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# An Analysis of the Status of Local Currency (Daedeok e-Loom) for the Vitality of Local Commercial Areas and an Empirical Study on the Direction of Development\*

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## Abstract

**Purpose:** In a situation where the local economy and alley economy are stagnant, efforts to revitalize the role of small business owners need a virtuous cycle system through consumers' consumption power, not just cash support. **Research design, data, and methodology:** The study site focuses on Daedeok-gu, the first to introduce local currency as a policy. In the case of the store survey, 254 stores out of 300 stores registered with local currency were analyzed, and the consumer survey was conducted on 1,394 out of 1,500 local people using local currency. Statistical analysis was performed using the SPSS. **Result:** As a result of time-series checking whether local economic activities are carried out smoothly due to the nature of the local currency, the average daily sales of Daedeok-gu increased by 388,980won compared to 2019. This proved through empirical research in the region that local currency played a priming role in bringing opportunities and rehabilitation to the local commercial districts and small business owners. **Conclusions:** In the monetary function of simply buying and selling value through payment, points supported as incentives can be used as local currency while inducing direct participation in solving social problems, and the concurrent effect of causing problem-solving and regional economic vitality began to sprout.

**Keywords:** Local Commercial Areas, Local Currency, Commercial Vitality, Small Business Owner

**JEL Classification Code:** C15, H5, H7, R11, R38.

## 1. Introduction

### 1.1. Background

The growth and development of the region must be a significant sector factor that satisfies the quality of life for members living in the city. During periods of high economic growth, the urban area served as the axis of urban development by concentrating the city's central functions. As the town expanded externally, the main functions were dispersed and reorganized, the population decreased, the local economy stagnated, and the residential environment

deteriorated. It is rapidly declining (Ryu & Choi, 2013). In particular, regardless of the size of the city's population, the hollowing out of the original city center is rapidly progressing due to phenomena such as the rapid decline of commercial functions centered on local towns, leading not only to a reduction in the city's competitiveness but also urban decline (Son et al., 2021). As a solution to additional urban problems, measures to revitalize local commercial districts and support small business owners are being explored in various directions.

Rather than simply blaming the existing distribution environment for these dark shadows, changes in the city's

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living environment, namely the development of new towns, the relocation of administrative agencies, and the growth of high-speed transportation are believed to have accelerated these results. The lives of residents (consumers) have been greatly affected, and the patterns have led to a phenomenon that naturally changes. As a result of these changes, the distribution environment has become a large-scale chain, and another form of change has altered the flow of the local economy (Ryu & Choi, 2012). It is a continuous situation that has argued about positive and negative views (Suh et al., 2022). Despite constant consideration and efforts by the government and the private sector to prepare innovation engines to overcome the problems caused by this phenomenon, good results and results have yet to be achieved due to frequent policy changes and similar business methods. In this situation, the government invested a large amount of the national budget to carry out educational programs to strengthen marketing and sellers' internal capabilities to overcome the pace of changes in the distribution environment and consumption patterns and to expand the operating funds of self-employed people to consumers.

On the other hand, in this situation, as the big keyword of the fourth industrial revolution era begins to be presented as a topic, new vitality is brought to urban spaces such as major industries and policies, economy, education, and culture. However, the domestic economic situation is different. As domestic and foreign economic conditions do not improve, various policies are being discovered and implemented to revitalize the local and alley economies. However, when it took time to find a complete answer regarding effectiveness, the government began issuing various securities as one of the new policies, and representative examples are Onnuri Gift Certificate, Zero Pay, and local currency (Local Love Gift Certificate).

It has recently tried to increase users' convenience by linking this gift certificate online. In addition, government ministries and local governments have prepared specialized gift certificates that can be used in traditional markets to revitalize the local economy and issued gift certificates nationwide to vitalize traditional markets to motivate internal economic activities.

In particular, before the spread of COVID-19 in Korea at the beginning of 2020, the government recognized the seriousness of the problem. It announced Comprehensive Measures for Self-Sales Growth and Innovation in February last year. As one of the eight innovation policy tasks, the government announced that it would issue gift certificates exclusively for small business owners, including 8 trillion won for local love gift certificates and 10 trillion won for Onnuri gift certificates, showing a solid will to revive traditional markets and alley businesses (Lee & Lee, 2020).

Residents(consumers) continued their economic

activities in a distribution environment accustomed to face-to-face bargaining. As large discount stores, online shopping, and outlets opened, the type of consumption changed from face-to-face to one-sided consumption. It is time to lose competitiveness.

The recent outbreak of COVID-19 hurts urban vitality, resulting in the introduction of related response policies to reduce the spread of the disease and increasing psychological concerns about infection. COVID-19 has not ended, two years after the World Health Organization (WHO) officially declared a "global pandemic" caused by COVID-19 in March 2020. Countries and cities worldwide have introduced various lockdowns and movement restrictions to respond to the COVID-19 pandemic, significantly reducing cities' social and economic activity (Xu et al., 2021). As a social disaster (COVID-19) that has yet to be experienced recently has occurred, the local and alley economy is sluggish daily. Although efforts are being made to establish the system's effectiveness, the area where effectiveness can be measured or performance areas can be identified needs to be stronger.

## 1.2. Purpose of the Study

In Korea, small business owners and self-employed people account for a relatively high proportion of total employment compared to major developed countries. Still, their average income level is lower than that of wage workers. Therefore, the economic activities of small business owners and self-employed people in local commercial districts are a significant axis of the people's livelihood and are closely related to the livelihood of the ordinary and vulnerable people, so the government needs to support and consider it. The government supports its economic activities through policies such as policy financing and tax support for small business owners and self-employed people, rent, and employment support (Song & Lee, 2021).

Therefore, in this study, efforts to revitalize local commercial districts and redefine the role of small business owners are needed through consumers' consumption power, not just cash support, so we want to find out the substantive verification of this through local currency. The target site of the study is to introduce local currency as a policy for the first time among the five districts of Daejeon Metropolitan City to understand the scale and performance of the ripple on the region before and after the issuance of local currency centering on Daedeok-gu. The first purpose of this study is to use it as primary data for establishing local commercial vitality and policies for small business owners and to find the degree of ripple when linking new policies with local currencies. Third, we would like to understand the advantages and disadvantages of local currency currently

issued in Korea and whether local currency can revive the local alley economy and local commercial districts through empirical research in a specific region.

Finally, we check how much effect local currency has spread to specific local governments and has occurred to local commercial districts and small business owners. In addition, I would like to suggest a policy alternative to what policies and efforts should be added to have sustainability.

### 1.3. Research Method

Through the definition of local currency in Korea, the definition and characteristics of various monetary functions, such as the meaning of the law and securities that are similarly used, are to be identified through literature and law. In addition, the current status is determined using various statistical data issued by the government to understand the current situation and characteristics of local currency issued by region, along with the definition of local currency currently being promoted in Korea. For empirical research, we would like to find out whether the local currency had an effect through a survey of users (consumers) and small business owners in Daedeok-gu, Daejeon Metropolitan City.

In the case of Daedeok-gu, Daejeon-si, Daejeon-si first began revitalizing the local economy by operating local currency in 2019. However, the policy scope was expanded to allow disaster support funds to be used as local currency due to COVID-19 in 2020.

The survey was conducted twice on sellers (stores) and consumers. Six months after its introduction, the seller (store) conducted the first survey (2021.03.16 to 2021.04.16) and the second survey (2021.03.16) to find the criteria for the settlement and performance of local currency (Daedeok e-Loom) over the first survey (2019.12.20 to 2020.01, 2021). Through this empirical survey, a follow-up survey was conducted to confirm and determine whether there has been a change since the introduction of the local currency system. The surveyed data were subjected to statistical analysis such as cross-analysis and frequency analysis using the SPSS statistical program for data that had undergone final confirmation and verification through editing and coding. Based on the results of these studies, I would like to make suggestions for revitalizing local commercial districts.

## 2. Theoretical Consideration and Policy Trends

### 2.1. Local Currency Definition and Functions and Roles

Local currency refers to an alternative currency issued and distributed within a specific region or community (Lee & Lee, 2019). local currency starts with the 'labor certificate'

introduced in London, England, in 1832. The labor certificate is an alternative monetary structure created by Robert Owen, known as the father of the cooperative, that converts the value of making goods into average working hours to receive that much labor certificate and exchange it for goods provided by other participants. The local currency is likely to meet psychological requirements such as local people's perception, belonging, and pride through social interaction (Ryan, 2011). It helps to form a community that can solve their immediate problems if the community's trust relationship collapses (Seyfang, 2002). By allowing economic transactions to take place within the region, financial resources can be circulated within the region to prevent offshore outflow (Ryu, 2015). which is a measure of the value of commodity exchange in the area and promotes a virtuous cycle of consumption and production, and jobs and economic activities by distributing generalized means that mediate its interaction.

On the other hand, it takes work to accurately identify the number of local currencies used worldwide. Still, based on recent studies, it is reported that 3,500 to 4,500 local currencies are used in more than 50 countries worldwide (Seyfang & Longhurst, 2013).

Local currency promotes the independence and revitalization of the local economy. It simultaneously performs the function of strengthening horizontal reciprocal relations and mutual assistance in reviving the local community (Ryu, 2015). Strictly speaking, however, local currency is not an alternative economic entity but a complementary economic function and role. Local currency can actively participate in production and financial activities for those excluded from employment in anticipation of the vitality and revival of the local and alley economies, strengthen mutualistic relationships between economic actors, and directly or indirectly participate in economic activity decision-making (Lee & Park, 2019). First, alternative communities isolated from the outside do not issue the local currency currently used in the region. As described later, local currency must still be introduced to replace the existing legal currency system. It was introduced as a complementary dimension to compensate for the limitations of legal currency. The local currency is expected to have the potential to become sufficiently widespread because it is produced and exhausted within the region (Cho, 2013).

Local currency was spread to cope with economic downturns and unemployment caused by economic depressions such as the Great Depression (Studer, 1998). When the exchange of technology and time could not be satisfied due to the lack of legal currency during the economic recession, local currency spread to promote trade and business without legal currency (Kang & Hong, 2015). However, at the time of the introduction of local currency, it

did not merely play a supplementary and temporary role and function to operate the demand and supply of goods and services smoothly. Efforts to institutionalize within the community were embodied in the form of local currency, expecting the role of social and economic institutions to be an alternative means of responding to a society with limited social and economic opportunities. The role and function of local currency promote self-reliance and revitalization of the local economy, strengthening horizontal reciprocity and mutual assistance in reviving the local community (Studer, 1998). In other words, more than local currency is needed to create a physical environment that creates large-scale industrial complexes and attracts companies for economic growth and development. Still, it serves as a protective film to create a virtuous cycle structure by protecting local capital.

In addition, research related to local currency was also conducted. An analysis of the impact of local currency on local employment was completed, and it was explained that the issuance and expansion of local currency did not significantly impact local work. This demonstrates that the same results were found in the number of workers across the region, the number of wholesale and retail workers based on large classification, the number of workers based on medium classification, and the number of workers based on small classification (Kang et al., 2022).

## 2.2. Status of Local Currency Operation in Korea

The local currency of Korea is operated through local love gift certificate activation ordinances by local governments based on the Act on the Promotion of Local Love Gift Certificates (enacted on May 1, 2020). It refers to a gift certificate issued by a local government and usable only at affiliated stores of the local government. Excluding hypermarkets and department stores, etc. this local currency is limited to self-employed and small business owners within a region institutionalized for use. Recently, local currency has been issued in consideration of the conditions of local governments for the stable business activities of

small business owners in the region. Against the background of the central government's national treasury support, local currency issuance is rapidly spreading, and now, primary local governments across the country have their characteristics. We are issuing the appropriate local currency. As of September 2020, 228 local governments (93.8%) out of 243 local governments nationwide are giving and operating (see Table 2). Recently, to overcome the economic situation caused by COVID-19, the government paid cash welfare expenditures(emergency disaster support funds, childbirth resources funds, youth dividends, subsidies for primary livelihood security recipients, welfare points for public servants, etc.) in local currency, and in 2020, local currency The amount of issuance exceeded 17.1 trillion won. To protect small businesses in the region, the local currency is limited to the types of companies that can be used, and to prevent the outflow of consumption and promote the revitalization of the local economy, the usable region is limited to the issuing local government and is in operation.

**Table 1:** Target area population and vacant stores(unit: KRW 100 million)

Division	2016	2017	2018	2019	2020
Issued Local Government	53	56	66	117	230
Amount Issued	1,087	3,066	3,714	32,000	171,000

Source: Ministry of Public Administration and Security Press Release (2020 Statistics Press Release)

## 2.3. Current Status of Local Currency Operation in Daedeok-gu, Daejeon

The local currency (Daedeok e-Loom) issued by Daedeok-gu, Daejeon Metropolitan City, the area to be studied, is a local currency issued in a policy to provide an effective means to revitalize local commercial districts. To prevent problems with paper gift certificates in advance, this local currency (Daedeok e-Loom) is issued as a prepaid electronic card by combining IT technology. Since July 2019, the issuance amount has been about 15,957 million won, with about 28,062 cards issued.

**Table 2:** Status of Local Currency (Daedeok e-Loom) Issuance (unit: KRW 100 million)

Division		From July 2019	2020	Until November 2021
Issue Target Amount		Total	50	300
Amount Issued		2,284	160	924
Budget	Total	212	14	80
	Government/ megalopolis budget	147	4	53
	District budget	63	10	27
Incentive (Cashback)		6% at all the time 10% special sale	5~10% / 10% special sale	10% year Round /15% special sale
Government/ megalopolis Ratio		Government 4% /District Budget 2~6%	Government 4% / District Budget 8%(January - April) Government 4%/ megalopolis 6%(May-December)	Decreased government subsidy ratio (8%→6%→4%)

Source: Daedeok-gu Internal Data (2022)

Local currency (Daedeok e-Loom) was the first local currency introduced as an electronic card among Daejeon's autonomous districts in July 2019. It means the more you use it as a local currency that can only be used in Daedeok-gu, the more it benefits the local economy. Since the introduction of local currency, it has been recognized that it has played a role as a pan-timer for local and alley economies as it has a direct consumption promotion effect in the face of the regional economic crisis that hit the world in 2020.

The first local currency (Daedeok e-Loom) issued in Daejeon prepared policies to expand the function of linking local currency (Daedeok e-Loom) and ease the concentration between industries to revitalize the local economy and strengthen communities. A representative policy program and direction is that the direct support (cashback payment) method has been converted into a policy-oriented operation plan. In addition, local and small business owners can participate in policies directly or indirectly discovered to expand local currency (Daedeok e-Loom) and contribute to revitalizing local currency (Daedeok e-loom) through fields and projects. For the sustainability and scalability of the policy, various small business support services were provided through systematic platform function strengthening and upgrading, laying the foundation for continuous use and utilization by consumers, which contributed to the revitalization of local commercial districts. In the monetary function of simply buying and selling value through payment, points supported as incentives can be used as local currency while inducing direct participation in solving social problems, and the concurrent effect of causing problem-solving and regional economic vitality began to sprout.

The results of the short-term policy implementation and effect will still be determined. However, by improving and supplementing problems through implementation, policies that can satisfy small business owners and residents (consumers) in the local commercial district should be reborn with stability and continuity as collateral.

#### 2.4. Theoretical Consideration

Research related to local currency in Korea has been studied in various directions since the introduction of the concept of local currency in the mid-1990s. During Korea's economic and social upheaval, interest in local currency increased rapidly. Research can be divided into research centered on policy proposals and research that analyzes operating plans through concept establishment. The papers studied through local cases are first based on the concept and trend of local currency issued in Gyeonggi-do. The validity of the policy effects of local currency branches was analyzed through perception surveys and simulation analysis (Choi,

2018). It is analyzed that local governments should strengthen the legitimacy of introducing local currencies that apply digital coins, or blockchain, in the form of new technologies to establish links with welfare policies (Ji et al., 2019). In addition, analyzing the problems through the definition and status of local currency in Seoul strengthened the village community. It suggested ways to develop a local currency that can contribute to the sustainable development of Seoul to settle the sharing economy (Lee & Han, 2013). The study at the local level first surveyed whether it was sustainable from the perspective of local people rather than from the standpoint of the local economy and analyzed that local governments should independently introduce local currency in the form of banknotes (Cho, 2013).

A plan to revitalize local currency was proposed through primary conditions such as introducing a virtual currency system and providing goods and services through analysis of the types and cases of local currency (Ryu, 2015). Jeju Love Gift Certificate, attempting to expand local love gift certificates, was selected as an example to analyze the actual situation, focusing on the operator, network, and convenience of local currency (Lee & Lee, 2020). In the study of the economic effects of local currency, data from the DB of the corporate register provided by the Big Data Center of the National Statistical Office were analyzed, and the impact of the introduction of local currency on the local economy was empirically analyzed from various angles. As the effect of issuing local currency varies significantly by industry due to the impact on sales of small business owners, only some of the various local currency merchants benefit from the local currency (Song & Lee, 2021). The policy effects of Daejeon Metropolitan City's local currency, "Ontong Daejeon," are estimated by subdividing into the impact of converting sales of small business owners, the development of converting sales in the region, and the effect of increasing net consumption. As a result of analyzing two surveys conducted in July and September 2020, the impact of converting small business sales and regional consumption due to local currency was 31.7% and 16.8%, respectively (Yang et al., 2022). About 90 million data on Cheongju Love Gift Certificates (Cheongju Pay) issued in the Cheongju area were stored in databases and BI tools and then analyzed using a star schema-type analysis data structure suitable for multi-dimensional analysis to examine the utilization status and seek ways to revitalize it (Park et al., 2023).

Since COVID-19, its use has been expanding as it has been supported in disaster support funds and has achieved results in many areas, including small business owners. However, despite the various achievements of these local gift certificates, it is necessary to find out why they have yet to become familiar, such as credit cards and cash use. Therefore, through ANOVA analysis, this study analyzed differences between users, non-users, and merchants of

Muan Love Gift Certificates in Jeollanam-do. As a result, it was found that there was an average difference between groups (Cho, 2022). To evaluate the current status of Changwon Love Gift Certificates and the degree to which they contributed to revitalizing the local economy, the ripple effect of the local economy on gift certificates was conducted through cost-benefit analysis. As a result, it was shown that local love gift certificates did not provide economic benefits to related local governments, so policy suggestions were presented to seek improvement (Kim, 2020).

The impact of local currency in Gyeonggi-do on sales of small business owners was analyzed. According to a consumer survey, local currency limiting the type and size of use induces a change of place of purchase to small business stores and additional consumption. Local currency leads to an increase in sales of small business stores, and panel analysis results using small business store surveys from the first quarter of 2019 to the third quarter of 2020 also showed a significant positive correlation (Yun & Yoo, 2021).

In addition, through overseas cases, comparative studies tried to identify each characteristic by citing the advanced models of local currency, Britain and Germany, and to find a direction through comparison with the national economy (local economy) system (Han, 2013).

In a study on Germany's local currency (e-Chiemgauer) system to strengthen the economic network in geographical space, we attempted to derive the success factors of local currency that achieve meaningful results (Thiel, 2011).

In terms of performance, it was analyzed that local currency plays a role in satisfying necessary goods or services within a limited range while explaining the performance and limitations of local currency (Kim, 2012). According to a positive analysis, local currency (local love gift certificates) is divided into optimistic and conservative economic ripple effects based on the issuance of gift certificates in August 2019 (Yeo, 2019). On the other hand, negative analysis shows that issuing local currency will have side effects such as loss of consumer welfare and waste of subsidies rather than revitalizing the local economy, which is challenging to see positively (Song & Lee, 2020).

### 3. Contents of Empirical Research Analysis

Daedeok-gu, Daejeon Metropolitan City, the study target area, has the lowest level of vulnerability in population and economic size among the five primary local governments in Daejeon and has the highest average income among the five autonomous districts in Daejeon but only the third.

Among them, the population of Daedeok-gu was

approximately 170,600 people, or 2.15 people per household (as of 2023), and the economically active population was about 90,000 people.

Accordingly, we will examine the current status of small business owners who support the local economy in Daedeok-gu, Daejeon, and identify the characteristics of the current local currency.

The characteristics of Daedeok-gu, Daejeon Metropolitan City show 86,263 stores (as of 2019), and Daedeok-gu has 11,324 (13.1%) stores. Compared to Daejeon Metropolitan City, 2,220 Ojeong-dong, 2.3% Jungri-dong, and Sintanjin-dong were found to have the highest store density, with 19.6% in Ojeong-dong, 17.3% in Jungri-dong, and 12.8% in Sintanjin-dong. For empirical research, a survey was conducted in 2019 and 2021 on Daedeok-gu, Daejeon, where local currency (Daedeok e-Loom) is used. A survey was conducted on stores in 12 traditional Daedeok-gu markets, shopping districts, and general stores. In addition, a survey was born on the service, wholesale and retail, and food/accommodation industries, the most occupied businesses in Daedeok-gu. In the survey, store ownership, lease, and monthly rent sectors were also surveyed. In addition, store owners were also analyzed by age and gender. In the first survey (2019), the number of survey stores was 254 due to the lack of expansion of local currency (Daedeok e-Loom), and in the second survey (2022), 179 stores were increased, and a 1:1 interview survey was conducted on 433 stores. To increase the reliability of empirical research, the questionnaire was prepared similarly, and a study was completed to understand the impact of local currency (Daedeok e-Loom) on the region.

**Table 3:** Major Investigations of Local Commercial Districts Subject to Study (Store and Consumer)

Division		Detailed Items	
Investigation period	store	1st (2019. 12. 20 ~ 2020.02.18)	2st (2021.03.16 ~2021.04.16)
	consumer	1st (2019. 12. 12 ~ 2020.01.23)	2st (2021.07.07 ~2021.08.05)
Subject of Investigation		Stores and shopping districts located in Daedeok-gu (12 dong) in Daejeon Metropolitan City	
Valid sample	store	254 shopping malls (owner)	433 shopping malls (owner)
	consumer	1,394 shopping malls (owner)	1,185 shopping malls (owner)
Method of Investigation	store	1:1 individual interview	
	consumer	1:1 individual interview	Using the app
Data Collection Tool		Structured Questionnaire	
Data Processing Analysis Method		The collected data are analyzed by SPSS, a statistical package, through Editing-Coding-Key-in-programming process.	

The first survey was conducted on residents who use local sub-currency from December 12, 2019, to January 23, 20. A total of 1,739 people were surveyed, and 1,394 people were eligible.

The second survey was conducted on users using the local currency (Daedeok e-Loom) app from July 17 to August 5, 2021. The number of respondents to the study was 1,185, with 43% male respondents and 57% female respondents.

In the case of the store survey, 254 stores (84.7%) out of 300 stores registered with local currency were analyzed, and the consumer survey was conducted on 1,394 (92.9%) out of 1,500 local people using local currency (Daedeok e-Loom). In the second survey, the survey was conducted through an app rather than an interview survey method due to COVID-19. First, in the case of the store survey, a survey of 433 stores (96.2%) out of 450 stores was conducted, and

in the same way as the first consumer survey, 1,185 (79%) out of 1,500 people were analyzed. The main contents of the study on store owners were the general status of stores and store owners, as well as the contract status and sales status of stores, the proportion of customers to be emptied of local currency (Daedeok e-Loom), activation measures, and commercial revitalization measures. Along with the general status of consumers, a survey was conducted on the types and reasons of consumption and the direction of evaluation, activation, and development of changes in consumption expenditure.

The selection and method of the survey subjects (shops (sellers) and consumers) were conducted through a stratified random sampling method for stores where franchise applications were made and consumers using local currency (Daedeok e-Loom) according to the population size of each administrative dong.

**Table 4:** Main contents of the store survey in Commercial Districts

Division	Detailed Items
General status of stores	- Type of store, location, business status, industry, main item/service, area, number of floors, etc.
General status of store owners	- Gender, age, etc.
Contract status of stores	- Ownership status, lease period, etc.
Business status	- Opening year, regular holidays, business hours (weekdays/weekends) in the current building - Average sales, average number of customers, high daily sales, low daily sales, etc.
Local Currency (Daedeok e-Loom)	- Whether or not Daedeok e-Loom sales amount/number of visiting customers increased or decreased after payment and level - Daedeok e-Loom Sales and Percentage of Total Sales - The proportion of Daedeok e-Loom customers to the total number of customers - Daedeok e-Loom distribution activation plan, etc.
Activation of the commercial district	- The main causes of the decline in commercial districts, matters most necessary for the revitalization of commercial districts, etc.
Daedeok e-Loom special franchise	- Whether it is a special franchise store for Daedeok e-Loom, whether it contributes to Daedeok e-Loom's sales improvement, and why - Intention to register Daedeok e-Loom special franchise, etc.

**Table 5:** Details of the Consumer Survey in the Local Commercial Districts

Division	Detailed Items
General status of stores	- Type of store, location, business status, industry, main item/service, area, number of floors, etc
General status of store owners	- Gender, age, size of consumption, etc
Daedeok e-Loom consumption	- Daedeok e-Loom Main Use Location
Daedeok e-Loom effect	- Evaluation of changes in consumption expenditure in Daedeok-gu after using Daedeok e-Loom - Changes in interest in Daedeok-gu stores after using Daedeok e-Loom
Reasons for using Daedeok e-Loom	- Reasons for using Daedeok e-Loom
Activation of Daedeok e-Loom	- Opinions on how to revitalize Daedeok e-Loom - Daedeok e-loom Proper Discount Rate
Development of Daedeok e-Loom	- Development of Daedeok e-Loom

### 3.1. Expected Results of the Study

Considering the characteristics of the study, there is a limit to deriving many results, but predictive results for empirical research can be derived through specific points and results.

First, due to the nature of the local currency, support for consumption is directly supported by consumers' registered cards, so local currency users not only recognize that local currency is a plus for the local economy but also expect it to help local commercial and small business owners improve their economic power.

Second, due to the nature of local currency (Daedeok e-Loom), it is expected to be widely used in a specific age group (over 40) with smooth economic activity, and the amount of local currency used is expected to be low in the younger age group.

Third, since the introduction of local currency (Daedeok e-Loom), the average proportion of sales in shopping districts is not expected to be high, which is carried out by government policies and policy systems with monetary functions such as Onnuri Gift Certificates and Zero Pay are not likely to have much effect. In addition, it was predicted that the local currency membership rate of store owners would be low due to lack of publicity and social disasters of local currency.

Fourth, consumers also expected that local currency would not be much different from existing policies rather than play a role in promoting consumption, and predicted that there would be one to revitalize the local commercial district.

Finally, it is predicted that the benefits of each industry in the commercial district of Daedeok-gu will be limited to specific sectors, and at the same time, the average monthly cost of users will be used in the range of 200,000 won to 300,000 won.

### 3.2. Descriptive Statistics

Since two surveys were conducted, each descriptive statistic was compared and presented. First, looking at the

technical figures in the first survey, 65.4% of general stores by store type, 20.5% of stores in the shopping district, and 14.2% in the traditional market were conducted. By store location, Songchon-dong (17.7%), Seokbong-dong (15.5%), and Deokam-dong (14.6%) were surveyed in order. By type of business, the food/accommodation business (49.6%) and wholesale and retail business (32.3%) were observed in order. Meanwhile, by age of store owners, 43.7% were in their 50s, 28.7% were in their 40s, 17.3% were in their 60s or older, and 65% were surveyed for women and 33.1% for men.

In the second survey, the number of participating stores increased due to the implementation of policies to expand store owners to introduce local currency as part of the government's revitalization of small business owners and economic policies due to government policy and COVID-19. The ratio of general stores by store type was 79.4% for stores in the shopping district, 19.2% for stores in the shopping district, and 1.4% for stores in the traditional market. Due to the nature of the local currency, the government's support target was expanded to support only standard needs and shopping districts, followed by Songchon-dong (21.9%), Jungri-dong (18.2%), Beop-dong, and Sintanjin-dong (11.5%). The food/accommodation industry (49.0%) and the service industry (30.5%) were surveyed by type of business. Meanwhile, by age of store owners, 42.3% were in their 50s, 24.7% in their 60s or older, 21.2% in their 40s, and 69.0% were surveyed for women and 30.9% for men.

**Table 6:** Technical Statistics by Characteristics of 1st and 2st Responding Stores(Small Business Owners)

Division		1st Survey				2st Survey				
		Number of cases (number)	Stores in the traditional market(%)	stores in the shopping district(%)	other general stores(%)	Number of cases (number)	Stores in the traditional market(%)	stores in the shopping district(%)	other general stores(%)	
entire		254	14.2	20.5	65.4	433	1.4	19.2	79.4	
store	by type	Stores in the traditional market	36	100.0	0.0	0.0	6	100.0	0.0	0.0
		stores in the shopping district	52	0.0	100.0	0.0	83	0.0	100.0	0.0
		other general stores	166	0.0	0.0	100.0	344	0.0	0.0	100.0
	By location	Ojeong-dong	(11)	0.0	36.4	63.6	(40)	0.0	22.5	77.5
		Daehwa-dong	(10)	0.0	0.0	100.0	(21)	0.0	0.0	100.0
		Hoedeok-dong	(18)	0.0	11.1	88.9	(27)	0.0	3.7	96.3
		Birae-dong	(15)	0.0	26.7	73.3	(24)	0.0	0.0	100.0
		Songchon-dong	(45)	13.3	53.3	33.3	(95)	0.0	48.4	51.6
		Jungni-dong	(15)	26.7	26.7	46.7	(79)	5.1	11.4	83.5
		Beop 1 dong	(10)	0.0	10.0	90.0	(50)	4.0	12.0	84.0
		Beop 2 dong	(12)	83.3	0.0	16.7				
		Sintanjin-dong	(29)	0.0	10.3	89.7	(50)	0.0	16.0	84.0
		Seokbong-dong	(38)	42.1	23.7	34.2	(4)	0.0	50.0	50.0
Deokam-dong	(37)	0.0	2.7	97.3	(19)	0.0	0.0	100.0		
Moksang-dong	(14)	0.0	0.0	100.0	(24)	0.0	8.3	91.7		



Division			1st Survey				2st Survey			
			Number of cases (number)	Stores in the traditional market(%)	stores in the shopping district(%)	other general stores(%)	Number of cases (number)	Stores in the traditional market(%)	stores in the shopping district(%)	other general stores(%)
	by business type	Service industry	39	7.7	25.6	66.7	132	0.0	23.5	76.5
		wholesale / retail business	82	18.3	19.5	62.2	81	1.2	19.8	79.0
		food/accommodation business	126	11.9	19.8	68.3	212	2.4	16.5	81.1
		etc	7	42.9	14.3	42.9	8	0.0	12.5	87.5
	Possession status	Owned by yourself	72	8.3	22.2	69.4	26	0.0	15.4	84.6
		charter	6	0.0	33.3	66.7	3	0.0	66.7	33.3
		Monthly rent	176	17.0	19.3	63.6	404	1.5	19.1	79.5
storekeeper	Gender	man	84	11.9	15.5	72.6	134	2.2	15.7	82.1
		Woman	165	15.2	23.0	61.8	299	1.0	20.7	78.3
		No answer	(5)	20.0	20.0	60.0	-	-	-	-
	by age	20s	5	20.0	20.0	60.0	10	10.0	20.0	70.0
		30s	4	0.0	25.0	75.0	41	2.4	29.3	68.3
		40s	22	22.7	9.1	68.2	92	3.3	17.4	79.3
		50s	73	6.8	30.1	63.0	183	0.0	19.7	80.3
		60s or older	111	17.1	18.9	64.0	107	0.9	15.9	83.2

**Table 7:** Technical statistics by 1st & 2nd response consumer characteristics

Division			1st Survey		2st Survey	
			Surveyor (Number)	%	Surveyor (Number)	%
Entire			1,394	100.0	1,185	100.0
Store	Gender	Man	506	36.6	511	43.1
		woman	888	63.7	673	56.9
	Age	10s	13	0.9	7	0.6
		20s	176	12.6	51	4.3
		30s	285	20.4	214	18.1
		40s	421	30.2	549	46.3
		50s	396	28.4	283	23.9
		60s	95	6.8	71	6.0
		70s	7	0.5	9	0.8
	80s	1	0.1	-	-	
	Job	Yes	1,043	74.8	806	68.0
		No	351	25.2	379	32.0
	Marriage	married	1,068	76.6	955	80.6
Single		326	23.4	230	19.4	

### 3.3. Analysis Contents

#### 3.3.1. Store Aspect

Since the introduction of local currency (Daedeok e-Loom) for the first time, it has been increasing by store type, location, business type, and ownership. Daedeok e-Loom of

stores in the target area showed that sales increased or decreased after Daedeok e-Loom payment thanks to social phenomena and government policies. Since the introduction of local currency (Daedeok e-Loom) in 2022, it has risen by store type, location, business type, and ownership. Daedeok e-Loom of stores in the target area showed that sales increased or decreased after Daedeok e-Loom payment thanks to social phenomena and government policies. As a result of investigating whether the sales of shopping malls increased or decreased after the payment of local currency (Daedeok e-Loom), 99.8% of the respondents said it increased. In 2019, 37.4% of the respondents said sales increased after the payment of Daedeok e-Loom, and considering that the average growth rate was 1.90%, the effect of increasing sales of Daedeok e-Loom was analyzed to increase.

According to a survey of Daedeok e-Loom's sales, daily average sales were 51,000 won, monthly average sales were 1,378,000 won, and quarterly average sales were 4,220,000 won, with general stores averaging 56,000 won per day, monthly average of 1,504,000 won, and quarterly average 4,632,000 won. By type of business, the food/accommodation industry was the highest, with an average of 20.43%, while others were the lowest, with 7.13%.

#### 3.3.2. Consumer Side

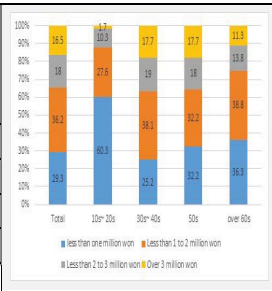
As a result of a survey on the size of user consumption of local currency (Daedeok e-Loom), 36.2% of the respondents were less than 1 million won, and 29.3% of the

respondents were less than 1 million won. By age group, responses of less than 1 million won to 2 million won were the highest in all generations except for those in their 10s and 20s, and those in their 10s and 20s accounted for 60.3% of respondents with less than 1 million won. Considering the income of those in their 10s and 20s, it seems to be a natural result that the consumption of those in their 10s and 20s is relatively small, but overall, about half of them show less than 1 to 3 million won regardless of age group.

**Table 8:** Local Currency user consumption by age group (unit: %)

Division	less than one million won	Less than 1 to 2 million won	Less than 2 to 3 million won	Over 3 million won
Total	29.3	36.2	18.0	16.5
10s~20s	60.3	27.6	10.3	1.7
30s~40s	25.2	38.1	19.0	17.7
50s	32.2	32.2	18.0	17.7
over 60s	36.3	38.8	13.8	11.3

Source: own elaboration

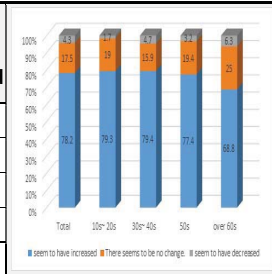


As for the primary use of local currency, the proportion of shopping districts in front of the house was high, and the higher the age group, the higher the proportion of traditional markets. It was confirmed that the use rate for franchises and specific stores remains constant regardless of age group changes. In addition, it was recognized that the overall change in consumption expenditure in Daedeok-gu, Daejeon, has increased since using local currency (Daedeok e-Loom).

**Table 9:** Recognition of changes in consumption expenditure in Daedeok-gu (unit: %)

Division	seem to have increased	There seems to be no change.	seem to have decreased
Total	78.2	17.5	4.3
10s~20s	79.3	19.0	1.7
30s~40s	79.4	15.9	4.7
50s	77.4	19.4	3.2
over 60s	68.8	25.0	6.3

Source: own elaboration



In a survey of 1,394 users from December 2019 to January 2020, 58% answered that "monthly spending (including credit cards and cash) in Daedeok-gu has increased since the use of Daedeok e-loom," and 35% said it has increased. At that time, people's behavior did not change because it was the beginning of the local currency policy.

As for the reason for using local currency, 74% of the respondents answered that they use it because they think they receive discounts and contribute to the Daedeok-gu economy. The economic incentive of discounting must be addressed, but it is worth noting that the use of local currency, which focuses solely on it, is relatively low at 21.5%. Although the discount cannot be ignored in that 3.5% of the respondents said they would use it for local governments regardless of whether they have discounts, three-quarters of the respondents said they would consider not only discounts but also contributing to the local economy. It can be seen that the reason for contributing to the local economy beyond discounts is appealing to residents. When asked why local currency was used in the first user survey, it was challenging to say that the contribution to the local economy was higher than the discount, but it was overwhelmingly high. In the 2022 Survey, 21.5% of the respondents said that discounts were the main reason, indicating that the reason for using local currency was gradually changing from discounts to contributions to the local economy.

Many respondents said that the measures to revitalize local currency include expanding franchises, diversifying franchise policies such as additional discounts on exemplary franchises, and paying local government subsidies and subsidies in local currency. Since fewer respondents said discount incentives should be strengthened, it seemed better to improve franchise policies and use them as policy measures rather than raising the current 10% discount rate. In the 2019 survey, when asked what is the most effective way to revitalize the distribution of local currency (Daedeok e-Loom), it seems to be in contrast to the similar proportion of "festival planning + commercial development" vs. "discount expansion." Compared to the past, it was found that other policy measures were preferred to discount incentives. If so, the discount rate that consumers think is appropriate was about 10%, while the rate of less than 10% was low at 8.1%. To revitalize local currency, it was found that it was necessary to strengthen the users' benefits, followed by adding the functions of local currency and various additional services. In particular, it was found that young people were relatively more aware of the need for other services.

#### 4. Analysis Results

The speed of local currency issuance and sales has surpassed the issuance scale of Onnuri gift certificates operated by the Ministry of SMEs and Startups in a short period. Consumers, or residents, have been issued for a long time.

In addition, some sectors have been used nationwide due

to COVID-19. However, considering the characteristics of gift certificates, various uses, and utilization should be presented regarding the policy aspects of revitalizing the local economy, not direct support to small business owners. Some industries saw their sales increase, and some sectors did not, but quantitative values are derived from having helped maintain sales in industries hit by weak consumption. Local currency is an institutional device that provides auxiliary means to access goods or services to those who are financially excluded or cannot find official employment and is linked to vitality and income distribution in local alleyways and traditional markets.

The local currency, first implemented in 2019 out of five districts in Daejeon, was initially rejected due to a lack of understanding between consumers and sellers and a lack of registration of registered stores but was gradually expanded due to discount rate benefits and increased purchase use by consumers. As a result of time-series checking whether local economic activities are carried out smoothly due to the nature of the local currency, the average daily sales of Daedeok-gu was 204,030 won in 2019 but 593,010 won in 2022, increasing 388,980 won compared to 2019. In particular, the daily average sales increased by more than 70% in the case of 79.1% in Moksang-dong, 77.4% in Hoedeok-dong, and 75.6% in proportional-dong.

It was analyzed that Daedeok-gu was effective and contributed to economic revitalization, with the average daily sales increasing by about 65.6% from two years ago.

This has been empirically proven to help improve competitiveness for the first local commercial district and small business owners presented in the expected results of the study. In addition, it was investigated and analyzed that the proportion of average sales in the third shopping district improved significantly, and the expected results were empirically proven.

It was analyzed that the shopping district in front of the house was high by age group, significantly more than 60% of those in their teens and 40s, 54% in their 50s, and 44% in their 60s and older. On the other hand, in the case of traditional markets, the higher the age group, the more significant the proportion of use. In addition, it was investigated and analyzed that the ratio of use for franchises and specific stores remained constant regardless of age group.

Due to the nature of the second local currency (Daedeok e-Loom). As suggested in the study's expected results, the amount of local money used was expected to be low in young age groups with smooth economic activity.

Consumers were also analyzed to have seen an increase in consumer spending by 78.2% of all age groups, and the most spent amount was less than 1 million won to 2 million won, with 36.2% spending. The results of these surveys are expected to revitalize the local commercial district, and the

desired results have been empirically proven. However, the average cost of users presented in the expected results of the last study was predicted to be 200,000 won to 300,000 won. However, this was also investigated and analyzed using more costs than expected, so empirical evidence was needed.

## 5. The Properties and Development Direction of Local Currency

Countries made efforts to overcome the local currency as the local and alley economies began to stagnate due to COVID-19, and not only the national economy but also the global economy began to suffer. One of Korea's various methods and systems was using local currency to recover the alley economy as it overcame COVID-19. There was also a negative perception of this. Still, in the actual region, effectiveness in terms of utilization and satisfaction in terms of users is high, requiring continuous and wide-ranging expansion of service areas. Therefore, based on this study, we would like to present a development plan for revitalizing the local economy through the development and growth of local currency. First of all, cooperation and advancement with the financial sector will be needed so that various financial services can be supported to strengthen the functionality of the current local currency. This should ensure the reliability, safety, and diversity of local currency festivals from local citizens through local currency issuance by local financial institutions, as in the case of Bristol Pound in the UK. In addition, the functionality of local currency should be strengthened as a driving force for fundamental social innovation in combination with various regional cooperation agendas such as volunteer activities, cultural tourism, and CSR in the region. Third, in the case of Daedeok-gu, a study target area, agreements, and cooperation should be made in issuing local currencies and providing infrastructure to ensure the smooth operation of local currencies in the local currency issued by the metropolitan area. Fourth, this study and various regions have proven that local currency has brought immediate and practical policy benefits in specific sectors in the face of a crisis and weak economic conditions worldwide due to problems such as social disasters (COVID-19). However, for local currency to be sustainable, it seems necessary for local people to be familiar with the precise definition and content of local currency. Rather than being exhausted by taxes or direct support costs to users, online shopping malls, public delivery apps, and local small and medium-sized companies should be connected beyond the current cashback benefits. Finally, from a macro perspective, a system should be created to compensate for institutional conflicts because it is a problem that can be expected to conflict with Onnuri gift certificates issued by the central

government.

## 6. Conclusion

Research Institute under Gyeonggi-do, a representative of local currency, was found to have a significant ripple effect due to local currency issued by Gyeonggi-do. At the same time, a study by the central government presented a negative opinion on revitalizing the local economy (Local Commercial Areas). In this way, based on some direction and purpose, the issuance of local currency may have more losses than profits from controlling the flow of resources between regions at the national level. Studies have shown that the above problem may worsen if all local governments issue local currency, and studies continue to be published that believe that using local money for policy purposes can contribute to revitalizing the local economy to a limited extent. This study also shows that the performance of local currency conducted by local governments has changed numerically.

Suppose the economic characteristics of the region, small business owners, and consumers' financial conditions are considered in a situation where consumers and sellers are delighted. In that case, it must be improved by reviewing legal and institutional problems.

Therefore, in this study, efforts to revitalize local commercial districts and redefine the role of small business owners are not just cash support, but a virtuous cycle system is needed through consumers' consumption power.

This study looked at the changes from when the local currency was introduced to stores, sellers, and consumers in Daedeok-gu, the first primary local government in Daejeon, to the middle of 21. The local currency's performance in Daedeok-gu exceeded expectations despite COVID-19 (2020) breaking out a year after the start of the local currency, which caused an international disaster that was expected to hurt the local economy.

Against this backdrop, this study analyzed the impact of local currency on local small business owners in terms of sales. As a result of this study, the average daily deals of Daedeok-gu was 204,030 won in 2019, but 593,010 won in 2022, an increase of 388,980 won compared to 2019. In particular, the daily average sales increased by more than 70% in the case of 79.1% in Moksang-dong, 77.4% in Hoedeok-dong, and 75.6% in proportional-dong. It was analyzed that Daedeok-gu was effective and contributed to economic revitalization, with the average daily sales increasing by about 65.6% from two years ago.

This proved through empirical research in the region that local currency played a priming role in bringing opportunities and rehabilitation to the local alley economy, local commercial districts, and small business owners.

In addition, 74% said they use it because they think they receive discounts and contribute to the Daedeok-gu economy. Although the economic incentive of values must be addressed, it is worth noting that the use of local currency focused solely on them is relatively low at 21.5%. Although the discount must be noticed in that 3.5% of the respondents said they would use it for local governments regardless of whether they have values, three-quarters said they would consider not only discounts but also contributing to the local economy. It was confirmed that the reason for contributing to the local economy beyond discounts is appealing to residents.

Except for two of the five expected results (assuming results) presented during the study, the other three were empirically proven. First, local currency users recognize that local currency is a plus for the local economy and expect it to help improve economic power for local commercial districts and small business owners. In addition, since the introduction of local currency (Daedeok e-Loom), the average proportion of sales in shopping districts was expected to be low, but empirical analysis showed the opposite result. It was also predicted that store owners' local currency membership rate would be down, but the number of franchises increased yearly, providing empirical evidence.

On the other hand, it was predicted that there would be one to revitalize the local commercial district, but this also became empirical. Finally, it was expected that the benefits of each industry would be limited to a specific sector, and at the same time, the average monthly cost of users would be 200,000 won to 300,000 won, but it was used in various industries such as general restaurants and academies, and the price also increased more than ten times.

Local governments in the study aimed to revitalize the local economy, revitalize commercial districts, and check whether sales of small business owners increased or decreased through the introduction of local currency. As local currency expands rapidly and policy support using local currency methods is provided, demands for empirical analysis of the effectiveness of local currency are increasing due to the vitality of local commercial and commercial districts.

In addition, various policies, such as cashback differential payments considering the circumstances and conditions of local and small business owners, were proposed, as well as online shopping malls, public delivery apps, and small and medium-sized enterprises.

### 6.1. Limitations of the Study and Future Studies

After the change of government, the local currency has been limited to a few local governments and the same power as in the past has been lost. Recently, with the launch of local love gift certificates, the policy interest in local currency has

also decreased, and some local governments, such as Sejong and Gyeonggi-do, are operating according to local conditions and sizes rather than spending as much money as in the past.

In the future, if the direction of policy returns to the past, it is necessary to find a way to overcome the policy limitations lacking in the past. The contents presented below are a situation that only shows the study's limitations. Local governments in the area to be studied aimed at revitalizing the local economy by introducing local currency, and results were derived in terms of introduction results. As the local currency expands rapidly and policy support using the local currency method is provided, the demand for an empirical analysis of the effectiveness of the local currency is increasing. In this process, the in-depth search for the energy and availability of local gift certificates in Daedeok-gu, which made efforts to stably settle by introducing local currency faster than metropolitan local governments, is different from previous studies. However, in the analytical method, there was a limitation in that unity could not be given in balancing and categorizing analysis data. In addition, since empirical research was conducted on when many banknotes were used at a specific time, there is a phenomenon in which an external phenomenon is expressed in the study in grasping the usual increase or decrease, which is also considered another limitation. Research should be conducted to overcome these limitations and find new ways to cooperate with the issuer, local communities, and residents.

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