

**DETERMINANTS INFLUENCING OBTAINING  
OF THE EU FUNDS BY COMMUNES  
OF THE WIELKOPOLSKA PROVINCE**

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**Abstract.** The article is aimed at presenting the determinants that influence obtaining of the EU funds by communes during the programming period 2004-2006. Intentionally, attention has been focused on communes, since they actively participated in the use of the EU support and they are the local government units that gained the largest share of these funds. Territorial range, on the other hand, includes the Wielkopolska Province due to the high level of the absorption of EU funds, both from the period 2004-2006 as well as 2007-2013.

**Key words:** determinants, obtaining of the EU funds, communes, the implementation of EU regional policy

**INTRODUCTION**

Regional policy is one of the most important policies being carried out by the EU, which is the effect of accession of Poland to the EU. The aim of the regional policy is to balance the differences in the development levels between communes within the EU area by supporting underdeveloped regions. The support could have been given both to public and private entities. Reports about using the funds during the period from 2004 to 2006 showed that the group of beneficiaries that received the greatest part of those funds was the local self-government units including communes [Raport... 2007 a, b]. The support was mainly provided for building or modernization of technical infrastructure, i.e. environmental protection and transport but also for social infrastructure. Researches carried out by Standar [2009, 2010] have indicated that there was a significant

difference between communes<sup>1</sup> concerning both the EU funds rate as well as communes' involvement in gaining those funds. For this reason, it is extremely crucial to recognise determinants that influence the success of communes in the process of gaining the EU funds. This recognition is also important, in the view of the fact that there was a six times bigger allocation of the regional policy funds in 2007-2013. The geographical scope of research has included the area of the Wielkopolska Province.

## MATERIAL AND METHODS

In the study both the primary and secondary data have been used. Primary data were derived from the statistical survey conducted in 2007. The questionnaire<sup>2</sup> was sent to all communes with the exception of towns with the rights of counties (N = 222). Eventually, the research covered 204 communes. The secondary source of data, on the other hand, was The Central Statistical Office (GUS) for the year 2004. Due to the accession of Poland to the EU on 1st May, 2004 Polish regions, including the Wielkopolska Province could become the beneficiaries of the EU Regional Policy funds.

The arithmetic mean, Student's t-test analysis and logit analysis were used in the research. Method of descriptive statistics was adopted to present communes' opinion on considered factors for three groups of communes: the total number of communes gaining the EU funds and those which have not received the EU aid. The statistical importance of the results difference for two last groups was also examined. In the next part of the study, thanks to logit analysis, it was indicated which of the measurable factor is responsible for the success of communes in obtaining the EU funds.

Logistic regression is used when the dependent variable has a dichotomous character 0-1. Independent variables can be measurable or non-measurable. It is a mathematical model, which is used to describe few variables  $X_1, X_2, \dots, X_k$  into the dichotomous variable  $Y$ . The logistic function, on which logistic regression model is based, takes the form [Stanisz 2007]:

$$f(z) = \frac{e^z}{1 + e^z}$$

The logistic function has a value 0 and 1. The value of logistic function approaches 0 when  $z$  approaches minus infinity. However, when  $z$  approaches plus infinity, the logistic function approaches 1. It has been assumed that  $Y$  takes values:

- 1 – gaining the EU funds by the commune
- 0 – not gaining of the EU funds by the commune.

Then the following model is defined by the formula [Stanisz 2007]:

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<sup>1</sup> The research covered communes of the Wielkopolska Province with the exception of towns with the rights of counties.

<sup>2</sup> The questionnaire was comprised of 29 questions: simple multiple choice, with some variants of answers given and half-open questions. The majority of questions needed assessment (quality features).

$$P(Y) = \frac{e^{(\alpha + \beta x)}}{1 + e^{(\alpha + \beta x)}}$$

where:

- $Y$  – dichotomous variable of values:
- 1 – gaining the EU funds by the commune,
- 0 – not gaining of the EU funds by the commune,
- $P(Y)$  – conditional probability that variable  $Y$  will take a value of 1 for the independent variable  $x$ ,
- $x$  – particular characteristics, for example the number of projects prepared and submitted by the commune,
- $\alpha, \beta$  – model parameters.

After the transformation a logit model is obtained in the form of [Stanisz 2007]:

$$\text{Logit } P = \ln \frac{P(Y=1)}{1 - P(Y=1)} = \alpha + \beta x$$

where:

- logit – logarithm of quotient  $P/(1 - P)$ ,
- $x$  – defining variable for logit.

In the article the parameters of the logistic regression model have been presented in the form of:

$$\text{Logit } P(y) = \alpha + \beta x$$

where:

- $P(x)$  – the probability of success or failure of commune in the process of gaining the EU funds,
- $\alpha + \beta$  – coefficient of regression equation,
- $x_1, \dots, x_n$  – particular independent characteristics, for example: the number of applications submitted.

The logistic model enables after estimating  $\alpha, \beta$ , so called odds ratio according to the following formula:

$$OR = e^{\alpha + \beta x}$$

The odds ratio determines the probability of gaining the EU funds by commune at unit increase of variable  $x$  (for example the number applications submitted by the commune).

## THE RESEARCH RESULTS

Among the factors influencing the obtaining of the EU funds, there have been four that significantly differentiated the evaluation made by communes, depending on whether the commune was granted the EU funds. The unanimous evaluation concerned mainly those determinants which have been regarded as the most important, inter alia,

own resources and previously gained experience. Statistically significant differences occurred in the case of those factors the average of which was slightly lower, i.e. clear criteria for obtaining funds, advantageous location of the commune, cooperation with other communes and cooperation with an external institution. It should be noted that the communes which have not obtained the EU funds were characterised by higher average notes for all determinants (Table 1, Fig. 1).

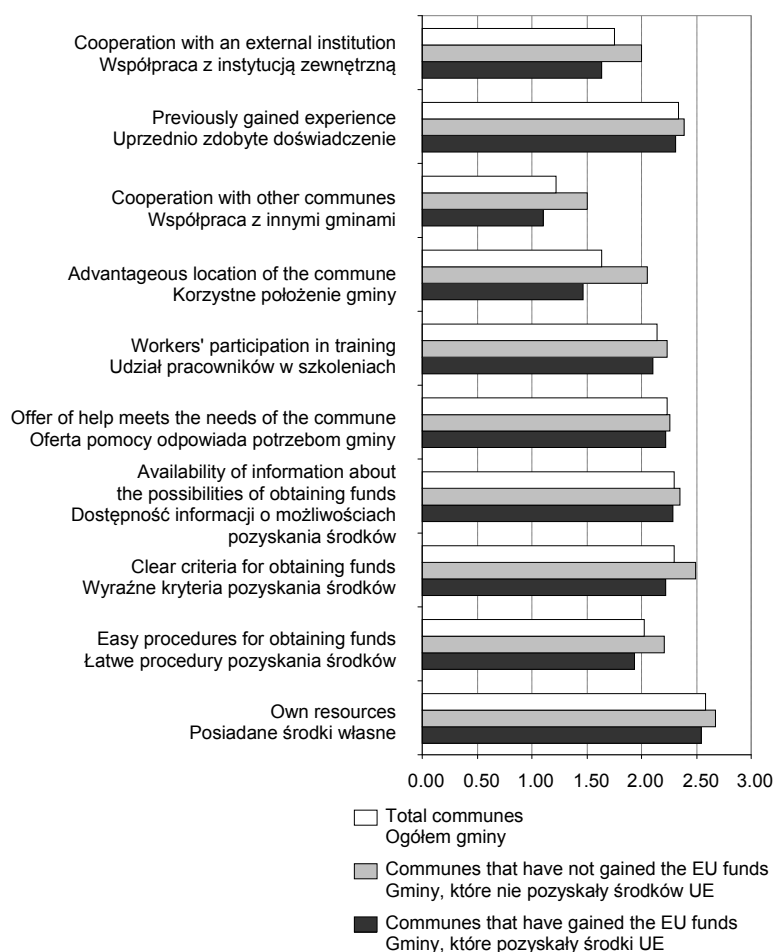


Fig. 1. Evaluation of the factors that influence the acquisition of the EU funds, issued by surveyed communes. Scale: from 0 (irrelevant factor) to 5 (very important factor)  
Source: survey.

Rys. 1. Ocena determinant wpływających na pozyskiwanie środków UE wystawiona przez ankietowane gminy. Skala: od 0 (czynnik nieistotny) do 5 (czynnik bardzo istotny)  
Źródło: badanie ankietowe.

The surveyed communes have considered *own resources* as the most important factor influencing obtaining of the EU funds (2.59). It is the only factor of financial character. Thus, the following thesis can be proved: a good financial situation visibly influences gaining of the EU funds by commune. The own resources are needed not only to complement own financial contribution provided by the beneficiary, but mainly to realise the investment. Only when the project is partially or wholly completed, the resources are given back to the beneficiary. This is the way in which the majority of the EU aid funds are implemented – by refinancing.

It is also worth noting that the regulations concerning so called own resources were imprecise, which resulted in problems with classifying the preferential credits, granted by the fund administered by the Bank of National Economy (BGK) [Grosse 2004]. The significance of this determinant has been also proved by the results of the research conducted by other authors, for example *Analiza aktywności...* [2008]. According to this research, 55 per cent of communes did not gain the EU funds due to lack of own resources.

Other factors were organisational in character. First of all, a strong position is occupied by previously gained experience (2.34). This fact may indicate that the communes which in the pre-accession period gained the EU funds were able to use their experience in a budgetary perspective 2004-2006. The authorities of these communes have known the complicated system of gaining the EU funds earlier, for instance legal conditions in this range, the estimation of eligible costs, acquiring the language of programmatic documentation, recognition of institutions that support beneficiaries in supplementing their own contribution, or rules of writing a good application form. Furthermore, the statistically higher position of clear criteria for gaining funds in the case of communes that have not gained anything, proves the thesis about lower experience of these beneficiaries in the analysed process.

As the least important factors were considered: favourable location of commune (1.64) and cooperation with other communes (1.22).

It is worth noting that the communes that did not gain the EU funds, gave low but statistically higher grade for the factor favourable location of commune (2.05) than the communes that received the aid (1.47). Unfavourable location hinders investment localization, also communal ones, as well as settling of new inhabitants, which results in lower income for the communal budget. This in turn, influences the investment possibilities of communes and their financial independence. Moreover, the communes which did not gain the EU funds, pay statistically closer attention to cooperation with other communes (1.51 in relation to 1.10). Communes compete with each other for the EU funds. In the case of communes, however, competition and cooperation remain complementary against each other as opposed to the companies' situation [Adamowicz 2008]. This type of cooperation might be beneficial for communes due to division of the project preparation costs between them. A great opportunity for cooperation is project implementation under the Leader programme.

The set of independent variables was adopted in order to reflect the work of communes which influence the commune development, including their financial situation. Factors connected with the communes' activity were not taken into consideration because of their quantification. Rosner and Stanny [2007] claim that it is difficult to unequivocally determine the authorities' activity, as it is the combination of the authorities' knowledge, their life experience, public-spirited attitude and the ability to cooperate.

Table 1. The analysis results of t-Student for evaluation of factors of the EU regional policy funds obtaining

Tabela 1. Wyniki analizy t-Studenta w ocenie determinant pozyskiwania środków polityki regionalnej UE

Description Wyszczególnienie	t	p	Communes that have gained the EU funds Gminy, które pozyskały środki UE	Communes that have not gained the EU fund Gminy, które nie pozyskały środków UE
Own resources Posiadane środki własne	-1.35	0.1799	2.55	2.68
Easy procedures for obtaining funds Łatwe procedury pozyskania środków	-1.94	0.0535	1.94	2.21
Clear criteria for obtaining funds Wyraźne kryteria pozyskania środków	-2.08	0.0388	2.22	2.49
Availability of information about the possibilities of obtaining funds Dostępność informacji o możliwościach pozyskania środków	-0.59	0.5532	2.28	2.35
Offer of help meets the needs of the commune Oferta pomocy odpowiada potrzebom gminy	-0.37	0.7145	2.22	2.26
Workers' participation in training Udział pracowników w szkoleniach	-1.10	0.2720	2.10	2.23
Advantageous location of the commune Korzystne położenie gminy	-4.07	0.0001	1.47	2.05
Cooperation with other communes Współpraca z innymi gminami	-3.09	0.0023	1.10	1.51
Previously gained experience Uprzednio zdobyte doświadczenie	-0.62	0.5354	2.31	2.39
Cooperation with an external institution Współpraca z instytucją zewnętrzną	-2.48	0.0140	1.64	2.00

Source: survey.  
Źródło: badanie ankietowe.

This in turn, may influence the creativity, the willingness to take on many duties and cause difficulties in preparation, as well as in the clearance of obtained EU funds [Gmina pasywna... 2007]. It should be added that there are many factors that determine the obtaining of the EU funds. Additionally, each commune is specifically conditioned. However, it is difficult to identify the reasons if the commune does not perform any action, i.e. when it does not have properly trained personnel that will draw up the applications [Pietrzyńska 2007]. It has turned out that there is a group of so-called passive communes, which are not interested in gaining the EU funds at all. Swianiewicz [2007] has explained that such attitude was caused by the following factors: historical conditioning, the development level of social institutions (including mainly business envi-

ronment institutions) and the commune's wealth<sup>3</sup>. Passive communes are characterised by a lower level of activity in gaining the EU funds, also these which come from different sources, for instance from National and Provincial Fund for Environmental Protection and Water Management.

Number of applications submitted by the commune turned out to be the factor statistically significant. The positive parameters corresponding to the number of applications submitted variable, indicate that their rise increases the probability of gaining the EU funds by the commune. Using the individual odds ratio for this variable, it can be noticed that when the unit increase of the number of applications rises, the probability of obtaining the funds increases by about 1.66 times (Table 2). Preparing the larger number of applications is not only a stronger chance for indirect gaining of the EU funds, but also increases the possibility of obtaining the funds in the future by acquiring experience in this range. The analysis of qualitative attributes has also proved that when assessing the communes' authorities, experience plays a significant role in applying for the EU funds. In addition, this view is shared by both the authorities of communes that have already gained the aid (and are able to assess the actual significance of this determinant, since they have got through every stage of this procedure), as well as the authorities of communes that have not implemented those funds (lack of statistical significance between notes) (Fig. 1).

Table 2. Parameters and results of the logistic regression model\* for the examined groups of communes in the Wielkopolska Province

Tabela 2. Parametry i wyniki modelu regresji logistycznej\* dla badanych grup gmin województwa wielkopolskiego

Independent variable Zmienna niezależna	Rating – Ocena	
	A	–1.33
Number of applications Liczba złożonych wniosków	$\beta$	0.51
	P	0.000
	Unit odds ratio (OR) Jednostkowy iloraz szans (OR)	1.66
	Lower confidence interval Przedział ufności dolny	0.33
	Upper confidence Interval Przedział ufności górny	0.69

\* In the logit form  $P(Y) = \alpha + \beta X$ .

The statistical significance of model has been indicated at the significance level  $p < 0.05$ .

Source: own work.

\*W postaci logit  $P(Y) = \alpha + \beta x$ .

Zaznaczono istotność statystyczną modelu przy poziomie istotności  $p < 0,05$ .

Źródło: opracowanie własne.

<sup>3</sup> On the basis of the research concerning NGO, Chrościcka [2005] also indicates the *mental barrier*, which leads to passivity. It is the result of getting used to known and used *sources of financing investments*.

## SUMMARY AND CONCLUSIONS

The results of qualitative and quantitative researches are similar as it comes to the assessment of determinants influencing the gaining of the EU funds. The results of logit analysis indicate that the most important is the activity. It should be also stressed that previously gained experience is one of the most important factors when evaluating communes' authorities. They increase the probability of gaining funds also in the future, by submitting the larger number of applications. It is because workers who are responsible for aid funds, acquire experience by learning incomprehensible language of programmatic documentation and complicated system of estimating the eligible costs. This determinant is connected with clear criteria for obtaining funds, which is also of major significance.

When the communes' authorities do not submit application forms or do it in the limited amount, then only a part of communes might be willing to realise their investments, which may lead to arising the developmental differences. The authorities of those communes have justified their attitudes on the grounds that there is no guarantee on the invested capital (employment of specialists, equipment). They claim that this capital can be put into smaller but safer investments. It is a particularly crucial problem, since the most important determinant for all the surveyed communes is lack of own resources for realising the investment. This problem concerns not only guaranteeing own contribution but also ensuring the funds for project realisation. Hence, the information system for beneficiaries should be improved, in so far as prefinancing, for example using credits from the BGK means, and in the case when the remaining sum has been gained, by, for example, issuing municipal bonds.

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### **DETERMINANTY POZYSKIWANIA ŚRODKÓW POMOCOWYCH UNII EUROPEJSKIEJ PRZEZ GMINY WOJEWÓDZTWA WIELKOPOLSKIEGO**

**Streszczenie.** Praca miała na celu wskazanie najważniejszych czynników wpływających na pozyskiwanie środków UE. Stwierdzono, że determinantami tymi są przede wszystkim doświadczenie, będące w ścisłym związku z aktywnością, oraz sytuacja finansowa. W opracowaniu wykorzystano zarówno dane pierwotne, jak i wtórne. Zastosowano metodę statystyki opisowej oraz analizę logitową. Przedmiotem badań były gminy województwa wielkopolskiego.

**Słowa kluczowe:** czynniki, pozyskiwanie środków pomocowych UE, gminy, wdrażanie polityki regionalnej UE

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