



THE INFLUENCES ON THE AGRICULTURAL LAND MARKET VALUE

PhD proposal

Anka Lisec, B.Sc.¹

Mentor: assoc. prof. Radoš Šumrada ¹

Co-mentor: prof. Franc Lobnik²

¹University of Ljubljana, Faculty of Civil and Geodetic Engineering;

²University of Ljubljana, Biotechnical Faculty;

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1 Introduction

LAND IS SORT OF PHYSICAL CAPITAL



Which factors, in what way and to what extent influence the agricultural real estate market and real estate market value?

Statements:

- (1) Location as on of the most important factor.***
- (2) The land quality has to be defined with a set of attributes and not only with bonita points that are supposed to be too general.***
- (3) The rural land market is influenced by planning regulations, easements and different legal regimes.***



agricultural land market – *in the phase of development in Slovenia*
– *land policy, subsidies*

2 Real estate market – economic development

Real estate policy – well managed real estate records, ownership security

(1) basic elements for the functioning of the real estate market

(2) primary conditions for a successful transition to the market oriented economy

Historical background :

influence on the real property register from the Habsburg monarchy

1818 – 1829: first cadastral survey
Cadastral plans 1:2880; Land use, land classification and ownership were defined; Values of real property were gained

1871: land register
Dual property registration system

influence of the period of planned administrative economy

1945 – 1991: the maintenance of the land registration system was less important – bad maintenance of Land Cadastre and Land Register;

2.1 Real estate registration - transition period

Security of ownership essential
problems of missed approach to land policy and bad real estate registration

Slovenia (1991)

*Transition from
**planned-administrative economy
to market oriented economy***

Modernization

Real estate registration modernization project (World Bank Project)

(1) Land Register, (2) Land Cadastre, and (3) Building Cadastre

main objectives

- **Harmonized real estate records**
- **Multi-use of real estate data**
- **Market-based valuation and taxation of real estate**
- **Efficient support of the real estate market etc.**

2.2-1 Agricultural land valuation in Slovenia

Agricultural land valuation for different purposes – productivity capacity

Official agricultural land valuation

- based on data of land classification from land cadastre
- input for determining the agricultural tax (flat sum)

12 cadastral cultures and 8 bonita classes, determined by the comparison method with the sample plot

Real estate registration modernization project –

combination of the comparative market and income methods.

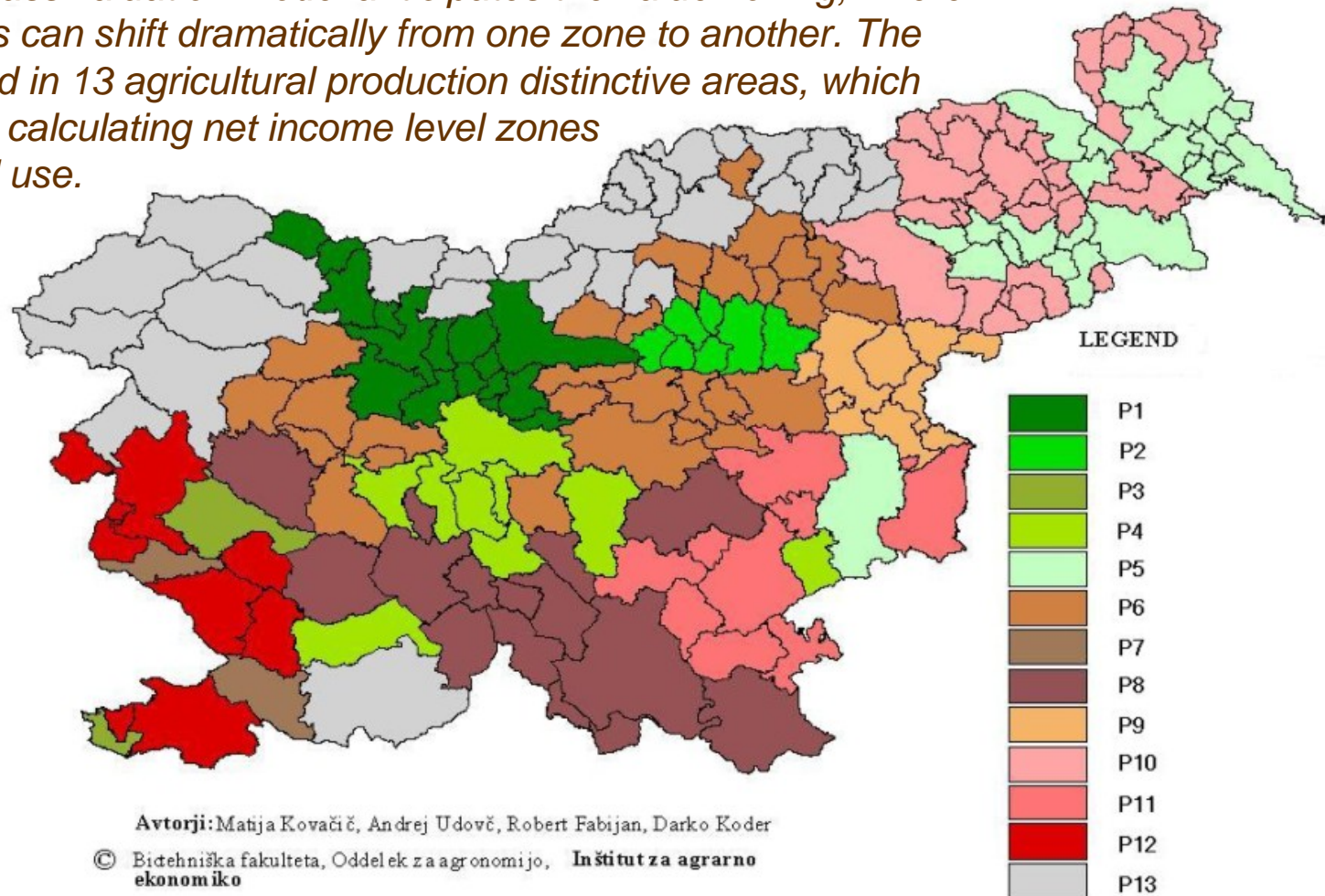
- (1) **comparative method** – determination of areas with the same market price levels – zoning.
- (2) **income method** – as a supplementary method to differentiate within a single zone.

The value factors:

- **Location** (value zoning)
- **Land use** (fields, grassland, plantation and extensive fruit orchards, vineyards)
- **Net income zone**
- **Size**

2.2-2 Mass valuation model for agricultural land

The proposed mass valuation model anticipates the value zoning, where estimated values can shift dramatically from one zone to another. The country is divided in 13 agricultural production distinctive areas, which are the basis for calculating net income level zones for different land use.



3 The influences on the market value

MARKET VALUE - A price on the open market between a knowledgeable buyer and a knowledgeable seller, neither of whom was under particular pressure, is believed to closely approximate the market value of the property involved at the time of sale (Almy, 2002).



*to analyse the real estate
market value*

*information on sales price paid in an open market for real property
with known characteristics*

Why real estate market analysis?

- real estate mass valuation, which provides an overall estimated real estate market value for all the selected real property on the base of the real estate characteristics.*
- contribution to a higher degree of objectiveness in land policy, real estate taxation and to the balanced operation of the market.*

3.1 Transaction of the real estates in Slovenia

For the real estate market analysis the transaction process should be determined (COST WG, STSM).

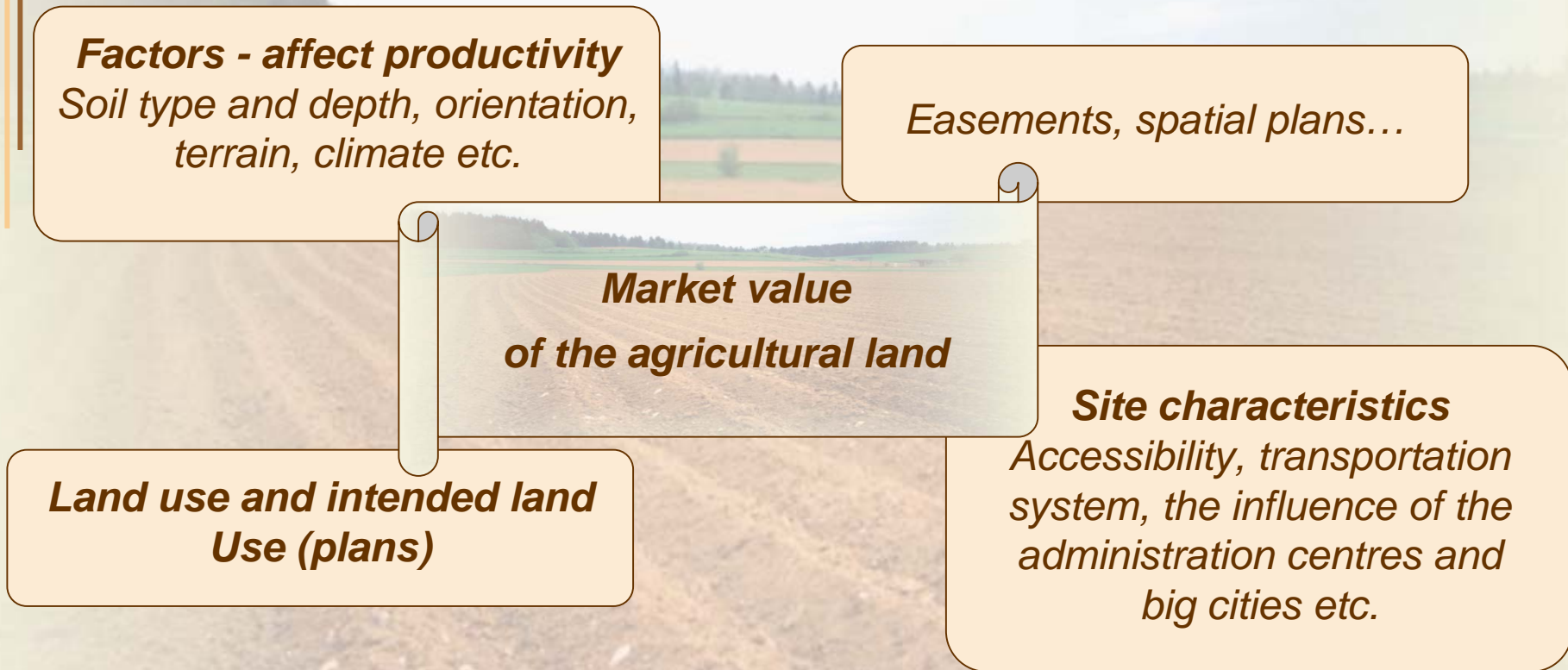
Transactions with the agricultural land and forests are strictly regulated:

Each intended transaction has to be public announced and approved by the local office of the Ministry of the Agriculture, Forestry and Food.

The local office has to check the pre-emption rights – ranked as:

- co-owner*
- first neighbour*
- leaseholders*
- other local farmers*
- local agricultural enterprises*
- land fund and municipality*

3.2 The influences on the agricultural land market value



Data capture:

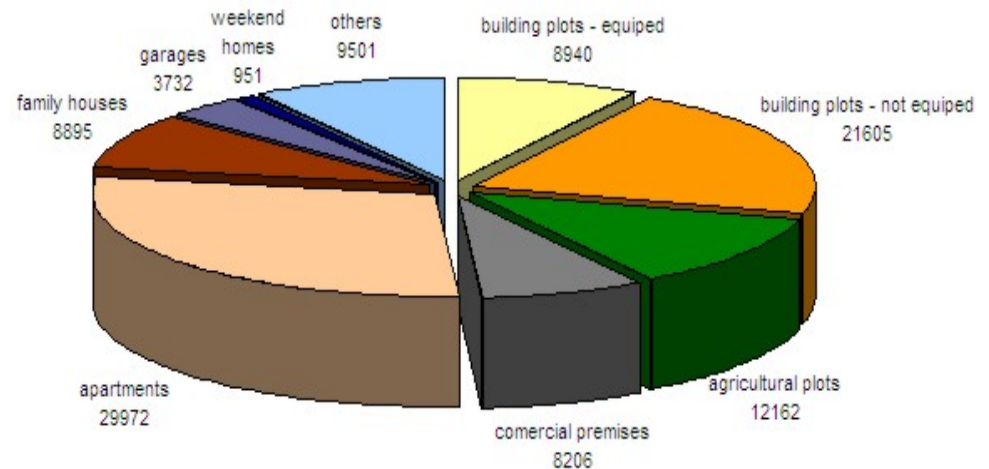
- (1) use of data already gathered for other purposes,
- (2) primary data sources (ortophoto, satellite imagery, field canvasses),
- (3) reports submitted by property owners or taxpayers;

3.2-1 Data sources

(1) For the real estate market appraisal an adequate number of the real estate transaction is needed.

*Transaction Tax register,
Public Announcements...*

***Slovenian real estate market is
in the phase of development,
especially the market with the
agricultural land.***



Source: Tax administration of the Republic of Slovenia, 2003.

(2) Real estate attributes

Cadastral data (GIS), other Geo-referenced data (soil quality map, spatial plans, infrastructure, DMR, orthophoto etc.)

3.2-2 Variables and data coding

How each individual attributes will be described and stored for the further analysis

Conversion of the qualitative attributes' values to the numerical value

Coded descriptions of the attributes should cover all possibilities and contain no overlaps (Almy, 2002).

Type ⇨ Variable form ↓	Quantitative	Qualitative	
		Nominal	Ordinal
Continous	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Discrete	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Binary	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

3.2-3 Methodology – market analysis, determination of influences

**Statistical analysis,
stratification, mapping**



Relationship between the quantity of a variable and market value?



*The nature of the influence
should be determined*

**Model calibration,
determination of the
coefficients in the model**

GIS (displaying and analysing spatial data) can be used to:

- (1) select properties of interest and highlight them on a map and in the report;*
- (2) produce thematic maps to support market analysis and valuation analyses;*
- (3) identify groups of property that share common market analysis;*
- (4) evaluate how the distance from some geographical features affects the value.*

4 Conclusion

The foreseen results of the research work are the specification and calibration of the real estate mass valuation model – multivariate mass valuation model for agricultural land.

The market analysis attempts to determine how location, land area, size and land quality, and other factors influence the sales prices.

The work will provide the contribution to the land policy, land planning, land market development, real estate mass appraisal etc. with the use of advanced statistical and data mining methods.



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Thank you for your attention!

Anka Lisec

University of Ljubljana, Faculty of Civil and Geodetic Engineering

e-mail: anka.lisec@fgg.uni-lj.si