The Impact of Historic Building Preservation in Urban Economics: Focusing on Accommodation Prices in Jeonju Hanok Village, South Korea

Go-Eun Kim 1 and Jeong-Ran Lee 2,*

1 The Seoul Institute, Seoul 06756, Korea; gon3205@hanmail.net
2 Department of Real Estate Management, MYOUNGJI College, Seoul 03656, Korea
* Correspondence: jeongran.lee2@gmail.com

Received: 17 May 2020; Accepted: 11 June 2020; Published: 18 June 2020

Abstract: The preservation of historic buildings, based on economic value, has long been discussed in developed countries. On the other hand, in Korea, where the history of preservation is relatively short, discussions have only recently started. Related to this, a discussion regarding the scope of buildings that need to be protected in relation to urban planning is needed. This study analyzes the Jeonju Hanok Village, a tourist destination where Hanok—the traditional Korean architectural type—is highly concentrated. The study provides evidence for the economic impact of historic building preservation with respect to rarity, experience and agglomeration, based on the price analysis of accommodations. As a result, the accommodation prices of Hanok were found to be higher despite being older. The relation between accommodation prices and building age was quadratic, which revealed that buildings that have become rare attained accommodation prices similar to new buildings. Also, it was found that the prices increased with the provision of traditional activities and meal services. Lastly, the price was higher in the area where Hanok was agglomerated. The results suggested that the preservation of buildings should not only be justified on cultural grounds but also economic grounds, based on market demand and the fact that such preservation could contribute meaningfully toward sustainable development.

Keywords: historic building preservation; economic value of preservation; rarity; experience; agglomeration

1. Introduction

The preservation of historic buildings has an important meaning because it has not only historicity from our ancestors’ culture but also provides historical spaces for future generations. In this sense, the issue of preserving historic buildings has influenced the recent urban planning policies of local governments in Korea, extending beyond the act of designating national cultural properties. However, in the case of Korea, where the history of preservation is not long, there are controversies regarding the preservation policies of local governments due to unclear selection process standards and methods. Hence, prior to implementing policies, the meaning of preserving historic buildings needs to be discussed in-depth.

What significance does preserving buildings hold in urban planning? In developed countries where historic building preservation has a long history, in terms of modern conservation theory, the discussion of preservation was precipitated in early 19th century Europe, resulting in the establishment of the Athens Charter in 1931, the Venice Charter in 1964 and so on. Discussions on building preservation methods have persisted ever since [1–5]. More recently, the economical aspect of historic building conservation has been studied, demonstrating that these buildings can generate
fundamental aspects of urban environment, three important values are identified. The first is the value of rarity, the management of cultural heritage at a city level. The second is the value of appropriate scale, districts on a national scale. The third is the value of historical context, institutionalizing the historical preservation system of the individual building but also its surroundings, and the 1962 Malraux Act of France. The Athens Charter and the Venice Charter outlined the importance not only of the individual building but also its surroundings, and the 1962 Malraux Act of France institutionalized the historical preservation system of Secteurs sauvegardés to protect historical districts on a national scale. The subject of preservation was extended from individual buildings to groups of old buildings, villages, towns and urban areas according to the European Charter of the Architectural Heritage (1975), the declaration of Amsterdam (1975) and the Washington Charter (1987). In the Heritage Overlay of Australia, the precincts’ Heritage Overlays have been applied alongside individual Heritage Overlays to not only preserve cultural buildings but also manage cultural heritage at a city level.

In a preservation system which takes into account the relationship between the building and its urban environment, three important values are identified. The first is the value of rarity, the fundamental aspect of preservation. Building preservation holds historical significance when it

This study analyzed the accommodation prices of Hanok located in Jeonju Hanok Village to understand the impact of preservation on the urban economy. Jeonju Hanok Village is a representative tourist destination in Korea where Hanok is integral to the daily lives of the residents. This means that a sufficient number of historic building samples can be secured and, because the lodging facilities are of a generally uniform style, comparisons can be made more readily. Based on this, the second chapter reviews the literature on the building preservation system and its economic effectiveness. The third chapter examines the characteristics of Jeonju Hanok Village and the distribution of accommodations, and the fourth chapter examines the effect of building preservation on accommodation prices using the hedonic price model. Finally, the study provides urban planning implications based on the findings.

2. Literature Review

2.1. Building Preservation in Urban Policy

Historic building preservation seems obvious from an urban planning perspective, considering that the relationship between the historic building and its urban environment has formed a compatible system over a long course of time. In developed countries including those in Europe, the United States and Australia, the preservation of buildings has been closely related to urban planning. The Athens Charter (1931) and the Venice Charter (1964) outlined the importance not only of the individual building but also its surroundings, and the 1962 Malraux Act of France institutionalized the historical preservation system of Secteurs sauvegardés to protect historical districts on a national scale. The subject of preservation was extended from individual buildings to groups of old buildings, villages, towns and urban areas according to the European Charter of the Architectural Heritage (1975), the declaration of Amsterdam (1975) and the Washington Charter (1987). In the Heritage Overlay of Australia, the precincts’ Heritage Overlays have been applied alongside individual Heritage Overlays to not only preserve cultural buildings but also manage cultural heritage at a city level.

In a preservation system which takes into account the relationship between the building and its urban environment, three important values are identified. The first is the value of rarity, the fundamental aspect of preservation. Building preservation holds historical significance when it
protects the authenticity of traditional forms which have become rare in the current urban context. In the case of English Heritage, which manages and protects heritage, the authenticity of properties is ensured through the principles of period and rarity [12]. Second is the experiential value, meaning that preserved buildings are not merely archaic structures but function as an urban space that can be experienced with great utility. The Heritage Overlay in Australia enhances the value of experiences by using protected buildings not simply for cultural purposes but as everyday urban spaces, including hotels, commercial, office, and religious facilities [11]. However, the experience gained from historic buildings is related to the scope of activities and the level of convenience; therefore, appropriate measures are needed to control convenience while mainly focusing on providing activities. The third is the value of agglomeration, since a concentrated distribution of historic buildings with a unique character creates a certain historical atmosphere within the city. English Heritage identified this group value to be an important aspect [12], and in *Secteurs sauvegardés* and Heritage Overlay, the overall landscape in historical districts is managed to seek connection with the surrounding urban area [10,11].

On the other hand, in Korea, a comprehensive approach to urban policy and cultural policy has only recently emerged. Urban policy in Korea, coming out of the Colonial period and the aftermath of the Korean War, up until the mid-20th century, was primarily concerned with modernizing downtowns that had deteriorated, focusing on removing dilapidated areas and supplying new housing and infrastructure [13]. In terms of cultural policies, due to the lack of government budget and resources, only a small number of designated cultural heritage were protected and opened for visitation purposes. The preservation of buildings and areas in actual living quarters has only been marginally considered.

Since the second half of the 20th century, witnessing rapid economic growth, the demand for cultural and tourism industries increased greatly, which lead to the formation of historical districts that encompass historic buildings and their surroundings. This was reflected institutionally through the Special Act on Promotion of and Support for Urban Regeneration, enacted in 2013, which emphasized urban regeneration, not the prior redevelopment method based on full-scale demolition. The Korea Cultural Heritage Administration (2019) [14] now aims to create value through district preservation, as opposed to simply preserving the original state of individual properties. As such, urban policy emphasizing the historical and cultural aspects of the urban environment, and the cultural policies which expanded its scope to the urban realm, are at an intersection. Even so, due to the limited experience of preservation, other than protecting designated cultural heritage, there is little consensus regarding the targets and methods of preservation. The conflicting issues of building preservation and economic interests have been continuously raised. Therefore, this study maintains that sustainable preservation is possible when reflecting actual demands, and examines the conditions in which building preservation can generate economic benefits.

2.2. The Urban Economic Impact of Building Preservation

As the discussion of urban policy for building preservation has continued in developed countries, various notions have been raised regarding the urban economic effect of preservation. The first is the antique effect, also known as the vintage effect, related to the value of rarity [6,15]. The economic value of rare historic buildings may increase based on the perception of their being an antique with unique architectural characteristics. Winson-Geideman et al. (2011) [6] found that higher economic value was measured for buildings older than 119 years in Georgia, United States, reviewing the period up until the Civil War reconstruction era. The second is the historical ensemble effect, which is related to the accumulation effect regarding the experience of a historical atmosphere. Larak et al. (2014) [7], studying the Zaandstad region in the Netherlands, revealed that, when historic buildings are agglomerated, this creates a historical atmosphere in the surrounding area which increases their economic value. Other than this, while historical preservation can directly impact tourism, it can also have an indirect impact through the multiplier theory [16]. In this regard, the Advisory Council on Historic Preservation of the United States proposed measuring economic
effects through employment, household income, asset value, tourism, environmental changes and the regeneration of old city centers [17].

In Korea, the value of buildings is known to decrease over time. Various studies on housing and offices show that, with building age, building performance tends to deteriorate, resulting in lower economic value. Conversely, some studies show an increase in economic values with building age [8,18,19]. In the research of Lee et al. [9] on housing, the value of older buildings increased due to the higher possibility of redevelopment, depending on land value. For commercial buildings, the rent of old buildings increased if the building was located in a key area within the region or was known for its unique identity [20,21]. If the identity of historic buildings was a factor of rent increase, this would align with the value of preservation, which is the focus of this study; however, related studies commonly point toward the good accessibility of old buildings within the city center for its regional effect. Therefore, for a more refined analysis, accessibility should be controlled by limiting the site of analysis to within the same level of accessibility. Lastly, many studies focused on Hanok have justified its preservation based on historical and cultural factors, whereas the economic effect has been understudied. Nevertheless, Kwon et al. (2014) [22] revealed that there was a low redevelopment possibility for older Hanok or Hanok clusters, lending support to the value of rarity and agglomeration. However, Lee et al. (2013) [23] revealed, with regards to the same site of Jeonju Hanok Village, that older buildings were correlated with lower prices, based on individual housing prices between 2005 and 2011. However, this study was conducted at a time when the number of visitors was only 10% to 30% of the current visitor level and, hence, different findings may be extracted in the context where the village has been fully developed as a tourist destination. Also, because the main industry of the area is tourism, it is more suitable to measure the economic effect by analyzing accommodation fees, rather than housing price, since such transactions are rare. In this respect, this study addresses a new research aspect.

3. Building Preservation of Jeonju Hanok Village

3.1. The Characteristics of Jeonju Hanok Village

The preservation of historic buildings in Jeonju Hanok Village is considered to be satisfactory, and the tourism industry is thriving based on historical and cultural resources. The Hanok Village has unique characteristics in terms of rarity, the experiential aspect and agglomeration.

First, Hanok, which forms the fundamental basis of the value of rarity, is an architectural typology that is not easily found in large urban areas. The traditional Korean architecture, Hanok, is characterized by its wooden structure and traditional curved roof structure. It was a popular building type up until the 1940s, but drastically decreased in numbers during the modernization period [22]. As of 2016, it is estimated that there are only 210,000 Hanok left nationwide, which only accounts for 2.8% of the total building stock. Moreover, Hanok located in the Capital or Metropolitan cities with particularly high population densities only accounts for 13.8% of the total Hanok stock [24]. Therefore, for inhabitants of large cities, Hanok is a special type of building that can be experienced only in specific locations.

Second, Jeonju Hanok Village offers unique experiential characteristics through its tourism industry. A diverse range of traditional buildings are found in the village, and more than 10 million per year tourists have visited since 2016 [25]. Most Hanok, apart from the buildings designated as national cultural property, are used by residents and visitors alike as accommodations, restaurants, cafes, traditional clothing rental shops, photo studios, gift shops, workshops and residential spaces, and the maintenance and management of the area are voluntary. Visitors not only visit historical and cultural sites along a designated route, but also eat and sleep in these old buildings wearing traditional clothing and engaging in crafts, which offer the experience of a different historical period.

Third is the characteristic of accumulation, with 735 Hanok buildings located within the legally designated Traditional Cultural District (TCD) of Jeonju. Additionally, there is a large number of Hanok located outside this district as well. The Hanok within the village was built starting in the 1910s around Jeonju Fortress, and was preserved in 1977 according to the designation of the Hanok
preservation district. Due to the dissent of residents during the 1980s and 90s, building controls were lifted and the modern-style Yangok was built (Appendix A). However, in 2002, the Jeonju Hanok preservation support ordinance was enacted, with a view to protecting tourism resources during the selection bid for hosting the FIFA World Cup in Jeonju, which helped secure the budget for Hanok renovation [25,26]. Against this background, hundreds of Hanok within walking distance became well preserved in the Jeonju Hanok Village, which helped extend the visitors’ experience to the entire village, rather than to a small number of designated cultural properties.

3.2. Current Status of Accommodations in Jeonju Hanok Village

Hanok agglomerated in the Jeonju Hanok Village is used for diverse purposes, including accommodation, commercial and cultural purposes, and residential space. The various uses are an important aspect of the local business ecosystem and a contributor to revitalizing the urban economy; however, concerning the overall economic value, these divergent uses may cause confusion. Therefore, this study focused on accommodations alone among the various building uses.

In the village, accommodations accounted for 23.1% of buildings, considering both Hanok and Yangok [27]. With a sufficient number of samples, the characteristics of building age and accommodation ranged widely. The price of accommodation, used to measure the economic value, reflects the demands of visitors, which embody the economic values of rarity, experience and agglomeration assessed by the visitors. Accommodation price data was available online, which was advantageous in collecting a large amount of data over a short period of time, in comparison to collecting rent prices. Most importantly, accommodation facilities have relatively uniform spatial composition and services, which makes for an easier comparison based on their grading of facilities. At the same time, this stylized information allows the convenient separation of building age and the physical conditions of the facilities. Winson-Geideman et al. (2011) [6] investigated the economic value of building preservation; the actual age and effective age of the buildings, which measured the functional effectiveness, were considered as separate variables. In other words, an objective comparison between different variables is possible when the building’s age, a proxy of history, and the building’s physical condition are considered separately. This study aims to approach the conditions of buildings and rooms objectively and analyze the economic value of buildings over time.

Data was collected through the online spatial information platform, Naver Place, and individual accommodation websites for two weeks, from 1st October 2018. The study area encompassed the Hanok Village, which was buffered by a 500 m walking distance from the boundary of the extended TCD, which included designated cultural properties, museums, traditional markets and other tourist destinations (Appendix A). Of the 253 facilities surveyed, the analysis was conducted for the 809 guestrooms for two people, in order to control for size. The accommodation price was the average taken between the minimum and maximum price of lodgings, including weekdays and weekends (Appendix A). The building’s age data were improved with the data of the building registration documents provided by the Ministry of Land, Infrastructure and Transport. The distribution of the building age of accommodations in the Hanok Village is shown in Figure 1. As shown, the number of Hanok decreased with time, and there were only 15 buildings that were older than 80 years. In the case of 20–40 years of building age, the number of Hanok decreased dramatically, while a large number of Yangok were built, compared to other periods. This was due to the alleviation of building controls when the scenic district was rescinded in 1997, whereby a large number of Yangok were built.
3.3. Distribution of Accommodations in Jeonju Hanok Village

Examining the spatial distribution of accommodations, the relation between building age and accommodation fees can be understood (Figure 2). First, in terms of building style (a), Hanok accommodations were mostly located within the extended TCD, while there were a number of such facilities found in the west and south areas of the area. Buildings older than 60 years were concentrated in the TCD (b), and a small number of old buildings were found outside the TCD as well. The more expensive accommodations, with an average price higher than 100 USD, were distributed inside the TCD, and were clustered near the traditional market located on the west side of the TCD, where the proportion of Hanok was particularly high (c).

4. The Impact of Building Preservation on Accommodation Price

4.1. The Distribution of Building Age and Accommodation Price

To understand the impact of building preservation on accommodation prices, it is necessary to first investigate the distribution of building age and price by guestroom (Table 1). The analysis was based on data gathered for 809 rooms, not the individual accommodation facility, since accommodation prices may differ depending on the room size and internal layout, which would vary even within the same facility. Hence, all subsequent analysis was conducted with regards to the guestrooms, rather than the accommodation facility.
Table 1. Distributions of age and price by building style.

|                  | Style | Obs | Percent | Mean | Std.Dev. | Min | Max | t-Test |
|------------------|-------|-----|---------|------|----------|-----|-----|--------|
| Age (yr)         | Total | 781 | 100%    | 40   | 26       | 0   | 93  |        |
|                  | Hanok | 595 | 76.2%   | 44   | 28       | 0   | 93  | 8.1956 |
|                  | Yangok| 186 | 23.8%   | 27   | 15       | 0   | 62  | ***    |
| Price (USD per night) | Total | 809 | 100%    | 59.2 | 17.2     | 12.1| 195.5|        |
|                  | Hanok | 622 | 76.9%   | 60.1 | 24.2     | 113.1|     | t = 2.6703 |
|                  | Yangok| 187 | 23.1%   | 56.2 | 22.8     | 12.1| 195.5| ***    |

*** Significant at the 99% level of confidence.

Excluding missing value data, a total of 781 cases were observed in understanding the distribution of rooms by building age, which revealed that the average building age for Hanok was 44 years, while for Yangok it was a comparatively short 27 years. The minimum building age for both building styles was 0, as it included newly built facilities, and the maximum value for Hanok was 93 years, and 62 years for Yangok. The building age differences were statistically significant, as confirmed through a t-test. The traditional Hanok was found to be generally older than Yangok, and accounted for a high proportion of 76.2% of the total guestroom stock in this area.

Next, the overall average accommodation charge per night was 59.2 USD, which ranged from 12.1 to 195.5 USD. The average price for Hanok was 60.1 USD, which was more expensive than the 56.2 USD for Yangok, and the standard deviation for Hanok was smaller than Yangok, indicating that the price range of Hanok was smaller than that of Yangok. The t-test also showed that the price differences between Hanok and Yangok were statistically significant. As such, since the accommodation price for Hanok, which is older and more traditional, was more expensive than for Yangok, it may be assumed that visitors are willing to pay higher prices for the value of rarity, experience and agglomeration of Hanok.

4.2. Relationship Between Building Age and Accommodation Prices

Other than the descriptive statistics, the relation between the two variables was identified through a scatterplot. Of possible relations, a positive correlation between building age and accommodation price would provide the most meaningful evidence of the historicity embodied in building preservation. However, if the relation between building age and accommodation price is dependent on choosing between historicity and novelty, a quadratic relation may be possible. From the novelty aspect, the price would be highest for the most recently built buildings, which would decline over time, but at a certain point, this would rise again, based on the historicity of the buildings.

To understand the value of rarity in detail, this study first analyzed the whole data sample, and then for Hanok and Yangok separately. The scatterplot showed a convex pattern between building age and accommodation price, as opposed to a linear relationship (Figure 3). In other words, the high accommodation price of newly built facilities decreases over time then, as the facility becomes recognized as being rare, the price rises again. However, there were differences between the building types: in the case of Hanok with higher rarity values, the explanatory power of the statistical model was higher, while the value of R-squared for Yangok was comparatively lower. The relation between building age and accommodation price for Yangok was a tenuous quadratic relation, and it was the facilities aged 30–40 years that had the highest and lowest accommodation prices simultaneously. Hence, further analysis was conducted controlling for variables that may affect the economic value.
4.3. Hedonic Price Models of the Accommodation Price

The final model used in this study was the hedonic price model, which is often used in urban, real estate and tourism studies to understand prices in relation to the complex effects of building, lodging facility, room and location characteristics [28,29]. To objectively compare the characteristics of architecture, the model was divided into considering all facilities, then Hanok and Yangok facilities separately. In the comprehensive model concerned with all facilities, building style was treated as a dummy variable.

The independent variables can be categorized in three aspects. The first are the building age variables, which included the building age and the squared value of building age, in order to treat for the quadratic relation between building age and price identified through the scatterplot. The second set consisted of variables related to the experience values of the facility and rooms. These variables captured the experiential services provided by the accommodation facility, including traditional activities and meal experiences, among others [30]. Related to this, the level of convenience, which may affect the experiential services, was controlled for. With regards to the accommodation facilities, the grading of the facility indicating its quality, size (Appendix A), the presence of a courtyard where outdoor activities could be carried out [28] and the presence of dormitory and commercial facilities which may create noise or congestion were considered. In terms of the guestrooms, basic information such as room size (Appendix A) and bathtub availability were considered [29], in conjunction with double floor arrangement and the availability of beds, which are not common in Hanok accommodations, but are at times provided for the guest’s convenience. Third, the location variable, directly related to the value of agglomeration, was treated as a dummy variable, depending on whether the facility was located inside the expanded TCD or not. Last, since data for this study was collected through the internet, the number of online reviews (Appendix A) were also accounted for, since this can affect accommodation prices [31,32].

As a result (Table 2), the variables related to rarity were statistically significant for Hanok only. In the comprehensive model, accommodation prices were increased by 3 USD for Hanok facilities. In the model concerned with Hanok alone, building age and the squared value of building age were both statistically significant, demonstrating that the lowest price was for facilities that were 46 years of age, which then increased with time. Next, there were notable differences between the Hanok model and other models with regards to the accommodation facility variables. The Hanok model showed significantly higher accommodation prices when various traditional activities and meals...
were provided. However, variables that were known to influence prices, such as the grade of the facility, size, courtyard, dormitory and commercial facilities, and online reviews had less effect. On the other hand, for both the Hanok and comprehensive models, similar results were found for the guestroom variables. Since guestrooms are directly related to the utility experienced by the visitors, prices increased for larger, double-story rooms and rooms with beds. In other words, the economic value of Hanok accommodation increased when the entire facility maintained the unique traditional atmosphere of Hanok while providing modernized and convenient guestrooms. Last, for all models, accommodation prices increased by approximately 7.4 USD when located inside the expanded TCD. This showed that visitors were willing to pay more to experience the general atmosphere of a historical place formed by the agglomeration of Hanok. In summary, the analysis showed that the rarity of buildings and the experiences of visitors impacted economic value in traditional Hanok accommodations, and the agglomeration of Hanok had an effect on increasing the overall accommodation price.
Table 2. Hedonic Price Models by building style.

| Accommodation Price (USD) | Model (1): Total | Model (2): Hanok | Model (3): Yangok |
|---------------------------|-----------------|-----------------|------------------|
|                           | Coef. | S.E.  | Coef. | S.E.  | Coef. | S.E.  |
| **Building**              |       |       |       |       |       |       |
| Style(Hanok)              | 3.0225 | *     | 2061.9 |       |       |       |
| Age                       | −0.0027 | 85.5  | −0.1479 | *     | 94.8  | 0.0512 | 362.8 |
| Age Sq.                   | 0.0002 | 1.0   | 0.0016 | *     | 1.1   | 0.0048 | 7.1   |
| **Accommodation**         |       |       |       |       |       |       |
| Experimental Activity     | 3.7999 | ***   | 1405.8 | 3.1835 | **   | 1534.2 | 13.1262 | ***   | 3914.0 |
| Meal                      | 2.3579 | **   | 1335.5 | 2.3143 | *    | 1465.3 | 3.9174  | 3432.1 |
| Grade                     | 5.2431 |       | 4720.9 | −0.3339 |      | 5837.7 | 14.6278 |       | 9363.0 |
| Size of Accommodation     | 0.3324 | ***   | 118.3  | −0.1012 |      | 238.4  | 0.5561  | ***   | 177.5  |
| Courtyard                 | 0.1227 |       | 1873.6 | −2.2070 |      | 2131.8 | 6.3477  |       | 4754.1 |
| Dormitory                 | −7.6603 | ***  | 2132.6 | −3.2168 |      | 2756.8 | −14.3463 | ***  | 4258.6 |
| Commercial Facility       | −5.8126 | **   | 3031.4 | −4.6114 |      | 3557.8 | 0.8784  |       | 6894.0 |
| **Room**                  |       |       |       |       |       |       |
| Room Size                 | 5.6000 | ***  | 692.8  | 5.7687 | ***  | 763.2  | 5.4092  | ***  | 1715.2 |
| Bathtub                   | 1.9433 |       | 3266.6 | 0.0855 |       | 3534.8 | 29.0443 | ***  | 7425.5 |
| Double Floor              | 3.2276 | **   | 1930.3 | 3.0624 | *    | 1969.2 | 1.2147  |       | 7786.8 |
| Bed                       | 7.7403 | ***  | 1858.5 | 7.4187 | ***  | 2449.1 | 1.7647  |       | 3321.6 |
| **Location**              |       |       |       |       |       |       |
| Inside of Extended TCD    | 7.3859 | ***  | 1810.9 | 7.4482 | ***  | 2249.5 | 7.3718  | **   | 3544.0 |
| Online                    |       |       |       |       |       |       |
| The Number of Online Reviews | 0.0084 | *     | 5.7    | 0.0072 | 6.0   | 0.0561 | ***   | 22.0  |
| Constant                  | 28.3841 | ***  | 3796.1 | 35.5682 | ***  | 4694.9 | 13.3943 | **   | 7710.7 |
| R-sq/Adj. R-sq            | 0.2527/0.2369 |       | 0.2139/0.1932 |       | 0.5603/0.5208 |   |

*** Significant at the 99% level of confidence. ** Significant at the 95% level of confidence. * Significant at the 90% level of confidence.
5. Discussion and Conclusions

This study investigated the effect of building preservation on the urban economy by examining the accommodation prices of lodging facilities in Jeonju Hanok Village, a representative area of the historical and cultural district in Korea. Based on existing literature, the study identified the value of historic building preservation in cities based on rarity, opportunities of experience and agglomeration. In terms of the value of rarity, the accommodation price of Hanok was higher than that of Yangok lodging facilities, and the economic value of historicity was also demonstrated through specific ranges, where higher prices were observed with older building ages. In particular, the quadratic relation between building age and accommodation price revealed that prices did not increase simply with time, but rather that economic value is maximized only when a small number of well-preserved historic buildings survive in their original state. Second, for Hanok lodgings, accommodation prices were higher when the facility provided traditional experiences while being equipped with highly convenient rooms. In other words, visitors may demonstrate a strong preference toward Hanok that are continually well-maintained and offer diverse opportunities of traditional experiences, as opposed to old and uncomfortable facilities that can easily be perceived to be inconvenient or less attractive. Third, the agglomeration effect of Hanok was significant in increasing accommodation prices, irrespective of building styles. Accommodation prices were higher not only for Hanok within the expanded TCD, but a price increase was observed for Yangok as well, depending on their location. This showed that visitors were willing to pay higher prices just to experience the historical atmosphere of an area. In this sense, the agglomeration and preservation of Hanok can impose economic effects across the local area beyond the individual building.

The findings demonstrated the economic value of building preservation, which extends the current discourse centered on aesthetic and ethical justifications of preservation. This study has significance, as it establishes a new direction for preservation policy in Korea—which has faced a backlash from residents in the past for being seen as a form of control, hindering development—based on the values of rarity, experience and agglomeration, toward creating higher economic value. The study showed that rare historic buildings can create as much economic value as new buildings. This calls for the careful consideration of the existing redevelopment models in Korea, which demolishes old buildings and promotes comprehensive new developments, and highlights the need to properly appraise the historical and economic value that could be incurred through preserving old buildings.

In the future, central and local governments need to identify and support historically rare buildings, and historical and cultural districts, to promote local tourism and urban revitalization, which should be actively induced, based on market demand. Furthermore, efforts should be continued at both, the individual building level and the local area, to offer genuine experiences and realize the effects of agglomeration. For individual buildings, efforts should not focus simply on preserving historical authenticity, but also on providing services that can enhance the convenience of the facility. At the local area level, the clusters of historic buildings could create synergy, and these areas should be well-maintained. Then, sustainable development can be achieved by promoting building preservation, which creates economic value. Still, the historic buildings should be preserved by proper use that respects the historicity of the buildings, which have great social and cultural value in themselves, and, without doubt, the historic value should be considered carefully, after sufficient discussions, before making any judgement of economic value. Such findings have planning implications for other Asian cities and in the developing world, where development is promoted at the expense of preservation.

Nevertheless, there was a caveat to this study considering building styles. The preference of Yangok is less clear in comparison to Hanok, where there was a clear indication of higher prices observed in older buildings. In Korea, architecture from the modernization period, among cultural properties that are not nationally designated, is being managed through becoming registered cultural heritage, and the popularity of these buildings is increasing among the general public. However, since these buildings are often similar to the modern buildings, with which urban
residents are familiar with in their daily lives, the preservation of Yangok would require further discussion and sufficient public support.

Also, the study has the following limitations in collecting data online. Due to the restriction of the data collection to objective aspects of facilities in order to account for the reliability problem of online reviews, the control of intangible aspects, such as cleanliness, service quality and safety, could not be reflected. There was a lack of information on the interior of the rooms, which requires qualitative judgement and assessment, and the actual demand through occupancy rate was also difficult to obtain. In the future, such factors should be comprehensively considered and controlled for.

**Author Contributions:** Go-Eun Kim developed the initial idea and made the draft. Jeong-Ran Lee refined the idea, analysed the data, and edited the draft. Both authors have read and agreed to the published version of the manuscript.

**Funding:** This research received no external funding.

**Conflicts of Interest:** The authors declare no conflict of interest.

**Appendix A**

1. Yangok is a Western-style building introduced by foreigners in Korea in the late 19th century. It was built of bricks and blocks, and later concrete structures were mainly erected [22]. Although they have less traditional character compared to Hanok, the earlier Yangok hold significance, as they display localized modifications added during the modernizing period of Korea.

2. The expanded Traditional Cultural District encompasses the legally defined Traditional Cultural District under the district unit plan of Jeonju City and its surroundings. Because the expanded TCD is the area of Hanok agglomeration perceived by tourists, the data was collected according to this boundary.

3. The original data were in KRW currency, which was converted to USD for information purposes. (USD 1 = KRW 1238, as of 29 May 2020)

4. The total number of rooms was investigated, including single-person rooms and guestrooms for three or more people, as well as two-person guestrooms.

5. The room size was measured by the maximum number of people allowed for a standard two person guestroom.

6. Online review scores may have reliability problems due to accommodations being scored by competitors and the respective businesses [33]. In this study, only the reviews that could be judged impartially according to the amount of information given were used.

**References**

1. The Athens Charter for the Restoration of Historic Monuments(The Athens Charter); Adopted by the First International Congress of Architects and Technicians of Historic Monuments, Athens, Greece. 1931. Available online: https://www.icomos.org/en/167-the-athens-charter-for-the-restoration-of-historic-monuments (accessed on 14 June 2020).

2. International Charter for the Conservation and Restoration of Monuments and Sites(The Venice Charter); 1IInd International Congress of Architects and Technicians of Historic Monuments, Venice, Italy. 1964. Available online: https://www.icomos.org/charter/venice_e.pdf (accessed on 14 June 2020).

3. The European Charter of the Architectural Heritage; Adopted by the Council of Europe. 1975. Available online: https://www.icomos.org/en/charters-and-texts/179-articles-en-francais/ressources/charter-and-standards/170-european-charter-of-the-architectural-heritage (accessed on 14 June 2020).

4. The Declaration of Amsterdam; In Congress on the European Architectural Heritage. 1975. Available online: https://www.icomos.org/en/and/169-the-declaration-of-amsterdam (accessed on 14 June 2020).

5. Charter for the Conservation of Historic Town and Urban Areas(The Washington Charter); Adopted by ICOMOS General Assembly in Washington D.C., USA, ICOMOS, 1987. Available online: https://www.icomos.org/charter/towns_e.pdf (accessed on 14 June 2020).
6. Winson-Geideman, K.; Jourdan, D.; Gao, S. The impact of age on the value of historic homes in a nationally recognized historic district. *J. Real Estate Res.* **2011**, *33*, 25–47.

7. Lazzar, F.; Nijkamp, P.; Rietveld, P.; Rouwendal, J. The market value of cultural heritage in urban areas: An application of spatial hedonic pricing. *J. Geogr. Syst.* **2014**, *16*, 89–114.

8. Huh, S.; Kwak, S.J. The choice of functional form and variables in the hedonic price model in Seoul. *Urban Stud.* **1997**, *34*, 989–998.

9. Lee, B.S.; Chung, E.C.; Kim, Y.H. Dwelling age, redevelopment, and housing prices: The case of apartment complexes in Seoul. *J. Real Estate Financ. Econ.* **2005**, *30*, 55–80.

10. Cultural Heritage Administration. *A Study on the Current Regulation of Preservation and Management of Cultural Properties in Developed Countries*; AURI: Sejong, Korea, 2014.

11. Kwon, Y.S.; Kang, S.W. District-based conservation system for historic and cultural environments: In case of the heritage overlay within the capital city zone in Melbourne. *Urban Des. Inst. Korea* **2010**, *11*, 5–20.

12. Department for Culture Media & Sport. *Scheduled Monuments & Nationally Important but Non-scheduled Monuments*; Department for Culture Media & Sport: London, UK, 2013.

13. Yang, J.S. Seoul’s Urban Redevelopment Policy; Seoul Solution: 2015. Available online: https://seoulsolution.kr/en/content/seoul%E2%80%99s-urban-redevelopment-policy (accessed on 10 May 2020).

14. Cultural Heritage Administration. Cultural Heritage Administration, Six Core Strategies of Future Vision Commemorating 20 Years of Establishment 2019. Available online: https://www.cha.go.kr/newsBbz/selectNewsBbzView.do;jsessionid=Wmb9HRs7qxKIU9QpcTe5p83pKU7qsCwha4Amei85rLYvCjyyvNug2XuW6rxq1.cha-was01_servlet_engine1?newsId=155701471&sectionId=b_sec_1&pageIndex=8&min=NS_01_02&strWhere=&strValue=&sdate=&edate= (accessed on 10 May 2020).

15. Goodman, A.C.; Thibodeau, T.G. Age-related heteroscedasticity in hedonic house price equations. *J. Hous. Res.* **1995**, *6*, 25–42.

16. Listokin, D.; Listokin, B.; Lahr, M. The contributions of historic preservation to housing and economic development. *Hous. Policy Debate* **1998**, *9*, 431–478.

17. Rypkema, D.R.; Cheong, C.; Mason, R.F. Measuring Economic Impacts of Historic Preservation: A report to the Advisory Council on Historic Preservation by Place Economics. Advisory Council on Historic Preservation: Washington, D.C., USA, 2013.

18. Kim, S.K.; Choi, J.G. A comparison analysis of rent determinants between office and retail buildings. *J. Korean Reg. Sci. Assoc.* **2012**, *28*, 3–21.

19. Kim, E.J.; Kim, Y.H. Change in determinants of Seoul office rental price. *J. Korean Reg. Sci. Assoc.* **2006**, *22*, 79–96.

20. Jung, E.S.; Kim, J.H. The effects of building age on rent in Korea—Focusing on the 1st floor rent of non-residential buildings in Seoul Gangnam area, *J. Korea Plan. Assoc.* **2017**, *52*, 83–102.

21. Choi, J.; Jin, C.H. A study of the rent determinants for retail property: Focusing on the classification of retail property. *Korea Real Estate Acad. Rev.* **2015**, *62*, 48–61.

22. Kwon, Y.C.; Kim, S.H.; Jeon, B.H. Unraveling the factors determining the redevelopment of Seoul’s historic Hanoks. *Habitat Int.* **2014**, *41*, 280–289.

23. Lee, J.S.; Kim, S.J.; Oh, D.H. A study on determinants of Hanok price in the Jeonju traditional housing village. *J. Korea Plan. Assoc.* **2013**, *48*, 65–81.

24. Lee, J.M.; Lee, M.K.; Ko, Y.H.; Ku, B.H. 2017 Hanok Statistics; AURI: Sejong, Korea, 2017.

25. Jeonju Hanok Village. Jeonju City. Available online: http://hanok.jeonju.go.kr/contents/info. (accessed on 10 May 2020).

26. Nam, H.K. A study on the characteristics of the housing floor plan in Jeonju Hanok Village. *J. Korean Hous. Assoc.* **2010**, *21*, 139–148.

27. Jeonju City. *Jeonju Urban Management Planning*; Jeonju City: Jeonju, Korea, 2017.

28. Roubi, S.; Littlejohn, D. What makes hotel values in the UK? A hedonic valuation model. *Int. J. Contemp. Hosp. Manag.* **2004**, *16*, 176-182.

29. Chen, C.F.; Rothschild, R. An application of hedonic pricing analysis to the case of hotel rooms in Taipei. *Tour. Econ.* **2010**, *16*, 685–694.
30. Moon, C.H. A study on the tourist’s satisfaction and behavioral intentions with the experiential tourism of homestay in Korean traditional Hanok: Case study of Jeonju Hanok Village. *Int. J. Tour. Hosp. Res.* **2009**, *23*, 61–79.

31. Pan, B.; MacLaurin, T.; Crotts, J.C. Travel blogs and the implications for destination marketing. *J. Travel Res.* **2007**, *46*, 35–45.

32. Goldenberg, J.; Libai, B.; Muller, E. Talk of the network: A complex systems look at the underlying process of word-of-mouth. *Mark. Lett.* **2001**, *12*, 211–223.

33. Chua, A.Y.K.; Banerjee, S. Reliability of Reviews on the Internet: The Case of Trip Advisor. In Proceedings of the World Congress on Engineering and Computer Science, San Francisco, CA, USA, 23–25 October 2013; Volume 1.

© 2020 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (http://creativecommons.org/licenses/by/4.0/).