

## REAL PROPERTY MARKET DATA FOR CADASTRAL ASSESSMENT IN LATVIA

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### Abstract

Cadastral valuation needs of real property market data accumulated in the State Land Service real property market information system. Therefore, the study examined data sources and presents proposals for the exchange of information.

The study analyzed cadastral assessment needs of leading indicators. Assess the price level calculation. Analyzed building land and agricultural land price trends.

The main conclusion of the study is that the cadastral assessment quality real property market data can be obtained by promoting the exchange of data and normative documents.

**Key words:** real property, cadastral assessment, market data.

### Introduction

The law "On Land Reform in the cities of Latvia Republic" actually gave the first impetus to the land, and real property market components, including development. But the "Law on Land Privatization in Rural Regions" became the basis for economic relations between the change of agricultural land market and real property market development component and active operation is a sign of national economic growth (Baumane, 2009), through its contribution to agriculture-related development of economic sectors.

The real property market situation is directly related to financial and economic situation in the country. Consequently, the real property market has an important role in the cadastral assessment.

The State Land Service shall register and analyse the prices of the real property market and lease payments and determine the price level for real property (*Noteikumi par kadastra informācijas...*, 2009). In order to accumulate and process information regarding the real estate transactions, the Cadastre Information System shall maintain a database of the real property market.

The study hypothesis is, that the cadastral value of the calculation of the determining role in the current data of real property market.

Consequently, the study aims is to evaluate the significance of the real property market data and their acquisition opportunities. The study addressed the following objectives:

- to explore real property opportunities for data acquisition;
- analysis of building land and agricultural land prices;
- to evaluate the price-level changes and its significance;
- Provide conclusions and recommendations.

Scientific literature, laws, the data of State Land Service and Central Statistic Base are used in this research.

Monographic method, analysis method, statistics analysis method is used in the particular research.

### Discussions and results

Cadastral valuation needs of real property market data accumulated in the State Land service Real property market information system. Data are stored in Excel tables in administrative areas, grouping transactions 4 modes: land and construction, construction, land, apartments.

The Real property market information system for each of the underlying transactions is entered into the details of (Baumane, 2010):

- nature of transaction - whether it be a purchase or gift, or lease, or other type of transaction;
- the date;
- the value of influencing factors - or made arrangements surrounding amenities, or have convenient access to the possibility of property, etc.;
- transaction amount - the amount of the transaction is a contract;
- method of payment - or is paid in one installment or more;
- property address;

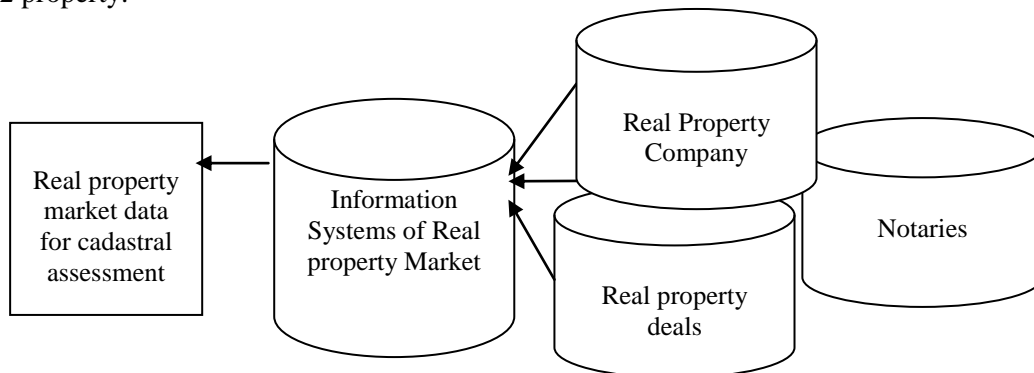
- area;
- cadastral number;
- objectives of real property;
- etc.

Cadastral assessment purposes the most important indicators is the property type, location, area, and the amount of the transaction, but fully all of the data referred to are not accepted. Here stand a number of cases. One problem is that making a deal, the buyer and seller mutually agreed purchase - sale agreement states the amount that is lower than the actual amount of the transaction, for example, 100LVL, 10 LVL or at a close range to the cadastral value. The reason is the avoidance of the real state fee charges, which account for 2% of the greater amount compared to the cadastral value of the property to the amount indicated in the purchase - the sales contract, in most cases transactions are at a price at a close range to market value.

By contrast, when the purchase - the sales contract the true amount, for which there is a transaction, information from Land book of the SLS Real property market data base may come too late and the market price of the asset rise or fall is not used.

The reason the situation above is that the Latvia no normative act, which does not regulate, where such expropriation case is the Land book. One approach to the real property market the system to reach a real transaction amount is based on the neighboring Lithuania and Estonia, the experience with local fix deal before a notary, notaries and information to submit a Real property market information system.

Another of the most common cases in which the Real property market information system records cannot be used, is the land and construction or land property is sold share, the reason is to speed up the progress of the transaction and thus bypassing, or municipal government to use pre-emption rights. Dividing the land, for example, 1 / 3 and 2 / 3 of often, the transaction amount will be divided into two equal parts, but analysis of these values for each transaction separately, shows a different price per 1m<sup>2</sup> property.



Source: made by author

Figure1. Existing and prospective sources of real property market data for purposes of cadastral assessment

In order to avoid the presence of such data in the database, it is necessary to improve legislation on deals.

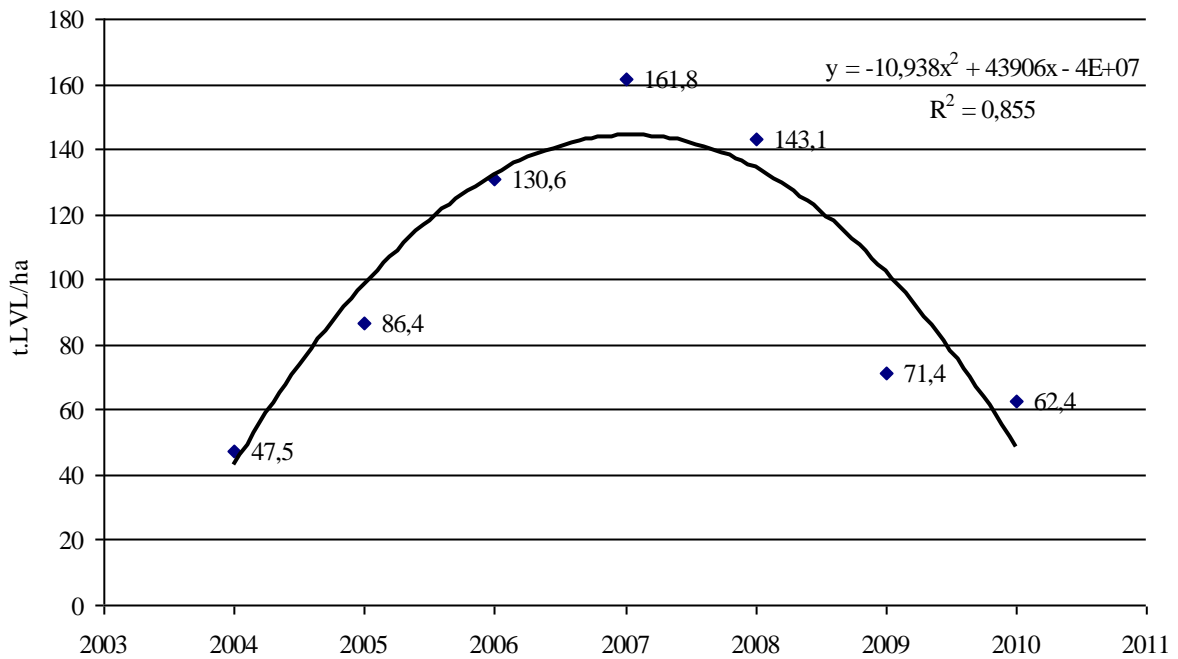
The current situation, where there is less activity in the property market, reduce the number of transactions, certain administrative territories the value areas in the event of the year less than 5 transactions, or sometimes none at the Land book data. One way to obtain the missing data is to collect bids, adjusting the market situation. Another objective data sources, should be an exchange of information with real property companies (*Drazdovska, 2003*), engaged in business brokerage and valuation of the individual, principally market value.

Cadastral assessment would get a quality real property market data normative document, as well as promoting the exchange of data (Fig.1) in addition to the Real property market information system with high-quality data not only from the Land book, but also from real property companies, notaries, as well as the information on business offers.

To use the real property market data accumulated in the Real property market information system, cadastral assessment purposes should be data evaluation, selection and analysis. Initially, it is

important to assess the number of transactions during the period analyzed, as well as the number of transactions compared with previous periods.

After the Real property market information to data from 2007 to 2010, obtained from the Land book, can be observed that the first six months of 2007 the number of transactions per month was within the range from 4000 to 5500, but the subsequent period there is a tendency to decrease the number of transaction in the winter months, so one could argue that some number of months the number of transactions affected by seasonality. However, the transaction tends to decrease the number of remains in 2008 and 2009. July 2010 the Real property market information system is only 1633 transactions with a number relative to July 2007 has decreased by more than 3%. So it can be difficult to market data analysis in a municipality.



Source: author's calculations according to data of CSB

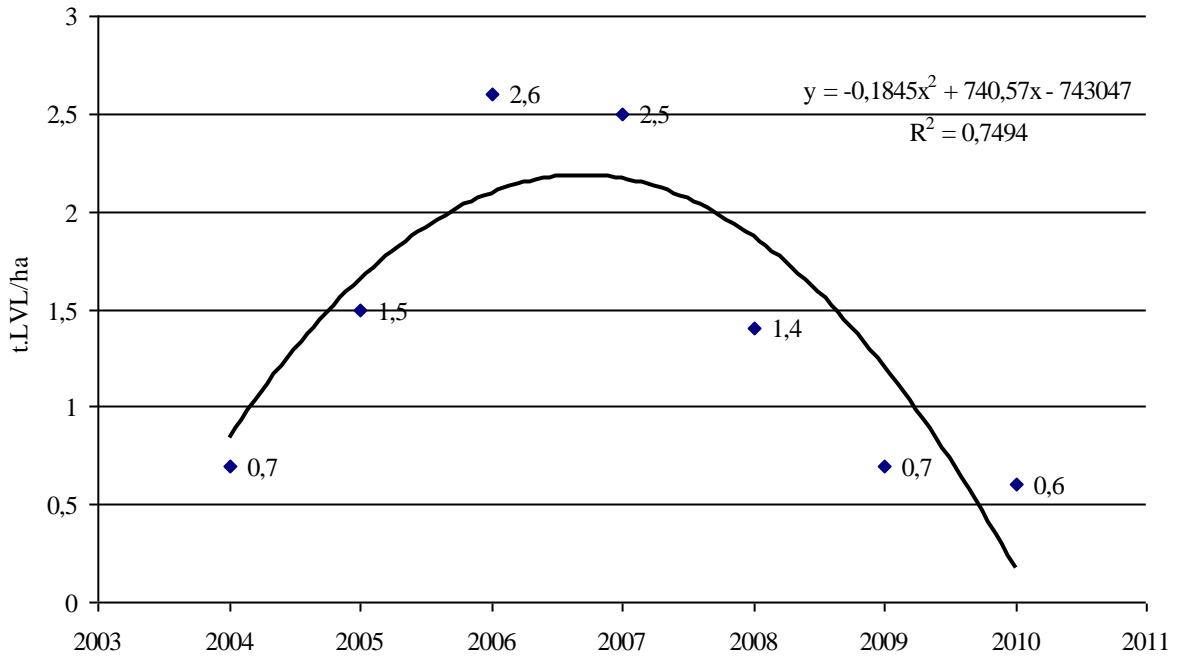
Fig.2. Change of average price of building land

Used for sampling data that reflects the market situation in the country, dropping the true price data to advance the case considered. Such data for the selection of easy to use SPSS box diagrams (Allan, Gale, 1999).

To evaluate the real property market situation in the administrative territory, to find the overall picture of the real property market trends in Latvia as a whole. In assessing these trends for building land and rural land prices are used CSB and SLS data.

Describing the changes in building land of the polynomial equation, the period from 2004 to 2010 period (Fig.2.) show similar sharp rise and the fall, forming a close relationship, which is equal to 0.86.

Describing the changes in rural land of the polynomial equation, the period from 2004 to 2010 period (Fig.3.) show similar sharp rise and the fall, forming a close relationship, which is equal to 0.75.



Source: author's calculations according to data of CSB

Fig.3. Change of average price of rural land

To determine the average price in the reference period for the base period, can be used Laspeyre price index. Laspeyre price index is the weighted average change in prices of each type of goods, where the weights are their respective values. Real property prices are used as weights in the base year. Mathematically Laspeyre price index can be expressed as follows:

$$P_{01}^{La} = \frac{\sum_{i=1}^n \frac{p_1^i}{p_0^i} (p_0^i q_0^i)}{\sum_{i=1}^n p_0^i q_0^i} = \frac{\sum_{i=1}^n p_1^i q_0^i}{\sum_{i=1}^n p_0^i q_0^i} = \frac{\sum p_1 q_0}{\sum p_0 q_0},$$

were

$P_{01}^{La}$  - Laspeyre price index;

$p_1$  - the average price during the reporting period;

$p_0$  - the average price in the base year;

$q_0$  - the number of transactions in the base year;

$i$  – each property type identifier.

Define Laspeyre price index so we can review and calculate the base period, the average price ratio, multiplied by the base period for each type of trade transaction number of the base period total number of transactions (Hilbers, Lei, Zacho, 2001).

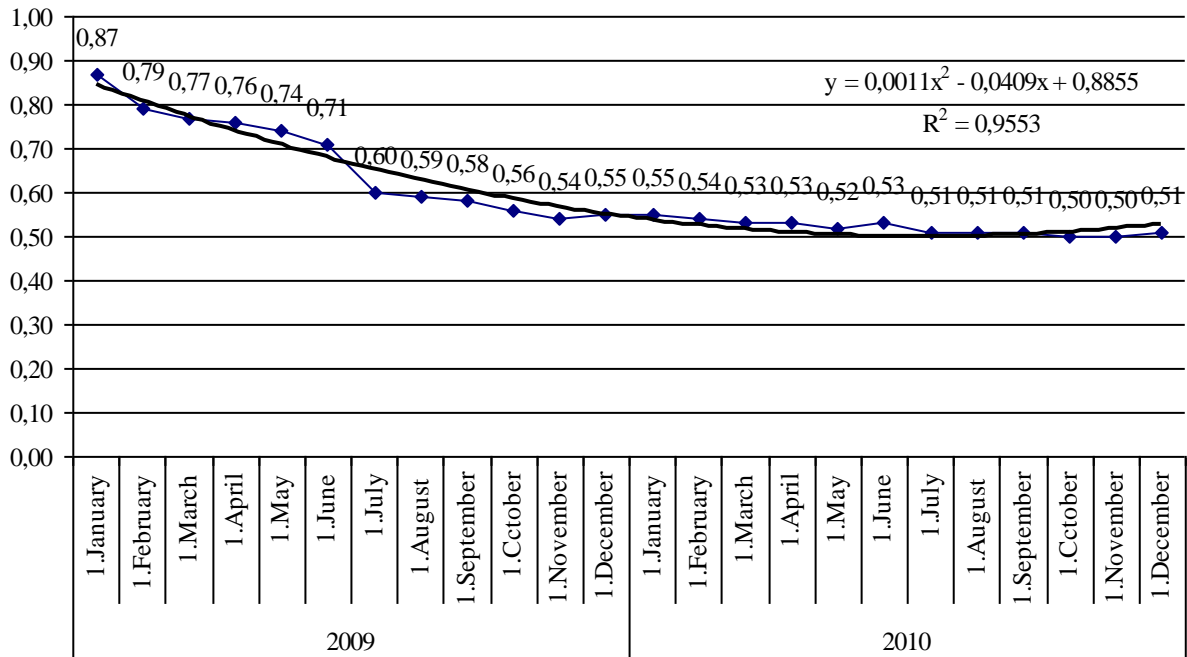
Price levels using real property transactions of comparable data, first broken down by:

- purpose of real property;
- transaction object composition;
- the type of transaction.

Calculation the transaction data in a selected area selected for their value in influencing, physical characteristics:

- deals with the ground data selection, the use of real property group in a certain area of the target range;

- dealing in land and construction data are grouped according to certain physical characteristics of objects;
- if a particular territory, analyzing business data is found in other areas range within which land transactions are comparable, and other land and buildings of comparable a group of physical parameters, then this should be used - given in the particular area of the amplitude and the land and building group-specific physical parameters, the analysis results on the ground.



Source: author's calculations according to data of SLS

Figure 4. Real property price level (the base year to 2008)

Calculation of price level of 2009 and 2010, as the base year is use 2008 (Fig. 4.). Observations lows and highs until 2009 August, but the rest period, only lows. Observation, that the final period the price index shows a higher stability. Regression graphic for this change process is described as regular with a very compact coherence 0.96.

Consequently, it can be concluded that real property prices in the market are stabilization, as reflected in the last six months of 2010.

### Conclusions and proposals

1. Cadastral valuation process is required for the realization of good quality and sufficient amount of real property market data.
2. Price is the real property market indicator data, and the changes significantly affect the cadastral value.
3. Cadastral assessment would get quality real property market data normative documents, as well as promoting the exchange of data.

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### **Summary (in Russian)**

#### **БАУМАНЕ В. ДАННЫЕ РЫНКА НЕДВИЖИМОСТИ ДЛЯ КАДАСТРОВОЙ ОЦЕНКИ В ЛАТВИИ**

Чтобы отделить кадастровая оценку необходимы данные рынка недвижимости, накопленные в информационной системе о рынке недвижимости. Поэтому в исследование изучены источники данных и представлены предложения по обмену информацией.

В исследовании проанализированы цены сельскохозяйственной земли и земель под застройки. Исследована определение расчета уровня цен.

Основной вывод исследования является то, что для кадастровой оценки качества реальных данных рынка недвижимости может быть получена путем содействия обмену данными и с улучшению нормативных документов.

### **Key words (in Russian)**

недвижимость, кадастровой оценки, данные рынка.

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