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도시계획학 석사 학위논문

The Impact of Starbucks on Adjacent Assessed Land Price

-The Case of Four Northeast Districts of Seoul-

스타벅스 효과가 인근

표준지공시지가에 미치는 영향에 대한 연구

-서울 동북2권을 대상으로-

2020년 8월

서울대학교 환경대학원

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-서울 동북2권을 대상으로-

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ABSTRACT

In 1999, the first Starbucks coffee store in Seoul signaled the start of changing the traditional cafe culture in Korea. In those days, Starbucks is the only coffee franchise brand that underlines the importance of the “coffee experience” to promote Starbucks’ uniqueness in the form of ‘The Third Place.’ As the popularity of Starbucks has risen, people begin to keep their eyes on the Starbucks effect. The location strategy of Starbucks, which is known as the hub and spoke model, has the power to bring synergy on property values in the land market.

This study examines this upward trend in the real estate market to evaluate the Starbucks effect based on academic theories. The primary purposes of this research are ① to estimate the changes in land prices nearby Starbucks and Ediya coffee stores in four northeast districts of Seoul during the period ‘before’ (2006–2011) and ‘after’ (2012–2016), ② to evaluate the existence of Starbucks effect through the difference in difference method and analyze how does it mean to the bedroom community.

This study targets the officially assessed land prices within a 300m from each of the 17 Starbucks and Ediya coffee stores in four northeast districts of Seoul, which has been known as the bedroom community in Seoul. For the research comparison, this study stipulates the treatment group as Starbucks and the control group as Ediya, which is a representative of an indigenous Korean coffee brand. To measure the Starbucks

effect accurately, it collects 6,886 land prices from 626 areas in the bedroom community during a decade (2006–2016). This study draws a 160m range from each of the selected land areas to investigate provided infrastructures in the surrounding environments. Before conducting the difference in difference estimation, this study establishes a research period before opening the 17 Starbucks and Ediya coffee stores (2006–2011) and after launching the 17 Starbucks and Ediya coffee stores (2012–2016).

Consequently, land prices nearby Starbucks have 10,728 won/m² increased (0.78 percent of growth rate), and land prices nearby Ediya have 109,159 won/m² risen (16.67 percent of growth rate) in the last decade. This study states that the two comparison groups' causal effect is – 98,431 won/m² in four northeast districts of Seoul within a statistical significance level. Unlike the primary precedent research, the 17 Starbucks coffee stores have not wielded substantial influence over adjacent land prices in Seoul's four northeast districts. Even though the Starbucks effect does affect nearby housing prices and office rents in urban areas, it is uninfluential in the bedroom community's land market in Seoul.

◆ Keywords : Cafe Culture, Starbucks, Ediya, Starbucks Effect, Difference in Difference, Four Northeast Districts of Seoul

◆ Student Number: 2018–23237

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I . Introduction

Today, a record of Starbucks' unquestioned success is driving itself forward into a new era for the coffee market. Starbucks is the only coffee franchise that underlines the importance of coffee experience (Loyd et al., 2001). Selling medium-roasted coffee within an atmosphere of peace and calm creates a sizeable retail opportunity to promote customer experience (Rivero, 2015).

This brand identity reflects well on Starbucks' uniqueness in the form of 'The Third Place,' which is between home and work where people can take a complete rest from the hectic routine (Patterson et al., 2010). Literally, Starbucks coffee stores provide sophisticated ambiance, Wi-Fi service, stress relief music, modern interior design, and exquisite craftsmanship for customers (Jalil et al., 2016, Rajasekaran, 2015).

Furthermore, the third place plays a critical role as an anchor of community life, which induces more engaged community activities (Lin, 2012). The performance of the third place encourages more social interactions in relaxed vibes. Therefore, many customers are willing to revisit Starbucks in their spare time because it precisely guides them in the way

of gathering with others, which is a fundamental principle of structuring an urban cafe sociality (Bookman, 2014).

In this regard, Starbucks distinguishes itself with a full-bodied coffee blend that comes with a genuine sense of humanity and responsibility (Campbell & Helleloid, 2016, Seidman, 2017). Starbucks establishes its brand core value, 'To inspire and nurture the human spirit – one person, one cup and one neighborhood at a time,' to create a community culture and build a strong bond with community members (Starbucks, 2020). Consequently, Starbucks performs a corporate social responsibility (CSR) to make a positive community environment with full of respect and dignity (Maignan & Ferrell, 2004, Argenti, 2004, Starbucks, 2015).

Regarding the Sommeliertimes, the SA consulting company, which has a high level of expertise in the field of a questionnaire study, targeted 1,085 people to survey the coffee brand-image in Korea within a specified period, 15th April to 18th April 2019.

For the consumer service satisfaction, 61.3 percent of respondents are satisfied with Starbucks, resulting Paikdabang and Ediya (10.6 percent respectively), Twosomeplace (9.2 percent), Caffè-Pascucci (5.1 percent), Caffebene (1.4

percent), Angel-in-us and Tom N Toms (0.9 percent respectively) in order.

For the coffee quality, 59 percent of respondents believe Starbucks coffee is a high quality, resulting Twosomeplace (13.8 percent), Ediya (11.1 percent), Paikdabang and Angel-in-us (4.1 percent respectively), Caffè-Pascucci and Caffebene (2.8 percent respectively), and Tom N Toms (2.3 percent) in order.

For the brand-image, 50.2 percent of respondents say Starbucks has a positive image with the public, resulting Ediya (15.2 percent), Paikdabang (11.5 percent), Twosomeplace (11.1 percent), Angel-in-us (5.5 percent), Caffebene (2.8 percent), Caffè-Pascucci (2.3%), and Tom N Toms (1.4 percent) in order.

For the brand credibility, 59 percent of respondents say Starbucks is the trusty coffee brand, resulting Ediya (12 percent), Paikdabang (11.1 percent), Twosomeplace (6.5 percent), Caffebene (3.7 percent), Angel-in-us (3.2 percent), Caffè-Pascucci and Tom N Toms (2.3 percent respectively) in order.

For the brand popularity, 71 percent of respondents claim that

Starbucks is more known to the public, resulting Ediya (11.1 percent), Paikdabang (7.4 percent), Twosomeplace (6.0 percent), Angel-in-us (1.8 percent), Caffebene (3.7 percent), Caffè-Pascucci (0.9 percent), and Tom N Toms (0.5 percent) in order.

For the willingness to pay, 50.7 percent of respondents are willing to pay for Starbucks coffee, resulting Paikdabang (18.4 percent), Ediya (17.1 percent), Twosomeplace (5.5 percent), Caffè-Pascucci (3.7 percent), Caffebene (1.8 percent), and Angel-in-us and Tom N Toms (1.4 percent respectively) in order. Overall, this survey indicates that Starbucks Korea has made an effort to build a long-term relationship with community members. As the survey results, increased popularity and consumer trust become driving forces to Starbucks to take a dominant position in Korea.

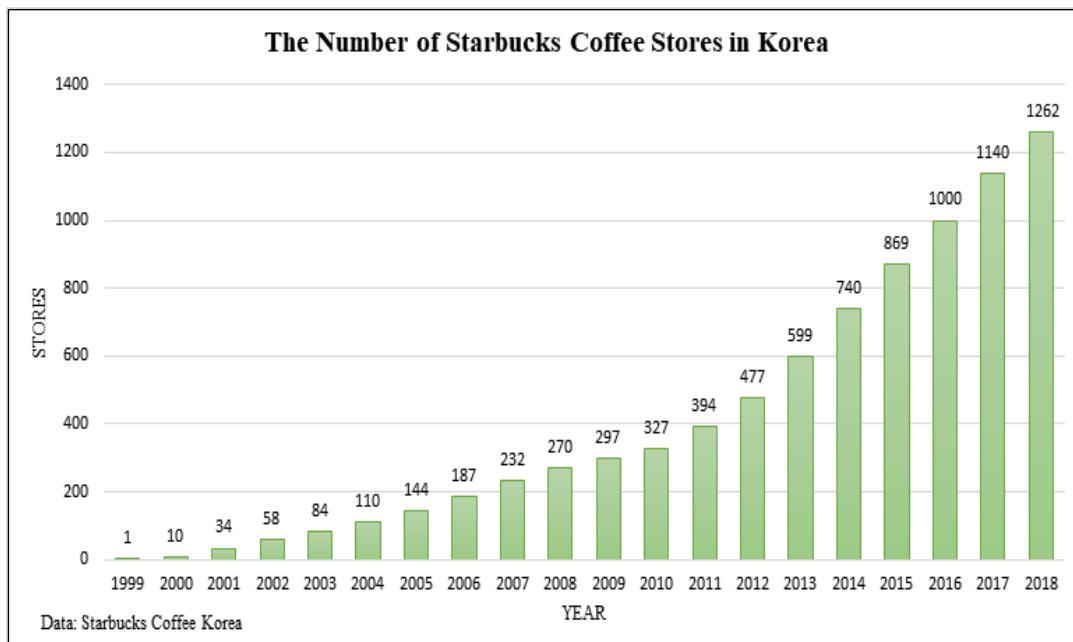


Figure 1. The Number of Starbucks Coffee Stores in Korea

[Figure 1] illustrates that Starbucks Korea has successfully pushed forward its business in the last two decades. The continued growth and prosperity of Starbucks Korea have triggered a large floating population in local branches and encouraged a more active community. Although Starbucks Korea underwent difficulty in 2009, which was a period of the great recession, it rebounded from the low-growth business and sustained a growth trend until 2018.

During the last nineteen years, Starbucks Korea has 26.8 percent of the total market share, which is a remarkable performance to lead the primary Korean coffee market (Starbucks Korea, 2017). Keeping this uptrend in the market,

Starbucks Korea has increased more stores and activated more substantial coffee business.

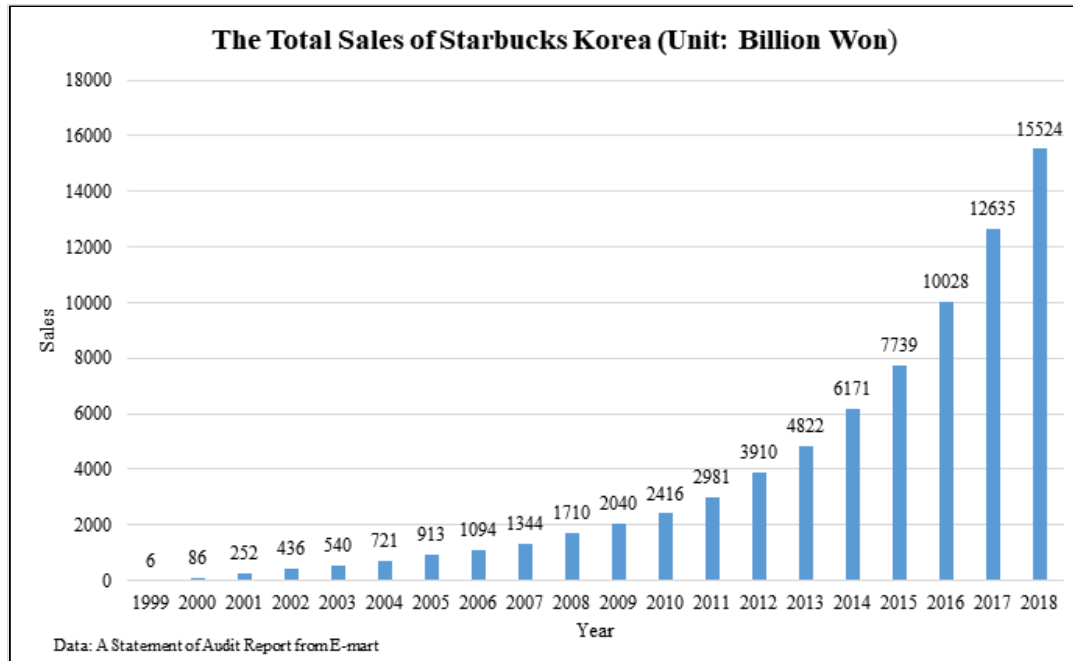


Figure 2. The Total Sales of Starbucks Korea

[Figure 2] indicates that the total sales of Starbucks Korea have continually increased since its first branch had opened in Seoul in 1999. The keys to Starbucks Korea's success are 'Starbucks membership card,' in 2011, the Drive Through' in 2013, the 'Siren Order' and specialty coffee store the 'Reserve' in 2014, and sentimental cafe music services operated by Spotify in 2015.

As time goes on, the popularity of Starbucks has received more extensive public attention. Modern society coins the

phrase ‘Starbucks effect’ to describe a significant phenomenon in terms of value-added properties in the real estate market. The real estate research group, Zillow, insists that a Starbucks store is an anchor retail realty to increase property value within a radius of 500m. Zillow analyzes the Starbucks data from 1997 to 2014 to measure the Starbucks effect. It concludes that properties within a range of 500m from Starbucks coffee stores are 96 percent higher in value.

In academia, the Starbucks effect becomes an attractive research target in a study on the relation between Starbucks and its adjacent property values (Glaeser et al., 2018, Donner & Loh, 2019). In contrast, the studies of the Starbucks effect in Korea are primarily focused on social media, customer behaviors, and marketing (An, 2010, Kang et al., 2012, Lee & Choi, 2012).

Accordingly, this study aims to conduct an in-depth analysis to determine the relationship between Starbucks coffee stores and adjacent land prices within a radius of 300m. This study assumes that if the land market is efficient, the land price would be affected by the provided surrounding environment (Du et al., 2011, Kuryj et al., 2014). In this case, this study is a meaningful approach to explore the truth of the mutual relationship between Starbucks and land prices.

For the research target area, this study reviews that Starbucks prefers to open new stores in the business districts and shopping districts (Chuang, 2019). In the real estate market, land prices in major business districts are affected by multiple variables that the Starbucks effect cannot explain. Thus, these specific areas could have limited points to describe the net impact of Starbucks.



*Reference: Seoul City Government

Figure 3. A Map of Districts of Seoul

To get over the limits of research, this study targets land prices in four northeast districts of Seoul: Dobong-gu, Nowon-gu, Gangbuk-gu, and Seongbuk-gu. [Figure 3] demonstrates the location of four northeast districts of Seoul. The total area is 104.31 km², about 17.2 percent of Seoul. The overall population is 1.66 million people, about 16.8

percent of Seoul's population. Regarding the 2030 Seoul Master Plan, it mentions the four northeast districts as the bedroom community.

To sum up, the bedroom community's presence is perfect enough to evaluate the Starbucks impact. This research would be a meaningful measure to broaden the implication of the relationship between Starbucks and its adjacent land prices. At the final step, this study enables a researcher to answer the question, "Does the Starbucks effect really exist?"

This study inquires into how Starbucks coffee stores could influence adjacent land prices in the bedroom community. The primary purposes of this research are as in following the statements.

(1) To measure land price changes near Starbucks coffee stores in four northeast districts of Seoul during the periods of 'before' and 'after.'

The first research purpose is to target 17 Starbucks coffee stores, which were opened between 2012 and 2016 in four northeast districts of Seoul, to estimate the changes in land prices nearby them in two different periods. In this regard, the first period is from 2006 to 2011, before launching the 17

Starbucks coffee stores. The second period is from 2012 to 2016, after opening the 17 Starbucks coffee stores.

In this case, a before and after study, which is known as the difference in difference method, is a suitable way to observe the land price differences between when the 17 Starbucks coffee stores did not exist and when the 17 Starbucks coffee stores existed.

(2) To evaluate the existence of Starbucks effect in the bedroom community and compare the estimation results with previous studies to deliver the insightful message.

The second research purpose is to validate the Starbucks effect by conducting the difference in difference method in the bedroom community. This research analysis results based on scientific observation will deliver an insightful message to what does the Starbucks effect means to the bedroom community.

This study will also plan to compare the analysis results to primary researches (Glaeser et al., 2018, Donner & Loh, 2019). Being as a consequence, making a comparative study will provide significant implications for the bedroom community.

II. Literature Review

1. Cafe Culture in Urban Areas

Historically, cafe culture has been together with urban development. In 1991, cafe culture was one of the considerate subjects in the ‘arts and cultural’ strategy for Manchester City. The increasing popularity of cafes was inclinable to improve street life by shaping the high street community and leading vibrant urban spaces. Ultimately, building up a successful cafe business promoted a new urban culture (Montgomery, 1997, Ferreira, 2017).

A cafe is recognized as a day-time economy in the city. It becomes a place of the ‘hang around’ where people relax for a while and enjoy activities with different ages and social groups (Montgomery, 1990). Therefore, a cafe is sufficient to be a retail anchor with the power to get people together in public space. In other words, a cafe plays an essential role as a community center, which is the driving force of the regional vitalization (Tonnelat, 2008).

Views from the other side, a cafe is treated as a particular local asset, which is abundant in cultural diversity (Comunian, 2011). Drinkwater & Platt (2015) suggest the

cases of Cihangir and Beyoğlu, Istanbul, Turkey, to describe how local cafes could embody cultural diversity. They insist that the increasing number of cafes in Cihangir and Beyoğlu has attracted more creative artists. They socialize for works of art, cultural exchange, job hunting, such as screenplays or auditions, in coffee shops.

Looking at the cafe culture from the real estate perspective, Grant & Perrott (2011) mentions that a coffee shop plays a vital role as a social meeting in urban areas. Hence, the spatial geography of the contemporary retail culture deserves careful consideration for animating lively streets. Furthermore, Montgomery (1998) asserts that the excellent quality of cafes is always involved in mixed-use development proposals in the United Kingdom. As people are highly sophisticated all the time, they are looking for diversity in retail spaces.

The cafe culture in the city maintains positive relations with the public by going through multidirectional approaches. However, concerning the local retail culture's prosperity, urban areas with a large floating population may have adverse effects on the local community. Increased commercial activities and the influx of population cause negative externalities, which are pointed out manifesting

dissatisfaction with residents' life-style. Heavy traffic, generating more garbage, offensive odors, noise, the lack of parking facilities, and low visual quality are considered (Ellis et al., 2006, Medda, 2012, Cutter & DeWoody, 2010).

2. The Starbucks Effect

Starbucks is part of the cafe culture that contributes to bringing people together. Brookman (2014) argues that Starbucks takes much care in promoting social interactions. Since there are many social lives in Starbucks, people come to Starbucks to engage in interpersonal relations. Kim et al. (2009) insist that Starbucks operates its channels on social networks to enhance the 'word-of-mouth effect' among customer social networks.

Within the social interaction, Starbucks offers the advanced 'Omni Channel' service and hospitable space to make itself look more attractive. In 2014, Starbucks Korea launched its first pre-ordering service in the world, which is known as the 'Siren Order' (Cho et al., 2017). This groundbreaking service is convenient to improve the coffee experience in Starbucks coffee stores. As a result, this mobile application service has attracted two million

customers (Chung, 2016, Lee & Kim, 2017).

Furthermore, a marketing strategy of localization has been the key to success in Starbucks Korea. Starbucks establishes its brand identity by selling cultural contents such as localized tumblers and the aesthetic appreciation of the landscape. Thus, this unique branding story makes people revisit Starbucks coffee stores (Kim & Shin, 2015, Lee & Kim, 2016). Brookman (2014) and Choi et al. (2011) demonstrate that Starbucks displays artwork by local artists, creating a strong bond among local people. Venkatraman & Nelson (2008) also claim the success of Starbucks is due to the localization strategy. They discover the experience of consumption in Starbucks shows four themes: Starbucks as Home, Starbucks as a Constellation of Personal Spaces, Starbucks as Exotic, and Starbucks as a Bridge between Cultures.

In contrast, Moon et al. (2019) evaluate Starbucks' success by measuring up customers' loyalties. They conclude that price fairness, a variety of size choices, and the usefulness of drive-through are reasons why customers become more loyal to Starbucks. Thompson, & Arsel (2004) state that exploring Starbucks' business patterns offers an insight to look into consumer identities, social networks, and

marketplace cultures.

Overall, the Starbucks effect is influenced by its location strategy according to the study of real-estate. A multi-unit business model of Starbucks' hub-and-spoke pattern is to enter the broad market in urban areas and launch several caf  s in the surrounding areas. This location strategy contributes to building the business cluster and eliminating competition (Puel et al., 2006, Liarte & Forgues, 2008). In other words, Starbucks adopts the 'first mover strategy' to launch a new store and takes the 'focused destroy strategy' to dominate the local market (Kim, 2013). In this way, claims that Starbucks considers premium real estate assets, traffic volume, neighbor stores, accessibility, and visible locations for strengthening its competitiveness in the primary market (Schultz & Yang, 1997, Michelli, 2007, Lee & Kim, 2018, Kim, 2013).

As a part of the location selection strategy, Starbucks pursues the third place, where people spend rest and relax away from home and offices, to accomplish the social practice of nomadism. Hence, Starbucks is ready to offer a space of consumption, which affords a comfortable resting place for people who want to relieve their daily stresses (Puel et al., 2006, Lin, 2012, Gaudio, 2003).

An increase in housing prices in the housing market is correlated with an increased number of Starbucks stores. If Starbucks opens one store in a year, it is associated with a 0.5 percent increase in adjacent housing prices, a 0.17 percent housing price increase in growing areas (Glaeser et al., 2018, Glaser, 2019). Through analyzing the Yelp data, Glaeser (2019) asserts that when Starbucks in Yelp service gets ten reviews by customers, these reviews are intimately related to a 1.4 percent increase in housing prices near the Starbucks stores from 2012 to 2016.

In the commercial real estate market, the Starbucks effect also could be found in office rents. Donner & Loh (2019) demonstrate that the Starbucks effect is associated with adjacent office rents within a radius of 0.1 miles from each of the 177 Starbucks stores in Manhattan. Consequently, the Starbucks effect has an impact on increasing 9.2 percent to 11.1 percent of office rents within a radius of 0.1 miles.

3. Determinants of Land Prices

In the late 20th century, the transformation of industry changes urban land-use patterns. The land of industrials, which are low-value-added activities, were replaced by retail and commercial business, which are high-value-added

activities (Ding, 2003). Thus, the land price increase is associated with the proportion of business areas. If the commercial spaces ratio in a city mounts up, land prices in the urban areas would also be swelled up (Kang, 2017).

The land value theory validates that spatial patterns of the retail distribution are connected with retail activities and cost–benefit ratio. For example, land prices of retail shops, where they are located near public transportation, are relatively higher than in other areas because of heavy pedestrian traffic (Sadahiro, 2000). Literally, retail shops create more positive influence, such as increased land value, retail opportunity, employment, in suburban areas rather than in the central business district (Schuetz, 2014).

Looking more closely at topology, geography, and demographics, they are strongly associated with an increase in land price. Population sorting effects, which indicates that the land value is correlated with socioeconomic backgrounds in urban areas, and human–made amenities nearby are primary causes of land price increases (Matthews, 2006, Kok et al., 2014). For instance, land prices are begun to decline in the distance to the market gets increased. In other words, price instability is enhanced while the market gets far away from downtown (Benirschka

& Binkley, 1994).

Generally, location is considered to be one of the essential factors in land prices. Hence, being close to business employment sizes and more viable retail activities are positively related to increasing adjacent housing prices (Kurniati & Erlambang, 2015, Krause & Bitter, 2012, Banai & Antipova, 2016). Kuwahara (1997) insists that land prices are associated with higher labor productivity, which is proportional to business employment size in the market, regarding the 1992 Survey by the National Tax Administration Agency. Consequently, labor productivity enables to promote the development of large-scale retail stores. Besides, widening commercial areas by 10,000 ft² in the urban renewal project boosts the adjacent land price by an average of between 0.9 and 1.3 percent (Jayantha & Chun, 2015).

In this regard, two case studies describe the correlation between retail and land price in the real estate market precisely. The first is Samcheong-dong, Seoul. Originally, it was a traditional town for artists, but it rapidly commercialized since after opening numerous caf  s, restaurants, and other retail shops. An average increase in land prices in Samcheong-dong was recorded at 20 percent

since 2002 (Kim et al., 2010).

The second is Beyoglu, Istanbul. In the 2000s, the city launched a revitalization project for transforming the old town into a newly structured city. The city wanted to reinforce the competitiveness of the economy, tourism, culture, and arts. As Turkey's cultural capital, it encouraged revamp coffee shops and restaurants with cultural and historical traditions on the high street. This revitalization project gradually showed a significant change in the spatial layout. The high street became more crowded with pedestrian traffic, indicating land price increase in the city (Dokmeci et al., 2007, Tekin & Göltekin, 2017).

On the downside, escalating land prices is one possible cause of gentrification in the city (Prayoga et al., 2013). A framework for evaluating the impact of gentrification identifies three negative aspects: increased property price, commercial displacement, and community resentment (Atkinson 2004, Murdie, & Teixeira 2011). Generally, retail gentrification happens from the clusters of cafés, grocery stores, traditional shops, and other retail shops. Thus these retail businesses are able to change the neighborhood (Lester & Hartley, 2014, Ahrens, 2015. Guimarães, 2018, Glaeser, 2019).

Through interviews with retailers in historic centers in Istanbul, 85 percent of the retailers consents to the statement that cafes and restaurants nearby local retail shops have attracted a large volume of pedestrian traffic to the main street. This situation encourages retailers to sell more products to pedestrians, which is associated with increased property values (Özdemir & Selçuk, 2017).

Since an increase in land price raises the rent, tenants have no choice to raise the product costs, replacing former customers with new customers who have a higher income than others (Godsil, 2013, Guimarães, 2018). Consequently, policymakers need to implement rent regulation to prevent the further rise of rents and promote living in concord with neighbors (Freeman & Braconi, 2004).

4. Summary

Previous studies related to cafe culture, Starbucks experience, and determinants of land price mainly focus on community-oriented activities, space consumption, accessibility in cafe business, location strategy, cafe business goal achievements, and raise of rents on the main street in downtown. These factors are clearly understandable to examine the relationships between retail

business, land price, and the local community.

In this point, this study plans to differentiate the research site and a tangible range of cafe business influences as compared to the previous studies. The first is to select Starbucks coffee stores in the bedroom community in Seoul and measure the estimation of how Starbucks coffee store has changed land prices over time.

The second is to give proof of the existence of the Starbucks effect in the bedroom community in Seoul. This study broadens the wheel of cafe business influence. For instance, Donner & Loh (2019) employs a range of 0.1 miles (160m) in Manhattan to analyze the Starbucks effect. In contrast, this study uses a range of 300m in the bedroom community in Seoul to testify the Starbucks impact.

Consequently, these two articulate approaches are points of differentiation from preceding studies. This study sets up the objective of making the full use of the difference in difference method to draw a meaningful discussion in terms of Starbucks coffee stores and adjacent land prices in the bedroom community in Seoul. Therefore, the positive analysis results will be expected to convey essential messages to the local community.

III. Study Area and Data

1. Four Northeast Districts of Seoul

Starbucks Korea published data in Jan 2019. Regarding the open data, it shows that there are 73 Starbucks coffee stores in Gangnam-gu, 49 Starbucks coffee stores in Jung-gu, and 45 Starbucks coffee stores in Seocho-gu. A point of sameness is that these locations comfortably secure a large floating population in Seoul.

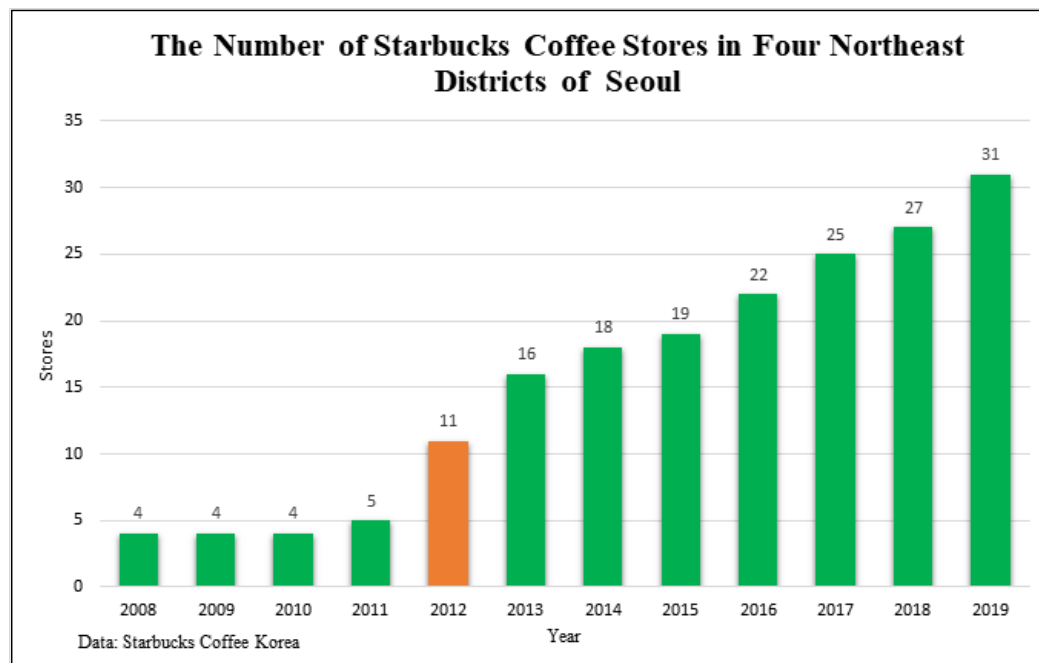


Figure 4. The Number of Starbucks Coffee Stores in Four Northeast Districts of Seoul

[Figure 4] shows that the four districts had 31 Starbucks

coffee stores in 2019. This number of Starbucks coffee stores is much smaller than a single business district the above. Thus, a tangible difference in the number of Starbucks coffee stores is clear to understand that four northeast regions are not crawling with a massive population influx.

Year	Number of Stores	Percentage Increase
2008	4	0
2009	4	0
2010	4	0
2011	5	0
2012	11	120
2013	16	45.4
2014	18	12.5
2015	19	5.6
2016	22	15.8
2017	25	13.6
2018	27	8
2019	31	14.8

Table 1. The Percentage Increase in Starbucks Coffee Stores in Four Northeast Districts of Seoul

[Table 1] demonstrates that Starbucks Korea increased the most coffee stores in the four northeast districts of Seoul in 2012, after the great recession striking. As [Figure 2] shows, the percentage increase in total sales of Starbucks Korea is also mounted up the most in 2012. In this case, the year of 2012 is a crucial period for Starbucks Korea's growth and change in the four northeast districts.

2. Research Range

This study will conduct a spatial analysis of Starbucks coffee stores in Dobong-gu, Nowon-gu, Gangbuk-gu, and Seongbuk-gu. As [Table 1] illustrates, Starbucks coffee stores in these areas were multiplied in 2012. Therefore, this study determines the year of 2012 as a research benchmark year.

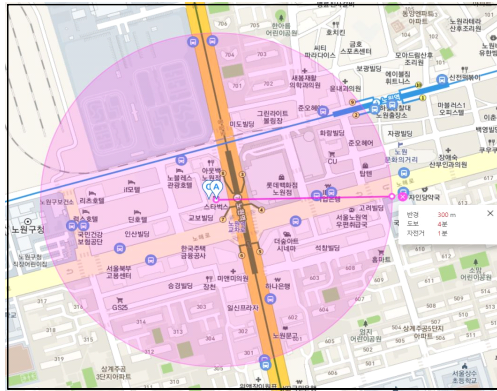
Year	Number of Starbucks Coffee Stores Opened
2004	1
2007	1
2008	2
2009	0
2010	0
2011	1
2012	6
2013	5
2014	2
2015	1
2016	3
2017	3
2018	2
2019	4

Table 2. The Number of Starbucks Coffee Stores Opened in Four Northeast Districts of Seoul

[Table 2] indicates that Starbucks Korea opened 17 Starbucks coffee stores in the four northeast districts of

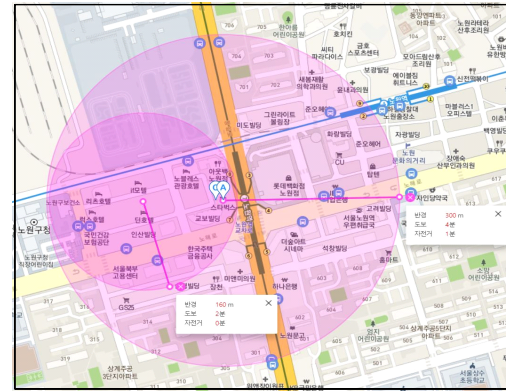
Seoul from 2012 to 2016. Following the research instruction, the period ‘before’ is from 2006 to 2011, which is a period of the non-existence of the 17 Starbucks coffee stores. The period ‘after’ is from 2012 to 2016, which is after Starbucks Korea opened the 17 Starbucks coffee stores in the four northeast districts of Seoul.

For this study to estimate the Starbucks effect, it draws a 300m circle to set up an influence area and then measure land prices in the wheel of influence. Indeed, a 300m pedestrian-friendly walking distance is verified in academic theories. Liu (2020) investigates the liveability of residential houses by creating the livability combined index. The author categorizes dimensions like education, transportation, living facilities, and entertainment within a 300m walking distance and a 1km walking distance. Seo (2003) argues that most scholars define a pleasant walking distance between 300m and 900m.



*Reference: Kakao map

Figure 5. Starbucks Stores within a 300m



*Reference: Kakao map

Figure 6. Research Target Area within a 160m under the Starbucks Influence (300m)

[Figure 5] illustrates the wheel of a Starbucks coffee store's influence within a 300m circle. Each of the 17 Starbucks coffee stores will be drawn as the [Figure 5] to clarify the boundary of Starbucks coffee store's influence. Then, [Figure 6] shows one sample of officially assessed land prices. Within a 300m radius, this study considers a 160m walkable distance zone to measure specific factors that could affect the sample land price.

Similarly, Donner & Loh (2019) utilize a range of 0.1 miles (160m) to measure the estimation of how Starbucks coffee stores in Manhattan could affect adjacent office rents. Therefore, this study investigates the number of subway stations, commercial buildings, schools, general hospitals, public offices, public parks, a distance from a bus stop, etc.,

within a 160m range.

For instance, this study selects one Starbucks coffee store near the Nowon subway station. Then, a researcher draws a 300m boundary from the Starbucks coffee store. Under the 300m radius, a researcher searches adjacent officially assessed land prices. In this step, Sanggye-dong 707 is one of the addresses that locates in the 300m range. Henceforth, a researcher draws another 160m range from the selected address and measures a distance from the Starbucks coffee store, subway station, bus stop. Moreover, it takes a count of how many commercial buildings, living facilities, public offices, public parks, etc., are in the 160m range.

Collected quantified data of land prices from each of the 17 Starbucks coffee stores in two different periods will be extensively used to estimate the Starbucks impact. Accordingly, this research method is elaborate to measure the economic trend of land price change.

3. Data

Section	Data	Unit	Reference	Measuring Range
Dependent	Officially Assessed Land Price	won/m ²	Ministry of Land, Infrastructure, and Transport	300m
Independent	Distance to a Starbucks coffee store	meter	Kakao Map	160m
	Distance to a Subway Station	meter	Kakao Map	
	Distance to a bus stop	meter	Kakao Map	
	Land Area	m ²	Ministry of Land, Infrastructure, and Transport	
	Public Office	number	Kakao Map	
	Park	number	Kakao Map	
	Commercial Business	number	Kakao Map	
	Education	number	Kakao Map	
	Religion	number	Kakao Map	
Control	Distance to Another Starbucks	meter	Kakao Map	300m
	Distance to Anchor Facility	meter	Kakao Map	
	Land Price Boom	0 or 1	Korea Appraisal Board	

Table 3. An Overview of Data

[Table 3] demonstrates an overview of this study data structures, including section, data name, unit, reference, and measuring range. This study collects all data from 2006 to 2016. This research data consists of one dependent variable, nine independent variables, and three control variables. All collected data refer to the Kakao map, an online platform as a Google map, to collect data through the road view.

1) Dependent Variable

This study investigates land prices of 626 areas within a 300m from the 17 Starbucks coffee stores in Seoul's four northeast districts. Following the procedure, this study collects then the number of 3,756 land price data in the period of before, including the treatment group and control group. Additionally, it amasses the number of 3,130 land price data in the period after, including the treatment and control groups. In the aggregate, the number of 6,886 land price data is collected.

Annually, the Ministry of Land, Infrastructure, and Transport releases officially assessed land prices in nominal values. On the other hand, this study converts these nominal values to real values by estimating weighted inflation rates on the benchmark year, which refers to the Consumer Price Index. As time goes by, it enables a researcher to closely monitor land price changes in the bedroom community.

For example, if land price of Sanggye-dong 707 in 2012 (the benchmark year) is 1,500,000 won/m², this study calculates that real land price of Sanggye-dong 707 in 2006 is 1,243,500 won/m² (1,500,000 * 0.829). Moreover,

this study estimates that real land price of Sanggye-dong 707 in 2016 is 1,564,500 won/m² (1,500,000 * 1.043). In the same way, this study updates all collected nominal land prices between 2006 and 2016 to real land prices.

2) Independent Variable

This study defines independent variables, such as distance to a Starbucks coffee store, distance to a subway station, distance to a bus stop, land area, public office, park, commercial business, education, and religion.

Section	Data	Description
Independent Variable	Public Office	Police Station, Fire Station, Community Center, and Public Institution.
	Commercial Business	Mart, Convenient Store, Bank, Movie Theater, Hotel, General Hospital, and Pharmacy.
	Education	Middle School, High School, University, Kindergarten, and Daycare Center
	Religion	Church, Catholic Church, and Temple

Table 4. A Description of the Independent Variables

[Table 4] introduces a detailed description of the independent variables. This study takes a full concern of these categorized independent variables as the most significant factors that can affect land prices.

(1) From distance to a Starbucks coffee store

This study assumes that a general land price depends on how far a Starbucks coffee store is located from the land. Glaeser et al. (2018) and Donner & Loh (2019) claim that there is a correlation between Starbucks stores and adjacent property values within a 500m. Under such principles, this study assumes that a closer location from a Starbucks coffee store may have a higher land price than those further away. Thus, this study considers a distance from a Starbucks coffee store to a targeted land area as a significant independent variable.

(2) Public transportation-related variables.

This study argues that distance to a metro station and a bus stop are considerable factors affecting land prices. Dewees (1976) claims that property values near subway stations are relatively high because the cost of walking time would be saved. Trojanek & Gluszak (2018) also proclaim that the proximity of the one subway (M1) had a positive impact on its apartment price increase in Warsaw, Poland. Furthermore, the vicinity of the new metro (M2) had a positive effect on a surge in housing prices, and even the subway

construction was not completed.

Stokenberga (2014) states that the bus system's performance, such as a town bus, local bus, etc., tends to increase adjacent land prices. Excellent accessibility of the bus stop offers a wide range of travel options for residents. Moreover, Cervero & Kang (2011) insist that residential land prices are typically higher within 300m from the bus stop. If there is a middle-lane BRT(Bus Rapid Transit)service in the area, the premium effect gets more potent. Therefore, this study decides to measure the distance to the metro station and bus stop away from research target lands in the Kakao map.

(3) Living facilities related variables

[Table 4] indicates that this study utilizes living facilities as independent variables such as public office, park, commercial business, education, and religion. These independent variables are considerably related to appraising the land price. Kim & Hwang (2010) argue that commercial buildings, such as a large shopping mall, provincial government building, hospital, public office, etc., are living facilities that increase nearby land prices.

Chin & Foong (2006) claim that there are significant findings that higher accessibility to prestigious schools increases adjacent property values. The location of prestigious schools is the most considerable for school parents because they prefer geographical proximity. In fact, 0.35 percent of property values have risen within 100m in the distance from prestigious schools.

Wolch et al. (2014) insist that the supply of urban green spaces, such as parks and community gardens, makes neighborhoods healthier and heightens the aesthetic effects. These positive impacts on the local community attract more people into open spaces and increase neighborhood property values.

Consequently, this study takes consideration of selecting living facilities as critical variables. Under such principles, this study expects to find out a correlation between Starbucks coffee stores and adjacent living facilities. For collecting these quantitative data, it proceeds to count the number of living facilities within 160m in the distance from targeted areas by employing the Kakao map platform.

(4) Control Variables

Within the 300m wheel of Starbucks' influence, particular areas' land prices can be affected by another Starbucks coffee store, anchor facilities, such as a movie theater, a shopping mall, a department store, etc. For this study to control these geographical features and infrastructures provided, it defines the distance to another Starbucks coffee store and anchor facilities as control variables.

This study also considers the land price boom in 2014 and 2016, which is published by the Korea Appraisal Board, as the control variable because it can affect land prices in research areas regardless of the Starbucks effect. To sum up, this study will proceed with the first analysis, considering only the dependent variable. The second analysis will be with the dependent and independent variables. The third analysis will be implemented with the dependent, independent variables, and control variables.

3) Panel Methodology

This study collects panel data for discovering the Starbucks effect in the four northeast districts of Seoul. Panel data is multi-dimensional data that makes a close observation of multiple phenomena over multiple times. Hsiao (2007) and Smith, et al. (1996) insist that panel data is a more accurate model parameter with more freedom and different sampling variability than cross-sectional data. Furthermore, panel data can better deal with complex and dynamic data than a single cross-sectional data. However, panel data can push themselves as hard when it is controlled by unobserved heterogeneity.

In other words, panel data enable to estimates the outcome variable through analyzing specific explanatory variable, which is not observed but positively correlated to the observed explanatory variable. Furthermore, panel data is more appropriate for studying dynamic change than cross-sectional data because it can measure variables that cross-sectional data cannot discover. Lastly, panel data enables the aggregation bias to be minimized because panel data is firmly balanced when the number of cross-sectional and time-series is identical.

Because of these features, panel data is more used in social science, such as education, labor and income, womankind, and medical treatment. Typically, the Korean government has made an effort to establish seventeen categorized panel data in public, such as Korean labor and income panel, youth panel, etc. Its overall efforts would lead to achieving higher performance in social science academia.

(1) One-Way Error Component Regression Model

① Fixed Effect Model

There is a possible solution for the issues of hierarchical data with panel methodology. Bell & Jones (2015) state that the fixed effect (FE) modeling has a dummy variable that controls for the unexplained unit level difference in analysis result.

$$Y_{it} = \beta_0 + \beta_1 X_{it-1} + \varepsilon_{it} \quad \dots (3.1)$$

Y_{it} = Land Price observed from i at t (2012)

X_{it-1} = Existence of Starbucks at i at t (2011)

ε_{it} = Error Term

However, ε_{it} may represent the existence of public

offices, schools, commercial buildings, and other facilities, which could correlate with the dependent variable and independent variable in the formula. An issue of endogeneity bias could omit variable bias. Therefore, a one-way fixed effects model is considered.

$$Y_{it} = \beta_0 + \beta_1 X_{it-1} + \alpha_i + v_{it} \quad \dots (3.2)$$

Y_{it} = Land Price observed from i at t (2012)

X_{it-1} = Existence of Starbucks at i at t (2011)

α_i = Unit-Specific Fixed Effect

v_{it} = Error Term

In this formula, the fixed effect allows different units (regions) to have different standard value levels of the dependent variable (Land price). Hence, the one-way fixed effect model shows that unobserved specific variables are potentially distributed.

② Random Effect Model

The random effect model (RE) explains the individual-specific effect that is not correlated to the explanatory variables. The random effect model

considers α_i as a random variable.

$$Y_{it} = \beta_0 + \gamma_i + \varepsilon_{it} \quad \dots (3.3)$$

Y_{it} = Dependent Variable

γ_i = Random Effect

ε_{it} = Error Term from Individual-Specific Effect

Following the formula, the dependent variable is randomly chosen in the sample. Hence, the random effect model needs more specific variables to increase the accuracy of the analysis.

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \dots + \beta_n X_{nit} + \gamma_i + \varepsilon_{it} \quad \dots (3.4)$$

Y_{it} = Dependent Variable

β_0 = Constant Term

X_{nit} = Independent Variable

γ_i = Random Effect

ε_{it} = Error Term from Individual-Specific Effect

In this formula, the random effect model recognizes the individual-specific effect, which is not fixed. It is randomly distributed depending on time, and unobserved specific variables have changed over time.

(2) Two-Way Error Component Regression Model

① Fixed Effect Model

The difference between the two-way error component regression model and the one-way error component regression is the existence of the time-specific effect.

$$Y_{it} = \beta_0 + \beta_1 X_{it-1} + \alpha_i + \tau_t + v_{it} \quad \dots (3.5)$$

Y_{it} = Land Price observed from i at t (2011)

X_{it-1} = Existence of Starbucks at i at t (2011)

α_i = Unit-Specific Fixed Effect

τ_t = Time-Specific Fixed Effect

v_{it} = Error Term

In this formula, the two-way error component regression model notices that unobserved specific variables and time-specific features are potentially distributed in different regions. The τ_t variable means that it is the fixed time-specific effect that it does not change over time because it has regional indigenous resources.

② Random Effect Model

For the random effect model, the difference between the two-way error component regression model and the

one-way error component regression is also the existence of the time-specific effect.

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \dots + \beta_n X_{nit} + \gamma_i + \tau_t + \varepsilon_{it} \quad \dots (3.6)$$

Y_{it} = Dependent Variable

β_0 = Constant Term

X_{nit} = Independent Variable

γ_i = Random Effect

τ_t = Time-Specific Fixed Effect

ε_{it} = Error Term from Individual-Specific Effect

In this formula, the random effect model recognizes the individual-specific effect, which is not fixed, and time-specific effect. Therefore, unobserved variables are probabilistically changed regardless of region and time.

(3) Fixed Effect Model versus Random Effect Model

Choosing either the fixed effect model or random effect model is depended on the purpose and direction of research. The fixed effect model has the advantage of distinguishing the individual-specific effect to estimate the coefficient. However, this model creates too many dummy variables that can reduce the level of freedom. As a result, the coefficient of the independent variable may cause a significant drop from validation accuracy.

The random effect model does not have to risk what the fixed effect model has to figure out. However, this model has to verify the irrelevance of the individual-specific effect and the independent variable. This rigorous proof is intricate and takes much time to be completed.

To sum up, the relevance assessment of choosing either the fixed effect model or the random effect model is indispensable, even though there are different research purposes and directions. Consequently, the Hausman specification test is suitable for estimating the relevance assessment of selecting either one of the effect models. This assessment needs to be completed before conducting the empirical analysis.

(4) Durbin–Wu–Hausman Test

The Hausman test is a statistical hypothesis test to evaluate the correlation between the explanatory variable and individual-specific effect. If the explanatory variable is correlated with the individual-specific effect, a researcher has to choose the fixed effect model. If it is not, a researcher has to select the random effect model.

If the individual-specific effect is related to the independent variable, the fixed effect model's estimation obtains consistency and efficiency. Contrastively, the evaluation of the random effect model gains efficiency, not consistency. If it is not, the random effect model's estimation obtains consistency and efficiency. Contrariwise, the evaluation of the fixed effect model gains consistency, not efficiency.

$$H = (\hat{\beta}_{RE} \ \hat{\beta}_{FE})' [\text{Var}(\hat{\beta}_{RE}) - \text{Var}(\hat{\beta}_{FE})]^{-1} (\hat{\beta}_{RE} - \hat{\beta}_{FE}) \dots (3.7)$$

Fundamentally, the Hausman test hypothesis is underlying the supposition that the random effect model's estimation is suitable for the test itself method, which indicates that H_0 is equal to 0. It means that the variable does not have endogeneity.

IV. Empirical Analysis

1. Difference in Difference (DID)

The difference in difference (DID) method is a statistical technique to measure coefficient differences between before and after periods to estimate a causal effect in the study. In the 1850s, John Snow called this methodology as a controlled before-and-after study in social sciences. DID regression equation is described as $Y = \beta_0 + \beta_1 dB + \delta_0 d_2 + \delta_1 d_2 \times dB + u$. In this regression equation, dB indicates the difference values from the treatment and control groups.

Data	Before	After	After–Before
Treatment	$\beta_0 + \beta_1 (A)$	$\beta_0 + \delta_0 + \beta_1 + \delta_1 (B)$	$\delta_0 + \delta_1 (B-A)$
Control	$\beta_0 (a)$	$\beta_0 + \delta_0 (b)$	$\delta_0 (b-a)$
Treatment–Control	$\beta_1 (A-a)$	$\beta_1 + \delta_1 (B-b)$	$\delta_1 (B-A) - (b-a)$

*Reference: Columbia Public Health (2020)

Table 5. Difference in Difference Method

[Table 5] describes a table of the difference in difference method. For the comparison, the treatment group is Starbucks, and the control group is non-Starbucks. This method estimates that δ_1 is a causal effect.

1) Control Group

In this study, the control group is Ediya. Lee & Kim (2018) define Starbucks as the first mover - premium brand and Ediya as the new comer - economical brand. Hence, they have different location strategies. For instance, Starbucks pursues the premium brand culture to expand its business into cluster areas. In contrast, Ediya seeks the economical brand culture to target less desirable areas with substantial growth potential.

Coffee Brand	Sales (Billion Won)	Number of Stores
Starbucks	12,635	1,225
Twosomeplace	7,500	1,040
Ediya	7,000	2,700
Holly' s Coffee	2,900	540
Angel-in-us	2,800	740
Coffee Bean	1,577	300

*Updated in 2017

*Resource: Financial Supervisory Service, Korea Fair Trade Commission

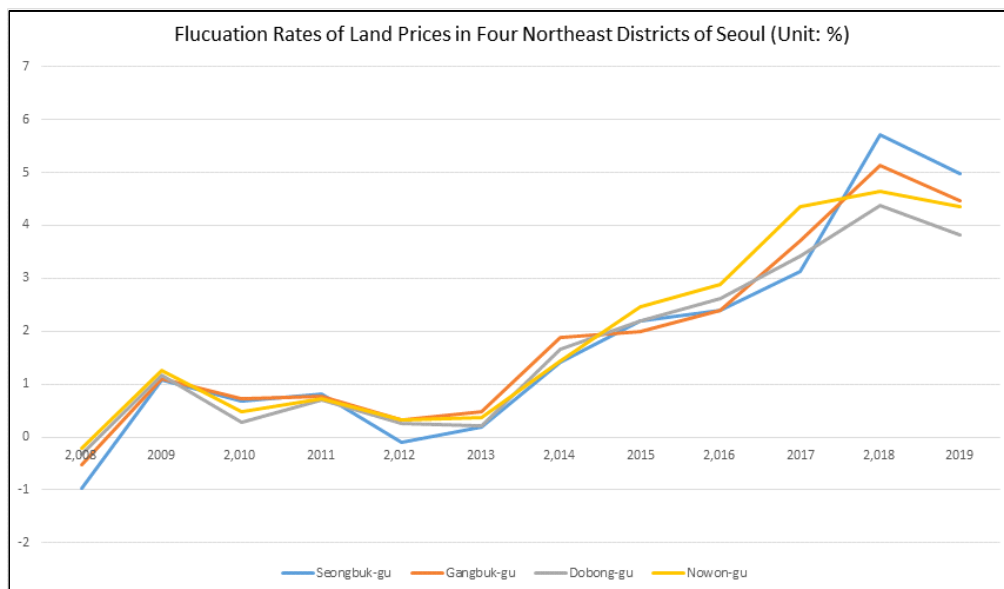
Table 6. Total Sales of Coffee Brand in Korea (2017)

[Table 6] shows that Ediya has the most coffee stores and records 3rd largest sales in the Korean coffee market. Lee & Kim (2018) state that Ediya, which has the most coffee chain stores in Korea, represents the successful Korean coffee brand that leads to a new era of the coffee industry. Accordingly, this study classifies over 60 Ediya Coffee stores in the four northeast districts of Seoul and

selects only 17 Ediya coffee stores, which were launched between 2012 and 2106. In the empirical analysis, land prices in the 17 Ediya coffee stores' boundaries are compared to those in the 17 Starbucks coffee stores' influences.

2) Parallel Trend

In the difference in difference method, the treatment group and the control group are in parallel trend before enforcement of policy (Abadie 2005). Therefore, the treatment group (Starbucks) and the control group (Ediya) need to be in parallel trend in 2006–2011.



*Resource: Korea Appraisal Board

Figure 7. Fluctuation Rates of Land Prices in Four Northeast Districts of Seoul

[Figure 7] shows that Seongbuk-gu, Gangbuk-gu, Dobong-gu, and Nowon-gu experience fluctuating changes in officially assessed land prices for a few years. The trends were in parallel direction before 2012 and remarkably shifted after 2014. Apparently, this trend notices a significant drop in Seongbuk-gu in 2012 because the triple downs, housing price, transaction, and supply, occurred.

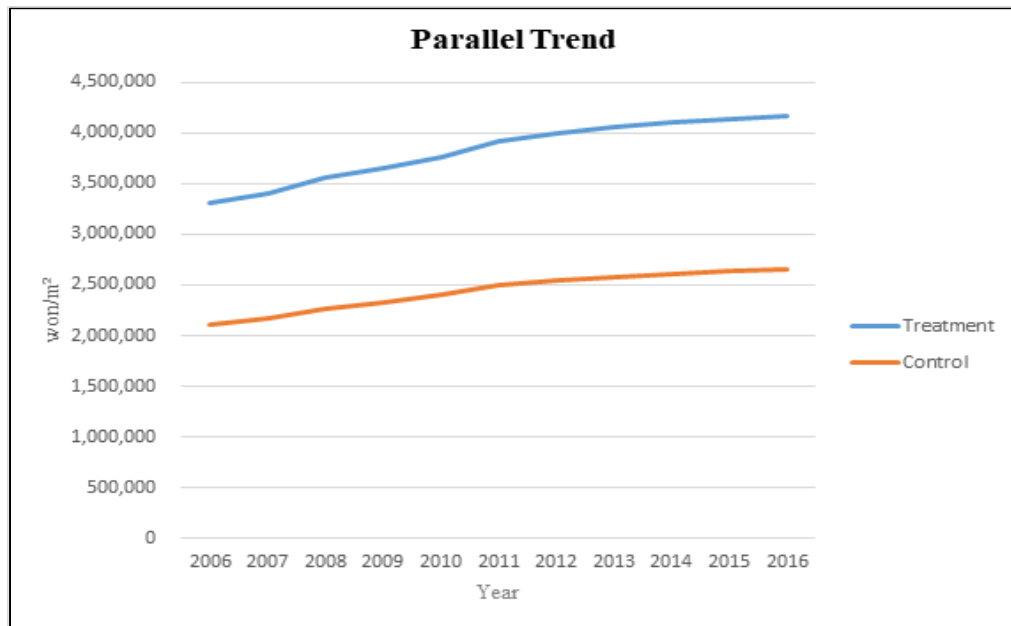


Figure 8. Parallel Trend of Land Prices in the Two Groups

[Figure 8] depicts the parallel trend of land prices in the treatment and control groups. This study extracts land prices from the two groups and averages them by year to analyze the parallel trend. [Figure 8] illustrates that the treatment and control groups are in the parallel before

2012. Similarly, two groups record 2.53 percent growth in 2007, 4.59 percent growth in 2008, 2.81 percent growth in 2009, 2.96 percent growth in 2010, 4.04 percent growth in 2011, and 2.15 percent growth in 2012. In this case, both groups show a very similar annual growth of the land prices, which causes them to move in the same direction in the distribution graph.

After 2012, the average annual growths of the land prices in both groups mark slight differences. The treatment group records 1.29 percent growth in 2013, 1.27 percent growth in 2014, 0.70 percent growth in 2015, and 0.98 percent growth in 2016. In contrast, the control group records 1.3 percent growth in 2013, 1.28 percent growth in 2014, 0.68 percent growth in 2015, and 0.98 percent growth in 2016.

In the beginning, this study assumes that average annual growths in land prices in the treatment group records will be higher than those in the control group. However, the treatment group only recorded a higher increase in 2015. Besides the 2015 and 2016, the control group shows higher average annual growths in land prices. Considering both groups are in the uptrend, this study claims that the parallel trend's hypothesis is validated.

2. Results

1) Descriptive Statistics

This study utilizes panel data to conduct descriptive statistics. This study selects 626 areas within a 300m radius of the 17 Starbucks coffee stores. The number of 3,756 land price data is observed in the period before, 2006–2011. The number of 3,130 land price data is found in the period after (2012–2016). In the aggregate, the number of 6,886 land price data is used in the statistics.

Variable	N	Min.	Max.	Mean	Std Dev.
Land Price	6886	1011380	17209500	3129924	1956562
Land Area	6886	22.1	935	197.2737	135.5996
Cafe Distance	6886	0	160	9.883387	32.61701
Subway Distance	6886	0	135	10.20084	27.12407
Public Office	6886	0	5	0.6131281	0.8633061
Park	6886	0	4	0.632007	0.8783283
Commercial Business	6886	0	14	2.94801	1.83935
Education	6886	0	4	0.9789428	0.9627746
Religion	6886	0	5	1.028318	1.147602
Bus Stop Distance	6886	0	151	43.34984	37.93679
Distance to Another Cafe	6886	0	156	2.772582	17.0759
Distance to Anchor Facility	6886	6	122	59.55911	24.36013
Land Price Boom	6886	0	1	0.2727273	0.4453941

Table 7. Descriptive Statistics I

[Table 7] demonstrates the descriptive statistics in terms

of the dependent variable, independent variables, and control variables. As [Table 7] indicates, land prices in the treatment and control groups range between 1,011,380 won/m² and 17,209,500 won/m².

Variable	Treatment (Mean)		Control (Mean)	
	Before	After	Before	After
Land Price	3,601,118	4,091,826	2,293,635	2,606,133
Land Area	202.0909	201.9131	192.4715	192.6163
Cafe Distance	0	25.82173	0	17.66518
Subway Distance	14.88445	14.88445	5.511182	5.511182
Public Office	0.6166134	0.6996805	0.5580405	0.5884984
Park	0.3812567	0.3833866	0.8817891	0.8817891
Commercial Business	2.984026	3.75016	2.384452	2.778914
Education	0.6613419	0.6651757	1.270501	1.323962
Religion	0.6432375	0.8421725	1.237487	1.425559
Bus Stop Distance	48.86581	48.86581	37.83387	37.83387
Distance to Another Cafe	2.919595	6.184665	0.3487753	2.092652
Distance to Anchor Facility	61.20128	61.20128	57.91693	57.91693
Land Price Boom	0	0.6	0	0.6

Table 8. Descriptive Statistics II

[Table 8] demonstrates the descriptive statistics of the treatment and control groups. The difference in the mean value of land prices in the treatment group is 490,708 won/m², which has increased by 13.6 percent in the last decade. On the other hand, the mean value of land prices in the control group is 312,498 won/m², which has increased by 13.6 percent in the last decade.

As [Table 8] describes, the control group has more infrastructure provided. This group records higher levels of mean values in the park, education, religion, lower mean levels in cafe distance, subway distance, bus stop distance, another cafe distance, and anchor facility distance.

Wang (2009) states that land prices are affected by multiple factors, such as the level of infrastructure provided, land use, and existing social facilities. Moreover, Tsutsumi et al. (2011) assert that land prices are influenced by the population and the regions' transportation networks.

This study proceeds the Pearson correlation coefficient to verify the interrelationships among variables. [Appendix 1] indicates that two variables, land price, and commercial business, have a 0.8085 correlation coefficient. Considering the matter of multicollinearity, this study conducts VIF (Variance Inflation Factors), and thus [Appendix 2] verifies that the variable of commercial business has 1.30 VIF, which is lower than 10. Therefore, there is no multicollinearity problem in the model structure. For the rest of the VIF is between 1.04 and 1.17, which are lower than 10.

2) Difference in Difference Analysis

(1) Difference in Difference I

Outcome Var.	LandPrice	Std. Err.	ltl	P>ltl
Before				
Control	2,293,635			
Treated	3,601,118			
Diff (T-C)	1,307,483	59,332	22.04	0.000***
After				
Control	2,606,133			
Treated	4,091,826			
Diff (T-C)	1,485,693	67,087	22.49	0.000***
Diff-in-Diff	178,210	88,004	2.03	0.043**

Inference: * p<0.01; ** p<0.05; * p<0.1

Table 9 Single Difference in Difference Estimation Results

This estimation shows that R-square is 0.14, and P-value is less than 0.043, which is statistically significant. [Table 9] only considers the dependent variable, treated dummy variable, and year dummy variable. Treated dummy variable marks 1 for the treatment group (Starbucks) and 0 for the control group (Ediya). Year dummy variable marks 1 for the period after (2012–2016) and 0 for the period before (2006–2011). As [Table 9] shows, 178,210 won/m² is the estimation of the single Difference in Difference method within a statistical significance.

(2) Difference in Difference II

Outcome Var.	LandPrice	Std. Err.	ltl	P>ltl
Before				
Control	327,737			
Treated	1,020,468			
Diff (T-C)	692,731	35,886	19.30	0.000***
After				
Control	376,513			
Treated	961,910			
Diff (T-C)	585,397	38,766	16.11	0.000***
Diff-in-Diff	-107,334	49,511	2.17	0.030**

Inference: * p<0.01; ** p<0.05; * p<0.1

Table 10. Difference in Difference II Estimation Results

Variables.	Coeff.	Stdd. Err.	t	P>ltl
Area	1418.047	867.8809	1.63	0.102
CafeD	-100.781	408.418	-0.247	0.805
SubD	592.448	473.395	1.251	0.211
PublicOffice	-34942.0	14567.4	-2.399	0.016**
Park	73958.4	14769.4	5.008	0.000***
Commercial	762389.5	7558.3	100.868	0.000***
Education	-141495	13930.3	-10.157	0.000***
Religion	-143324	11479.2	-12.486	0.000***
BusD	-328.911	331.331	-0.993	0.321

Inference: * p<0.01; ** p<0.05; * p<0.1

Table 11. Coefficients Estimation

[Table 10] conducts the difference in difference method for the dependent and nine independent variables. In this estimation, R-square is 0.73, and P-value is 0.030, which is statistically significant. This study observes 3,756 land price data in the period 'before' (2006–2011) and 3,130 land price data in the period 'after' (2012–2016). Overall, 6,886 land price data are analyzed in the estimation.

As [Table 10] is shown, the casual effect is -107,334 won/m². The analysis result indicates that land prices in the treatment group have decreased, but the control group's land prices have increased during the last decade. [Table 11] illustrates that variables of public office, park, commercial business, education, and religion are statistically significant. As a result, these variables could exert influence on the valid estimation.

To be more specific, this estimation proceeds to the Hausman test. It shows that the Prob>chi2 is 0.0000, which means that this test result can reject the null hypothesis H=0. Consequently, this study has to choose the fixed effect model.

(3) Difference in Difference III

Outcome Var.	LandPrice	Std. Err.	ltl	P>ltl
Before				
Control	654,955			
Treated	1,359,434			
Diff (T-C)	704,479	35,662	19.75	0.000***
After				
Control	764,114			
Treated	1,370,162			
Diff (T-C)	606,048	39,211	15.46	0.000***
Diff-in-Diff	-98,431	49,192	2.00	0.045**

Inference: * p<0.01; ** p<0.05; * p<0.1

Table 12. Difference in Difference III Estimation Results

Variables.	Coeff.	Stdd. Err.	t	P>ltl
Area	1119.524	822.3651	1.36	0.173
CafeD	-90.352	410.448	-0.220	0.826
SubD	1336.588	481.464	2.776	0.006***
PubOffice	-40913.1	14553.5	-2.811	0.005***
Park	67694.6	14683.2	4.610	0.000***
Commercial	751343.5	7658.979	98.1	0.000***
Education	-152679	13900.6	-10.984	0.000***
Religion	-145328	11437.7	-12.706	0.000***
BusD	-166.783	329.619	-0.506	0.613
ACafeD	-3370.4	732.133	-4.603	0.000***
AnchD	-4616.7	530.371	-8.705	0.000***
L.P.B	-81937.8	37378	-2.192	0.028**

Inference: * p<0.01; ** p<0.05; * p<0.1

Table 13. Coefficients Estimation

[Table 12] conducts the difference in difference method for the dependent, nine independent, and three control variables. In this estimation, R-square is 0.73, and P-value is less than 0.045, which is statistically significant. This study also observes the overall 6,886 land price data in the estimation.

[Table 12] states the causal effect is -98,431 won/m² . In the analysis, the mean value of land prices in the treatment group has increased 10,728 won/m² , which is a 0.78 percent raise. On the other hand, the mean value of land prices in the control group has increased 109,159 won/m² , which is a 16.7 percent growth. Hence, there is no Starbucks impact in the bedroom community in Seoul.

[Table 13] shows the independent variables of distance to a subway station, public office, park, commercial business, education, and religion are statistically significant. Likewise, the control variables of distance from another coffee chain (Starbucks and Ediya), distance from an anchor facility, and the land price boom are statistically significant. These variables exert influence on the valid estimation.

To be more specific, this estimation performs the

Hausman test. It shows that the Prob>chi2 is 0.0000, which means that this test result cannot reject the null hypothesis $H=0$. Consequently, this study has to choose the fixed effect model.

3) Summary

As part of the Starbucks' location strategy, [Table 8] describes that Starbucks prefers to open its coffee stores near public offices, commercial businesses, and larger land areas. Contrastively, Ediya prefers to launch its coffee stores near parks, educational facilities, religious facilities, and closer to subway stations, bus stops, other coffee store chains, anchor facilities. Two comparison groups explains much of the different location preference.

In the research plan, this study assumes that the Starbucks effect will exist in four northeast districts of Seoul. Unexpectedly, provided infrastructure services around the 17 Ediya coffee stores induce much more significant effects in land prices. Thus, the estimation finds the point that two comparison groups have - 98,431 won/m² difference, which means that there are no Starbucks effects in four northeast districts of Seoul within the statistical significance level.

V. Conclusion

After Starbucks made inroads into the Korean market in 1999, many people have gone into raptures about new coffee experiences and customer services. The root of Starbucks' success is that Starbucks provides sophisticated and convenient customer services with touches of humanity and social responsibility. Thus, many people feel like they are always very much welcomed. As many people come over, Starbucks becomes to receive attention from the real estate market, which is well known as the Starbucks effect, because Starbucks has contributed to increasing adjacent property values.

In this research, the estimation of the difference in difference method detects the point that the Starbucks effect does not really exist in four northeast districts of Seoul. The mean values of land prices in the treatment group (Starbucks) had 10,728 won/m² won/m² increased during the last decade, and land prices in the control group (Ediya) had 109,159 won/m² risen. To sum up, this study concludes that Starbucks' net impact is - 98,431 won/m² , which means that the 17 Starbucks coffee stores have not affected adjacent land prices in four northeast districts of Seoul. This estimation has 0.045 p-value, which indicates that it is valid

within the statistical significance level.

In the difference in difference method estimation, the independent variables of distance to subway, public office, park, commercial business, education, and religion and the control variables of distance from another coffee chain (Starbucks and Ediya), distance from an anchor facility, and the land price boom are statistically significant in a confidence level. These variables exert influence on deducing the analysis results.

Comparison with this study's estimation with precedent researches (Glaeser et al., 2018, Donner & Loh, 2019), Starbucks coffee stores do not wield substantial influence over the land market. Glaeser et al. (2018) proclaim that Starbucks coffee stores affect adjacent housing prices. If Starbucks launches a new store in a year, it causes to increase of 0.5 percent nearby housing prices, especially influencing a 0.17 percent increase in adjacent housing prices in growing areas.

In this connection, Donner & Loh (2019) discover the point that Starbucks coffee stores in Manhattan have effects on increasing 9.2 percent to 11.1 percent in office rents within a radius of 0.1 miles. Overall, Starbucks coffee stores pull

strings to deduct the Starbucks effect in the housing market and office market. In contrast, they cannot exercise the leverage of Starbucks' impact in the land market because the control group (Ediya) has a strong presence in Seoul's four northeast districts (bedroom community).

Although Starbucks coffee stores do not have any effects on the land market, it delivers a good indication of revitalizing the local community in four northeast districts of Seoul. Dinnen (2015) proclaims that Starbucks donates a portion of the profit for community development. Starbucks has taken responsibility for the sources through financially supporting local schools, hospitals, and community systems.

Haskova (2015) proclaims that as a part of Starbucks' social responsibility, it takes on thousands of 15–24 years old youth leaders in the local community to train them and emphasizes the importance of the partnership, which is a sense of community belonging. This Starbucks' educational program operates in the long term and offers job opportunities and prosperity in the local community. By conducting Starbucks' corporate social value (CSV), it obtains a positive image in the local community and finds a way of community involvement to coexist with the local community.

Even though the 17 Starbucks coffee stores in four northeast districts of Seoul do not influence adjacent land prices, four limits should be advanced in future research. Firstly, there is an analytical range limit. This study plans the analysis objects of Starbucks coffee stores as a district unit and conducts the difference in difference method. If this study performs the analysis as an individual unit of the Starbucks coffee store, it can produce more accurate estimation in terms of the Starbucks impact on the land prices. Narrowing down the estimate's analytical range needs to be considered to get more exact analysis results in further research.

Secondly, there is a measurement error in collecting quantitative data. This study only counts public facilities if they are more than a medium-scale. In other words, this study does not count small-scale public facilities because they are too small to garner more people. However, a small scale of facilities may have the potential capacities to attract more people. In further research, a small-scale of facilities should be included in data collection to make a more explicit statement.

Thirdly, inexplicable factors, such as social psychology, consumerism, externalities, etc., can also influence land prices fluctuation. However, these factors are not reflected in

this study. In further research, it would be better to conduct in-depth interviews with residents, Starbucks consumers, local licensed real estate agents, etc. The opinion of a considerably large group of people would be helpful for this study to control the unexplainable factors.

Fourthly, this study considers extending the term of the research period. To improve the accuracy of the difference in difference estimation, the research's time period should be longer. In this study, the research term is a decade (from 2006 to 2016). In further research, the duration of the research period needs to be set up for two decades (from 1999 to 2019). In this regard, a researcher estimates the Starbucks effect's existence by distinguishing period before Starbucks Korea launched all Starbucks coffee stores in the bedroom community and period after Starbucks Korea opened all Starbucks coffee stores in the bedroom community.

Reference

[Book]

- Michelli, J. A. (2007). *The Starbucks experience: 5 principles for turning ordinary into extraordinary*. New York: McGraw-Hill.
- Schultz, H., & Yang, D. J. (1997). *Pour your heart into it: How Starbucks built a company one cup at a time*. New York, NY: Hyperion.

[Journal]

- 강창덕, (2017). 서울시 산업군별 고용 접근성이 토지가격에 미치는 영향, 「서울도시연구」, 18(1), 139-160.
- 김광국, 황지욱 (2010). 특성감안가격결정모형을 활용한 도심부 토지이용의 지가결정요인 분석. *대한건축학회 논문집 - 계획계* 26(11), 237-244
- 김봉원, 권니아, 길지혜 (2010) 삼청동길의 젠트리피케이션 현상에 대한 상업화 특성분석, 「한국지역경제연구」, 15, 83-102
- 김수정, & 신지연. (2015). 글로벌시대 초국가 기업의 장소마케팅이 지방도시의 로컬리티에 미치는 영향 연구, 「로컬리티 인문학」, (14), 257-292.
- 문준호, 송명근, 이원석 (2019). 스타벅스 브랜드 사랑에 영향을 미치는 요인. 「호텔경영학연구」, 28(7), 253-266
- 서유석 (2003). [특집] 노인주거의 입지와 근린생활권. *건축*, 47(6), 42-48
- 송명근, 이원석, 문준호 (2019). 커피 소비자들의 신뢰성에 영향을 미치는 요인. 「관광레저연구」, 31(3), 219-235
- 이지원, 김도희 (2016). 스타벅스 브랜드 개성이 소비자 만족과 소비자 웰빙에 미치는 영향. 「대한경영학회지」, 29(6), 953-980
- 최성수, 김홍길, 윤병국 (2011). 스타벅스의 점포속성이 점포이미지와 소비감정에 미치는 영향 연구. 「관광연구저널」, 25(3), 305-320
- Abadie, A. (2005). Semiparametric Difference-in-Differences Estimates. *Review of Economic Studies*, 72(1): 1-19.
- Ahrens, M. (2015). "Gentrify? No! Gentefy? SI!" : Urban redevelopment and ethnic gentrification in Boyle Heights, Los Angeles. *Aspeers*, 8, 9-26.
- Argenti, Paul. (2004). Collaborating with Activists: How Starbucks Works With NGOs. *California Management Review*. 47. 91-116. 10.2307/41166288.
- Atkinson, R. (2004) The evidence on the impact of gentrification: new lessons for the urban renaissance?, *European Journal of Housing Policy*, 4(1), pp. 107-131.
- Banai, R., & Antipova, A. (2016). Retail-center viability and urban form: A micro

- analysis. *The International Review of Retail, Distribution and Consumer Research*, 26(5), 521–540.
- Bell, A., & Jones, K. (2015). Explaining Fixed Effects: Random Effects Modeling of Time–Series Cross–Sectional and Panel Data. *Political Science Research and Methods*, 3(1), 133–153.
- Benirschka, M., & Binkley, J. (1994). Land Price Volatility in a Geographically Dispersed Market. *American Journal of Agricultural Economics*, 76(2), 185–195.
- Bookman, S. (2014). Brands and Urban Life: Specialty Coffee, Consumers, and the Co–creation of Urban Caff Sociality. *Space and Culture*, 17(1), 85–99.
- Campbell, Katherine and Helleloid, Duane, (2016). "Starbucks: Social Responsibility and Tax Avoidance" Management Faculty Publications. 1.
- Cervero, R., & Kang, C. (2011). Bus rapid transit impacts on land uses and land values in Seoul, Korea. *Transport Policy*, 18(1), 102–116.
- Chin, H., & Foong, K. (2006). Influence of School Accessibility on Housing Values. *Journal of Urban Planning and Development*, 132(3), 120–129.
- Cho, Junsung & Yu, Jaegwan & Oh, Sanghak & Ryoo, Jungwoo & Song, Jaeseung & Kim, Hyoungshick. (2017). Wrong Siren! A Location Spoofing Attack on Indoor Positioning Systems: The Starbucks Case Study. *IEEE Communications Magazine*. 55. 132–137. 10.1109/MCOM.2017.1600595CM.
- Chuang, Hui–Jung. (2019). Starbucks in the World. *Holistica*. 10. 99–110. 10.2478/hjbpa–2019–0031.
- Chung, Hyeuk. (2015). The Characteristics Inherent in Successful Branded Mobile Apps as A New Communication Method for Consumer Brand Engagement. *CONTENTS PLUS*. 13. 35–54. 10.14728/KCP.2015.13.01.035.
- Comunian, R. (2011). Rethinking the Creative City: The Role of Complexity, Networks and Interactions in the Urban Creative Economy. *Urban Studies*, 1157.
- Cutter IV, B., & DeWoody, A. (2010). Parking Externalities in Commercial Real Estate. *Real Estate Economics*, 38(2), 197–223.
- Ding, C. (2003). Land policy reform in China: Assessment and prospects. *Land Use Policy*, 20(2), 109–120.
- Deweese, D. (1976). The effect of a subway on residential property values in Toronto. *Journal of Urban Economics*, 3(4), 357–369.
- Dinnen, M, 2015, “Starbucks and the Fair Trade Movement,” Ch. – 27, pp. 3–4, *The Globalization of World Politics*, Sage pub, London, England, retrieved from, <http://www.starbucks.com/aboutus/csr.asp>, on 12/10/2015.
- Dokmeci, V., Altunbas, U., & Yazgi, B. (2007). Revitalisation of the Main Street of a Distinguished Old Neighbourhood in Istanbul. *European Planning Studies*, 15(1), 153–166.
- Donner, H., & Loh, T. (2019). Does the Starbucks effect exist? Searching for a relationship between Starbucks and adjacent rents. *Property Management*, 37(4), 562–578.

- Drinkwater, B.D. & Platt, S. (2015). Urban development process and creative clustering: The film industry in Soho and Beyoğlu. *URBAN DESIGN International*, 21(2), 151–174.
- Du, Hongyan & Ma, Yongkai & An, Yunbi. (2011). The impact of land policy on the relation between housing and land prices: Evidence from China. *The Quarterly Review of Economics and Finance*. 51. 19–27. 10.1016/j.qref.2010.09.004.
- Ellis, C., Lee, S., & Kweon, B. (2006). Retail land use, neighborhood satisfaction and the urban forest: An investigation into the moderating and mediating effects of trees and shrubs. *Landscape and Urban Planning*, 74(1), 70–78.
- En-Ying Lin (2012) Starbucks as the Third Place: Glimpses into Taiwan's Consumer Culture and Lifestyles, *Journal of International Consumer Marketing*, 24:1–2, 119–128, DOI: 10.1080/08961530.2012.650142
- Ferreira, J. (2017). Café nation? Exploring the growth of the UK café industry. *Area*, 49(1), 69–76.
- Freeman, Lance & Braconi, Frank. (2004). Gentrification and Displacement New York City in the 1990s. *Journal of The American Planning Association – J AMER PLANN ASSN*. 70. 39–52. 10.1080/01944360408976337.
- GAUDIO, RUDOLF. (2003). Coffeetalk: Starbucks™ and the Commercialization of Casual Conversation. *Language in Society*. 32. 659 – 691. 10.1017/S0047404503325035.
- Glaeser, Edward (2019). Cities and Big Data. SNS RESEARCH BRIEF nr58, 1–11
- Glaeser, E., Kim, H., & Luca, M. (2018). Measuring Gentrification: Using Yelp Data to Quantify Neighborhood Change. IDEAS Working Paper Series from RePEc, IDEAS Working Paper Series from RePEc, 2018.
- Godsil, R.D. (2013). Post-Zoning: Alternative Forms of Public Land Use Controls: The Gentrification Trigger: Autonomy, Mobility, and Affirmatively Furthering Fair Housing. *Brooklyn Law Review*, 78, 319–1699.
- Grant, J., & Perrott, K. (2011). Where Is the Café? The Challenge of Making Retail Uses Viable in Mixed-use Suburban Developments. *Urban Studies*, 48(1), 177–195.
- Haskova Katerina. (2015). Starbucks Marketing Analysis. CRIS: Bulletin of the Centre for Research and Interdisciplinary Study, 2015(1), 11–29.
- Hsiao, Cheng. (2007). Panel data analysis—advantages and challenges. *TEST: An Official Journal of the Spanish Society of Statistics and Operations Research*. 16. 1–22. 10.1007/s11749-007-0046-x.
- Jalil, N., Fikry, A., & Zainuddin, A. (2016). E-Atmospheric Effects on Youth Intention to Revisit a Cafe. *Procedia Economics and Finance*, 37, 497–503.
- Jayantha, W., & Chun Ming, C. (2015). The effect of urban redevelopment on retail shopping property values: A case study in Hong Kong. *International Journal of Urban Sciences*, 19(3), 379–399.
- Jinhyung Lee & Youngho Kim (2018) “A Newcomer” versus “First Mover” :Retail

- Location Strategy for Differentiation, *The Professional Geographer*, 70:1, 22–33, DOI:10.1080/00330124.2017.1310621
- Kim, M., Zhang, B., & Lee, J. (2009). Social Influence Models Based on Starbucks Networks. 2009 International Conference on Computational Aspects of Social Networks, 3–9.
- Kok, N., Monkkonen, P., & Quigley, J. (2014). Land use regulations and the value of land and housing: An intra-metropolitan analysis. *Journal of Urban Economics*, 81(C), 136–148.
- Krause, L.A., & Bitter, C. (2012). Spatial econometrics, land values and sustainability: Trends in real estate valuation research. *Cities*, 29(2), S19–S25.
- Kurniati, R., & Erlambang, F. (2015). Changes the Pattern of Residential Space into Commercial Space in Chinatown Semarang. *Procedia Environmental Sciences*, 23(C), 307–314.
- Kuryj-Wysocka, Oksana & Kuryj, Jan & Wisniewski, Radoslaw. (2014). The Dynamics of Real Estate Field of Value. *Real Estate Management and Valuation*. 22. 10.2478/remav-2014-0041.
- Kuwahara, H. (1997). Concentration and productivity in the retail trade in Japan. *The International Review of Retail, Distribution and Consumer Research*, 7(2), 109–124.
- Lee, J. & Kim, J. (2017). Study on UX Design of Omni Channel. *Indian Journal of Science and Technology*. 9. 10.17485/ijst/2016/v9i48/108741.
- Lee, J., & Kim, Y. (2018). "A Newcomer" versus "First Mover": Retail Location Strategy for Differentiation. *The Professional Geographer*, 70(1), 22–33.
- Lester, T. & Hartley, Daniel. (2014). The Long Term Employment Impacts of Gentrification in the 1990s. *Regional Science and Urban Economics*. 45. 10.1016/j.regsciurbeco.2014.01.003.
- Liarte, Sbastien & Forgues, Bernard. (2008). Location strategies of multiunit service businesses: Spatial differentiation and agglomeration among hamburger restaurants in Paris, 1984–2004. *Service Business*. 2. 233–248. 10.1007/s11628-008-0038-2.
- Liu, L.. (2020). THE RELATIONSHIP BETWEEN LIVEABILITY AND PRICE OF RESIDENTIAL HOUSES – A CASE STUDY OF SHENZHEN. *ISPRS – International Archives of the Photogrammetry, Remote Sensing and Spatial Information Sciences*. XLII-3/W10. 141–144. 10.5194/isprs-archives-XLII-3-W10-141-2020.
- Loyd, S., Jackson, W. T., & Gaulden, C. (2001). Starbucks Coffee: High Octane. Arden: Jordan Whitney Enterprises, Inc. Retrieved from <http://lps3.search.proquest.com.libproxy.snu.ac.kr/docview/192412104?accountid=6802>
- Maignan, Isabelle & Ferrell, O.. (2004). Corporate Social Responsibility and Marketing: An Integrative Framework. *J Acad Mark Sci*. 32. 3–19.

- 10.1177/0092070303258971.
- Matthews, J. (2006). Retail Proximity and Residential Values or Do Nearby Stores Really Run Down Property Values?. SSRN Electronic Journal. 10.2139/ssrn.989049.
- Medda, F. (2012). Land value capture finance for transport accessibility: A review. *Journal of Transport Geography*, 25, 154–161.
- Montgomery, J. (1990). Cities and the art of cultural planning. *Planning Practice & Research*, 5(3), 17–24.
- Montgomery, J. (1997). Café culture and the city: The role of pavement caf  s in urban public social life. *Journal of Urban Design*, 2(1), 83–102.
- Montgomery, J. (1998). Making a city: Urbanity, vitality and urban design. *Journal of Urban Design*, 3(1), 93–116.
- Murdie, R., & Teixeira, C. (2011). The Impact of Gentrification on Ethnic Neighbourhoods in Toronto: A Case Study of Little Portugal. *Urban Studies*, 48(1), 61–83.
-   zdemir, Dilek & Sel  uk, İrem. (2017). From pedestrianisation to commercial gentrification: The case of Kad  k  y in Istanbul. *Cities*. 65. 10–23. 10.1016/j.cities.2017.02.008.
- Patterson, P., Scott, J., & Uncles, M. (2010). How the local competition defeated a global brand: The case of Starbucks. *Australasian Marketing Journal (AMJ)*, 18(1), 41–47.
- Pedro Porf  rio Coutinho Guimar  es (2018) The Transformation of Retail Markets in Lisbon: An Analysis through the Lens of Retail Gentrification, *European Planning Studies*, 26:7, 1450–1470, DOI: 10.1080/09654313.2018.1474177
- Prayoga, Nyoman & Esariti, Landung & Dewi, Diah. (2013). The Identification of Early Gentrification in Tembalang Area, Semarang, Indonesia. *Environment and Urbanization Asia*. 4. 57–71. 10.1177/1103308813478606.
- Puel, Gilles & Xiaoting, Jin & Pons, Blandine. (2006). New Forms of Mobility and Social Practices: The Starbucks Caf  s in Beijing. Chinese perspectives. 67. 34–44. 10.4000/chinaperspectives.1049.
- Rajasekaran, R. (2015). Starbucks' Entry into Tea-Drinking India. *IUP Journal of Brand Management*, 12(3), 45–58.
- Rivero, Orlando. (2015). Starbucks Corporation: Leading Innovation in the 21st Century. *Journal of Alternative Perspectives in the Social Sciences*. 7. 23–38.
- Sadahiro, Y. (2000). A PDF-based analysis of the spatial structure of retailing. *GeoJournal*, 52(3), 237–252.
- Schuetz, Jenny. (2014). Do rail transit stations encourage neighborhood retail activity?. *Urban Studies*. 52. 10.1177/0042098014549128.
- Seidman, Dov. (2017). THE RISE OF THE HUMAN ECONOMY. *Leader to Leader*. 2017. 30–35. 10.1002/ltl.20288.
- Smith, M.J.C. & PJ, Wilkin & MH, Williams. (1996). The advances of an unsteady

- method in modeling the aerodynamic forces on rigid flapping wings. *The Journal of experimental biology*. 199. 1073–83.
- Soo Wook Kim. (2013). ARTICLES : Selecting Location of Service Facilities: siting Strategy of Starbucks in Korea. *Advancing Small Enterprise Innovation Research*, 16(1), 61–76.
- Stokenberga, A. (2014). Does Bus Rapid Transit Influence Urban Land Development and Property Values: A Review of the Literature. *Transport Reviews*, 34(3), 276–296.
- Tekin, İlke & Göltekin, Asiye. (2017). Rebuilding Of Beyoğlu-İstiklal Street: A Comparative Analysis Of Urban Transformation Through Sections Along The Street 2004–2014. *METU JOURNAL OF THE FACULTY OF ARCHITECTURE*. 34. 10.4305/METU.JFA.2017.2.12.
- Thompson, C., & Arsel, Z. (2004). The Starbucks Brandscape and Consumers' (Anticorporate) Experiences of Glocalization. *Journal of Consumer Research*, 31(3), 631–642.
- Tonnelat.S. (2008). The Sociology of Urban Public Spaces. The founding conference of the first Sino–French Research Center for Urban Planning, Nanjing, China. < hal-01072511 >
- Trojanek, R., & Gluszak, M. (2018). Spatial and time effect of subway on property prices. *Journal of Housing and the Built Environment*, 33(2), 359–384.
- Tsutsumi, M., Shimada, A., & Murakami, D. (2011). Land price maps of Tokyo Metropolitan Area. *Procedia – Social and Behavioral Sciences*, 21(C), 193–202.
- Venkatraman, M. & Nelson, T. (2008). From servicescape to consumptionscape: A photo–elicitation study of Starbucks in the New China. *Journal of International Business Studies*, 39(6), 1010–1026.
- Wang, R. (2009). The Structure of Chinese Urban Land Prices: Estimates from Benchmark Land Price Data. *The Journal of Real Estate Finance and Economics*, 39(1), 24–38.
- Wolch, J., Byrne, J., & Newell, J. (2014). Urban green space, public health, and environmental justice: The challenge of making cities 'just green enough' . *Landscape and Urban Planning*, 125(C), 234–244.

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ChosunBiz (<http://biz.chosun.com>)
 Columbia University (<http://www.columbia.edu>)
 Econlife ([http:// Econlife.com](http://Econlife.com))
 Forbes (<http://www.Forbes.com>)
 Gyeonggi – do Traffic Control Center (<http:gits.gg.go.kr>)
 Hankyoreh (<http://www.hani.co.kr>)

Industrial Economic Fact Reviews (<http://www.biznews.or.kr>)
Kakao Map (<https://map.kakao.com>)
MBN (<http://mbn.co.kr>)
Michigan State University (<https://msu.edu>)
Ministry of Land, Infrastructure, and Transport (<http://www.molit.go.kr>)
News1 (<http://news1.kr>)
Nippon.com ([http:// Nippon.com](http://Nippon.com))
Seoul Open Data Portal (<https://data.seoul.go.kr>)
Starbucks Korea (<https://www.istarbucks.co.kr>)
The Dong-A Ilbo (<http://www.donga.com>)

	LandPrice	Area	CafeD	SubD	PubOffice	Park	Commerical
LandPrice	1.0000						
Area	0.3927* (0.0000)	1.0000					
CafeD	0.1168* (0.0000)	0.0117 (0.3320)	1.0000				
SubD	0.1846* (0.0000)	-0.0327* (0.0066)	0.0909* (0.0000)	1.0000			
PubOffice	0.1091* (0.0000)	0.0598* (0.0000)	0.0677* (0.0000)	-0.0394* (0.0011)	1.0000		
Park	-0.0940* (0.0000)	0.0234 (0.0518)	0.0075 (0.5323)	-0.0608* (0.0000)	0.0921* (0.0000)	1.0000	
Commercial	0.8085* (0.0000)	0.3073* (0.0000)	0.1651* (0.0000)	0.1933* (0.0000)	0.1392* (0.0000)	-0.1003* (0.0000)	1.0000
Education	-0.2071* (0.0000)	-0.0781* (0.0000)	0.0677* (0.0000)	-0.0540* (0.0000)	-0.0804* (0.0000)	0.0601* (0.0000)	-0.0746* (0.0000)
BusD	0.0760* (0.0000)	-0.0277* (0.0213)	0.0778* (0.0000)	0.4332* (0.0003)	-0.0092 (0.4445)	-0.1113* (0.0000)	0.0801* (0.0000)
Rel	-0.1784* (0.0000)	0.0859* (0.0000)	0.0556* (0.0000)	-0.1549* (0.0000)	0.0138 (0.2507)	0.0835* (0.0000)	-0.0709* (0.0000)
AcafeD	0.0407* (0.0007)	-0.0039 (0.7454)	0.0443* (0.0002)	-0.0159* (0.1858)	-0.0915* (0.0000)	-0.0616* (0.0000)	0.0496* (0.0217)
AnchD	-0.1853* (0.0000)	-0.1632* (0.0000)	-0.0457* (0.0001)	0.1841* (0.0000)	-0.0303* (0.0119)	-0.0504* (0.0000)	-0.1765* (0.0000)
L.P.B	0.0798* (0.0000)	-0.0000 (0.9973)	0.3234* (0.0000)	0.0001 (0.9946)	0.0259* (0.0317)	0.0004 (0.9732)	0.1393* (0.0000)

	Education	BusD	Rel	AcafeD	AnchD	L.P.B
Education	1.0000					
BusD	-0.1130* (0.0000)	1.0000				
Rel	0.2429* (0.0000)	-0.0132 (0.2742)	1.0000			
AcafeD	-0.1109* (0.0000)	0.0415* (0.0006)	-0.1023* (0.0000)	1.0000		
AnchD	-0.0601* (0.0000)	0.0571* (0.0000)	-0.0396* (0.0010)	-0.0614* (0.0000)	1.0000	
L.P.B	0.0124* (0.3044)	-0.0000 (1.0000)	0.0767* (0.0000)	0.0579* (0.0000)	0.0000 (1.0000)	1.0000

Appendx 1. Pearson Correlation Coefficients

Source	SS	df	Ms	Number of obs	6,886
Model	1.8748e+16	12	1.5624e+15	F(11,828)	1411.37
Residual	7.6083e+15	6,873	1.1070e+12	Prob > F	0.0000
Total	2.6357e+16	6,885	3.8281e+12	R-Squared	0.7113
				Adj R-Squared	0.7108
				Root MSE	1.1e+06

LandPrice	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
Area	2352.454	100.6077	23.38	0.000	2155.232	2549.677
CafeD	532.1675	419.9545	1.27	0.205	-291.0732	1355.408
SubD	2339.122	498.2368	4.69	0.000	1362.424	3315.82
PubOffice	-26338.48	15114.44	-1.74	0.081	-55967.46	3290.49
Park	-19038.79	14771.03	-1.29	0.197	-47994.57	9916.99
Commercial	774870.8	7856.333	98.63	0.000	759469.9	790271.6
Education	-237875.5	13940.78	-17.06	0.000	-265203.7	-210547.2
Rel	-187829.6	11720.24	-16.03	0.000	-210804.9	-164854.3
BusD	416.4726	341.5469	1.22	0.223	-253.065	1086.01
AcafeD	-2651.102	759.4881	-3.49	0.000	-4139.934	-1162.271
AnchD	-3996.376	550.363	-7.26	0.000	-5075.258	-2917.494
L.P.B	-56846.92	30440.02	-1.87	0.062	-116518.8	2824.939
_cons	1049416	54405.05	19.29	0.000	942764.9	1156066

Variable	VIF	1/VIF
Commercial	1.30	0.769963
CafeD	1.17	0.856931
Area	1.16	0.863891
L.P.B	1.14	0.874701
SubD	1.14	0.880354
Rel	1.13	0.888757
Education	1.12	0.892514
AnchD	1.12	0.894501
PubOffice	1.06	0.944332
Park	1.05	0.955220
AcafeD	1.05	0.955937
BusD	1.04	0.957671
Mean VIF	1.12	

Appendx 2. Variation Inflation Factor Test

국 문 초 록

스타벅스 효과가 인근 표준지공시지가에 미치는 영향에 대한 연구

-서울 동북2권을 대상으로-

김 호 진

환경계획학과 도시 및 지역계획학 전공
서울대학교 환경대학원

1999년 스타벅스코리아의 첫 등장은 대한민국의 카페 문화를 형성하는데 큰 영향을 미쳤다. 스타벅스는 그들만의 비즈니스 철학을 창조하였고, 카페는 단순히 커피 한 잔을 파는 것이 아닌 낭만적인 문화와 공간을 파는 ‘더 서드 플레이스’임을 강조하였다. 이처럼 스타벅스의 대중적인 인기가 높아지면서 사람들은 스타벅스의 파급효과에 관심을 가지게 되었고, 특히, 부동산 시장에서 스타벅스의 입점은 주변지역에 상당한 영향을 미쳤다. 왜냐하면 스타벅스의 입점으로 인해 주변의 자산 가치가 상승하는 시너지 효과가 발생했기 때문이다.

본 연구는 부동산 시장에서 발생하고 있는 스타벅스 입점에 따른 파급효과에 관심을 두었으며 이를 학문적인 근거 아래 학술적으로 증명하고자 한다. 연구 대상 지역은 서울시 생활권 계획상 베드타운으로 제시된 동

북 2권(성북구, 노원구, 도봉구, 강북구)을 범위로 설정하였으며, 그 지역에 위치한 스타벅스 카페와 이디야 카페를 중심으로 반경 300m 이내 토지의 표준지공시지가를 중심으로 연구하였다. 연구 목적은 첫 번째, ‘전’에 해당하는 2006년부터 2011년까지 ‘후’에 해당하는 2012년부터 2016년까지 동북 2권에 있는 17개의 스타벅스 카페와 이디야 카페 인근 표준지공시지가의 변화의 차이를 추산하고자 한다. 두 번째, 두 집단 인근 표준지공시지가의 변화 차이를 통해 스타벅스 효과의 존재 여부를 평가하고 이것이 베드타운인 동북 2권에 전달하는 의미가 무엇인지를 분석하고자 한다.

또한 본 연구를 수행함에 있어 이중차분법(Difference in Difference)의 방법론을 적용하였으며, 이를 위해 6,886개의 표준지공시지가를 수집하였다. 그리고 이중차분법에서 처치 집단은 스타벅스이며, 통제 집단은 스타벅스만큼 인기가 높으며 대한민국의 고유 커피 브랜드인 이디야로 설정하였다. 스타벅스는 2012년을 정점으로 과거 10년 동안 가장 높은 매출을 올렸기 때문에 이중차분법의 기준연도를 2012년으로 설정하였다. 따라서 2012년부터 2016년까지 동북 2권에서는 17개의 스타벅스 매장이 새로 생겨났으며, 이 17개의 스타벅스 매장과 이디야 매장이 생겨나기 전인 2006년부터 2011년을 ‘전’으로, 이 17개의 스타벅스 매장과 이디야 매장이 생겨난 후인 2012년부터 2016년을 ‘후’로 정했다.

각각의 카페를 중심으로 반경 300m 이내 토지의 표준지공시지가의 평균값을 분석한 결과, 이디야 카페 인근에 공원, 교육 시설, 종교 시설, 대중교통 등 인구집중 유발시설이 스타벅스 카페보다 다수 입지하여 유리한 조건이었다. 따라서, 10년 동안 스타벅스 인근 표준지공시지가의 평균값은 $10,728\text{원}/\text{m}^2$ 증가했으며 이디야 인근 표준지공시지가의 평균값은 $109,159\text{원}/\text{m}^2$ 증가하였다. 그 결과, 스타벅스 인근 표준지공시지가의 평균값은 이디야 인근 표준지공시지가의 평균값보다 통계적 유의함

아래 98,431원/m² 더 낮게 조사되었다. 이를 근거로 본 연구는 서울의 동북 2권 베드타운에서 스타벅스 카페가 주변지역의 표준지공시지가에 미치는 영향을 조사하였다. 부동산 시장에서의 스타벅스 효과를 연구하였던 주요 선행연구들과 달리 표준지공시지가에서는 스타벅스 효과가 존재하지 않다는 사실을 확인하였다.

◆ 주요어: 카페 문화, 스타벅스, 이디야, 스타벅스 효과, 이중차분법, 서울 동북2권

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