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Effect of Revitalisation of Historic Buildings on Retail Shop Values in Urban Renewal: An Empirical Analysis

Wadu Mesthrige Jayantha * and Esther Hiu Kwan Yung

Department of Building and Real Estate, The Hong Kong Polytechnic University, Hong Kong, China; esther.yung@polyu.edu.hk

* Correspondence: bsmjwadu@polyu.edu.hk; Tel.: +852-27665802

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Abstract: There often exists a tension between heritage conservation and urban redevelopment. However, heritage places are progressively operated as consumption spots and economic commodification, based on scholarly argument, is a major reason for the existence of a heritage resource. In this study, it is argued that revitalisation of historic edifices in districts undergoing urban renewal enhances the values of nearby commercial properties. This study employed a Hedonic Price Model (HPM) to investigate the existence of any relationship between revitalisation of historic building developments and the value enhancement of nearby retail properties located at the ground floor in the old area of Wanchai in Hong Kong. The model used 2961 real estate transactions obtained from buildings in the neighbourhood of three revitalised historical projects in the studied area, where a number of revitalisation projects have been completed. The results show that the revitalised historical projects have generated considerable value enhancements to the retail shopping properties in the vicinity. The results also revealed that the revitalised historical sites exert a greater impact on the retail property prices than do the newly developed nearby residential projects. The findings indicate that through the value enhancement of neighbourhood properties, the revitalisation of historical sites benefit not only the surrounding property owners but also local governments in the vicinity. The finding therefore supports the arguments utilized to advocate urban revitalisation and the idea that heritage resources exist purposely for economic commodification. Moreover, three case studies of the revitalisation of Chinese tenement buildings also provide a qualitative analysis of their social and economic impacts on the community.

Keywords: revitalisation; urban renewal; historical buildings; retail properties; rental property price

1. Introduction

Urban renewal notably emphasizes heritage conservation and renaissance [1] rather than simply demolishing and reconstructing deteriorated and obsolete buildings to construct a better living environment. In fact, many researchers state that conservation and redevelopment can go hand in hand [2–4], while conservation-led regeneration has an immense potential worldwide [5–7]. Heritage properties often create extensive externalities rather than just comprising the exchange value. According to English Heritage [7], these externalities promote better lives and lifestyles of urban dwellers. However, it has been criticized that revitalised areas inevitably lead to gentrification and exert social impacts on the community [8,9]. Apparently, revitalisation of historic buildings is progressively operated as consumption spots, such as shopping malls. Graham [10] revealed that both the economic and cultural uses could create images to enhance marketing of places in economic and cultural terms. Paradoxically, it is argued that heritage resource exists purposely for its economic commodification [10]. Thus, the economic effect of revitalisation of the historic edifices on urban renewal areas is worthy of examination.

Previous research evaluated the influence of a historic area on nearby properties, in terms of their values and sales prices [11]. Much research has found positive relationships between nearby historic areas and values of neighbourhood properties [12–20]. Another group of research claimed the effect is not conclusive, rather mixed, and insignificant [21–23]. Some found a negative relationship between a nearby historic district and property values [13,24]. One thing these studies have in common is that they are limited to examination of statutory designated projects or districts and few studies have looked at other forms of urban preservation strategies, such as ordinary historic buildings [25]. In fact, "historic buildings" include but not limited to listed or monumental buildings of international or national repute, but also buildings associated with well-known and memorable local scenes are becoming increasingly more significant in the local community [3,26].

In Hong Kong, there have been cases of heritage buildings converted into costly commercial places that generated sizable increases in tourism revenues and created a rise in property prices in the nearby businesses and for land owners in the entire area [27]. The former Marine Police Headquarters is a case in point [28]. This phenomenon is more complicated to explain in urban renewal districts where extensive property redevelopments have come into place. Although more emphasis on historic preservation in urban renewal has evolved, as a result of community aspirations towards conservation, particularly in the last decade, it is unclear whether the revitalised heritage building projects and/or the new residential developments has steered the rise of property prices in the vicinity, causing gentrification in urban renewal districts. Unlike other cities, where urban renewal is intended to revitalise a dilapidated area and social economy, in Hong Kong, a property-led revitalisation approach has been adopted in vital neighbourhoods, where lively local economic activities, social capital, and distinctive culture and histories are conveniently located [29]. Thus, it is interesting to identify the combined and separate effects of revitalising historic sites and of redevelopment projects on the surrounding commercial property values in an urban renewal district.

Therefore, the aim of this research is to provide a better insight into whether historic buildings preservation does bring value enhancements to nearby properties. More specifically, the relationship between historic conservation and economic impact on the ground floor rental prices of commercial premises in an urban renewal district using 2961 transactions of real estate price data was evaluated. In other words, the hypothesis that historic preservation serves as a marketing tool for enhanced redevelopment that has potential to transform use values into a means of exchange values was tested. In addition, the study compared the extent to which historic building revitalisation and new residential developments in urban renewal affects nearby property values. In this study, the Wanchai district was chosen as there are a number of completed and ongoing redevelopment projects which involve both the revitalisation and reuse of historic buildings and newly built residential developments. Apart from employing the hedonic price model, based on a set of real estate property transactions, three detailed case studies were also conducted to offer a better understanding of the correlation between conservation of historic buildings projects and economic impact upon the renewed district.

2. Literature Review

2.1. Conservation-Led Regeneration, Heritage Resources as a Means for Boosting Economic Growth

Conservation-led regeneration refers to "the use of conservation-related activity (such as protection, improvement, and enhancement of historic buildings) to bring about social, economic, and environmental regeneration benefits above and beyond those normally associated with physical improvement of the built environment" [30] p. 178. However, previous studies also criticize that conservation-led regeneration has negative impacts, such as failing to reflect local identities [31], threat to authenticity [4], and gentrification as reflected by the rise of property prices [8,9,32]. As such, heritage conservation plays a significant role by contributing to the growth machine ideology as evident in the increasing number of revitalised projects being used as commercial and consumption precincts. It is argued that different interest groups, including but not limited to preservationists, property developers,

and politicians, are wedded to the notion of marketing historic areas being a sign of "heritage machines" [33], for collective profits. In this spectrum, heritage can be described as an economic resource with great potential to foster tourism, economic development, and urban transformation [10] as investment in heritage projects plays a significant role in breaking the key barriers to tourism and community advancement [34]. Also, heritage is regarded as an important element of significant economy [35] by which "cultural strategies drive the production of commercialized urban space geared towards entertainment and tourism" ([36] p. 515). Although government declarations of support for heritage preservation is evident, some built heritages are being affected by diverse forces such as abandonment, inadequate funding, and over-commercialisation [37]. Thus, it is imperative to secure a balance between heritage conservation and revitilisation to optimize the potential benefits of heritage development.

2.2. Impact of Revitalisation of Built Heritage in Urban Renewal

It is commonly agreed that heritage conservation can bring many social benefits which enhance a sense of identity and local character and bring economic benefits to the community. However, the reuse of historic buildings often creates an image of upper class and consumerism which often leads to relocation of old traditional businesses due to dramatic increases in rent [8,9]. Thus, it is contended whether positive or negative externalities have been introduced to the community by the revitalisation of historic buildings.

Historic places attract businesses and residential development, as well as tourism and hence real estate investment. It is evident that after redevelopment in historic areas, the property market attracts higher values than elsewhere [7]. Throsby [34] opined that private house owners in the historic core have the privilege of rental prospects emanating from heritage revitilisation. This significant upsurge in market value makes the preservation of social networks and local traditional business almost impossible in the local neighbourhood [38]. Gentrification certainly compels local small businesses and occupants to leave the renewed historic district for another area [8,9]. However, some scholars claim that the perceived negative effect of gentrification can hardly be measured accurately, particularly, the extent to which gentrification affects existing tenants and owners [15,39]. Some argue that gentrification is vital to revitalisation of low-income vicinities [40] particularly, since it improves decaying physical conditions in central urban districts. It is not straight forward to provide robust analysis on the positive or negative impacts of gentrification on the existing neighbourhood. However, the rise of property market values can be one of the possible reflections of the positive externalities to the property owners, but on the other hand, the moving out of tenants due to unaffordable rental prices can be a negative externality because of the revitalisation of historic edifice in urban renewal districts. Also, there is a concomitant upswing in property taxes of neighbouring assets which invariably are unaffordable to residents [41] or translate to an upsurge of commodity prices, making life difficult for dwellers.

2.3. Association between Heritage Conservation and Property Prices

Even though cultural heritage seems to introduce various positive externalities and spillovers to the neighbourhood, few studies have endeavored to investigate the impacts of the revitalisation of historical buildings on the surrounding commercial properties. Most of the existing research has examined the effects of cultural heritage or historical buildings on adjacent property values in relation to the residential property market, e.g., Clark & Khan [42]; Asebere & Huffman [13]; Coulson & Leichenko [14]; Lazrak et al., [43]; Ahlfedt & Maenning [44]; Ahlfedt & Mastrol [45] and Moro et al., [46].

Nevertheless, the findings of these studies are mixed with respect to the effects on property values. For instance, Coulson and Leichenko [14] revealed that heritage sites brought a premium of 18 percent, whilst some studies found a negative premium, as much as −30 percent [13]. There is, however, a considerable body of literature reporting a positive external price effect of historical sites including monuments, landmarks, and various other historical sites. For example, Lazrak et al. [43]

observed a positive premium for buildings situated within a 50-m radius of historical monuments. Ahlfeldt & Maenning [45] also established that heritage is an essential amenity in valuing housing property in Berlin, with a 0.10 percent premium for houses situated within a 600-m radius of a set of heritage sites, and a 2.8 percent premium for houses within 50-m radius. In a more recent study in Dublin, Moro et al. [46] found that cultural heritage locations such as historical structures and memorials bring positive externalities to residential property values, while architectural sites bring negative externalities. Throsby [34] posited that heritage buildings, in addition to financial values, yield significant cultural values which cannot be measured in ordinary monetary terms but heritage edifices cause significant rise to flows of both economic and financial values.

More recent studies investigated how designated heritage sites affect housing prices in the vicinity [14,23,25,34]. However, no studies have researched the effect of the revitalisation of historic buildings on the values of commercial retail shops, particularly in urban renewal districts.

2.4. Heritage Conservation in Urban Renewal in Hong Kong

Established in 2001, the Urban Renewal Authority (URA, Hong Kong, China) aims to assist the Hong Kong government in revitalising the deteriorated urban environment [47]. Historic preservation has been increasingly emphasized in the process of urban renewal, particularly in the last two decades. The URA has employed the 4R strategy, that is; redevelopment, rehabilitation, preservation, and revitalisation, to regenerate the older urban districts. In past decades, the revitalisation of privately owned historic buildings has primarily been the role of URA, particularly, the Chinese tenement buildings (shophouses) while the Development Bureau has been in charge of publicly owned buildings. In addition to the URA, *Revitalising Historic Buildings through Partnership Scheme* was also launched by the Commissioner for Heritage Office (CHO, Hong Kong, China) of the Development Bureau, which was established in 2008 to oversee government owned historic buildings [48].

The revitalisation of the old Chinese tenement houses and redevelopment of several prominent sites in Wanchai were intended to regenerate the entire Wanchai district. The 60–66 Johnston Road and Mallory Street are part of the pioneer URA projects located at the hub of the Wanchai district and assigned for extensive development, including property redevelopment, building revitalisation, and pre-war shophouse preservation [49]. Consequently, the Development Bureau and the URA adopted a synergetic approach to achieve a district-based revitalisation and development of the Wanchai district [32]. The Blue House Cluster is a partnership scheme example of an ongoing revitalisation project in Wanchai.

In relation to the few completed revitalisation projects in the renewed districts, there has been much criticism on the biased priority towards attaining economic goals and ignoring social impacts. Although the need and the importance of conserving local character, including social networks, has been continuously advocated by the urban renewal regime [48], a lot of traditional trades and businesses have been moving out of the Hong Kong streetscape. Commercial redevelopment, which should typically subsidise the revitalisation and reuse of historic edifices, often distorted the local character, changing the urban fabric, and dislocating the existing traditional business and local inhabitants. This has resulted in discontinuity in the neighbourhood and the social network [50]. Apart from the adverse social impact, it has been claimed that the reuse of these historic edifices by the neighbourhood has led to higher property prices for businesses and residential developments which are unaffordable to the locals [50].

3. Case Study Analysis

Three recently revitalised historical buildings in an urban renewal district, Wanchai, namely: (a) 60–66 Johnston Road Woo Cheong Pawn Shop; (b) 1–11 Mallory Street, and 6–12 Burrows Street; and (c) 72, 72A, 74, 74A Stone Nullah Blue House Clusters were selected for case study (see Figure 1 for the location map of revitalised sites). A case study approach was adopted in a similar study by Henderson [37].
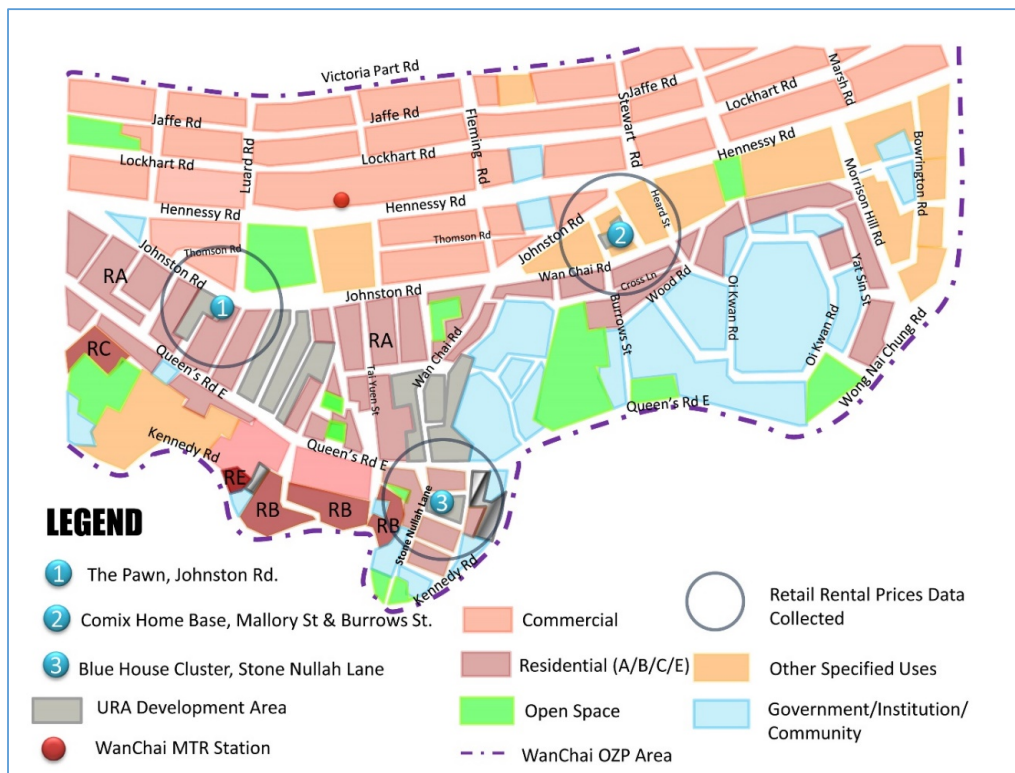
Figure 1. Location map of the urban revitalisation in Wanchai. Source: modified from outline zoning plan, the Planning Department, HKSAR.

(a)   60–66 Johnston Road, Wo Cheong Pawnshop

60–66 Johnston Road redevelopment consists of the preservation of the four Chinese tenement buildings (shophouses) constructed during the pre-war years and the new residential high-rise development. The hundred years old Wo Cheong Pawn Shop was originally located at 66 Johnston Road, built in the Verandah Shophouse style.

The URA acquired the entire site in 2003. Partnering with a local property developer, a new middle-class residential tower adjacent to the tenement buildings was built. The preservation of the four tenement buildings then became the commercial component of the residential development. All the ground floor shops have been renovated for the retail selling of home and decoration goods and the first and second floors now accommodate a high-class British style restaurant.

The reuse of these tenement buildings as expensive restaurants for the middle-class and tourists has been widely criticised. There has been strong debate about whether the project should be revitalised as a 'cultural and heritage project' or as an 'income-producing real estate project' [51]. Although there has been criticism of its effect on gentrification, the causes, effects, and extent of gentrification as a result of this revitalisation project cannot be easily quantified and analysed. Nevertheless, the revitalised Chinese tenement buildings have changed the streetscape and ambience of the area which has attracted new businesses, restaurants, and shops replacing some traditional shops in the vicinity.

(b)   1–11 Mallory Street and 6–12 Burrows Street, Wanchai

The Mallory Street and Burrows Street conservation project consists of 10 tenement houses built in the 1920s. They are special examples of the four-storey tenement buildings with cantilevered verandas. The Government has acquired and maintained 3–9 Mallory Street and 6–8 Burrows

Street, since the 1970s. The ground floors of the Mallory Street tenement buildings were used as homeless accommodations and a Chinese eatery for four decades. The Burrows Street tenement buildings were inhabited by a metal company, car repair shop, and a recycling shop.

The URA has spent HK$200 million on preservation and revitalisation of the tenement buildings, of which $70 million has been acquisition and rehousing costs [49]. The URA pays the operator, the Hong Kong Arts Centre, the entire cost (on a monthly basis) to manage and operate the facility, including the costs of management, operations, promotion and marketing, as well as property management expenses, including maintenance, security, and cleaning and repairs.

After the revitalisation, the remaining four buildings in Burrows Street, which were in extremely poor condition, were demolished, and only the façades have been preserved. A 300 m^2 public space was created for event organised by the residents and non-resident corporations. The ground floor shops of the six blocks facing the Mallory Street accommodate art-related retail stores. Some small-scale food and beverage facilities are located on the first floor, and work areas and event venues, and exhibitions are provided on the second and third floor areas. The URA claimed that this was a pioneer trial project aiming to promote cultural and creative industries while revitalising old districts. At the same time, it cannot be denied that the project has also become a catalyst for economic activities and interests in the neighbourhood.

(c)   72, 72A, 74, 74A Stone Nullah Lane, Blue House Clusters

The Blue House Clusters consist of a group of Chinese tenement buildings including the Blue House, Yellow House, and Orange House which were built in the 1920s, 1930s, and 1950s, respectively. The Blue House and Yellow House were designated as Grade 1 and Grade 3 historic buildings, whereas the single lot Orange House has no grading status. The Blue house provided shops on the ground floor, including a traditional Chinese bone shop. Residential units for the lower-class Chinese community were provided on the three upper floors.

This was a project of the Revitalising Historic Buildings Through Partnership Scheme which allows a non-profit-making organisation (NPO) to revitalise Government-owned historic buildings. Unlike the two revitalisation projects completed by the URA, a new approach was adopted for this project, which accentuates preservation of the historic buildings while retaining the original occupants. Although the project was intended to offer affordable housing for neighbouring tenants in the district, in fact, very few original tenants have stayed to live in the buildings. The NPO selected for future operator includes four NGOs. The proposal aims to revitalise the Blue House Cluster into a multi-functional services complex including interpretation/exhibiting areas, existing residential flats, shops, and restaurants to be operated by social enterprises, open space, and community hall, etc.

The project is supposed to preserve and strengthen the local community network in Wanchai and fortify the cultural connectivity for visitors. It is also expected that job opportunities, particularly for the local community, will be created. Since the announcement of the project in 2009, a number of new restaurants have opened at the ground floor of the surrounding residential buildings in the neighbourhood, some spaces are being used to accommodate car repair garages, metal-works, and printing shops. In addition, a new URA middle-class residential block has been located, in 2010, at the opposite side of Stone Nullah Lane.

In comparison, the three revitalised historic buildings projects have been completed in different times during the last decade and they have contributed to improvement of the physical conditions of the buildings, ambience of the streets, and the regeneration of the old Wanchai area. The three projects employ different development models involving different government bodies, institutions, and operators. The revitalisation of Wo Cheong Pawnshop has been seen as the most commercialised among the three cases, in which the private developer has emphasised residential property development and rental income from shops. After receiving widespread criticism of the revitalisation of the Pawnshop, the URA has attempted to adopt the arts and culture-led regeneration model in the revitalisation of

Mallory Street tenement buildings and co-operate with the Arts Centre. In the ongoing Blue House Cluster project, the government initiates the public–private partnership scheme and invite public tendering from NPOs. The theme of social enterprises for the operator is expected to be the least commercialised among the three development models.

The photographs and detailed information about these revitalised historic buildings projects are shown in Figure 2 and Table 1.

Before revitalisation	After revitalisation
Photo 1: Wo Cheong Pawnshop (source: URA website, 2017)	Photo 2: The Pawn (source: photo taken by the Authors in 2015)
Photo 3: Green House (source: photo taken by the Authors in 2005)	Photo 4: The Comix Home Base (source: photo taken by the Authors in 2015)
	Not yet completed
Photo 5: Blue House Cluster (source: photo taken by the Authors in 2005)	

Figure 2. Photos of the revitalisation projects before and after revitalisation.

Table 1. Summary of details of revitalisation projects.

Building Characteristics	Wo Cheong Pawnshop	Green House	Blue House Cluster
Address	60–66 Johnston Road, Wanchai	1–11 Mallory Street and 6–12 Burrows Street, Wanchai	72, 72A, 74, 74A Stone Nullah Lane, Wanchai
Completion Date for reuse	2007	2013	Not yet completed
Year Built	1888–1900s	Mid-1910s	1923–1925
Grading	Grade 2 Historic Building	Grade 2 Historic Building	Blue House: Grade 1 Yellow House: Grade 3 Orange House: no grade
Total GFA (m²) (revitalised)	7640	2140	1689
Site area(m²)	1970	780	930
No. of buildings	4 tenement houses	10 tenement houses	9 tenement houses
No. of storey	4	4	4
Ownership	Property developer acquired the 4 tenement houses from URA	The Government owned 6 of these buildings	Government (except two are privately owned as in 2009)
Original Uses	Shops on the G/F and residential on the upper floor	Residential	Worshipping, medical, educational, commercial on the G/F, residential on the upper floor.
New use	Restaurant and bar	Comix Home Base (for comics exhibition)	multi-social service centre, social enterprises, existing resident housing flats
Project Developer(s)	URA and a property developer	URA	Development Bureau and Non-profit-making organisations
Operator	The Pawn (restaurant)	The Hong Kong Arts Centre	NGOs (St. James' Settlement and three others)
Special features	Five tenement houses have been preserved as part of the commercial portion of a URA residential project	The revitalised buildings include a 300 m² of open space for exhibition and community.	Comprised of three groups of tenement buildings with a vacant piece of land in between. The tenants have been offered a choice to stay behind.
New residential development in the vicinity and year of completion	URA residential block in the adjoining land lot. J Residence was completed in 2008/2009	No new residential development was completed in the same period in the same street.	URA residential block in the lot opposite the street. Queen's Cube was completed in 2010.

Source: Authors.

4. Methodology

4.1. Hedonic Price Model

Most of the early empirical studies used stated-preference methods and revealed preference methods to evaluate the effect of cultural and historical heritage sites on property value. Pearce et al. [52] provides an extensive review of these early studies. Nevertheless, more recent studies have used hedonic pricing models (HPMs) extensively. Even though only a few studies so far have employed HPM to investigate external price effect of heritage preservation projects [46] on retail and commercial properties, there is a considerable body of literature reporting on the use of HPM to investigate the effects of various structural, locational, and neighbourhood parameters on housing property value. For instance, the effects on neighbourhood of such as landfills [53,54], noise [55], air pollution [56], and underground storage tanks [57]. Investigations of the effects of attributes such as size and floor areas of housing units include Carroll et al. [58]; Mok et al. [59].

The HPM possesses a special ability and strength to evaluate the inherent relationships between a commodity (here, the retail property) and its attributes [60]. Though property value is ascertained by

these various features, the HPM is able to disaggregate the total value into the values of individual attributes [61]. This study, therefore, also employed a HPM to investigate if the preserved historical sites have brought significant positive value enhancements to retail shop property value in the vicinity.

To evaluate whether historical sites bring any positive price value to the surrounding ground floor retail shopping properties, the tenancy transaction records of ground floor retail shopping properties in the vicinity of three major revitalised historical building projects were used in the model. As sales and purchase agreements for retail shopping properties are limited in Hong Kong [62], this study used rent values of retail properties to reflect market retail property values. In general, the market value of retail properties is measured in terms of rental value or sales price value [63,64]. Although some past research used ratable value as an indicator for property value e.g., [63,64], it is argued that ratable value is not a good proxy as it may exclude important elements such as rates, management, and air-conditioning fees.

The value of a retail property generally is established by the combination of a variety of attributes (structural, locational, and neighbourhood). This study, however, carefully made use of a set of attributes/factors that are crucial in determining retail property values. The semi-log form HPM model was employed in the study. The real rental price value of retail properties as the dependent variable was regressed against an array of logged (variables, which have non-linear relationships) and unlogged variables (variables, which have linear relationships). Nominal rental price values were deflated using a price index obtained from the Rating and Valuation Department. This is necessary as property transactions take place at different time periods. The HPM model comprises 6 very important variables, which are categorised under structural, locational, and neighbourhood attributes.

The proposed HPM for the study:

$$Ln(RP)_i = \Omega_0 + \Omega_1 Ln(GFA)_i + \Omega_2 Ln(AGE)_i + \Omega_3(PM)_i + \Omega_4 Ln(MTR)_i$$
$$+ \Omega_5 Ln(Dis\_Heritage)_i + \Omega_6 Ln(Dis\_NewHouDev)_i + \varepsilon i$$

In the model, *Ln (RP)* represents the (logged) real rental price of G/F (ground floor) retail properties, $\Omega_{1 \ldots} \Omega_6$ stand for various coefficients of attributes to be estimated; Ω_0 is the constant term and ε_i the stochastic term. Table 2 shows the details of all the variables, including expected signs.

Table 2. Summary of variable description of the hedonic price model (HPM).

Attributes	Abbreviation	Characteristics	Definition	Expected Sign (+/−)
	Ln(RP)	Real rental price of G/F retail shops	Transaction (leasing) rental price of the G/F retail shops properties in HK$ (in log form)	/
Structural	*Ln*(GFA)	Gross floor area of the retail shop	Floor area measured in sq. feet (in log form)	+
	Ln(AGE)	Age of the property	Age of the retail shop at the transaction date (years in log form)	−
	PM	Property Management body	1 if the shop has a property management company in which shop is located; 0 otherwise	+
Location	*Ln*(MTR)	Accessibility	The minimum walking distance (in minutes) from the nearest MTR station to the shop	−
Neighborhood	*Ln(Dis-Heritage)*	Distance to the heritage site from the retail shop	The minimum walking distance (in minutes) from the nearest heritage site to the shop	/
	Ln(Dis-NewHouDev)	Distance to the heritage site from the newly built housing scheme	The minimum walking distance (in minutes) from the nearest heritage site to the shop	/

In addition to the main focused variable, Heritage, in the study, four more important property variables are incorporated in the model in order to avoid misspecification errors. The first variable, GFA, which refers to the saleable floor area of the transacted unit, expected to be positively related with rent. As a larger space facilitates effective business operation and enhances face-to-face interactions with clients, tenants are willing to pay more for a larger unit [65]. This is obviously a straightforward positive relationship between property value and the size of the unit. The second variable, AGE, represents the age of the property, and is expected to be negatively related to the office rent [66,67]. As modern businesses require advanced IT facilities, and old structures are not capable of embracing these modern facilities, it is expected that the value of a unit its age to be negatively correlated. Another physical attribute is existence of property management (PM) in a building, which is also expected to have a positive relationship with the property value. The value of a retail unit can also be greatly influenced by spatial/locational relationships/attributes such as accessibility to MTR. It is hypothesised that as the distance between the retail unit and the MTR station increases, the property value decreases.

4.2. The Study Area and Data Collection

For the study, three revitalised historical building projects, as described in Table 1, were selected in Wanchai, an urban renewal district in Hong Kong. Wanchai district was chosen as one of the pristine developed areas in Hong Kong along the Victoria Harbour. Throughout the years, it has evolved from a fishing village to a modern district with exhibitions, businesses, cultural and sports activities, entertainment, and shopping. It is unique for its harmonious blend of old traditions, heritage buildings and new developments. It is also one of the districts in which the Urban Renewal Authority aims to revitalise the old town "as a new precinct of quality residential, leisure, shopping, and commercial activities while preserving its local and historic character" failing to reflect]. Details about these three historical sites, including their development models, and past and present uses were discussed above.

The retail property transaction data for the ground-floor retail properties located within a 350-m radius of the heritage sites were garnered from the Economic Property Research Centre (EPRC, Hong Kong, China) data base. A total of 2961 tenancy agreement transaction records between 2005 and 2015 were obtained from EPRC data bank for analysis. This period was selected specifically in order to capture the transactions of both pre and post periods of revitalisation of historical sites.

4.3. Statistical Interpretations in the Model

A set of simple statistical tools was used to interpret the results of the hedonic regression model in the study. Among them, the most standard and commonly used tools are adjusted R^2, simple t-test, and F-test. Adjusted R^2 reflects the explanatory power of the model; a higher adjusted R^2 (value ranges from 0 to 1) means a better model as used in a similar study [62]. On the other hand, a simple t-test was used to test the significance of all independent variables. This is achieved by relating the empirical t-value with the critical t-value. The null-hypothesis of a particular variable selected is rejected when the absolute t-statistic value for that particular parameter (empirical t-value) is greater than the theoretical t-value, implying that the chosen variable is significant in the model. That means there is a significant influence of this variable upon the dependent variable in the model. On the other hand, the F-statistic reflects the overall significance of the model. The overall model is statistically significant when the empirical F-value is larger than the critical value. Alternatively, the t-test and the F-test can be performed using the p-value. In principle, if a variable is found to be with a p-value less than 0.05, that variable is said to be at the 5 percent significance level, rejecting the null hypothesis.

5. Analysis of Empirical Results and Discussion

Prior to discussion of the empirical results of the HPM, it is habitual to report the descriptive statistics applying to the data set used in the analysis for a better understanding of the data in the model. Hence, descriptive statistics of the data chosen for the model are summarised in Table 3. The estimated results of the HPM along with the goodness-of-fit measures are reported in Table 4. All the estimated property attributes were found to be statistically significant and all the variables carry the theoretically expected signs (except *Ln(Dis-NewHouDev)*). Results reveal that the adjusted value of R^2 (0.811), which is the explanatory power of the model, is very high. This suggests that 81 percent of the total variation on ground-floor retail shop rental prices is explained by the selected attributes. The *F*-value of 293 adequately reflects the overall significance of the model. This suggests that the chosen explanatory variables are jointly statistically significant in explaining the variations of retail shop rental prices.

Table 3. Descriptive statistics.

Variable	Mean	STD	Min	Max
LnRP	11.8400	0.8774	7.32	14.81
LnGFA	6.7689	0.8677	3.33	11.47
LnAGE	3.6781	0.3447	1.39	4.19
PM	0.8027	0.3981	0	1
LnMTR	1.7142	0.4351	0	2.48
Ln(Dis-Heritage)	5.6137	0.8730	2.56	6.98
Ln(Dis_NewHouDev)	6.1377	0.9521	3.04	7.25

Table 4. Results of the Hedonic Price Model (HPM).

Variable	Coefficient	*t*-Statistic	Sig.
Constant	6.039 (0.225)	** 26.861	0.000
LnGFA	0.145 * (0.015)	** 9.375	0.000
LnAGE	−0.269 * (0.037)	* −7.198	0.015
PM	0.224 * (0.045)	** 4.918	0.000
LnMTR	−0.368 * (0.039)	** −9.538	0.000
Ln(Dis-Heritage)	−0.152 * (0.039)	** −3.925	0.000
Ln(Dis_NewHouDev)	−0.113 * (0.038)	** −2.958	0.003
Adj. R^2	0.811		
F-value	293.1		
N	2961		

*, ** indicates significant at 1 percent and 10 percent level respectively. Note: White's [68] error correction technique was used to correct the error structure of the model. Robust standard errors are in parentheses.

The most important variable in the model, *Ln(Dis-Heritage)* was found to be statistically highly significant at 1 the percent level, and carries the expected negative sign. The negative coefficient of −0.152 of *Ln(Dis-Heritage)* with *t*-statistic of −3.925 (*p*-value 0.000) means that as the distance between the heritage sites and the retail property increases by 1 percent, retail shop property rental prices decrease by 100[exp(−0.152)−1]} percent = 15.2 percent. This suggests that there is a positive rental price premium for the retail shop properties situated within a 350 m radius of heritage sites. This means retail shop tenants are ready to pay 15 percent more on G/F shop properties that are adjacent to those preserved historical sites. One may argue that this rise in rental price is due to the citywide growth in rent. However, the past three years (2014, 2015, and 2016) recorded a negative rental (and capital value of retail shops) growth for retail shops in the city [69] because of a sharp drop of tourist arrival over the past 2 years. Therefore, this clearly indicates that revitalisation of heritage sites has brought significant value enhancements (rise in rental price) to the nearby retail properties.

The value enhancement of retail properties near these sites may be due to several possible reasons. The urban renewal programme carried out in this district has brought meaningful positive spillover effects to the neighbourhood. Revitalisation is vital to the urban regeneration process of old districts and a means of prosperous transformation of the city. In particular, in the process of revitalisation, historical sites in the district studied were well protected. These preserved and historically important sites have brought a range of spillovers and positive externalities, attracting many tourists/visitors to the area. This subsequently has had an impact on business growth and value enhancement of the retail properties in the area.

The variable *Ln(Dis-NewHouDev)*, which refers to the distance between retail shop property units and the newly built luxury residential schemes in the revitalised area in Wanchai, is significant at the 1 percent level, and carries the negative sign. The negative coefficient suggests that as the distance between the heritage sites and these luxury residential schemes increases by 1 percent, retail rental property prices decreases by $100[\exp(-0.113) - 1]\}$ percent = 11.3 percent. The magnitude of the impact of residential schemes on retail property values is a little less than that of the revitalised heritage sites (i.e., 11.3 percent to 15.3 percent). The important point here is that the revitalisation projects have attracted these new residential redevelopment projects to Wanchai. The location of these new residential (re)developments are very close to the revitalised historic buildings in this urban renewal district. Thus, we can say that revitalised historical buildings in this area in Wanchai have not only influenced retail shop property values, but have also attracted residential schemes, influencing the use of the land nearby. In fact, the URA redevelopment is right next to the historic building, e.g., Wo Chun Pawnshop at Johnston Road. The Queens cube, another luxury residential tower, is just opposite the Blue House. There are also some new residential blocks right next to a row of revitalised shophouses in Queens Road East.

Given the standard property variables as depicted in the model, empirical results reveal that real transaction retail shop property prices (Ln*RP*) are positively related to the higher floor area (Ln*GFA*), and the existence of a property management company (PM), whist negatively correlated with the building age (*AGE*), and access to transportation (MTR). Actually, this finding is very much in line with previous research findings in Hong Kong's residential market [70,71]. Their studies found out that these property attributes play an important role in explaining variations in property prices of high-rise residential buildings in Hong Kong. Thus, the significance of these important property attributes (along with the balcony variable) in the model not only suggests that the model performs very well, but also it has avoided any miss-specification error.

The positive coefficient (0.145) of GFA indicates a positive relationship between the saleable area and the property value. Shop units with relatively bigger areas are certainly more expensive compared to small units. This is consistent with some previous findings with respect to the commercial property market [62], and in relation to the residential property market e.g., [18,59,72–74]. The negative coefficient (−0.269) of *AGE* indicates that as the physical structure of the building becomes older, the value of the property decreases significantly. The size of the coefficient is consistent with previous research findings. Previous research (in the housing literature) show that the age coefficient in hedonic price models falls typically in the range of 0.002–0.01 [18,75]. Aged buildings normally require higher repair and maintenance cost as defects are commonly found in them, and hence demand for these properties is not so great, hence the lower price. This finding is consistent with previous ones in the housing literature [18,73,76]. Having a retail shop unit in a building with a property management body certainly adds value to the shop property unit. This is manifested in the positive coefficient (0.224) of PM in the model.

As for the accessibility variable, MTR, results clearly show a negative relationship. In general, as accessibility and pedestrian flow go hand in hand, accessibility is considered as one of the most essential factors for the retail property market. Retail shops with greater accessibility to transportation therefore are positively correlated with rental property prices. The variable employed to capture the accessibility, MTR, clearly support this hypothesis. The coefficient of −0.368 of MTR implies that

as the distance between the retail shop and the nearest MTR station decreases by 1 min, the rental prices of shops increase by {100[exp(−0.368) − 1]} percent = 37 percent. In other words, retail tenants are happy to pay a premium of 37 percent for a shop with greater accessibility. Undoubtedly, retail shop units situated near MTR stations offer greater accessibility and a higher level of convenience for shoppers, and hence attract more pedestrian flows which accords with the previous findings of Wadu and Chun [62].

Effects of Revitalisation: Comparison between Revitalised Projects

In addition, three more hedonic models were tested for each revitalised historical site in order to further establish the effect of revitalisation on the nearby ground floor shopping property values. This helped us to examine if the three revitalised projects have different effects on nearby property values. The results are reported in Table 5.

Table 5. Comparison of HPM Results: Different Revitalisation Projects.

Variable	Wo Cheong (Pawnshop)	*t*-Value	Mellory Street (Green House)	*t*-Value	Blue House Cluster	*t*-Value
Constant	7.313	18.511	6.527	13.801	7.923	19.684
LnGFA	0.587 *(0.033)	17.707	0.549 * (0.036)	15.025	0.572 * (0.034)	17.060
LnAGE	−0.002 (0.077)	−0.021	0.093 (0.081)	1.151	−0.081 (0.075)	−1.089
PM	0.005 (0.067)	0.151	0.055 (0.071)	0.779	−0.001 (0.067)	−0.014
LnMTR	−0.441 * (0.087)	0.582	−0.666 * (0.087)	−7.656	−0.398 * (0.089)	−4.490
Ln(Dis-Heritage)	−0.109 * (0.05)	−2.184	−0.106 * (0.043)	−2.464	−0.133 * (0.044)	−3.021
Ln(Dis_NewHouDev)	0.027 (0.047)	0.057	0.285 * (0.026)	10.910	−0.005 (0.055)	−0.091
Adj. R^2	0.515		0.473		0.459	
F-value	61.96		86.72		54.07	
N	789		1310		862	

* indicates significant at 1 percent level percent. Note: White's [69] error correction technique was used to correct the error structure of the model. Robust standard errors are in parentheses.

Results reveal that the most important variable, *Ln(Dis-Heritage)*, was found to be statistically highly significant at the 1 percent level in all the three models, and also carries the expected negative sign. This means even a single revitalised project would bring value enhancements to the nearby ground floor shopping properties. However, the magnitude of coefficients for all the three models are relatively small compared to the cumulative model, which comprises all the three projects (cumulative effect). This suggests that the effects of one single revitalised project or a single building conservation is less apparent compared to the effects of an area-based revitalisation.

6. Conclusions and Recommendations

The main aim of this study was to identify and evaluate spillover effects, accruing to retail properties, of the revitalisation of historical sites in an urban renewal district in Hong Kong. The study used a hedonic price model (HPM) based on a set of property price data of retail shops where a number of revitalisation projects have been completed. The results of the HPM analysis are supplemented by a descriptive analysis in the form of three case studies.

The HPM results suggest that investment in revitalisation projects has brought significant positive externalities, in the form of value enhancements, to the neighbourhood ground floor retail properties. The results of this model, therefore, do support the hypothesis that revitalisation of historical sites bring benefits for neighbouring property owners and local governments via improvement of neighbourhood property values. This is congruent with the findings of past studies in respect to the effects of revitalised historical sites on residential properties [11,17–20]. The results are also in line with Graham's [10] findings, where he argues that the economic commodification is a major reason for the existence of a heritage resource. The results further support the arguments used to champion urban revitalisation initiatives.

Moreover, the HPM results suggest that revitalisation projects also attract new residential redevelopment projects to a neighbourhood. As soon as revitalisation projects have been completed and/or are ongoing, the private property developers have started to invest in new luxury residential (re)developments, which are very close to the revitalised historic buildings in this urban renewal district. Thus, revitalised historical buildings in this area in Wanchai, have not only enhanced retail shop property values, but also attracted residential schemes, influencing the use of the land nearby. While the model results reveal that the revitalised historical projects have a more significant impact on the rise of retail property prices than the newly developed residential projects in the neighbourhood, the land use implication of the revitalisation of historic buildings, to a particular extent, is a determining factor influencing the future location of middle-class residential redevelopment in the area. This, in turn, sheds light on the idea that the economic commodification of a heritage site is one of the fundamental reasons for its existence. An in-depth analysis further suggests that a single revitalised historic project brings relatively a smaller effect on the neighbourhood.

The three case studies of the revitalisation of historic buildings projects revealed the adoption of different development models ranging from (i) collaboration between the URA and private developer; (ii) collaboration between the URA and the operator; the URA responsible for the property management, while the operator is responsible for organising arts and cultural events; and (iii) a public–private partnership scheme implemented by the Development Bureau of the Government. In addition, the new use of these revitalisation projects also varies, ranging from primarily commercial to culture and a creative industry, and to community amenity and social enterprises. However, though the three projects are driven by different development models, these revitalisation projects exert similar effects on the retail property prices in the vicinity. In fact, these cases portray that once an area is associated with 'heritage' and 'nostalgia', it is likely to experience transformation into a middle-class zone for entertainment and consumerism [10], and the extent of commercialisation in new use has not been the sole factor of value enhancements to the surrounding properties. Interestingly, the study also shows that individual revitalisation project has bought less significant impact on the nearby rental values, instead, it is only when the three projects are analysed together that the model shows these heritage buildings have bought significant positive externalities. This reveals that the economic impact of an area based on revitalisation is more evident than a single building conservation approach. Correspondingly, the social impact of an area-based revitalisation on the local neighbourhood is more observable, thus, the government has increasingly advocated the area or district-based conservation rather than a single heritage site approach.

This study contributes new thought to the existing knowledge about the ability of revitalised historical building projects to bring value enhancements to commercial retail properties in urban renewal areas or districts. It also corroborates and qualifies what is already documented in the literature concerning the impact of revitalised/redeveloped projects on residential real estate markets. The study offers further evidence that location significantly matters in real estate markets. Locations in areas permitted to mixed-land uses, or places in the vicinity of different and relevant public or private revitalisation and redevelopment give rise to positive agglomeration economies. The land use implication of the revitalisation of historic buildings, to a reasonable extent, is an influencing factor affecting the future location of middle-class residential redevelopments as well ground floor retail

shopping properties in the area. It is thus essential to understand the development externalities that these revitalised projects bring to neighbourhoods, so that local government can accordingly determine the best mechanisms to foster revitalisation and urban growth.

In this study, the positive externalities, in the form of value enhancements, are clearly documented, however, the social impact of revitalisation of historic buildings on the neighbourhood cannot be neglected. The increase of property values of the local area is contentious in regard to the debate on gentrification. Some argue that gentrification could be purposely adopted to upgrade the physical conditions of an old area and attract affluent residents and tourists to the area. Others also argue that gentrification is only an issue if the redevelopment and revitalisation make the transformation process happen too quickly. It is not the purpose of this study to make any conclusive statement on whether revitalisation of historic buildings brings gentrification or not, but instead highlights the importance of considering different social and economic impacts on the renewed district as a whole.

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