DO MUNICIPAL MERGERS WORK? EVIDENCE FROM MUNICIPALITIES IN GREECE

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Abstract

Greek municipalities involved in mandatory mergers from the Kallikratis program after the end of 2010. The purpose of this study is the accounting evaluation of Greek municipalities after the implementation of the Kallikratis program in the period of the economic crisis in Greece (2011 and onwards). To examine the success of the Kallikratis program in a difficult era for Greece we examine public accounting data for several accounting measures for the Greek municipalities; also we try to reveal if any municipalities' geographical area gained better performance under these circumstances. The results of this study showed that with the Kallikratis program, several municipalities, apart of new increased responsibilities in the post-Kallikratis period and with reduced state financial support, managed to achieve better results with increased their cash and cash equivalents, their securities and decreased their short-term debt. Last, according to the geographical area, these mandatory municipal mergers were more beneficial for some municipalities than to others, with better financial performance, limiting its obligations and improving its net position, thus providing us new insights to local development for Greece.

Keywords: Public Accounting, Municipalities, Kallikratis, Greece

1. INTRODUCTION

In the jurisdictions of modern states, it is envisaged, besides the legal person of the state, the institutionalization of a large number of other public legal entities, in which entities exercising public authority is organized. This method of administrative organization, i.e. the establishment of organizational units of the public administration, which are in particular legal persons, different from the state personality and have their own bodies, is called in Greece self-government or more correctly in the international arena, Local Government Organization (LGO). The necessity of LGO is considered to be their legal personality.

The administrative organization, which includes organizational units that do not have their own legal personality but express the state itself (e.g. Parliament, President of the Republic, Government, Ministers, courts, etc.), called the immediate state in Greece and is organized in centralized or in a decentralized system. Within the framework of the direct organization of the state legal person, there is deconcentration which indicates the transfer of power from a center to the region (and not for self-government that is created by the creation of a different legal entity different from that of the state).

On the other hand, the administrative organization, which includes organizational formations which have their own legal personality (or private law, if administered by the State or another legal entity governed by public law) is called an indirect administrative organization. The indirect administrative organization is the local self-government, i.e. a self-government system organized on the basis of the local criterion. With this system, special legal entities with local authority are established, self-governed, i.e. local government organizations (LGOs). The current Greek legislation provides for two forms of local government: the municipalities and the communities that constitute the first degree of government. Other forms of local government are the Regional LGOs, which constitute the second tier of the local government. The first degree of LGOs (currently constituted by the Municipalities) enjoys absolute constitutional protection because their origin is directly provided by the Greek Constitution (Pantelidis et al., 2018).

They are rightly considered a democratic institution. Democracy must be grounded upwards. This foundation is sought by local authorities in LGOs. They are cells of an autonomous democratic administrative organization. Their administration is highlighted by the voters themselves in their territory and not appointed by the central authority. Their legal power is not primary, such as that of the State but a donor or derivative granted by the State itself. Their general responsibility is the management of local affairs, with the main objective of protecting and promoting the interests and quality of life of the local community. Thus, the importance of local government for the citizen is great, since much of his everyday life depends on it.

In order to demonstrate the importance of the institution of primary local government, the fundamental forms of which are the Municipalities, it is imperative to study the historical development of the institution and the current institutional framework and the competences of its institutions. Furthermore, in a difficult period for Greece, we examine public accounting data for several accounting measures for the Greek municipalities and we try to reveal which municipalities' geographical area gained a better result under these circumstances.

2. HISTORICAL AND LITERATURE REVIEW

2.1. History of LGOs in Greece

The present regulatory division of Greece goes back to 2011 when three-level authoritative units were executed in the nation under the called "Kallikratis" program: seven state-directed decentralized organizations partitioned into 13 areas (regions), which thusly have been separated into 325 municipalities (Greek Law 3852/2010). A place that has a particular status and political framework is Mount Athos, which under the Constitution comprises an independent territory in Chalkidiki (Constitution of Greece, 1975, Article 105).

From the viewpoint of the advancement of the Greek local administration, one can recognize four fundamental stages/periods. The primary stage covers the standard of the first governor of the new Greek state, Mr. Ioannis Kapodistrias, and that of the Bavarian king, Lord Otto I Wittelsbach, that is, the years 1828-1887. The following stage is a period of the extraordinary changes directed under the tenets of Mr. Harilaos Trikoupis and Mr. Eleftherios Venizelos (1887-1927). It was trailed by the stagnation time frame spreading over the years 1927-1974. The last period of the Greek self-government advancement has been set up until the present day and goes back to 1974 (Lalenis, 2003).

The present image of the Greek model of LGOs comes as the result of the various changes which were actualized in the nation over the span of the nation's democratization procedure. At each phase of the advanced model of the Greek organization, the division in power was that into the administration organization, from one viewpoint, and on the other, local self-government administration. Besides, it should be focused on that after some time it was just a local government organization that was liable to additional changes. Consequently, the interior structure of the administration organization, in contrast to the local government, did not show noteworthy changes.

One very important period of the development of the Greek current model of the regional organization was the organization change started in 1997. It was usually called the Kapodistrias Plan. The fundamental target of the change was a disposal of the unnecessary regional discontinuity at the local level and subsequently, the number of municipalities was diminished from 5.775 to 1.033. Therefore 133 urban municipalities and 900 country municipalities were built up (Greek Law 2503/1997; Hlepas & Getimis, 2011). Notwithstanding, it ought to be accentuated that, aside from diminishing the number of municipalities at the local level, no measures were embraced to decentralize the districts, which implied that they were not self-administering.

The last period of the development of the local government demonstrate in Greece was the organization change from 2010-2011, the called Kallikratis program (Greek Law 3852/2010). The primary point of this change was identified with the Lisbon Strategy. From one perspective, the Greek specialists looked to change the managerial structures of the local government to the necessities set down in the methodology, and then again, to the prerequisites of the fourth time of programming the Union assets for 2007-2013. The result of the measures taken was building up to seven state decentralized organizations in the spot of the past 13 areas (regions), which thus superseded the "Prefectures" of the second dimension. What is imperative now is that the Greek areas were made legitimately self-overseeing, which was exhibited by setting up local bodies with goals passing skills and official capabilities, comprising separate from one another establishments as substances shaped by general races. The outcome of the change execution, the Kallikratis program, was a diminished number of municipalities (LGOs), from 1.033 to 325, which thus prompted expanded number of municipalities, presently equivalent to the number of municipalities in different nations over the EU territory (Hlepas, 2012; Greek Law 3852/2010).

Along these lines, this example of regulatory division conveyed the Greek model nearer to the regional organization models of other EU states. Another critical truth is additionally the issue of cost-proficiency. One should remember that the time of 2010-2011 was at that point set apart by the nation's monetary emergency, which likewise implied that the point of this change was to rise up out of the emergency, or if nothing else to devise measures taking into consideration more prominent reserve funds in the state spending plan. The decrease of the number of municipalities and the progressions executed at the second dimension (supplanting the 51 prefectures with 13 local regions) yielded quantifiable advantages, for example from one viewpoint, the number of local government units was diminished by about 40%, and then again, it conveyed reserve funds to the financial plan at around EUR 1,8 billion every year (Ladi, 2014).

In addition, one should likewise feature the positive angle in that the Greek Constitution is entirely positive for local self-administration (LGO). While the most critical choices are made at the notable dimension, Article 102 of the Constitution of Greece, for example, the Constitution of Greece from 1975 states that the affairs which are local in their inclination are the duty of local governments at the first and second level (LGOs). Furthermore, a similar article accommodates the standard of an assumption of ability for local governments (Constitution of Greece, 1975, Article 102).

When alluding to the Greek model of local self-government, one ought to likewise bring up the arrangement, exceptional on an European scale, which is the self-governing political arrangement of Mount Athos (called Aghion Oros), with article 105 of the Constitution of Greece setting out its legitimate premise having the accompanying wording: "The Athos peninsula extending beyond Megali Vigla and constituting the region of Aghion Oros shall, in accordance with its ancient privileged status, be a self-governed part of the Greek State, whose sovereignty thereon shall remain intact. Spiritually, Aghion Oros shall come under the direct jurisdiction of the Ecumenical Patriarchate. All persons leading a monastic life thereon acquire Greek citizenship without further formalities, upon admission as novices or monks. Aghion Oros shall be governed, according to its regime, by its twenty Holy Monasteries among which the entire Athos peninsula is divided; the territory of the peninsula shall be exempt from expropriation. The administration of Aghion Oros shall be exercised by representatives of the Holy Monasteries constituting the Holy Community. No change whatsoever shall be permitted in the administrative system or in the number of Monasteries of Aghion Oros, or in their hierarchical order or in their position to their subordinate dependencies. Heterodox or schismatic persons shall be prohibited from dwelling thereon" (Constitution of Greece, Article 105, para. 1-2, pp. 119-120).

What further adds to its uniqueness is the way that the managerial predominant of Mount Athos is a representative who is responsible to the Minister for Foreign Affairs and not the Minister for Internal Affairs or for Public Administration. The representative's capabilities incorporate, viewing the recognition of the arrangements of the Charter, taking an interest in the sessions of the Holy Community as a consultant, just as sorting out and overseeing open administrations locally (Stolarek, 2018).

2.2. Literature review

Utilizing diverse proportions of open administration and transparency, several studies have experimentally researched the determinants of transparency and economic performance of state-owned organizations in various nations (Gustafsson, 1980; Steiner, 2003; McKay, 2004; Guillamón et al., 2011; Calciolari et al., 2013; Hirota & Yunoue, 2014; Rausch, 2014; Ferreira da Cruz et al., 2016; Galli et al., 2017, 2018; Fadda et al., 2018).

Alt et al. (2006) used unique panel data on the evolution of transparent budget procedures in the American states over the past three decades to explore the political and economic determinants of fiscal transparency. They suggested that more equal political competition and power sharing were associated with both greater levels of fiscal transparency and increases in fiscal transparency during the sample period, while political polarization was associated with lower transparency. Furthermore, past fiscal conditions also appeared to affect the level of transparency.

Caamaño et al. (2011) examined budget transparency for 33 municipalities in Galicia based on a Likert-type survey questionnaire specifically designed to measure budget transparency in small municipalities. They claimed that unemployment is negatively correlated with fiscal transparency while the institutional variables are not.

Nakazawa (2013) proposed with his study that inefficiency may happen due to municipal amalgamations. Even municipal mergers are forced worldwide to gain economies of scale, there is always the possibility to create slack costs from these mergers. Nakazawa (2013) analyzed 479 Japanese municipalities with merger events from 2000 to 2005 and employed the stochastic frontier cost function as research methodology to calculate the inefficiency of municipal costs due to slack. The received results proposed that municipal amalgamations produce integration costs (slack) in Japan. However, it is obvious that the degree of slack is directly related to the type, size, and circumstances of municipal mergers.

Ferraz Esteves de Araújo and Tejedo-Romero (2016) studied the index transparency in Spanish municipalities and determined the main features that are affecting the index of transparency. Their data were collected from Transparency International Spain ranking and from official sources, while both univariate and multivariate analysis were performed for the treatment of their data. Ferraz Esteves de Araújo and Tejedo-Romero (2016) argued that political factors like electoral turnout, political ideology, and political competition had a significant effect on the index of transparency, while gender had no significant effect on the index of transparency.

Even there are many studies of municipal mergers worldwide, there is a scarcity of studies that analyzed the unequal distribution of merger benefits among merger partners. Suzuki and Sakuwa (2016) tried to fill this gap. They examined the local population before and after municipal mergers in Japan. In Japan at the period of 1999-2014, there were 649 municipal mergers. From them, 461 municipalities were merged with the formation of a new municipality, while 188 municipalities absorbed by others. The data analysis extended from 1995 to 2010 with pre-merger and post-merger analysis on local population growth, and the applied methodology included propensity score-matching. Suzuki and Sakuwa (2016) argued that Japanese municipal mergers negatively affect population growth for the smaller municipalities among their merging partners: citizens are more possible to go to the new centre of the merged municipality.

Galli et al. (2017) examined from an economic perspective the recent Italian legislation on transparency to investigate whether the potentialities of transparency as a tool to improve performance and integrity are fully exploited. They constructed a synthetic indicator (CTI) consisting of two sub-indicators, CTI Integrity, and CTI

Performance, which were able to describe in numerical terms the overall degree of transparency of Italian public administrations as well as the two different aspects of the public activity's transparency. Galli et al. (2017) proposed that their transparency indicators showed a satisfactory correlation with widely used measures of the quality of institutions as well as with the official data on municipalities' public spending performance.

In Japan, municipal mergers decreased the number of municipalities from 3.232 in 1999 to 1.820 in 2006. In accordance with that, Hirota and Yunoue (2017) analyzed the potentials and their fiscal effects of Japanese municipal mergers. Specifically, they examined if the Japanese municipalities just before mergers increased their expenditures and long-term debt. Hirota and Yunoue (2017) tried to identify causal effects by applying propensity score matching on the municipality's characteristics (population size, area, financial structure) by applying the differences-in-differences method. Their results showed that the municipalities just before their merger absorption from another municipality (bigger one) created a fiscal common pool problem with contracted public projects.

Steiner and Kaiser (2017) tried to test the effects of municipal mergers in Switzerland in the period from 1998 to 2009. More specifically, they analyzed the impact for mergers in the public services, local finance structure, administrative staff and municipal procedures on autonomy. Their data came up from two different surveys of local state authorities in the years 1998 and 2009. Steiner and Kaiser (2017) examined the differences between a quasi-experimental and a control group. They claimed that there is a positive effect on public services, and municipal procedures and autonomy, while the result on local finance is not clear.

Dollery and Yamazaki (2018) explored municipal mergers in Australia and Japan local government system from a theoretical aspect. More specifically, they examined the aims of a municipal merger in Australia and Japan, how merging procedures were applied by public policymakers and last, they analyzed the received merger results. From them, after a comparative analysis for the two cases, Dollery and Yamazaki (2018) argued that some lessons for local government should be applied by policymakers at local government reform.

Blesse and Roesel (2018) examined the county mergers in two different countries: Germany and Austria. In the first one, there was the merger of counties that acted autonomously (as upper-level local governments), while in the second, counties being decentralized branches of the state government. They applied the difference-in-differences methodology to test the impact of these county mergers. Blesse and Roesel (2018) claimed that significant increases occurred in rent expenditures for expanded counties' buildings after mergers, and they do not find some cost reduction. Also, there is not any clear evidence for staff reductions.

3. RESEARCH DESIGN

3.1. Sample

The purpose of this study is the accounting evaluation of Greek municipalities after the implementation of the Kallikratis program in the period of economic crisis (2011 and onwards). The results of the Kallikratis program are examined on the sum of Greek municipalities (325 municipalities) in the post-Kallikratis period. These 325 municipalities are categorized according to their geographical area with their state region. In Greece, there are seven state regions: Aegean, Attica, Epirus-Western Macedonia, Thessaly-Central Greece, Crete, Macedonia-Thrace, Peloponnese-Western Greece-Ionian. From this aspect, the study tries to reveal if several municipalities have achieved better results and better financial performance than others, providing new insights to local development and economy in Greece.

3.2. Quantitative and qualitative variables

We use several accounting measures (public accounting data) from the financial statements of all the 325 Greek municipalities, as many past studies (Brusca-Alijarde, 1997; Cohen, 2008; Godard, 2010; Cohen & Kaimenakis, 2011; Pazarskis et al., 2016). More specifically, we examine the four most important accounting measures for all the municipalities that: 1) provide the results of a possible successful financial performance; 2) could reveal the municipal investments and 3) present the municipalities' obligations (analysis of short-term and long-term debt). The analysis of financial statements includes the first year of the Kallikratis program in Greece (which is 2011) to the last available year at the time of this writing (which is 2016). The examined accounting measures from public accounting data that are the quantitative variables of this study are tabulated in Table 1.

Table 1. Quantitative variables: Accounting measures from public accounting data

Code	*Variables*
Cash_Equiv	Cash, bank deposits and cash equivalents
Securities	Securities - municipal investments
Bank_Loans	Bank loans (long term debt)
Total_Liab	Total liabilities minus bank loans (short-term debt)

As we try to reveal which municipalities' geographical area gained a better result under these circumstances, we categorize all the Greek municipalities according to their geographical area from the existence of their state region that is belonged to. These qualitative variables of the study are depictured in Table 2.

Table 2. Qualitative variables: State regions that incorporate all Greek municipalities

Variables	*State region*	*Number of municipalities*
REG_1	Aegean	43
REG_2	Attica	66
REG_3	Epirus-Western Macedonia	30
REG_4	Thessaly-Central Greece	50
REG_5	Crete	24
REG_6	Macedonia-Thrace	60
REG_7	Peloponnese-Western Greece-Ionian	52
	All	325

3.3. Methodology

The study employs several accounting measures to analyze the performance of all the Greek municipalities that involved in mandatory mergers from the Kallikratis program. These quantitative variables indicate different conditions of the LGO (e.g., liquidity, debt, etc.). We test the first year of the Kallikratis program in Greece (thus, 2011) to the last available year at the time of this writing (which is 2016) that is actually signalizes the end of the Kallikratis program. The mean from the sum of each accounting measure is computed and we try to ascertain if these mergers are beneficial. In testing this first hypothesis (*H1*), we use two independent samples' mean t-tests for unequal variances (Pazarskis et al., 2016).

For the second hypothesis (*H2*) we test the relation of geographical areas in Greece between the changes in the accounting performance of every Greek municipality after mergers. This is done based on the municipalities' geographical area according to the existence of their state region that is belonged to. The change in the accounting performance of every municipality is measured as the change in the accounting measure (*ΔVAR*) from the value after the municipal merger (2016) minus the value at the beginning of the municipal merger (2011). Specifically, let $\overline{VAR}_1$ be the pre-merger average of every accounting measure (*VAR:* Cash_Equiv, Securities, Bank_Loans, Total_Liab) for a municipality and let $\overline{VAR}_2$ be the post-merger average for the same municipality. Thus, the change in accounting performance is measured as: $\Delta VAR_i = \overline{VAR}_{2i} - \overline{VAR}_{1i}$. Next, we analyze the geographical area characteristic by categorizing them in seven groups according to their different state region characteristics. Because this data sample has not a normal distribution, we use the Kruskal-Wallis test that does not require the data to be normal and uses the rank of the data values.

4. RESULTS

Descriptive statistics of the Greek municipalities, regarding the accounting measure of this study (Cash_Equiv, Securities, Bank_Loans, Total_Liab) for the first year of the Kallikratis program in Greece (2011) and the end of the Kallikratis program (2016) are presented in the next two tables.

Table 3. Descriptive statistics for examined variables in the end of the Kallikratis period (2016)

Variables	*N*	*Mean*	*Std. Dev.*	*Minimum*	*Median*	*Maximum*
Cash & cash equivalents	325	5508,8	7239,3	0,586	3062,5	59011,0
Securities	325	2536,2	7230,0	0,0	254,0	69751,7
Bank loans	325	4099,8	11581,1	0,0	1374,1	129512,5
Total liabilities (bank loans)	325	2249,6	4783,9	0,0	1069,0	61313,2

Note: The amounts are in thousands Euro.

Table 4. Descriptive statistics for examined variables in the start of the Kallikratis period (2011)

Variables	*N*	*Mean*	*Std. Dev.*	*Minimum*	*Median*	*Maximum*
Cash & cash equivalents	325	2570,7	2923,5	0,0	1641,4	23785,4
Securities	325	1467,1	4761,1	0,0	1,938	50947,2
Bank loans	325	5499,7	15269,0	0,0	2044,5	190511,4
Total liabilities (bank loans)	325	5310,3	10692,2	0,0	2351,7	88009,5

Note: The amounts are in thousands Euro.

Next, in order to analyze the impact of the Kallikratis program over all the Greek municipalities on mandatory municipal mergers the study compares the mean from the sum of each accounting measure for *H1* using two independent samples' mean t-tests for unequal variances (Pazarskis et al., 2016). The received results are presented in the next table. From them, it is obvious that, in general, the Greek municipalities increased their cash and cash equivalents and securities in the period of 2011-2016, while they decreased their short-term debt. Similar results found Blesse and Baskaran (2016) for Germany and Reingewertz (2012) for Israel. Also, there is clear evidence that the majority of the Greek municipalities have not repaid totally their bank loans. Last, as these mandatory municipal mergers were beneficial we accept *H1*.

Table 5. Comparison results for examined variables in the start and end of the Kallikratis period

Variables	*Mean start period*	*Mean end period*	*t-value*	*p-value*	*Confidential index*
Cash & cash equivalents	2570	5508	6,78	0,000***	(2086; 3789)
Securities	1467	2536	2,23	0,026**	(1259; 2012)
Bank loans	5499	4099	-1,32	0,188	(-3487; 687)
Total liabilities (bank loans)	5310	2249	-4,71	0,000***	(-4337; -1783)

*Notes: 1) The amounts are in thousands Euro; 2) ***,**,* indicate that the change of the mean is significantly different from zero at a significance level of 0.01, 0.05, and 0.10, respectively, as calculated by comparing the average of two independent subassemblies (two independent samples mean t-tests) at ratios of the sample. More specifically, for the three above cases the classification levels relative to the value of the p-value are the following: $p<0.01$ indicates strong evidence against H0 (denoted by ***); $0.01 \leq p<0.05$ indicates moderate evidence against H0 (denoted by **); $0.05 \leq p<0.10$ indicates minimum evidence against H0 (denoted by *); $0.10 \leq p$ indicates no real evidence against H0.*

Regarding *H2* of the study and to test the relation of geographical areas in Greece between the changes in the accounting performance of every Greek municipality after mergers, we use the Kruskal-Wallis test. From the received that are presented in the next table it is clear that the municipalities' geographical area (according to the existence of their state region that is belonged to) have a statistically significant impact in accounting performance of every accounting measure (Cash_Equiv, Securities, Bank_Loans, Total_Liab). Last, as these mandatory municipal mergers have a different impact for every geographical area (thus, a different state region) we accept *H2*.

Table 6. Results (Kruskal-Wallis test)

ΔVariables	*REG_1*	*REG_2*	*REG_3*	*REG_4*	*REG_5*	*REG_6*	*REG_7*	*p-value*
ΔCash_Equiv	747,2	3111,9	396,6	836,7	656,8	1791,2	1003.8	0,000***
ΔSecurities	0,00	0,00	705,0	33357,5	0,00	0,00	19797	0,071*
ΔBank_Loans	-2,28	-1439,7	-310,2	-401,4	-423,3	-831,3	-497,3	0,000***
ΔTotal_Liab	-197,7	-3471,4	-247,6	-796,4	-1590,1	-1784,7	-608,1	0,000***

*Notes: 1) ***,**,* indicate that the change of the mean is significantly different from zero at a significance level of 0.01, 0.05, and 0.10, respectively; 2) the amounts are in thousands Euro.*

5. SUMMARY AND CONCLUSIONS

As every Local Government Organization (LGO), Greek municipalities have administrative and financial independence and play a key role in local development and economy. However, even if the state ensures the necessary resources in order for municipalities to accomplish their mission, the Greek state control is restricted to controlling the legitimacy of their actions. The purpose of this study is the accounting evaluation of Greek municipalities after the implementation of the Kallikratis program in the period of economic crisis (2011 and onwards). The Kallikratis program is the program of mandatory municipal mergers adopted in Greece at the end of the year 2010.

To examine the success of the Kallikratis program in a difficult era for Greece we examine several accounting measures from public accounting data for the Greek municipalities and we try to reveal which municipalities' geographical area gained a better result under these circumstances. The results of this study showed that mandatory municipal mergers from Kallikratis program were beneficial. Greek municipalities apart from new increased responsibilities in the post-Kallikratis period and with reduced state financial support managed to achieve better results. Greek LGOs gained to increase their cash and cash equivalents and securities in the period of 2011-2016, while they decreased their short-term debt. Also, there is clear evidence that the majority of the Greek municipalities have not repaid totally their bank loans.

Furthermore, regarding the relation of geographical areas in Greece between the changes in accounting performance of every municipal merger the study concluded that were more beneficial for some municipalities than others according to their geographical area. The results of this study could be useful for comparison as data with similar work at a later time to European and Greek state authorities. Finally, these results could be useful in future research for comparison at municipal level from other countries or could be extended to cover either a longer control period or include more accounting variables or financial ratios for different comparison for the same or different examined periods.

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