

ORGANIZATION OF FINANCIAL MANAGEMENT AIMED AT REDUCING FINANCIAL CRISIS IN THE WORK OF INDIVIDUAL AGRICULTURAL PRODUCERS AND IPARD IN THE REPUBLIC OF SERBIA

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***Abstract:** This study highlights the significance of access to funding as a key mechanism through which the European Union supports the development of specific economic activities in countries aspiring to EU membership. The primary objective was to examine the behavioral patterns of individual agricultural producers in relation to fund financing through the IPARD program, particularly concerning the acquisition of new agricultural machinery. The findings reveal notable differences in the conditions for obtaining IPARD funds, especially with respect to the age of applicants. Additionally, the results indicate that the type of agricultural production also influences producers' decisions to engage in credit arrangements with the program. The practical relevance of these findings lies in emphasizing the role of producers' age in applying for loans aimed at improving the technical conditions of agricultural production, in line with the IPARD-1 measures applicable in the Republic of Serbia.*

Keywords: fund-based financing, financial crisis, IPARD, individual agricultural producers.

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INTRODUCTION

The process of establishing credit relationships through funding mechanisms such as those provided by the European Union should be viewed as a direct interaction between applicants seeking financial support and the authority that sets the public criteria for developing future business activities. This process enables the financing of diverse legal entities engaged in various types of economic activity.

A relatively small number of business owners - both fund users and institutions that set the financing terms - participate in projects funded through such programs. All relevant information about fund-based financing is publicly available online and serves as the foundation for establishing debtor-creditor relationships between the parties involved. Viewed in this context, fund-based financing - such as through the IPARD program - follows a structured format. This type of financing serves as a pre-accession instrument of the European Union, supporting the Republic of Serbia in its integration process with EU member states. It is primarily aimed at developing and strengthening the agricultural sector in candidate countries.

LITERATURE OVERVIEW

Accessing different funds such as the European Union Funds is essentially a direct approach between the participants of the business in connection with financing and future business (Leal et al., 2010; Janda et al., 2014; Caglayan et al., 2021).

Such deals essentially do not require the existence of a large number of unnecessary participants such as intermediaries who can be inserted in future legal and economic deals (Seal et al., 2019; Chen et al., 2021; Eksi et al., 2022).

All relevant information about projects is available in the form of publicly available data on the advertiser's website, and they provide basic information about project financing, both in the Republic of Serbia and in other countries that are involved in fund financing of certain businesses (Kölbl et al., 2023; Harrison et al., 2024).

IPARD fund financing is an instrument of the pre-accession program of the European Union in the process of integration of the Republic of Serbia with EU countries (Manevska-Tasevska et al., 2011; Ramadani et al., 2013; Kourtelis, 2017).

The observation period of I funding towards Serbia in relation to the previously stated IPARD III funding refers to the period 2021-2027 (Erjavec et al., 2020; Šeremešić et al., 2021).

For these programs, the EU countries allocated a substantial amount of 288 million euros for these types of financing, and all participants in this type of financing are required to fulfill certain conditions that are defined in the conditions for publication (Özdamar et al., 2021).

RESEARCH RESULTS AND DISCUSSIONS

The study included the processing of 182 surveyed participants, that is, individual agricultural producers. A survey of 91 participants over the age of 60 was conducted and the same number of participants who were younger than 40, and who depend on agricultural production for their livelihood, were surveyed.

A total of 181 surveyed participants perform their agricultural production in the field of vegetable production. This was done due to the fact that one of the key conditions of IPARD measure 1 - investments in physical assets of agricultural farms is that the classification is done on the participants of the submission of documents who cultivate 50 hectares of grain or grow vegetables on smaller areas due to the nature of the work they are engaged in. Thus, the author's observation was focused on observing the organization of vegetable production in relation to IPARD fund financing.

The research was conducted in the period June-September 2024 in the Republic of Serbia. It analyzed the following factors: the value of the investment in agricultural holdings, the legislation that follows IPARD, the value of incentives, the documentation that follows the process, the expected development potential after receiving the refund.

Respondents could rate each of the mentioned factors in the range of 1-10, with the highest value of an individual factor being 10, and the lowest value of an individual factor being 1.

In the next step of gaining confidence in the study, the authors performed classical statistical processing using the Statistical Package used in social science studies, version 25, so that it would be the basis for the next step in conducting data analysis.

In order to clarify the obtained results, a t-test was used with the aim of determining differences in the age of individual agricultural producers who intend to use IPARD funds to finance the purchase of predominantly agricultural modern machinery with the presentation of the threshold value of significance using a significance level of 0.05.

Evaluation of impact factors in relation to the age of the marketers of IPARD fund assets

The evaluation of the influence factor in relation to the age of the marketers of IPARD funds was observed as a model behaviour of two models of behaviour. Model A included the age of loan applicants up to 40 years of age, and model B included older applicants over 60 years' old who are mainly engaged in semi-precious production.

The results obtained in this way are shown in Table 1.

Table 1. *Evaluation of impact factors through IPARD-1 measures that influence the decision-making of individual agricultural producers*

Factors	Age of individual agricultural producers	Mean	Standard deviation	T-value	p
The value of investment in the property of agricultural farms	A	9.68	0.39	150.130	<0.0005*
	B	2.11	0.30		
Legislation accompanying IPARD	A	9.14	0.34	49.311	<0.0005*
	B	6.81	0.30		
Incentive value	A	5.14	0.35	6.691	<0.0005*
	B	4.80	0.31		
Documentation	A	4.10	0.31	-14.628	<0.0005*
	B	4.81	0.30		
Expected development potentials after receiving the refund	A	9.83	0.38	120.012	<0.0005*
	B	2.99	0.44		

Source: Author, 2024.

The obtained results are compatible with the already stated views of the authors (Radović et al., 2019; Arnautović et al., 2022) who emphasized the importance and importance of making rational business decisions in the management processes of organizing agricultural production. In addition, such views correspond to the already expressed views (Bakmaz et al., 2024; Popović et al., 2024) regarding the connection of the importance of real financing of economic activities, which are fundamentally reflected through the focus of research in this study and strengthen the obtained results of this study.

Presentation of the total differences in the evaluation of the analysed IPARD factors in relation to the age of individual agricultural producers

Below is a presentation of the total differences in the evaluation of the analysed financing factors through IPARD funds in relation to the age of individual agricultural producers engaged in vegetable production.

The results obtained in this way are shown in Table 2.

Table 2. *Presentation of the differences in the valuation of IPARD financing in relation to the age of individual agricultural producers*

	Age of individual agricultural producers	Mean	Standard deviation	T-value	p
Total score	A	7.88	0.31	13.959	<0.0005*
	B	7.31	0.33		

Source: Author, 2024.

Overall, the factors of influence on funding through funds are essentially dependent on the validity of the decision-maker's financial decisions, which is highlighted in the authors' works (Li & Good, 2021; Lutovac & Popović, 2024; Zhao et al., 2024). The presented views can be applied in the organization of agricultural production, especially that which is not covered by classical field crops, but is focused on the example of this study on the study of vegetable production with all its specificities, as well as within the framework of other economic activities (Lekić et al., 2021; Čavlin et al., 2022).

CONCLUSION

The results of the study highlight the critical importance of a correct and informed approach to fund-based financing, particularly as implemented through IPARD in the agricultural sector of the Republic of Serbia. The authors emphasize the need to account for key limiting factors when seeking to enhance agricultural production through such funding. One major consideration is the organizational structure of agricultural operations, which affects eligibility due to unequal financing conditions. Specifically, a requirement for loan applicants is the ownership of at least 50 hectares of land. Another influential factor is the age of the applicant, which was identified as significantly affecting access to funding. By adhering to these two criteria - land ownership and applicant age - applicants can significantly increase their chances of securing stable financing through the IPARD program, which serves as a key development instrument for Serbian agriculture.

CONFLICT OF INTEREST

None is declared.

REFERENCES

1. Arnautović, I., Davidov, T., Nastić, S., Popović, S. (2022). Značaj donošenja racionalne poslovne odluke top menadžmenta u poljoprivrednim preduzećima u Republici Srbiji, *Poljoprivredna tehnika*, 47(3), 1-8. <https://doi.org/10.5937/PoljTeh2203001A>
2. Bakmaz, O., Dragosavac, M., Brakus, A., Radaković, M., Arnautović, I., Samardžić, V., Krstajić, G. & Popović, S. (2024). Financial security and invoicing in management of public enterprises whose founders are local self-government units, example Republic of Serbia, *Lex localis-Journal of Local Self-Government*, 22:2, 198-218 DOI: [https://doi.org/10.52152/22.2.198-219\(2024\)](https://doi.org/10.52152/22.2.198-219(2024))
3. Caglayan, M. O., Celiker, U., & Sonaer, G. (2021). Industry herding by hedge funds. *The European Journal of Finance*, 27(18), 1887-1907. Available at: <https://doi.org/10.1080/1351847X.2021.1918206>
4. Chen, X., Weber, O., Song, X., & Li, L. (2021). Do greener funds perform better? An analysis of open-end equity funds in China.

Journal of Sustainable Finance & Investment, 13(1), 387–405. Available at: <https://doi.org/10.1080/20430795.2021.1964808>

5. Čavlin, M., Vapa-Tankosić, J., Mirković, Z. (2022). Analiza faktora finansijske i profitne pozicije u funkciji integrisanog upravljanja rizicima u sektoru rudarstva, *Ekonomija - teorija i praksa*, 15(3), 56-73. <https://doi.org/10.5937/etp2203056C>
6. Eksi, A., & Kazemi, H. (2022). Hedged Mutual Funds and Competition for Sources of Alpha. *Financial Analysts Journal*, 78(3), 70–93. Available at: <https://doi.org/10.1080/0015198X.2022.2065870>
7. Erjavec, E., Volk, T., Rednak, M., Ciaian, P., & Lazdinis, M. (2020). Agricultural policies and European Union accession processes in the Western Balkans: aspirations versus reality. *Eurasian Geography and Economics*, 62(1), 46–75. Available at: <https://doi.org/10.1080/15387216.2020.1756886>
8. Harrison, T., Ledezma, K., Morgan, M., & Morgan, J. (2024). The language of submission: a four-way duoethnography exploring translanguaging pedagogy with carceral students' funds of knowledge and funds of identity. *Innovation in Language Learning and Teaching*, 18(3), 237–252. Available at: <https://doi.org/10.1080/17501229.2024.2311840>
9. Janda, K., Rausser, G., & Svárovská, B. (2014). Can investment in microfinance funds improve risk-return characteristics of a portfolio? *Technological and Economic Development of Economy*, 20(4), 673–695. Available at: <https://doi.org/10.3846/20294913.2014.869514>
10. Kölbl, J., Srivastava, M., & Tyll, L. (2023). The Value of Active Management in Equity Mutual Funds: A Case of Mutual Funds Distributed in the Czech Republic. *Journal of East-West Business*, 30(2), 178–218. Available at: <https://doi.org/10.1080/10669868.2023.2292789>
11. Kourtelis, C. (2017). (Not) Learning from the Past? The Diffusion of the EU's Rural Development Policy in its Neighbouring Countries. *Journal of Balkan and Near Eastern Studies*, 21(2), 234–250. Available at: <https://doi.org/10.1080/19448953.2017.1367586>
12. Leal, R. P. C., & Mendes, B. V. de M. (2010). The Risk-Return Relationship of Pension Funds with Investments in Hedge Funds. *Latin American Business Review*, 11(2), 141–169. <https://doi.org/10.1080/10978526.2010.496307>

13. Lekić , N., Vukosavljević D., Vapa-Tankosić, J., Lekić, S., Mandić, S. (2021). Uticaj motivacionih faktora na organizacionu posvećenost zaposlenih u bankama, *Ekonomija –teorija i praksa*, 14 (1), 1-22. <https://doi.org/10.5937/etp2101001L>
14. Li, J., Huddleston, P., & Good, L. (2021). Financial constraints and financing decision in cross-border mergers & acquisitions: evidence from the U.S. retail sector. *The International Review of Retail Distribution and Consumer Research*, 31(4), 411–431. <https://doi.org/10.1080/09593969.2021.1923550>
15. Lutovac, J. & Popović, S. (2024). Innovative business in the banking system example of the Republic of Serbia, IV. International Architectural Sciences and Applications Symposium May 30-31, 1-6, Girne-Turkish Republic of Northern Cyprus <https://www.iarcsas.org/>
16. Manevska-Tasevska, G., Hansson, H., & Latruffe, L. (2011). Evaluating the potential effectiveness of rural development programme targets on farms in FYR Macedonia – An efficiency study of grape-growing family farms. *Acta Agriculturae Scandinavica, Section C — Food Economics*, 8(3), 161–172. Available at: <https://doi.org/10.1080/16507541.2011.637734>
17. Özdamar, Ö., Yavuzaslan, K., Giovanis, E., & Bahçeci, C. (2021). The effect of the Regional Competitiveness Operational Programme on employment: an empirical assessment for the Central Anatolia region of Turkey. *Eurasian Geography and Economics*, 63(5), 571–598. Available at: <https://doi.org/10.1080/15387216.2021.1939085>
Popović, S., Andelić, S., Dragosavac, M., Bakmaz, O., Nastić, S., Popović, D., Tubić, M. & Grublješić, Ž. (2024). Ocena vlasnika poljoprivrednih gazdinstava po pitanju primene softvera u poslovanju, sa ciljem unapređenja upravljanja, *Agricultural Engineering*, No. 49(2)1-6, 1-1, <http://dx.doi.org/10.5937/PoljTeh2402001P>
18. Radović, M., Vitomir, J., Laban, B., Jovin, S., Nastić, S., Popović, V. & Popović S. (2019). Management of joint stock companies and farms by using fair value of agricultural equipment in financial statements on the example of IMT 533 Tractor, *Economics of Agriculture*, 66(1): 35-50. DOI: <https://doi.org/10.5937/ekoPolj1901035R>
19. Ramadani, V., Gërguri, S., Rexhepi, G., & Abduli, S. (2013). Innovation and Economic Development: The Case of FYR of Macedonia. *Journal*

of Balkan and Near Eastern Studies, 15(3), 324–345. Available at: <https://doi.org/10.1080/19448953.2013.789326>

20. Seal, J. K., Paul, A., & Yang, Z. (2019). Does direct-sold funds provide a sizeable edge to investors? Evidences from selected mutual funds in India. *Cogent Economics & Finance*, 7(1).
<https://doi.org/10.1080/23322039.2019.1612573>

21. Šeremešić, S., Jovović, Z., Jug, D., Đikic, M., Doljanović, Ž., Bavec, F., ... Jug, I. (2021). Agroecology in the West Balkans: pathway of development and future perspectives. *Agroecology and Sustainable Food Systems*, 45(8), 1213–1245.
<https://doi.org/10.1080/21683565.2021.1913464>

22. Zhao, Q., Su, C. W., Gabriel Pirtea, M., & Costea, F. (2024). Is technological innovation a push for trade friction? *Economic Research-Ekonomska istraživanja*, 37(1).
<https://doi.org/10.1080/1331677X.2023.2170901>

ORGANIZACIJA FINANSIJSKOG UPRAVLJANJA U CILJU SMANJENJA FINANSIJSKE KRIZE U RADU INDIVIDUALNIH POLJOPRIVREDNIH PROIZVOĐAČA I IPARD-a U REPUBLICI SRBIJI

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Sažetak: U studiji dat je prikaz značaja pristupanja fondovima, pomoću kojih Evropska unija utiče na razvoj pojedinih privrednih delatnosti u zemljama koje teže da se priključe EU. Cilj rada bio je da otkrije model ponašanja individualnih poljoprivrednih proizvođača u interakciji sa fondovskim finansiranjem preko IPARDA-a, a sve u vezi nabavke pretežno nove poljoprivredne mehanizacije. Dobijeni rezultati u studiji prikazuju postojanje značajnih razlike u vezi uslova dobijanja sredstava od strane IPARD-a, pogotovo u odnosu na starost individualnih poljoprivrednih proizvođača koji apliciraju kod pomemutog fonda. Osim toga, rezultati prikazuju da postoje i razlike, poput uticaja vrste poljoprivredne proizvodnje koja utiče na

Ključne reči: finansijske pravne forme fondova, finansijska kriza, IPARD, individualni poljoprivredni proizvodač.

oprdelejene ulaska u kreditni odrus sa pomenu tim fondom. Prakticna primena dobijenih rezultata u ovom studiju ogleda se u isticaju varznošt i starosti individualnih poljoprivrednih proizvodača koji optičešanu za kreditnim sredstvima u cilju napredovanja tehniki u slavu za obavljanje poljoprivredne proizvodnje u odnosu na IPARD-1 mre, a kose se mogu primeniti u Republici Srbiji.