development, manufacturing and sales of tourism souvenirs.

6. Liability: an economic obligation payable to an individual or an organization outside the business. Short-term/current liability is due to be paid with cash, goods or services within one year or within the entity's operating cycle if the cycle is longer than one year. Long-term liability is due to be paid with cash, goods or services over one year (Van Horne & Wachowicz, 2001).

7. Asset structure: shows mix of a firm's asset type (Van Horne & Wachowicz, 2001). It is

usually measured by tangibility level, which is defined by the ratio of tangible assets (fixed assets plus inventory) to total assets.

8. Financial leverage: a firm's use of fixed cost sources of financing, such as debt and preferred stock (Chatfield & Dalbor, 2004).

9. Business risk: also known as operating risk. It refers to uncertainty inherent in a firm's operations. Its impact is shown in the volatility of a firm's operating income (Brealey et al., 1999).

10. Financial risk: is induced by the use of financial leverage. It refers to the added volatility in stockholders' earnings and the risk of possible bankruptcy (Brealey et al., 1999).

11. Financial distress: occurs when a firm is unable to meet its financial obligations to make the required interest and principal payments. Financial distress costs arise from insolvency or distorted business decisions before insolvency (Brealey et al., 1999).

12. Agency problem: refers to a potential conflict of interests between the agent (manager) and the principals (outside stockholders and creditors) (Chatfield & Dalbor, 2004).

CHAPTER 2

LITERATURE REVIEW

The most frequently mentioned financial structure theories are MM theory (Modigliani & Miller, 1958), trade-off theory (Myers, 1977), pecking order theory (Myers & Majluf, 1984), and agency theory (Jensen & Meckling, 1976). Even though none of those established theories offer a general explanation for corporate financing strategies in the real world (Myers, 2001), they are all useful conditional theories which could at least help us understand a specific facet of corporate financing (Barclay & Smith, 2006).

This chapter first covers the four well established financial structure theories are revisited at first. Then, research studies regarding financial structure in hospitality companies are reviewed. Albeit there are many empirical investigations of financial structure, few of them are done in a Chinese setting. In the third part of the chapter, studies in Chinese background are reviewed as well.

Theoretical Studies of Financial Structure

MM Theory

Franco Modigliani and Merton Miller (1958) pioneered the studies of financial structure. The underlying assumptions of MM theory are perfect capital market and no taxation. Under such circumstances, investors could borrow and lend by themselves on the same terms as firms,

so they would not pay extra for a levered firm which borrows on their behalf. MM theory contends that a corporation's financial structure does not affect its value and its capital cost. Given that the total value of a firm depends only on its profitability and risk, it stays the same if those two factors do not alter (Van Horne & Wachowicz, 2001).

Trade-off Theory

The policy of financial structure does matter, for the real capital market, however, is far from perfect. This explains why actual leverage ratio does not differ from firm to firm and from industry to industry in a random way. Firms in drugs, instruments, electronics and food industries are low leverage users, while companies in paper, steel, airlines and cement are heavy leverage users (Brealey, Myers, & Marcus, 1999). Tax benefits and financial distress costs affect a firm's financing choices. Financial managers always try to strike a balance between the benefits and costs of debt financing. Trade-off theory suggests there is an optimal leverage ratio, at which the present value of tax shield on additional debt is just offset by the increase in the present value of financial distress cost (Myers, 2001).

Unlike dividends, interests paid by corporation are tax-deductible. Tax shield, the term for tax savings, can be calculated by interest expense multiplying tax rate. This is a major advantage brought by debt financing. A levered company can distribute more to creditors and stock holders compared with an un-levered one with same revenues (Van Horne & Wachowicz, 2001). In essence, the government subsidizes the levered firm for its use of debt. However, personal income tax somewhat lowers tax-shield benefits, but does not necessarily eliminate them (Brigham & Gapenski, 1991), since equity holders are taxed at a lower tax rate on capital gains and can defer tax payments until capital gains are realized (Barclay & Smith, 2006).

Despite the implication of the tax shield benefits that a firm should borrow to a hilt to maximize its value, hardly any company adopts such financing policy, because an extremely high debt ratio increases financial risks and financial distress costs as a result. Financial distress costs have negative impact on a firm's value. The costs of financial distress consist of insolvency costs or costs of distorted business decisions before insolvency. Legal and administrative costs are directly associated with bankruptcy, including forced sale of assets at below-market prices, attorney fees, court fees and accounting costs (Brealey et al., 1999). In most cases, direct costs only account for a very small proportion of the total pre-bankruptcy value of a firm (Brealey et al., 1999). Although costs of distorted business decisions before bankruptcy are hard to measure, they are even more critical. Employees, customers and suppliers alter their actions when a firm is on the brink of bankruptcy. Employees start job hopping; customers worry if the firm could honor its warranties any longer and suppliers are not willing to deliver unless they could receive cash (Chatfield & Dalbor, 2004). Further, the management is also obliged to make decisions which help ensure the survival of the company to the detriment of its long-term growth. For instance, firms slash R&D, training and maintenance expenses, because these costs do not contribute to instant returns (Chatfield & Dalbor, 2004).

Pecking Order Theory

Those successful industry giants, Ford Motor Co., Procter & Gamble and Microsoft, all operate at very low leverage level. As a matter of fact, the most profitable companies in a given industry are found to borrow the least (Myers, 2001). Pecking order theory suggests that a firm has hierarchical preference for financial resources. A firm prefers to finance in the following order: retained earnings and depreciation generated funds, debt financing and new common

equity (Brealey et al., 1999).

Outside investors can hardly, if not impossible, access a firm's operational or financial information as inside managers do. Issuing new debts releases the news that the management has confidence in the firm's future profits and cash flows. On the other hand, issuing new equity conveys the information that the company's stocks have been overvalued, for the management attempt to issue the overvalued security to maximize the benefits for existing shareholders (Barclay & Smith, 2006). Consequently, increasing debt financing signal positive sign, whereas issuing equity is regarded as a bad omen. On average, stock prices drop 3% after firms announce new equity offerings (Barclay & Smith, 2006), while there is negligible impact on stock prices when companies use debt financing (Myers, 2001). The drop in stock prices is regarded as information costs (Barclay & Smith, 2006). Obviously, the information costs of debt are less than that of equity.

The pecking order theory implies that financial managers would automatically choose the cheapest available financing sources. The more profitable a company, the less the company borrows, for it can draw on its internal equity for future development without incurring any information or issuing costs (Barclay & Smith, 2006). Here is some evidence of financing in US enterprises endorsing the pecking order theory. In most years, external financing accounts for less than 20% of investment funds, and most of them are debts. In 1999, internal cash flow financed $805 billion out of $944 billion investment in US non-farm, non-financial firms. External financing covered the rest, which was $139 billion. However, the borrowing was $283 billion and the equity financing was negative $144 billion (Myers, 2001).

Agency Theory

Agency problem emerges, because perfect alignment of interests of managers, creditors and shareholders are implausible in practice (Barclay & Smith, 2006).

Equity holders would vote for riskier operation or investment tactics and strategies, especially when the company is in danger of bankruptcy, since they are residual claimers. They tend to gamble at the expense of debt holders. Upside gains all accrue to stockholders, while creditors would not be able to enjoy any extra gains, since they typically receive fixed interest and principal. Since managers have the incentive to act in the only interest of stockholders at the expense of lenders, restrictive contractual agreements are imposed on the management by creditors. Those agreements limit the management decision authority, resulting in suboptimal investment and operation decisions. For instance, a firm may be forbidden to invest in particular economic segments (Brealey et al., 1999). The managers are monitored to ensure that they comply with protective covenants in loan agreements. Monitoring could be done through auditing financial statements and supervising by independent directors (Barclay & Smith, 2006). Monitoring cost together with the cost of suboptimal investment and operation decisions constitute agency costs. When the debt level is low, the agency costs are immaterial. With the growth of the amount of debts, agency costs become significant. Agency costs tend to rise at an increasing rate with debt, and lower the corporation's value as a result (Brealey et al., 1999). The presence of agency costs discourages a firm from borrowing, especially beyond a prudent level.

Agency theory also suggests the potential underinvestment problem (Barclay & Smith, 2006). A company with high leverage is more likely to pass up profitable investment opportunities than a company with low level of debts. New equity holders understand that the

value created or preserved by their investments would be used to restore creditors' position. Accordingly, incredibly high equity issuing costs would oblige managers to give up profitable investment plans. Even existing share holders would utilize their voting rights to let the company forgo new investments, even if they are proved to be profitable. Because once the projects fall apart, the company would face the threat of debt default or even bankruptcy (Barclay & Smith, 2006).

On the other hand, the agency problem between managers and shareholders arises, when managers of firms with substantial free cash flow and limited growth opportunities squander money on "empire building", over-investing in core business, or even diversifying their businesses by acquisition into unfamiliar ones (Narayanan & Nanda, 2004). All those actions decrease a firm's value. Despite a variety of methods to reduce excessive free cash flow, for instance, paying higher dividends or stock repurchases, the most efficient way is to substitute more debts for equity (Brigham & Houston, 2002). Therefore, in order to decrease the agency costs between shareholders and managers, it is advisable to increase firm's leverage ratio. Interest payments are contractual. If they are not realized, the company will default on debts or go bankrupt. Given that, managers would be more disciplined.

Empirical Studies of Financial Structure

Corporate Financial Structure Studies Within the Hospitality Industry

Kim's (1995) study is a comprehensive panel data research done on the subject of financial structure in the hospitality industry. He based his study of corporate financing decisions on the data source of 251 restaurant companies and 81 lodging firms in US from 1986 to 1992, whose

financial information was available in the Standard and Poor's COMPUSTAT PC Plus Database.

Three measures were used to represent financial structure, the dependent variable. They were long-term, short-term and total debt to market value equity ratio. Attributes, such as firm size, earning volatility, profitability, growth opportunity, non-debt tax shield, and asset structure, were used to explain a firm's financial structure. The author employed several measurements for each independent variables mentioned above. For instance, firm size was defined as natural log of sales revenue and natural log of total assets. Further, the author also combined some industry-specific variables that had never been analyzed before into his multiple regression models. The variable of franchising was included in the model for restaurant industry. It was measured by the number of franchised properties to total number of properties. The dummy variable of management company was included in the model for lodging industry. It was coded as "1" if it is a management company or franchisor and "0" if otherwise.

Ordinary least squares (OLS thereafter) regression was run. The results revealed that conventional financial structure theories have strong explanatory power in US hospitality industry. The variables of asset structure, represented by the tangibility level, has strong positive relation with total leverage ratio of both hotel and restaurant industry. The variable of profitability, on the other hand, has strong negative impact on the total debt ratio. The study also demonstrated that a growing hospitality company relies less on debt financing. The variables of franchising and management company do not seem to be significant factors influencing a hospitality firm's leverage ratio.

Upneja and Dalbor (2001) addressed the financial structure of US restaurant industry in their paper. In their empirical model, total debt ratio, long-term debt ratio and short-term debt

ratio were adopted to study the financial structure decisions of all listed restaurants in US. The authors determined the estimate of Ohlson's O-score (a measure of the probability of bankruptcy), operating cash flow, the number of years the restaurant firm listed in the COMPUSTAT database, and the interaction variable between operating cash flow and the number of years the firm had been listed in the COMPUSTAT database as attributes which would influence a firm's financial structure.

Contrary to the author's expectation, operating cash flow, the proxy for growth, has a significantly positive effect on total debt ratio. Besides, firm listing years are also significant and positively related to total debt. However, the interaction variable between those two factors was found to be significantly negatively related to the debt ratio, which corroborates the previous expectation. The results of the regression model for long-term debt are similar to those of the total debt ratio model, whereas the findings for the short-term model somewhat deviate. Operating cash flow is significant and negatively related to the short-term debt. Neither the listing years nor the interaction variable is significant.

In another research paper, Dalbor and Upneja (2002) specifically designed pooled regression model to investigate the relation between the amount of long-term debt and its determinants in a US restaurant firms setting. These determinants included growth opportunity, firm size, probability of bankruptcy and effective tax rate of the firm. All variables have strong impact on restaurant companies' long-term borrowing with effective tax rate as an exception. The authors argued that small firms are not able to pay substantial fixed cost of long-term debts, so they opt for short-term debts, therefore there exist a positive relation between firm size and long-term debts. Moreover, firms with greater insolvency probability have limited access to

equity market, and they have to turn to long-term borrowing to finance their long-term growth.

Corporate Financial Structure Studies in a Chinese Setting

Liu (1999) used a data set of all companies listed on two national stock exchanges, namely, Shanghai and Shenzhen Stock Exchange, to study the corporate financial structure in China. Liu collected data from financial statements during 1992 to 1997. The sample companies came from five industries, which were manufacturing, trade, utility, real estate and conglomerates.

Liu (1999) adopted determinants of industry classification, firm size, profitability, tangibility level and growth rate of assets to explain corporate financial structure in China. Most factors were found to have similar impact on Chinese financial structure as they do in developed economies. For example, size and tangibility level are positively related with debt ratio, whereas profitability impacts debt ratio negatively. Yet, the empirical results revealed that the rate of growth of assets is positively related to the debt ratio, which is contradictory to evidence in developed economies.

The innovative point of Liu's study is that he incorporated the variable of ownership structure into the study. After analyzing extant financial structure theories and empirical evidence as well as the Chinese business environment, the author proposed three hypotheses regarding ownership structure: percentage of shares held by individual investors was supposed to have no significant effect on leverage ratio; percentage of state shares was supposed to have positive effect on leverage ratio and percentage of legal person shares was supposed to have negative effect on leverage ratio. Yet, the results of OLS regression did not support the author's hypotheses. Though there is a consistent positive relation between percentage of state shares and debt ratio, and consistent negative relation between legal person shares and debt ratio, the results

are not significant. This could be explained by that the author used long-term debt ratio to measure financial structure, while long-term debt accounted for only about 6% of total debt according to the study.

Huang and Song (2006) used a new data base, the China Stock Market and Accounting Research Database (CSMAR), to analyze the financial structure of 1200 publicly traded companies in China. After running OLS regression, three ways of robustness analysis, namely, balanced, consolidated and first difference methods, were employed to check the stability of the relation between leverage ratios and the explanatory variables.

Except for some normally tested indicators, such as profitability, tangibility, tax, firm size, non-debt tax shields, growth opportunities, and volatility, the research also encompassed institutional shareholdings and managerial shareholdings as independent variables. Institutional shareholdings were the proxy of the ownership structure and were defined as shares hold by institutional investors to total outstanding shares. Managerial shareholdings were defined as the number of shares held by top management divided by the total number of outstanding shares. The results of the study shows profitability, growth rate and non-debt tax shields have strong negative influence on the corporate financial structure, while firm size has positive impact. The indicator of institutional shareholdings was found to have no significant effect on book or market value total debt ratio. Managerial shareholdings, in contrast, are significantly negatively related with total debt ratio. Their study also revealed that Chinese firms have lower leverage, especially lower long-term leverage, compared with firms from G-7 countries.

Nonetheless, Chen and Strange (2005) argued the reason why ownership concentration was not found a significant variable in financial structure model was that Huang and Song only took

into consideration a limited range of ownership structure.

Chen and Strange (2005) used a sample set of 972 corporations listed on either Shanghai or Shenzhen Stock Market in 2003 to explore the determinants of financial structure in the Chinese market. They classified institutional shareholders into three categories, namely, state agencies, state-owned institutions and domestic institutions. According to the author's definition, "state agencies are government organizations exerting the functions of shareholders on behalf of the state; state-owned institutions are entities controlled by governments at various hierarchic levels, and domestic institutions, are standalone entities set up by mixed groups of shareholders" (Chen & Strange, 2005, p.12). The results showed the percentage of shares hold by state agencies and state-owned institutions have significantly negative impact on market value debt ratio, showing that Chinese state shareholders attempt to avoid debt financing.

The authors also tested the independent variable of listing years on the stock market. The variable impacts leverage ratios in contradictory ways. It has significantly positive relation with the book value debt ratio, but negative relation with market value debt ratio, yet not significant. In contrast to the evidence in developed economies, business risks are positively related to both book value and market value debt ratios. Given that China has its unique institutional features, the result is not perplexing. Bankruptcy costs are low in China, especially for state-owned enterprises (SOEs thereafter) for two reasons. First, the bankruptcy legislation is underdeveloped with weak enforcement. Besides, currently, SOEs still remain to be the backbone of the economy employing a great number of workforces. In order to maintain economic and social stability, the government always comes to rescue once SOE is on the brink of bankruptcy. Given one salient feature of the Chinese economy that 80% listed companies were used to be SOEs

(Riedel, Jin, & Gao, 2007) and the state become the major shareholder after SOEs being corporatised, bankruptcy should not be an issue for most listed firms. Consequently, those firms are stimulated to resort to more debt financing, despite the high probability of bankruptcy.

The financial statements of Dow-China 88 Index covering a period from 1995 to 2000 was employed by Chen (2004) to test the explanatory power of western model of financial structure in China. After eliminating firms from bank, insurance and investment industries, the final sample contained 77 companies. The relationship between book value total and long-term debt ratios with profitability, firm size, growth opportunities, tangibility, earnings volatility and non-debt tax shields was tested. The author utilized three methods, which were pooled OLS, fixed effects and random effects, to draw the conclusion.

The empirical evidence shows that leverage ratio decreases when profitability increases. The author highlighted that the new pecking order theory explains the relation. Retained earnings are Chinese firms first option of financing source, equity financing the second and debt financing is their last resort. Managers seek relative dependence on debt as opposed to equity for two reasons. First, the capital gain in the stock secondary market is substantial with trading prices usually 6 to 8 times higher than IPO prices (Chen, 2004). Besides, Chinese managers have a mindset that capital funds from equity market are free money and can be squandered with relative impunity (Roche, 2005), while debt financing is binding. Non-existence of shareholder protection legislation and poor corporate governance, which are, unfortunately, not uncommon in transitional economies, such as China, encourage the extensive use of non-binding equity financing.

Opposed to the common expectation that growth opportunities would have a negative effect

on a firm's debt ratio, the relationship is positive in China's case. The author proposed two explanations. First of all, the Chinese banks recognize the growth opportunity value. Bank loans are more accessible to companies with great growth opportunities. Second, most listed firms are in heavy industry sectors, which have more tangible assets and less growth chances. Tangibility level has positive influence on leverage ratio. The relationship between size and debt ratio remains ambiguous, for there is a positive relation between size and total debt ratio, but a reverse relation between size and long-term debt ratio. The study suggested that Chinese firms employ more short-term debts than long-term ones. As a matter of fact, the study showed the average long-term book debt ratio is only 7% in China.

Table 1 summarizes the findings of financial structure empirical research covered in the literature review.

Table 1

Summary of Findings of Previous Empirical Research Studies

Indicators	Kim	UD	DU	Liu	HS	CS	Chen
Size			+***	+*	+**/-	+***/-	+/-***
Profitability	+/-***			-**	-***	-***	-***
Business risk	+/-				+/-	+***	+/-*
Asset structure (Tangibility)	+***			+**	+***	-	+***
Listing years		+*				+***/-	
Growth	-***	+*/-*	-***	+	-***	+**	+***
State ownership				+		+/-***	

Note. The studies are from Kim (1995), Upneja and Dalbor (2001) which is denoted as UD, Dalbor and Upneja (2002) which is denoted as DU, Liu (1999), Chen and Strange (2005) which is denoted as CS, Huang and Song (2006) which is denoted as HS, and Chen (2003). Empty cell indicates that the specific study did not include the certain indicator. "+" means that leverage increases with the variable, and "-"means that leverage decreases with the variable.

* p<.10. **p<.05. ***p<.01.

CHAPTER 3

METHODOLOGY AND DATA DESCRIPTION

The purpose of the research is to explore the corporate financial structure of Chinese listed hospitality firms by studying determinants of financial leverage ratios. The research studies all hospitality companies listed on Chinese stock markets using ordinary least squares (OLS thereafter) regression analysis, the most widely used technique by previous relevant research studies (Kim, 1995; Liu, 1999; Upneja & Dalbor, 2001).

Three regression models are built for total leverage ratio, long-term leverage ratio and short-term leverage ratio separately. Seven determinants are employed to explain the variation in leverage ratios. They are asset structure, business risk, profitability, growth, firm size, listing years and state ownership structure. Since the last variable of state ownership structure have been seldom used as independent variables in financial structure studies, except for Liu (1999) and Chen and Strange's (2005) studies, this study extend the range of determinants suggested by previous theoretical and empirical research. Chaganti and Damanpour (1991) highlight since different groups of shareholders have various financial goals and priorities, contextual variables such as ownership structure should be included into any analysis of financial structure.

Data Sources

In the paper, all hospitality companies listed in mainland China's stock markets are

employed as the dataset. Currently, there are 24 hospitality companies publicly traded in China. Among them, 14 are listed on Shenzhen Stock Exchange (SZSE) and 10 on Shanghai Stock Exchange (SHSE). In the sample set, five companies are in lodging industry, two companies operate restaurant business and the remaining seventeen companies are within tourism industry. This is a quite small dataset compared with it in developed economies, such as US. According to Kim (1995), there were 251 restaurant companies and 81 hotel companies listed on US stock markets in 1992.

Two types of shares circulate in mainland China. A-shares are traded by Chinese Yuan and sold mainly to Chinese domestic investors. B-shares are traded by US dollars or HK dollars and can be purchased by both domestic and foreign investors. In the sample set, four firms own both A and B shares, and one firm only issues B shares.

Companies' consolidated annual reports from 2004 to 2006 are the main data source for the study, which are available in Shenzhen Stock Exchange (SZSE) and Shanghai Stock Exchange (SHSE) official website. Unconsolidated reports are not adopted because companies tend to include subsidiaries' equity in the reports, but not their liabilities, thus leading to statistical bias. Further, consolidated financial reports eliminate the impact of intra-company transactions, which inflate revenues and profits of parent companies (Madan, 2007). Since LiJiang YuLong Tourism Co., Ltd was listed in 2004, so its 2004 consolidated annual report is not available. KunMing Horti-Expo Garden Co., Ltd was listed in 2006, so its consolidated annual reports are not available for year 2004 and 2005. China QuanJuDe (Group) Co., Ltd and Jinling Hotel Corporation, Ltd were listed in 2007, so their consolidated annual reports are not available for year 2004 and 2005.

Table 2 lists all sample companies' trading locations, names, share codes and industry classification.

Table 2

A List of Sample Hospitality Corporations

No.	Name of the company	Share code (A/B shares)	Industry classification
	Shenzhen Stock Exchange		
1	Shenzhen Century Plaza Hotel Co., Ltd	000033	CSRC code K/hotel
2	Shenzhen Overseas Chinese Town Holding Co., Ltd	000069	CSRC code K/tourism
3	Hunan Huatian Great Hotel Co., Ltd	000428	CSRC code K/hotel
4	Zhang Jia Jie Tourism Development Co., Ltd	000430	CSRC code K/tourism
5	Guangzhou Dongfang Hotel Co., Ltd	000524	CSRC code K/hotel
6	Xi'an Tourism Co., Ltd	000610	CSRC code K/tourism
7	Hainan Dadonghai Tourism Center (Holdings) Co., Ltd	000613/200613	CSRC code K/tourism

Table 2 (continued)

No.	Name of the company	Share code (A/B shares)	Industry classification
	Shenzhen Stock Exchange		
8	Xi'an Catering Co., Ltd	000721	CSRC code K/restaurant
9	Beijing Jingxi Tourism Development Co., Ltd	000802	CSRC code K/tourism
10	Emei Shan Tourism Co., Ltd	000888	CSRC code K/tourism
11	Guilin Tourism Co., Ltd	000978	CSRC code K/tourism
12	LiJiang YuLong Tourism Co., Ltd	002033	CSRC code K/tourism
13	KunMing Horti-Expo Garden Co., Ltd	002059	CSRC code K/tourism
14	China QuanJuDe (Group) Co., Ltd	002186	CSRC code K/restaurant
	Shanghai Stock Exchange		
15	Huangshan Toursim Development Co., Ltd	600054/900942	CSRC code K/tourism
16	China CYTS Tours Holding Co., Ltd	600138	CSRC code K/tourism
17	Beijing Capital Tourism Co., Ltd	600258	CSRC code K/tourism

Table 2 (continued)

No.	Name of the company	Share code (A/B shares)	Industry classification
	Shanghai Stock Exchange		
18	China United Travel Co., Ltd	600358	CSRC code K/tourism
19	Dalian Sunaisa Tourism Holdings Co., Ltd	600593	CSRC code K/tourism
20	Shanghai Jin Jiang International Industrial Investment Co., Ltd	600650/900914	CSRC code K/tourism
21	Tibet Shengdi Co., Ltd	600749	CSRC code K/tourism
22	Shanghai Jin Jiang International Hotels Development Co., Ltd	600754/900934	CSRC code K/hotel
23	Jinling Hotel Corporation, Ltd.	601007	CSRC code K/hotel
24	Shanghai Jinjiang International Travel Co., Ltd	/900929	CSRC code K/tourism

Note. Information derived from Shenzhen Stock Exchange (SZSE) or Shanghai Stock Exchange (SHSE) official websites.

OLS Regression Analysis and Variables

Ordinary least squares (OLS) regression is the most widely adopted technique in studying corporate financial structure. Following Kim (1995), Liu (1999) and Upneja and Dalbor's (2001) research, this paper uses OLS analysis to study the financial structure of Chinese listed hospitality firms. The multiple regression model is built as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \varepsilon$$

Where:

Y stands for total leverage ratio, long-term leverage ratio or short-term leverage ratio, and $X_1, X_2, X_3, X_4, X_5, X_6, X_7$ represents asset structure, profitability, business risk, firm size, growth, listing years and state ownership structure respectively. Both predictor variables and outcome variables are discussed in further detail later.

β_i = constant or regression coefficient of independent variables

(i= 0, 1, 2, 3, 4, 5, 6, 7)

ε = error term

Every dependent and independent variable is calculated for three years from 2004 to 2006. Each year's value is counted as one observation for the regression analysis. Given that consolidated annual reports are not available for each firm every year, the total observations of each variable for analysis is 65.

Dependent Variables

In this paper, financial structure is measured by book value total leverage ratio, long-term leverage ratio and short-term leverage ratio. Total leverage ratio is defined as book value total liabilities divided by book value total liabilities plus book value of equity. Long-term and

short-term leverage ratios are obtained when book value total liabilities are replaced by book value long-term liabilities and book value short-term liabilities.

Albeit there is no consensus on whether book or market value is more appropriate measurement for financial structure, given the high volatility of Chinese stock market and the high proportion of state-owned untradeable shares, it has been argued that book value should be a better method (Tong & Green, 2005). Further, financial managers design financial structure based more on company's book value (Chen & Strange, 2005). Also, using liabilities to measure financial structure has its own strengths. First of all, companies check liabilities rather than debts only when they intend to increase leverage financing. In addition, accounts payable should be included when measuring leverage ratio, since they are quite often used by many Chinese firms as a means of financing (Huang & Song, 2006). In the study, short-term leverage ratio is adopted as a measurement for financial structure as well, because Chinese firms tend to use more short-term debt financing than long-term one (Liu, 1999; Chen, 2004).

Proposed Independent Variables and Hypotheses

The independent variables of asset structure, profitability, business risk, firm size, growth, listing years and state ownership structure are included in this study. All those predictor variables are proposed or proved to have strong impacts on corporate financial structure by previous theoretical or empirical financial structure studies.

Asset Structure (TANG)

According to financial structure theories, types of assets influence a firm's financial structure in some way (Titman & Wessels, 1988). The trade-off theory suggests firm with fixed assets to use more debt financing, because it has the option of issuing secured debts to decrease

the probability of financial distress. Firms with tangible assets that can serve as collateral are supposed to have preferred access to debt financing, because collateral reduces creditors' risks, especially in the event of bankruptcy. Once facing the circumstance of bankruptcy, companies with higher proportion of intangible assets are more vulnerable to value losses. On the opposite, tangible assets can tide over the process of bankruptcy largely unscathed. Procter & Gamble, whose profits are mostly generated by intangible assets, always operate at low debt ratio (Brealey et al., 1999). Issuing debts secured by assets with known value by outside investors eliminate costs associated with information asymmetry (Phillips & Sipahioglu, 2004; Supanvanij, 2006; Titman & Wessels, 1988). It is suggested that a firm with higher tangibility level should take this advantage to issue more debts. Further, managers are likely to be more discreet about allotting capital when debts are collateralized (Kim, 1995), thereby largely lowering the agency costs between managers and stakeholders. This could be another incentive to increase leverage ratio.

Tong and Green (2005) analyzed corporate financial structure of China's top 50 public corporations using firm-level panel data for the period of 2001 to 2003. They found a firm with more fixed assets tends to borrow more. Supanvanij (2006) employed the data sample of 292 Asian firms from Japan, Hong Kong, Singapore, Korea, Thailand, Malaysia, Taiwan and Philippines. They reported a highly positive correlation between tangibility level and book value long-term and short-term leverage ratios. Also, Chen (2004) found a positive relation between long-term debt and firm's tangibility level.

Firm's tangibility level, in this study, acts as the proxy of its asset structure. The study defines asset tangibility level as the ratio of tangible assets (fixed assets plus inventory) to total

assets, following Supanvanij's (2006) approach.

Hypothesis 1: Tangibility level is hypothesized to be positively related to the leverage ratio of listed Chinese hospitality firms.

Profitability (PROF)

Pecking order theory (Brealey et al., 1999) highlights that a firm only resorts to external financing when its internal funds are exhausted or not adequate. It indicates that profitability negatively impacts debt ratio. Internal financing is the most economic and easiest source of capital, for issuing debts and equity involves substantial issuance costs and information costs. Besides, in China, the firm must meet strict criteria formulated by China Securities Regulatory Commission (CSRC thereafter), the institution in charge of the stock market in China, before seeking new stock issuance. According to CSRC, the firm could only apply for new equity issuance, if its annual return on net assets is higher than 10% for the recent three accounting period.

Macas Nunes and Serrasqueiro's (2007) and Rajan and Zingales' (1995) studies strongly endorse the theoretical assumption. Krishnan and Moyer (1997) explored the financial structure of firms from Hong Kong, Malaysia, Singapore, and Korea and reported the same result.

This study applies Rajan and Zingales' (1995) and Liu's (1999) approach using operating income to total assets as the measurement for profitability.

Hypothesis 2: The relation between profitability and leverage ratio is hypothesized to be negative for publicly traded hospitality firms in China.

Business Risk (Risk)

The trade-off theory implies a firm with relatively high business risks is not supposed to rely

heavily on debt financing, for the company has higher probability of bankruptcy and may not be able to generate adequate revenues to cover its fixed contractual interest costs due to volatility in earnings. Creditors opt for avoiding firms with high business risk, or they would demand high compensation for undertaking extra risk, thus increasing companies borrowing costs.

Empirical studies by Friend and Lang (1988) and Walsh and Ryan (1997) reveal that business risks and debt ratio are inversely correlated. Delcoure's (2007) research focused on financial structure of transitional economies. The author studied firms from Poland, Russia, Czech Republic and Slovakia Republic, and revealed in Russia, business risk is negatively related with firm's debt ratios, yet the result is not significant. Huang and Song (2006) spotted the negative relation between business risk and market value total debt ratio as well.

In Chen's (2004) study, business risk is defined by absolute value of percentage change in operating income each year. This research follows Chen's (2004) approach.

Hypothesis 3: Business risk is hypothesized to be negatively related to the leverage ratio for listed Chinese hospitality firms.

Firm Size (SIZE)

Firm size is consistently found to be correlated with a firm's debt ratio (Titman & Wessels, 1988). Large firms are more diversified in terms of products and services and less likely to go default or bankruptcy (Supanvanij, 2006). Not surprisingly, firm size is always regarded as the inverse proxy of bankruptcy probability. Consequently, large firms are expected to rely more on debt financing as expected by the trade-off theory. Usually, large firms request more funds, so they would have bargaining power over banks to arrange a lower interest rate (Eriotis, Vasiliou, & Ventoura-Neokosmidi, 2007). Besides, large firms could enjoy economies of scale in terms of

debt issuance cost.

Macacs Nunes and Serrasqueiro's (2007) research report a significant positive relationship between firm's size and total leverage ratio. Tong and Green (2005) found the same result in the research of listed Chinese firms.

Following Krishnan and Moyer (1999) and Chen and Strange (2005), the study uses the natural logarithm of total assets as the indicator for firm size. This measurement could reduce outlier effect brought by extremely large or small corporations (Kim, 1995).

Hypothesis 4: Firm size is hypothesized to be positively related with leverage ratio in the Chinese hospitality setting.

Growth (GROW)

As suggested by the agency theory, managers are prone to expropriate wealth from debt holders. The agency costs are even higher for a growing company for it has more diverse investment opportunities (Phillips & Sipahioglu, 2004), therefore creditors would require strict contractual agreement to limit the firm's investment behavior. A growing firm, however, would borrow less so as to enjoy more flexibility in terms of investment (Supanvanij, 2006). In addition, growth opportunities are intangible assets that can not be collateralized, and they do not generate instant returns (Titman & Wessels, 1988). The fact may reinforce the hypothesis that there is a negative relation between growth and leverage ratio.

Long and Malitz (1985) regarded advertising and R&D spending as the proxy of growth, and revealed that it has a strong negative influence on a firm's borrowing. Eriotis, Vasiliou and Ventoura-Neokosmidi (2007) investigated financial structure by using panel data derived from financial statements of 129 companies listed on the Athens Stock Exchange. The authors used

annual change in earnings to proxy growth and found it has strong negative impact on total leverage ratio. The authors argued high growth implies high variation in earnings and in turn high risks. Creditors would require high returns for bearing extra risks, which make debt capital more expensive. Supanvanij (2006) affirmed that a growing company would borrow less.

This study uses the growth of total assets to measure firm's growth. Following Titman and Wessels (1988) and Liu (1999), the growth of total assts is defined by the percentage change in total assets each year.

Hypothesis 5: The relation between growth and leverage ratio is hypothesized to be negative for Chinese listed hospitality firms.

Listing Years (AGE)

The age of publicly traded companies measured by their listing years is supposed to be an important factor influencing corporate financial structure choices. The longer the firm listed, the more investors know about the company and the less the information asymmetry costs. If the company has a history of making prudent investment, it would have preferred access to debt resources with lower required rate of return.

Diamond (1989) brought to light that older firms issue more debts than their younger counterparts. In Upneja and Dalbor's (2001) study, they reported debt financing is more accessible for firms with long listing years. Chen and Strange (2005) confirmed the conclusion is also valid in China.

The study employs listing years on stock market as the indicator of firm's age as in Chen and Strange (2005).

Hypothesis 6: Firm's listing years are hypothesized to be positively related to the leverage

ratio for listed Chinese hospitality firms.

State Ownership Structure (STATE)

China's financial system is a system dominated by the banking sector and a banking sector dominated by the government (Riedel, Jin, & Gao, 2007). The big four state-owned commercial banks, Industrial and Commercial Bank of China, Construction Bank of China, Agriculture Bank of China and Bank of China, account for 70% of total bank lending (Roche, 2005). The government intervenes in their lending practices heavily and it is the ultimate creditor indeed. Berger and Udell (1994) suggests that a close relationship with creditors could substitute for physical collateral involved in lending practices, because creditors could closely monitor the firm, and thereby reduce information asymmetry. A high percentage of state-owned shares indicates a close relationship between the firm and the government. So, the firm would have the impetus to borrow more with fewer costs. Company hold more state shares has high leverage ratio as found by Liu's (1999) research, although the finding is not statistically significant.

The proportion of state-owned shares to total company shares is the indicator of state ownership structure in the study. Two types of shares constitute state-owned shares. One is state shares hold by state agencies, who manage state-owned assets on behalf of the government. For example, state-owned asset supervision and administration commission or its provincial branches. The other is state legal person shares, which are cross hold by other state-owned enterprises.

Hypothesis 7: The relation between the percentage of state-owned shares of Chinese publicly traded hospitality firm and its leverage ratio is hypothesized to be positive.

Table 3 gives seven independent variables, their measurements and expected signs.

Table 3

Independent Variables' Measurements and Expected Signs

Independent variable	Measurement	Expected sign
Asset structure (TANG)	Tangible assets (Fixed assets + inventory)/ total assets	+
Profitability (PROF)	Operating income/ total assets	-
Business risk (RISK)	Absolute value of annual percentage change in operating income	-
Firm size (SIZE)	Natural log of total assets	+
Growth rate (GROW)	Annual percentage change in total assets	-
Listing years (AGE)	Company's listing years in stock market	+
State ownership structure (STATE)	State-owned shares (state shares + state legal person shares)/total shares	+

Note. "+" means that leverage increases with the variable, and "-"means that leverage decreases with the variable.

CHAPTER 4

DATA ANALYSIS

This chapter reports and analyzes the empirical evidence based on the sample of all listed hospitality firms. In the first section, the descriptive statistics of dependent and independent variables are described. The second section examines the results of Pearson correlation analysis. In the last section, the findings of ordinary least squares (OLS thereafter) regression analysis are presented and discussed.

Descriptive Statistics

Descriptive statistics for outcome variables (total leverage ratio, long-term leverage ratio and short-term leverage ratio) and predictor variables (asset structure, profitability, business risk, firm size, growth, listing years and state ownership structure) are shown in the Table 4. In the table, TD denotes total leverage ratio, LTD denotes long-term leverage ratio and STD denotes short-term leverage ratio. TANG denotes asset structure, PROF denotes profitability, RISK denotes business risk, SIZE denote firm's size, GROW denote growth rate, AGE denotes listing years, and STATE denote state ownership structure.

The average value of total debt ratio (TD) of hospitality firms is 44.5%, much lower than the average total debt ratio of all Chinese listed companies, which is 53.07% (Chen & Strange, 2005). Yet, the figure is close to that of transitional economies, which is 46% (Delcoure, 2007).

The total debt ratio of hospitality industry is comparable to that of other industries in China. According to Liu (1999), the percentage of total debt ratio of manufacturing, trade and conglomerate industry are 44.06%, 43.38% and 45.17% respectively.

Table 4

Descriptive Statistics for the Variables in the Model

	Minimum	Maximum	Mean	Median	Std. Deviation
TD	.097	1.464	.445	.406	.264
LTD	.000	.233	.081	.000	.072
STD	.121	1.460	.373	.300	.254
TANG	.204	.906	.536	.511	.158
PROF	-.274	.190	.042	.042	.079
RISK	.003	52.410	3.266	.052	8.847
SIZE	18.764	22.682	20.604	20.510	.820
GROW	-.751	.654	.081	.707	.029
AGE	.000	13.50	8.188	9.00	4.054
STATE	.000	.885	.416	.401	.209

The mean short-term debt ratio (STD) of listing hospitality companies is 37.3%, while the mean of long-term debt ratio (LTD) is 8.10%. It is evident that long-term debt accounts for a trivial proportion of all liabilities. The finding is similar to that of Liu (1999) in non-hospitality industries in China. This figure of long-term borrowing lags far behind not only that of G-7

countries, which is 41%, but also that of developing countries, which is 22% (Chen, 2003). According to Delcoure (2007), the average long-term leverage ratio of four typical transitional economies of Russia, Poland, Slovakia and Czech Republic is 25.11%, 21.19%, 18.06% and 16.01% respectively. Kim (1995) used long-term debt to market value equity ratio to measure US hospitality corporations' long-term leverage. According to his study, the mean of long-term leverage ratio for US restaurant firms is 1.09, and the mean of long-term leverage ratio for lodging firms is 1.597.

Chinese hospitality firms have extremely low long-term debt ratio, because equity financing is the main channel for long-term financing. The Chinese banking system is dominated by the state government. The state-owned commercial banks contribute most of loans (Riedel et al., 2007). Not surprisingly, those loans are lent to state-owned or controlled firms. However, many state-owned enterprises (SOEs thereafter) are often not able to re-pay bank loans because of their low profitability. In 2004, the amount of non-performing loans (NPLs) was about $300 billion or 15% of total outstanding loans according to conservative estimate (Riedel, Jin, & Gao, 2007). The government is therefore inspiring banks to be more discreet about their lending practices so as to lower the bad loan ratio. As a result, banks are reluctant to lend long-term loans to corporations, for those loans are harder to monitor than short-term ones. On the other hand, corporate bond market hardly exists in China. The value of corporate bonds merely accounts for less than 1% of the country's GDP, whereas it is 25% of US GDP (as cited in Riedel et al., 2007). The issuance of corporate bonds is confined only to SOEs. The issuance process is complicated and the standard is strict. In addition, the interest rate of the bonds is regulated administratively (Riedel et al., 2007). Given all those restrictions, Chinese corporate bond

market could hardly be the choice of long-term financing. In the first three quarters of 2004, the issuance amount of corporate bond is 18.5 billion Chinese Yuan, lagging far behind the amount of 1145 billion of the stock. Equity market serves as the major long-term borrower in China (Riedel et al., 2007).

The mean of profitability (PROF) is only 4.2%, indicating Chinese hospitality companies still have a long way to go to improve their earning ability. Take companies within the hotel sector for instance. The recent two decades saw aggressive entry of almost all world renowned multinational hotel giants into the Chinese market. Among them, InterContinental Hotel Group, Starwood Hotels and Resorts and Accor Hotels are the largest in terms of property number in China (Ball, Horner, & Nield, 2007). Those internationally managed hotels outperform domestically managed ones in many industry benchmarks. In 2006, within the five-star category, the average daily rate (ADR) and the revenue per available room (RevPAR) of internationally managed hotels are 940 and 629 Chinese Yuan respectively, compared with 563 and 377 Chinese Yuan of domestically managed five-star hotels (China Tourist Hotel Association, 2007).

The growth rate (GROW) of Chinese hospitality enterprises differs. Since the growth rate of some firms is negative, it is obvious that though the tourism industry in China is burgeoning, some companies have not seized the precious opportunity to develop themselves. Besides, business risk (RISK), measured by annual percentage change in operating income, varies greatly from one company to another with the standard deviation of 8.847. The tangibility level (TANG) of Chinese hospitality firms is relatively high with the mean of 53.6%. The listing years (AGE) of most hospitality companies are relatively short, with the mean of slightly over 8 years. Issuing equity is a brand new topic to hospitality firms in China, and this explains why the sample set in

the paper is quite small. The mean proportion of state-owned shares to total company shares (STATE) is 41.6%, indicating government is still a significant owner of hospitality companies listed in China.

Pearson Correlation Analysis

Table 5 presents the findings of the Pearson correlation analysis. In the table, TANG denotes asset structure, PROF denotes profitability, RISK denotes business risk, SIZE denote firm size, GROW denote growth, AGE denotes listing years, and STATE denote state ownership structure.

Table 5

Findings of the Pearson Correlation Matrix

	TANG	PROF	RISK	SIZE	GROW	AGE	STATE
TANG	1						
PROF	-.435**	1					
RISK	.086	-.331**	1				
SIZE	-.029	.365**	-.140	1			
GROW	-.081	.281*	.033	-.304**	1		
AGE	-.032	-.181	.143	.127	-.035	1	
STATE	-.150	.531**	-.210	.515**	.091	-.221*	1

Note. * $p < .05$, ** $p < .01$, one-tailed.

It can be deduced from the correlation matrix that a hospitality firm with higher level of

fixed assets and inventory has lower profitability. Evidence from the table suggests that the lower the business risk, the more profitable is the firm. It also suggests that profitability and the proportion of state-owned shares are positively correlated in hospitality field. This result is contradictory to previous research which reveals that state ownership has a negative impact on a firm's overall profitability (Liu, 1999). It is obvious that government's support plays an important role in Chinese hospitality companies' performance. The correlation coefficient also points out that a large hospitality firm seems to be more profitable and have more state-owned shares.

Findings From OLS Regression Models

OLS regression analysis for three models of book value total leverage ratio, long-term leverage ratio and short-term leverage ratio are run separately in the study. Tables 6, table 7 and table 8 present the findings of OLS regression analysis. Since the observed significance level for the F-value is 0.001, 0.001 and 0.009 respectively, it is concluded that the overall utility of the three regression models in explaining the variation in leverage ratios is strong. The R-square for the three models are 35.6%, 28.7%, and 29.6%, meaning around 35.6% to 28.7% variation in leverage ratios are explained by the three models. The signs of the regression coefficients are stable between the three models, except for the variable of asset structure, firm size and state ownership structure.

Often, when two or more independent variables are included in OLS regression model, they would contribute overlapping information (McClave, Benson, & Sincich, 2005), and could in turn lead to the pitfall of multicollinearity. Once multicollinearity exists, the results of OLS

regression analysis might be misleading. Variance inflation factor (VIF thereafter) is the benchmark to test the severity of multicollinearity (McClave et al., 2005). Since all VIF values are far below 10 with the highest number of 1.988, multicollinearity should not be considered as a problem in this study.

Table 6

Results of OLS Analysis Over Total Leverage Ratio

Model	Variable	Unstandardized coefficients		Standardized coefficients	T-stat	VIF
		B	Std. Error	Beta		
1	(Constant)	2.895	.901		3.212***	
	TANG	.118	.211	.069	.557	1.260
	PROF	-1.497	.553	-.431	-2.706***	2.089
	RISK	-.008	.004	-.246	-2.066**	1.170
	SIZE	-.118	.047	-.365	-2.527**	1.716
	GROW	.253	.157	.196	1.615	1.212
	AGE	-.006	.012	-.054	-.478	1.064
	STATE	.089	.205	.066	.434	1.927
	R-square	.356				
	Adjusted R-square	.271				
	F-stat	4.194***				

Note. Model 1 reveals the relationship between total leverage ratio and independent variables. TANG denotes asset structure, PROF denotes profitability, RISK denotes business risk, SIZE denote firm's size, GROW denote growth rate, AGE denotes listing years, and STATE denote state ownership structure.

*p< .10, **p<.05, ***p<.01.

Table 7

Results of OLS Analysis Over Long-term Leverage Ratio

Model	Variable	Unstandardized coefficients		Standardized coefficients	T-stat	VIF
		B	Std. Error	Beta		
2	(Constant)	.042	.251		.169	
	TANG	.039	.059	.087	.672	1.260
	PROF	-.398	.154	-.434	-2.589**	2.089
	RISK	.000	.001	.002	.018	1.170
	SIZE	.005	.013	.062	.406	1.716
	GROW	.039	.044	.116	.907	1.212
	AGE	-.007	.003	-.262	-2.188**	1.064
	STATE	-.024	.057	-.069	-.428	1.927
	R-square	.287				
	Adjusted R-square	.193				
	F-stat	3.053***				

Note. Model 2 reveals the relationship between long-term leverage ratio and independent variables. TANG denotes asset structure, PROF denotes profitability, RISK denotes business risk, SIZE denote firm's size, GROW denote growth rate, AGE denotes listing years, and STATE denote state ownership structure.

*p< .10, **p<.05, ***p<.01.

Table 8

Results of OLS Analysis Over Short-term Leverage Ratio

Model	Variable	Unstandardized coefficients		Standardized coefficients	T-stat	VIF
		B	Std. Error	Beta		
3	(Constant)	2.578			2.844***	
	TANG	-.030	.906	-.018	-.140	1.260
	PROF	-1.336	.212	-.400	-2.402**	2.089
	RISK	-.007	.556	-.229	-1.834*	1.170
	SIZE	-.103	.004	-.333	-2.206**	1.716
	GROW	.208	.047	.168	1.324	1.212
	AGE	-.001	.158	-.007	-.057	1.064
	STATE	.027	.012	.021	.131	1.927
	R-square	.296				
	Adjusted R-square	.203				
	F-stat	3.182***				

Note. Model 3 reveals the relationship between short-term leverage ratio and independent variables. TANG denotes asset structure, PROF denotes profitability, RISK denotes business risk, SIZE denote firm's size, GROW denote growth rate, AGE denotes listing years, and STATE denote state ownership structure.

*p< .10. **p<.05. ***p<.01.

Profitability (PROF)

The predictor variable of profitability is consistently negatively correlated with total, long-term and short-term leverage ratios at the significance level of 0.01, 0.05 and 0.05. The result confirms the hypothesis as well as findings of other financial structure studies done before. In developed economies, Friend and Lang (1988) reported similar result exists in US firms. Wiwattanakantang (1999) pointed out that there is a negative relation between profitability and leverage ratio in Thai companies. After studying all Chinese listed companies in the year of 2003, Chen and Strange (2005) drew the conclusion that profitability impacts book value total leverage ratio negatively.

The result seems to strongly support the classical pecking order theory. However, the theory should not be accepted without reservation. It is evident that there is a revised pecking order theory in practice in China (Liu, 1999; Chen, 2004). Firm prefer retained earnings to equity financing, and turn to debt financing as last resort. The situation is mainly due to the fact that in China, the enforcement of shareholder protection is weak, so equity is regarded as free funds by managers (Chen, 2004).

Firm Size (SIZE)

The variable of size has significantly negative influence on both total and short-term leverage ratios at the significance level of 0.05. Yet, it has a positive relation with long-term debt ratio, though not statistically significant. The outcome implies that large hospitality firms have higher long-term leverage ratio, whereas small ones have higher short-term leverage ratio. Marsh (1982) found the same evidence in a UK setting as well. This could be explained by the relatively high transaction costs facing by small hospitality firms when issuing long-term

financial instruments (Titman & Wessels, 1988). Moreover, high fixed costs of long-term debts are more affordable to large firms (Tang & Jang, 2007).

Although opposed to the proposed hypothesis, the result of negative relationship is not surprising, for it is consistent with some empirical research done in the background of both developed and developing economies. Timan and Wessels (1988) found small US manufacturing firms tend to borrow more short-term debts. Chen and Strange (2005) also found a negative relationship between firm size and book value total debt ratio in China, yet not significant. According to Fama and Jensen (1983) and Rajan and Zingales (1995), large corporations disclose more information to outside investors, and consequently, they have better access to equity market, since the information costs associated with equity financing is low. This is impetus for large firms to issue equity rather than debts.

Listing Years (AGE)

The variable of listing years influences long-term leverage ratio in a negative way with the significance level of 0.05. It also impacts both total and short-term leverage ratio negatively, yet not statistically significant. This result is opposed to the hypothesis. It reveals the fact that the older the listing, the less likely that a hospitality company would borrow debts, for it could rely on equity financing instead. The longer the listing, the more the investors know about the company. Therefore, the firm is able to collect equity with low information cost. According to Chen (2004) and Liu (1999), in China, there is a new pecking order in terms of financing in which equity financing is more attractive than debt financing. The shareholder protection legislation is impotent, so the funds collected through equity financing are regarded as free funds by managers.

Berger and Udell (1998) brought to light that debt ratio decreases as the company become more mature, since there is no need for them to turn to debt financing, because they could rely on adequate internal funds or equity financing for reinvestment and further growth. It could be argued that the hospitality companies included in this study are already in the mature stage of the growth cycle, since they have already been listed.

Business Risk (RISK)

Business risk has negative influence on Chinese hospitality companies' total and short-term financial leverage ratios at the significance level of 0.05 and 0.10 respectively. However, it has no explanatory power for long-term leverage ratio, since the regression coefficient is insignificant. The negative relation supports the hypothesis. Huang and Song (2006) also spotted the same result between business volatility and a firm's market value debt ratio. It supports that the trade-off theory works in the Chinese setting, since the concern that financial distress costs occur due to the failure to make contractual interests and principal payments would hold managers back from borrowing more debts.

Asset Structure (TANG)

The effect of the determinant of asset structure seems to be ambiguous. Tangibility level has a positive impact on total and long-term debt ratios, but negative impact on short-term debt ratio. Both impacts are not significant. Companies with high tangibility level borrow more long-term debts than short-term ones.

The result, to some extent, supports the previous expectation. On one hand, a Chinese hospitality company is more likely to be debt-financed if it comes up with more assets in place to serve as collaterals. Chen (2004) found tangibility level has significantly positive correlation

with leverage ratio, when studying the Chinese listed companies. Williamson (1988) also reported the same results. On the other hand, since it is even harder to monitor a company with fewer fixed assets, the company is supposed to borrow more to reduce agency costs between managers and shareholders (Kim, 1995; Titman & Wessels, 1988).

Growth (GROW)

Growing hospitality companies need more capital and they rely more on both short-term and long-term debt financing in China, though the relation is insignificant.

Chen (2004) also found out a positive relation between growth opportunities and debt ratio in Chinese context. The author argues that it is the case because both banks and investors recognize the value of growth opportunities. Growth opportunities in hospitality field are usually tangible, such as property renovation or new property establishment, while common growth opportunities in other industries are often intangible, such as R&D (Dalbor & Upneja, 2004). Besides, Titman and Wessels (1988) cited evidence from Myers that growth might be found to be positively correlated with short-term debt, because the use of more short-term debt would mitigate the agency problem. The finding of this study endorses his assumption.

State ownership Structure (STATE)

The influence of state ownership is uncertain according to the findings of the study. It has negative influence on long-term leverage ratio, yet reverse effect on short-term and total debt ratios, although none of the relation is statistically significant.

Although the negative sign deviates from the hypothesis, it conforms to Chen and Strange's (2005) result. State, as the significant shareholder of most listed hospitality corporations in China, would like to escape debt financing to avoid financial distress costs. Zeckhauser and

Pound (1990) found a negative relationship between the presence of large shareholders and firm leverage as well. Besides, since in China, state-owned enterprises' managers and board members are appointed and monitored closely by the government, there is no need to depend on debt financing to mitigate the agency problem between managers and shareholders.

On the other hand, the positive sign corroborates Berger and Udell's (1994) assumption that a close relationship with creditors substitute for collateral when borrowing. However, the close relationship leads to less borrowing expenses only when company borrows short-term debts.

CHAPTER 5

CONCLUSIONS AND RECOMMENDATIONS

Conclusion

This research is a preliminary effort in attempting to analyze the determinants of financial structure of Chinese hospitality firms. After studying the relationship between three leverage ratios and seven important indicators suggested by theoretical or empirical studies, the major findings are presented as follows.

The most significant variable for the three leverage ratios is profitability. The predictor has strong negative impacts on firm's total, long-term and short-term leverage ratio with the significance level of 0.01, 0.05 and 0.05 respectively. Hospitality firm facing great business risk borrows much less than others. The regression coefficient of the indicator of firm size is negative and is significant at the level of 0.05 for both total and short-term leverage models. Also, a hospitality firm with long listing years is less likely to borrow long-term debts. Overall, the signs of regression coefficients are consistent among three models of total leverage, long-term leverage and short-term leverage, except for the variable of asset structure, firm size and state ownership structure. A Chinese hospitality firm with more assets in place tends to borrow more long-term debts than short-term ones. Firm size positively correlates with total and short-term debt ratios, but inversely relates to long-term debt ratio. Hospitality firm hold higher state-owned shares opt to have more short-term borrowing than long-term debt

financing.

Conventional financial structure theories established on the basis of developed economies are applicable to Chinese hospitality companies, but their explanatory power is limited to some extent. This critical finding validates the results of relevant research studies done either in developing or transitional economies (Booth, Aivazian, Demirguc-Kunt, & Maksimovic, 2001; Delcoure, 2007). Evidence reveals that the determinant of business risk fails to explain long-term debt financing decisions, and leverage ratios increase slightly with the factor of growth, contradictory to the hypothesis. Table 9 presents the comparison between the hypotheses made in the third chapter and the actual results obtained from Chinese hospitality companies.

On one hand, it brings to light that listed Chinese hospitality firms are operating as market-oriented firms in developed economies. Despite still in strong grip of the government, they are profit-maximizing enterprises. On the other hand, it also highlights that Chinese hospitality companies hold distinctive features that are deviate from the underpinnings of conventional financial structure theories. First of all, since conventional financial structure theories are developed to explain long-term debt financing behavior, their explanatory power suffer greatly given that Chinese hospitality firms' long-term borrowing ratio is extremely low, with the average of only 8.1%. Moreover, financial structure theories are constructed on the basis of financial structure evidence of a wide variety of industries. Obviously, they do not take into consideration any industry specific factor. In most industries, growth opportunities are generally intangible assets, but in hospitality field, growth opportunities, such as property renovations, are tangible assets (Dalbor & Upneja, 2004). It explains the positive effect of

growth on debt borrowing.

Table 9

Comparison Between Hypotheses and Actual Results

Determinant	Expected regression coefficients sign	Actual regression coefficients sign
Asset structure	+	+/-
Profitability	-	-***
Business risk	-	-**
Firm size	+	+/-**
Growth rate	-	+
Listing years	+	-**
State ownership structure	+	+/-

Note. "+" means that leverage increases with the determinant, "-" means that leverage decreases with the determinant, and "+/-" means that both positive and negative relation between leverage and the determinant are identified by the study.

*p<.05. **p<.01.

Study Implication

This research is the very first financial structure study concerning Chinese hospitality companies. It contributes to the extant body of knowledge about Chinese corporate financial structure by examining the determinants of financial structure in a Chinese hospitality setting.

The findings of the study affirm that determinants proposed or proved to be useful in explaining corporate financial structure of developed countries impact Chinese hospitality companies as well.

Chinese hospitality companies' average debt borrowing is low, especially in terms of long-term debt financing. A profitable hospitality company is supposed to borrow less, especially when it faces great business risks. The variable of size impacts firm's total and short-term leverage ratio in a negative way. Besides, the research also reveals that the older the listing, the less long-term debts a hospitality company relies on, since it could turn to self-financing or equity financing as a better option. Investors could draw on the findings of the study before designing their own financial structure.

Limitation

It has been suggested that prospective domestic and international hospitality investors may draw on the findings of the paper to get an insight into the typical financial structure of Chinese hospitality firms. Nonetheless, it should be noted that since there is an inevitable bias resulting from sample selection, the results of the study must be interpreted with great caution.

First of all, all listed companies have undertaken recapitalization according to the standards formulated by China Securities Regulatory Commission before obtaining IPO permission (Liu, 1999). Hence, their financial structure may converge to some extent. Besides, most listed companies in China are large or medium-sized ones with higher profitability level. They are not representatives of all hospitality companies in China. The findings of the study may not necessarily apply to small or privately owned hospitality firms which may have special

restrictions on their financial structure, such as restrictive loan covenants (Andrew, Damitio, & Schmidgall, 2007). In China, firms in private sector have very limited access to debt financing through state-owned commercial banks or corporate bonds (Neftci & Menager-Xu, 2007). It must be taken into consideration that private and public sector in China differ greatly in terms of financing ability and capacity.

Recommendation for Further Study

Although the R-square and adjusted R-square of the study are comparable with other similar studies of Chen & Strange (2005), Supanvanij (2006) and Huang and Song (2006), they are still not very satisfying. It suggests that some variation in debt financing still remains unexplained. In the future study, researchers are recommended to employ alternative methods to measure financial structure determinants. Some industry specific variables, such as average daily rate (ADR), occupancy rate or revenue per available room (RevPar) are believed to better reflect growth of a hospitality company than those more general measurement like sales growth (Tang & Jang, 2007). The study methodology could also be extended to investigate financial structure of individual lodging or restaurant properties.

The number of publicly traded restaurant and lodging firms is too small for a meaningful regression analysis. Currently, there are only two restaurant companies and five hotel companies traded on Chinese stock market. When the available data sample is large enough, it is advisable to separate companies according to their sub-sectors when doing financial structure analysis, because different industry sub-sector has its own unique features which have impact on financial structure decisions. For example, lodging industry is known by its fixed asset intensiveness and

seasonality.

Finally, it is ideal if the data of market value of debts are available. Titman and Wessels (1988), Kim (1995) and Supanvanij (2006) all suggest that using market value of debts is a more accurate way than book value to measure firm's leverage ratio.

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