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# Land Market Development in Selected Regions of the Slovak Republic

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## Summary

Since 2001, the Research Institute of Agricultural and Food Economics in Bratislava has monitored the land market in selected six districts of Slovakia and at the same time has created a database with the size, type and price of the sold land. Since 2007, land transactions have been monitored in twelve selected districts.

The basic material for the database building and solving the tasks on the land market in Slovakia derive from the real estate transaction of the Land Registry in selected districts of the Slovak Republic. In order to research the task, there were used databases of area size and structure of agricultural land, data from the Land Valuation Database expressing the official land valuation at the lowest valuation unit of the valued soil-ecological units.

The paper presents results of analyzes of the agricultural land market development in the period 2007–2014 in twelve districts of Slovakia. Number of sold land in the selected districts showed a fluctuating trend in the period 2007–2014. Since 2011, the number of sold land increased up to the evaluated year 2014 when the largest number of land was sold.

The development of the average market price of agricultural plots in the period 2007–2014 also showed a fluctuating trend, but finally it can be considered as a declining one. Summary for the twelve districts of Slovakia in the period 2007–2014 amounted to an average market price of agricultural land 0.85 EUR/m<sup>2</sup>.

**Key words:** land price, plot type, number of plots, land market development, plot size

## Развитие на поземления пазар в избрани региони на Република Словакия

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## Резюме

От 2001 г. Научноизследователският институт по Икономика на селското стопанство и храните в Братислава изследва поземления пазар в 6 избрани области на Словакия и създава база данни с размера, типа и цената на продадената земя. От 2007 г. сделките със земя се наблюдават и изследват в 12 избрани области.

Основният материал за базата данни, свързани с изграждане и разрешаване задачите на поземления пазар в Словакия, използва като източник сделките с недвижими имоти, вписани в Поземления регистър на избраните области на Словакия. С цел да се изпълни задачата, са използвани данни за размер на площите и структура на земеделската земя, и Базата данни за оценка на земята, представляваща официално оценяване на земята при най-ниска единица за оценка на оценяваните почвено-екологични единици.

Статията представя резултати от анализи за развитието на селскостопанския поземлен пазар през периода 2007–2014 в 12 области на Словакия. От 2011 до 2014 г. количеството на продадената земя се увеличава, когато има и най-много продажби на земя.

Развитието на средната пазарна цена на земеделски терени в периода 2007–2014 г. също показва колебания в тенденцията, но като цяло се счита, че е намаляваща. За дванадесетте области през периода 2007–2014 г. средната цена на земеделска земя е 0,85 EUR/m<sup>2</sup>.

**Ключови думи:** поземлена цена, тип парцел, брой парцели, развитие на поземления пазар, размер на парцела

A significant barrier for the development of land market remains highly fragmented soil property, the inability to precisely identify a number of owned land and their location within the plots with no access. This situation leads to the fact that many of the landowners are not willing to sell their property due to conditions that negatively affect the amount of market price and sellers would actually sell the land at below-cost price (Voltr, 2015).

Arranged and united land ownership increases a market value of agricultural land, simplifies management options in agricultural land (purchase, lease) and reduces the cost of these operations. A land market price is formed on the free land market under the pressure of a supply and a demand while a relation between prices are differentiated according to the commercial and other objective characteristics of the land (Buday et al., 2014).

The purchase price is a factor that varies depending on the land quality and land value as well as on the attractiveness of the territory in which it is located. E.g. construction of motorways or building the industrial park means a risk of expropriation for a farmer, so he is willing to rent land rather than buy it, unless the market price is low enough and interesting even if he would farm a few years only (Lazíková and Takáč, 2010).

The growth of land prices in the EU is significantly influenced by the type of supportive policies in the Member States. The amount of payment per hectare in each country is different and therefore the pressure on the land price varies. The land price is also affected by the budget for direct payments (Cianian, 2014).

Problem or benefit from the acquisition of agricultural land outside the state boundaries is a worldwide phenomenon. On the one hand, the

positive effects of the acquisition of agricultural land may be seen in the farmers – foreigner experts and supply of new technologies; but on the other hand, there are also negative effects, especially for speculation in land sales, which may have a negative impact not only on the country's economy, but also on the wellbeing of its citizens (Kováčik, 2011).

Supposed improvement in the performance of the agricultural sector and the profitability of individual farms shall be positively reflected on the development of agricultural land market. Concerned institutions shall have the primary interest to term the registers of the renewed land registration followed by plots uniting as a key to the restoration of property relations. Creating an accessible and clear database of unused space should be a priority of the Slovak Land Fund in cooperation with cadastral offices (Baran et al., 2012).

## Methodological approach

To solve the task data in the real estate transactions of the Land Registry in selected districts of the Slovak Republic were used for the relevant (evaluation) calendar year. The most important monitored variables used for evaluation include: code of the district, code of the cadastral area, area size in m<sup>2</sup>, land price in EUR, plot type, parcel number, location code of the plot, and date of transaction.

The obtained data were examined by a sample survey in terms of the location and in terms of the property type. For evaluation purposes the inner area of a municipality and garden plots were excluded. The data were supplemented by the names of districts or regions. There were also added codes of size categories and size ranges.

Output in MS Excel format were evaluated immediately by an analysis of specific values more appropriate for the files of a small and medium size as well as by methods of statistical analysis.

Data transformation and processing was performed using the UNIX operating system, database system Informix and structured query language SQL. In addition to the analytical tools by Excel, for statistical evaluation was used other statistical software SPSS (Statistical Package for the Social Sciences) and NCSS (Number Cruncher Statistical Software).

### An intensity of the purchase and sale transactions with agricultural land in twelve districts of Slovakia in 2007–2014

#### Number and size of sold land

In a sample of the land transactions in the period 2007–2014, in twelve districts of Slovakia it was made 169,464 sales of agricultural land. Out of this number arable land performed 66.94%, permanent grassland 32.47%. Number of sold vineyards amounted to 0.45% and orchards only 0.14%.

In accordance with district division, the greatest number of ***sold plots with agricultural land*** was noticed in the district of Liptovský Mikuláš

and its share accounted to 19.71% of the total number of sold plots (Figure 1). It was followed by Žilina, where the number of plots sold was 16.89%, the third was the district Košice-okolie with a share of 13.19%. The least agricultural land was sold in the districts of Banská Bystrica (2.96%), Prešov (2.72%) and Svidník (0.69%).

In years 2007–2014, the total sold ***area*** in a sample of twelve districts of the SR (Table 1) amounted to 807,914,324 m<sup>2</sup> (about 80,791 ha) of agricultural land, of which the highest share is noted by the arable land (58.84%). The share of permanent grassland was 40.48%. Minimum of the total sale is represented by vineyards (0.16%) and orchards (0.52%).

The largest area of ***agricultural land*** in the selected districts was sold around the second biggest Slovak city Košice – Košice-surrounding (26.12%), followed by Rimavská Sobota (19.88%) and Topoľčany (19.48%). The smallest area of agricultural land was sold in Svidník district (1.47%) and Banská Bystrica (1.29%).

The largest area of ***arable land*** was sold in the district Topoľčany (27.69%). The second district surrounded city Košice – Košice-surrounding (18.53%), followed Rimavská Sobota (16.04%). The smallest area of arable land was sold in Svidník district (1.19%) and Banská Bystrica (0.77%).

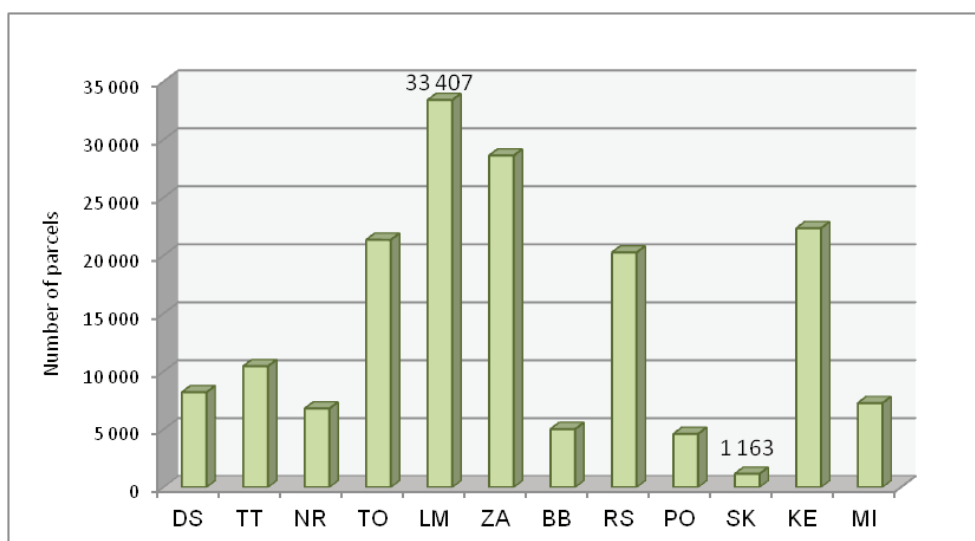


Fig. 1. Number of sold plots in the twelve districts of the Slovak Republic in 2007–2014  
Source: VÚGK (Research Institute of Geodesy and Cartography), own calculations.

As well as before, in the sale of **permanent grassland** the district Košice-surrounding dominated. Total area of permanent grassland sold in the district accounted for 37.57% of the total acreage. Another significant area of permanent grassland was sold in Rimavská Sobota (25.43%). The least volume of permanent grassland was sold in the district of Dunajská Streda (0.58%).

Related the **vineyards**, the largest area (28.23%) was sold in Rimavská Sobota, followed by the districts of Nitra (20.40%) and Trnava (19.72%). The smallest share of the vineyards sale was noticed in the district Košice-okolie (0.89%).

The largest area of sold **orchards** was recorded in the district Topoľčany (64.52%), followed by Rimavská Sobota, where the share of sales accounted for 20.05%. In the district Michalovce the smallest acreage of orchards – only 0.05% – was sold.

### Size structure of sold land

In the period 2007–2014, a sample of twelve districts of Slovakia were divided into two size

categories that showed that the higher number of plots (92.81%) were sold in the category **up to 1 ha** of land (Table 2). An acreage share sold in this size category accounted for 30.08%. In the size category up to 1 ha of land the average size of land reached 1,545 m<sup>2</sup>.

The number of plots sold in the size category of **over 1 ha** accounted for only 7.19%. An acreage sold in this size category was 69.92%. The average size of land in this size category was 46,362 m<sup>2</sup>.

Assessment of the **number of sold plots** by type and size categories showed that in the size category **up to 1 ha** of land there were sold more plots in all types than in the size category of over 1 ha (Figure 2). The percentage of land sold in this size category ranged from 86.08% for orchards to 97.23% for vineyards.

The number of sold plots in the size category **over 1 ha** was significantly lower in all land types. The difference in the number of sold land between the two size categories was most pronounced by vineyards where the difference was about 35-fold, by permanent grassland about 15-fold difference and the smallest

**Table 1.** The area of agricultural land sold in 2007–2014 by land use in the twelve districts of Slovakia

| District           | Acreage (m <sup>2</sup> ) |                    |                  |                  |                     |
|--------------------|---------------------------|--------------------|------------------|------------------|---------------------|
|                    | Agricultural land         | Arable land        | Vineyards        | Orchards         | Permanent grassland |
| Dunajská Streda    | 24 599 138                | 22 449 645         | 117 984          | 142 351          | 1 889 158           |
| Trnava             | 54 738 629                | 49 904 876         | 253 732          | 14 991           | 4 565 030           |
| Nitra              | 38 587 095                | 34 123 216         | 262 369          | 134 065          | 4 067 445           |
| Topoľčany          | 157 342 226               | 131 610 663        | 224 107          | 2 724 939        | 22 782 517          |
| Liptovský Mikuláš  | 35 709 766                | 16 969 047         |                  | 310 427          | 18 430 292          |
| Žilina             | 14 543 790                | 7 885 971          |                  | 11 891           | 6 645 928           |
| Banská Bystrica    | 10 442 100                | 3 675 284          |                  |                  | 6 766 815           |
| Rimavská Sobota    | 160 638 435               | 76 245 474         | 363 126          | 846 592          | 83 183 243          |
| Prešov             | 27 648 423                | 15 215 144         |                  | 23 080           | 12 410 199          |
| Svidník            | 11 892 421                | 5 634 415          |                  |                  | 6 258 006           |
| Košice-surrounding | 210 994 191               | 88 095 825         | 11 468           | 13 113           | 122 873 785         |
| Michalovce         | 60 778 111                | 23 527 469         | 53 595           | 2 000            | 37 195 047          |
| <b>Total</b>       | <b>807 914 324</b>        | <b>475 337 029</b> | <b>1 286 381</b> | <b>4 223 448</b> | <b>327 067 465</b>  |

Source: VÚGK (Research Institute of Geodesy and Cartography), own calculations.

(about 6-fold) difference was observed in orchards.

Comparing **sold area** by land type in size categories it was found that in the size category **up to 1 ha** was in all types of land, except vineyards the smaller area was sold than in the size category over 1 ha (Table 3). The vineyards represented

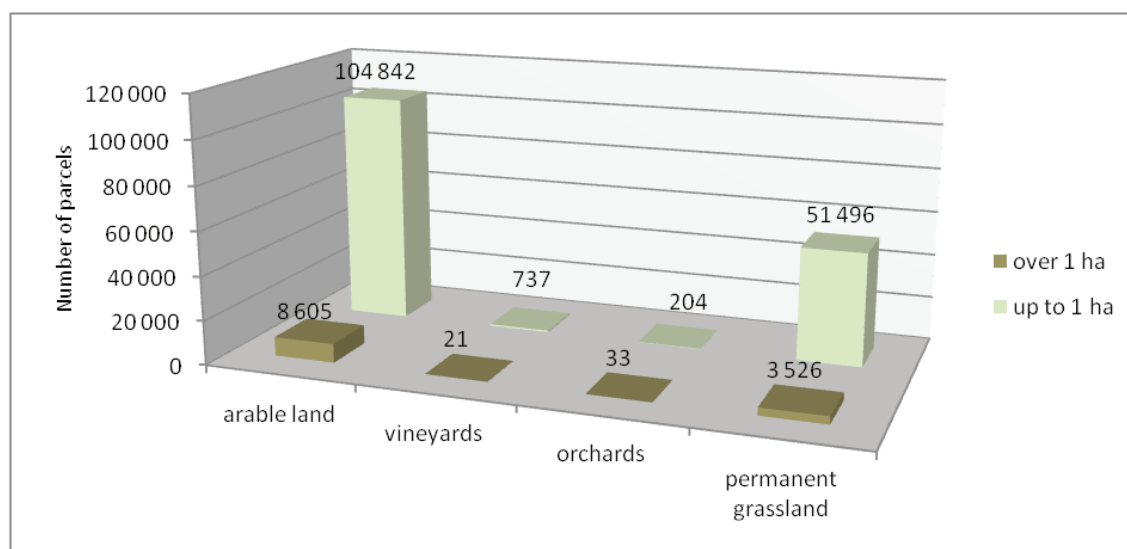
a percentage of sales in the size category up to 1 ha of 68.84%, in orchards only about 6%.

In contrary to the category up to 1 ha, in the size category **over 1 ha** the larger land area was sold in most land types. Small share in this category was represented by vineyards where 31% of its acreage was sold.

**Table 2.** Number, acreage and an average size of plots in the size categories up to 1 ha and over 1 ha in 2007–2014

| Plot size (m <sup>2</sup> ) |         | Number of plots | Share of amount (%) | Acreage (m <sup>2</sup> ) | Share of acreage (%) | Average plot size (m <sup>2</sup> ) |
|-----------------------------|---------|-----------------|---------------------|---------------------------|----------------------|-------------------------------------|
| Over                        | Up to   |                 |                     |                           |                      |                                     |
| 0                           | 100     | 37 849          | 22.33               | 1 023 028                 | 0.13                 | 27                                  |
| 100                         | 1 000   | 54 827          | 32.35               | 25 818 849                | 3.20                 | 471                                 |
| 1 000                       | 2 500   | 30 826          | 18.19               | 50 664 045                | 6.27                 | 1 644                               |
| 2 500                       | 5 000   | 20 148          | 11.89               | 71 402 086                | 8.84                 | 3 544                               |
| 5 000                       | 10 000  | 13 629          | 8.04                | 94 089 398                | 11.65                | 6 904                               |
| <b>Up to 1 ha</b>           |         | <b>157 279</b>  | <b>92.81</b>        | <b>242 997 406</b>        | <b>30.08</b>         | <b>1 545</b>                        |
| 10 000                      | 20 000  | 6 502           | 3.84                | 88 608 229                | 10.97                | 13 628                              |
| 20 000                      | 50 000  | 3 433           | 2.03                | 103 530 921               | 12.81                | 30 158                              |
| 50 000                      | 100 000 | 1 129           | 0.67                | 78 307 282                | 9.69                 | 69 360                              |
| 100 000                     | *       | 1 121           | 0.66                | 294 470 485               | 36.45                | 262 686                             |
| <b>Over 1 ha</b>            |         | <b>12 185</b>   | <b>7.19</b>         | <b>564 916 917</b>        | <b>69.92</b>         | <b>46 362</b>                       |
| <b>Total</b>                |         | <b>169 464</b>  | <b>100.00</b>       | <b>807 914 323</b>        | <b>100.00</b>        | <b>4 767</b>                        |

Source: VÚGK (Research Institute of Geodesy and Cartography), own calculations.



**Fig. 2.** Number of sold plots in size categories by land use in 2004–2014

Source: VÚGK (Research Institute of Geodesy and Cartography), own calculations.

### An average market price of agricultural land in twelve districts of Slovakia in 2007–2014

#### *An average market price of agricultural land without segmentation into land size categories in 2007–2014*

In a sample of twelve districts of Slovakia for the period 2007–2014 (Table 4) an average mar-

ket price of agricultural land amounted to 0.85 EUR.m<sup>-2</sup>. In terms of the land type, the highest average market price was recorded in vineyards (1.89 EUR.m<sup>-2</sup>). Arable land reached an average market price of 1.06 EUR.m<sup>-2</sup>, followed by orchards with the average market price of 0.74 EUR.m<sup>-2</sup>. The lowest average market price was seen in permanent grasslands, where its value

**Table 3.** An acreage of sold land and its share in the size categories and size intervals by land use in 2007–2014

| Plot size (m <sup>2</sup> ) |         | Acreage and share of sold agricultural land |               |                   |               |                   |               |                     |               |
|-----------------------------|---------|---|---------------|-------------------|---------------|-------------------|---------------|---------------------|---------------|
|                             |         | Arable land                                 |               | Vineyards         |               | Orchards          |               | Permanent grassland |               |
| Over                        | Up to   | (m <sup>2</sup> )                           | %             | (m <sup>2</sup> ) | %             | (m <sup>2</sup> ) | %             | (m <sup>2</sup> )   | %             |
| 0                           | 100     | 610 690                                     | 0.13          | 1 654             | 0.13          | 1 256             | 0.03          | 409 428             | 0.13          |
| 100                         | 1 000   | 16 777 937                                  | 3.53          | 224 994           | 17.49         | 52 140            | 1.23          | 8 763 778           | 2.68          |
| 1 000                       | 2 500   | 36 229 753                                  | 7.62          | 293 730           | 22.83         | 41 362            | 0.98          | 14 099 200          | 4.31          |
| 2 500                       | 5 000   | 55 477 351                                  | 11.67         | 220 201           | 17.12         | 47 831            | 1.13          | 15 656 703          | 4.79          |
| 5 000                       | 10 000  | 76 049 204                                  | 16.00         | 144 905           | 11.26         | 115 859           | 2.74          | 17 779 430          | 5.44          |
| <b>Up to 1 ha</b>           |         | <b>185 144 935</b>                          | <b>38.95</b>  | <b>885 484</b>    | <b>68.84</b>  | <b>258 448</b>    | <b>6.12</b>   | <b>56 708 539</b>   | <b>17.34</b>  |
| 10 000                      | 20 000  | 70 222 767                                  | 14.77         | 176 672           | 13.73         | 102 525           | 2.43          | 18 106 265          | 5.54          |
| 20 000                      | 50 000  | 70 825 232                                  | 14.90         | 224 225           | 17.43         | 574 220           | 13.60         | 31 907 244          | 9.76          |
| 50 000                      | 100 000 | 40 588 936                                  | 8.54          | –                 | –             | 60 250            | 1.43          | 37 658 095          | 11.51         |
| 100 000                     | *       | 108 555 158                                 | 22.84         | –                 | –             | 3 228 005         | 76.43         | 182 687 322         | 55.86         |
| <b>Over 1 ha</b>            |         | <b>290 192 093</b>                          | <b>61.05</b>  | <b>400 897</b>    | <b>31.16</b>  | <b>3 965 000</b>  | <b>93.88</b>  | <b>270 358 926</b>  | <b>82.66</b>  |
| <b>Total</b>                |         | <b>475 337 028</b>                          | <b>100.00</b> | <b>1 286 381</b>  | <b>100.00</b> | <b>4 223 448</b>  | <b>100.00</b> | <b>327 067 465</b>  | <b>100.00</b> |

Source: VÚGK (Research Institute of Geodesy and Cartography), own calculations.

**Table 4.** The average land market price in twelve selected districts of Slovakia in 2007–2014

| District           | Price (EUR.m <sup>-2</sup> ) |             |             |             |                     |
|--------------------|------------------------------|-------------|-------------|-------------|---------------------|
|                    | Agricultural land            | Arable land | Vineyards   | Orchards    | Permanent grassland |
| Dunajská Streda    | 1.91                         | 1.99        | 4.57        | 2.62        | 0.69                |
| Trnava             | 1.64                         | 1.74        | 1.02        | 19.86       | 0.52                |
| Nitra              | 1.65                         | 1.70        | 4.83        | 1.27        | 0.99                |
| Topoľčany          | 0.32                         | 0.26        | 0.89        | 0.15        | 0.68                |
| Liptovský Mikuláš  | 1.12                         | 1.60        |             | 1.64        | 0.68                |
| Žilina             | 3.84                         | 5.02        |             | 3.41        | 2.44                |
| Banská Bystrica    | 3.02                         | 2.18        |             |             | 3.48                |
| Rimavská Sobota    | 0.34                         | 0.34        | 0.17        | 0.17        | 0.35                |
| Prešov             | 2.41                         | 3.53        |             | 41.04       | 0.97                |
| Svidník            | 0.12                         | 0.14        |             |             | 0.10                |
| Košice-surrounding | 0.79                         | 1.28        | 0.17        | 18.94       | 0.44                |
| Michalovce         | 0.26                         | 0.56        | 1.98        | 0.03        | 0.06                |
| <b>Total</b>       | <b>0.85</b>                  | <b>1.06</b> | <b>1.89</b> | <b>0.74</b> | <b>0.53</b>         |

Source: VÚGK (Research Institute of Geodesy and Cartography), own calculations.

amounted to 0.53 EUR.m<sup>-2</sup> during the reporting period.

In the period 2007-2014, the highest average market price of **agricultural land** was recorded in the district of Žilina and its value was 3.84 EUR.m<sup>-2</sup>. The district of Banská Bystrica with the average market price of 3.02 EUR.m<sup>-2</sup> was followed. The lowest average market price of agricultural land was in district Michalovce (0.26 EUR.m<sup>-2</sup>) and Svidník (0.12 EUR.m<sup>-2</sup>). The highest average market price of **arable land** was recorded in the district of Žilina (5.02 EUR.m<sup>-2</sup>), followed by Prešov (3.53 EUR.m<sup>-2</sup>) and Banská Bystrica (2.18 EUR.m<sup>-2</sup>). Districts with the lowest average market price of arable land were Topoľčany (0.26 EUR.m<sup>-2</sup>) and Svidník (0.14 EUR.m<sup>-2</sup>). The highest average market price of **permanent grassland** was noticed in Banská Bystrica and its value was 3.48 EUR.m<sup>-2</sup>. The second in the order was Žilina with the average market price 2.44 EUR.m<sup>-2</sup>. The lowest average market price of permanent grassland (0.06 EUR.m<sup>-2</sup>) was in the district Michalovce. **Vineyards** has the highest average market price in the district of Nitra and its value was 4.83 EUR.m<sup>-2</sup>, followed by Dunajská Streda with an average market price of 4.57 EUR.m<sup>-2</sup>. **Orchards** were sold for the highest average market price in the district of Prešov (41.04 EUR.m<sup>-2</sup>), followed by Trnava (19.86 EUR.m<sup>-2</sup>) and the district Košice-surrounding (18.94 EUR.m<sup>-2</sup>).

### An average market price by size categories

#### *An average market price of land up to 1 ha*

In the size category **up to 1 ha** of land the average market price of agricultural land reached 1.69 EUR.m<sup>-2</sup> as a total for the districts in a period of eight years and the value predominated 3.5 times the average market price in the size category of land over 1 ha (Table 5). The highest average market price in this size category was in the size range from 100 m<sup>2</sup> to 1000 m<sup>2</sup>, where its value was 5.78 EUR.m<sup>-2</sup>.

In the category of up to 1 ha, assessed by **districts** the highest average market price of agricultural land (6.67 EUR.m<sup>-2</sup>) was in district Žilina

(Figure 3), followed by Banská Bystrica, where the average market price was 5.99 EUR.m<sup>-2</sup>. In order of amount the next were districts Prešov (5.37 EUR.m<sup>-2</sup>) and Dunajská Streda (4.14 EUR.m<sup>-2</sup>). The districts with lowest recorded average market price of land in this size category were the districts of Rimavská Sobota (0.27 EUR.m<sup>-2</sup>), Topoľčany (0.24 EUR.m<sup>-2</sup>) and Svidník (0.13 EUR.m<sup>-2</sup>).

#### *An average market price of land over 1 ha*

In the size category **over 1 ha** of land the average market price of agricultural land reached 0.48 EUR.m<sup>-2</sup> as a total for the districts in 2007–2017 (Table 6) and was lower than the average market price in the size category up to 1 ha. In this size category the highest average market price of agricultural land (0.81 EUR.m<sup>-2</sup>) was recorded in the size range from 10 000 m<sup>2</sup> to 20 000 m<sup>2</sup>.

Assessment of the average market prices in the size categories by **districts** (Figure 4) showed that the highest average market price was in Trnava (1.26 EUR.m<sup>-2</sup>). Prešov district was the next with the average market price of 1.08 EUR.m<sup>-2</sup>, followed by the districts of Nitra (0.99 EUR.m<sup>-2</sup>) and Dunajská Streda (0.86 EUR.m<sup>-2</sup>). The lowest average market prices in the size category over 1 ha were recorded in the district Michalovce (0.17 EUR.m<sup>-2</sup>) and Svidník (0.12 EUR.m<sup>-2</sup>).

### An year-on-year comparison of the development of land market in twelve districts of Slovakia in 2007–2014

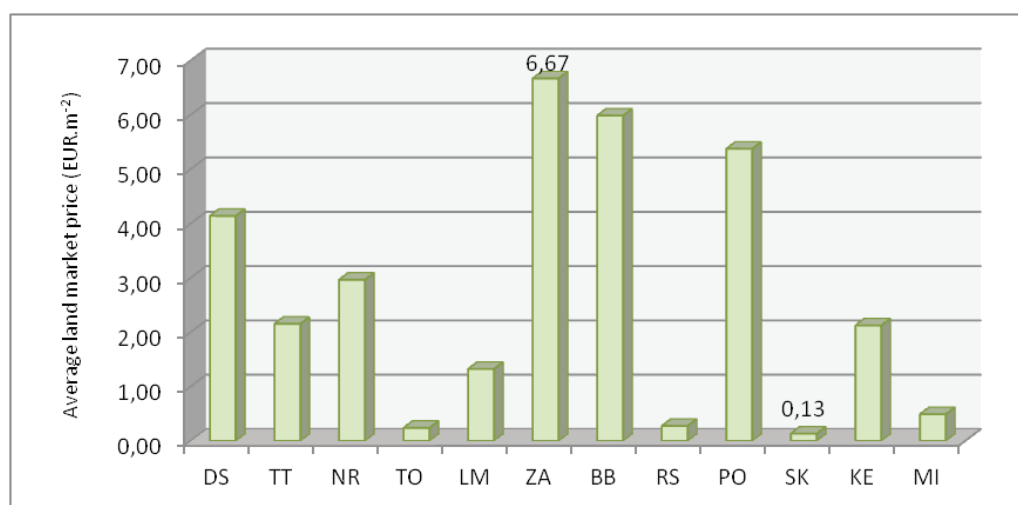
#### *Development of the number and size of sold plots*

**Number of sold plots** in a sample of land transactions in selected twelve districts of Slovakia in the years 2007–2014 showed a fluctuating course (Figure 5). By assessing the number of plots, in 2008 the amount slightly decreased compared the previous year. The following year, number of sold plots began to rise and more significant increase in the number of sold plots was seen in 2010. In 2011 a partial decrease in the number of sold plots was recorded in comparison to the previous year, but since this year the number of sold plots only increased until the latest year 2014.

**Table 5.** An average land market price in the size category up to 1 hectare in 2007–2014 by land use

| Size of parcel (m <sup>2</sup> ) |        | Average price (EUR.m <sup>-2</sup> ) |             |             |                     |             | Total agricultural land |
|----------------------------------|--------|--------------------------------------|-------------|-------------|---------------------|-------------|-------------------------|
| Over                             | Up to  | Arable land                          | Vineyards   | Orchards    | Permanent grassland |             |                         |
| 0                                | 100    | 6.11                                 | 9.54        | 26.75       | 3.81                | 5.22        |                         |
| 100                              | 1 000  | 6.89                                 | 3.63        | 17.33       | 3.63                | 5.78        |                         |
| 1 000                            | 2 500  | 1.74                                 | 1.77        | 8.15        | 1.41                | 1.65        |                         |
| 2 500                            | 5 000  | 1.27                                 | 1.55        | 21.23       | 0.92                | 1.21        |                         |
| 5 000                            | 10 000 | 1.00                                 | 1.30        | 1.05        | 0.63                | 0.93        |                         |
| <b>Up to 1 ha</b>                |        | <b>1.77</b>                          | <b>2.13</b> | <b>9.33</b> | <b>1.39</b>         | <b>1.69</b> |                         |

Source: VÚGK (Research Institute of Geodesy and Cartography), own calculations.



**Fig. 3.** An average market price of agricultural land in the size category up to 1 hectare in twelve districts of Slovakia in 2007–2014

Source: VÚGK (Research Institute of Geodesy and Cartography), own calculations.

**Table 6.** An average land market price in the size category over 1 hectare in 2007–2014 by land use

| Size of parcel (m <sup>2</sup> ) |         | Average price (EUR.m <sup>-2</sup> ) |             |             |                     |             | Total agricultural land |
|----------------------------------|---------|--------------------------------------|-------------|-------------|---------------------|-------------|-------------------------|
| Over                             | Up to   | Arable land                          | Vineyards   | Orchards    | Permanent grassland |             |                         |
| 10 000                           | 20 000  | 0.89                                 | 1.65        | 1.64        | 0.48                | 0.81        |                         |
| 20 000                           | 50 000  | 0.73                                 | 1.15        | 0.27        | 0.65                | 0.71        |                         |
| 50 000                           | 100 000 | 0.42                                 | –           | 0.56        | 0.30                | 0.36        |                         |
| 100 000                          | *       | 0.42                                 | –           | 0.11        | 0.29                | 0.34        |                         |
| <b>Over 1 ha</b>                 |         | <b>0.61</b>                          | <b>1.37</b> | <b>0.18</b> | <b>0.35</b>         | <b>0.48</b> |                         |

Source: VÚGK (Research Institute of Geodesy and Cartography), own calculations.



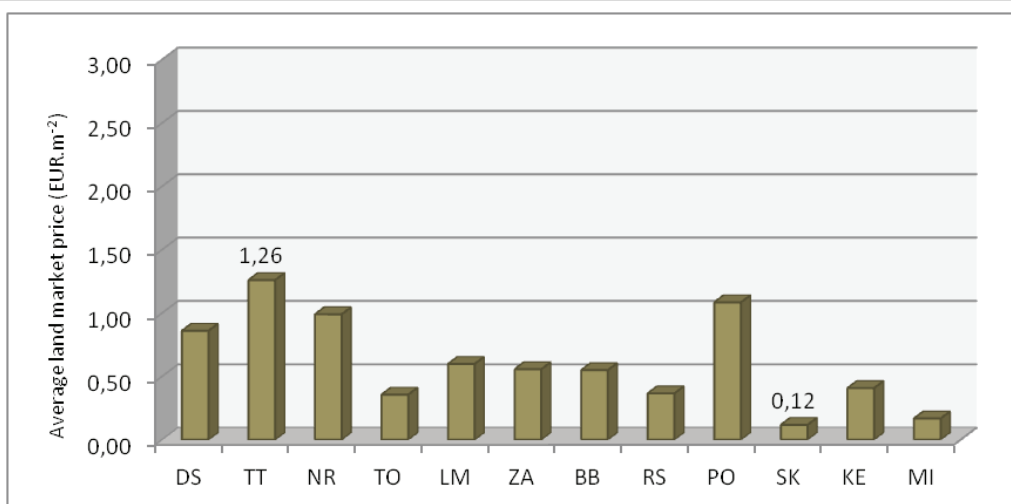


Fig. 4. An average market price agricultural land in the size category over 1 hectare in twelve districts of Slovakia in 2007–2014

Source: VÚGK (Research Institute of Geodesy and Cartography), own calculations.

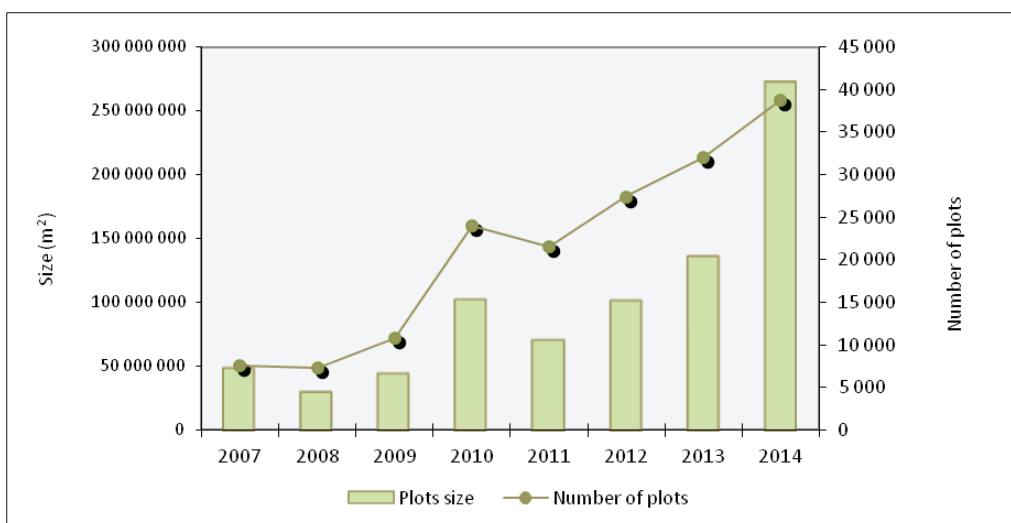


Fig. 5. Development of number and plots size of the sold agricultural land for twelve districts in total, in 2007–2014

Source: VÚGK (Research Institute of Geodesy and Cartography), own calculations.

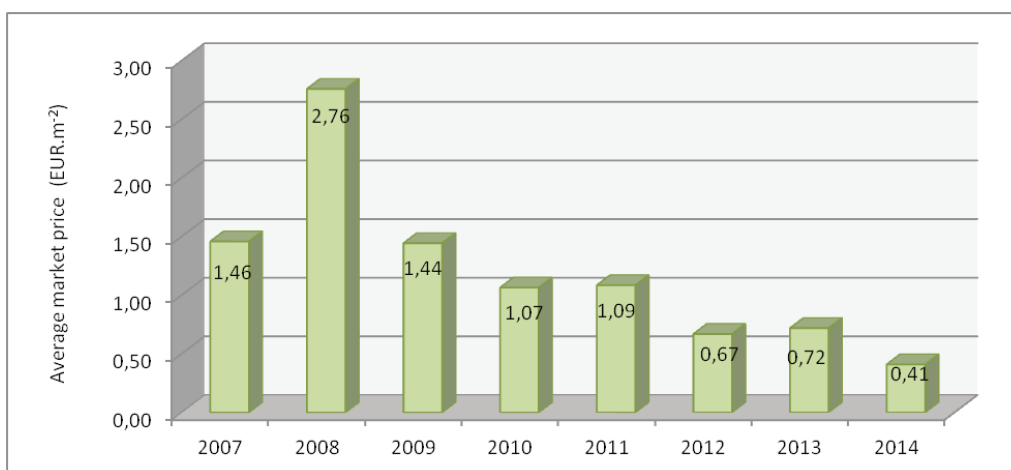


Fig. 6. Development of the average market price of agricultural land in twelve district of Slovakia in total, in 2007–2014

Source: VÚGK (Research Institute of Geodesy and Cartography), own calculations.

Very similar – a fluctuating development – was recorded by sold land size in the period of eight years. As well as the number of parcels the area of sold land was reduced in 2008 compared to the previous year. An increase in sold acreage in 2010 and the temporary reduction in 2011 was identical with the development of the number of sold plots in those years. Since 2011 the assessed area of sold land was growing steadily and peaked in the last evaluated year.

#### ***Development of the average market price of agricultural land in selected twelve districts of the SR in 2007–2014***

The development of the average market price of plots with agricultural land in the period 2007–2014 in a summary for the twelve districts (Figure 6) showed a fluctuating trend, but finally can be evaluated as a declining one. In the first evaluation year an average market price of agricultural land had a value of 1.46 EUR.m<sup>-2</sup>, which in the following year (2008) significantly increased and showed the highest value (2.76 EUR.m<sup>-2</sup>) for the entire monitored period. The following year it declined below the level of 2007. In the following years the average market price of agricultural land continued to decline with a slight increase in 2011 and 2013. In the last monitoring year, the average market price of agricultural land reached the lowest value 0.41 EUR.m<sup>-2</sup>. The difference between the average market price in the last reporting year and the average market price in 2008, when it reached the highest value was 2.35 EUR.m<sup>-2</sup>.

#### **Conclusion**

In the period 2007–2014 there were 169,464 sales of agricultural land carried out within twelve selected districts of Slovakia. Out of this number the plots with arable land did 66.94% and permanent grassland 32.47%. Number of sold vineyards amounted to 0.45% and orchards 0.14% only.

Within the districts the highest number of parcels with agricultural land was sold in the district of Liptovský Mikuláš represented 19.71% of the total number of sold plots. The smallest number of plots with agricultural land was sold in Svidník district (0.69%).

In 2007–2014 the total sold area of agricultural land in a sample of twelve districts represented 807,914,324 m<sup>2</sup> (about 80,791 ha). Arable land amounted for the largest share (58.84%) of this volume. The share of permanent grassland was 40.48%. Minimum share of the total sales is represented by vineyards (0.16%) and orchards (0.52%).

Representing the sold agricultural land in selected districts, the largest area of plots was sold in the district Košice-surrounding (26.12%). The smallest area of agricultural land was sold in the district of Banská Bystrica (1.29%).

In a group of twelve districts of Slovakia for the period 2007–2014 the average market price of agricultural land amounted to value 0.85 EUR.m<sup>-2</sup>. In terms of the land type the highest average market price (1.89 EUR.m<sup>-2</sup>) is reporting to vineyards. Arable land had an average market price of 1.06 EUR.m<sup>-2</sup>. The average market price of orchards was 0.74 EUR.m<sup>-2</sup>. The lowest average market price was recorded for permanent grassland and its value was 0.53 EUR.m<sup>-2</sup> for the period.

The highest average market price of agricultural land was in the district of Žilina where its value reached 3.84 EUR.m<sup>-2</sup>. Concerning districts, the second highest average market price was noticed in Banská Bystrica (3.02 EUR.m<sup>-2</sup>). The lowest average market price of agricultural land were recorded in the districts of Michalovce (0.26 EUR.m<sup>-2</sup>) and Svidník (0.12 EUR.m<sup>-2</sup>).

The development of the average market price of plots of agricultural land in the period 2007–2014 summary for the twelve districts showed a fluctuating trend, which ultimately may be assessed as declining. In 2007, the first year of follow-up had an average market price of agricultural land value 1.46 EUR.m<sup>-2</sup>, which in the following year significantly increased and showed the highest value (2.76 EUR.m<sup>-2</sup>) for the entire monitored period. The final measure of the average market price of agricultural land has seen so far the lowest value, which stood at 0.41 EUR.m<sup>-2</sup>.

The development of the average market price of plots with agricultural land in the period 2007–2014 in a summary for the twelve districts showed a fluctuating trend, but finally can

be evaluated as a declining one. In 2007 the average market price of agricultural land had a value of 1.46 EUR.m<sup>-2</sup>, which in the following year significantly increased and showed the highest value (2.76 EUR.m<sup>-2</sup>) for the entire monitored period. In the last monitoring year, the average market price of agricultural land reached the lowest value 0.41EUR.m<sup>-2</sup>.

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