

DATA SHARING – WAY TO IMPROVE REAL ESTATE VALUATION QUALITY: LITHUANIAN CASE

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Abstract

With the growing quality of life, the construction sector is also growing, and more and more people are willing to acquire their own housing and settle in it. For financing purposes, many are applying to banks for housing loans, therefore it is highly important to adequately determine the value of real estate in order to create mutually suitable conditions for financing the purchase. In most cases, the current assessment of value is based on the subjective opinion of experts. In this paper, the authors propose to create a database ensuring the sufficient and comprehensive amount of data securing the accurate valuation of real estate. The creation of an accurate and comprehensive database with constantly updated and processed data would allow appraiser to work with limited amount of data while performing the assessment of real estate, to automatically capture causal relations between explanatory variables and asset prices, as well as to determine the short-term market value of the property, which becomes increasingly important.

Key words

valuation, market value, data, database, data sharing

JEL Classification:

Introduction

Historically, the real estate market has been viewed as a local phenomenon. For decades, builders and investors felt proud of their ability to find the most suitable place grounded on their local knowledge. Although the real property is the least “traded” product taking into account the fact that it is immobilized in a physical sense, it can be bought and sold within the country and internationally (Bardhan and Kroll, 2007).

The real estate plays an important role in the national economy. A considerable role of the real estate is associated with other sectors of the economy, which have a significant impact on the state economic development. The vast majority of both construction developers and property buyers ensure their funding from bank loans and other sources of financing. It is important to note that the assessment of property is essential for the mortgage purposes. In practice, it is observed that the value of the same property assessed by different appraisers may substantially differ and the difference may exceed 30%. Such discrepancies and inaccuracies in value are influenced by the lack of market knowledge and data as well as poor preparation of appraisers. It is important to emphasize that individual assessment tasks performed by real estate appraisers are highly complicated as appraisers have to conduct perceptive analysis in each stage of assessment procedure.

In order to obtain the most objective assessment result, it is essential for the appraiser to have good knowledge in the real estate market, to objectively formulate the purpose of assessment, to perform the market research and to be able to select the appropriate method of assessment.

In his work, the appraiser must carefully analyse the vast amount of incomplete and uncertain data, which is available in public data sources. The collection, analysis and interpretation of these data contribute to inaccuracies in the assessment process. It should be noted that various institutions and natural persons refer to assessment results when making decisions on economic and commercial activities (substantiation of investment projects, development and determination of economic activities and their volumes, legal decision-making, etc.) or on the improvement of own household (acquisition of better housing or realisation of superfluous housing). Incorrect assessment of the market value of the property may result in the adoption of wrong decisions, for instance, favourable investments may be postponed or accelerated. Due to the fact that the appraiser is influenced by the analysis of the real estate market and the subjectivity of the assessment process, the assessment of real property is grounded on these data, and the amount and quality of these data have direct impact on the accuracy of the assessment. In practice, appraisers tend to refer to decisions based on experience (Zhou, Liang, Zhang, 2015).

The development of computer systems allows to create tools, which can transform the appraiser into a qualified expert able to analyse the market parameters (Schulz, 2003).

Through the scientific literature, the article aims at presenting the model providing the possibility of sharing the data related to the real estate market. The possibility to create the real estate databases enabling to perform the assessment of real estate more accurately and promptly with large amounts of data has not been analysed in Lithuania.

Research tasks:

1. To analyse the need for the assessment of real estate.
2. After the analysis of literature, to present the methodology for the collection of data.

Importance of the assessment of real estate

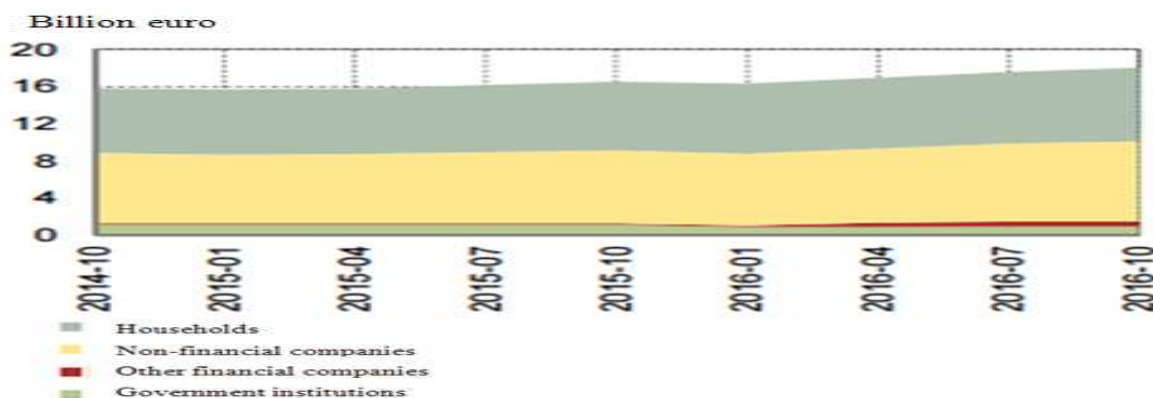
In many countries, the real estate constitutes a large capital resource and a component of economic well-being. Along with the main participants of the real estate market, there are many interested parties involved in or related to this market. It includes the state performing the normative regulation of the real estate market, real estate agencies, designers, builders, banks. A large number of related parties makes the real estate market particularly important for the entire economy.

The pecuniary expression of the real estate owned by natural persons and legal entities is relevant to the state for the determination of tax obligations. All unique features of real estate objects and the heterogeneity of the real estate market presuppose the

need to create the value category, which allows to decide upon the value of the object as a part of economic environment, i. e. the estimated amount of money, for which the property could be sold on the date of valuation under the normal market conditions, upon the conclusion of a transaction between the seller willing to sell the property and the buyer willing to buy it, after the proper introduction of such property in the market, when both transacting parties act constructively, prudently and without compulsion (EVS, 2016). The accurate assessment of value is also highly important in the individual level. Households, businesses, public authorities are interested in learning the market value of their property even if they do not intend to sell it in the market. The awareness of the market value may be necessary for accounting purposes, decisions based on the composition of assets, profit and loss (Schulz, 2003).

One of the most important participants in the real estate market are banks providing funding to buyers of the real estate. It is important to note that the assessment of property is essential for the mortgage purposes. The examination of the overview of bank activity prepared by the Lithuanian Bank revealed that the net value of the loan portfolio provided by banks to their customers increased by EUR 471 million, up to EUR 18.1 billion, during the third quarter of 2016. The overview revealed that the change in the net value of the loan portfolio was almost equally shared by households and businesses. During the third quarter, the value of the loan portfolio for businesses increased by EUR 265 million (3.2 %), for households – by EUR 205 million (2.6 %). The value of the loan portfolio for government institutions and other financial companies changed only marginally and the overall impact of these two segments on the loan portfolio during the period was neutral.

Fig. 1: Banks loan portfolio, bill. EUR

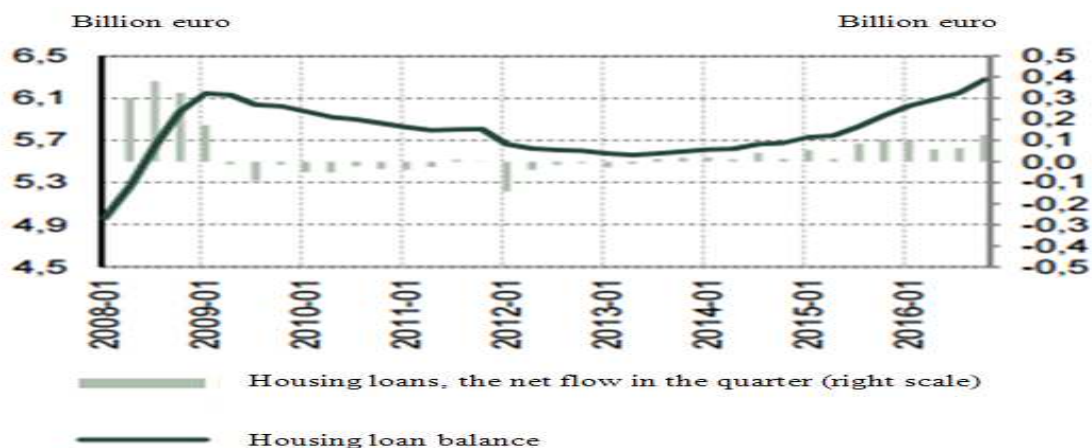


Source: Banking business overview, 2016

During this period, housing loans were distinguished a bit more than usual. Within three months the net value of this portfolio increased by EUR 125 million (2.0 %) and resulted in the increase by more than a half of housing loans during the third

quarter. Housing loans increased by 5.8 % during the year. During the first three quarters of 2016, the value of the bank loan portfolio increased by EUR 1.7 billion, in 2015 it was EUR 0.8 billion during the relevant period.

Fig. 2: Housing loan portfolio, bill. EUR



Source: Banking business overview, 2016

In view of the net value of loan portfolios provided by banks to their customers and taking into account the amount of money involved in the real estate market, there is the need to improve the real estate assessment system as incorrect valuation of the real estate may result in significant losses incurred by both the buyers and financial institutions as well as other parties involved in the real estate market.

Data Database

Access to the data is the most important currency in the information age. When information becomes more easily accessed through a number of channels, the property appraisers can better prepare to utilize the complex analysis (Zhou, Liang, Zhang, 2015). In other words, the data is a freely available raw material; however, it must be integrated with business models by structured productive way. This is achieved through a single stage, which combines innovative development and structural transformation – at least this is the case with regard to the theory of economic development (Catella, 2015). With the upcoming age of large amounts of data, it provides an unprecedented space of development of the assessment of real estate. The assessment of real estate involves data extraction and processing; the amount and quality of these data have direct impact on the process and quality of the assessment of real estate. Therefore, the lack of data or incorrect data affects the accuracy of the results

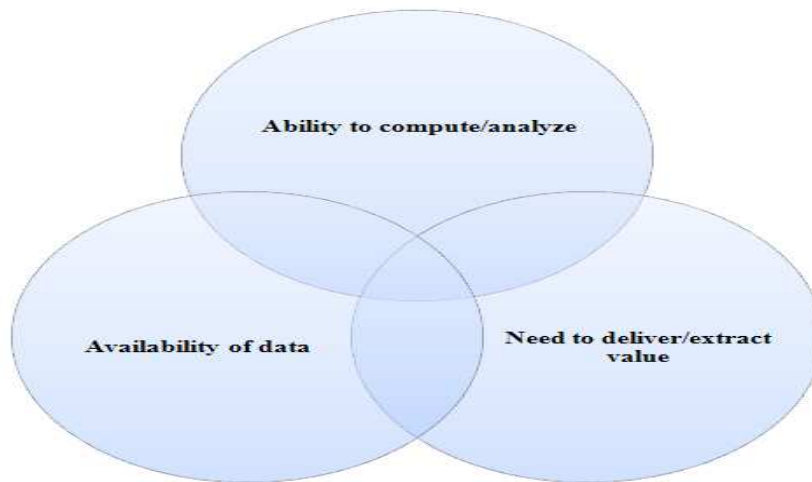
(Zhou, Liang, Zhang, 2015). The value of the real estate depends on many factors. Investors and owners are interested in the maximum return on property, which it may generate. Housing is one of the basic human needs; the real estate has always been characterized by a strong demand in developed cities. The price of the real estate has always been the main criterion for the buyer to purchase the property. Several studies revealed that property prices generally include physical and economic characteristics, location, environment, identity, etc. These and many other factors are difficult to assess (Chaphalkar, Sandbhor, 2013). Currently, at the edge of the information age, the bigger problem is not the lack of data but rather their abundance (Zhou, Liang, Zhang, 2015). Presently, the appraiser of real estate has a lot of data from the real estate market. These data are analysed before drawing up the report on the assessment of any kind of property. According to the author, as the profession of a real estate appraiser is evolving, the existing methods of assessment will have to be amended in the nearest future. The author believes that the change of these methods will be influenced by the fact that significant drawbacks are presently determined in the practice of assessment of real estate. Modified assessment methods should be applied on a larger scale, using objective information (Dudek-Dyduch, 2011).

The main task of modern times becomes the sorting and storage of these data, as well as the rejection of redundant data. In recent years, social,

economic and fiscal changes constitute significant factors in the real estate market; presently, it seems like a complex system, which is characterised by constant transformations. Under these circumstances, property appraisers use the data which are available to

them (Morano, Tajani, Torre, (2015). The appraiser's success is mainly determined by the available correct and complete information at the right time. The figure below presents the main data tools.

Fig. 3: Data drivers



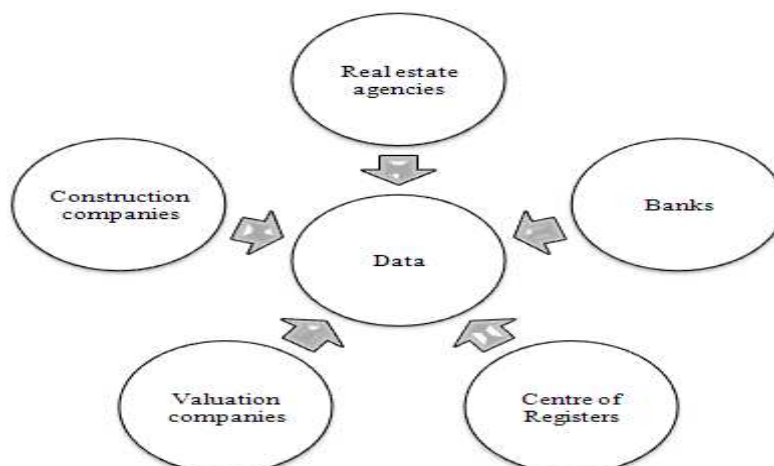
Source: EY, 2014

The accessibility of data, the possibility to analyse them and obtain the results of the processed data are closely related to the objectively assessed value of the real estate. Using the example on sales prices of real estate, the main way to obtain data relating to the real estate is to analyse data of real estate agents, to consult in real estate agencies, to track the supply data and to accumulate data received from the real estate register. The real estate data has always been the most important and complex issue on the accumulation of information (Zhou, Liang, Zhang, 2015).

Tasks performed by real estate appraisers are particularly complex as appraisers have to perform perceptive analysis in each stage of the assessment procedure. The need to carefully analyse the vast amount of incomplete and vague data confirms that a special computer system, aiding the real estate appraiser in each stage of his work, is essential (Dudek-Dyduch, 2011).

With the large amount of data, enterprises, public authorities, educational institutions, etc. should cooperate and share their data.

Fig. 4: Interested parties



The application of computer system completely changes the assessment procedure as the appraiser does not concentrate on correct calculations, but rather focuses on the correct selection of market parameters, which may be easily rectified (Dudek-Dyduch, 2011).

The real estate assessment database based on large amounts of data may solve real estate assessment problems associated with the lack of data (Zhou, Liang, Zhang, 2015). Instruments required successful data base is presented below (EY, 2014).

Fig. 5 Path to a successful database



Source: EY, 2014

According to the authors, this scheme may be helpful to make the real estate assessment system function easier and more accurately. Good management is essential for large data initiatives. This includes clear and consistent managerial and decision-making procedures. Businesses must ensure a standard and comprehensive collection of data; currently, companies, organizations and other institutions must start to exchange their data. The next stage is management, which includes data integration and data transfer among companies. In order to ensure the use of the incoming data, “the architecture” is highly important, i. e. the system ensuring the integration and analysis of large amounts of data in various formats. The collection of data leads to the main challenge, namely the interpretation, comparison and analysis of large amounts of data. Ensuring the quality of data, they must be constantly analysed and complemented. Data in such a database must be secured and the accessibility must be guaranteed only to interested parties.

The creation of the data collection system requires knowledge in information technologies, as well as both theoretical and practical knowledge related to the assessment of real estate. The most challenging stage of the creation of such a data collection system is the application of practical knowledge. This is because most certified appraisers are not willing to involve in the development of a computer system. The authors believe that if such a database is created only on the basis of theoretical knowledge, it would not be useful in practice. In the scientific literature, it is defined as

the main reason why professional computer systems are not developed for the assessment of real estate.

Conclusion

Households, businesses, public authorities are interested in learning the market value of their property even if they do not intend to sell it in the market. The awareness of the market value may be necessary for accounting purposes, decisions based on the composition of assets or expenses. One of the most important participants in the real estate market are banks providing funding to the buyer of the real estate, however, it is important to note that the assessment of property is essential for the mortgage purposes. In view of the net value of loan portfolios provided by banks to their customers and taking into account the amount of money involved in the real estate market, there is the need to improve the real estate assessment system as incorrect valuation of the real estate may result in significant losses incurred by both the buyers and financial institutions as well as other parties involved in the real estate market. The creation of an accurate and comprehensive database with constantly updated and processed data would allow appraisers to work with limited amount of data while performing the assessment of real estate, to automatically capture causal relations between explanatory variables and asset prices, as well as to determine the short-term market value of the property, which becomes increasingly important.

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