

LAND PURCHASE AND LAND LEASE BY AGRICULTURAL COMPANIES IN NITRA COUNTY

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Abstract

Land is important production factor without it the agricultural production could not exist. Agricultural companies can purchase or lease the land and operate on it. In the paper we quantify the net present value by land purchase and land lease by agricultural companies in Nitra County. We apply the calculation on internal rate of return, modified internal rate of return, profitability index, payback period and average profitability to evaluate the efficiency of the land use. Nitra County belongs to the most productive agricultural Counties in Slovakia and thanks to its location also to the hottest and the driest area in Slovakia. It has good climatic conditions to raise various agricultural crop plants. By land lease the percentage of the lease was estimated in range from 0.5 to 3 % from official land price. The value of the land lease was determined by percentage from the official land price in Nitra County in range from 11.86 €/ha to 71.18 €/ha. The net present value by land lease reaches the negative values in this County it means that is not profitable to lease the land by these conditions. To reach the minimal positive value of NPV the land lease should be higher than it is in reality and the official price should be lower. By land purchase we divided the companies on commercial companies and agricultural cooperatives. The indicators reach again negative results. The input indicators as capital expenses, cash incomes were modelled to reach the minimal positive values or to reach acceptable values of chosen indicators of efficiency evaluation.

Keywords: agricultural companies, land, land lease, land purchase

JEL classification: Q15, Q24, M21

1 Introduction

Natural – geographical conditions have a special position in the structuring the spatial system. They influence the economic development by the creation of conditions for the localization of economic activities. Each region can be characterized by the different system of natural geographical conditions. The regional development is influenced mainly by these conditions: area size, orographic conditions, climate, water conditions, the state of environment, fauna and flora. Except of these factors, the geographical location is important, technical and social infrastructure, economic performance of the region, financial resources, culture and cultural-historical potential, institutions, social capital, innovation potential etc. as well as exogenous factors like economic and social policy, global situation, economic performance of the country etc. (Fazikova et al., 2013)

The value of land rent described by the developers of classical economics differs from that described in modern economics (Rymanov, 2017). In classical economics, rent was considered in terms of the low rate of the tax burden. In conditions of public expenditure growth, its level rose significantly.

Lease of agricultural land is one of the option of land usage for the owners who do not want to operate on it and do not want to transfer its ownership. The legislation on the land use of agricultural land has undergone after the Slovak Republic was established and these changes were aimed at protecting of both owners and tenants. Currently the Act 504/2003 on lease of agricultural land, agricultural companies and forest land is valid. (Pavlíková, 2014)

Considering the fact that vast majority of the agricultural land in Slovakia is rented, the legal acts on tenancy of agricultural land is fabulously important. The largest tenant of agricultural land in Slovakia is the Slovak Land Fund, which manages approximately 5 % of state owned agricultural land and 14 % agricultural land of unknown owners. (Dirgasová, Bandlerová, 2014)

Based on questionnaire survey RIEFA about land lease the farmers lease the land from the private persons (58 %) as well from the Slovak land fund and the lowest share of land lease is from the own members, partners, church (Buday et al., 2016). Overall ratio between own and leased land for operating in agriculture is 1:9. By cooperative of average area of 1.250 ha it is about hundreds to thousands of rental agreements. In Slovakia there is a high degree of ownership fragmentation which makes the land purchase of larger land area very difficult to realize. Foreign competition raises land prices as well as land lease. (Václavík, 2014)

Chakir, Lungarska (2017) compared the performance of econometric land use models based on three proxies for agricultural rent: farmers' revenues, land prices and shadow land prices derived from a mathematical programming model. It is

found that the inclusion of spatial components significantly improves the quality of predictions.

Improving the land-use efficiency (LUE) of farming systems could satisfy increasing global food, feed, biomass and bioenergy demand in a sustainable manner. Lin, Huelsbergen (2017) bring new method for calculating LUE, beginning with an overview of different approaches to assessing agricultural land-use efficiency. This method takes into account the quality and function of agricultural products and the relationship between yield of the assessed farm and the average yield of the reference region with comparable soils, climate and socio-economic conditions.

Agricultural land in Slovakia is possible to purchase cheaper than in western countries of EU. In long-term view there is an estimation that these prices will be equalling so the investment into the land should be profitable. The price of agricultural land is underestimated in comparison with the western EU also due the price increase. The land purchase is long-term investment which will not generate quick profit but the advantage is that it will not lose its value.¹

The situation in the Czech agricultural sector has improved particularly due to increasing subsidies, non-agricultural subjects are showing increased interest and banks are changing their approach to granting loans for the purchase of farmland. The market price of farmland in the Czech Republic has been rising, in 2015, it exceeded CZK162,500 per hectare on average. However, it is still low compared to the old EU members states. (Severová, Svoboda, Kopecká, 2017)

The agricultural sector is characterized by the fact that there is a high level of risk. The ability of early detection and effective management of the risks is an integral part of the strategic management of every agricultural organisation. Slovakian farmers perceive the price risk, production or income risk as the most important factors, and the diversification as a most important strategy of the risk management. The most significant positive correlations were found between the land size and the perception of the price risk importance, between the number of years in office and the perception of the price risk importance. (Jankelová, Masar, Moricová, 2017)

The purpose of the paper of Matyja (2016) was to examine the relationship between selected resourced based factors and competitiveness of agricultural enterprises. The main finding was that the analyzed resources – the level of labour, size and quality of agricultural land and size of assets were weakly correlated with competitiveness. This observation means that other factors have stronger impact (relational capital, knowhow, managerial competencies, climate, legal issues).

Authors Adamišín, Kotulič, Kravčáková Vozárová (2017) evaluated the economic performance of agricultural entities depending on their legal form in Slovakia. On

¹ <http://www.agrofarmy.sk/Tmenu/Investicie/investicie2.php>

the basis of the testing results, it was found, that business companies show a higher rate of economic success measured by the selected economic indicators.

2 Data and Methods

Data used for the paper were used from database which is prepared by RIEFA Bratislava. We used the data for agricultural companies for period of 2005 – 2015. The companies were divided to commercial companies and agricultural cooperatives and chosen indicators of investment decision-making indicators were applied in agricultural companies in Nitra County.

By land lease the official land prices is determined as capital expenditure and the land lease as a cash income. Cash income is discounted by usage of interest's rates. The interest rate of the loans with maturity over 5 years was used: 4.33 %, 5.29 %, 5.67 %, 5.6 %, 3.37 %, 3.08 %, 3.81 %, 3.48 %, 3.16 %, 3.27 %, and 2.97 %. The land lease is determined as percentage of the official price. To quantify the land lease the following rates from official price was used 0.5 %, 1%, 1.5 %, 2 %, 2.5 % and 3 %. The net present values were calculated as difference of discounted cash incomes (CI) and capital expenditure (CE):

$$NPV = \frac{CI_1}{(1+ir)^1} + \frac{CI_2}{(1+ir)^2} + \frac{CI_3}{(1+ir)^3} \dots \frac{CI_n}{(1+ir)^n} - CE \quad (1)$$

Where: NPV – net present value, CI – cash income, CE – capital expenditure, ir – interest rate, n - year

If the indicator reaches positive values the investment is possible to realise. By land purchase we applied the calculation of net present value, internal rate of return, modified internal rate of return, profitability index, payback period and average profitability. Capital expenditure is the official land price and the cash incomes are created from the earning from operating activity decreased about trade margin, depreciation and difference of current assets and short-term liabilities or net working capital (NWC).

Internal rate of return:

$$\frac{CI_1}{(1+ir)^1} + \frac{CI_2}{(1+ir)^2} + \frac{CI_3}{(1+ir)^3} + \dots \frac{CI_n}{(1+ir)^n} = CE \quad (2)$$

The indicator shall reach positive values. It represents the interest rate which we are looking for.

Modified internal rate of return =

$$\sqrt[n]{\frac{\sum CI \cdot (1+ir)^{N-n}}{CE}} - 1 \quad (3)$$

The investment is acceptable if the modified internal rate of return reaches lower values as classic quantified internal rate of return.

Ratio between discounted cash incomes and capital expenditure is expressed by profitability index (PI). The investment is acceptable if the values are higher than one.

$$\text{Profitability index} = \frac{\sum \frac{C_{in}}{(1+ir)^n}}{\text{capital expenditure}} \quad (4)$$

When or in which time period invested cash will be returned in form of cash incomes is expressed by the indicator payback period which is calculated as follows:

$$\text{Payback period} = \frac{CE}{\text{earning from operating activity} + \text{depreciation}}$$

Additional ratio is average profitability which divides the sum of earning from the operating activity for followed period and the life cycle of the investment which is multiplied by average land value.

$$\text{Average profitability} = \frac{\sum_{n=1}^N \text{Earning from operating activity}}{\text{life cycle} \cdot \text{land value}} \quad (5)$$

3 Results and Discussion

The most of the land area is leased in Slovakia. The land price in Nitra County is on the level of 2.373 €/ha. Similar values of land prices are in Trnava and Bratislava County it means in the Counties which belong to the Counties operating in favourable natural conditions where the agricultural production is developed and there are good natural conditions for its development. The land lease by usage of percentage (0,5 %, 1 %, 1,5 %, 2 %, 2,5 % a 3 %) from official land price reaches values from 11.86 €/ha to 71.18 €/ha. The land lease is considered as the cash income because it is expected for longer time period. We discounted it by interest rates and calculated discounted cash incomes which are shown in table 1. The value for discounted cash incomes for 0.5 % lease from official land price reaches the lowest value for the interest of 5.67 % and it is 88.67 €/ha which is in comparison with the lowest interest rate 2.97 % less about 12.65 €/ha. Following by increase of used percentage of lease from official land price the value of discounted cash incomes is increasing and the highest values are reached by interest rate of 3 % lease from official price in range from 532 €/ha to 608,1 €/ha.

Table 1 Calculation of discounted cash incomes for each % of land lease

%rent%/ir	4,33	5,29	5,67	5,6	3,37	3,08
0,5	94,63	90,30	88,67	88,97	99,28	100,76
1	189,4	180,7	177,4	178	198,65	201,6

%rent/%ir	4,33	5,29	5,67	5,6	3,37	3,08
1,5	284	271	266,1	267	297,9	302,4
2	378,6	361,3	354,8	356	397,2	403,1
2,5	473,3	451,7	443,5	445	496,6	504
3	568	542	532,2	534	595,9	604,7

%rent/%ir	3,81	3,48	3,16	3,27	2,97
0,5	97,11	98,73	100,35	99,79	101,32
1	194,3	197,6	200,8	199,66	202,7
1,5	291,4	296,3	301,1	299,4	304,1
2	388,5	395	401,5	399,2	405,4
2,5	485,7	493,8	501,9	499,1	506,8
3	582,8	592,6	602,3	598,9	608,1

Source: Own calculation.

Net present value created by difference of discounted cash incomes and capital expenditures for each lease percentage from official land prices is shown in table 2. The net present values show the values lower than zero it means that it is not profitable to realise the investment according to these conditions. Logically the less favourable results are for 0.5% lease from price and interest rates when the NPV is in range from -2.272 €/ha to -2.284 €/ha

Table 2 **Quantification of net present value for % of rent in Nitra County**

%rent/%ir	4,33	5,29	5,67	5,6	3,37	3,08
0,5	-2278	-2283	-2284	-2284	-2274	-2272
1	-2184	-2192	-2196	-2195	-2174	-2171
1,5	-2089	-2102	-2107	-2106	-2075	-2071
2	-1994	-2012	-2018	-2017	-1976	-1970
2,5	-1900	-1921	-1929	-1928	-1876	-1869
3	-1805	-1831	-1841	-1839	-1777	-1768

%rent/%ir	3,81	3,48	3,16	3,27	2,97
0,5	-2276	-2274	-2273	-2273	-2272
1	-2179	-2175	-2172	-2173	-2170
1,5	-2082	-2077	-2072	-2074	-2069
2	-1984	-1978	-1972	-1974	-1968
2,5	-1887	-1879	-1871	-1874	-1866
3	-1790	-1780	-1771	-1774	-1765

Source: Own calculation.

As we can see from previous table the negative results of net present value confirm that it is not profitable to lease the land based on these conditions. That is why the amount of cash incomes was modelled for each interest rate so to reach the positive minimal value of net present value.

The cash incomes should be much higher than the real ones to realise the investment with profit. The lowest cash incomes are for interest rate 2.97 % on level 278 €/ha and after for each interest rates are increasing and for interest rate 5.67 % present 318 €/ha. Based on these results the net present value reaches the minimal positive values in range from 2 to 8 €/ha. In the second case the official price was modelled and we detected what should be the official price to reach the minimal positive value of net present value? Capital expenditure should be much lower than the real official land price in this County. The results of calculation for each interest rate and lease are determined by percentage from official land price and are shown in the table 3. Land price should be in range from 88 €/ha to 607 €/ha to reach minimal positive value of NPV what is in comparison with initial price land in this County lower about 1.766 €/ha up to 2.285 €/ha.

Table 3 Modelled official land price for each % of lease in Nitra County

%rent/%ir	4,33	5,29	5,67	5,6	3,37	3,08
0,5	94	89	88	88	98	100
1	188	180	176	177	198	201
1,5	283	270	265	266	297	301
2	378	360	354	355	396	402
2,5	472	451	443	444	496	503
3	569	541	531	533	595	604

%rent/%ir	3,81	3,48	3,16	3,27	2,97
0,5	96	98	99	99	100
1	193	197	200	199	202
1,5	290	295	300	298	303
2	388	394	400	398	404
2,5	485	493	501	498	506
3	582	592	601	598	607

Source: Own calculation.

By land purchase we divided the companies on commercial companies and agricultural cooperatives and we compared the results of calculations.

Earning from operating activity after decreasing about gross margin reaches negative value in 2009 and 2010. In 2009 it was -125.3 €/ha and in 2010 it was -13.25 €/ha. In other years the agricultural cooperatives in Nitra County reach profit from this activity. The amount of depreciation which is a part of the earning was increasing from 2005 up to 2009. In 2009 the depreciation reached its maximum in amount of 195.41 €/ha and after this period the amount of depreciation was decreasing. Change of net working capital increased the cash incomes in 2009, 2010, 2011 and 2014. Cash incomes increased from 2005 to 2008. Their development was negatively influenced by loss from operating activity which decreased the cash incomes on the amount of 168.87 €/ha. In 2010 the development of cash incomes was positively influenced by change of net working capital however the cooperatives shown the loss from their activities. Cash incomes reach the level of 382.53 €/ha in 2010. From 2011 we can see decreasing amounts of cash incomes which was caused by negative change of net working capital also in 2012. On the other hand, the highest value of cash incomes is calculated in 2014 in amount of 417.66 €/ha which was positively influenced by development of all indicators which create cash incomes.

Table 4 Calculation of cash incomes in agricultural cooperatives in Nitra County

Indicator/year	2005	2006	2007	2008	2009	2010
Earning	19,843	11,729	49,597	88,815	-125,3	-13,25
Depreciation	155,69	155,94	167,25	188,56	195,41	143,58
ΔNWC	26,348	6,760	26,962	21,449	-98,70	-252,2
CI	149,18	160,91	189,88	255,93	168,87	382,53

Indicator/year	2011	2012	2013	2014	2015
Earning	8,736	15,201	5,397	26,332	17,259
Depreciation	121,10	126,33	144,86	153,63	175,4
ΔNWC	-38,01	360,40	12,30	-237,7	237,1
CI	167,85	-218,9	137,95	417,66	-44,44

Source: Own calculation.

Discounted cash incomes for each interest rate reach the range from 1.328 €/ha to 1.514 €/ha. If we decrease the value about the capital expenditure which presents 2.373 €/ha in this County the cooperatives reach negative net present value it means that it is not profitable to realise the investment. The net present value is in the range from -859 €/ha to 1.045 €/ha. This development and indicator's results influenced also results of profitability index which reaches the values higher than 1 and it means that it is not profitable to realise the investment. Internal interest rate reaches negative values for all interest rates in range from -36.20 % for interest rate 2.97 % to -44.04 % for interest rate 5.67 %. Modified internal return rate shows negative values it means from the point of view of investment realization these values are not acceptable for interest rates 2,97 %, 3,08 %, 3,16 %, 3,27 %, 3,37 %, 3,48 %, 3,81 % a 4,33 %.

Table 5 Calculation of chosen indicators in agricultural cooperatives in Nitra County

Indicator/ir %	4,33	5,29	5,67	5,60	3,37	3,08
Discounted CI	1415,8	1352,1	1328,1	1332,4	1484,1	1505,7
CE	2373					
NPV	-957	-1021	-1045	-1041	-889	-867
PI	0,5966	0,5698	0,5596	0,5615	0,6254	0,6345
IRR %	-40,34	-43,02	-44,04	-43,85	-37,46	-36,55
Modif. IRR%	-0,46	0,04	0,24	0,2	-0,95	-1,10
Model. CE	1415	1352	1328	1332	1484	1505
Min. NPV	0,778	0,073	0,049	0,425	0,116	0,735
min. PI	1,0005	1,0001	1	1,0003	1,0001	1,0005
min.IRR	0,05	0,01	0,00	0,03	0,01	0,05

Indicator/ir %	3,81	3,48	3,16	3,27	2,97
Discounted CI	1452,2	1476,0	1499,7	1491,5	1514,1
CE					
NPV	-921	-897	-873	-882	-859
PI	0,6120	0,6220	0,6320	0,6285	0,6380
IRR %	-38,80	-37,80	-36,80	-37,15	-36,20
Modif. IRR%	-0,72	-0,89	-1,05	-1,0	-1,15
Model. CE	1452	1476	1499	1491	1514
Min. NPV	0,193	0,037	0,725	0,518	0,059
min. PI	1,0001	1	1,0005	1,0003	1
min.IRR	0,01	0,00	0,05	0,03	0,00

Source: Own calculation.

Based on results of chosen indicators the investment is not favourable to realize. We modelled the amount of official price which should be lower than the real one by agricultural cooperatives in Nitra County. For interest rate 2.97 % it reaches 1 514 €/ha and consequently the lowest modelled official price is for interest rate 5.67 % in amount of 1 328 €/ha. Based on these official prices the net present values reach minimal positive values in range from 0,037 €/ha to 0,778 €/ha. Profitability index reaches minimal positive values slightly higher than one. Internal return rate reaches also positive values however minimal and low in range from 0,003 % to 0,05 %.

Average profitability is created by sum of earnings from operating activity which reaches 104,4082 €/ha. Total average profitability is 0.80 % in cooperatives in Nitra County.

By real official prices the payback is not reached. Only by modelled amounts of official prices we reached the payback period between years. Payback period between year 8 and 9 is reached by following modelled official land prices: 1 415 €/ha, 1 352 €/ha, 1 328 €/ha, 1 332 €/ha, 1 452 €/ha. By other modelled official prices, the payback period is between 9 and 10 years.

Table 6 Payback period in agricultural cooperatives in Nitra County

Year	Earning from OA	Depreciation	Sum	Cumul. sum	CE	Residuum	Payback period
1.	19,8435	155,6868	175,5303	175,5303	1415	105,7252	8,70
2.	11,7286	155,9395	167,6681	343,1984	1352	42,7252	8,28
3.	49,5966	167,2498	216,8464	560,0448	1328	18,7252	8,12

Year	Earning from OA	Depreciation	Sum	Cumul. sum	CE	Residuum	Payback period
4.	88,8145	188,5617	277,3762	837,4211	1332	22,7252	8,15
5.	-125,2487	195,4103	70,1616	907,5827	1484	24,4733	9,14
6.	-13,2523	143,5800	130,3277	1037,9103	1505	45,4733	9,25
7.	8,7363	121,1000	129,8363	1167,7466	1452	142,7252	8,95
8.	15,2013	126,3269	141,5282	1309,2748	1476	16,4733	9,09
9.	5,3969	144,8550	150,2519	1459,5267	1499	39,4733	9,22
10.	26,3322	153,6246	179,9568	1639,4835	1491	31,4733	9,17
11.	17,2594	175,3968	192,6562	1832,1397	1514	54,4733	9,30

Source: Own calculation.

Commercial companies in Nitra County reach profit from operating activity without trade margin in whole analysed period except 2009 when they reached loss in amount of 84,902 €/ha. Positive earnings from operating was the highest in 2008 in amount of 77,893 €/ha in comparison with the first and the last year the earning from operating activity increased only about 3,525 €/ha what we can evaluate positively. Depreciation increased up to 2009 in comparison with 2008 what represents the increase about 69,777 €/ha and after 2009 the trend is unstable. Globally the depreciation increased about 24 % in followed period. The change of net working capital increased the cash incomes in 2005, 2007, 2008, 2009, 2011, 2012, 2014 and 2015 it means that it had impact on positive influence of cash income development. Cash incomes increased about 81,865 €/ha in followed period.

Table 7 Calculation of cash incomes in commercial companies in Nitra County

Indicator/year	2005	2006	2007	2008	2009	2010
Earning from OA	26,479	31,183	30,492	77,893	-84,90	26,720
Depreciation	149	163,14	180,54	205,41	218,78	186,70
Change of NWC	-32,93	34,65	-24,59	-31,19	-107,3	317,69
Cash income	208,41	159,67	235,62	314,5	241,19	-104,3

Indicator/year	2011	2012	2013	2014	2015
Earning from OA	12,724	5,102	19,306	41,970	30,004
Depreciation	169,80	188,23	196,17	171,00	184,77
Change of NWC	-62,87	-101,9	27,60	-87,00	-75,50
Cash income	245,39	295,27	187,88	299,97	290,28

Source: Own calculation.

Table 8 Calculation of chosen indicator of commercial companies in Nitra County

Indicator/ir %	4,33	5,29	5,67	5,60	3,37	3,08
Discounted CI	1833	1738	1703	1709	1936	1969
CE	2373					
NPV	-540	-635	-671	-664	-437	-404
PI	0,773	0,732	0,717	0,720	0,816	0,83
IRR %	-22,75	-26,76	-28,26	-27,98	-18,41	-17,03
Modified IRR %	1,91	2,35	2,53	2,5	1,48	1,35
Modelled CE	1833	1738	1702	1708	1936	1968
NPV	0,105	0,058	0,472	0,944	0,123	0,934
PI	1,000	1	1,000	1,000	1,000	1,000
IRR %	0,006	0,003	0,028	0,0553	0,0064	0,0475

Indicator/ir %	3,81	3,48	3,16	3,27	2,97
Discounted CI	1888	1924	1959	1947	1982
CE	2373				
NPV	-485	-449	-413	-426	-391
PI	0,796	0,811	0,826	0,821	0,835
IRR %	-20,44	-18,93	-17,41	-17,94	-16,49
Modified IRR %	1,67	1,52	1,38	1,43	1,3
Modelled CE	1887	1923	1959	1947	1981
NPV	0,866	0,889	0,801	0,346	0,595
PI	1,001	1,001	1,000	1,000	1,000
IRR %	0,0459	0,0462	0,0409	0,0178	0,030

Source: Own calculation.

Discounted cash incomes are in range from 1 703 €/ha for interest rate 5.67 % to 1 982 €/ha for interest rate 2.97 %. Capital expenditure is about 2 373 € /ha in Nitra County. Due to the fact that the capital expenditure is lower than discounted cash incomes for all interest rates, the net present value reaches negative unfavourable values in range from -391 €/ha to -671 €/ha. Lower discounted cash incomes as capital expenditure caused that profitability index is lower than one it means that it is not favourable to realize the investment. Internal return rate is negative for all interest rates (in range from -16.49 % to -28,26 %) and it means that it is not profitable to invest. From this reason we modelled official land price to reach minimal positive values of chosen indicators of investment decision. The official price should be lower as the real one and it should be in range from 1 702 €/ha to 1 981 €/ha. Consequently, the net present value reaches minimal positive values from 0,944 €/ha to 0,058 €/ha. The profitability index reaches also minimal positive values equal to one. Internal return rate is in range from 0.0033 % to 0.0553 %. Modified internal return rate is on level from 1.30 % to 2.50 %. Average profitability is around 1.66 % in commercial companies of Nitra County. Total sum of earnings from operating activity without gross margin is 216,9719 €/ha.

Payback period from the point of view of capital expenditure on the level 2.373 €/ha we cannot quantify because the cumulative sum of depreciation and earning from operating activity is lower than capital expenditure. Modelled capital expenditure was used for formula to quantify the payback period which represents for modelled official prices 1 738 €/ha, 1 702 €/ha and 1 708 €/ha between 8 and 9 years and consequently for other modelled official prices between 9 and 10 years.

Table 9 Payback period of commercial companies in Nitra County

Year/ Indicator	Earning OA	Depre- ciation	Sum	Cumul. sum	CE	Residu- um	Payback period
1.	26,4793	148,9981	175,4774	175,4774	1833	30,2376	9,14
2.	31,1834	163,1371	194,3206	369,7980	1738	150,7148	8,70
3.	30,4921	180,5374	211,0296	580,8276	1702	114,7148	8,53
4.	77,8935	205,4123	283,3058	864,1334	1708	120,7148	8,56
5.	-84,9019	218,7751	133,8732	998,0066	1936	133,2376	9,63
6.	26,7200	186,7000	213,4200	1211,4266	1968	165,2376	9,78
7.	12,7240	169,8000	182,5240	1393,9506	1887	84,2376	9,40
8.	5,1022	188,2324	193,3346	1587,2852	1923	120,2376	9,56
9.	19,3058	196,1714	215,4772	1802,7624	1959	156,2376	9,73
10.	41,9699	171,0021	212,9720	2015,7344	1947	144,2376	9,68

Year/ Indicator	Earning OA	Depre- ciation	Sum	Cumul. sum	CE	Residu- um	Payback period
11.	30,0035	184,7737	214,7772	2230,5116	1981	178,2376	9,84

Source: Own calculation.

4 Conclusion

The soil is important production factor which is linked with the agriculture. The agriculture is one of the most widespread activity in Nitra County area because of its very good natural and climate conditions for growing crops, expand the agricultural production because of the highest volume of arable land (405 743 ha) among all regions of Slovakia. In the paper we dealt with the application of chosen methods of investment decision efficiency by the decision of the companies if to purchase or lease the land. By land lease we found out that the net present value reaches negative results. In order to recommend the investment, the net present value should be at least positive and the amount of capital expenditure should be much lower in Nitra County. By land purchase from the point of view of commercial companies and agricultural cooperatives and in comparison, with calculated results we can say that the amount of the cash incomes increased in commercial companies from 2005 to 2015 and vice versa in agricultural cooperatives decreased to negative value. Net present value reaches in both legal forms of companies' negative value however the lower value are evidenced by the commercial companies. Profitability index is unfavorable – it is lower than 1 in both legal forms. Internal return rate reaches similar trend, the negative values in both legal forms but lower by the commercial companies. Modified internal return rate reaches positive values during all years by commercial companies. Average profitability is higher by commercial companies on the level of 1.66 %. The payback period is on similar level 8-10 years by both legal forms

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