A Study on the Development of the Regional Monthly Rent Conversion Rate Calculation System

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Abstract

Recently, Korea house market is experiencing a dramatic structural change. House sales and Chonsei (lease on a deposit basis without monthly rent) that dominated the market are rapidly giving way to monthly rent with security deposit. As the Chonsei prices are soaring due to the low interest rate, a portion of the increase is changing to monthly rent. Therefore, calculating the proper conversion rate from Chonsei to monthly rent is important for the housing stability of the general people. The current Housing Lease Protection Act, however, not only applies the same conversion rate regardless of the deposit amount or the region, but also is not strict.

A way to provide proper conversion rates depending on the region and the deposit amount to the market on time was suggested in this study to improve the current situation. The proper conversion rate proved to be different depending on the region and the deposit amount according to the analysis. Also, the proper conversion rate for the monthly rent with low deposit and the half monthly rent proved to be lower than the 6% that the law specifies. As such, the construction of the system that can provide proper conversion rate on time is highly required. A way to build an information database and a calculation system to calculate the proper conversion rates was suggested in this study.

Keywords: Regional Monthly Rent, conversion rate, monthly rent, calculation system, Chonsei Price
1 Introduction

1.1 The Purpose of the Study

The recent housing market in Korea is witnessing a structural change. The proportion of Chonsei is decreasing while that of monthly rent is increasing. Chonsei in Korea requires tenants to provide 50~70% of the housing price at once to landlords as a deposit for the lease, but it does not require additional monthly rent. The Korea housing market has been dominated by sales and Chonsei for the last few decades. Sales and Chonsei were not independent, but affected each other, producing supply and demand. But the market started to change after the financial crisis. Although Chonsei prices increase to a high level, they do not lead to sales. The monthly rent with security deposit that converts the increase in Chonsei price into monthly rent is expanding.

As for the monthly rent with security deposit, it is important to decide the conversion rate from a Chonsei price to the corresponding monthly rent. As of October 2015, the conversion rate is restricted not to exceed 6% in Korea. But the questions have been raised consistently against this fixed rate that does not consider the region and the proportion of the deposit and the monthly rent. Accordingly, a way to calculate the proper conversion rate depending on the region and deposit amount based on the housing cost when the house is owned was suggested in this study. Also, a method for developing a system that can calculate the proper conversion rate in real time was introduced.

1.2 The Scope and Method of the Study

This study first reviewed the current status of the housing market and the change direction of the market structure. And then, the conversion rate at which the housing cost of a tenant who pays monthly rent with security deposit equals that of a house owner was calculated. As the tenant has less income than the owner generally, the calculated conversion rate can be utilized as the maximum value. The market status and the change of market structure were analyzed based on the official data announced after 2000. The conversion rate was calculated for the first half of 2015 according to the regions and the deposit amounts.

In order for the proper conversion rate to be utilized in government housing policies and to be delivered to the market on time, the rate must be calculated in real time. A system that can transfer the required data to the database in real time and can calculate the proper conversion rate needs to be developed. A data collection method for the calculation of the conversion rate was examined and the structure of the calculation system was suggested in this study.

2 The Status of the Housing Market and Previous Studies

2.1 The Status of the Housing Market

1) Price Trend of Sales and Chonsei

The housing market after 2000 was strong in sales before the financial crisis and
strong in Chonsei after the crisis. Especially by the mid-2000s, the prices increased dramatically due to the effect of the reduced permits caused by the financial crisis and the onset of the low interest rate trend. After the 2008 U.S. financial crisis, however, the sale prices declined and Chonsei prices started to increase dramatically. While the gap between sale price increase and Chonsei price increase started to be smaller after 2013, Chonsei prices have been showing higher increase rate compared to sale prices.

![Housing Price Change Rate (%)](source: KB Kookmin Bank)

**Fig. 1. Housing Price Change Rate (%) – The whole country**

As the increase rate of Chonsei prices continues to exceed that of sale prices, the ratio of Chonsei prices over sale prices exceeded 70% nationwide as well as in the capitol area, although there are differences by the region. Especially in the capitol area, as sale prices and Chonsei prices went to the opposite directions, the Chonsei price ratio of 54% in June 2012 reached 73% in October 2015, marking 19% increase. This high increase in Chonsei price ratio indicates that there was not much proportion of the Chonsei demand that turned into the sales demand despite the increase in Chonsei prices. It also seems that the Chonsei demand is increasing due to the long excess demand in Chonsei market.
2) Trading Volumes by the Occupational Types
The review of the recent market change through the trading volumes by the occupational types showed that the increases in sales volume and in monthly rent volume were the key characteristics. The sales volume plummeted from 2012 to 2013 in the market mood of the long-term recess and the price drop in the capitol area. But the housing market activation policy by the government helped start recovery from 2014. The accumulated trading volume by May 2015 is the highest in the recent 10 years. The deregulation by the government, including the permanent discount of acquisition tax, the deregulation of housing reconstruction, and the abolition of the heavy capital gain tax for multi-home owners, as well as the decrease in house mortgage loans that prompted the stand-by buying demand due to the Chonsei price increase to move into the market seem to have contributed to the recovery.

3) Types Chonsei - to - Monthly Rent Conversion Rate
Chonsei is quickly changing to the monthly rent with security deposit recently because the profit from the monthly rent is higher than the operation profit from the deposit for Chonsei. As reviewed earlier, the Chonsei-to-monthly rent conversion rate is at 7-8% level according to the Korea Appraisal Board while the deposit interest rate of banking industry stays at around 2%. Therefore, turning a portion of Chonsei deposit into the monthly rent is more advantageous for a lessor than increasing Chonsei deposit. But, as the conversion rate is continually declining, the burden of a lessee is expected to decrease gradually. The current Housing Lease Protection Act applies the smaller rate between the 4 times of the Bank of Korea base rate and 10%. As the base rate is 1.5% as of September 2015, the maximum conversion rate must be 6%, but the higher rates can be witnessed in actual transactions.
2.2 Previous Studies

There are largely two groups of studies related to the topic of this study, the housing cost due to the structural changes in the housing market. One is on the housing cost, and the other on the structure of the housing market. First, the studies on the housing cost analyzed housing cost based on various criteria such as housing types and occupational types. Jeong Eui-cheol (2012) suggested in his study ‘Housing Costs and Household Formation of Young Adults in Korea’ that the ages and the income of young adults have a great impact on the household formation. Especially the marriages of young adults affect significantly the household formation. Chonsei price also affected the young adults. With the KRW 10 million in Chonsei price, the household formation probability decreased by 1.3%. Nam Young-woo (2015) compared the regional housing cost for the owned house with that for the monthly rent with security deposit, and suggested that the former was lower than the latter in the case of over 1% increase in housing prices for most regions.

The studies on the structural changes in the housing market actively researched on the change direction of the market structure including sales to Chonsei and Chonsei to monthly rent. Ryu Gang-min et al. (2013) studied on the risks of monthly rent and on the conversion rate decision between deposit and monthly rent. The results showed that the conversion rate was constant when the deposit proportion was 2.5-3.5 times or over 3.5-4.5 times compared to ages, while the rate was gradually rising for the lower deposit proportion. Different times had the same tendencies despite differences in levels. Choi Chang-gyu et al. (2008) constructed a landlord’s choice model between Chonsei and monthly rent according to the changes in mortgage loans in their study, ‘Landlord’s Choice between Chonsei and Monthly Rent under Mortgage Financing’. They newly introduced the reasons why monthly rent has increased in the rental market since 2000. Park Cheon-gyu et al. (2011) suggested the basic direction of the rental policy.
for the structural changes of the market in their study, ‘Structural Change and Policy of Korean Rental Housing Market.’ The major policies suggested were the supply of public rental housing that meets the characteristics of the consumers, the support for the promotion of house ownership, strengthening the protection regulations for tenants, and financial assistance. They also pointed out the activation of the private rental housing business and the construction of the rental market information system as the prerequisite issues.

The existing studies mainly addressed the market structure changes of sales to Chonsei and Chonsei to monthly rent. The Korean housing market structure, however, is rapidly changing with its focus on sales and monthly rent with security deposit as discussed earlier. This study is different from other studies in that it addressed sales and monthly rent with security deposit for the comparison of housing cost, and that more detailed study results were introduced by suggesting the proper conversion rate for monthly rent with security deposit.

3 Analysis Method and Analysis Data

3.1 Analysis Method

1) Housing cost calculation for housing purchase and monthly rent with security deposit

The owner’s capital and the borrowed capital at the time of housing purchase must be estimated first in the housing cost calculation for housing purchase. As the borrowed capital for housing means bank loans, it can be estimated by assuming LTV. The interest on the housing mortgage loan and the possession tax such as property tax for housing ownership can be included in the cost. The housing cost for purchase can be summarized as follows.

\[
\text{The housing cost for housing purchase} = (\text{house price} - \text{owner’s capital}) \times \text{interest rate} + \text{possession tax} \quad (1)
\]

2) Calculation of the Proper Conversion Rate

The conversion rate that makes the housing cost for monthly rent with security deposit be equal to that for the owned house is deemed the proper conversion rate in this study. The proper conversion rate is considered the upper limit because tenants generally have lower income than owners. As for the housing cost for monthly rent with security deposit, the security deposit is decided first by the type of the rent such as monthly rent, semi-monthly rent, and semi-Chonsei, and then the conversion rate is applied for the rest of the amount.

\[
\text{The housing cost for monthly rent with security deposit} = \text{Chonsei price} \times (1 - \text{deposit ratio}) \times \text{the conversion rate} \quad (2)
\]

The proper conversion rate can be calculated by equating the above equations (1) and (2).
3.2 Data and Assumptions for the Analysis

1) Assumptions for the housing cost calculation for housing purchase
The regional analysis in this study was performed with the median housing prices announced by KB Kookmin Bank. The LTV for purchase was assumed 50% considering the average bank LTV level for the general housing. The interest rate for the mortgage loan announced by the Bank of Korea for the first quarter of 2015, 3.18%, was applied as the loan interest rate.

2) Assumptions for the housing cost for monthly rent with security deposit
Chonsei price was calculated first before calculating monthly rent corresponding to deposit in this study to calculate the housing cost of monthly rent with security deposit. Chonsei price was calculated by multiplying the sale price with regional Chonsei price rate announced by KB Kookmin Bank. The three types of deposit amount were applied according to Chonsei types used by the Korea Appraisal Board. The median deposit ratios for each type were 5% of Chonsei price for monthly rent, 35% for semi-monthly rent, and 80% for semi-Chonsei.

<table>
<thead>
<tr>
<th>Table 1. Monthly rent type and ratio of deposit</th>
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<tbody>
<tr>
<td>Division</td>
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<tr>
<td>-----------------------------------------------</td>
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<tr>
<td>Deposit/Monthly rent</td>
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<tr>
<td>Representative</td>
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<tr>
<td>Deposit/Chonsei Price</td>
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</tbody>
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Source: Ministry of Land, Infrastructure and Transport

3.3 Analysis Results

The proper conversion rates were calculated for Seoul, Busan, and Kwangju by applying the aforementioned analysis process. For higher deposit ratio, the proper conversion rate was higher, and there were regional differences. Especially for monthly rent and semi-monthly rent, the proper conversion rates were lower than those of the House Lease Protect Act. Therefore, when the government determines the policies on the conversion rate, they need to apply differentiated policies considering the regions and the deposit ratios.

<table>
<thead>
<tr>
<th>Table 2. Proper Conversion Ratio - region and type</th>
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<tr>
<td>Division</td>
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<tr>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>monthly rent</td>
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<tr>
<td>semi - rent</td>
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<td>semi - chonsei</td>
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</table>
4 System Construction for the Proper Conversion Rate Calculation

4.1 The Need for the System Construction

It is essential to calculate the conversion rates considering deposit ratios and regions in order to provide accurate information for the government decision-making and for the market. It is also important to provide the information consistently and on time. The data required for the conversion rate calculation need to be managed in a database and applied to the conversion rate calculation system so that the proper conversion rates can be released periodically.

4.2 System Construction Method

It is necessary to define the required information for the conversion rate calculation system construction. As seen in the aforementioned equations, the conversion calculation requires such data as housing price, Chonsei price ratio, and mortgage loan interest rate. It also requires LTV for the loan amount calculation and the deposit ratios by the rental types. The housing prices and the Chonsei price ratios can be found at KB Kookmin Bank, and the deposit ratios are provided by the Korea Appraisal Board. The mortgage loan interest rate can be found at the Bank of Korea. The construction of the system that can calculate the conversion rates by combining data from various sources is expected to provide the market with the proper conversion rates at any time.

![Fig 3. The Concept of Proper Conversion Calculation system](image-url)
5 Conclusion and Implications

The recent structural change of the housing market in Korea was reviewed, and the way to calculate the proper conversion rate for monthly rent with security deposit was suggested in this study. Chonsei price is consistently rising and the proportion of monthly rent with security deposit is rapidly increasing in Korean housing market as the low interest rate continues. The market is changing from sales and Chonsei oriented to sales and monthly rent with security deposit oriented as the sales have been gradually recovered for the last few years. But the conversion rate for converting a portion of deposit to monthly rent is applied uniformly. The method of calculating the proper conversion rate for the three types of monthly rent with security deposit introduced recently by the government and for the regions was suggested in this study. The need for the development of a system that can provide the rate to the market on time and how to develop it were also suggested.

This study is useful in comparing the proper conversion rates under the changing market environment. But it has limitations as it could not perform analysis according to the housing sizes due to the shortage of data, and it did not consider the factors depending on housing price changes. This study provided data required for future policy making by conducting the conversion rate-oriented research and it extended the range of research on the housing market.

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References


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