Effect of Urban Redevelopment on Surrounding Retail Shops: A Case Study in Hong Kong

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Abstract—The purpose of this paper is to explore the effects of urban redevelopment on nearby shop values in Hong Kong. The Hedonic Price Model (HPM) is used to analyze the effects of three large-scale redevelopment projects on nearby shop values. The empirical results show that redevelopment projects bring significant positive benefits to the values of the shops. It also reveals that management bodies in buildings do not have significant impact on the shop values, which is surprising. All the other variables in the model, except frontage, found to be significant. The results imply that well-organized and well-planned redevelopment will drive shop property values in the neighbourhood.

Keywords—Redevelopment, shop-property values, HPM, Hong Kong.

I. INTRODUCTION

Many old buildings in Hong Kong are dilapidated, and it is estimated approximately 4% of the private buildings have exceeded their expected design lives of 50 years (Ho et al., 2012), whilst about one-quarter of the 39,000 private buildings are dilapidated to various degrees (Housing Planning and Lands Bureau, 2005). To address the problem of urban decay and building dilapidation, redevelopment has been considered and used as the most effective solution to tackle urban decay in the city.

Urban redevelopment has been extensively discussed by scholars, professionals and various urban development authorities in terms of its benefits to the society across the globe. Proponents of urban redevelopment claim that neighborhood redevelopment brings win-win propositions for all stakeholders involved, as it creates positive externalities beyond the boundaries of each project (Newell, 2009). Many studies found that there are significant positive externalities of redevelopment in the neighborhood properties. As suggested by some scholars, large scale redevelopment projects bring additional value to the properties in the vicinity (e.g., Rosenthal and Helsley, 1994). There is a significant body of literature showing a close association between neighbourhood quality and property value. Most of these empirical studies in Hong Kong however focus on investigating the effects on residential values in the neighbourhood (Yau, 2011; Hui et al., 2008; Lai et al., 2007; Yiu and Leung, 2005; Mok et al, 1995), whilst a number of studies have investigated various aspects of the urban renewal process including land assembly problem in Hong Kong (e.g., Adams and Hasitings, 2001; Adams 1996; Lai, 1993; Yeh, 1990; Fong, 1980).

Even though the long-standing urban decay problem has drawn attention from the authorities, there have been hardly any empirical studies in Hong Kong that have been documented regarding the spillover effects of redevelopment on nearby shopping and their values. The present research paper aims to investigate the effects of urban redevelopment on ground floor shop values in the neighbourhood.

Three large-scale redevelopment projects located in Tsim Sha Tsui (TST) district are K11, iSquare and TheONE, with commercial space ranges from about 30,000 square meters to 50,000 square meters are chosen for the empirical analysis. This research paper is first of its kind to analyze the effects of large-scale redevelopment on the values of the shops in Hong Kong. The tangible benefits identified in this study would be incentives to motivate the redevelopment policy in general, and property owners of old properties who resist redevelopment in particular.

II. METHODOLOGIES AND DATA DESCRIPTION

The study employs a hedonic price model (HPM) to evaluate the impacts of redevelopment on nearby shopping property values. Property price, whether it’s house or shop, is determined by the consumers’ evaluation on a set of intrinsic and extrinsic attributes. The hedonic price model (HPM) is such a well established approach to analyze shopping property prices in terms of these attributes. The strength of this method (HPM) is its ability to assess the implicit relationships between the commodity (here, retail shop property) and its characteristics. Since the HPM allows the total property value to be broken down into the values of individual attributes (Hui et al., 2011), this method can be used to identify the impact of neighbourhood improvement on nearby shopping property values.

To investigate whether the redevelopment projects bring any potential value to the surrounding G/F retail shop values, the transaction records of retail shops are used in the model. Retail shop rents are employed to measure the retail property values. Though Rateable value can be used as a proxy to reflect market property value, rateable value may exclude rates, management fees and air-conditioning charges. Thus, rental value is considered as a better proxy to reflect the market value.

The study proposes following hedonic model:

\[ \ln (P_i) = \beta_0 + \beta_1 \ln (GFA_i) + \beta_2 (\text{FRONT}_i) + \beta_3 (\text{COCL}_i) + \beta_4 (\text{ACCES}_i) + \beta_5 (\text{MB}_i) + \beta_6 (\text{Aft} \times K11_i) + \beta_7 (\text{Aft} \times iSq) \]
redevelopment on nearby shop values. Empirical results show

\[ \ln(P) = \beta_0 + \beta_1 \text{Aft} + \beta_2 \text{The1} + \beta_3 \text{iSquare} + \beta_4 \text{K11} + \epsilon_i \]

Where \( \ln(P) \) represents the logged (real) shop rental price, \( \beta_0 \), \( \beta_1 \), \( \beta_2 \), \( \beta_3 \), \( \beta_4 \) are the coefficients to be estimated; \( \beta_0 \) is the constant term and \( \epsilon \) the stochastic term. The descriptions of all the variables including definitions are summarized in Table I.

III. EMPIRICAL ANALYSIS AND DISCUSSIONS

The estimated coefficients along with corresponding \( t \)-statistics, goodness-of-fit measures and diagnostics are summarized in Table II. As shown in the table, most of the important variables in the model are found to be statistically significant.

Although the important aspect of the model is the redevelopment aspect, other standard variables are also needed to interpret appropriately. As a general remark, the model performed reasonably well. Most of the variables are found to be significant at 0.05 level. As expected, the size of the floor area (LnGFA) is found to be positively related to the shop rental price. The variable Cockloft is also found to be significant and exert the expected positive sign. This implies Cockloft has a significant and positive influence on shop rental value, and as the size of the Cockloft increases the shop rental value also increases. Obviously, cocklofts are primarily used to store and display goods and products in shops and hence large cocklofts can store more inventories and large-sized products. This can improve the diversity and availability of goods in a shop which can enhance the shop image from the customer’s perspective. Hence a shop with a larger cockloft is valued much more than with small one.

The variable that reflects the accessibility (ACCESS) to the shop is also found to be significant, although it has the negative sign. This implies that the rental value is high if a shop has higher accessibility. For example, a shop, which is located close to a MTR station, has a very good accessibility with a high level of convenience for the customers. Efficient property management services normally bring positive benefits to the property. Thus, theoretically we expect a positive relationship between the presence of a good management body and the property value. However, the results of the model reveal a negative relationship. It is found that the coefficient of Management Body (MB) is negative and significant only at 10% level. Further, it reveals that the presence of Management Body causes the shop value to drop by around 10%. A possible reason for this is that a majority of shops in Tsim Shai Tsui District are located on the ground floor of old buildings and face directly to the street, while the management bodies are located on upper floors or the lobby in buildings. Normally security and management services in these buildings are far from satisfactory. However, tenants still have to pay for management services. These low-standard and unattractive management services may bring negative effects on shop rental value.

The most important aspect of the model is the impact of redevelopment on nearby shop values. Empirical results show that redevelopment brings positive benefits to the shop values in the vicinity. All the three redevelopment projects yield the same result, even though the impact of K11 is less significant (only at 90% significant level). Therefore, the hypothesis that redevelopments should benefit to the street-level shops and boost their rental value has been confirmed. Results furthermore reveal that iSquare has the greatest impacts on shop value, among the three redevelopment projects. It has led furthermore reveal that iSquare has the greatest impacts on shop value, among the three redevelopment projects. It has led to increase shop values by 34% in nearby shops. A possible reason might be that iSquare is located in a superior location with a convenience access to the MTR station that helps to attract pedestrian flows. Besides, iSquare has its own car parking facilities which is really an essential facility to attract customers in a busy district. All these bring positive benefits to the value of the property.

The findings of the study provide a good understanding of the effects of redevelopments on nearby shopping properties. As most of the existing studies mainly focus on the effects on residential properties, this preliminary study gives a very good start to explore the real effects of redevelopments on nearby shop values further. This is a part of an ongoing research
project. We will further analyze how the non-nearest redevelopment projects with different distance levels (before and after redevelopments) affect the shop property values in the future.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Coefficient</th>
<th>t-Statistic</th>
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<tbody>
<tr>
<td>LnGFA</td>
<td>0.664</td>
<td>15.335 (0.000)</td>
</tr>
<tr>
<td>FRONT</td>
<td>0.005*</td>
<td>0.592 (0.554)</td>
</tr>
<tr>
<td>COCL</td>
<td>0.001</td>
<td>5.393 (0.000)</td>
</tr>
<tr>
<td>ACCESS</td>
<td>-0.151</td>
<td>-7.804 (0.000)</td>
</tr>
<tr>
<td>MB</td>
<td>-0.108*</td>
<td>-1.722 (0.086)</td>
</tr>
<tr>
<td>Aft X KII</td>
<td>0.195*</td>
<td>1.583 (0.114)</td>
</tr>
<tr>
<td>Aft X ISq</td>
<td>0.885</td>
<td>7.369 (0.000)</td>
</tr>
<tr>
<td>Aft X The1</td>
<td>0.647</td>
<td>5.592 (0.000)</td>
</tr>
<tr>
<td>(1-Aft) X ISq</td>
<td>0.737</td>
<td>6.933 (0.000)</td>
</tr>
<tr>
<td>(1-Aft) X The1</td>
<td>0.577</td>
<td>5.634 (0.000)</td>
</tr>
<tr>
<td>Constant</td>
<td>7.011</td>
<td>23.41 (0.000)</td>
</tr>
</tbody>
</table>

**REFERENCES**


