Modern Financial Tools that Can be Used by Municipalities: An Empirical Investigation from Greece

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Abstract:

Present-day municipalities constitute important, dynamic, administrative and institutional entities which aim at developing local communities, tackling problems of peripherality and social cohesion and lifting exclusion. The primary aim of this survey is to investigate issues concerning Greek municipalities, such as the financial problems they face and which is the funding scheme they prefer. More specifically, the questionnaire - that was sent to the entire sample of Greek municipalities - examined the views of Mayors in each Municipality as regards: (a) What are the modern financial tools that can be used by municipalities? How they evaluate them? What they suggest what and what they prefer? The aim of the empirical analyses carried out is to draw useful and representative conclusions on issues concerning sources of funding in municipalities.

Key Words: *Municipalities, Funding, Financial Tools, Empirical Investigation, Greece*

JEL Classification : R11, R15, R51, R58

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1. Introduction

Municipalities are autonomous economic and administrative entities, with common actions and responsibilities. However, not all municipalities are the same when considering specific geographic, demographic, economic and other characteristics (Pallis, 2011). In Greece, the institutional framework surrounding Local Authorities prevented them from playing an essential role, due to their limited responsibilities and economic means. (Pallis and Pallis, 2013)

Within this framework the following question emerge, which constitute the main line of research:

- What are the modern financial tools that can be used by municipalities?
- How they evaluate them?
- What they suggest what and what they prefer?

The next chapter presents the methodology used with a description of the sampling and data collecting processes, the definition of the population, the determination of the sampling frame, the definition of the sampling unit, etc. In the third chapter, results of the methodological approach will be set out, while in the fourth chapter data analysis results will be presented. Finally, in the fifth chapter the overall results of the study will be given.

2. Methodology

2.1 General

This chapter presents the research methodology adopted in conducting this empirical project. More specifically, it includes:

(a) the definition of population and the study sample,
(b) the data collecting method,
(c) the response to the survey and the characteristics of Municipalities participating,
(d) the process whereby the research tool used to collect data was created (structured questionnaire) and its analytical presentation.

2.2 Sampling and Data Collection Process

The process of choosing the sample and collecting data is complex and includes six stages (Stathakopoulos, 2001):

- Definition of population,

- Determination of the sampling frame,
- Definition of sampling unit,
- Determination of sample size,
- Implementation.

From this process the total number of respondents that will participate in the survey emerges.

2.3 Definition of Population

The first and most important step in the primary data collection process is to define characteristics on the basis of which the population to be examined will be defined (Churchill and Iacobucci, 2002). The full definition of the population requires the inclusion of four basic parameters: the item, the sampling unit, the extent of the sampling and the time (Parasuraman et al., 2004). The item and sampling unit in this survey are defined as the Municipalities of Greece, the extent of sampling concerned the whole of the Greek state and the time it was conducted was from 10 June 2010 up to 30 September 2010. Communities in Greece were excluded from the population in the survey due to their small size and different needs in relation to the Municipalities. So in the end, the survey population was defined as being the 914 Greek Municipalities throughout the state, as recorded in the inventory of the National Statistical Service (2001).

2.4 Determination of the Sampling Frame

The next step, after defining the population to be examined, is to locate a sampling frame which must be composed of the fullest and most accurate inventory possible of members of the population to be examined (Churchill and Iacobucci, 2002). The sampling frame used in this survey was the most recent inventory of the National Statistical Service (2001) which includes the census of the population of Greece based on geographical Districts, Prefectures, Municipalities and Communities.

2.5 Definition of the Sampling Unit

The sampling units were defined as being the Greek Municipalities. As regards the respondents from whom survey data was collected, the «key informant method» was used, meaning the person in the survey unit (Municipality of Greece) who had the greatest knowledge of the subject of the survey. This method reduces to a satisfactory degree any concerns regarding the reliability of answers given by respondents, as the respondent chosen in each unit is the best available person with knowledge of the data that must be collected through the survey (Phillips, 1981), (Kumar, Stern and Anderson, 1993). In this survey the key informant was chosen to be the Mayor in each Municipality examined.

2.6   Choice of Sampling Method

Sampling methods considerably affect the possibility of generalizing the results. In order that the results emerging in the sample might be generalized throughout the total population, a probability sample must be used (Kinnear and Taylor, 1987) in which each unit in the sample has an equal chance of being selected from the population. The safest way of producing a probability sample is the population census and the definition of the total census as a sample in the survey (Stathakopoulos, 2001). This method was followed in this survey, ensuring the generalization of results.

2.7   Determination of Sample Size

As a result of the census method, the size of the sample coincides with the size of the population in the 914 municipalities recorded in the inventory of the National Statistical Service (2001).

2.8   Implementation

With reference to conducting the survey, the two following sub-paragraphs explain the method of contact with the respondents and the reasons they were finally chosen, as well as the results of the method.

2.9   Method of Contact

Completion and collection of questionnaires was carried out during the period from 10 June 2010 to 30 September 2010 in one phase with the use of self-completion questionnaires. The sample in the survey (which coincides with the population in the survey) is characterized by considerable heterogeneity, as it has been specified that it will be all the Municipalities in Greece. The choice of such a kind of sample contributes to the chance of generalizing the results of the survey, as in order for the results of a survey to be generally applicable, heterogeneous samples are preferred (Hooley, Lynch and Shephard, 1990, Kohli and Jaworski, 1990, Narver and Slater 1990, Ruekert, 1992). In order for the sampling units (Municipalities of Greece) to be approached as a sampling frame, the inventory of Municipalities from the National Statistical Service was used. One of the most common problems appearing during the use of inventories is the level to which they have been updated. The inventory used had been drawn up in 2001 and is the most recent. During the time the survey was being conducted, no cases occurred in which a Municipality could not be approached due to a wrong entry in the inventory. Sampling units were approached by mail. This took the form of the delivery of the questionnaire along

with an accompanying letter to each Municipality, for the attention of the Mayor, by mail, email or fax, which explained to the recipient the purpose of the survey. This was preceded by telephone contact regarding the dates the questionnaire would be delivered and handed back. This method obliges the respondent to respond within a fixed time (Stathakopoulos, 2001). Respondents returned the completed questionnaires using the same method, via mail, email or fax, on the dates specified. The choice of only one respondent from each sampling unit (key-informant) involves the risk of collecting information that bears no relation to reality, but reflects his personal views. However, the achievement of research objectives required that the respondent be the Mayor in each Municipality so he was in a position to speak about them accurately and in detail.

3. Research Results

The method of collecting data that was used, in the end brought about the collection of questionnaires from 299 Municipalities out of the total of 914 that had been specified as the sample population. This result provides a response percentage of 33% which is considered quite satisfactory, on the basis of the method adopted (Kinnear and Taylor, 1987). As described in table 1.1 the 299 Municipalities that responded to the survey represent the total population as there was good stratification and representation from all Prefectures in Greece with fairly satisfactory response percentages in each Prefecture. The Greek Municipalities that finally answered the questionnaire represent all the Municipalities in Greece as there was no Prefecture in which the individual response percentage was not satisfactory. Out of the 299 questionnaires collected, 41 were excluded from the analyses due to a large number of answers to questions that would have reduced the statistical reliability of the findings. Additionally in these 41 excluded questionnaires, cases were observed in which the respondents misinterpreted the hierarchical questions. In the end out of the 299 questionnaires 258 exploitable ones were taken into account in the survey (87%), a number which is statistically acceptable (eg. Hooley, Lynch and Shephard, 1990, Kohli and Jaworski, 1990, Narver and Slater 1990, Ruekert, 1992).

3.1 Measurement Tools

This paragraph presents the process of creating the survey tool (structured questionnaire), as well as the result of this process – in other words, the questionnaire used in this survey to collect data. During the preparation of the questionnaire that was finally used, a logical flow of questions had to be achieved. The questions have to be easy to understand, easy to answer and arouse the interest of the respondent with the aim of gradually involving him in the survey. In following questionnaire design practices (Kinnear and Taylor, 1987, Tull and

Hawkins, 1987, Churchill, 1991), an attempt was made to avoid leading questions that would perhaps direct the respondent to specific answers. Before the questionnaire took on its final form, pretesting was carried out twice. Initially, the questionnaire was tested by three independent teachers. Following the incorporation of their observations and prior to the start of data collection, the questionnaire was pretested a second time so as to ensure that the questions it contained were clear and easy for the respondents to understand. In the second pretesting a total of 10 Mayors took part from both large and small, urban and regional municipalities, with each of whom lengthy discussions were held regarding the content, type and flow of questions, as well as the arrangement of the sections based on the instructions in the relative article by Raynolds, Diamantopoulos and Schlegelmilch, (1993).

Following the evaluation of observations made by participants in the pilot study, certain questions were rejected and others recomposed, after consultation with the academics who had initially tested the questionnaire. In the end, the questionnaire used to collect data is made up of closed-ended questions. More specifically, the questionnaire examines the views of Mayors in each Municipality concerning: What are the modern financial tools that can be used by municipalities? How they evaluate them? What they suggest what and what they prefer? In the questions a hierarchical scale was used, as the respondents had to grade specific factors given to them from the most important to the most insignificant.

Table 1.1. Respondents per Prefecture

Geographical Districts	Prefectures	Municipalities Participation (number)	Total Number of Municipalities	Response	Municipalities Participation (population)	Total Population of Municipalities	Response
Attica	Athens	24	48	50%	1.111.093	2.664.776	42%
	Eastern Attica	9	26	35%	212.327	365.731	58%
	Western Attica	5	12	42%	115.702	150.847	77%
	Piraeus	9	16	56%	319.164	540.540	59%
Subtotal		**47**	**102**	**46,07%**	**1.758.286**	**3.721.894**	**47,24%**
Rest of Central Greece and Euboea	Etoloakarnania	7	29	24%	75.881	224.429	33,81%
	Boeotia	7	18	39%	68.524	125.681	54,52%
	Euboea	9	25	36%	31.968	212.993	15,01%
	Evrytania	5	11	45%	12.542	32.053	39,13%
	Fthiotida	9	23	39%	42.466	177.631	23,91%
	Fokida	4	12	33%	15.190	48.284	31,46%
Subtotal		**41**	**118**	**34,74%**	**246.571**	**821.071**	**30,03%**

Peloponnese	Argolida	6	14	43%	52.326	104.323	50,16%
	Arcadia	7	22	32%	28.055	101.444	27,66%
	Achaia	7	21	33%	27.611	321.389	8,59%
	Ilia	5	22	23%	7.849	193.288	4,06%
	Corinthia	6	15	40%	87.142	154.624	56,36%
	Laconia	9	20	45%	32.404	97.966	33,08%
	Messinia	6	29	21%	72.767	175.213	41,53%
Subtotal		**46**	**143**	**32,16%**	**308.154**	**1.148.247**	**26,84%**
Ionian Islands	Zakinthos	2	6	33%	16.475	39.015	42,23%
	Corfu	4	13	31%	18.279	110.317	16,57%
	Cefalonia	4	8	50%	14.448	38.435	37,59%
	Lefkada	2	6	33%	4.444	21.843	20,35%
Subtotal		**12**	**33**	**36,36%**	**53.646**	**209.610**	**25,59%**
Epirus	Arta	2	13	15%	9.126	75.634	12,07%
	Thesprotia	2	8	25%	9.527	43.071	22,12%
	Ioannina	10	28	36%	25.967	165.500	15,69%
	Preveza	2	8	25%	14.385	58.304	24,67%
Subtotal		**16**	**57**	**28,07%**	**59.005**	**342.509**	**17,23%**
Thessaly	Karditsa	6	20	30%	32.286	127.774	25,27%

	Larissa	9	28	32%	173.782	272.966	63,66%
	Magnesia	8	22	36%	22.214	202.632	10,96%
	Trikala	7	23	30%	64.352	134.963	47,68%
Subtotal		**30**	**93**	**32,25%**	**292.634**	**738.335**	**39,63%**
Macedonia	Grevena	4	8	50%	17.273	35.255	48,99%
	Drama	2	8	25%	11.215	103.545	10,83%
	Imathia	4	12	33%	52.620	143.618	36,64%
	Thessaloniki	14	45	31%	263.496	1.057.825	24,91%
	Kavala	4	11	36%	89.436	145.054	61,66%
	Kastoria	2	12	17%	6.117	52.063	11,75%
	Kilkis	4	11	36%	35.481	88.654	40,02%
	Kozani	6	16	38%	75.182	152.138	49,42%
	Pella	3	11	27%	51.276	145.797	35,17%
	Pieria	3	13	23%	21.074	129.846	16,23%
	Serres	5	22	23%	88.768	197.774	44,88%
	Florina	2	8	25%	17.267	51.770	33,35%
	Chalkidiki	3	14	21%	14.166	104.894	13,51%
Subtotal		**56**	**191**	**29,31%**	**743.371**	**2.408.233**	**30,87%**
Thrace	Evros	4	13	31%	26.207	149.354	17,55%

	Xanthi	2	7	29%	52.270	97.525	53,60%
	Rodopi	4	9	44%	62.770	104.854	59,86%
Subtotal		**10**	**29**	**34,48%**	**141.247**	**351.733**	**40,16%**
Aegean	Dodecanese	7	25	28%	89.869	189.152	47,51%
	Cyclades	8	20	40%	35.824	106.836	33,53%
	Lesvos	4	17	24%	23.231	108.747	21,36%
	Samos	2	8	25%	14.622	43.595	33,54%
	Chios	2	10	20%	2.920	53.408	5,47%
Subtotal		**23**	**80**	**28,75%**	**166.466**	**501.738**	**33,18%**
Crete	Iraklio	7	26	27%	171.971	292.489	58,80%
	Lassithi	3	8	38%	45.683	74.613	61,23%
	Rethymnon	4	11	36%	10.456	82.956	12,60%
	Chania	4	23	17%	22.400	149.703	14,96%
Subtotal		**18**	**68**	**26,47%**	**250.510**	**599.761**	41,77%
Total		**299**	**914**	**32,71%**	**4.019.890**	**10.843.131**	**37,07%**

4. Data Analysis

The field survey being conducted in this study is of an investigative type. The key objective of the survey underway is to investigate and observe phenomena and viewpoints on important issues in Greek municipalities. So this chapter presents the descriptive measures in all the questions in the questionnaire in the entire sample and attempts to pinpoint differences between Greek municipalities. The purpose of this group of analyses is to draw useful conclusions on the most important issues that occupied the field survey.

4.1 Main Financial Source

Another key objective of the research is to investigate the financial ability of the Greek municipalities, and how it affects their overall effectiveness in various fields. At the first level, it is desirable to explore the main sources of funding for municipalities to extract some useful conclusions about their financial inputs. For this reason, participants were asked to rank five possible sources of funding based on the importance for their municipality. The exact question used in the questionnaire was: What do you think should be the main source of funding for your municipality? The alternative sources that mentioned to all mayors were: state subsidies, own revenue from State taxes and business activity, revenue from direct taxation, indirect taxation revenue, and European funds. The descriptive measures of each variable are presented in tables and pie charts.

Table 1.2: State Subsidies

Ranking	Frequency	Percentage %
5	44	17,1
4	49	19,1
3	45	17,5
2	46	17,9
1	73	28,4
Total	**257**	**100,0**

Source: Pallis, 2011
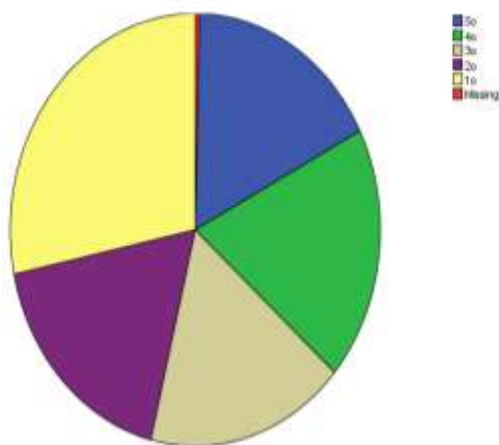
Table 1.3: Own Revenue from State Taxes and Business Activity

Ranking	Frequency	Percentage %
5	81	32,0
4	39	15,4
3	54	21,3
2	22	8,7
1	57	22,5
Total	**253**	**100,0**

Source: Pallis, 2011
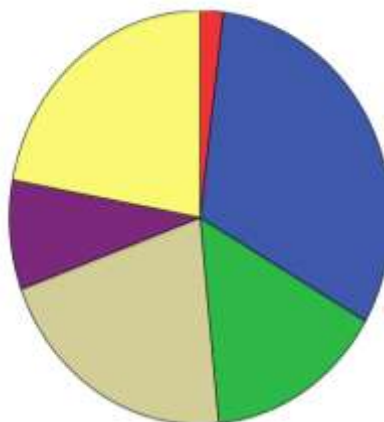
Table 1.4: Revenue from Direct

Ranking	Frequency	Percentage %
5	29	11,3
4	69	27,0
3	40	15,6
2	54	21,1
1	64	25,0
Total	**256**	**100,0**
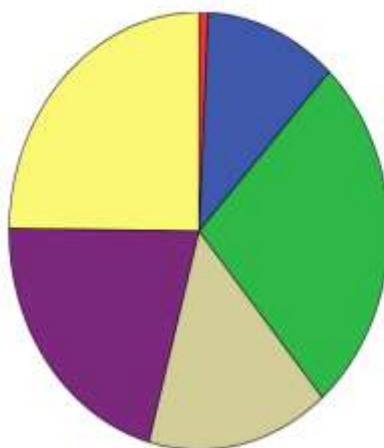
Taxation

Source: Pallis, 2011

Table 1.5: Revenue from Indirect

Taxation

Ranking	Frequency	Percentage %
5	58	22,7
4	46	18,0
3	61	23,9
2	62	24,3
1	28	11,0
Total	**255**	**100,0**

Source: Pallis, 2011

Table 1.6 : European Funds

Ranking	Frequency	Percentage %
1	43	16,9
2	53	20,9
3	55	21,7
4	69	27,2
5	34	13,4
Total	**254**	**100,0**

Source: Pallis, 2011
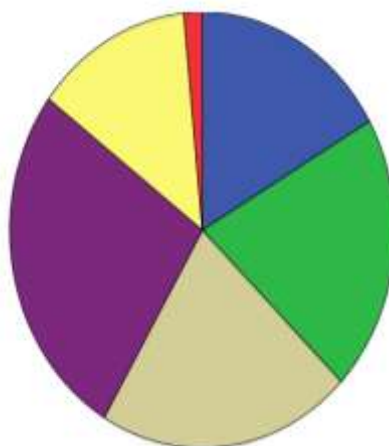
The first method (Table 1.2) of funding that mayors were requested to assess was State subsidies. There appears to be a slight trend among those questioned to assess this source as the most important since 73 respondents (28.4%) consider it the most important form of funding. The remainder of the answers was divided almost equally among the other four alternatives. More specifically, 17.9% of the sample placed State funding in second place, 17.5% in third place, 19.1% in fourth and 17.1% in last place.

The second method (Table 1.3) of funding that mayors were requested to assess was own revenue from state taxes and business activity. According to the sample, this is not a very significant form of funding for municipalities. 32% of respondents (81 mayors) assessed this source of funding as the least important of the five, 15.4% (39 mayors) as the fourth most important, 21.3% (54 mayors) as third and just 8.7% (22 mayors) as the second most important. Yet a considerable percentage of mayors described this as the most important of all (22.5%), a fact, however, which may be due to the peculiarities of certain municipalities.

The third (Table 1.4) and fourth (Table 1.5) methods of funding assessed by the mayors were revenue from direct and indirect taxation. Replies from the sample do

not give a clear picture of how the mayors assess these two forms of funding. As can be seen from tables and pie charts 1.4 and 1.5, the replies are divided almost equally, the only difference being that for direct taxation there is a slight trend to characterize it as more important, while indirect taxation is considered less important. Finally, the fifth method (Table 1.6) of funding that mayors were requested to assess was subsidies from European funds.

The general picture shows that they are considered to be moderately important by the mayors. More specifically, 34 respondents (13.4%) consider this means as the most important of all, 53 mayors (20.9%) as the fourth most important and 43 mayors (16.9%) as the least important. As can clearly be seen, the replies ranged mainly across medium levels, a fact which indicates that this means is considered to be of moderate importance. Due to the fact that the results for this particular question are not completely clear, the presentation of a chart is considered appropriate in this case too, showing the frequencies and the relative frequencies of the respondents who considered each source of funding as most important (Table 1.7 & Graph 1.1). As can be seen, the form of funding assessed as the most important by the majority of mayors is State subsidies at 29%. This is followed by the revenue yield from direct taxation (25%), own revenue from state taxes and business activity (22%) and European funds (13%). The source of funding described as the most important by the fewest mayors is the yield from indirect taxation at 11%.

Table 1.7: The Most Important Source of Funding

Source of Funding	Frequency	Percentage %
State subsidies	73	29%
Own revenue from state taxes and business activity	57	22%
Revenue yield from direct taxation	64	25%
Revenue yield from indirect taxation	28	11%
European funds	34	13%
Total	**256**	**100%**

Source: Pallis, 2011

Graph 1.1: The Most Important Source of Funding

The Most Important Source of Funding
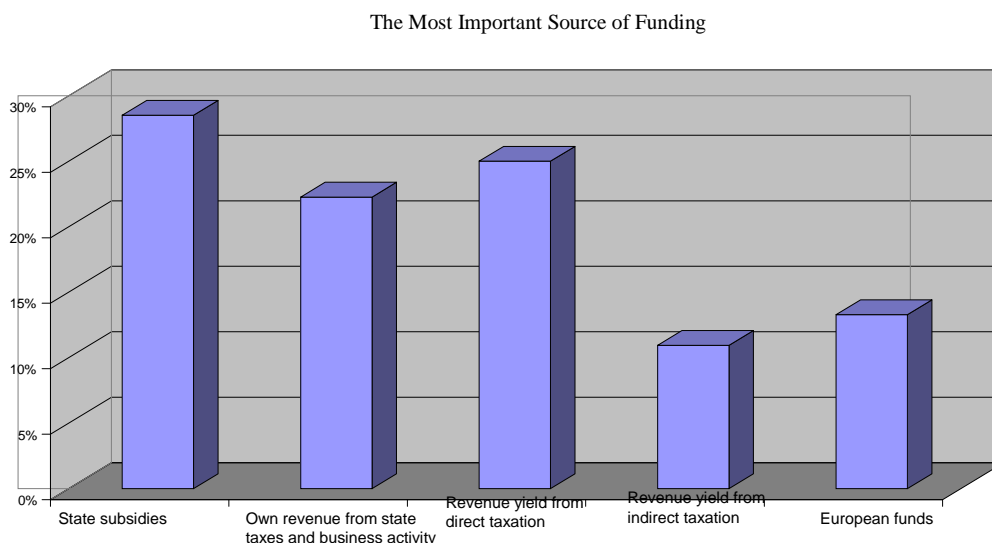
Source: Pallis, 2011

5. Conclusion

Given that the respondents were mayors and not citizens, the answers cannot be considered completely objective. Yet, according to existing bibliography (eg. Podsakoff et al., 2003), information drawn from a key informant, as is the Mayor of a city, brings a satisfactory level of objectivity to the answers. A key aim of the survey is to look into the financial potential of Greek municipalities, as well as how this affects their more general efficiency in various sectors. At a first stage it is thought advisable to look into the main sources of funding in municipalities, in order to draw some initial useful conclusions concerning their financial inflows. For this reason the participants were asked to grade five possible sources of funding on the basis of importance for their municipalities. The exact question used in the questionnaire was as follows: What do you believe should be the main source of funding in your municipality? The alternative sources of funding mentioned to the mayors was as follows: State subsidies, own revenue from state taxes and business activity, revenue yield from direct taxation, revenue yield from indirect taxation and European funds. The first method (Table 1.2) of funding that mayors were requested to assess is State subsidies. There appears to be a slight trend among respondents to assess this source as the most important form of funding. The remaining answers

were divided almost equally among the other four alternatives. The second method (Table 1.3) of funding that mayors were requested to assess was own revenue from duties and entrepreneurial activity. According to the sample, this is not a very important form of funding for municipalities. The third (Table 1.4) and fourth (Table 1.5) methods of funding assessed by the mayors are revenue from direct and indirect taxation. Replies from the sample do not give a clear picture of how the mayors assess these two forms of funding. As can be seen, the replies are divided almost equally, the only difference being that for direct taxation there is a slight trend to characterize it as more important, while indirect taxation is considered less important. Finally, the fifth (Table 1.6) method of funding that mayors were requested to assess is subsidies from European funds. The general picture shows that they are assessed as moderately important by the mayors (Table 7 & Graph 1.1). As can be seen, the form of funding assessed as the most important by the majority of mayors is State subsidies with 29%. This is followed by the revenue yield from direct taxation (25%), own revenue from state taxes and business activity (22%) and European programs (13%). The source of funding described as the most important by the fewest mayors is the yield from indirect taxation at 11%.

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