Financial Effectiveness and Areas of Improvement in Greek Municipalities

Petros Pallis

University of Piraeus, Piraeus, Greece

Christos Pallis

Hellenic Open University, Patra, Greece

The aim of this research is to separate the entire sample of Municipalities in Greece into categories, based on the effectiveness of financial management and financial performance into effective and ineffective ones. In this study, it investigated the existence of differences between the characteristics of these two categories. The main objective is to investigate the influence of financial effectiveness regarding those areas falling under state jurisdiction with the greatest room for improvement. Specifically, in Municipalities with ineffective financial management, local employment was notably considered to be the area with the greatest margin for improvement. Additionally, 21% of mayors of Municipalities with effective financial management consider that the state area of responsibility with the greatest capacity for improvement is that of attracting private investment. Moreover, the influence of financial effectiveness regarding the areas of competence of Greek Municipalities with the greatest room for improvement has a similar pattern. According to responses from mayors in Municipalities with ineffective financial administration, the areas of competence with the greatest room for improvement are provision and maintenance of infrastructure (23% of responses) and attraction of private investment (19% of responses). Accordingly, responses from mayors in Municipalities with the highest financial performance indicate that the areas of competence with the greatest room for improvement are provision and maintenance of infrastructure (21% of responses) and attraction of private investment (20% of responses).

Keywords: Greek Municipalities, local development, public finance, financial performance, financial management, empirical investigation

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 frame works surrounding local authorities prevented them from playing an essential role, due to the unlimited responsibilities and economic means (C. Pallis & P. Pallis, 2013).

Petros Pallis, Ph.D., researcher, Department of Maritime Studies, University of Piraeus, Piraeus, Greece.

Christos Pallis, Ph.D., researcher, Department of Banking, Hellenic Open University, Patra, Greece.

Correspondence concerning this article should be addressed to Petros Pallis, 35 Theotokopoulou str. Metamorfofi, 14452, Attica, Greece.

The aim of this research is to divide the entire sample of Municipalities in Greece into categories, based on the efficiency of financial management: efficient and inefficient Municipalities.

Cluster analysis was used to separate the sample in groups. Three variables were used to create the clusters in this research:

- a municipality's borrowing capacity;
- flexibility in non-investing costs;
- flexibility in investing costs.

These three variables were considered to be the key dimensions of efficiency in financial management; therefore, their use is illustrative of the efficiency or inefficiency of Greek Municipalities (C. Pallis & P. Pallis, 2016).

In this study, it investigated the existence of differences between the characteristics of these two categories. The main objective is to investigate the influence of financial effectiveness regarding those areas falling under state jurisdiction with the greatest room for improvement.

Moreover, the influence of financial effectiveness regarding the areas of competence of Greek Municipalities with the greatest room for improvement has a similar pattern.

The second chapter will present the methodology used, including a description of the sampling and data collection process, determination of the population, specification of the scope of the sample, definition of the sampling, etc. The third chapter will present the results of the methodology used and the fourth will present the results of data analysis. Finally, the fifth chapter will set out the overall conclusions of the research.

Research Methods

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; and (d) the process whereby the research tool used to collect data was created (structured questionnaire) and its analytical presentation.

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, choice of sampling method, determination of sample size, and implementation. From this process, a number of respondents will participate in the survey emerges.

The first and the most important step in the primary data collection process is to define characteristics on the basis of which population to be examined will be defined (Churchill & Iacobucci, 2002). The full definition of the population requires the inclusion of the following basic parameters: the item, the sampling unit, the extent of the sampling, and the time (Parasuraman, Grewal, & Krishnan, 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 conducted was from 10 June, 2010 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's population was defined as being the 914 Greek Municipalities through out the state, as recorded in the 2001 inventory of the National Statistical Service (Pallis, 2011).

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 & Iacobucci, 2002). The sampling frame used in this survey was the most recent inventory of the

National Statistical Service (Pallis, 2011) which includes the census of the population of Greece based on geographical districts, prefectures, Municipalities, and communities.

The sampling units were defined as being the Greek Municipalities. As regards, the respondents from who survey data were 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 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, & Anderson, 1993). In this survey, the key informant was chosen to be the mayor in each Municipality examined.

Sampling methods considerably affect the possibility of generalizing the results. In order that the results emerging in the sample might be generalized through out the total population, a probability sample must be used (Kinnear & Taylor, 1996) 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.

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 (Pallis, 2011).

With reference to conducting the survey, 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.

Completion and collection of questionnaires were 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, & Shepherd, 1990; Kohli & Jaworski, 1990; Narver & Slater 1990; Ruekert, 1992). 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, and orfax, 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 obliged the respondent to respond within a fixed time (Stathakopoulos, 2001). Respondents returned the completed questionnaires using the same method, via mail, email, and orfax, 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 must be the mayor in each Municipality, so he was in a position to speak about them accurately and in detail (C. Pallis & P. Pallis, 2016).

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 & Taylor, 1996). As is described in Table 1, 299 Municipalities 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.

Table 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 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%

Table 1 continued

Geographical districts	Prefectures	Municipalities participation (number)	Total number of Municipalities	Response	Municipalities participation (population)	Total population of Municipalities	Response
	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%

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 (e.g., Hooley et al., 1990; Kohli & Jaworski, 1990; Narver & Slater, 1990; Ruekert, 1992).

This paragraph presents the process of creating the survey tool (structured questionnaire), as well as the result of this process. 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, 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 them, 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 Reynolds, 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 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.

Analysis

Dividing Sample Into Categories Depending on Financial Performance

This section of analysis aims to divide the entire sample into categories, based on financial management efficiency (efficient-inefficient Municipalities). There are two reasons for this analysis: first because of the interest that the in-depth observation of the current situation demonstrates relating to the abilities of Municipalities in financial management, and second because of how crucial it is to look into the differences in other characteristics between efficient and inefficient Municipalities. Cluster analysis was used to separate the sample into groups (C. Pallis & P. Pallis, 2016).

In this research, three variables were used for the creation of clusters, whose descriptive details were analysed in the previous section, and which are: a Municipality's borrowing capacity, flexibility in non-investing costs, and flexibility in investment costs. These three variables were considered to be the key dimensions of efficiency in financial management; therefore, their use is illustrative of efficiency. The method used for the dimensions was the *K*-means method. This method predetermines the number of clusters into which the sample is divided.

In this research, the number of clusters was set at two because (a) theoretically, dividing Municipalities into efficient and inefficient makes more sense; (b) this number is considered to be the most appropriate when the variables used for division are more than two (Kinnear & Taylor, 1996). The results of cluster analysis are shown in Tables 2 and 3.

As is shown in the cluster analysis (Tables 2 and 3), the observations that resulted from sampling can indeed be divided into two groups on the basis of the three questions above. The first cluster includes 110 Municipalities, while the second one includes 146 Municipalities (Table 3).

The value for the first cluster centers (central observation) was 3 for all three variables, while the value for the second cluster centers was 2 for all three variables. Considering that the potential answers to the questions used ranged from 1: very good to 4: poor, the first cluster can be named "Municipalities with inefficient financial management" and the second cluster can be named "Municipalities with efficient financial management" (C. Pallis & P. Pallis, 2016).

Table 2

Cluster Centers for the Three Questions

	Final cluster centers	
	Cluster 1	Cluster 2
Municipality's borrowing capacity	3	2
Municipality's flexibility in non-investing costs	3	2
Municipality's flexibility in investment costs	3	2

Table 3

Number of Answers in Each Cluster

Number of cases in each cluster		
Cluster	1	110
	2	146

Descriptive Measures of Variables for Municipalities With Ineffective Financial Management

Table 4

Areas of Competence With the Greatest Room for Improvement

Areas of Municipality	Frequency	Percentage %
Local employment	12	11
Education and training	4	4
Community protection	5	5
Cultural and sporting activities	7	6
Policing	7	6
Cleanliness	17	16
Provision and maintenance of infrastructure	25	23
Public transportation	11	10
Attraction of private investment	21	19
Total	109	100

Figure 1. Biggest problem faced by citizens—Municipalities with ineffective financial management.

According to responses from mayors in Municipalities with ineffective financial administration (Figure 1 and Table 4), the areas of competence with the greatest room for improvement are provision and maintenance of infrastructure (23% of responses) and attraction of private investment (19% of responses). A relatively high percentage put cleanliness in first place (16% of the sample). The number of mayors who consider other municipal activities to be more important is smaller. Specifically, 11% of participants consider local employment to be the most important, 10% public transportation, 6% cultural and sporting activities, 6% policing, 5% community protection, and 4% education and training. In this case too, small differences are observed by comparison with the results arising from the overall sample.

Table 5

Areas Falling Under State Jurisdiction With the Greatest Room for Improvement

Areas of Municipality	Frequency	Percentage %
Local employment	29	27
Education and training	6	6
Community protection	7	6
Cultural and sporting activities	2	2
Policing	10	9
Cleanliness	11	10
Provision and maintenance of infrastructure	21	19
Public transportation	8	7
Attraction of private investment	15	14
Total	109	100

Figure 2. Areas falling under state jurisdiction with the greatest room for improvement.

With regard to those areas falling under state jurisdiction with the greatest room for improvement (Figure 2), the results are quite interesting (Table 5). Specifically, in Municipalities with ineffective financial management, in contrast to the results of the overall sample, local employment was notably considered to be the area with the greatest margin for improvement, with 27% of the sample ranking it first. Respondents in this category also see considerable room for improvement in two other areas for which the state has certain

responsibilities, that is, provision and maintenance of infrastructure, which 19% of mayors put first, and attraction of private investment (14%). Other state functions were given a first place ranking by a much lower percentage of respondents in this category, as is presented in detail in Table 5.

Descriptive Measures of Variables for Municipalities With Effective Financial Management

Table 6

Areas of Competence With the Greatest Room for Improvement

Areas of Municipality	Frequency	Percentage %
Local employment	16	11
Education and training	6	4
Community protection	12	8
Cultural and sporting activities	4	3
Policing	9	6
Cleanliness	27	18
Provision and maintenance of infrastructure	31	21
Public transportation	12	8
Attraction of private investment	29	20
Total	146	100

Figure 3. Areas of competence with the greatest room for improvement.

Responses from mayors in Municipalities with the highest financial performance (Table 6) indicate that the areas of competence with the greatest room for improvement are provision and maintenance of infrastructure (21% of responses) and attraction of private investment (20% of responses). A significant number of mayors in this category ranked cleanliness first (18% of the sample) (Figure 3).

The percentages of respondents who consider other municipal functions to be more important are as follows: 11% consider local employment to be the most important, 8% public transport, 8% community protection, 6% policing, 4% education and training, and 3% cultural and sporting activities. For this question, there are slight differences in the results compared to those Municipalities distinguished by ineffective financial management.

Table 7

Areas Falling Under State Jurisdiction With the Greatest Room for Improvement

Areas of Municipality	Frequency	Percentage %
Local employment	20	14
Education and training	9	6
Community protection	16	11
Cultural and sporting activities	6	4
Policing	21	14
Cleanliness	4	3
Provision and maintenance of infrastructure	25	17
Public transportation	14	10
Attraction of private investment	31	21
Total	146	100

Figure 4. Areas falling under state jurisdiction with the greatest room for improvement.

There is an interesting observation to be made regarding responses to this specific question by mayors of Municipalities with effective financial management (Table 7). The response frequencies are very different from the corresponding frequencies observed in the first group of Municipalities with ineffective financial management, as well as those of the overall sample. Specifically, 21% of mayors of Municipalities with effective financial management consider that the state area of responsibility with the greatest capacity for improvement is that of attracting private investment. Moreover, 17% of mayors in this category rank provision and maintenance of infrastructure first, 14% put local employment first, and another 14% policing, whereas a much smaller number of survey participants chose other sectors (Figure 4). These results confirm the conclusions of the previous section, namely that the financial performance of Municipalities is a factor behind the variability of responses from mayors regarding areas they consider to have most margins for improvement.

Conclusions

This research attempted to divide the entire sample into categories, based on the efficiency of financial management (efficient—inefficient Municipalities). Cluster analysis was used to separate the sample into groups. Three variables were used to create the clusters in this research: a municipality's borrowing capacity,

flexibility in non-investing costs, and flexibility in investing costs. As shown, the Municipalities were divided into two clusters, based on the three questions above. The first cluster includes 110 Municipalities (Municipalities with inefficient financial management) and the second cluster includes 146 Municipalities (Municipalities with efficient financial management).

In this study, it investigated the existence of differences between the characteristics of these two categories. The main objective is to investigate the influence of financial effectiveness regarding those areas falling under state jurisdiction with the greatest room for improvement. Specifically, in Municipalities with ineffective financial management, local employment was notably considered to be the area with the greatest margin for improvement. Additionally, 21% of mayors of Municipalities with effective financial management consider that the state area of responsibility with the greatest capacity for improvement is that of attracting private investment.

Moreover, the influence of financial effectiveness regarding the areas of competence of Greek Municipalities with the greatest room for improvement has a similar pattern. According to responses from mayors in Municipalities with ineffective financial administration, the areas of competence with the greatest room for improvement are provision and maintenance of infrastructure (23% of responses) and attraction of private investment (19% of responses). Accordingly, responses from mayors in Municipalities with the highest financial performance indicate that the areas of competence with the greatest room for improvement are provision and maintenance of infrastructure (21% of responses) and attraction of private investment (20% of responses).

References

- Churchill, G., & Iacobucci, D. (2002). *Marketing research, methodological foundations* (8th ed.). London: Harcourt Publishing.
- Hooley, G., Lynch, J., & Shepherd, J. (1990). The marketing concept: Putting the theory into practice. *European Journal of Marketing*, 24(9), 7-25.
- Kinney, T., & Taylor, J. (1996). *Marketing research, an applied approach*. Columbus: McGraw and Hill, Inc.
- Kohli, A., & Jaworski, B. (1990). *Market orientation: The construct, research propositions and managerial implications* (Marketing Science Institute, report No. 90-113, Cambridge, Massachusetts).
- Kumar, N., Stern, L., & Anderson, J. C. (1993). Conducting interorganizational research using key informants. *Academy of Management Journal*, 36(6), 1633-1651.
- Narver, J. C., & Slater, S. F. (1990). The effect of a market orientation on business profitability. *Journal of Marketing*, 54, 20-35.
- Pallis, C. (2011). The institutional framework of local government finance—Analysis and perspectives (Ph.D. thesis submitted to Panteion University of Political and Social Sciences, Athens, Greece).
- Pallis, C., & Pallis, P. (2013). Analysis of key obstacles and problems faced by Municipalities and their citizens: An empirical investigation in the Municipalities of Greece. *International Journal of Economics and Business Administration*, 1(2), 33-51.
- Pallis, C., & Pallis, P. (2016). Financial effectiveness of Greek Municipalities: An Empirical Investigation. *Management Studies*, 4(5), 183-196.
- Parasuraman, A., Grewal, D., & Krishnan, R. (2004). *Marketing research*. New York: Houghton Mifflin.
- Phillips, L.W. (1981). Assessing measurement error in key informant reports: A methodological note on organizational analysis in marketing. *Journal of Marketing Research*, 18, 395-415.
- Reynolds, N. L., Diamantopoulos, A., & Schlegelmilch, B. (1993). Pretesting in questionnaire design: A review of the literature and suggestions for further research. *Journal of the Market Research Society*, 35(2), 171-182.
- Ruekert, R. W. (1992). Developing a market orientation: An organizational strategy perspective. *International Journal of Research in Marketing*, 9, 225-250.
- Stathakopoulos, B. (2001). *Market research methodologies*. Athens: Mpenou Publications.