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# Cost-effectiveness Analysis of Financial Support Instruments for Small and Medium-sized Enterprises in the European Union<sup>3</sup>

**Abstract:** The aim of the article is to evaluate the level and diversification of the cost-effectiveness of selected financial support instruments<sup>4</sup> for small and medium-sized enterprises (SMEs) in the European Union (EU). Based on a literature review, 2 cognitive gaps were identified and 4 research questions were formulated. The realisation of the objective required the conducting of empirical analyses on a sample of 6,495 SMEs from 6 countries of the EU which were beneficiaries of 9 financial instruments. The obtained results indicate that the schemes under study show high variability of cost-effectiveness that depends on the type and configuration of support instruments, their scope of impact and the level of economic development of the EU countries.

**Keywords:** small and medium-sized enterprises, cost-effectiveness analysis, support instruments for SMEs, economic policy

**JEL:** D78, G210, G320, H810

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<sup>4</sup> The terms: schemes and instruments are considered as synonymous in the paper.

## 1. Introduction

According to the International Finance Corporation (Gonzales, Hommes, Mirmulstein, 2014: 4–13), on the basis of 267 definitions formulated by various institutions, there are 162.8 million formal micro, small and medium enterprises in 162 countries of the world. The quantitative domination and dynamic activity of SMEs are the source of many economic benefits, including a positive impact on economic growth and social development. An important factor of this impact is related to certain indirect links between SMEs and the market such as: new jobs, increased work efficiency and internationalisation of activities or development of advanced technologies (Dominiak, 2005: 65–148).

This is confirmed by the results of the research carried out by D. Urbano and S. Aparicio (2016: 34–44) in 43 countries in the years 2002–2012. They show that small and medium-sized enterprises have a positive impact on the functioning of the market mechanism, the level of unemployment, the implementation of innovations, as well as the stimulation of regional development through specific economic and social functions (OECD, 2017: 6–14; Steinerowska-Streb, 2017: 63–67).

The positive role of small and medium-sized enterprises and their significant market sensitivity as well as susceptibility to a number of development barriers (Ropęga, Skrabulska, Podsiadły, 2016: 73–94; Skowronek-Mielczarek, Bojewska, 2017: 48–52) mean that political, social and economic organisations submit numerous demands regarding the support of this category of economic entities.

The issue of support for SMEs is an increasingly noticeable subject of debate in the academic literature (Woźniak, 2012: 116–118). An important challenge in the theory and practice of economic sciences is to evaluate both the efficiency and effectiveness of this policy. This applies in particular to financial support instruments which are expected to have significant socio-economic benefits for SMEs.

Taking this into account, the goal of the paper is to evaluate the level and diversification of the cost-effectiveness of selected financial support instruments for small and medium-sized enterprises (SMEs) in the European Union (EU). Based on a literature review, 2 cognitive gaps were identified and 4 research questions were formulated.

In the first part of the article, a literature review was conducted and research questions were formulated. Then, the sources of data and methodology of research were presented. After that, empirical analyses were conducted. At the end of the paper, conclusions from the research were formulated and the research questions were answered. The limitations of the conducted analyses and the prospects for further research in the area of cost-effectiveness of support instruments for SMEs were also described.

## 2. Literature review

The results of international surveys conducted by M. Woźniak (2012: 73–128) and M. Matejun (2015: 57–68) indicate that particularly favourable conditions in the scope of SMEs support are offered by the European Union countries. These initiatives have been undertaken for over 40 years but their intensification took place in the 1990s (Surdej, Wach, 2011: 78–89). Nowadays, the carrying out of further support activities is postulated, primarily in the field of regulatory changes, improvement of access to foreign markets, financing, education and promotion of entrepreneurship, development of personnel competences as well as digitisation of SMEs (European SMEs-Action Programme, 2017).

The policy for small and medium-sized enterprises is reflected in specific strategies and programmes that define the priorities of measures as well as the scope and principles of granting aid to enterprises (Czegledi, Fonger, Reich, 2015: 102–108; Radicic et al., 2016: 1425–1452). These programmes are then implemented by institutions that are supposed to support and promote SMEs (Filipiak, Ruszała, 2009: 74–268; Różański, Gwarda-Gruszczynska, 2013: 169–185). Their implementation takes place directly or indirectly (Pohulak-Żołędowska, 2015: 290–294) using specific support instruments. These include the following schemes (Leoński, 2015: 122–124): non-returnable and returnable, regulatory including administrative and legal, advisory, training and information, technological and pro-innovative, as well as organisational and general-business.

Although in the literature, the scope of support for SMEs also includes commercial activities, key activities are undertaken as part of state aid (Choroszczak, Mikulec, 2009). Public support is one of the forms of state interference (intervention) in the market mechanism in order to stimulate the desired allocation of resources and to achieve socio-economic benefits, market coordination and protection of weaker economic entities (Gancarczyk, 2010: 15–70). This support focuses mainly on such areas as: innovative activity and investments, computerisation, pro-ecological activity, personnel development or R&D activity (Gajewska, Sokół, Staśkiewicz, 2012: 171–258).

A large amount of the EU public funds is involved in the development of SMEs, which raises a question about the results of this activity. Such analyses have been conducted for many years, with focus on the evaluation of state aid. L. Becker (2015), after the review of the literature for the years 2000–2014, emphasises the ambiguity of the results of many previous studies, drawing attention to the variety of measures of efficiency of state aid for SMEs. They include: labour productivity, job creation, turnover or return on sales. The heterogeneity of the results of previous studies is also confirmed by the literature review for the years 2000–2015 conducted by J. Čadil, K. Mirošník and J. Reháček (2017).

The results of many studies concerning financial support instruments for SMEs allow us to formulate many interesting conclusions. M. Bannò, L. Piscitello and C.A. Varum (2014), based on a survey of 588 Italian companies, showed a positive impact of such support granted based on the results of SMEs in the area of increase in turnover and labour productivity in the years 1994–2008. Positive effects of public financial support in the years 2002–2008 were also confirmed by the research of H. Hottenrott and C. Lopes-Bento (2014) conducted on a sample of 1973 companies (including 1646 SMEs) from the Flanders region in Belgium. Targeted public subsidies caused an increase in R&D spending, especially in the case of SMEs cooperating at the international level, which had a positive influence on innovation implementation. Similar results in terms of a positive impact of public support on the level of investment and R&D spending were obtained by O.A. Carboni (2017), who conducted research in 7 European countries: Germany, France, Italy, Spain, the UK, Austria and Hungary.

The results of previous research conducted for Poland and for overseas indicate that a reliable evaluation of impact of support instruments on SMEs is a very complex issue (Michna, Kmiecik, 2014: 194). The advantages of these analyses include conducting extensive tests using control groups. However, their limitation lies in the insufficient attention paid to the efficiency of public SMEs support instruments. The analysis of this issue is well justified in the postulate of the efficiency of public spending (Kowalski, 2014: 104–105) as well as in the dynamic development of the new public management concept (Volacu, 2017).

This indicates a specific cognitive gap which is partly filled by J. Foreman-Peck (2012). Based on a literature review, he confirms the limited scope of considerations regarding the efficiency of support instruments addressed to SMEs. At the same time, he analyses the relationship between expenditures on the British innovation policy in 2002–2004 and the effects achieved in the area of innovative activity and the growth of over 10,000 SMEs. The results indicate that public SMEs support schemes were efficient as well as effective in the analysed period. The cost-effectiveness analysis used in these studies (Sartori et al., 2014) seems to be particularly useful for evaluating the results of support instruments for SMEs.

The second cognitive limitation of the current research is the insufficient identification of factors which have an impact on the efficiency of the public support of SMEs, for instance, from the point of view of using various support instruments. This indicates another cognitive gap which is partly filled by research conducted in 11 OECD countries by J.-Y. Seo (2017). He analysed the efficiency of 5 direct and indirect financial instruments: loans, loan guarantees, financial stability and equity financing, showing different effects of their use depending on the type of instrument applied.

The analysis of the impact factors on the efficiency of financial support for SMEs is linked to changes in the range of offered instruments. For example, in the

new EU financial perspective for 2014–2020, it was decided to increase the use of financial repayable instruments instead of non-repayable instruments (Kono-pielko, 2015: 173–175), also emphasising the role of combining “soft” (“compe-tence”) and “hard” instruments (investment projects) (Program Rozwoju Przed-siębiorstw do 2020 roku, 2014: 39–40). Against this background, two research questions were formulated:

Q1: Do support instruments for SMEs that offer repayable financial instru-ments have lower cost-effectiveness than instruments which provide non-return-able financial instruments?

Q2: How does the offer of additional non-financial support affect the cost-ef-fectiveness of financial support instruments for SMEs?

J.-Y. Seo (2017) in his research also raised the issue of the differences in the ef-fects of using financial support from the point of view of their impact. He sugges-ted that they were higher in developing countries than in developed ones. Against this background, two more research questions were formulated:

Q3: How does the cost-effectiveness of financial support instruments for SMEs differ depending on the scale of their socio-economic impact?

Q4: How does the cost-effectiveness of financial support instruments for SMEs differ depending on the level of economic development of the countries in which they are implemented?

In order to answer the research questions, the empirical studies were con-ducted on a sample of 6,495 SMEs from 6 countries of the EU which were bene-ficiaries of 9 financial instruments. A report on empirical work is presented in the further part of the article.

### 3. Sources of data and research methodology

The authors decided to choose the schemes for research on purpose, taking into con-sideration the diversity of offered support instruments, the international scope and the availability of data. The detailed information is presented in Table 1. The selected financial instruments are included in the main categories: grant schemes, microcredit funds and loan guarantee funds. The research was conducted in the years 2012–2014 under the Difass project ([www.difass.eu](http://www.difass.eu)) in 16 countries of the European Union.

Each category includes three schemes of financial instruments. Some of them were offered together with other, non-financial support: business partner search, training or advice about developing a business plan. The countries where the select-ed support instruments come from are diversified both geographically, for example North Europe: the United Kingdom (UK), South Europe: Greece, and economical-ly, taking into consideration nominal Gross Domestic Product (GDP) *per capita* which is, for instance, high in the UK, medium in Hungary or low in Romania.

Table 1. Analysed support schemes for SMEs

Name of the scheme	Country	Additional non-financial support	Used money (thousands euro)	No. of supported companies in the analysed year	New or saved jobs
Grant schemes					
Prototron	Estonia	No	46	5	8
The Local Development Fund (LDF)	Greece	Yes	7 100	112	122
LEADER +	Greece	Yes	5 500	76	90
Total			12 646	193	220
Microcredit funds					
The Entrepreneurship Promotion Fund (EPF)	Lithuania	Yes	4 880	276	321
Opportunity Microloan Romania (OMR)	Romania	No	47 362	1 236	18 500
Credinfo	Hungary	Yes	105 409	250	5 954
Total			152 771	1 486	24 454
Loan guarantee funds					
The Romanian National Loan Guarantee Fund (FNGCIMM)	Romania	No	36 863	212	4 000
The Greek National Fund for Entrepreneurship and Development (ETEAN)	Greece	No	114 300	1 893	4 141
The British Enterprise Finance Guarantee (EFG)	United Kingdom	No	338 850	2 711	18 875
Total			490 013	4 816	27 016
Total for all analysed schemes			655 430	6 495	51 690

Source: own elaboration based on research results

It was not possible to conduct calculations based on significance tests due to the small sample size and the fact that data were chosen on purpose (Chybal-ski, 2017: 6–11). As the primary research methods, cost-effectiveness analysis (CEA), both simple and incremental, was used. Cost-effectiveness analysis is used for an efficiency comparison of alternative projects with a unique common effect. However, they can differ in magnitude. The results are useful for the projects whose benefits are very difficult to evaluate but whose costs are known. CEA solves the following problem of optimisation of resources (Sartori et al., 2014: 345):

- for a given cost ( $C$ ), how to maximise the outcomes achievable, measured as effectiveness ( $E$ ), or for a given level of effectiveness ( $E$ ) that must be achieved, how to minimise the cost ( $C$ ).

First, the authors decided to calculate the simple cost-effectiveness ratio by dividing the cost by the effectiveness (Sartori et al., 2014: 345). The following situations are possible:

$$Ca/Ea > Cb/Eb \text{ or } Ca/Ea < Cb/Eb.$$

In the article, the cost means the value of state aid (in euro) which was granted to SMEs. The effectiveness is calculated as the number of created new or saved existing jobs as these are ones of the aims of the selected schemes. The lower  $C/E$  ratio, the better the cost-effectiveness.

However, simple cost-effectiveness analysis ( $C/E$ ) does not include the question of the magnitude scale of activity. It is possible that a programme can be considered as the most efficient but its budget is quite low. While the budget goes up, the indicator  $C/E$  could also increase. That is why incremental cost-effectiveness analysis should be implemented. It is calculated (Sartori et al., 2014: 345) as the following ratio ( $R$ ):

$$R = (Ca - Cb)/(Ea - Eb) = \Delta C/\Delta E.$$

When a project is both more effective and less costly than the alternative ( $Ca - Cb < 0$  and  $Ea - Eb > 0$ ), it should be chosen. In this situation, there is no need to calculate cost-effectiveness ratios. In many cases, however, the project under examination is contemporaneously more (or less) costly and more (or less) effective than the alternative(s) ( $Ca - Cb > 0$  and  $Ea - Eb > 0$  or, alternatively,  $Ca - Cb < 0$  and  $Ea - Eb < 0$ ). In this case, incremental cost-effectiveness ratios allow us to rank the projects. After that, cases of 'extended dominance' can be identified and then eliminated. It means that a given project is both less effective and more costly than a linear combination of two other options. In the extended dominance, the incremental cost-effectiveness ratio is higher than that of the next more efficient alternative. The choice of the remaining projects depends on the budget. The project with the lowest incremental cost-effectiveness ratio should be the first to be implemented. Other strategies should be added until the budget is exhausted (Sartori et al., 2014: 345–346).

## 4. Empirical analyses

In the first part of the study, the cost-effectiveness analysis of selected financial support schemes for SMEs was conducted. In the group of grant schemes, the conducted simple analysis ( $C/E$ ) shows that the Prototron from Estonia was the best option in comparison with the LDF and Leader+ from Greece. The difference was quite big – only about 5.8 thousand euro under the first scheme was needed to create one new or save one existing job, which was almost ten times smaller than for the next two alternatives that offered also additional non-financial support. The detailed results of the analysis are presented in Table 2.



Table 2. Simple cost-effectiveness (*C/E*) analysis of selected support schemes (thousands euro/new or saved jobs)

Scheme	Simple cost-effectiveness analysis ( <i>C/E</i> )	
	<i>C/E</i> ratio	Mean <i>C/E</i> ratio for the group
Grant schemes		
<b>Prototron</b>	<b>5.8</b>	41.7
Leader +*	61.1	
LDF*	58.2	
Microcredit funds		
EPF*	15.2	11.8
Credinfo*	17.7	
<b>OMR</b>	<b>2.6</b>	
Loan guarantee funds		
<b>FNGCIMM</b>	<b>9.2</b>	18.3
EFG	18.0	
ETEAN	27.6	

Notes: The financial instruments with the best *C/E* ratio are bolded.

\* means that the instrument offered additional non-financial support.

Source: own calculations based on available data

A similar situation can be observed analysing the cost-effectiveness of microcredit funds. Companies needed only 2,600 euro to create or save one job (on average) under the OMR in Romania. This indicator was much higher for the Lithuanian EPF and the Hungarian Credinfo. These two schemes also offered additional support. None of the selected loan guarantee funds offered additional non-financial aid. Nevertheless, the lowest *C/E* ratio was recorded in the case of Romanian FNGCIMM. It was almost two times smaller than for the British EFG and three times smaller than for the Greek ETEAN.

Taking into account the mean of *C/E* ratio in particular groups of the selected schemes, one can state that repayable financial instruments: microcredit funds and, to some extent, loan guarantee funds were characterised by significantly better cost-effectiveness. The *C/E* ratio for those instruments was almost 2–3 times lower than for grant schemes.

Then the cost-effectiveness analysis was conducted depending on the offer of non-financial support instruments for SMEs under the additional schemes. The results indicate that the mean of the *C/E* ratio for non-financial services was much higher (38.1 thousand euro per one job) than for programmes without such support (12.6 thousand euro per one job).

However, there is a disadvantage of simple *C/E* ratio, which was mentioned in the previous section. Table 3 presents the incremental cost-effectiveness analysis of selected grant schemes. The Program Leader+ should be eliminated as the extended dominance. The  $\Delta C/\Delta E$  ratio was higher than that of the next effective



scheme. The remaining alternatives were the Prototron and the LDF. The first one had the lowest cost-effectiveness ratio. However, it had a very small budget (only 46 thousands euro). The other alternative was the Greek LDF which had a much higher  $\Delta C/\Delta E$  ratio (50 to 5.7 thousand per job) but also more allocated funds (almost 150 times). This programme offered additional support for enterprises, too.

Table 3. Incremental cost-effectiveness analysis of selected grant schemes

Scheme	Used money (C) (thousands euro)	New or saved jobs (E)	$\Delta C = Ca$ – $Cb$	$\Delta E = Ea$ – $Eb$	$\Delta C/\Delta E$
Prototron	46	8	–	–	5.7
Leader +*	5,500	90	5 454	82	66.5
LDF*	7 100	122	1 600	32	50

Note: \* means that the programme offered additional support.

Source: based on research results

In the case of selected microcredit funds, the Romanian OMR was the best option (Table 4). It was less costly and offered more non-financial support. It confirms the results of simple analysis 2. Under the circumstances, there is no need to calculate the cost-effectiveness ratio.

Table 4. Incremental cost-effectiveness analysis of selected microcredit funds

Scheme	Used money (C) (thousands euro)	New or saved jobs (E)	$\Delta C = Ca$ – $Cb$	$\Delta E = Ea$ – $Eb$
EPF*	4 880	321	–	–
Credinfo*	105 409	5 954	–	–
OMR	47 362	18 500	+	–

Note: \* means that the programme offered additional support.

Source: own calculations based on research results

Table 5. Incremental cost-effectiveness analysis of selected loan guarantee funds

Scheme	Used money (C) (thousands euro)	New or saved jobs (E)	$\Delta C = Ca$ – $Cb$	$\Delta E = Ea$ – $Eb$	$\Delta C/\Delta E$
FNGCIMM	36 863	4 000	–	–	9.2
EGF	114 300	4 141	77 437	141	549.1
ETEAN	338 850	18 875	224 550	14 734	15.2

Note: \* means that the programme offered additional support.

Source: own calculations based on research results

The incremental cost-effectiveness analysis of selected loan guarantee funds is presented in Table 5. The Greek ETEAN should be excluded as a case of ex-

tended domination. However, two alternatives are left. The most effective was the FNGCIMM but the value of granted guarantees was quite low – just above 36 million euro. The British EFG has the highest  $\Delta C/\Delta E$  ratio but the scale of activity was much bigger – almost 340 million euro.

In the last part of the research, interesting conclusions were provided by the analysis of the cost-effectiveness diversification depending on the socio-economic impact of financial support instruments. It was measured, at the product level, by the number of supported enterprises (Figure 1) and, at the result level, by the number of new or saved jobs (Figure 2). In addition, attention was paid to the differences in the cost-effectiveness of the analysed schemes depending on the level of economic development of countries, measured by nominal GDP *per capita* (Figure 3). The results showed that there were nonlinear relationships between the analysed variables. The analysis of those relationships was based on polynomial trend lines of the second degree, which was shown in the following figures. The evaluation of the general interdependencies of variables was made on the basis of Kendall's tau coefficient  $\tau$ , which, measuring the monotonicity of the dependence of two random variables, is suitable for measuring the strength of non-linear dependencies (Wang et al., 2015: 1–8). In addition, due to its non-parametric nature, it does not require the assumption of normality of the distribution of variables.

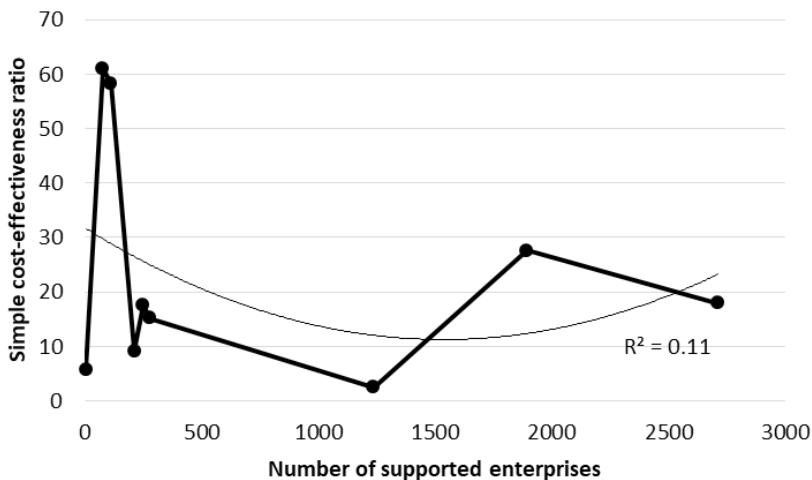


Figure 1. Dependency of  $C/E$  ratio of the financial schemes on the number of supported enterprises

Source: own calculations based on available data

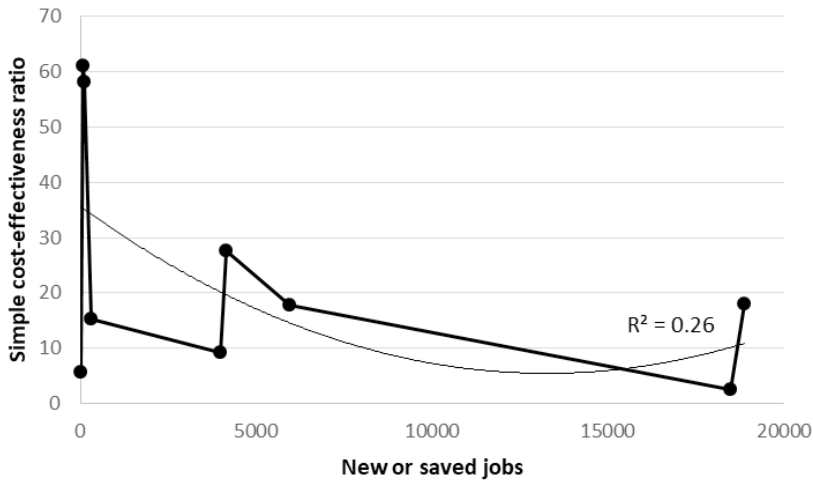


Figure 2. Dependency of *C/E* ratio of the financial schemes on the new or saved jobs  
Source: own calculations based on available data

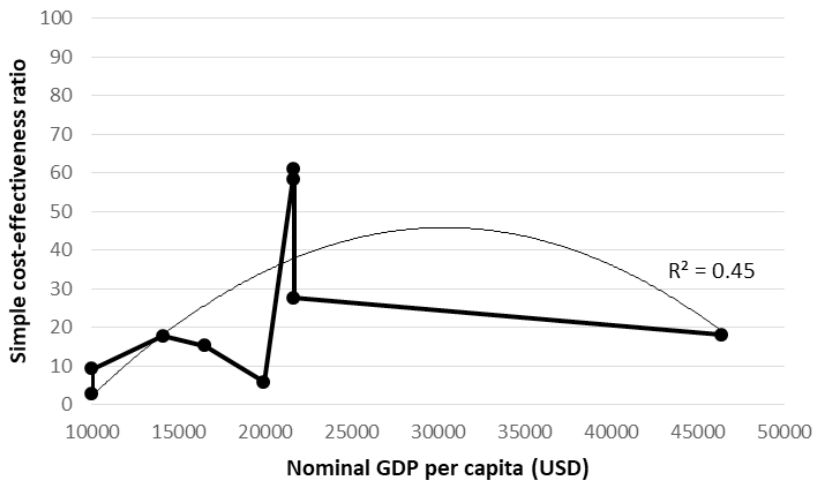


Figure 3. Dependency of *C/E* ratio of the financial schemes on nominal GDP *per capita* (USD)  
Source: own calculations based on available data

The results indicate that the analysed schemes with a relatively lower level of the socio-economic impact had a higher *C/E* ratio. As the level of the impact increased, the cost-effectiveness ratio decreased with regards to both the number of supported enterprises,  $\tau (n = 9) = -0.06$ , and the number of new or saved jobs  $\tau (n = 9) = -0.17$ . However, in the projects characterised by a significant impact, the *C/E* ratio started to grow again, which influenced their lower cost-effectiveness. This may indicate the legitimacy of searching for an optimal level of project impact at which the cost-effectiveness of the public funds is the largest. On the other

hand, attention should be paid to the significant disturbance of the result tendency of the project Prototron from Estonia, which was characterised by a very high level of cost-effectiveness (a low  $C/E$  ratio) with a marginal impact. Perhaps such a small involvement of public funds is justified, for example, in the case of selective forms of support addressed to SMEs operating in a very specific, local or regional market. The dependency of cost-effectiveness of the schemes examined on the level of economic development of the countries shows the opposite relationship. In countries with a relatively lower nominal GDP *per capita*, relatively higher cost-effectiveness (a lower  $C/E$  ratio) of SMEs support instruments was obtained. Then, the  $C/E$  ratio increased,  $\tau (n = 9) = 0.53$ , but after that it started to decrease again for countries with a high level of economic development.

## 5. Conclusions

In the article, two basic research methods were used: simple and incremental cost-effectiveness analysis (CEA). Moreover, an analysis of interdependencies of variables based on polynomial grade 2 trend lines and an assessment of the overall interdependence of phenomena based on Kendall's Tau coefficient were used to analyse nonlinear relations.

Cognitive conclusions were obtained which indicate interesting possibilities of applying these methods to the evaluation of the results of financial support schemes for SMEs. The empirical analyses allowed us to answer the following research questions:

Q1: Do support instruments for SMEs that offer repayable financial instruments have lower cost-effectiveness than instruments which provide non-returnable financial instruments?

The obtained results indicate a lower level of cost-effectiveness of both tested groups of repayable financial instruments (in particular microcredit funds) in relation to the tested group of non-returnable financial instruments. According to the authors, it can be connected with both the economic as well as psychological factors. Access to repayable financial instruments requires most often providing securities as well as a detailed economic and financial analysis of the company. Foreign capital must also be returned to the lender on certain conditions and failure to comply with these obligations may result in substantial sanctions. This makes companies more diligently develop their business plans, take only calculated risk and have a more stable and more prospective economic and financial potential. It allows for obtaining a relatively larger range of effects and objectives of the conducted activity than in the case of using non-returnable financial instruments.

Q2: How does the offer of additional non-financial support affect the cost-effectiveness of financial support instruments for SMEs?

The obtained results indicate that support instruments for SMEs that offer additional, non-financial support were characterised by significantly worse cost-effectiveness than schemes which provide only financial instruments. According to the authors, it could be connected with the increase of transaction costs at the triangulation of various types of support instruments. These costs result from the need to increase the financial resources for the scheme, the involvement of professional trainers or advisers, as well as a longer period of time to implement the support. However, it should be emphasised that the analysis took into consideration only short-term effects, resulting directly from the use of support instruments. Perhaps the instruments offering additional, non-financial support for SMEs are characterised by a higher long-term *C/E* ratio or perhaps other indicators than only new/saved jobs should be used for their assessment. Based on the available data, such an analysis was not possible. However, the results of secondary research justify further research on the cost-effectiveness of financial support schemes for SMEs, taking into consideration the longer perspective of evaluating the obtained socio-economic results or more indicators.

Q3: How does the cost-effectiveness of financial support instruments for SMEs differ depending on the scale of their socio-economic impact?

The obtained results indicate that the relations between the cost-effectiveness and the scale of socio-economic impact of the analysed financial support instruments for SMEs are non-linear. Schemes aimed at a smaller number of beneficiaries and generating fewer new or saved jobs were characterised by a relatively high cost-effectiveness ratio. This coefficient decreased and then it was optimised as the impact of the analysed schemes increased. Then, it grew again for schemes with the largest impact on socio-economic effects. According to the authors, this is primarily due to the effects of scale which reduce the cost of unit support as the number of beneficiaries increases. After exceeding a certain level of commitment, however, the transaction costs grow due to, for instance, the need for increased coordination and formalisation of activities, which results in a deterioration of the cost-effectiveness ratio.

Q4: How does the cost-effectiveness of financial support instruments for SMEs differ depending on the level of economic development of the countries in which they are implemented?

The obtained results indicate that the analysed instruments showed a higher level of the cost-effectiveness ratio in countries with a relatively low and relatively high level of economic development measured by the nominal GDP *per capita*. A lower cost-effectiveness ratio was observed for financial support instruments for SMEs in countries with a moderate level of economic development. According to the authors, it could be connected with the shortage of infrastructure and business environment, and on the other hand, with less competition and market pressure in these countries. Under the circumstances, even small business support allows

for obtaining an above-average socio-economic impact. The influence of support in more developed economies is limited by increasing market competition, also from abroad. This trend is not confirmed, however, for the scheme implemented in the United Kingdom, which is characterised by a high level of cost-effectiveness ratio. The reason could be a highly developed, stable and mature market economy. Due to a dearth of empirical data in this study, it was not possible, however, to conduct a better investigation of this issue.

The research results provide new knowledge concerning the conditions for implementing financial support schemes for SMEs. It could be useful for public institutions and business support organisations. When managing support instruments, decision makers must consider the planned scope of the impact of the instrument and seek an optimal balance between the scale of the scheme and the level of transaction costs that will determine the effects of spending public funds. The obtained results are also a valuable source of knowledge for entrepreneurs. By anticipating the effects of state aid, they will be able to estimate the efficiency of achieving business goals with the use of financial support. However, implementing the proposed solutions, one must take into consideration the limitations of the study. They arise mainly from the small sample size and a lack of representativeness of the research results. The weakness is also its focus on only one measure of effects in the form of new or saved jobs. This indicates a need to continue the study. The further research should concentrate on the attempt to build a coherent concept of indicators to measure the costs-effectiveness of financial support for SMEs. Moreover, the sample should be larger. This will allow for conducting a comparison of results and ensuring representativeness. Longitudinal analysis should be used in order to extend the conclusions about the long-term effects of financial support instruments on development of SMEs and the socio-economic impact achieved through the use of public funds.

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## Analiza efektywności kosztowej finansowych instrumentów wsparcia dla małych i średnich przedsiębiorstw w Unii Europejskiej

**Streszczenie:** Celem artykułu jest ocena poziomu i zróżnicowania efektywności kosztowej wybranych finansowych instrumentów wsparcia dla małych i średnich przedsiębiorstw (MSP) w Unii Europejskiej (UE). Na podstawie przeglądu literatury zidentyfikowano dwie luki poznawcze oraz sformułowano cztery pytania badawcze. Realizacji celu pracy poświęcono własne analizy empiryczne przeprowadzone na próbie 6495 MSP, które były beneficjentami dziewięciu instrumentów finansowych w sześciu krajach UE. Uzyskane wyniki wskazują, iż badane programy charakteryzują się dużą zmiennością efektywności kosztowej w zależności od rodzaju i konfiguracji instrumentów wsparcia, zakresu oddziaływania oraz poziomu rozwoju gospodarczego krajów UE.

**Słowa kluczowe:** małe i średnie przedsiębiorstwa, efektywność kosztowa, instrumenty wsparcia MSP, polityka gospodarcza

**JEL:** D78, G210, G320, H810

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