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Preliminary statement

THE FINANCIAL SECURITY OF SMALL- AND MEDIUM-SIZED ENTERPRISES IN POLAND

The original contribution of this article resides in the studies carried out by the Author indicating that a 1% increase in the profit on sales, against the unaltered remaining financing funds, is connected with a 0.76% increase in the EU fund for support of market and capital. Against the EU operational fund, the profit on sales proves negative (-0.631). Viewed in the context of the literature indicating certain difficulties in the determination of the financial security category, the impact of technologies and procedures, the impact of unique resources, the increase of entrepreneurial orientation, and access to EU funding, the present research fills the gap in terms of the determination of the regressive relation between the profit on sales on the one hand, and the EU fund for the support of the market and capital and the EU operational fund on the other. The regressive relation is expressed by flexibility coefficients (parameters) of the power function (model). They contribute to the economic literature with their empirical model based on the Cobb-Douglas power function, whilst the model contributes to the theory related to the financial security of enterprises (model = theory). The principal research tool used in the present study is the Cobb-Douglas power model used to examine the regressive dependency of profit on sales upon the EU operational fund and the EU fund for support of the market and capital as for the years 2014–2020. The model has also been used to calculate the marginal and average profitability for the aforesaid funds as measures of the efficiency of

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their financial security with small- and medium-sized enterprises in Poland. Moreover, the market/capital support fund remains within the sound management zone of the enterprises under research.

Keywords: ROS (profit margin/return on sales); financial safety/security; EU funds/funding; SMSE (small and medium sale enterprise); model.

1. Introduction

Finance consists today of monetary or pecuniary phenomena, in their generality, occurring in economic and social activities performed by man. Seeking sources of funding is part of financial science, the management of enterprise finance being its special part. Enterprise finance management enables enterprises to earn a real surplus that depicts their factual ability to generate profit. The economic content of finance is delivered through, and by means of, an association of financial phenomena and processes with the real sphere of the economy. Finance is (inter)related with pecuniary/monetary relations occurring as part, and in the course, of business transactions, or in transacting in money itself. Finance may be considered in its subject-related and object-related aspects, the former having to do with entities entering into financial relations(ship)s, and the other concerning the type of transaction.

In our day, of paramount importance amongst the financial functions seems to be the one that alleviates the course of the business cycle and is responsible for sustainable economic growth at a relatively permanent employment rate. Also, the function of profit, which determines the economic progress in the operation of an enterprise, constitutes a criterion in defining a rational structure of production, and a reasonable costs-and-expenses structure. This criterion points to the instrumental role of the category of profit in enterprise management.

Poland is to see the most significant growth in EU funding-based expenditure in the area of innovation in mini-, small- and medium-sized enterprises in the years 2014–2020. This is an important point, since with the competition growing ever stronger, particularly in small and medium enterprises, financial security and safety ranks among the highest priorities.

The present study seeks to verify the regressive dependencies of profit from sales upon the EU operational fund and the EU fund supporting the market and capital (equity) in mini-, small- and medium-sized enterprises in Poland in 2014 to 2020. It moreover seeks to indicate the marginal and average profitability for the EU funding under study that is responsible for the enterprises' financial security.

The research in question has been based upon the hypothesis whereby the EU fund supporting the market and capital, being a financial instrument supporting the operation of enterprises in the market and for their capital/equity, has supported increased profit on sales in the enterprises concerned.

Section 2 reviews the literature on capital/equity management and how it impacts the collective generation of profit. Section 3 deals with the research methodology applied. An econometric analysis and its discussion comprise section 4. Lastly, section 5 proposes some conclusions.

2. Literature review

Financial endangerment is a vague and dynamic category that is not easy to unequivocally quantify. This observation has been confirmed through empirical studies in enterprise finance, such as, *inter alia*, Kropp & Katchova (2011) Cheng, Su & Li (2006); Dahiya, Saunders & Srinivasan (2003); and Rujoub, Cook & Hay (1995). The influence of technical/technological abilities, high-level management procedures, improved organisational characteristics, innovative capabilities, and defined competencies all form the basis for diversified rivalry between enterprises whilst also setting the potential profit levels. However, the growth taking place opens a new opportunity to foster increasing productivity/output and profit through diverse types of investment and scale of production (Bottazzi, Secchi & Tamagn, 2008).

In the case of very poor results achieved by business entities, access to EU funding proves to be of importance (Hill, 2012). EU funds can materially stabilise the profit on sales given the turbulent changes in the market situation (Platt & Platt, 2006). The funds become responsible for financial security whilst not determining the market-related decisions, as evidenced by Goodwin & Mishra (2006). This is important, since the research of Koráb & Pomênková (2014) has revealed the asymmetric impact of the financial crisis affecting the efficient provision of external funding. For a change, enterprises that use technological clusters may achieve higher output and be more capable of responding to economic depression compared to others (Janecek, Hynek & Skalská, 2014). These issues form part of a group of variables reflected in the enterprise's profit-and-loss account. The actual responsibility of small and medium enterprises is one of the main sources of their external finance, particularly in regard to the difficulties they tend to face as far as long-term funding is concerned (Petersen & Rajan, 1997). This is indicative of the fact that efficient capital management activity is of particular importance for smaller-sized enterprises (Peel & Wilson, 1996). Also, trade credit/commer-

cial loans are a spontaneous source of financing that diminishes the amount of the required funding (Garcia-Teruel & Martinez-Solano, 2007). Financing from suppliers may imply quite a high hidden cost if payment discounts are taken into account. The cost of such special offers may even exceed 20%, depending on the percentage rate and period of discount (Winer, 2000; Ng, Smith & Smith, 1999). However, the occurrence of unique structural features is an important indicator of the enterprise's strategic results (Kettinger et al., 1994). The researchers place emphasis on the strategic benefit and the necessity to generate sustained competitive benefits (profits). Mosakowski & Mckelvey (1997) point out that a unique resource and its impact on the operations and profit is correlated with the so-called intermediate result, such as the quality-enhancing feature of a product or more time-efficient handling, translating into the level of profit earned.

There is no reason to choose between cash flows and profits. These measures are important and, certainly, any investor that focuses on profit will benefit on analysis of cash flows when applied to his/her investment-project evaluation methods (Forsythe, 2006). The profit and cash-flow data reflect the different phenomena with respect to the outcomes of the operations pursued whilst offering no perfect substitutes as far as signals given to market players are concerned (Watson & Wells, 2005).

The dimension of innovation in the entrepreneurial orientation points to the trends, new ideas, and creative processes that take the realities and technologies into account (Lupkin & Dess, 1996). The relationship between entrepreneurial orientation and small business is alleviated through access to financial capital. Small business sees a development within the confines of entrepreneurial orientation, the development appearing faster for enterprises with access to financial capital (Wiklund & Shepherd, 2005). Entrepreneurial orientation has a stronger association in low-technology industries than in high-technology industries. Entrepreneurial orientation may yield more of the differentiation mechanism for enterprises operating in less favourable conditions (Burt, Gabbay, Holt & Moran, 1994).

The review of selected relevant literature points out the difficulties occurring when it comes to determining 'financial security', as this category proves to be unsettled, dynamic, and difficult to quantify. Research into technologies and procedures has identified an innovative capacity of defining competencies in terms of sources of competition or rivalry, and setting the level of profit. This, in turn, indicates the type of investment and scale of production. The literature review also points to the use of unique resources as a means of protection, and their influence on operations and profit, thereby identifying an indirect impact on the product's characteristic trait and increase of the product's quality. The research dealt with in the literature finds that faster funding tends to enhance the growth and development of small businesses and stimulates entrepreneurial orientation. The existing

studies refer to access to the EU funds that stabilise the profit on sales in changing market circumstances; rather than determining market decisions, these funds restrict the asymmetric influence of an economic crisis. However, the research has hitherto not extended to the impact of specified EU funds on the financial security of enterprises. This gap is presently filled by the research outcome discussed in this article. Apart from a contribution to the financial security theory (model = theory), the research in question determines the effectiveness of the financial security of the specified EU funds and the directions of their implementation in Poland's economy.

3. Research methodology

The basic function for which profit is responsible is its serving as the foundation for the enterprise to survive and develop. Profit, moreover, helps evaluate the delivery of the rational management principle in the decision-making process and in cost centres. The function of profit is fundamental to the assessment of the economic progress of all activities/operations and the criterion in defining the rational or reasonable structure of production as well as costs-and-expenses in the enterprise's management. Profits on sales, being the surplus of revenue from sale over the cost of such revenue (allowable expense/tax-deductible cost, in fiscal terms) is the most popularly applied measure of an enterprise's development. An identical profit on sales is attainable at varied levels of the implementation of the resources and the relation(s) between them, as well as at different volumes of economic activity (business operations).

An enterprise's profit on sales (trading profit) is conditional upon the conditions of sales, the actual cost of sales, and the variability of the revenue from sales. The degree at which the trading profit is realised determines the total corporate value or goodwill, and is the internal source of its financing and development. It is legitimate to infer that the developmental opportunities of the set of enterprises under research can be described in terms of proportionality (Brant, 1990).

The econometric verification encompasses the research into the level and trends in the altering gains on sales, and identification of the influence of the EU funding forming the financial security under the market conditions in which the concerned enterprises operate between 2014 and 2020.

All the relevant empirical variables used in the model, such as financial funds (incl. profit), are discrete random variables, and form a finite universe (the whole of Poland) and empirical curves of regression. Such curves depict the (inter)dependencies between the features or characteristics, in terms of the manner in which

the values of the two features concerned tend to associate. This renders legitimate the use of the Cobb-Douglas curvilinear power regression in identifying the regressive dependence of profit on sales upon the EU operational fund and the EU fund for support of the market and capital (equity) in mini-, small- and medium-sized enterprises in the period 2014–2020.

The empirical variables for the Cobb-Douglas model have been selected using a logarithmic correlation coefficient matrix. The variables for the model have been chosen based upon the rule of strong correlation between the independent variable and the dependent variable against a weak correlation between the independent variables. The numerical calculations have been made using the SPSS program.

4. Results and discussion

The research has focused on sets of empirical data related to enterprises and the two EU financial funds across the regions (province) of Poland in the year 2014 and in the years 2014–2020; $N=16$.

The financial security of enterprises has been researched using the Cobb-Douglas curvilinear power regression model. Enterprises that generate quite weak outputs may gain support from EU funding (Hill, 2012).

The financial security system referred to as the enterprise financial security network is a complex one as it encompasses indirect elements of financial security, such as the detached EU operational fund, which is production-oriented and meant to address the actual marketplace needs. Such a fund ensures stability and increased profit on sales in case of rapid changes occurring in the market, or elemental disasters. Intermediate detached financial security is guaranteed under EU funding by way of supporting the market and capital/equity.

The linear correlation (Pearson correlation) of the profit-on-sales variable and the EU-operational-fund variable equals 0.416, the corresponding result for the EU market-and-capital support fund being 0.768, the bilateral significance of the correlation being 0.01. The correlation between the EU market-and-capital support fund and the profit on sales is almost twice the figure. The correlation between the EU operational fund and the EU market-and-capital support fund equals 0.757, the bilateral significance being 0.01. The correlations in question prove that the rule of higher correlation with the profit on sales compared to inter-fund correlation (using independent variables) is met for the EU market-and-capital support fund but is not met for the EU operational fund. Aczel (1989 and 1993) presents the methods

for the selection of the explanatory (independent) variables, in the description of which this author points to two important criteria for the selection of explanatory variables such as the increasing value of the (adjusted) determination coefficient R^2 and the admissible level of significance within the range of 0.00–0.05, which determines the admissible entry of an explanatory variable in the model. The above-discussed criteria are satisfied by the estimated Cobb-Douglas regression model, which in parallel satisfies the quality criteria as good regression (Table 2).

Table 1.

PARAMETERS OF VARIABLE CHARACTERISTICS IN PROVINCES AND
 IN MICRO-, SMALL- AND MEDIUM-SIZED ENTERPRISES (SMES) IN
 POLAND IN 2014 AND 2014-2020

Specification	Unit of measurement	Symbol	Arithmetic mean	Range min.-max.	Variation coefficient %
Profit on sales in 2014	PLN million	Y3	77959.5	50218.6-267224.3	67.9
EU operational fund in 2014-2020	EUR million	x2	1952.9	906.1-3473.6	34.7
European fund for supporting markets and capital in 2014-2020	EUR million	x3	143.7	45.3-484.2	80.5

Source: Author’s calculations

The data detailed in Table 1 imply that the reach of the profit on sales (Y3) reflects its diversity by region (province) *and* enterprise. Based on a comparison of the internal variability of the sets under research, the profit on sales appears indirectly diverse between the variables (funds) as far as distribution of the feature is concerned. The diversity of the distributed feature is the least for the EU operational fund in regions and enterprises. A more than 2.3-fold higher diversity of the distributed feature compared to the least-sized item under research proves to be the case with the EU fund for market and capital support, which tells us that this particular fund has the values of the features of its units (elements) most dispersed around the average. It may be supposed that the role of this particular variable in the shaping of the profit on sales will be the major one.

The curvilinear dependence for the variables under research is broken down in Table 2.

Table 2.

POWER REGRESSION OF PROFIT ON SALES (Y3) ON THE EU
OPERATIONAL FUND (X2), AND THE EU FUND FOR SUPPORTING
MARKETS AND CAPITAL (X3) IN 2014-2020.

a*	Regression coefficient		Standard error			Test t			Corrected R ²
	x2	x3	a	x2	x3	a	x2	x3	
221016.3	-0.631	0.761	1.00	0.17	0.09	12.3	-3.7	8.6	0.86

Note: a* – delogarithmised absolute term.

The significance level is = 0.00.

Source: Author's calculations

The data specified in Table 2 provide information on a regressive dependency on the profit from sales (Y3) upon the EU operational fund (x2) and the EU fund supporting the market and capital (x3) as responsible for the enterprises' financial security. The variables (x2 and x3) explain the variable profits on sales at 86%. With the determination coefficient (R²) in excess of 0.90, quite a reliable explanation is offered for the financial security of enterprises (Neumark, Tinsley & Tosini, 1991). Also, the higher the R², the better the matching with the empirical data and the higher the reliability of the regression model. The strength of the association, expressed in terms of the coefficient of multiple correlation (R) between profit on sales and the EU operational fund/EU market-and-capital support fund, as a positive square root of R², equals 92.74%. The standard errors of the regression coefficients (parameters) are below 50% of their respective absolute values. The absolute values of the t test are, in turn, a few-fold higher than the regression coefficient values, the significance of all the regression coefficients equalling 0.00. The above statistical evaluations of the regression coefficients (parameters) authorise the carrying out of an econometric analysis.

The regression coefficients, the parameters of the function at x2 and x3, determine the flexibility (flexibility coefficients) of profit on sales (Y3) versus the EU funds (x2 and x3) (financial security). As Solow (1956) explains, they are the flexibility of Y3 with respect to x2 and x3; the marginal distribution theory by J.B. Clark has it that they form the shares of EU funds (x2 and x3) relative to the profits of sales for the enterprises.

The flexibility of profit on sales (Table 2) performs the highest related to the EU fund for the support of the market and capital (0.761). This flexibility indicates a less-than-proportional dependence that encompasses 76% of the potential flexibility

which equals 1. The above flexibility coefficient expresses the relationship between a relative change in the profit on sales and the relative change in the EU market-and-capital support fund, which causes the former change. What this means is that a 1% increase in the profit on sales, against the other financial funds remaining unaltered, is connected with a 0.76% growth in the EU market-and-capital support fund. The flexibility of the profit on sales against the EU operational fund is negative (-0.631).

Smith & Begermann (1997) have found that the actual activities/operations tend to bifurcate through the flows of funding, and a negative relation appears with respect to the profit on sales in enterprises. Owing to the object of EU funding, financial security gets bifurcated through the diverse functions performed by the funds. While the operational fund is internal, the market-and-capital support fund is external to the functioning of enterprises. The decision to implement the market-and-capital support fund is informed by the enterprise's particular environment (Rostásová & Chrenková, 2010).

The inclusion of absolute analysis in the research calls for the determination, within the reach of variability of EU funding, of the corresponding profit on sales as for 2014. This will allow for defining the marginal and average profitability of the implemented funds, individually, for the enterprises for the period 2014 to 2020. The marginal and the average profitability are reciprocally proportional due to a permanent flexibility of the profit on sales with respect to the operational fund and the market-and-capital support fund in the enterprises. The marginal and average profitability for the EU operational fund is detailed in Table 3.

Table 3.

MARGINAL AND AVERAGE PROFITABILITY OF THE EU OERATIONAL FUND IN 2014-2020

Profit on sales (Y3) in PLN million	EU operational fund (x2) in EUR million	Profitability:	
		average PLN/ EUR	marginal PLN/ EUR
110707.65	1196.10	92.56	-58.40
96535.40	1486.10	64.96	-40.99
86265.07	1776.10	48.57	-30.65
78413.06	2066.10	37.95	-23.95
72176.31	2356.10	30.63	-19.33
67078.66	2646.10	25.35	-16.00
62818.20	2936.10	21.40	-13.50
59193.39	3226.10	18.35	-11.58

Source: own calculations based on the data in Tables 1 and 2.

Within the reach of the EU operational fund (table 3), the marginal profitability proves negative and implies a decrease in the average profitability, alongside dropping profit on sales, in the enterprises. These changes take place within the zone of absolutely irrational management, which points to the need to enter a higher level of production isoquant and replaceability of the factors' resources (the zone being the input one), which leads to altered profitability of the EU fund's application with the enterprises in 2014 to 2020. It needs to be added that the operational fund may be raised to support investment in new plant/machinery, increased energy efficiency, renewable sources of energy, information technologies, research and development, and cooperation with science – these being areas of support related to the production/manufacturing process and the resulting product.

Table 4.

MARGINAL PROFITABILITY AND AVERAGE PROFITABILITY OF THE EU FUND FOR SUPPORTING MARKETS AND CAPITAL IN 2014-2020

Profit on sales (Y3) in PLN million	EU fund for supporting markets and capital (x3), in EUR million	Profitability:	
		average PLN/ EUR	marginal PLN/ EUR
59442.21	95.30	623.74	474.66
81938.75	145.30	563.93	429.15
102619.44	195.30	525.45	399.86
122057.66	245.30	497.59	378.66
140564.52	295.30	476.01	362.24
158333.50	345.30	458.54	348.95
175495.72	395.30	443.96	337.85
192145.37	445.30	431.50	328.37

Source: own calculations based on the data in Tables 1 and 2.

Within the reach of the EU fund for the support of the market and capital (Table 4), the marginal profitability tends to decrease, also causing a decrease in the average profitability, though at a slower pace; the profit from sales tends to grow, in turn. These alterations are observable within the enterprises' rational management zone. This is evidence that the fund for supporting the market and capital/equity, first developed by the EU in order to provide financing in the period 2014 to 2020, is an apt and efficient solution, designed to increase the fund's profitability within the enterprise. The fund is actually the major support in the enterprises' financial security.

Table 5.

AVERAGE GROWTH RATE IN THE RANGE OF VARIABILITY: PROFIT ON SALES (Y3), FINANCIAL FUNDS (X2 AND X3), AND THE AVERAGE AND MARGINAL FINANCIAL SECURITY OF ENTERPRISES, %

Specification	% of Table 3	% of Table 4
Profit on sale (Y3)	-8.56	18.25
Increase in the financial operational fund (x2)	15.23	
Increase in the financial fund for supporting markets and capital (x3)		24.64
Profitability:		
- average	-20.64	-5.13
- marginal	-20.64	-5.13

Source: data from Tables 3, 4. Calculations made using dynamics based on variable and geometric mean.

The profit on sales bulk (Table 5) forms the partial objective based on the enterprise's diverse activities or operations. The mean pace of increase of profit on sales (18%) in the enterprises will be ensured by the fund supporting the market and capital (25%), and the implementation of the EU operational fund remains a must (15%). An appropriate relation in the application of the EU funds in question in the enterprises under study will also be necessary.

5. Conclusion

The research under discussion has confirmed the hypothesis whereby the EU fund for the support of the market and capital, being a financial instrument devised to support the activities/operations of enterprises in the marketplace and in the area of capital or equity, will inform the profit on sales whilst also constituting the enterprises' important financial security. The use of the fund in the financing of mini-, small- and medium-sized enterprises will remain within the zone of the rational management of Poland's enterprises in the years 2014–2020. What this attests to is that the fund, developed by the EU for the first time, will be pertinent and efficient, and its application will translate into the increased profitability of the enterprises concerned. The fund will materially increase the mass of profit, supported to this end by the operational fund in the enterprises. The market/capital

support fund is, moreover, causative to profit on sales, and hence shall be an essential stabilising factor of the latter in the enterprises. The research discussed herein makes a contribution to the economic literature as it builds an empirical model based on the Cobb-Douglas power function. Specifically, the model significantly contributes to the theory of the financial security of enterprises. The model in itself equals the theory. Since the EU funds in question fulfil different (internal/external) functions in the enterprises, a negative relation with the profit on sales has consequently occurred. Another consequence was the bifurcated flows of these funds in the enterprises' operations. A high linear (directional) correlation has also appeared between the funds. This poses problems with regard to the funds' actual role in the enterprises. Research conducted in the future can be limited to the specific region (province) or industry sector, thus possibly helping set new models that will potentially contribute to an indication of enterprises' financial security policy orientations in Poland. The author intends to continue the research on EU funding responsible for financial safety/security, with the use of other dependent variables, for small- and medium-sized enterprises in Poland.

References

- Aczel, A.D. (1989 and 1993). *Complete Business Statistics*, Second Edition, Irwin, Burr Ridge, Illinois.
- Bottazzi, G., Secchi, A., & Tamagn, F. (2008). „Productivity, profitability and financial performance”. *Industrial and Corporate Change*, (17), 4: 711-751.
- Brant, R. (1990). „Assessing proportionality in the proportional odda model for ordinal logistic regression”. *Biometrics*, (46), 4: 1171-1178.
- Burt, R.S., Gabbay, S.M., Holt, G., & Moran, P. (1994). „Contigent organization as a Network theory: the culture – performance contingency function”, *Acta Sociol.*, (37), 4: 345-370.
- Cheng, W.Y. Su, E., & Li, S.J. (2006). „A Financial Distress Pre-Warning Study by Fuzzy Regression Model of TSE-Listed Companies”. *Asian Academy of Management Journal of Accounting and Finance*, (2), 2: 75-93.
- Dahiya, S., Saunders, A., & Srinivasan, A. (2003). „Financial distress and bank lending relationships”, *Journal of Finance*, (58), 1: 375-399.
- Forsythe, G. (2006). Cash Flow vs. Earnings: Which is More Meaningful? CFA, Senior Vice President, Schwab Equity Ratings, September 18, http://www.schwab.com/public/schwab/research-strategis/market_insight_insight/investing.
- Garcia-Teruel, P.J., & Martinez-Solano, P. (2007). „Effects of working capital management on SME Profitability”. *International Journal of Managerial Finance*, (3), 2:164-177.

- Goodwin, B. K., & Mishra, A. K. (2006). „Are „decoupled” farm program payment really decoupled? An empirical evaluation”, *American Journal of Agricultural Economics*, (88), 1: 73-89.
- Hill, B. (2012). *Understanding the Common Agricultural Policy*. Earthscan, Milton Park, Abingdon, Oxon, New York.
- Janecek, V., Hynek, J., & Skalská, H. (2014). „Clusters of Advanced Technologies as Possible Factors of Firm Efficiency”, *Ekonomický časopis/ Journal of Economics*, (62), 9: 959-974.
- Kettinger, W.J., Grover, V., Guha, S., & Segars, A.H. (1994). „Strategic information systems revisited: a study in sustainability and performance”, *MIS Quarterly*, (18), 1:31-58.
- Koráb, P., & Poměnková, J. (2014). „Financial Crisis and Financing Constraints of SMEs in Visegrad Countries”. *Ekonomický časopis/ Journal of Economics*, (62), 9: 887-902.
- Kropp, J.D., & Katchova, A.L. (2011). „The effects of direct payments on liquidity and repayment capacity of beginning farmers”, *Agricultural Finance Review*, (71), 3: 347-365.
- Lumpkin, G.T., & Dess, G.G. (1996). „Clarifying the entrepreneurial orientation construct and linking it to performance”. *Academy Management Review*, (21), 1: 135-172.
- Mosakowski, E., & McKelvey, B. (1997). *Predicting rent generation in competencebased competition*. In: Heene A, Sanchez R, editors. *Competence-based strategic management*. Chichester: Wiley, 65–88.
- Neumark, D, Tinsley, P.A., & Tisini, S. (1991). „After – Hours Stock Prices and Post – Crash Hangovers”, *Journal of Finance*, (46), 1: 159-178.
- Ng, C.K., Smith, J.K., & Smith, R.L. (1999). „Evidence on the Determinants of Credit Terms Used in Interfirm Trade”, *Journal of Finance*, (54), 3: 1109-1129.
- Peel, M., & Wilson, N. (1996). „Working Capital and Financial Management Practices in the Small Firm Sector”, *International Small Business Journal*, (14), 2:52-68.
- Petersen, M.A., & Rajan, R.G. (1997). „Trade Credit: Theories and Evidence”, *Review of Financial Studies*, (10), 3: 661-691.
- Platt, H.D., & Platt, M.B. (2006). „Comparing Financial Distress and Bankruptcy”. *Review of Applied Economics*, (2), 2: 141-157,
- Rostášová, M., & Chrenková, A. (2010). “ Potential of postal operators in logistics”. *Logistika*, 2: 316.
- Rujoub, M.A., Cook, D.M., & Hay, L.E. (1995). „Using Cash Flow Ratio to Predict Business Failures”. *Journal of Managerial Issues*, (7), 1: 47-72.
- Solow, R. (1956). “A Contribution to the Theory of Economic Growth”. *Quarterly Journal of Economics*, (70), 1: 65-94.
- Smith, M.B., & Begemann, E. (1997). „Measuring association between working capital and return on investment”, *South African Journal of Business Management*, (28), 1:1-4.
- Watson, J., & Wells, P. (2005). „The Association Between Various Earnings and Cash Flow Measures of Firm Performance and Stock Returns: Some Australian Evidence”, Available at SSRN: <http://ssrn.com/abstract=815365>.

- Wiklund, J., & Shepherd, D. (2005). „Entrepreneurial orientation and small business performance: a configurational approach”, *Journal of Business Venturing*, (20), 1: 71-91.
- Winer, B.S. (2000). „The Exploitation of Relationships in Financial Distress: The Case of Trade Credit”, *Journal of Finance*, (55), 1: 153-178.

FINANCIJSKA SIGURNOST MALIH I SREDNJIH PODUZEĆA U POLJSKOJ

Sažetak

Originalni doprinos ovog rada sastoji se u rezultatima istraživanja koji pokazuju da je 1% porasta profita u prodaji, uz neizmijenjene ostale izvore financiranja, povezan s 0,76% povećanja europskih fondova za potporu tržišta i kapitala.

Kako bi se ispitala priroda regresijskog odnosa između operativnog fonda EU za potporu tržišta i kapitala i profitabilnosti poduzeća, u radu je korišten Cobb-Douglas-ov model. Kao mjere učinkovitosti, u modelu su korišteni empirijski izračuni granične i prosječne profitabilnosti. Istraživanje je provedeno na uzorku malih i srednjih poduzeća u Poljskoj za razdoblje 2014.-2020. Rezultati istraživanja su potvrdili hipotezu o pozitivnim učincima EU fonda za potporu razvoja tržišta i kapitala na financijsku sigurnost malih i srednjih poduzeća u Poljskoj. Uz financijsku sigurnost, potvrđen je i pozitivan doprinos rastu profita poduzeća.

Ključne riječi: rentabilnost, financijska sigurnost, europski fondovi, srednja i mala poduzeća, model