

APPLYING LESSONS LEARNED TO ENHANCE RELIABILITY OF PROPERTY VALUATION AND FAIRNESS IN TAXATION

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INTRODUCTION

Under the control of the Ministry of Land, Infrastructure, and Transport (MOLIT), the market value of real estate property is assessed and officially announced to the public every year. The officially announced real estate value is not only the basis for levying various taxes and charges, but is also used in determining eligibility for social security benefits such as the National Basic Living Security. As such, despite the fact that the assessed value has a great impact on the daily lives of citizens, the difference between the assessed value and the market price has elicited distrust among people.

Accordingly, the Board of Audit and Inspection (BAI) conducted inspections on the process of property valuation to check for any fundamental problems in the **mass appraisal model** that needed to be addressed with the aim of encouraging the formation of reasonable real estate value and promote fairness in taxation.

Mass Appraisal Model

As it is not possible to assess the market value of every single property, the authorized appraisal entities develop **representatively estimated values** among groups of similar properties through the statistical analysis of large amounts data. The value of representative properties serves as the base value in estimating the value of **individual properties**, which vary depending on the property's unique characteristics. Thus, selecting the appropriate representative groups in terms of size and representativeness is fundamentally important to ensure accurate value estimates for individual properties.

AUDIT APPROACH

Development of Objective Audit Focus

The BAI seeks the advice of external professionals to design the **audit focus** and direction before commencing with a new audit. The BAI is able to inspect the process of policy implementation, delivery mechanism, accuracy of basic information and data, etc., but it is not desirable to directly investigate whether a policy purpose is right or wrong.

The BAI accepted the Advisory Committee’s recommendation that the BAI let the legislative institution and tax authorities decide the tax base of real estate. The BAI then designed its audit focus on the process of real estate valuation to find out the fundamental causes of errors that need to be addressed.

[Table 1] Audit Focus and Approach

Focus	Approach	Recommendations to MOLIT
Proper sample selection for representative property	Build partnership with an external research institute for objectivity and credibility of analysis	To design proper sample size and distribution to provide a more accurate and credible valuation
Accuracy of basic input data* for individual property valuation	Crosscheck property data stored in the KRAS* and the automated appraisal system to find errors in data input	To ensure that property data in the KRAS is automatically linked to the appraisal system to prevent mistakes made from manual data entry
Consistent and reasonable valuation of individual property	Compare the processes of building and land valuation to identify why the value of a certain building is lower than the land beneath it	To improve the individual property valuation system
MOLIT’s oversight	Re-verify the error checking process	To strengthen its oversight and control over individual property valuation conducted by local governments

* Korea Real Estate Administration Intelligence System (KRAS)

* Basic input data: data entered in the automated appraisal system

[Table 2] Relevant Institutions and Their Roles

Who	Do What
MOLIT	Overall oversight of property valuation
Authorized Appraisal Entities	Representative property valuation
Local Governments	Individual property valuation
Central Real Estimate Assessment Commission	Deliberation of property valuation estimated by authorized appraisal entities and local governments

Development of Objective and Scientific Audit Methodologies

The BAI established a partnership with an independent research institution, the Korea Research Institute for Human Settlements (KRIHS), when analyzing the process of **representative property** selection and valuation to enhance the credibility and objectivity of analysis. Also, the BAI used big data analysis techniques when inspecting the process of **individual property** valuation to strengthen the accuracy of analysis and thereby ensuring the reliability of basic input data.

Valuation of Representative and Individual Properties

Representative properties are selected through a random stratified sampling method. All properties are classified into groups of similar properties, and the properties within a classification are then stratified according to their characteristics. This is to ensure that representative properties are properly selected from each property class.

With all properties properly classified and stratified, the value of properties is assessed by analyzing and comparing various **data pertaining to their characteristics**. Once the valuation of representative properties is completed, the value assessment is made to the individual property based on the differences in characteristics between the individual and representative properties.

✧ *Characteristics to be considered include types of land use, zoning, land-use planning, general condition and location of the property, neighborhood boundaries, proximity to the city center, access to highways and railways as well as size, age, condition, types, etc. of buildings. **Property data** is stored in the KRAS.*

Thus, (1) the appropriate selection of a representative group and (2) the accuracy of property data are most important in developing reasonable and consistent valuations.

FINDINGS AND RECOMMENDATIONS

Proper Sample Selection

With the compelling need to verify statistical analysis of representative properties, the BAI requested KRIHS to review the selection process of the representative group and to double-check whether the affecting variables were appropriately chosen and measured. It turned out that as the MOLIT failed to increase the sample size and adjust the representative groups, the value of the representative properties was estimated with less accuracy. For instance, zoning – one of the key variables affecting property value – was omitted. As more variables are considered, the larger the sample size should be, and thus the BAI recommended the MOLIT to provide improvement measures (such as increasing the sample size) to provide a more accurate and credible property value.

Accuracy of Property Data

By using big data analysis techniques, the BAI analyzed the reliability of basic input data and found three major problems regarding the individual property valuation.

(1) Data input error: When assessing the value of individual properties, a local government official checks the property data stored in the KRAS and then inputs the data manually into its automated appraisal system. In the process of data input,

however, manual data entry mistakes often occur. In cross-checking the data of the two systems (KRAS and the automated appraisal system), the BAI found that some of the property data did not match, which weakened the credibility of the valuation. Thus, the BAI recommends the MOLIT to ensure that the property data in the KRAS are automatically linked to the appraisal system to prevent data input errors.

(2) Different characteristics of the same property: BAI found that different characteristics are applied in developing value estimates for the same land. As the building value contains the value of both the structure and the land beneath it, the building value should be higher than the value of the land. However, there is a case where the value of the land itself is higher than that of the building. This is because the land valuation division and building valuation division within the local government consider different land characteristics in assessing the property value. Thus, the BAI recommends the MOLIT to make sure that the divisions responsible for land and building valuations mutually verify which characteristics of the same land are considered in assessing the property value for consistent and reasonable valuation.

(3) In addition to the problems with property data, it was discovered that some of the land were left out, which otherwise should have been assessed. The BAI recommends the MOLIT to strengthen its oversight over the local governments regarding the property valuation.

CONCLUSION

The BAI conducted audits on the process of property valuation to see if there are fundamental problems to be addressed in an effort to enhance the credibility of the valuation. The audit approach and methodology that BAI adopted can be summarized as follows:

First, it is important to seek an external professional's advice to receive objective feedback when designing the audit focus and direction. Second, the BAI built a partnership with an external independent research institute to enhance the credibility and objectivity of analysis. Third, the BAI used big data analysis techniques to strengthen the accuracy and efficiency of analysis. Based on the analysis and audit results, the BAI provided recommendations to the MOLIT to prepare improvement measures. This includes upgrading basic database input, introducing assurance schemes to verify the property value, and so on.

The BAI will continue conducting audits based on objective and scientific audit techniques to ensure the credibility and objectivity of audit results, thereby encouraging the formation of reasonable property value and promoting fairness in taxation.