The Impact of Tourism Resources on Tourism Real Estate Value:

Evidence from Overseas Chinese Town in Shenzhen

Abstract

Leisure and tourism facilities are known to influence property value. Previous studies have found natural resources to have a positive impact on the price of surrounding properties. More recently, scholars have turned their attention to "built" tourism resources, such as resorts and sports facilities. "Tourism real estate" emerged in China in the 1990s. Contrary to traditional housing projects, tourism real estate is characterized by the development of large-scale tourism resources (e.g., resorts and theme parks) along with residential properties, under the assumption that they would increase property value. However, the effects of such "built" tourism resources on housing value have not been empirically examined. This study investigates the determinants of tourism real estate prices, with an emphasis on the impact of theme parks. A hedonic pricing model was built using a sample of 294 real estate transactions in the Overseas Chinese Town area of Shenzhen, China. Findings indicated that while distance to metro and the architectural features of the property itself had significant positive effects on tourism real estate value, distance to theme parks was found to have a negative effect on price. As the constructions of theme parks alongside residential/vacation properties represent a typical model of tourism real estate, findings urge the industry to reconsider the development of theme parks and its impact on the surrounding environment.

Keywords

Tourism real estate, tourism resources, property value, theme parks

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Introduction

Tourism resources can be classified based on the degree of naturalness/artificiality (Boniface, Cooper, & Cooper, 2012). Besides natural attractions that evolve around natural resources, there are also man-made cultural attractions not originally designed for tourism (e.g., historic buildings and cathedrals) and purpose-built entertainment attractions that are created specifically to attract tourists (e.g., casinos and theme parks) (Goeldner & Ritchie, 2009; Swarbrooke, 2002). Previous studies have found that natural resources, such as parks, gardens, trees, lakes, beaches, and scenic trails, generally have a positive impact on the price of residential properties in the vicinity (Been & Voicu, 2006; Cebula, 2009; Crompton, 2001; Edwards & Gable, 1991; Goetgeluk et al., 2005; Hamilton & Morgan, 2010; Nicholls & Crompton, 2005a, 2005b; Pompe & Rinehart, 1994; Sander & Polasky, 2009; Sander et al., 2010). The impact of man-made and purpose-built attractions, however, is more complicated. For example, research has shown that while the size of shopping centers influences surrounding house prices positively, the distance to shopping centers could have positive or negative effects (Colwell et al., 1985; Des Rosiers et al., 1996; Sirpal, 1994). More recently, scholars have also turned their attention to other types of built tourism resources, and investigated how property value or vacation rental prices were influenced by ski resorts, golf courses, and sport stadiums

(Davies, 2005; Nelson, 2009; Nicholls & Crompton, 2007).

Given that tourist preference for different types of tourism resources tends to vary based on cultural background and national origin (Kim & Prideaux, 2005), it is necessary to explore the impact of tourism resources on property value in different cultural settings. In China, "tourism real estate" has emerged as a new industry since the 1990s, and soon became one of the fastest growing sectors in the entire leisure market. As its name suggests, tourism real estate integrates tourism and real estate, which are highly related in China's tertiary industry (Wang, 2007). On the one hand, the real estate sector may make use of tourism activities and surrounding resources to enhance real estate value. On the other hand, real estate development can also create a better tourism landscape and together they improve the image of the destination (Chen, 2011; Zhu, 2005). By combining the functions of tourism, leisure, vacation and residence, tourism real estate provides higher investment value and is regarded as a new direction for the tourism industry in China (Lin, 2012). In the first quarter of 2012, 2,226 tourism real estate investment projects were contracted in China, and the total investment was RMB 260 billion, which was one fifth of the total real estate investment, covering 85 cities and regions mainly located in Hainan, Guangdong, Fujian and Yangtze River Delta (China Tourism Academy, 2012).

Contrary to traditional housing projects, tourism real estate is characterized by the development of large-scale, purpose-built tourism resources (e.g., resorts and theme parks)

along with residential properties, under the assumption that they would increase property value (Chen, 1996). However, the effects of such "built" tourism resources on real estate prices have not been empirically examined. Previous studies focused more on the conceptualization, feasibility and development model of tourism real estate (Liang, 2007; Yu & Zhao, 2003; Li, 2011). Little is known about how to assess the value of the surrounding environment, and few studies have provided evaluation criteria and guidelines to the industry (Zhou, 2011). Given the rapid growth of the tourism real estate industry in China, the purpose of this study is to identify the determinants of tourism real estate value, with an emphasis on the impact of theme parks on surrounding properties. In order to develop tourism real estate sustainably, it is necessary to analyze and quantify the impact of tourism resources on real estate. Specifically, the objectives of the study are to: 1) identify the tourism resource factors that influence tourism real estate prices, and 2) develop a hedonic pricing model for tourism real estate.

This study utilizes the hedonic pricing model to examine the relative importance of tourism resources on tourism real estate development. Overseas Chinese Town (OCT) in Shenzhen has been selected as the research subject, because it is one of the earliest and most noticeable examples of tourism real estate development in China (OCT website, 2012). Owned and operated by Shenzhen Overseas Chinese Town Holding Company, OCT is the creator of theme parks in China. Through the packaging of traditional Chinese culture with western culture and attractions, their theme parks, such as "Splendid China," "Window of the World" and "Happy

Valley," are very popular among domestic and international tourists alike, and the OCT area has evolved into a large-scale, wide-ranging entertainment zone. OCT's model of "tourism plus real estate" is rather lucrative. In 2011, the total revenue from its tourism operation was RMB 6.33 billion while that from tourism real estate was RMB 10.22 billion (OCT Annual Report, 2011) , which was the first time that tourism real estate generated more revenue than tourism operation. The numbers in 2012 continued to grow to RMB 10.46 billion (tourism operation) and RMB 11.26 billion (tourism real estate), respectively (OCT Annual Report, 2012). Generally speaking, the proliferation of tourism real estate in OCT may be attributed to its mature theme park landscape and multifunctional community planning, which incorporates tourism, entertainment, art, leisure, shopping and other functions for both tourists and local residents.

Literature Review

In the real estate industry, it is important to identify the property features that can attract consumers and increase property value. The hedonic pricing model is commonly used to examine the factors that determine the price of properties. It considers the various characteristics of a commodity as a whole and to be sold (Rosen, 1974). If the characteristics vary, the price is changed accordingly. Therefore, hedonic price model can be adopted to analyze the relationship between property features and prices, as well as to reflect the price

range which consumers find acceptable in the market. According to Haab and McConnell (2002), the strength of the hedonic pricing model is that it is based on actual market data rather than hypothetical situations.

Residential Property Pricing

Ridker and Henning (1967) first applied hedonic pricing to the real estate market to investigate the influence of environmental quality improvement on housing price. Palmquist (1984) used hedonic models to analyze how different factors influence property value and established a basic framework between residential demands and environmental characteristics. Sirpal (1994) examined the role of shopping centers, and found the size of shopping centers to have a positive effect of the values of surrounding properties. On the other hand, proximity to shopping centers was found to have an optimal value at a certain distance, where too close a proximity or too far a distance would affect housing prices negatively (Colwell et al., 1985; Des Rosiers et al., 1996). Besides property value, hedonic pricing models can also be applied to the rental market. For example, Roubi and Ghazaly (2007) found that apartment rental price models varied based on different neighborhoods.

Although the hedonic pricing model is widely applied in the real estate industry, economic theory does not explicitly points out how to choose a hedonic pricing function. Early researchers tended to depend on intuitive and educated guesses and judgment (Kain & Quigley, 1970). Butler (1982) proposed that hedonic pricing models for urban housing should include

three main categories: location, structure, and neighborhood. Zhang (2005) also argued that houses have three characteristics: durability, heterogeneity, and spatial fixity. The utility of residential commodity is based on different features, including the architectural characteristics, neighborhood characteristics and regional characteristics. It is important to note that one model may not be generalizable to other contexts. For example, property value usually increases significantly when environmental quality is improved. However, if the environmental quality is already quite high, additional level of environmental improvement may have a relatively small impact on housing prices. Different market segments may also have different residential preferences, which would lead to different determinants of property value (Wen, 2006).

Hotel and Vacation Properties

In addition to residential properties, the hedonic house price model has also been used in the tourism industry to study timeshares and vacation properties, such as second homes, beach houses, villas, ski cabins, and summer cottages (Cho et al., 2003; Kaidou et al., 2014; Nelson, 2010; Salo et al., 2014). A study of Australian timeshare owners showed that the value of timeshare ownership was reflected in eight dimensions: relaxation, gift-giving, status, quality, flexibility, fun, new experiences, and financial benefits (Sparks et al., 2008). As the functions of primary residences and vacation places are quite different (Jaakson, 1986), their property value may be influenced by different factors. For example, the quality of the school district is an important factor to consider for primary residences, but not for vacation houses (Brasington,

1999). Cho, Newman, and Wear (2003) also found that distance to lakes and parks and environmental attributes are valued more in rural, second home areas than in urban, primary home areas. Therefore, despite the plethora of studies on residential property value, the pricing determinants of second homes, vacation properties, and even hotel rooms warrant further investigation.

Hamilton and Morgan (2010) examined the values of different amenities for urban beach properties, revealing that that people are willing to pay a premium for living close to the water. Nelson's (2010) study of vacation rental houses also found that lakefront proximity and ski-slope access have a strong influence on the rental price of vacation houses. In the case of hotels, Roubi and Litteljohn (2004) analyzed hotel property transactions in the UK, revealing that number of rooms, local economic conditions, and recreational facilities are the top three determinants of hotel property value. Chen and Rothchild (2010) found that hotel location, LED TV, and conference facilities have significant effects on both weekday and weekend room rates. Similarly, Thrane (2007) identified mini-bar, hairdryer, free parking, and distance to downtown as significant determinants of hotel room rates in Oslo, Norway. In the context of the Mediterranean, Fleischer (2012) found room rates to be approximately 10% higher for a room with a sea view than that without. As such, the appeal of the sea not only affects hotel room prices but also impact on the structure of Mediterranean resorts. Hotels are built as close to the seashore as possible and as tall as possible to gain maximum financial benefit from the

view. Although hotel room rates and property value are not directly comparable, hedonic

pricing has been used to examine asset value as well as hotel rates, and tourism resources were

found to be an important determinant of their pricing. Finally, the hedonic pricing model has

also been applied to other tourism scenarios to assess the different attributes that characterize

package tours, hotel real estate, and the price competitiveness of vacation destinations (Aguilo

et al., 2003; Corgel, 2007; Mangion et al., 2005; Thrane, 2005).

Tourism Real Estate

Chen (1996) first brought the concept of tourism real estate into tourism research. As its

name suggests, tourism real estate is a new industry which combines tourism and real estate

through the integration of planning and design, construction and marketing, hotel management

and other aspects (Sun & Wang, 2002). Yu and Zhao (2003) defined tourism real estate as "a

mode of real estate development and marketing for the purpose of leisure travel or vacation"

(p. 74). They also pointed out that while part of the real estate project should serve a tourism

function, its role may go beyond tourism. As a unique integration of residential and vacation

properties, the purpose of tourism real estate is not only for vacation, but also as residences for

local people (Shen, 2001). Hence the marketing of tourism real estate projects should consider

both tourist and local target markets. The planning and development of tourism real estate

originates from different market demands. Factors such as landscape, environment, culture,

investment and other tourism elements can easily impact tourism real estate (He, 2005). On the

one hand, tourism real estate can be regarded as a product that relies on surrounding tourism landscape, such as natural and cultural resources (Zhou, 2011; Zhu & Huang, 2006). On the other hand, as such real estate projects have a strong spatial relationship with tourist areas, they can provide tourism services directly and meet the needs of tourists and vacationers (Si et al., 2007; Song, 2003).

According to Fang, Zheng, and Peng (2009), tourism real estate has three basic characteristics that are distinct from traditional residential projects: environment, function, and operation. First, tourism real estate has a special geographical requirement; it must be located within or in the vicinity of tourist areas. Second, tourism real estate provides a wide range of functions that meet the needs of different tourists. Third, the business model of tourism real estate is different from that of general real estate. Zhou (2011) also identified four main elements of tourism real estate: 1) industrial elements, which covers the field between tourism and real estate, 2) marketing elements, which emphasized property rights and the return on investment, 3) functional elements, which includes residential and tourism functions, and 4) resource elements, which includes scenic resources, traffic conditions and supporting facilities.

Tourism real estate includes numerous types of properties, such as hotels, timeshare, conference centers, exhibition halls, and tourism training centers, which can be categorized according to different criteria: location, property right, function and development purpose. Based on location, it can be *within* or *near* tourist areas (Chen, 2002). Based on property right,

it can be classified as theme community, timeshare, condo hotel, and theme real estate projects (Zou & Kong, 2004). Functionally, tourism real estate can be attraction-based (e.g., theme park real estate and leisure real estate), residential (i.e., residences for living rather than leasing and renting), commercial (e.g., restaurants, hotels, and tourism office buildings), and resort-based (i.e., targeting tourists and holiday-makers) (Hu & Wang, 2004; Liu, 2004). Finally, based on development purpose, tourism real estate may be categorized as tourism residential projects, tourism training center, property hotel, golf, resorts, and international leisure center (Zhang, 2007). The Chinese State Council's latest comment on tourism development suggested seven tourism products that can be integrated with real estate development, including: leisure and fitness tourism, medical tourism, forest tourism, industrial tourism, senior travel, historic towns, and commercial districts (China National Tourism Administration, 2014; Zou, 2014). With the government's support, tourism real estate in China can extend beyond hotels and vacation properties and reach out to other tourism sectors.

A review of the literature revealed that previous tourism real estate research focused more on the conceptualization, categorization, and different development options of tourism real estate (Shen, 2001; Song, 2003; Zhou, 2011). Little is known about how to assess the value of surrounding tourism resources and how environmental characteristics affect property value. As tourism real estate combines the functions of residential and vacation properties, the factors that influence its pricing may be different from that of previous real estate research and tourism

second-home research. Moreover, tourism real estate originated in China. Tourists of different nationalities may prefer different types of tourism resources. For example, some studies have shown that western tourists (i.e., American, British, Australian) are more likely to have a greater preference for historical and cultural resources, while Mainland Chinese tourists tend to have a greater preference for theme parks, leisure facilities, and gaming (Kim & Prideaux, 2005; McKercher, 2002; McKercher & du Cros, 2003). With the exception of shopping centers, most tourism resources that have been examined in relation to housing prices are natural resources, such as parks, lakes, and beaches. Only a few studies have explored the impact of "built" tourism resources. Therefore, it is necessary to investigate the determinants of property value in the unique context of the tourism real estate industry in China, with an emphasis on "built" tourism resources such as theme parks.

Methodology

As a leader of the tourism real estate industry in China, Overseas Chinese Town (OCT) in Shenzhen was selected as the research subject (Xinhuanet, 2013). With their initial success in the theme park industry in Shenzhen, the Overseas Chinese Town Holdings Company (OCT Group) came up with the "tourism plus real estate" model and began developing real estate properties in proximity to their theme parks in the late 1990s. As shown in Figure 1, the area of OCT is about 5 square-kilometers, with three famous theme parks: "Splendid China,"

"Window of the World," and "Happy Valley." From 2000 to 2012, eight tourism real estate projects were developed in OCT, as shown in Figure 1 and Table 1.

Insert [Figure 1] here

Insert [Table 1] here

To quantify the effect of tourism resources on tourism real estate pricing, a hedonic pricing model was built. Data was collected through field visits to OCT from December 2012 to January 2013. Information on price, decoration, landscape view and the number of bus stations was collected in the process of field visits, and secondary data were also obtained from websites and other sources. In a hedonic pricing model, the independent variables are the characteristics of a tourism real estate listing, and the dependent variable is its listed price. Due to trade secret protection, it was difficult to directly obtain the closing price of real estate transactions. Therefore, information must be obtained from intermediary institutions and Internet listings for empirical analysis. Transaction data were collected from Centaline Property Shenzhen and Century 21® Shenzhen, two of the largest real estate agencies in China. Although there were more real estate transactions in Shenzhen during the period of data collection, this study only focused on the OCT area and tourism real estate properties under OCT's development.

Table 2 presents the operationalization of the variables used in the model and the expected impact of each variable on tourism real estate prices. The structural attributes of a property include: Area, Floor, Age, Green ratio, Floor area ratio (FAR), and Decoration. Based on

previous literature, the impact of Area, Floor, and Green ratio on price is expected to be positive, and the impact of Age and FAR is expected to be negative (Jiao & Liu, 2010). The decoration of a room generally includes its furniture, wallpaper, floor, and ornaments. Real estate companies in China generally categorize the decoration of apartments into five levels: Rough apartment, Simple decoration, Moderate decoration, Exquisite decoration, and Luxurious decoration (e.g., http://shenzhen.koofang.com/sale/; http://esf.sz.fang.com/). Properties are evaluated by real estate agents and their degree of décor would be provided in the listing information. As such, the variable "Decoration" was rated based on the overall evaluation of real estate companies and assigned scores from 1 (Rough apartment) to 5 (Luxurious decoration). The relationship between Decoration and Price is hypothesized as positive.

The locational and tourism-related attributes of a property include: Landscape view, Distance to theme park, Distance to hotel, Distance to metro, and Number of bus stations. In terms of landscape view, possible sceneries from the OCT area include: 1) theme park view, 2) sea view, 3) golf course view, 4) Yanhan mountain scenery, and 5) ecological square scenery. The variable "landscape view" was calculated as: theme park view (1 point) + sea view (1 point) + golf view (1 point) +Yanhan mountain scenery (1 point) + Ecological square scenery (1 point). The relationship between Landscape view and Price is hypothesized as positive. Lastly, there are three theme parks and five 4-star and 5-star hotels in the OCT area. The variables "distance to theme park" and "distance to hotel" were measured using Google Maps as the straight-line

distance from the real estate property to the nearest hotel or theme park, and "distance to metro" indicated the walking distance from the real estate property to the nearest metro. The impact of theme parks, hotels, bus stations, and metro on property price is hypothesized as negative, because they bring high traffic volume. The hypothesized regression model may be expressed as:

$$P = \beta_1 + \beta_2 \cdot \text{Area} + \beta_3 \cdot \text{Floor} - \beta_4 \cdot \text{Age} + (\beta_5 \cdot \text{Green ratio}) - \beta_6 \cdot \text{FAR} + \beta_7 \cdot \text{Decoration} +$$

$$(\beta_8 \cdot \text{Landscape view}) - (\beta_9 \cdot \text{Distance to theme park}) - (\beta_{10} \cdot \text{Distance to hotel}) -$$

$$(\beta_{11} \cdot \text{Number of bus station}) - (\beta_{12} \cdot \text{Distance to metro}) + \varepsilon$$

Insert [Table 2] here

The data were computed and analyzed using Statistical Package for Social Sciences (SPSS) Version 17. As Ordinary Least Square (OLS) is one of the most frequently-used parameter estimation methods in regression analysis, it was adopted in this study to produce a linear combination of the independent variables in the hedonic pricing model. After the model testing and parameter estimation, a hedonic pricing model of tourism real estate in OCT was established.

Findings

A total of 321 tourism real estate transactions in OCT was collected. Outliers were removed, resulting in a sample size of 294. Table 3 presents the means and standard deviations of the

16

variables used in this study.

Regression Model

A regression model was built with real estate listing price as the dependent variable and eleven housing characteristics as independent variables. As shown in Table 4, the overall model is significant ($F = 446.969$, $p < 0.001$) with an adjusted R-squared value of 0.901, which means that the independent variables altogether can explain over 90% of the variations of the dependent variable. Among the eleven independent variables in the proposed model, six were found to be significant at the 0.001 level: Area, Decoration, FAR, Distance to metro, Bus station, and Distance to theme park. The value of Durbin-Watson statistic (1.814) indicates no problem of autocorrelation. The values of VIF in the model are all lower than 10, indicating no signs of serious multicollinearity (Myers, 2005).

According to the results of regression analysis, the hedonic pricing model can be expressed as:

P = 8.959 + (.040 x Area) – (.449 x Decoration) – (.680 x FAR) – (4.101 x Distance to

theme park) – (3.350 x Bus Station) + (3.196 x Distance to metro)

where P is the price of tourism real estate and unstandardized coefficients indicate the characteristic price of tourism real estate in the linear model.

The regression coefficients correspond to the characteristics of the implicit price. First, the regression coefficient of "Area", ceteris paribus assumption, indicates that when the area increases a square meter, the price of tourism real estate will increase by RMB 40,000. Second, the regression coefficient of "Distance of theme park" is -4.101, ceteris paribus assumption, and it represents that when the theme park is one kilometer closer to the real estate, the price of tourism real estate will decrease by RMB 4,101/m^2. Third, the regression coefficient of "FAR" is -.680, ceteris paribus assumption, and it represents that when the volume ratio increases one unit, the price of tourism real estate will decrease by RMB 680/m^2. Fourth, the regression coefficient of "Distance of metro" is 3.196, ceteris paribus assumption, and it represents that when the metro is one kilometer closer to the real estate, the price of tourism real estate will increase by RMB 3,196/m^2. Fifth, the regression coefficient of "Number of bus stations" is -3.35, ceteris paribus assumption, and it represents when the number of bus stations increase by one, the price of tourism real estate will decrease by RMB 3,350/m^2. Lastly, the regression coefficient of "Decoration" is -.449, ceteris paribus assumption, and it represents that the better the level of decoration, the price of tourism real estate will decrease by RMB 449/m^2.

To test for homogeneity of residual, a scatter plot with regression standardized residuals as the Y-axis and standardized predicted values as the X-axis showed a random distribution from the range -1 to 4, which means the linear model met the assumption of homogeneity of variance. The residuals in the linear model also indicate they obey normal distribution.

Discussion

Based on the hedonic pricing model presented above, tourism real estate pricing and tourism resource are strongly interrelated in the case of OCT. Specifically, distance to theme park has a negative impact on tourism real estate pricing, which means that the closer a real estate property is to a theme park, the lower its property value. Compared with other types of tourism resources, previous studies generally support that parks and community gardens have a positive impact on residential property value (e.g., Been & Voicu, 2006; Crompton, 2001; Sander & Polasky, 2009). Water resources, such as lakes, streams, and beaches, were also found to increase home sale prices with closer proximity (e.g., Goetgeluk et al., 2005; Pompe & Rinehart, 1994; Sander & Polasky, 2009). Why is the impact of theme parks on property value different from that of other tourism resources? It can be argued that theme parks tend to be associated with a large amount of visitors, which leads to severe traffic congestion, trash, air pollution, and noise pollution in the surrounding areas and subsequently discounts living quality. As house buyers generally value the quality of the surrounding environment, it is possible that theme parks are perceived as being a negative addition to the neighborhood. Tourism real estate developers should find solutions to mitigate such negative impression. For example, incentives to house buyers could include allowance for mortgage financing, discount admission tickets to theme parks or other tactics that could compensate for their sacrifice on quality living.

Nevertheless, due to the development of theme parks and surrounding environmental

improvement, tourism real estate projects in OCT showed a high green ratio and low FAR. In this investigation, the green ratio of all tourism real estate projects in OCT had a mean of 45%, and the highest green ratio reached up to 70%. The FAR had a mean of 4.22, and the lowest FAR was 0.3. Due to the overall high level environmental quality in OCT, the green ratio did not have a significant effect on property value, while the relationship between FAR and property value behaved as predicted: the lower the FAR, the higher the property value. Moreover, an interesting relationship between the transportation system and property prices was found in this study. On the one hand, closer distance to the metro increases property value. On the other hand, the more bus stations in the neighborhood (i.e., within 500m), the lower the property value. The negative relationship between bus stations and housing prices could be accounted for by the traffic congestion and air pollution that often result from bus stations. Since the metro is underground, perhaps the metro is more associated with transportation convenience and less with traffic and pollution problems, and hence its positive impact on property value. Although both bus and metro are part of the transportation system, their effect on real estate price is different, which suggests that consumers not only care about transportation, but also about the overall living environment.

For tourism real estate developers, high-quality tourism resources can attract a lot of visitors. Huang (2006) pointed out that the essential elements of theme tourism resources include products, market position, and the surrounding environment. In the case of theme parks, even

though the product itself may have a negative impact on surrounding properties, it also leads to environmental improvement, which may have an indirect effect on property value. Davies (2005) examined the relationship between sports stadiums and the property market. Like theme parks, sports stadiums in urban areas often face opposition from the local community for fear of a decline in property value. However, Davies (2005) found that not only can stadiums have a positive impact on property prices, it can also generate community pride and enhance place image. Perhaps the challenge for tourism real estate developers is not so much the construction of theme parks, but improving the environmental quality and designing a unique landscape for the surrounding community.

Conclusion

This study explores how tourism resources impact real estate prices. Based on multiple regression analysis, a hedonic pricing model was built. Although not all housing characteristic variables have been examined, findings indicate that tourism resources have different levels of influence, positive or negative, on property value. Among various location and landscape features, the floor area ratio (FAR), number of bus stations, distance to the nearest metro, and distance to theme park were found to have significant effects on tourism real estate prices. Specifically, the negative impact of theme parks on the housing market was found to be different from that of other "natural" tourism resources.

Findings contribute to the literature on real estate and tourism development. Tourism real estate is a new and uprising form of real estate in China that blurs the boundary between residential property and vacation property. This study revealed the significant factors that determine the pricing of tourism real estate. Moreover, this study incorporated a new variable, distance to theme parks, into the hedonic pricing model. While earlier studies focused more on the impact of natural resources on real estate prices, more recently scholars have also turned attention to "built" facilities and attractions, such as sports stadiums and golf courses. This study contributes to the knowledge on the distinction between built attractions and natural resources, specifically their level of impact on property value.

This study also provides some guidelines to the tourism real estate industry. According to Wen (2006), the development of tourism residential real estate may be more suitable in mid-sized cities in China. First-tier cities have additional issues to consider. From the economics perspective, tourism real estate is essentially caused by the positive external impact of scenic spots (Zhou & Lou, 2008). The development of tourism promotes the formation of a regional leisure and entertainment zone. The leisure environment cultivates new market demand, which then triggers the success of real estate projects (Wen, 2006). However, different types of attractions and resources would shape the overall tourism environment differently. While building new attractions is always a possible solution to bring in more visitors to a region, tourism real estate projects should also make efforts to improve the living environment and

mitigate the negative impacts of tourism development, so as to encourage not only visitation but also home and condo purchases from both tourists and local residents.

Nevertheless, this study has certain limitations, which may affect the estimated parameters. Due to the protection of commercial secrets, it was difficult to obtain the real estate transaction prices directly. As an exploratory analysis, this study used the Internet and intermediary listing price for empirical analysis. Data were collected from two of the largest real estate agencies in Shenzhen, which certainly could not account for all real estate transactions in OCT in the given time period. Reliability of the collected data depends on how they agencies collected and reported them in a consistent manner. Moreover, the factors examined in this study were limited to the location, landscape, and architectural features of the tourism real estate product from the supply side. For example, the variable "decoration" is rated based on the evaluation of real estate companies, not consumers. Individual characteristics may result in different perceptions and preferences. Future studies can investigate tourism real estate characteristics and purchase decisions from the consumers' perspective.

Furthermore, the relationship between theme parks and real estate prices may involve not only distance, but also other features of theme parks, such as the cleanliness and noise level of specific theme parks. Subject to time and data availability, this study only examined "distance" as a variable. Future studies may incorporate other variables to better understand the impact of tourism resources on real estate value. Within greater China, there are also vast regional

differences, resulting in different tourism resources and modes of tourism real estate development. The samples of this study were collected in OCT, Shenzhen, which may not be generalizable to tourism real estate pricing in other regions. More comparative research on other regions could benefit the industry. To date, most studies on tourism real estate tend to be in-depth qualitative inquiries. This study focused on pricing and the relationship between tourism resources and tourism real estate value. Future studies can explore other aspects of the industry, such as spatial layout, development modes, and the competition between traditional real estate and tourism real estate.

References

Aguilo, E., Alegre, J., & Sard, M. (2003). Examining the market structure of the German and UK tour operating industries through an analysis of package holiday prices. *Tourism Economics, 9*(3), 255-278.

Been , V., & Voicu, I. (2006). The effect of community gardens on neighboring property values. *New York University Law and Economics Working Papers*, Paper 46. Retrieved from http://lsr.nellco.org/nyu_lewp/46

Boniface, B., Cooper, C., & Cooper, R. (2012). *Worldwide destinations: The geography of travel and tourism*. London, UK: Routledge.

Brasington, D. M. (1999). Which measures of school quality does the housing market value?

Journal of Real Estate Research, 18(3), 395-414.

Butler, R. V. (1982). The specification of hedonic indexes for urban housing. *Land Economics,*

    58(1), 96-108.

Cebula, R. J. (2009). The hedonic pricing model applied to the housing market of the city of

    Savannah and its Savannah Historic Landmark District. *The Review of Regional Studies,*

    39(1), 9-22.

Chen, C. F., & Rothchild, R. (2010). An application of hedonic pricing analysis to the case of

    hotel rooms in Taipei. *Tourism Economics, 16*(3), 685-694.

Chen, J. B. (2011). *The research on tourism estate operation mode and countermeasures*

    (Unpublished master's thesis). Beijing Jiaotong University, China.

Chen, J. S. (2002). *Disappearance of boundary: Tourism real estate.* Beijing: China Machine

    Press, pp. 20.

Chen, W. D. (1996). Research on regional tourism real estate development. *Economic*

    Geography, *16*(3), 86-90.

China National Tourism Administration. (2014). The State Council's Comments on Promoting

    Tourism Reform and Development. *China National Tourism Administration: Top News*

    Stories. Retrieved from http://www.cnta.gov.cn/html/2014-8/2014-8-21-%7B@hur%7D-

    17-89924.html

China Tourism Academy. (2012). *Chinese tourism forecast in 2012.* Retrieved from

http://www.chinacity.org.cn/cstj/zxgg/88838.html

Cho, S.-H., Newman, D. H., & Wear, D. N. (2003). Impacts of second home development on housing prices in the Southern Appalachian Highlands. *RURDS, 15*(3), 208-225.

Colwell, P. F., Gujral, S. s., & Coley, C. (1985). The impact of a shopping center on the value of surrounding properties. *Real Estate Issues, 10*(1), 35-39.

Corgel, J. B.(2007). Technological change as reflected in hotel property prices. *Journal of Real Estate Finance and Economics, 34*(2), 257-279.

Crompton, J. L. (2001). The impact of parks on property values: A review f the empirical evidence. *Journal of Leisure Research, 33*(1), 1-31.

Davies, L. E. (2005). Not in my back yard! Sports stadia location and the property market. *Area, 37*(3), 268-276.

Des Rosiers, F., Lagana, A., Thériault, M., & Beaudoin, M. (1996). Shopping centres and house values: An empirical investigation. *Journal of Property Valuation and Investment, 14*(4), 41-62.

Edwards, S. F., & Gable, F. J. (1991). Estimating the value of beach recreation from property value: An exploration with comparisons to nourishment costs. *Ocean & Shoreline Management, 15*(1), 37-55.

Fang, M. L., Zheng, H. Y., & Peng, C. Y. (2009). Study and estimation of domestic tourism real estate research. *Resource Development & Market, 25*(2), 186-189.

Fleischer, A. (2012). A room with a view: A valuation of the Mediterranean sea view. *Tourism Managerment, 33*(3), 598-602.

Goeldner, C. R., & Ritchie, J. R. B. (2009). *Tourism: Principles, practices, philosophies*. Hoboken, NJ: Wiley.

Goetgeluk, R., Kauko, T., & Priemus, H. (2005). Can red pay for blue? Methods to estimate the added value of water in residential environments, *Journal of Environmental Planning and Management, 48*(1), 103-120.

Haab, T. C., & McConnell, K. E.(2002). *Valuing environmental and natural resources: The econometrics of non-market valuation.* Cheltenham, UK: Edward Elgar.

Hamilton, S. E., & Morgan, O. A. (2010). Intergrating Lidar, GIS, and Hedonic price modelling to measure amenity values in urban beach residential property markets. *Computers, Environment and Urban Systems, 34*(2), 133-141.

He, Z. H. (2005). *Research on the development of Chinese tourism real estate* (Unpublished master's thesis). Tianjin University, China

Hu, H., & Wang, Y. M. (2004). A study on exploitation mode of real estate for tourist destination in China. *Journal of Guilin Institute of Tourism, 15*(4), 5-8.

Huang, L. (2006). *Study on the development of timeshare industry both in China and abroad* (Unpublished master's thesis). Shanghai Normal University, China.

Jaakson, R. (1986). Second-home domestic tourism. *Annals of Tourism Research, 13*(3), 367-

391.

Jiao, L., & Liu, Y. (2010). Geographic Field Model based hedonic valuation of urban open

   spaces in Wuhan, China. *Landscape and Urban Planning, 98*(1), 47-55.

Kaidou, D., Moore, W., & Charles-Soverall, W. (2012). Neighborhood features and the rental

   price of villas and cottages in Barbados. *Journal of Hospitality & Tourism Research*,

   published online. http://dx.doi.org/10.1177/1096348012461543

Kain,J. F., & Quigley, J. (1970). Measuring the value of housing quality. *Journal of American*

   Statistical Association, 65, 532-548.

Kim, S. S., & Prideaux, B. (2005). Marketing implications arising from a comparative study of

   international pleasure tourist motivations and other travel-related characteristics of visitors

   to Korea. *Tourism Management, 26*(3), 347-357.

Li, L. (2011). *Research on the driving mechanism of urban tourism real estate development.*

   (Unpublished master's thesis). Jinan Unversity, China

Liang, Z. M. (2007). *Study on the development model of our metropolitan tourism real estate*

   (Unpublished master's thesis). Beijing Jiaotong University, China.

Lin, J. (2012). An analysis in the financial characteristics of tourism estate company. *Fujian*

   Architecture & Construction, 6, 73-75.

Liu, Y. (2004). Research on tourism real estate development. *Tian Fu New Idea, 4*(12), 108-

   110.

Mangion, M. L., Durbarry, R., & Sinclair, M. T. (2005). Tourism competitiveness: Price and quality. *Tourism Economics, 11*(1), 45-68.

McKercher, B. (2002). Towards a classification of cultural tourists. *International Journal of Tourism Research, 4*(1), 29-38.

McKercher, B., & du Cros, H. (2003). Testing a cultural tourism typology. *International Journal of Tourism Research, 5*(1), 45-58.

Myers, R. H. (2005). *Classical and modern regression with applications.* Beijing: Higher Education Press.

Nelson, J. P. (2009). Valuing proximity to lake and ski recreation amenities: Hedonic prices for vacation rental houses at Deep Creek Lake, Maryland. *Social Science Research Network.* Retrieved from http://ssrn.com/abstract=1392402

Nelson, J. P. (2010). Valuing rural recreation amenities: Hedonic prices for vacation rental houses at Deep Creek Lake, Maryland. *Agricultural and Resource Economics Review, 39*(3), 485-504.

Nicholls, S., & Cormpton, J. L. (2005a). Impacts of regional parks on property values in Texas. *Journal of Park and Recreation Administration, 23*(2), 87-108.

Nicholls, S., & Crompton, J. L. (2005b). The impact of greenways on property values: Evidence from Austin, Texas. *Journal of Leisure Research, 37*(3), 321-241.

Nicholls, S., & Crompton, J. L. (2007). The impact of a golf course on residential property

values. *Journal of Sport Management, 21*, 555-570.

OCT Annual Report. (2011). *OCT Annual Report*. Retrieved from http://www.oct-asia.com/UploadFile/2012451147451097844.pdf

OCT Annual Report. (2012). *OCT Annual Report*. Retrieved from http://www.cninfo.com.cn/finalpage/2013-03-09/62197740.PDF

OCT website. (2012). *About OCT: Main Businesses*. Retrieved from http://www.chinaoct.com/category.aspx?NodeID=102

Palmquist, R. (1984). Alternative techniques for developing real estate price indexes. *Review of Economics and Statistics, 62*(3), 442-448.

Pompe, J. J., & Rinehart, J. R. (1994). Estimating the effect of wider beaches on coastal housing prices. *Ocean & Shoreline Management, 22*(2), 141-152.

Ridker, R. G., & Henning, J. A. (1967). Determinants of residential property values with special reference to air pollution. *Review of Economics and Statistics, 49*(2), 246-257.

Rosen, S.(1974). Hedonic prices and implicit markets: Product differentiation in pure competition. *Journal of Political Economy, 82*(1), 35-55.

Roubi, S., & Ghazaly, A. (2007). Pricing inter-neighbourhood variation: A case study on the rental apartment market in Greater Cairo. *Property Management, 25*(1), 68-79.

Roubi, S., & Litteljohn, D. (2004). What makes hotel values in the UK? A hedonic valuation model. *International Journal of Contemporary Hospitality Management, 16*(3), 175-181.

Saló, A., Garriga, A., Rigall-I-Torrent, R., Vila, M., & Fluvià, M. (2014). Do implicit prices for

hotels and second homes show differences in tourists' valuation for public attributes for each

type of accommodation facility? *International Journal of Hospitality Management, 36*, 120-

129.

Sander, H. A., & Polasky, S. (2009). The value of views and open space: Estimates from a

hedonic pricing model for Ramsey County, Minnesota, USA. *Land Use Policy, 26*, 837-845.

Sander, H., Polasky, S., & Haight, R. G. (2010). The value of urban tree cover: A hedonic

property price model in Ramsey and Dakota Counties, Minnesota, USA. *Ecological

Economics, 69*, 1646-1656.

Shen, F. (2001, June 28). A new upsurge in tourism real estate. *China Business Journal,* pp. 18.

Si, C. J., Tan, C. Y., & Li, H. Q. (2007). Research on the chance of tourism real estate. *Market

Modernization, 7*, 246-247.

Sirpal, R. (1994). Empirical modeling of the relative impacts of various sizes of shopping

centres on the value of surrounding residential properties. *Journal of Real Estate Research,

9*(4), 487-505.

Song, D. (2003). The prompt of tourism real estate. *Special Zone Economy, 3*, 40-42.

Sparks, B., Butcher, K., & Bradley, G. (2008). Dimensions and correlates of consumer value:

An application to the timeshare industry. *International Journal of Hospitality Management,

27*(1), 98-108.

Swarbrooke, J. (2002). *The development and management of visitor attractions*. Oxford, UK: Butterworth-Heinemann.

Sun, H. L., & Wang, S. (2002). The effective way to deal with the backlog of real estate. *Commercial Research, 10*, 136-138.

Thrane, C. (2005). Hedonic Price Models and Sun-and-Beach Package Tours: The Norwegian Case. *Journal of Travel Research, 43*(3), 302-308.

Thrane, C. (2007). Examining the determinants of room rates for hotels in capital cities: The Oslo experience. *Journal of Revenue and Pricing Management, 5*(4), 315-323.

Wang, B. (2007). *Study on developing and planning of traveling real estate* (Unpublished master's thesis). Chongqing University, China.

Wen, T. (2006). Research on tourism real estate development in Shanghai. *Urban Problems, 9*, 33-37.

Xinhuanet. (2013, Sept 23). Tourism and culture: OCT real estate's unique brand. *Xinhua News Agency*. Retrieved from http://news.xinhuanet.com/house/sz/2013-09-23/c_117466270.htm

Yu, Y. Q., & Zhao, F. (2003). An analysis of the feasibility and restrictive factors in developing tourism real estate in China. *Tourism Tribune, 18*(5), 74-77.

Zhang, H. (2005). *Real estate Economic.* Beijing: The Tsinghua University Press.

Zhang, R. K. (2007). The strategy of tourism real estate development in Shanghai. *Shanghai Real Estate, 5*, 46-48.

Zhou, C. X. (2011). *The relevancy of tourism estate based on hedonic price model: A case study of Shenzhen Overseas Chinese Town* (Unpublished master's thesis). Jinan University, China.

Zhou, L. (2011). The culture factors in tourism real estate. *Tourism Overview, 11*(9), 23-24.

Zhou, W. Q., & Lou, J. J. (2008). Theme park: Constructing the new growth pole of regional tourism-Taking Overseas Chinese Town theme park in Shenzhen as an example. *Journal of Guilin Institute of Tourism, 19*(1), 55-59.

Zhu, Y. (2005). *Tourism real estate's green development and general evaluation* (Unpublished master's thesis). Nanjing Normal University, China.

Zhu, Y., & Huang, Z. F. (2006). Research on the development mode of real estate in scenic spot. *Journal of Anhui Agricultural Sciences, 34*(21), 5675-5677.

Zou, Y. (2014, Aug 22). The wind is blowing, tourism real estate! Comment on The State Council's latest comments on tourism development. *Sina News*. Retrieved from http://guizhou.house.sina.com.cn/news/2014-08-22/09544394099.shtml

Zou, Y. M., & Kong, Q. Q. (2004). A new China's tourism real estate development prospect. *Journal of Business and Economics, 7*(7), 60-63.

Appendix

Survey Form in OCT

Date:		Name of Real Estate:	
Category	**Variable**	**Variable Description**	**Content**
Architectural features	Price	The average price ($/sq.m)	
	Log-price	Nature logarithm of average price	
	Opening time	Dummy variable After 2000 defined as "1", otherwise defined as "0"	
	Area	Gross floors area	
	Floor	Floors of buildings	
	Decoration	The degree of decoration	
	FAR	Floor area ratio	
	PM-Cost	Property management fee	
	Supermarket	Dummy variable If the building includes a supermarket, it defined as "1", otherwise defined as "0"	
	School	Dummy variable If the building includes a school, it defined as "1", otherwise defined as "0"	
	Pool	Dummy variable If the building includes a pool, it defined as "1", otherwise defined as "0"	
Location features	Location	Dummy variable If the building located in OCT, it defined as "1", otherwise defined as "0	
	Ring-Close	According to the distance between theme park and the buildings, the numbers are defined as "1,2,3,4,5"	
	Tourism Resource -H	Dummy variable, Within 0 to 0.5 km of the nearest tourism resource to take "1", otherwise to take"0"	
	Tourism Resource-1	Dummy variable, Within 0.5 to 1 km of the nearest tourism resource to take "1", otherwise to take"0"	
	Tourism Resource-2	Dummy variable, Within 1 to 2 km of the nearest tourism	

		resource to take "1", otherwise to take"0"	
	Tourism Resource-3	Dummy variable, Within 2 to 3 km of the nearest tourism resource to take "1", otherwise to take"0"	
	Tourism Resource-4	Dummy variable, Within 3 to 4 km of the nearest tourism resource to take "1", otherwise to take"0"	
	Metro	The shortest straight line distance to the nearest subway	
	Near the city main road	Whether near the city main road	
	Bus station	The numbers of bus stations nearby the buildings	
Landscape features	Green-Ratio	Green-Ratio	
	Landscape view	Theme park view(1 point)+sea view (1 point) + golf view (1 point) +Yanhan mountain scenery (1 point) + Ecological square scenery (1 point)	
	Environmental compatibility		