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INDEX EVALUATION OF THE FINANCIAL CONDITION OF RURAL COMMUNITIES

Streszczenie w j. polskim: *Ocena gospodarki finansowej jest zadaniem trudnym. Wymaga ona uwzględnienia wielu różnych zmiennych. Wybrany zestaw cech opisujących gospodarkę finansową, powinien w możliwie pełny i wszechstronny sposób charakteryzować badane zjawisko. Analiza potwierdziła zróżnicowanie gmin wiejskich województwa świętokrzyskiego pod względem poziomu kondycji finansowej. Pozwoliła ona wyróżnić gminy o wysokim poziomie kondycji finansowej, o średnim poziomie kondycji finansowej oraz o niskim poziomie.*

Streszczenie w j. angielskim: *Assessment of financial management is difficult. It requires taking into account many different variables. The selected set of characteristics that describe the financial economy, should as far as possible a full and comprehensive way have studied the phenomenon. The analysis confirmed the diversity of rural communities equalization in terms of the level of financial health. It has helped highlight the municipality with a high level of financial health, the average financial condition and with low level.*

Admission

The municipality is an employer, principal, client and investor. Its activities (management of assets, provision of services, financial management, investing, management, HR, etc.) have a direct or indirect impact on the average local economy. It is appointed to carry out tasks of general interest. These tasks are usually non-profitand are financed by public funds. Therefore, it is important to select the tasks thatcan be rationally implemented after carrying out multifaceted analysis. Fundamental importance is placed on the analysis of financial data, giving a basis on which policy makers can make short-and long-term decisions. The analysis should give the answer to the following questions in a given tasks, what will give tangible results. Is such allocation appropriate? Whether the maximum effect achieved,or withthe same measures can you achieve a greater benefit? Is it enough to only perform financial analysis, or should we perform an economic cost-benefit analysis also?

Financial conditions are a complex phenomenon. It's hard to make her compete on the basis of the measurable characteristics. Construction features aggregate enables measurement of multifaceted phenomena, as well as rope arrangement of test units, for example, according to their level of financial health. For the benefit of their use can be considered as a quantification of complex phenomena using a single numeric value, which makes any comparison. Financial Commons means the financial status within a specified time period. The financial health of a municipality is the ability to perform tasks, achieving a balanced budget, as well as the Zoom property. The financial situation of municipalities is undoubtedly a complex; it consists of the level of income, financial autonomy, the volume of capital expenditure, the ability to fundraise and budget and the recording of financial results. There is a correlation between the financial position of the municipality and the level of local development, understood as a complex quantitative and qualitative connection on the area concerned, relating both to the level of life of the inhabitants, as well as the functioning of economic operators [Sobczyk 2010].

The financial situation is an important matter for the municipality. Financial problems can threaten its insolvency. Analysis of the financial situation is crucial not only for the current management, but also to protect against the adverse effects of economic downturn in the future. The municipality currently works in turbulent environments, from frequent and unexpected changes to foreseeable changes which occur in legal, economic and social environments. Therefore, the municipalities as basic units of local Government must manage its financial situation to properly address the needs of the local community.

The municipality performs public tasks not provided by the constitutions of POLAND or other public authorities acts is alegal entity. There are also separate bodies of law both in the sphere of civil law (ownership and other property rights) as well as in the sphere of public law. The scope of Commons includes all public affairs of local interest, affecting local development. It is a harmonized and systematic plan activities of the local community, local authorities and other entities operating in the municipality, which aims at creating new and improving existing economic values [Brol 1996, s. 11].

The process of development and implementation of imposed tasks requires adequate financial resources. Financial resources of municipalities are collected primarily from their budgets, and to a lesser extent, the accounts outside the budget from EU funds (e.g. funds and environmental protection). It is also an instrument

of financial management and local development. The information and data included in the budget arise from the activities of the municipality and its strategic objectives. The functioning of the municipalities is affected by the sources and methods of obtaining cash. Having its own resources are essential. Public revenues support the budget of the municipality and are applied only to the budgets granted by County sources. The ability to create its own revenuesis a derived from a local self-government approach. The success of the application of such an approach depends on: the potential of internal resources, the locational advantages, the functional structure, the decision making process, the relationship between the environment of the municipality, and the local community and the competence and creativity of the local self-government. The second sources of financial resources are foreign earnings, which are not permanent, and are not income from its own local activities.

The aim of the development is to provide an assessment of the financial situation of rural communities such as equalization. The study uses the results of the financial management of municipalities from the years 2008-2010, to make an assessment the author uses data from the data bank of the local CSO.

To assess the financial health of the municipality you can analyzethe revenue in the budget of the municipality in the statement of expenses – especially investmentover the past year. A particularly interesting indicator can be the amount of incomefrom different sourcesand the distribution of expenses. The level of the financial health of municipalities can be determinedby applying the following equation. The features of the fraction (per capita) are as follows[1]:

X1 is value of revenue,

X2 is the value of their own income,

X3 is the value of the revenue from the PIT,

X4 is value of revenue from CIT,

X5 is value of tax revenue,

X6 is the value of revenue procured from external sources,

X7 is the value of expenditure total,

X8 is value of current expenditure,

X9 is the value property expenditure,

X10 is value of expenditure on welfare,

X11 is value of expenditure on public administration.

Some features were normalized using a simple process of unitarization that removed discrepancies among variables and gave a steady range of normalized (values in the range [0, 1]) [Kukuła 2000; Jajuga 1993]. The unitarization procedure consists of dividing the value of a variable, or its distance from one of the borderlands, by a spacing variability. Since all the diagnostic features are stimulants (positively correlated with the test phenomenon), applied the following formula [Wysocki and Lira 2003]:

$$q = \frac{q_{ij} - \min_i\{q_j\}}{\max_i\{q_j\} - \min_i\{q_j\}}$$

where

q – is the value of unitarization features of the audited entity,

qij – means the j-th features of the audited entity,

max – the maximum value of the j-th features

min – the minimum value of the j-th feature.

To determine the values of the synthetic method used no pattern, consisting of averaged normalized values of simple features. It is assumed that the resulting aggregate variable contains all the information they provide different measures of structure. Involving the averaged normalized values of simple attributes (characteristics of synthetic – Si belong to the interval [0, 1], paying attention to the unique characteristics of selected synthetic index):

$$s_i = \frac{1}{p}\sum_{j=1}^{p} x_j \ (i = 1,2,...,p)$$

$$s_i = \frac{S_{dochodowy} + S_{wydatkowy}}{2}$$

where

Si – synthetic indicator of the financial health of the community during the period,

x3 ... x11 – features a synthetic index structure,

p – the number of sub-indices used in the construction aspect of the aggregate measure of potential.

Due to the removal of variable repetition of information taken from the structure of the synthetic indicator removed: the value of total income, the value of own income, current income and property income and value of the total expenditure calculated per capita.

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[1] The selected set of statistical variables determines the results of the evaluation of the efficiency of the financial economy by the municipalities. It allows for its evaluation to be compared with other municipalities using the presented methodology of research.

The effect of the construction process presented a synthetic indicator of financial management assessment is also getting partial indicators of income and aspect of expense. Total efficiency of individual planes can be accessed on the basis adopted by the author of the study score. The higher the value of this measure indicates a higher level of financial health of municipalities. If a municipality has obtained results similar to 0 – this means a worse financial situation. Value closer to 1 indicates the community a better financial condition. Using the arithmetic mean and standard deviation of the value of the meter can be made of synthetic communities organize and assign them to one of the following groups:

– Group I (high level): $q_i \geq \overline{q} + s_q$

– Group II (medium level): $\overline{q} + s_q > q_i \geq \overline{q} - s_q$

– Group III (low): $q_i < \overline{q} - s_q$

where $\overline{q}$ is the arithmetic mean value unitarization meter, while s_q the standard deviation is[1].

The financial management of municipalities

The financial economy is defined as a process that includes not just the collection and disbursement of cash by bodies governed by public law, but also the lifetime of various legal actions and organizations, that serve these processes. So you can assume that the term financial economy refers to financial activities carried out by bodies governed by public law [Wojtowicz 2008, s. 16]. The financial management of the municipality has its source in the Constitution of POLAND. The basic law gives the units of self-government legal responsibility, the ability to have your own assets and the management of it in order to meet the public needs of local communities.

General constitutional standards are the records of the Act on public finance [Dz.U. 2009 no 157 item 1240]. This Act provides detailed rules for the financial management of the municipality, i.e. all procedures associated with the accumulation of income and the organization of expenses. The primary tool for financial management of municipalities is the budget, the annual plan of the revenue and expenditure of the unit passed in the form of budgetary resolutions by the Council of the municipality at the request of the Mayor (Mayor, President).

The revenues represent the necessary basis for the financial activities of the municipalities. The financial policy unit of the local government is to mobilize adequate financial resources that enable the implementation of the tasks imposed on it [Miszczuk et al., 2007]. The municipality provides not only the total value of the obtained income, but also the source of their revenue and the performance and stability of these individual revenue sources. [Pankau 2005]. The ability to create its own revenues is derived from a local self-government approach. The success of the application of such an approach depends on: the potential of interval resources, the location advantages, as well as the competency and creativity ofits local self-government. Part of its own revenue was a result of participation in the PIT and CIT.

When it comes to spending, the State restricts any of the planning by the municipality, in determining first and a compulsory task list (e.g., discharges, conducting secondary schools) and then the conditions for the implementation of these and other tasks in the form of standards or minimum size (e.g. the degree of pollution of wastewater pockets to the reservoir, the amount of the remuneration of teachers). In effect, the municipality must first provide for the measures of the tasks required, and then only for various other purposes, even those recognized by the municipality as more important. Spending the allocated money, which is understood as an external manifestation of the general task, can be classified according to various criteria. You can highlight expenditure as: 1) current and property, 2) according to the budgetary classification departments or 3) fixed and variable.

Evaluation of the changes in the sphere of expense was based on total expenditures per capita that is property expenditure, current expenditures and investment. They relate to the broader investment activities in different areas, such as, in the municipal economy, in education and in transportation, whichdirectly affect the potential for development [Sobczyk 2010, s. 125-136]. Another expenditure, the current expenditure correlates directly with the of developments and includes such expendituresas expenditures on the salaries of teachers and the keeping of communal requirements. Expenditure on public administration ismaintenance the needs of local authorities and municipal offices. Social expenditure is an expense covering not only the municipalitybut on a large scale, include smaller villages and those in authority of the municipality. It is affected by external actions such as a recession, and internal changes, such as changes due to an ageing society. It is important not only for those affected, but also for the whole local community.

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[1] The arithmetic mean is a good measure of the position of distribution and at the same time, the measure of central tendency. This is a measure of the classical distribution of, or any amendment to any element of the test set implies a change of the mean value. The standard deviation is a classic measure of variability, says, how widely the values of some size (such as e.g. age, inflation, stock price, etc.) are scattered around its mean. The smaller the value of deviations of the observations become more centered around the average.

The financial condition of rural municipalities swiętokrzyskie region

Świętokrzyskie area is 11, 691, 05square kilometers, which represents 3, 74% of the area of the country (15 thplace before the Voivodeship, Opole Voivodeship). Its administrativedivision is derived into 13 counties, one city tributary (Kielce-district magistrates), and 102 municipalities, which include 5 urban municipalities, 26 rural-urban municipalities and 71rural municipalities.

The municipalities equalization wascharacterized by a great diversity of the level of financial health. On the right hand side, is highlighted a group of municipalities with a high level of financial health. In this group the range was from 0,571 (Sitkówka-Nowiny) 0,397 (Dwikozy) to 0,335 (Łubnice). Also, the meter for municipalities with the lowest level of slightly equalization exceeded the level of 0.00 (Klimont?w, Kluczewsko). Detailed classification of municipalities is presented in table 1.

Table 1.
Classification of rural communities due to the level of financial conditions in 2010.

1: municipalities with a high level of financial condition (average number of 8 municipalities; 0,339 group)	Sitkówka-Nowiny, Dwikozy, Łubnice, Rytwiany, Tuczępy, Bałtów, Strawczyn, Bogoria
2: municipality of average financial condition (average number of municipalities; 0,147 group 61)	Solec-Zdrój, Smyków, Krasocin, Morawica, Moskorzew, Skarżysko Kościelne, Stopnica, Masłów, Radków, Secemin, Oleśnica, Iwaniska, Piekoszów, Bliżyn, Zagnańsk, Miedziana Góra, Łączna, Fałków, Ruda Maleniecka, Łoniów, Tarłów, Nowa Słupia, Kije, Słupia (Jędrzejowska), Pacanów, Bieliny, Gowarczów, Nowy Korczyn, Złota, Mniów, Sadowie, Łagów, Szydłów, Imielno, Pierzchnica, Wiślica, Gnojno, Oksa, Wodzisław, Bejsce, Nagłowice, Baćkowice, Opatowiec, Łopuszno, Wojciechowice, Radoszyce, Raków, Mirzec, Samborzec, Michałów, Wilczyce, Sobków, Bodzechów, Czarnocin, Obrazów, Lipnik, Górno, Waśniów, Brody, Pawłów, Słupia (Konecka)
3: municipalities with low levels of financial condition (average number of municipalities 2 0.075 group;)	Klimontów, Kluczewsko

Source: own calculations based on the data bank of the local GUS.

The municipalities equalization of traits, vary greatly in characteristics, including such features as: incomeproperty, its own resources, tax revenue other income (including the EU), investment property expenditure, and expenditure on social policy (table 2). The index of correlation is greater than 0.9.

Table 2.
Selected indicators characterizing features simple in 2009 and 2010.

	min		max		arithmetic mean		standard deviation		coefficient of variation	
	2009	2010	2009	2010	2009	2010	2009	2010	2009	2010
total income	2151,0	2139,0	4984,0	8341,0	2635,0	3176,0	404,0	951,0	0,2	0,3
property income	0,0	0,7	931,4	1753,5	247,3	471,7	220,6	375,6	0,9	0,8
current income	1969,1	2053,0	4533,1	6977,9	2387,8	2704,4	318,7	800,8	0,1	0,3
own income	305,0	318,0	3339,0	3833,0	695,0	789,0	397,0	489,0	0,6	0,6
tax income	99,1	98,8	2026,0	2230,0	269,0	272,0	234,0	259,0	0,9	1,0
PIT income	108,0	118,0	521,0	457,0	194,0	201,0	88,1	79,0	0,5	0,4
other income (including the EU)	0,0	0,0	792,0	1022,0	73,5	108,0	154,0	188,0	2,1	1,7
total expenditure	2167,0	2304,0	5413,0	7521,0	2818,0	3584,0	510,0	1006,0	0,2	0,3
Investment property expenses	79,3	33,1	1801,0	3399,0	724,0	1097,0	391,0	677,0	0,5	0,6
Total current expenditure	1715,0	1832,0	3967,0	6386,0	2094,0	2484,0	285,0	721,0	0,1	0,3
expenditure on public administration	161,0	187,0	916,0	644,0	317,0	342,0	105,0	91,8	0,3	0,3
expenditure on social policy	333,0	368,0	775,0	4133,0	491,0	692,0	86,2	580,0	0,2	0,8

The ravening in the current budget of the local government means the budget revenue of non-earmarked money. Property expenditure includes expenditure on: 1) investments and investment purchases; 2) buying and placing of shares; and 3) consideration to commercial law companies. Source: own calculations based on the data bank of the local GUS.

Level of income per capita among the municipalities equalization was in the range of 318.0-3.833.0 zł in 2010. This income per capita was relatively high because this unit was characterized by a high share of revenue of its own in total income, and capital expenditure in total expenditures. These are the municipalities of 1 group (table 1).

In the test population, the highest level of financial condition was observed in communities characterized by, simultaneously large financial independence (measured in total income of their own income participation), a high level of investment activity (as measured by the participation of investment expenditure in total expenditure), and a large value of operating surplus receives in which current expenditures were covered by current revenues.

The essence of self-government is described as the principle of self-reliance [Niewiadomski 2001]. In terms of practical independence of the municipality is determined by its financial resources and assets, and how to perform tasks [Zawora 2010]. The financial autonomy of municipalities is determined by, among other things, the participation of its own incomes in total income, resultingin an average level of 25.0% in 2009 and 25.0% in 2010. The high financial independent municipalities include Sitk?wka-Nowiny (72.4% 67.0%, 73.8%; a municipality which is in vicinity of Kielce), and Tuczępy (51.4%, 47.9% 52.6%). The weakest municipalities are: Dwikozy (32.9%, 33.3%, 16.2%) and Łubnice (17.6%, 14.2%, 6.7%). All these municipalities belongto the group of municipalities maintaining healthy financial conditions, where the share of its own income in comparison to the total income amounted to 36% (table 3).

Table 3.

*Financial autonomy, investment activity and to cover current expenditure
in rural municipalities equalization in 2009 and 2010 [in%]*

	financial independence (measured in total income of their own income participation) [in%]		investment activity (measured by the participation of investment expenditure in total expenditure) [in%]		the value of the operating surplus (current expenditure covered by current revenues) [in%]	
	2009	2010	2009	2010	2009	2010
(1) the municipality with a healthy financial condition	36,0	36,1	29,7	37,7	87,9	87,0
(2) the municipality of medium-level financial health	24,6	23,7	24,0	28,2	88,0	92,9
(3) municipalities with low levels of financial health	18,9	18,4	19,3	17,2	84,1	93,0
Gminy wiejskie województwa świętokrzyskiego	25,7	25,0	24,5	29,0	87,9	92,2

Source: own calculations based on the data bank of the local GUS.

In the group of municipalities with an average level of financial health in the years 2008-2010 the highest score is in the communities of Krasocin (37.7%, 40.7% and 46,8%) and Chalam (54.1%, 43.9%, 43,0%). At the other extreme is Tarłów (22.4% 17.9%, 12.1%) and Mni?w (19,1%, 12.4%, 9.2%). In the group of municipalities with low levels of financial health are the municipalitiesKlimont?w(22.2%; 19.8%; 18,6%), and Kluczewsko (19.9%; 17.9% and 18.2%). In both these groups the autonomy of the municipalities is limited because their total income is subsidized by subsidies and grants.

The category of «property expenditure» includes everything that increases the assets of the local government. They are mostly investment expenditures [Adamiak 2005]. A law passed on June 30th, 2005 on public finance expenditures defines property as [Law ... 2005] investments and investment purchases, and purchase and placement of shares and payment of contributions to commercial law companies. A large portion of property expenditure usually involves a lot of investment activity. Investment expenditure in the economy correlates with the municipalities' financial condition. When the population density was high and investment infrastructure was strong, then the indicator value of financial health was high. When indicator values were low it indicated lowdensity population, or areas with forestland and protected areas. The average share of capital expenditures amounted to 24.5% in 2009 and 29,0% in 2010. In 2010, among municipalities with a high level of financial

health the best were Bałtów (43.05%), Rytwiany (42.89%), and the weaker wereŁubnice (22.83%) and Dwikozy (15.08%). In the group of municipalities with an average level of financial health, the healthier financially based municipalities were Strawczyn (59.43%), Secemin (55.27%), and the weaker areas were Czarnocin (6.42%) and Słupiam, Fałków (1.20%). In the third group, the financial health indicator value for the municipalitiesKlimontów was 18. 67% and Kluczewska15.74%.

<p align="right">*Table 4.*</p>

<p align="center">*The average level of sub-indices the financial health of rural municipalities equalization in 2010. (per capita)*</p>

	(1) the municipality with a high level of financial condition [PLN]		(2) the municipality of medium-level of financial condition [PLN]		(3) municipalities with low levels of financial condition [PLN]		Gminy wiejskie województwa świętokrzyskiego [PLN]	
	min	max	min	max	min	max	min	max
total income	3648,81	8340,80	2139,02	4309,70	2421,85	2619,61	2139,02	8340,80
own income	562,50	3833,06	318,05	1500,77	449,64	477,39	318,05	3833,06
tax income	110,75	2230,38	98,77	515,35	141,03	179,31	98,77	2230,38
Pit income	137,57	402,03	118,03	457,32	133,26	150,25	118,03	457,32
other income (including the EU)	8,63	1021,96	0,00	569,80	0,31	3,84	0,00	1021,96
total expenditure	4142,95	7520,47	2304,39	5261,42	2662,86	2790,56	2304,39	7520,47
investment property expenses	1134,25	3399,05	33,05	2739,29	419,05	521,09	33,05	3399,05
Total current expenditure	2320,75	6386,22	1831,62	3740,46	2243,81	2269,46	1831,62	6386,22
expenditure on public administration	228,02	564,96	186,59	643,60	275,99	289,15	186,59	643,60
expenditure on public administration	496,36	4133,2	367,47	1626,2	483,56	560	367,47	4133,21
the average value of the synthetic	0,339		0,147		0,075		0,174	
the average value of the synthetic	8		61		2		71	

Source: own calculations based on the data bank of the local GUS.

The municipalities' own resources increased steadily per capita although the level of this growth was less/more different. The municipalities' incomes were influenced by the two taxes-agricultural and real estate. This is due to the natural position of municipalities, the size of the agricultural economy, and the level of deductions, exemptions or reductions in relation to the statutory rates. The municipal government decides the amount and percentage rate of taxes applied.

The current expenditure budget of the municipality includes, primarily, expenses for wages and salaries, together with derivatives and write-downs on funds, and the costs of purchases of goods and services necessary for current activities which include repairs, fees, contributions and other miscellaneous charges. A separate category in the current expenditure selection of the budget includes benefits paid to individualsfor were performed.

When speaking about of expenditure on public administration one should keep in mind that the scope of local services is basically the same for all municipalities. However, the higher value indicated in the chart may indicatea higher standard of service than elsewhere, or even mismanagement.

The section «Expenditure on welfare» includes expenditures which can indicate the weaknesses of a municipality or its strengths. Additional studies are required to determine what these expenses are, as in the case, in 2010, the biggest indicator values were in municipalities affected by floods.

In this specifies time period reviewed, we noticed welfare expenditures escalated. The peak being in 2009 due to the cost of the effects of floods and reconstruction the technical infrastructure of the municipalities' property. This total expenditure growth can be assessed as positive, because expenditure is portrayed greater than current expenditure.

Summary. To make an assessment of financial management is difficult. It requires taking into account many different variables. The selected set of characteristics that describe the financial economy, should, as far as possible, be a full and comprehensive set of data of the situation that was studied. Usually it is determined on the basis of theory of personal, of existing research results, and of expert knowledge. The assessment must be made using criteria such as: universality, volatility, and the degree of severity and correlation. Monitoring the financial health of the local government units is a necessary element in the process of financial management, especially, in times of crisis, conducting a thorough assessment of phenomena, enabling the analysis of cause and effect in conjunction with taking timely action, which can prevent undesirable effects and stimulate the territorial development and local entrepreneurship.

The analysis confirmed the diversity of rural communities' equalization in terms of the level of financial health. It has helped highlight municipalities with their corresponding condition of financial health. This analysis also confirmed that the largest group was municipalities with an average financial health condition.

The level of self-supplied revenue and income per capita in all municipalities in the period 2008-2010 showed an upward trend, which should be considered positive; however it was still very low. A small percentage of the local revenue in comparison to total income can attest to their limited financial independence. This independence is reduced ever more when we take into consideration tasks that are performed by the municipalities which are government financed rather than locally financed. This limits significantly the financial autonomy of municipalities and makes them more dependent on governmentadministration. Municipalities with the highest percentage of its own revenue in total income have been reported in rural municipalities located near large cities.

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