THE INFLUENCE OF FACTORS ON THE COSTS OF DIFFERENT TYPES OF LOANS IN BUSINESS OF AGRICULTURAL FARMS AND MEDIUM-SIZED AGRICULTURAL ENTERPRISES

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ABSTRACT

The application of the use of different types of loans in the real organization of agricultural production in Republic of Serbia was the focus of the authors of the study. The goal of the research was to determine the existence of legality based on the analysis of 7 factors affecting the loans of agricultural farms and medium-sized agricultural enterprises, namely: limit, repayment delay, efficiency, average exchange rate, possibility of repayment, increase in production, currency, as well as the overall score of all analyzed factors as well as the total score. Using the t test (Table 1), the authors found that there are significant differences in the evaluation of all 7 analyzed factors (p<0.0005*). In addition, the authors determined that there are significant differences in the evaluation of the use of three types of loans (p<0.0005*) by agricultural farms and medium-sized agricultural enterprises in the Republic of Serbia.

Keywords:
Influencing factors, bank credit, economy, agricultural enterprises
JEL: G10, K12, G13, G21

Introduction

The organization of agricultural production is increasingly based on a combination of different forms of organization. One of the key factors, i.e. the form of organizing agricultural production, is the organization of it in agricultural farms, which was pointed out by numerous authors in their works, such as (Kovacs, 2021; Kvartiuk & Herzfeld, 2022; Mazumder & Kabir, 2022; Adenauer et al., 2022; Hopewell, 2022).

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The functioning of a real agricultural farm essentially depends on numerous factors. One of the important factors is keeping proper documentation of all business events when organizing agricultural production (Novaković et al., 2018; Kumar & Narayanamoorthy, 2021; Arnautović et al., 2022; Popović et al., 2022; Luković et al., 2023).

The activities that take place at the end of the agricultural production process have their own value, which represents the very meaning of the same organization, which was pointed out by numerous authors in their works, such as (Popović et al., 2018; Finžgar & Brezovnik, 2019; Živković et al., 2019; Assima et al., 2022; Radović et al., 2023).

The real maintenance of the functionality of the economic production sustainability of farming in agricultural farms is in the broader focus of numerous studies, in which the economic justification of production in them is observed from a certain aspect (Popović et al., 2015; Seleka & Mmopelwa, 2020; Vitomir et al., 2020; Uyar et al., 2022). However, it should be emphasized that the result of productive economic activity in agricultural farms is primarily measurable in monetary units, as pointed out by authors such as (Burešova et al., 2020; Lososová & Zdeněk, 2023).

In agricultural holdings, business decision-makers should adapt to the newly created market conditions as soon as possible. Many authors point to such activities and from two aspects. We meet the first in works that focus on the application of internal controls in the organization of agricultural activities, which are engaged in by the agricultural holdings themselves (Popović et al., 2014; Miletić & Radić, 2022; Vitomir et al., 2021).

The owners of agricultural holdings, more precisely the holders of business decision-making in them, should apply a high degree of standardization in their work, which was pointed out by authors such as (Popović et al., 2017), and which essentially should enable the improvement of the economic results achieved in the agricultural holdings themselves.

The observation of business operations in agricultural farms requires the management decision-makers to apply realistic management models in them in order to ensure the achievement of better economic production effects, as pointed out by authors such as (Hoyo et al., 2022; Jakubowska & Sadílek, 2023; Jordan et al., 2023).

The overall success of the organization of agricultural farms can depend to a great extent on the adopted measures of the overall economic policy, which were emphasized in their works by authors such as (Zhang & Colak, 2022), but also on the degree of deeper integration in all sectors of the economy (Wang et al., 2022; Adžić et al., 2022; Xu et al., 2022).

**Theoretical background**

The activities of agricultural farms, especially when they are observed after the end of the production intended for the market, passes into the next phase of the action of the realization of goods, where the real establishment of a credit relationship between the goods intended for the market and other participants increasingly comes to the fore,
which was pointed out by authors such as (Chen et al., 2019). Such an observation can be said to have its own social-credit basis of observation and that in all phases of the movement of goods of agricultural holdings when they enter the market (Chong, 2019), however, the creation of a credit relationship can essentially mean the formation of a cultural dimension between all participants in the market (Colebrooke et al., 2023).

However, the process of bringing out the more valuable products produced by the agricultural economy has another dimension, which is the origin and development of the credit relationship and responsibility, which first of all has its manifestation on the market, as pointed out by an author like (Curzer, 2021), noting that such an observation, first of all, of the credit cycle should be fundamentally evolutionary (Dermineur, 2022).

In addition, it should be pointed out that the widest appreciation of the credit-agricultural commodity relations that have been put on the market comes from observing the Government’s decision-making decisions (Downey, 2023), which have their own implications for agricultural production and therefore also for agricultural farms.

The observation of the creation of credit relations in agriculture should largely be focused on the analysis and study of partial lending (Gurmessa et al., 2022), but with full respect for the establishment of controls on funds and loans that follow agricultural holdings (Popović, 2014; Savić & Milojević, 2022; Hang, 2023), which can greatly affect the formation of the overall picture of the existence of a real credit score (Hearn, 2023).

Overall crediting, which follows the entire system of agricultural production in a country, is based on a full appreciation of the credit risk (Kanazir, 2023), which must be respected especially if the decisions of the state leadership are aimed at achieving real agricultural development (Kumari & Garg, 2023), because based on such an observation, the development of agricultural farms and the realization of their real benefits can be established (Kovacs, 2021).

Organized agricultural production, and thus the organized system of agricultural farms in the chain of monitoring financial results, requires the decision-makers to keep as accurate records of all financial transactions as possible (Lee & Carlisle, 2020), because agricultural farms themselves are also clients of banks (Mésonnier, 2022), and in this way all forms of agricultural production can come to the fore (Oparinde & Olutumise, 2022).

The allocation of loans on all grounds related to agriculture is becoming a reality in market economies, as seen in the study (Paor, 2021), that is, such appreciation of the problem of lending in agriculture should be viewed from the broadest social point of view, because in this way the broadest impact on the mentioned branch of the economy is realized (Nwosu et al., 2023).

Therefore, agricultural production, and therefore its organization in agricultural farms, should respect the reality and perspective of activities in agriculture (Shi et al., 2020), but also of other heterogeneous companies (Wasserman, 2022; Su et al., 2023).
Materials and methods

This study was created by surveying 205 participants, i.e. 152 registered agricultural holdings and 53 medium-sized agricultural enterprises in the Republic of Serbia. The research period included the period July-August 2023. In order to conduct the research, the data obtained by the survey were used in the process of classical statistical data processing through the application of the stages shown in the study.

The aim of the research carried out by the author was to determine the possible differences in the valuation of the owners of agricultural farms and medium-sized agricultural enterprises in relation to three types of loan use (more specific limit, investment loan and use of loans for permanent working capital) i.e. in relation to their operations.

In addition, the authors, based on the evaluation of the owners of agricultural farms and the evaluation of the management of agricultural companies, made a comparison with the obtained amount of costs related to the use of loans from the previous period of operation (the final account from 2022).

The assessment of possible impacts in relation to the type of bank loans on the business of farms was done in a way that has two logical units.

The first unit was made on the basis of seven analyzed factors, namely: on the basis of determining the amount of the loan limit, the possibility of delaying the repayment of the loan, increasing the efficiency of business, the average loan repayment rate, the possibility of repaying the loan debt in installments, increasing production after taking the loan, choosing the currency for repayment credit ratio, as well as the values obtained by the total evaluation of the factors.

The evaluation based on the conducted survey ranged from 1 to 10. The lowest evaluation included weak impact and was given the opportunity to express it with a score of 1, and the most pronounced impact was evaluated with 10.

In the second part, there is a presentation of the business forecast in relation to the costs related to the creation of credit relations from the previous period based on the valuation of the owners of agricultural holdings. After that, the authors gave a presentation of the obtained results, i.e. after the classic statistical analysis.

The research was essentially done in such a way that it was examined whether there is a significant difference in the analysis of the factors of the use of different forms of credit in the business of agricultural farms in relation to owners of agricultural farms and managers of medium-sized agricultural enterprises. The t test of independent samples was used to examine the differences.

Hypotheses

For the purposes of this study, i.e. examining the relationship between the use of credit in relation to agricultural holdings and medium-sized agricultural enterprises, the authors set the following hypotheses.
H:1 That there is no difference in the amount of individually obtained ratings from owners of agricultural holdings and managers of medium-sized agricultural enterprises in relation to the analyzed factors influencing the use of credit, namely: limit, delay in repayment, efficiency, average exchange rate, possibility of repayment, increase in production, currency, as well as total score of all analyzed factors.

H:2 That there is no difference in the relationship between the use of the mentioned forms of credit and the three types of analyzed loans measured by costs, namely: multipurpose limit, investment loan and loan for permanent working capital in agriculture.

Data processing
Statistical data processing and analyzes were performed using IBM SPSS (Statistical Package of Social Science) software version 25. The t test of independent samples was used in the paper to examine the difference between groups. A level of 0.05 was used for the threshold value of significance.

Statistical package SPSS IBM 22.0 was used for data processing. This was done in order to test the hypotheses. The authors used descriptive statistics with cross-tabulation, and from the statistical tests the t-test for independent samples and the t-test for independent samples with Bonferroni correction were used.

Results
The obtained results of the research were done using the t-test of independent samples, i.e. the results of the use of three forms of credit were obtained: multipurpose limit, investment loan and loan for permanent working capital in agriculture in relation to the analyzed factors: limit, repayment delay, efficiency, medium exchange rate, repayment possibilities, increase in production, currency, as well as the total score of all analyzed factors.

The grouping of the study results was done in two units.

Determining the differences in relation to the factors of using different forms of loans in the business of agricultural farms and medium-sized agricultural enterprises
The existence of differences in relation to the analyzed factors of the use of different forms of loans in the business of agricultural farms and medium-sized agricultural enterprises was determined based on the results of the t test.

The obtained results are shown in Table 1 for all 7 analyzed factors as well as for the total evaluation score of the analyzed factors.
Table 1. Differences in relation to the factors of the use of different forms of loans between the operations of agricultural farms and medium-sized agricultural enterprises in the Republic of Serbia

<table>
<thead>
<tr>
<th>Influence factors analyzed</th>
<th>Owners of agricultural holdings (N=152)</th>
<th>Managers of medium-sized agricultural enterprises (N=53)</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Middle value</td>
<td></td>
<td>-----</td>
<td>---------</td>
</tr>
<tr>
<td>Determining the amount of the loan limit</td>
<td>7.54 ± 0.55</td>
<td>6.00 ± 0.73</td>
<td>16.087</td>
<td>&lt;0.0005*</td>
</tr>
<tr>
<td>Loan repayment delay</td>
<td>9.36 ± 0.48</td>
<td>6.26 ± 2.58</td>
<td>8.704</td>
<td>&lt;0.0005*</td>
</tr>
<tr>
<td>Business efficiency</td>
<td>9.53 ± 0.50</td>
<td>9.20 ± 0.84</td>
<td>2.713</td>
<td>0.009*</td>
</tr>
<tr>
<td>Middle course</td>
<td>6.11 ± 0.74</td>
<td>8.00 ± 0.73</td>
<td>-16.000</td>
<td>&lt;0.0005*</td>
</tr>
<tr>
<td>Possibility of installment payments</td>
<td>4.78 ± 0.71</td>
<td>7.73 ± 0.44</td>
<td>-34.973</td>
<td>&lt;0.0005*</td>
</tr>
<tr>
<td>Increase in production</td>
<td>9.17 ± 0.76</td>
<td>9.73 ± 0.44</td>
<td>-6.411</td>
<td>&lt;0.0005*</td>
</tr>
<tr>
<td>Choice of payment currency</td>
<td>2.87 ± 0.73</td>
<td>4.00 ± 0.73</td>
<td>-9.553</td>
<td>&lt;0.0005*</td>
</tr>
<tr>
<td>Total score</td>
<td>49.40 ± 1.79</td>
<td>50.94 ± 2.83</td>
<td>-3.714</td>
<td>&lt;0.0005*</td>
</tr>
</tbody>
</table>

* Statistical significance at the level of 0.05

Source: Authors.

Determining the existence of differences based on the type of loan and loan costs incurred at the end of the previous year

The results obtained in the study, which were obtained based on the determination of differences based on the type of loan and loan costs, which were obtained on the basis of operations and which were obtained at the end of the previous year and which were obtained from the data on the amount of the final bill from 2022, are presented in Table 2.

Table 2. Presentation of the resulting differences in the type of loan and loan costs

<table>
<thead>
<tr>
<th>Analyzed factors</th>
<th>Owners of agricultural holdings (N=152)</th>
<th>Medium-sized agricultural enterprises (N=53)</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Middle value</td>
<td></td>
<td>-----</td>
<td>---------</td>
</tr>
<tr>
<td>Multipurpose limit</td>
<td>9.53 ± 0.66</td>
<td>7.94 ± 0.69</td>
<td>14.910</td>
<td>&lt;0.0005*</td>
</tr>
<tr>
<td>Investment loan</td>
<td>8.37 ± 0.69</td>
<td>9.73 ± 0.44</td>
<td>-16.329</td>
<td>&lt;0.0005*</td>
</tr>
<tr>
<td>Loan for permanent working capital</td>
<td>2.92 ± 0.59</td>
<td>5.52 ± 0.50</td>
<td>-28.608</td>
<td>&lt;0.0005*</td>
</tr>
<tr>
<td>Loan costs from 2022</td>
<td>14.87 ± 1.25</td>
<td>17.79 ± 0.84</td>
<td>-18.943</td>
<td>&lt;0.0005*</td>
</tr>
</tbody>
</table>

* Statistical significance at the level of 0.05

Source: Authors.

Discussion

The results obtained in the study indicate that it can be concluded that there is a statistically significant difference based on all seven analyzed factors of influence, as well as for
the total factor evaluation score in relation to both included groups in the study, i.e. in relation to agricultural holdings and medium-sized agricultural enterprises because the obtained values for all are presented (p<0.0005*), which is given in the presentation of Table 1. The obtained data essentially coincide with the already published works of authors such as (Bjelica et al., 2017; Athari, 2021; Popović et al., 2021).

In addition, the obtained results indicate that the owners of agricultural farms have greater confidence in factors such as: determining the amount of the loan limit, delaying loan repayment and increasing business efficiency, which is in line with the views of the authors (Radović et al., 2021) which are essentially indicated the need for continuous implementation of numerous controls in the processes of business organization.

Managers of medium-sized agricultural enterprises paid more attention to the importance of factors such as: the average exchange rate for borrowed funds through loans, the possibility of repayment in installments, the increase in production itself and the choice of currency. In addition, for both analyzed groups of respondents, the observation of the total score as an important factor of the sum of all analyzed factors applies because the results were obtained (p<0.0005*).

Based on the obtained results, hypothesis 1 can be safely rejected, i.e. there are statistically significant differences for all analyzed factors in terms of the use of different forms of credit and for the total score in the business and organization of agricultural production, especially in the observation of the same in Republika, Serbia (Zelenović et al., 2018).

The results obtained in the second part of the study after the t-test, which are shown in Table 2, are such that they indicate the existence of statistically significant differences for all three types of analyzed loans as well as for loan costs, where owners of agricultural holdings give more confidence to loans that have a multi-purpose limit in agriculture. For all other types of loans and loan costs, managers of medium-sized agricultural enterprises have more confidence in their use.

This indicates the importance of objectively making valid business decisions by decision-makers, which is in line with the already published views of authors such as (Zhang, 2022; Tomas-Miskin et al., 2022; Radović et al., 2023). On the basis of such presentations of the obtained results, hypothesis 2 can be rejected with certainty, that is, there are statistically significant differences based on the use of the type of credit and the costs of credit that arise in the real business of agricultural production.

Conclusions

The study showed that there is a real practical and theoretical importance regarding the study of the use of different types of loans in the organization of agricultural production. In the study, the focus was on the study of two groups of agricultural producers, namely agricultural farms and medium-sized agricultural enterprises in the Republic of Serbia. The obtained results can be grouped into four large groups.
Thus, the first conclusion after the presentation of the results of the study would be that there is a significant difference based on all seven analyzed factors of influence, as well as for the total factor score in relation to the application of lending in agricultural farms and medium-sized agricultural enterprises in the Republic of Serbia.

Another conclusion is that the owners of agricultural farms have more confidence in factors such as: determining the amount of the loan limit, delay in loan repayment and increasing business efficiency.

The third is that the managers of medium-sized agricultural enterprises show greater confidence in factors such as: the average exchange rate for borrowed funds through loans, the possibility of repayment in installments, the increase in production itself and the choice of currency.

The fourth conclusion would be that there are significant differences based on the application of the use of the three types of loans analyzed, as well as the costs incurred on that basis. More precisely, the owners of agricultural holdings give more confidence in the use of loans with a multi-purpose limit, while the managers of medium-sized agricultural enterprises have more confidence in the use of investment loans and loans for permanent working capital in agriculture.

Based on the conclusions presented in the study, it can be pointed out that in the author’s opinion there is full justification in the preparation of this study, and the research itself can be continued by expanding the research focus to a larger number of factors influencing lending in agriculture, that is, the research can be continued in the future other economies on this very important issue for the existence of a large number of participants in agriculture.

Conflict of Interests:

The authors declare no conflicts of interest.

References


29. Luković, M., Pantović, D., Kostić, M., Veljović, S., Bugarić, J. (2023), Food plant diversity in cultural ecosystem services perspective: edible plants as a driver for improving the offer of gastro-tourism, Ecologica, 30 (110), 201-208,


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