Analysis Related to Optimal Size of Municipality and Efficiency - A Literature Review

Dr. Eva Dhimitri

Department of Management, Faculty of Economics, "Fan S. Noli" University, Korce, Albania

Abstract

The need for policy with a territorial focus is prompting central governments in most of European Countries in transition. They pay attention to sub-national territorial levels. In all territorial development studies and assessments conducted at sub-national level, the choice of territorial unit is of prime importance. The reference used by international bodies, researchers and policy-makers in their work is usually a country's administrative units, given the availability of relevant information. The purpose of the Literature Review is to clarify some questions: Is there an optimal size or range of sizes for a local government entity from the standpoint of efficiency and to minimize duplication of efforts? Are there diseconomies of scale associated with larger local governments requiring proportionally more administration? There is a healthy literature on municipal size and the efficiency of the delivery of municipal services. The belief that larger size local governments would be more efficient has motivated much of this work and, further, has motivated the call for consolidation to cure the supposed inefficiencies.

Keywords: optimal size, economy of scale, diseconomy of scale, fragmentation, size/productivity, size/efficiency

Introduction

Local government reforms are one of the tasks and challenges of the future in Albania. They are closely related to regional development which takes a special importance in the context of EU integration. Reforms have begun to change the system in 1990 to enhance implementation of local democracy and decentralization principles that are present today. In the center of regional policies or practices is the efficient use of the potential of each region, considering that the municipality and commune level. Inequalities that exist within the region and between them show that the economic potential in some regions is not fully utilized, and this reduces the overall performance at the national level. Now, regionalism is a new concept that aims to stimulate and diversify the economic activity of a country. Demographic, social and economic make these policies to be constantly subject to change to reflect economic reality, demographic, and social. However, to provide a starting point for economic growth in every segment of society, to support the growth and movement of population from rural to urban areas, as the quality and variety of public services and infrastructure, remains the identification and addressing social and economic issues the regions. Reform of territorial division is one of the most important and must take consideration in Albania.

The theoretical arguments of administrative –territorial division of the country.

There exist contradicting opinions about the optimal administrative-territorial division of a country, where some favor large municipalities and others small. There are four main arguments used by those who favor large municipalities (Relationship 2001):

• large municipalities are economically more efficient;

• large municipalities the political processes are more democratic;

• large municipalities have more possibilities for promoting economic development;

• large municipalities will provide a better and fairer distribution of services, tasks and tax burdens.

The most widely used statement is that economic efficiency is dependent on the size of the local units. Economies of scale refer to the reduction of unit costs that occurs as a result of increasing the production volume. This occurs when the long-

term marginal costs of production are smaller than the long-term average cost (Bailey 1999). If economies of scale occur, larger municipalities are able to provide more public services at the same level of expenditures or reduce the level of expenditures while retaining the volume and quality of public services. Economies of scale occur when there are fixed costs (associated with providing a service), when an increase in supply will promote workforce specialization and better division of labor or when discounts or other reductions of costs can be achieved through buying in large quantities. The merging of municipalities and the possible spatial centralization resulting from this also has a negative side, in particular the reversion of rural areas.

Moreover, it is more than doubtful whether the theoretical positions of economies of scale can be used to predict the efficiency of public service provision in municipalities, because according to Bailey (1999), public services are not very standardized, the outputs are not clearly identifiable and quantifiable and unit costs are not measurable with sufficient accuracy due to the high proportion of fixed costs. Consequently, economies of scale can occur only in a few public services. For some public services a larger municipality may instead lead to unit cost growth or in other words diseconomies of scale (Dollery, Crase 2004).

Byrnes and Dollery (2002) conducted a meta-analysis of various studies carried out in the United States and United Kingdom from 1951 to 2001 and found that 39 percent of the research papers showed no statistically reliable relationship between per capita expenditure and municipality size, and that diseconomies of scale characterized larger municipalities in 24 percent of the research papers. Due to the diversity of public services, the economies of scale argument are not adequate to justify the merging of municipalities. To achieve economies of scale when providing a diversity of public services it is much more reasonable for municipalities to cooperate with each other in this field instead of merging (Friedrich, Reiljan 2010). In addition, services (or products) with the potential for economies of scale could be bought in from private companies or the rights to provide those services could be privatized. Alternative options (cooperation, buying in services and products and privatization) make economic efficiency as a justification for large municipalities even more dubious. The possible presence of economies of scope is a second major argument in favor of the alleged economic efficiency of large municipalities.

As Dollery and Crase (2004) write: "Economies of scope, refer to the economic advantages that occur by providing a broad range of goods and services in a single organization, like a municipality. In particular, economies of scope arise when the cost of producing a given set of services in a single organization is lower than the cost of those services being produced by a number of specialized organizations". Dollery and Fleming (2006) conclude that there are three main sources of scope economies: jointers in inputs – one input can be used in the production of more than one output and thus inputs could be fully exploited; jointers in outputs – more than one output is produced from the same set of inputs (typically a main product and one or more by-products); and interactions between service provision and goods production processes – outputs from one process are inputs into the second process.

The economies of scope argument for justifying the need for large municipalities are also one-sided. For example, the diversity of services might lead to their management becoming overly complicated resulting in a deterioration of management quality. The centralization of service delivery can also increase the cost of receiving the services (e.g. higher transport costs for residents); therefore, the costs to society as a whole could increase in large municipalities rather than decline. The economic efficiency of municipalities is not the most important aspect in a country's administrative-territorial division, and therefore, economies of scale and scope should not be overstated. It should be remembered that a municipality is not a business focused on economic efficiency, but a government agency that has to ensure public administration and the development of a democratic society.

Total costs and cost-effectiveness can only be a topic for discussion when the presence of public administration and democratic development are guaranteed (Reiljan, Timpann 2001). Another argument in favor of large municipalities is that political processes are more democratic. Linking the development of democracy to larger municipalities might seem like a contradiction because usually small municipalities are thought to be more democratic than large (Aalbu 2008). Reiljan and Timpann (2001) emphasize that to develop democracy, it is important that the lowest level of public administration is situated closest to the citizen.

The optimal distance between the people and the lowest level of public power depends on the level of democratic thinking among citizens and on the length of their democratic experience. The less people have an awareness and experience of democracy, the closer to the lowest level of public power they should be and the smaller the optimal size of a municipality

should be. In transition countries, where the direct experience of participation in democratic processes is only twenty years old, municipalities should not be large, because the institutions of large municipalities are further from the people. According to Sootla (2008), one vote from a citizen living in a large municipality counts relatively less in political decision processes than one vote from a citizen living in a small municipality.

Therefore, increasing the size of municipalities decreases the influence of each vote and reduces each citizen's potential for influencing municipal decisions and their interest in participating in political processes. People living together in a certain area also tend to have common interests and a strong territorial identity, which is why they jointly select the representatives of the municipality (Aalbu 2008). It is feared that increasing the size of the municipality will result in people losing their territorial identity and their feeling of being involved in the decision-making, and therefore their interest in the activities of their municipality. However, pairing greater awareness of democracy with small municipalities also has its problems. First of all, the suppression of political debate and dissidents is more effective in smaller municipalities, because it can be justified in terms of social and community-based unity (Newton 1982, Sootla 2008: Relationship 2001) .

The suppression of dissent and the resulting stifling of one's opinions may occur especially in municipalities where political leaders are also economic leaders. In this situation a political difference of opinion may lead to a direct economic threat (e.g. job loss). In larger municipalities political and social structures are generally more diverse, and thus, the opposition has a greater chance to express their ideas more freely and safely. Larger municipalities may also have more citizens associations and community groups (Newton 1982), which are often an indirect means of expressing personal opinions and getting involved in the community. Another reason why smaller municipalities could have lower citizen participation is the limited scope of activities they are able to pursue. According to Netwon (1982), the less a municipality is able to do, the less its citizens will bother themselves about its affairs.

The third major justification for large municipalities emphasizes that larger municipalities have more opportunities to support economic development on their territories through larger investments and other policy measures (Aalbu 2008). For example, a bigger budget will ensure lower interest rates, so more and cheaper money can be invested in improving the standard of living for local citizens. A larger municipality could also deepen the specialization of its officials, which would lead to more professional management of government functions (Aalbu 2008). Of course, the implementation of highly skilled professionals depends on their existence in the labor market and on the competitiveness of the working conditions offered by the municipality.

The fourth and last major justification for large municipalities says that larger municipalities are better able to ensure a fair and efficient allocation of public services and taxes. However, it does not actually matter how big the municipality is, but how the production of public services is divided between the central government and municipalities, and how effectively the intergovernmental financial transfer system functions. In contrast to the one-sided and controversial justifications for larger municipalities there are approaches that emphasize the benefits of small municipalities.

• Consumer-voters are fully mobile and will move to the municipality where their preference patterns are best satisfied;

• Consumer-voters are assumed to have full knowledge of the differences between revenue and expenditure patterns and to react to these differences;

• There are a large number of municipalities in which the consumer-voters may choose to live;

• Restrictions due to employment opportunities are not considered;

• The public services supplied exhibit no external economies or diseconomies between municipalities;

• For every pattern of municipal services there is an optimal municipal size;

• Municipalities below the optimal size seek to attract new residents to lower average costs. Those above optimum size try to get rid of some residents. Those at the optimum try to keep their population constant. If these assumptions were valid, municipalities would be like companies that compete with each other – the country would be the market, the revenue and cost structure of municipalities (taxes and public services offered) would be the product and the residents would be the consumers. As in a normal market, the supply of and demand for public services would determine the basis of the prices and volumes, which ultimately would determine the number of municipal residents.

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Unfortunately, full mobility of people does not exist in reality, people do not have full knowledge of the differences between revenue and expenditure patterns and there is not enough diversity among municipalities to fully satisfy the people's preferences. Administrative decentralization and competition between municipalities, however, may lead to negative co-phenomena. Too much autonomy in municipalities and the lack of adequate coordination between the central and local governments allows municipalities to be inefficient in their spending and live beyond their revenues, leading to budget deficits and the appreciation of municipal borrowing because of the risk premium (de Mello 2000). These financial imbalances could jeopardize macroeconomic stability throughout the country.

The problems in proving the rationality of small municipalities are similar to the problems proving the expediency of large municipalities. Because they are conflicting concepts, it is often possible to criticize the weaknesses of one concept with the strengths of the other and vice versa. The situation cannot be resolved with empirical studies either, because the theories are based on formal, unrealistic assumptions. One way to overcome this situation is to recognize that according to geographical, historical, demographic, cultural, social, legal and economic circumstances, a certain optimal size of municipality can be found. It is sometimes believed that Club Theory can be used to find the optimal size of a municipality, because of the similarities clubs and municipalities have.

According to Sandler and Tschirhart (1997), a club is a voluntary group deriving mutual benefits from sharing one or more of the following: production costs, member characteristics, or a good characterized by excludable benefits. The club offers services that are financed through taxes that are paid by its members. It is relatively easy to see the similarities between clubs and municipalities in light of such explanations. Club theory must answer two questions: how much of the desired benefits should be produced and how many members should there be in the club (Rosen 1995). The optimal size of the club is found when the marginal benefits that a member secures from having an additional member are just equal to the marginal costs that the member incurs from adding a member (Buchanan 1965).

Unfortunately, Club Theory cannot be used to find the best administrative-territorial division either, because there is no straightforward relationship between the public services offered by the municipality and the tax burden that the residents could adjust according to their preferences. The analysis of different theoretical approaches shows that both large and small municipalities have their own advantages and disadvantages.

A meta-theory that would synthesize these contradicting approaches and help to determine the best size of a municipality has not been developed yet. What is clear, however, is that an optimal size of municipality can exist only if municipalities provide public services with similar cost curves. In reality, the cost curves of public services are different, and therefore, the optimal production of various public services needs different sizes of municipalities. This means that a municipality of a certain size can be too small from the perspective of one public service and too big from the perspective of another public service.

Thus, theoretically, there is no optimal size of municipality and, consequently, the search for an optimal administrative-territorial division of a country is an unsolvable pseudo-task. Changing the territorial division can improve the supply of some public service but will inevitably worsen the supply of other services.

Overall, the literature addressed the relationship between size and efficiency that was the basic question of the scope of work. Although the findings are somewhat inconsistent, two main substantive conclusions and one technical point stand out:

• There is an inverted U-shaped relationship between size and efficiency on a general level. In essence, the curve states that the smallest and largest municipalities are least efficient.

• The (inverted) U-shaped relationship is not consistent when evaluating specific service types.

• There are many distorting influences on cost per capita as a measure of efficiency, leading to a serious lack of comparability between jurisdictions.

• There is little overall correlation between size and efficiency for municipalities with populations between 25,000 till 250.000 inhabitants.

• The literature does suggest that smaller municipalities (population under 25,000) are less efficient, but details are important.

• Much of the literature argues that small municipalities are not less efficient, except in specialized services.

• Increasing size is related to increased efficiency in capital-intensive services such as utility systems or public works.

• The literature suggests that cost per capita may not be a good measure of efficiency or performance because of the distorting effect of other factors.

Yet, studies use this measure commonly.

The literature does not address most of the municipal characteristics enumerated in the scope of work. The literature identifies a broad range of population between 25.000 and 250.000 as the most efficient. There are diseconomies of scale beyond 250.000 people. Small municipalities, those under 25000, are less efficient only when services are specialized or capital intensive.

Evaluate and rank the effect of population density (a pattern of sprawl versus compactness)

The findings in the literature are neither consistent nor strong about the relationship between population density and efficiency.

Evaluate and rank the effect of demographic characteristics of the population (wealth, poverty, age characteristics, education level, and demand for services)

The literature does not generally study population characteristics as determinants of municipal efficiency, but in explaining the weak effects of size on efficiency there was some evidence that wealth is a factor because of increased demands for quality of service. Isolated findings that very old and very young populations show lesser costs per capita and that economically deprived populations show higher costs are too infrequent in the literature to be considered significant.

Evaluate and rank the effect of the extent to which important services are regionalized (for example, schools, the existence of regional utilities and emergency service compacts which limit municipal service responsibilities)

The literature on size did not speak broadly to the frequency of regionalization of services, but it did state that capital-intensive services like water provision and rural road maintenance are sometimes regionalized to achieve economies of scale.

The optimal size of municipal governmental jurisdiction that maximizes cost efficiency in municipal service provision

The overall result -- that municipalities between 25,000 and 250,000 in population are the most efficient -- breaks down when specific services are considered. The literature makes statements about smaller and larger, but is not consistent and specific about the ranges of population for specific tasks or services.

Whether optimal size varies based on what services are provided at the municipal level/the intergovernmental context.

The literature finds that the specifics of the service are very important in the relationship between size and efficiency. Larger (up to a point, which is not specified in the literature) municipalities will deliver specialized and capital intensive services more efficiently. Smaller municipalities (as low as 25,000 population is mentioned) deliver labor-intensive services more efficiently.

The most important point is the differentiation by the type of service. The literature even suggests that the details of tasks within a service type are critical. For example, small communities deliver police services more efficiently for routine patrol tasks, but large municipalities perform better in traffic light maintenance and special investigations. Over 80 percent of municipal services are of a routine and labor-intensive nature. Allocate efficiencies (management of resources) are more important than scale efficiencies in these routine service situations.

Consolidating local units, structurally and administratively streamlining county and municipal government, and transferring services to the most appropriate level of government for delivery would help to alleviate the property tax crisis by reducing the administrative costs of local government and making the delivery of local services more efficient due to economies of scale.

2.1 Indicators that influencing on efficiency.

Indicator systems are designed to measure and monitor sub-central spending and service provision. However, because accountability and control underpin the use of indicator systems, governments may go beyond measurement and often aim to influence the efficiency and effectiveness of spending. In this regard, indicator systems are one among other tools available to central governments, such as introduction of market mechanisms or altering the scale of service provision. It is difficult to evaluate the impact of indicator systems on changes to efficiency and effectiveness, although there is research to suggest that they do have a positive influence. (Goddard and Mannion, 2004) Specific choices can be made to increase their effectiveness.

Examples of indicators used by different countries

	Category	Examples	Regional/system
	Demographics	Population, gender, age, marital status, births, deaths	
	Service context	Irregularities in water distribution Per capita average expenses for theatre and concerts Air pollution due to transportation	Italy (regional policy)
	Materials	Municipal nursing home beds	Finland (health)
	Staff	Number of required staff for the service Numbers and qualifications of teachers	Turkey Finland
	Finances	Net operating expenditures Education expenditures Deflated expenditures and revenues	Norway Finland Netherlands
	Policy effort	-Capital expenditure by level of government and sector -Preparation and approval of territorial and landscape programming documents	Italy (regional policy
	Policy outputs	Number of inhabitants served Amount of solid waste collected Visits to physician, dental care visits Building permits issued Number of passports, drivers licenses issued	Turkey Finland Australia Netherlands
	Service coverage	Percent of aged inhabitants receiving home services Percent of children enrolled in kindergarten Recipients of social services as percent of the population	Norway
	Efficiency	Government funding per unit of output delivered Spending efficiency: Achievement of payment level equal to 100% of previous year's financial appropriation Children 1-5 years in kindergartens per full time equivalent Number of children per teacher Cost per user	Australia Italy (regional policy) Norway Sweden (education) Sweden (elder care)
	Policy outcomes	Education transition rates Response times to structure fires Improved language skills of immigrants	Norway Australia Netherlands
	Effectiveness	Effectiveness of outputs according to characteristics important for the service (e.g. timeliness, affordability) Disease-specific cost-effectiveness measures Passengers Share of completion of students in secondary schools	Australia Finland (hospitals) Netherlands (transport) Sweden (education
	Equity	Geographic variation in the use of services Units per 1,000 members of target group	Finland (hospitals) Germany (Berlin)

		Recipients of home based care as of share inhabitants in different age groups	Norway
	Quality	Number of days taken to provide an individual with needed assistance (e.g. youth) Number of different caregivers providing elder home care to a single individual	Netherlands Denmark
	Public opinion	User satisfaction with local services	Netherlands

Sources: OECD (2006), "Workshop Proceedings: The Efficiency of Sub-central Spending" GOV/TDPC/RD(2006)12; 2007 OECD Fiscal Network questionnaire.

Conclusions

Although the literature does not reveal strong and consistent relationships between size and efficiency in the delivery of local government services, some relationships are evident. The first relationship describes the overall effect of size of government on efficiency. The second and third statements show that the general relationship does not hold when specific services are considered. The fourth point, about the difficulties of measuring efficiency, is very important in the determination of what promotes municipal efficiency:

The Inverted U-shaped Curve

There is an inverted U-shaped relationship between size and efficiency on a general level. Efficiency increases with population size up to about 25,000 people, at which point it is stable until size is about 250,000 people, and efficiency declines with increasing population size after that. The inverted U shaped curve that describes the relationship between municipal size and efficiency offers two opportunities for improvement: the very smallest and the very largest governments. The literature defines the smallest as populations less than 20,000 to 25,000.

Service Specific Relationships

The most important finding other than the inverted U-shaped curve was the difference in the relationship between size and efficiency in capital based services as opposed to labor-intensive services. Efficiency gains are related to size for capital or infrastructure intensive services such as sewer and water. The literature supports the finding that this same concept is operative for seldom used and specialized services, such as a high technology crime lab. This suggests that contracting, sharing, or receiving specialized services from a larger entity can make selected services more efficient.

Labor-Intensive Services

Labor-intensive services are more efficient in smaller governments. The literature only offers burdens of management control and excess administration in larger governments as an explanation for such inefficiencies. Reduced levels of services and expectations in smaller towns may also be operating to reduce costs. This finding of increased efficiency in smaller units is an important conclusion, because the literature attributes over 80 percent of governmental cost to labor-intensive services including police, fire, and education.

Complexity of Measuring Efficiency

An additional finding from the literature is the difficulty in determining one measure of efficiency that works well at the level of a municipality or even for a service area. The most common basis for a measurement of efficiency is expenditure data, which is the numerator in the cost per capita indicator used throughout the literature. Finally, we must recognize that there are many inconsistencies in the literature. Even the most consistent findings of the inverted U-shaped curve and the relationship for capital intensive versus labor-intensive services have variations supported by some authors. For example, we could not reconcile the debate over police responsiveness and inefficiency in small versus large units. Different authors observed greater managerial efficiencies in small units, but others saw relative efficiencies in large units. The literature does not provide a high level of confidence for further action on a systematic and broad.

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