

POLICY PAPER

The Risks of Intuition: Size, Costs and Economies of Scale in Local Government*

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Abstract: Extensive international research surrounds the optimal size of local government and associated issues of amalgamations and economies of scale in local government. Given recent structural reforms of Irish local government, this paper examines both the theoretical debates on these issues and the international experience with local authority mergers in several countries, highlighting the rationale for and some of the reported effects of mergers. It also assesses the relationship between size and expenditure/service levels in Irish local government, drawing on available data. Contrary perhaps to popular belief, county and city councils, the primary units of local government in Ireland, are already very large by international standards. Overall, the research suggests a weak link between size and costs, and that local authority mergers may have limited *intrinsic* efficiency value and can involve considerable transitional costs. Most local authority services appear to possess limited economies of scale, the main exceptions being specialised services, the production costs of capital-intensive services, and some administrative overheads and “back office” functions.

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I INTRODUCTION

The economic crisis has thrown the spotlight on the imperative of reducing costs and achieving efficiencies in public expenditure. However, the Irish narrative on public sector reform is deeply wedded to the intuitive view that “bigger is better” (or its slightly more specific variants, “bigger is cheaper”, “bigger means improved services”, and “bigger is more efficient”). Such assumptions underpin several recent proposals for public sector re-organisation and reform, with the suggestion that larger organisational structures will cost less, will lead to better services for citizens, and will ultimately be more efficient.

These assumptions were manifest in the proposals of *An Bord Snip* to reduce the number of local authorities in Ireland from 114 to 22 (Special Group on Public Service Numbers and Expenditure Programmes, 2009). The need for minimum scale economies was also referred to in the context of proposals by the Local Government Efficiency Review Group (2010) for “joint administrative areas” which would pool management teams, corporate services, and the administrative overheads of smaller neighbouring county and city councils.

More recent proposals to abolish and merge several local authorities in Ireland have involved a reduction in the number of local authorities from 114 to 31, and these proposals pointed to the need to achieve a reduction in costs, savings through economies of scale, ending duplication, and greater operational efficiency (Government of Ireland, 2012). The structural reforms included the abolition of town councils and the merger of a number of county and city councils (in Limerick, Waterford and Tipperary in particular). The government programme for local government reforms also involves the creation of several “municipal districts” within each county council area to allow for more localised decision making, although budgetary decisions will remain at county/city council level, and administrative and staffing supports will be based on county and city boundaries.

The assumption that larger organisational structures will cost less is prevalent not just in formal reviews, but arguably extends to political discussion, media commentary and popular public opinion, and is rarely subject to challenge. Some recent proposals around political reform from high-profile individuals have suggested the consolidation of existing local government structures into a smaller number of much larger local authorities to reduce inconsistencies and minimise administrative overlaps, deliver efficiency gains, as well as to reflect the importance of “city-regions” to economic development (see for example, Desmond, 2011; Coleman, 2009). The

limited media debate that exists over local government reform in Ireland conveys the impression that Ireland as a small country does not need the number of local authorities it has, or even that it does not need a local government system at all. “We have too many local authorities” is a call sometimes made (see for example, O’Connor, 2009; Power, 2012).

And yet there is a striking dearth of evidence or data in support of proposals that a smaller number of larger local authorities would yield improvements, savings and efficiencies. Occasionally, headline figures are presented as projected savings, but with no explanation of how these figures are compiled, what the estimates include, and whether the figures take account of the costs of amalgamating local government structures (i.e., whether they are gross or net savings).

The assumption that such proposals would save money, yield efficiencies and improve performance is taken at face value and goes unquestioned by the media and it seems by most of the wider population in Ireland. However, international research and studies on local government amalgamations reveal far more circumspect findings, suggesting that we should perhaps be far more sceptical about the automatic assumption that “bigger is better”.

Two propositions are investigated in this paper. First, as a country with a small population, that Ireland has “too many” local authorities. This paper will investigate this claim by reference to the average population size of Ireland’s local authorities compared to those in other countries. Second, that fewer yet larger local authorities created through amalgamations would yield both cost reductions and better services through economies of scale. This claim will be investigated empirically by reference to the relationship between population size and expenditure and service standards.

In order to address these questions, the next section summarises existing theoretical frameworks on the relationship between size and costs, efficiency and performance. Section III reviews the empirical evidence on the relationship between size and efficiency and performance, based on international research and studies in several jurisdictions where local government amalgamations have taken place. These are used to inform the present research into Irish local government size. Section IV then contextualises the debate in Ireland by benchmarking the average population size of Irish local authorities with those of their counterparts in other countries. In Section V, we present our data sources and findings on the relationship between population size and expenditure and service standards across the county and city councils in Ireland. The final section draws some conclusions from the research for policymakers.

II SIZE, COSTS AND EFFICIENCIES IN LOCAL GOVERNMENT: THEORETICAL FRAMEWORKS

The relationship between population size of local authorities and measurements of performance, efficiency and value for money is a complex issue, despite it having been subject to intensive international investigation. There is a long-standing debate over the optimal size of local units, transcending different research disciplines. Urban economists have long been interested in the relationship between costs, expenditure and jurisdiction size (see for example: Lomax, 1943; Hirsch, 1959; King, 1996; King and Ma, 2000). Equally, political theorists as far back as Plato have articulated views on the optimal size of jurisdictions (Dahl and Tufte, 1973). The debate has sometimes been referred to as one between “consolidationists” and “polycentrists” (Dowding *et al.*, 1994).

One hypothesis concerning local government size we may term as the “economies of scale hypothesis”. Assumptions concerning economies of scale would suggest an inverse relationship between scale of output and costs per unit. Up to a given point, as production increases, greater specialisation should raise productivity, leading to increasing returns. Fixed costs associated with local government can also be spread over larger production units. This should mean that larger local authorities serving larger numbers of people result in lower per capita costs for local services. Cost savings may also accrue from eliminating administrative duplication and the greater purchasing power available to larger organisations (Dolan, 1990). Larger units of local government may also present a number of non-financial advantages over smaller-scale units – for example, in allowing for the employment of more highly-skilled and specialised staff, and the provision of a range of specialised facilities and services beyond the capacity of smaller local authorities, ultimately leading to better services for citizens (Newton, 1982; Boyne, 1992). Pressures for amalgamation may also be the result of devolution of new responsibilities to local government which may require a larger population catchment, or the result of demographic change and spatial considerations – for example, where urban settlements may outgrow older boundaries, or where there is a need to address metropolitan-wide issues that affect cities and their hinterland (Sharpe, 1995; Lowery, 2000). Creating a smaller number of larger local authorities may also reduce the costs of supervision within central government (CDLR, 2001).

However, proponents of amalgamation that rely on economies of scale often overlook the fact that economic theory also recognises *diseconomies* of scale, and limits to economies of scale (Sharpe, 1995). As production increases, the challenges, complexities and costs of managing production processes may

become greater than the gains from increasing returns. Thus, the average cost of production may be U-shaped – falling until a certain level of production is reached, but rising thereafter (Houlberg, 2010; Boyne, 1995). Organisational and management theorists have long associated larger public and private organisations with increased specialisation, but equally with increased formalisation of behaviour, with a more hierarchical structure, and with more elaborate administrative arrangements to communicate and coordinate work (see for example, Mintzberg, 1983). It has also been suggested that larger local governments tend to mean less tailoring of services, less flexibility, more bureaucracy and less knowledge of local circumstances (de Vries and Sobis, 2013). Bish (2001) suggests that costs can rise with size because larger local authorities tend to undertake more activities through direct labour, whereas smaller local authorities are less hostage to restrictive work practices which can often arise in larger more hierarchical organisations, and tend to be more cost-conscious as they tend to outsource more services (see also Allan, 2003).

In addition, structural reform and redrawing local authority boundaries is not a cost-free exercise. As well as debates over ongoing economies (or on-going diseconomies) of scale, a series of one-off costs arise with amalgamations. Examples include transfer of staff and assets, severance and redundancy payments, salary increases and pay claims (due to staff covering a wider population and area), ensuring compatibility of software and communications systems, loss of organisational memory, the time expended integrating staff, aligning local bye-laws and policies, and facilitating a new organisational identity, as well as a reduction in service performance and the opportunity costs that arise from diverting personnel and resources from core service responsibilities to manage the amalgamation process (Fox and Gurley, 2006; Andrews and Boyne, 2012; Vojnovic, 2000). Equally, amalgamations can lead to last-minute over-spending by “old” local authorities before they are closed down, even where national authorities are aware of this possibility and attempt to impose spending controls (Blom-Hansen, 2010).

An alternative theoretical framework relevant to this discussion is that presented by Charles Tiebout (1956), and often referred to as the “Tiebout hypothesis”. This suggests that, assuming a functioning local taxation/charging system and mobility of residents and businesses, “consumer-voters” will be able to choose which local authority area they reside in according to their own personal preferences, weighing up the value of local services and the costs of local taxes and charges. In this model, often associated with public choice economics, it is suggested that more fragmented systems of smaller local authorities are preferred over larger monopolistic local authorities. In essence, people and businesses “vote with their feet” and if necessary shop around by moving to other local authority areas with more attractive tax and

service packages that reflect their preferences – reducing the number of local authorities by creating bigger local authorities can close off such options and create monopoly situations. In this respect, a small number of larger local authorities creates a monopolistic environment, while more fragmented systems with larger numbers of smaller local authorities creates a more competitive environment. In situations with multiple smaller local authorities, these must compete with one another to attract both residents and commercial investment, and therefore, the incentive will be to provide optimal services for the lowest costs (and by extension lower taxes and charges), thus driving efficiencies, responsiveness and improving citizen satisfaction (for a critique of this argument, see Lowery, 2000).

According to the Tiebout hypothesis, therefore, the market dynamic created with larger numbers of smaller local authorities acts as a discipline reducing the overall size of government (Dowding *et al.*, 1994; Fox and Gurley, 2006). As well as the “exit” option of voting with their feet, citizens may also use “voice” mechanisms such as elections, interactions with local representatives, and public participation opportunities to put pressure on their local authority to more efficiently provide local services (Hendrick *et al.*, 2011). There is also a suggestion that there is a greater degree of fiscal equivalence in smaller authorities than larger ones – i.e., there is a closer link between what citizens pay and what services they get in smaller authorities, which tends to constrain demand. By contrast, in larger authorities there can be greater tendencies towards “fiscal illusion” – where residents can push for additional services for a specific locality and get the wider area to pay for it, the cumulative effect being a higher-cost local authority (Bish, 2001). Thus, the suggestion is that smaller units of local government have less complex operations and are more amenable to public scrutiny and control, with the expectation that this scrutiny increases pressure to keep costs low and to deliver services efficiently (Boyne, 1992).

A further complication in the debate over size and efficiency arises from the fact that, in contrast to most public and indeed private organisations, local authorities are multi-functional bodies providing a highly diverse range of different services. This is important insofar as economies of scale usually relate to the nature of production processes. Thus, the optimal size of delivery organisations varies depending on service, each of which has their own production characteristics (Houlberg, 2010; Dollery and Fleming, 2005). Even within service areas there are typically multiple activities. As different activities are likely to possess different scale characteristics, no single authority (large or small) is likely to be of the optimal size to produce all of them efficiently. Equally, any potential gains from scale must be balanced against the increased costs of providing the service across a wider

amalgamated area, and these costs may vary considerably depending on environmental factors such as the land area or population density (Holcombe and Williams, 2008). The effect of this reality is that "... amalgamation in some places and for some services results in lower costs and in other places and for other services does not. This makes generalisation of results very difficult" (Fox and Gurley, 2006, p. 9).

Research suggests a broad distinction between labour-intensive and capital-intensive services (see for example, Houlberg, 2010; CDLR, 2001; Boyne, 1992; or even going back to early studies such as Hirsch, 1959). Dollery and Fleming (2005, p. 9) suggest that more labour-intensive, person-to-person services generate few scale economies "... because their idiosyncratic nature means that an increased volume of services requires a correspondingly larger number of employees". Examples include housing services, libraries, or planning or environmental inspections – this also extends to services provided by local authorities in many other countries such as schools and policing. More capital-intensive infrastructural services, such as water supply, roads, waste management, can yield more significant economies of scale, given that the higher fixed costs of capital assets can be spread across a wider population and a wider number of households. Within capital-intensive infrastructural services, however, economies of scale are most likely in the *production* of services, but less likely for *distribution* costs. For example, the marginal cost of producing water from a single water treatment plant is likely to decline as that plant covers a wider population. However, the distribution costs involved in the supply of water (such as energy expended in pumping systems as well as the maintenance of piping), which depend heavily on land area and population density, tend to increase with a larger population size over a wider geographic area (Fox and Gurley, 2006). Other studies also suggest the potential for economies of scale with regard to administrative overheads, such as human resources, finance and audit, IT supports, legal services, corporate services, as well as costs associated with supporting the political system within local government (see for example: CDLR, 2001; Houlberg, 2010; Fox and Gurley, 2006; Andrews and Boyne, 2009; Swianiewicz, 2010; Blom-Hansen, 2012; or again early studies such as Lomax, 1952).

Given such differences between service areas, and differing potentials for economies of scale, an alternative approach to amalgamations that has increasingly been pursued is joint or shared service provision, or outsourcing on a case by case basis (Bish, 2001). Where a number of services are already functionally merged (say, for example, with one local authority providing a service on behalf of others), there may be little savings to be gained from amalgamation (Faulk and Grassmueck, 2012). Of course, such arrangements have their own disadvantages – they increase transaction costs, they are

arguably less transparent and less subject to democratic control, they dilute the links between local taxes and services, and it can be difficult to secure political agreement for such arrangements (Fox and Gurley, 2006; Swianiewicz, 2010). Nevertheless, they represent a possible means of selectively availing of economies of scale where they might exist. In an Irish context it is important to note that amalgamations have been implemented in conjunction with a structured effort to share services, streamline business processes and identify other opportunities to reduce costs (Government of Ireland, 2012).

III REVIEWING THE RATIONALE FOR AND EXPERIENCE OF LOCAL GOVERNMENT MERGERS INTERNATIONALLY

In terms of empirical research, both the economies of scale hypothesis and the Tiebout hypothesis have been subject to extensive inquiry, examining the relationship between population size and local government costs and performance. We review research into the experience of specific jurisdictions in this section. In terms of international evidence generally, a number of studies have collated results across several countries.

Dowding *et al.* (1994) in a review of some 200 studies, suggest that while the evidence is not irrefutable that smaller is more efficient, most research suggests that larger local authorities are associated with higher spending per capita, and that more fragmented smaller local authorities generally have lower levels of expenditure per capita. There is also marginal support for the proposition that citizen satisfaction with local services tends to be higher in smaller local authorities. However, the results are mixed and there are difficulties making general conclusions about the benefits of either larger or smaller structures.

Byrnes and Dollery (2002, pp. 393-394) review 34 different studies into the relationship between local authority size and the cost of service delivery in several countries, and found that "... overall, 29 per cent of the research papers find evidence of U-shaped cost curves, 39 per cent find no statistical relationship between per capita expenditure and size, 8 per cent find evidence of economies of scale, and 24 per cent find diseconomies of scale. From this evidence alone we can conclude that there is a great deal of uncertainty about whether economies of scale exist in local government service provision". Even studies examining specific service areas such as housing or fire services produce quite different results.

A more recent review by Martin and Schiff (2011) of research into local government consolidation in the US found little evidence to support the idea

that efficiency gains result from local government amalgamations. Their conclusion is that mergers often fail to deliver on the efficiency promises made beforehand, usually because of transitional costs and the labour-intensive nature of most local government services which do not lend themselves to significant economies of scale. Another synthesis of the literature (LUARCC, 2009a) reviewed over 50 studies (most of them drawing on data on US local government) and concluded that there are generally weak but discernable U-shaped relationships between size and costs. Efficiency gains can arise from larger populations for certain services, such as capital or infrastructural services such as water or roads, as well as specialised services such as laboratory services. However, smaller local authorities tended to be more efficient than larger ones in providing labour-intensive services such as police, fire and education services (LUARCC, 2009a). A related research study argued that the experience with local authority amalgamations suggests that cost savings or local tax reductions are not guaranteed and can often fail to materialise, while implementing amalgamations can be expensive and time-consuming. That said, an important side-effect of such proposals is a more thorough exploration of alternative service delivery arrangements which may yield efficiencies, such as shared service arrangements or contracting (LUARCC, 2009b).

Reviewing this debate in 21 different European countries, CDLR (2001) are also cautious about economies of scale, and find that larger local authorities are not necessarily more or less efficient than smaller local authorities. However, the CDLR report suggests that there may be economies of scale with regard to administrative overheads. The CDLR report suggests costs can be higher in the very smallest local authorities, lower in medium-sized local authorities but often rise again in local authorities covering more than 40,000 inhabitants. It also finds that after populations of 30,000 inhabitants or more, citizen satisfaction rates tend to fall in larger local authorities.

We can also draw on the experience of specific countries in debates surrounding proposals for local authority amalgamations, as well as their experience of implementation, particularly since efficiency (albeit broadly defined) has been a driving force and motivation for mergers where they have occurred (see for example Baldersheim and Rose, 2010). Internationally, the arguments around consolidation of local government units and economies of scale in local government became influential in political and administrative circles during the 1960s and 1970s, approaching the status of *zeitgeist* according to Sharpe (1995), and prompted dramatic reductions in the number of local authorities in countries such as Britain, Denmark, Germany, Belgium and Sweden (CDLR, 1995; Vetter and Kersting, 2003). A somewhat different

trend emerged in Central and Eastern Europe, where in the immediate aftermath of the fall of the Iron Curtain, several states such as the Czech Republic, Slovakia, Hungary, Croatia and Slovenia embarked on a process of breaking up large consolidated local governments as a reaction to consolidation imposed by earlier communist governments. Since then however, the debate has focused on the suggested problems of fragmentation in these states and whether larger local government units might be preferable (Swianiewicz, 2010; Illner, 2010).

In Britain, restructuring and amalgamation of local authorities has been described as an “addiction” suffered by central government Ministers and civil servants (Elcock *et al.*, 2010). Restructuring of local government units has taken place in different parts of Britain at different intervals. For example, Scotland’s two-tier local government system was abolished in 1996, with 65 regions and districts replaced with a system of 32 unitary local authorities. Following devolution and the establishment of the Scottish Parliament in 1997, debate has continued as to whether there should be a further consolidation of local government structures (Reform Scotland, 2012). In England, a number of unitary “all-purpose” councils have been established (replacing both counties and districts), which resulted in a gradual reduction in the number of local authorities during the mid-1990s, and again during 2008 and 2009. Recent research has questioned the alleged efficiency benefits arising from larger-sized local authorities, and suggested a tendency by central and local government advocates of amalgamation both to overestimate savings, and to underestimate transitional costs (Chisholm, 2010; Leach, 2009; Elcock *et al.*, 2010). Andrews *et al.* (2006) find that the relationship between size and different measures of performance is complex, with some measures suggesting a link between better performance and larger local authorities, some suggesting a link between better performance and smaller local authorities, and some suggesting no relationship between the two at all. As Copus (2006, p. 12) suggests, despite the at best ambiguous nature of evidence on this issue, “... the link between large scale authorities and efficiency is, by now an article of faith for many”.

In the relatively recent past, consolidation arguments have also influenced amalgamations or proposed amalgamations of local authorities in places such as Northern Ireland; New Zealand; the Netherlands; Finland; several Canadian provinces and Australian states, and (for a second time) Denmark (see Table 1 for a summary).

Table 1: *Synthesis of Scale, Rationale and Effects of International Territorial Reforms*

	<i>Percentage Reduction in Local Authorities (Period Concerned)</i>	<i>Rationale</i>	<i>Changes Observed</i>
<i>Britain</i>	-17% (mid 1990s – 2009)	<ul style="list-style-type: none"> • Financial savings through economies of scale • Reduction in “back office” costs and administrative overheads • Reducing duplication of work 	<ul style="list-style-type: none"> • Some suggestions of greater efficiencies in selected areas, especially administrative overheads, but many exceptions to this with other findings suggesting that for other service areas smaller local authorities can offer greater value for money • Considerable disruption and costs arising during transitional process to amalgamation • Some suggestions of a decline in participation in local elections and greater citizen disengagement • Reforms not yet implemented
<i>Northern Ireland (proposed)</i>	-58% (proposed for 2015)	<ul style="list-style-type: none"> • Cost savings through economies of scale • Devolution of new powers to larger local authorities 	<ul style="list-style-type: none"> • Reforms not yet implemented
<i>Canada (particularly early 1990s – 2008 in Ontario and Quebec provinces)</i>	-30%	<ul style="list-style-type: none"> • Improve efficiency and realise cost savings through economies of scale • Improved coordination of service provision • Greater capacity for local authorities to employ professional staff with specialist skills • Address population spillovers in certain urban areas where the old boundary of a town/city no longer reflected its population, and the spatial planning issues that ensued 	<ul style="list-style-type: none"> • Limited evidence of any significant cost savings, and in some cases evidence of cost increases • Various transitional costs, including salary increases • Decreases in local taxes in some cases, increases in others • Some harmonisation of service standards and levels • Reduced opportunities for citizen participation • Some evidence of a drop in public satisfaction with local services • Public opposition to mergers in some areas • Increased political weight for some larger local authorities

Table 1: *Synthesis of Scale, Rationale and Effects of International Territorial Reforms (contd.)*

	<i>Percentage Reduction in Local Authorities (Period Concerned)</i>	<i>Rationale</i>	<i>Changes Observed</i>
<i>Australia</i>	-34% (1995 – 2008)	<ul style="list-style-type: none"> • Improve efficiency and realise cost savings through economies of scope and scale • Greater capacity for local authorities to employ professional staff with specialist skills 	<ul style="list-style-type: none"> • Some improvements in efficiency, although real savings tended to fall short of <i>ex ante</i> estimates • Various transitional costs • Enhanced administrative capacity and greater ability to hire specialist expertise and skills • Improved financial viability of local authorities
<i>New Zealand</i>	-64% (1989)	<ul style="list-style-type: none"> • Improve efficiency • Greater capacity for local authorities to employ professional staff with specialist skills 	<ul style="list-style-type: none"> • Limited evidence of any significant cost savings • Various transitional costs • Reduced opportunities for citizen participation
<i>Denmark</i>	-64% (2007)	<ul style="list-style-type: none"> • Improve efficiency and realise cost savings through economies of scale • Devolution of new powers to larger local authorities, and consolidate most subnational public services at local government level • Greater capacity for local authorities to employ professional staff with specialist skills 	<ul style="list-style-type: none"> • Initial studies suggest some efficiency gains in administrative costs • Various transitional costs • Increases in capital spending by “old” local authorities in the years immediately preceding amalgamation • Some suggestions of a decline in participation in local elections and greater citizen disengagement, although other research suggests size is not the key factor here • Limited evidence of any significant savings, and in some cases evidence of cost increases
<i>Netherlands</i>	-34% (1990 – 2009)	<ul style="list-style-type: none"> • Improve efficiency and realise cost savings through economies of scale • Greater capacity for local authorities to employ professional staff with specialist skills • Address population spillovers in certain urban areas where the old 	<ul style="list-style-type: none"> • Various transitional costs • Some suggestions of a decline in public trust in local government and greater citizen disengagement

Table 1: *Synthesis of Scale, Rationale and Effects of International Territorial Reforms (contd.)*

Percentage Reduction in Local Authorities (Period Concerned)	Rationale	Changes Observed
<i>Finland</i> (under way)	Incremental mergers since 2007	boundary of a town/city no longer reflected its population, and the spatial planning issues that ensued • Economies of scale • Devolution of new powers to larger local authorities • Reduce problems associated with inter-local authority cooperation • Reforms not yet completed
<i>Ireland</i>	-73% of all local authorities, and -9% for county/ city councils (2014)	• Improve operational efficiency and realise cost savings through economies of scale • Reducing duplication of work • Greater capacity for specialisation • Improved coordination of service provision • Devolution of new powers to local authorities • Address population spillovers in certain urban areas where the old boundary of a town / city no longer reflected its population, and the spatial planning issues that ensued • Reforms not yet completed

Source: Compiled based on information drawn from various published articles, research reports and studies as follows: *Britain:* Andrews *et al.* (2006); Andrews and Boyne (2009) and (2012); Copus (2006); John (2010); Chisholm (2010); Travers *et al.* (1993); *Northern Ireland:* Birrell (2007) and (2008), OFMDFM (2006); DoENI(2009); *Canada:* Garcea and LeSage (2008); Lesage and Garcea (2005); Sancton, (2008) and (1996); Vojnovic (1998) and (2000); Slack and Bird (2012); *Australia:* Marshall (2008); Allan (2003); Dollery (2009); Dollery, Byrnes and Crase (2008); Dollery and Crase (2005); Byrnes and Dollery (2002); Hearfield and Dollery (2009); Aulich (2005); Pricewaterhouse Coopers (2006); *New Zealand:* Reid (2008); McKinlay (2006); Wallis and Dollery (2001); Kerr (1999); *Denmark:* Blom-Hansen (2012) and (2010); Mouritzen (2010) and (1989); Houlberg (2010); Vrangbæk (2010); Kjaer *et al.* (2010); Lassen and Serritzlew (2011); Commission on Administrative Structure (2004); *Netherlands:* De Ceuninck *et al.* (2010); Fraanje and Herweijer (2009); Boedeltje and Denters (2010); Denters and Klok (2005); Westerveld (1995); Derksen (1988); *Finland:* Moisio (2012); *Ireland:* Government of Ireland (2012).

It seems as though it is rather rare for governments to commission *ex post* studies to examine the effects of these reforms. This seems consistent with Pollitt (2009), who points to the international tendency for there to be very few evaluations of the specific connection between structural reforms in the public sector generally, and improved performance. Pollitt (2009) suggests that this may be partly for methodological reasons, but partly also for more political reasons, for example, where reform promoters would prefer to avoid doubts being raised over what might be politically sensitive initiatives. Thus the last column in Table 1 draws on the limited information available in somewhat diffuse published material and reviews.

Table 1 clearly shows however that the question of restructuring (and particularly reducing) the number of local authorities has been a central issue for reformers. In some cases, such as the Netherlands, local authority mergers have been a relatively incremental process, occurring at different points in different parts of the country. In other instances, such as in Denmark, a “big bang” approach to amalgamation was pursued with a major country-wide restructuring of local government areas. Regardless of such differences however, based on the significant reforms implemented in other jurisdictions, this should on the surface make us confident of the benefits of mergers.

However, the actual experience with amalgamation seems to be an extremely varied one, with disputed costs and benefits. Different studies produce different and sometimes inconsistent results. What we can however, say is that there is no clear basis for the often confidently asserted assumption that larger local authorities are more effective (Houlberg, 2010). Rather, there is enough international evidence to cast considerable doubts over such claims.

IV BENCHMARKING LOCAL GOVERNMENT: IRELAND IN A COMPARATIVE CONTEXT

Underpinning proposals to amalgamate local authorities is an assumption that Irish local authorities are essentially too small and that a country the size of Ireland requires fewer local authorities – analogies with the population of certain British city regions such as the greater Manchester area are sometimes thrown up as comparators. However, a far more accurate benchmark is the number and size of local authorities in other countries.

Table 2 provides a summary of the average population size of the basic unit of local government in several jurisdictions. Obviously, these country averages mask huge divergences in both the population and geographic profile of local authorities within countries. For example, the 148,000 average for Ireland includes at one end of the spectrum Leitrim as the smallest county in

population terms at just over 30,000, and at the other end Dublin city council at over half a million inhabitants (Table 3). Perhaps more dramatically, in France, there are a large number of very small local authorities (sometimes with less than 500 people), up to the city of Paris, itself a local authority, albeit subdivided into *arrondissements*, with a population of 2.2 million in the city area (with over 11 million in the greater Paris region). There is also considerable geographical diversity. In countries like New Zealand, Australia or Canada, there are a number of sparsely populated local authorities spanning extensive geographical territories, along with more high-density city areas with large populations within a concentrated land mass.

Table 2 clearly shows that the common perception within Ireland that relative to its size Ireland has “too many” local authorities, or that they are “too small” does not stand up to scrutiny. In countries of a similar population size to Ireland, such as New Zealand or Denmark (even after amalgamation exercises), local authorities are considerably smaller than their Irish equivalents. In fact, with the sole exception of Britain, on a per capita basis Ireland has by some distance the fewest local authorities in the developed world.

Four broad categories can be identified from these statistics (see also CDLR, 2001):

- Small local authorities with fewer than 10,000 inhabitants on average (an extreme case is France where the bulk of local authorities have fewer than 5,000 inhabitants);
- Medium-sized local authorities with between 10,000 and 40,000 inhabitants on average;
- Large local authorities with between 40,000 and 100,000 inhabitants on average;
- Very large local authorities with on average over 100,000 inhabitants (including local authorities in both Ireland and the UK).

Table 2: *Average Population Size of Local Authorities, 2010-11*

	<i>Number of Local Authorities</i>	<i>Average Population of Local Authorities*</i>
France	36,783	1,500
Czech Republic	6,230	1,500
Slovakia	2,875	2,000
Switzerland	2,758	3,000
Hungary	3,133	3,000
Austria	2,357	3,500
United States	71,343	4,500
Germany	12,340	6,500
Ireland (pre-2014 town councils)	80	8,000
Canada	3,752	9,000
Slovenia	210	10,000
Poland	2,793	13,500
Finland	342	16,000
Belgium	589	18,500
Sweden	290	32,500
Portugal	308	34,500
Netherlands	441	37,500
Australia	550	41,000
New Zealand	85	52,000
Denmark	98	56,500
Northern Ireland (pre-2015 councils)	26	69,500
Ireland (pre-2014 city/county councils)	34	134,500
England and Wales	383	146,500
Ireland (post-2014 councils)	31	148,000
Scotland	32	164,000
Northern Ireland (post-2015 councils)	11	164,500

Source: Compiled by authors based on data drawn from: CDLR (2008); De Ceuninck *et al.* (2010); Swianiewicz (2010); Dollery, Garcea and LeSage (2008) and Population Statistics from OECD and UK Office for National Statistics.

* Note that figures are rounded to the nearest 500. For the purposes of calculating these figures, local authorities have generally been taken to refer to those subnational tiers generally considered part of the local government sector in the country in question. For example, in the British case, it includes county councils, district councils, unitary authorities and boroughs that are considered part of the local government sector. In the American case, it includes elected special districts as well as cities and counties, as these are usually considered part of the local government sector. In the Irish case, separate averages are included for town councils (as these only existed in certain areas) and county and city councils (which cover the entire population of the state).

Table 3: *Population of Each County and City Council Area, 2011*

<i>Local Authority</i>	<i>Population</i>
Leitrim	31,798
Longford	39,000
Waterford City Council (pre-2014)	46,732
Carlow	54,612
Limerick City Council (pre-2014)	57,106
Monaghan	60,483
Roscommon	64,065
Sligo	65,393
Waterford County Council (pre-2014)	67,063
North Tipperary (pre-2014)	70,322
Cavan	73,183
Galway City Council	75,529
Offaly	76,687
Laois	80,559
Westmeath	86,164
South Tipperary (pre-2014)	88,432
Kilkenny	95,419
Waterford (post-2014)	113,795
Clare	117,196
Cork City Council	119,230
Louth	122,897
Mayo	130,638
Limerick County Council (pre-2014)	134,703
Wicklow	136,640
Wexford	145,320
Kerry	145,502
Tipperary (post-2014)	158,754
Donegal	161,137
Galway County Council	175,124
Meath	184,135
Limerick (post-2014)	191,809
Dún Laoghaire-Rathdown	206,261
Kildare	210,312
South Dublin	265,205
Fingal	273,991
Cork County Council	399,802
Dublin City Council	527,612

Source: Census 2011, Central Statistics Office.

V DATA AND RESULTS

At least part of the rationale for amalgamating local authorities is an assumption that local authorities serving larger populations will cost less and be more efficient. By extension, this should mean that of the existing local authorities, larger local authorities are more efficient than smaller ones. In short, the economies of scale hypothesis would suggest that Dublin city council should be the most efficient local authority in Ireland, and Leitrim county council should be the least efficient county council.¹

In order to investigate such assumptions in an Irish context, we sought to research the relationship between population size and available data on costs and service standards. For the purposes of the research, the independent variable, population size, is drawn from the 2011 census data for each county and city council. In a small number of cases, we used other proxies for local authority size such as number of staff or local authority housing stock, where this was appropriate. In most cases however, size was based on population size as this appeared to be the most important rationale behind proposals for amalgamation – we decided not to use population density or geographical size/surface area as a measure of size because these did not appear to be significant motives for amalgamation reforms (see also CDLR, 1995).

Operationalising the dependent variable, namely the efficiency of local government, is a problematic and highly contested area. We draw on the international literature, and use a number of proxies that have been used in other research for efficiency (costs per unit, drawing on expenditure data), and effectiveness (ability to solve problems, drawing on performance indicator data known as “service indicators”). These proxies (based on costs and service standards) also relate closely to the motivations that usually underpin local government amalgamations – namely reducing unit or per capita costs and improving the quality of services (Fox and Gurley, 2006). Following Boyne (1995) and Dowding *et al.* (1994), we seek to use not only measurements of inputs (spending) but also outputs. We examined local authority budget data for 2010, 2011 and 2012, data from the 2011 Annual Financial Statements of local authorities, and available data on all 42 service indicators across six separate years (2006-2011) to test for a statistical relationship with population size. Drawing on these multiple sources helped us to use financial performance measures, as well as indicators of levels of service provision

¹ We have opted not to investigate the Tiebout hypothesis using Irish data, in part because at the time the research was carried out there was an absence of a clear link between local service provision and local taxes on householders in Ireland, an assumption that underpins the hypothesis.

across the main local government service areas (including housing, roads, planning, environment, libraries, fire service) as well as regulatory activities, enforcement and infrastructural work. Needless to say, other proxies could have been used, and we cannot exclude the possibility that these might yield different results.

The population sample for the research was the 34 pre-2014 county and city councils. These local authorities are classified as the “primary” units of local government under Irish law, and are responsible for the full suite of local government services. In particular, service indicator data presented aggregate data for county and town/borough councils, and comparisons of expenditure per capita between county and city councils on the one hand, and town and borough councils on the other would have been meaningless as town and borough councils had considerably fewer functional responsibilities than county councils and city councils. Caution is needed, however, in interpreting results, given a small n of 34.

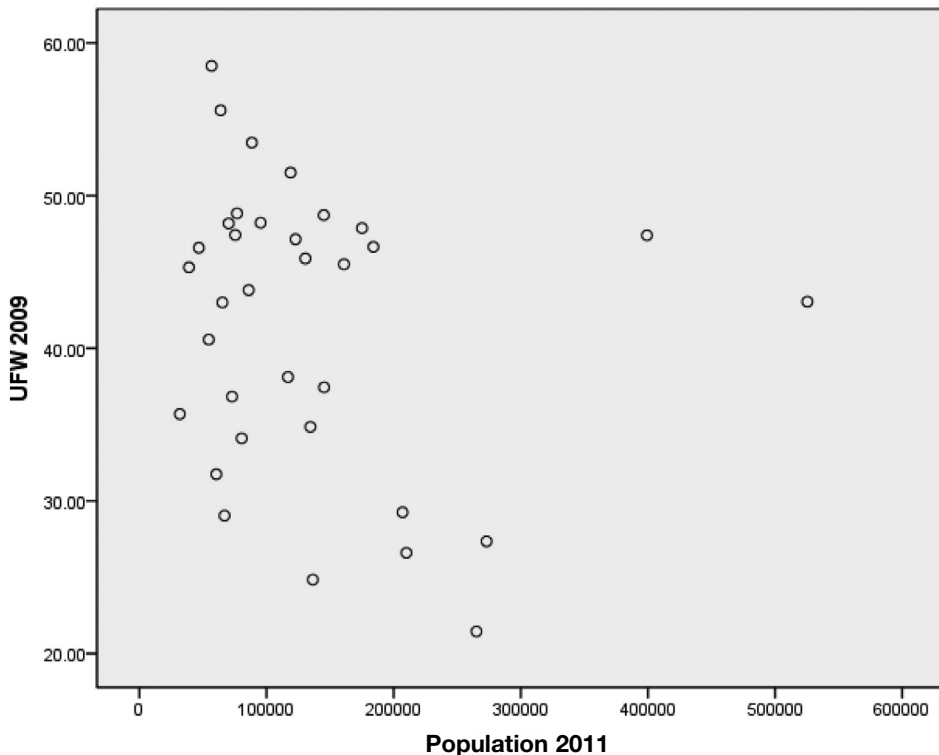
It is acknowledged that data on expenditure per capita or service indicators only give us partial insights into local government service levels or efficiency. For example, performance indicators can never capture the full range of an organisation’s activities. It is not suggested here that service indicators such as re-letting of vacant housing reflect local government performance across the board, or even local government performance in terms of the range of housing functions local authorities have – other indicators could be used. We fully recognise the limited nature of the analysis. Nonetheless, such measurements do allow for a selective testing of the relationship between population size and both inputs and outputs. It is also worth noting that our analysis is based on analysis of a battery of measures over time.

As far as we are aware this is the first time that this issue has been researched in Ireland. We hope that this preliminary research on this question will encourage further research, for example, to explore the relationship between size and efficiency in distinct service areas, while controlling for other possible explanatory variables that might be particularly relevant to those service areas, such as county/city income, local government revenue base, demographic profile, population density, and topography (see below).

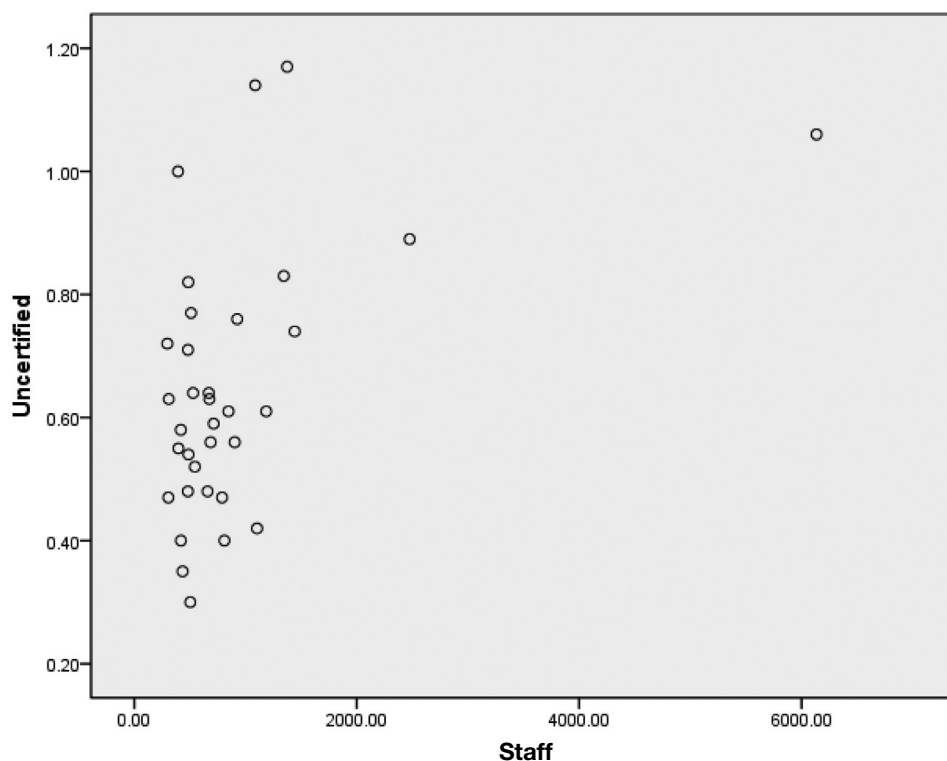
A key finding from our research is that there is very limited evidence of correlations between local authority size on the one hand and a large number of service indicators on the other, including revenue collection (housing loans, commercial rates and non-domestic water charges), timelines for the processing of planning applications and motor tax and driving licence applications, levels of unaccounted for water, litter pollution levels, recycling rates, and planning enforcement and building control. In these areas, and

others, the findings suggest that there is no perceptible link between population size and local authority performance. As an example, see Figure 1 below on 2009 levels of water loss in the water distribution system through leakages, unauthorised connections, or metering errors, where there is no discernable relationship between population size and unaccounted for water as a percentage of total water supplied ($r = -0.2$).

Figure 1: *Local Authority Size and Unaccounted for Water (UFW), 2009*



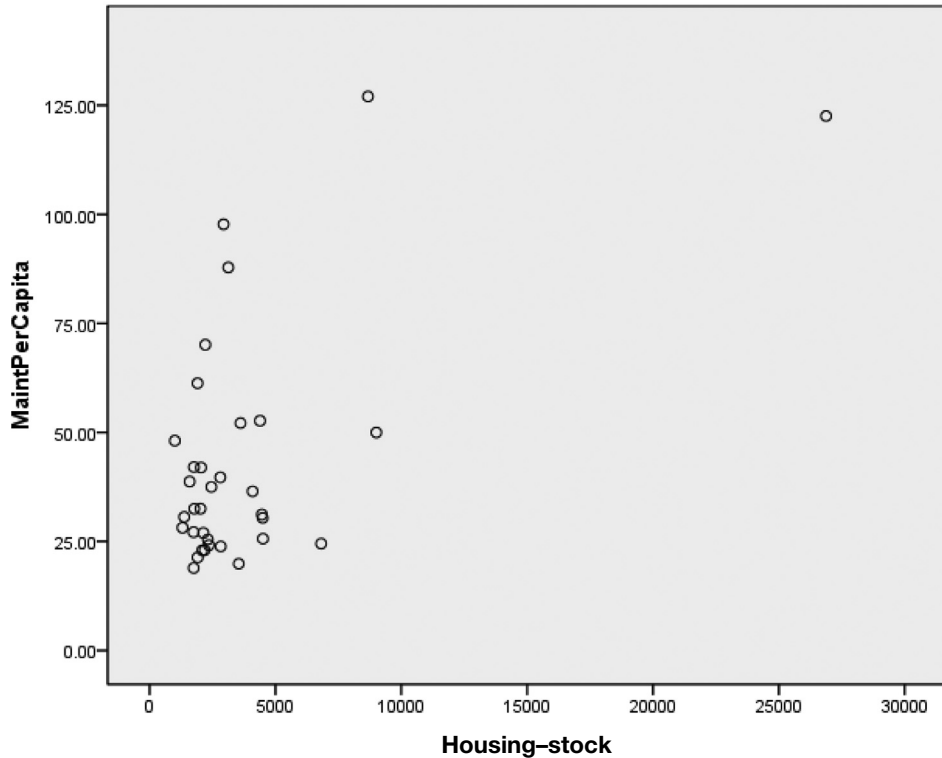
However, for a small number of service indicators, correlations can be found between size (population or organisation size) and service levels, though the evidence is very limited. For example, a positive correlation can generally be found between local authority size and levels of uncertified absenteeism ($r = +0.377$) – that is that larger local authorities tend to have higher levels of staff absenteeism, as might be expected with larger organisations generally in both the public and private sectors (see Figure 2). However, the scatterplot highlights a significant number of outliers which suggests that extreme caution is needed in interpreting these figures.

Figure 2: *Local Authority Size and Uncertified Absenteeism, 2009*

In addition, positive correlations are also found between housing rent arrears and local authority size, suggesting that larger local authorities tend to have higher rent arrear percentages than smaller local authorities.

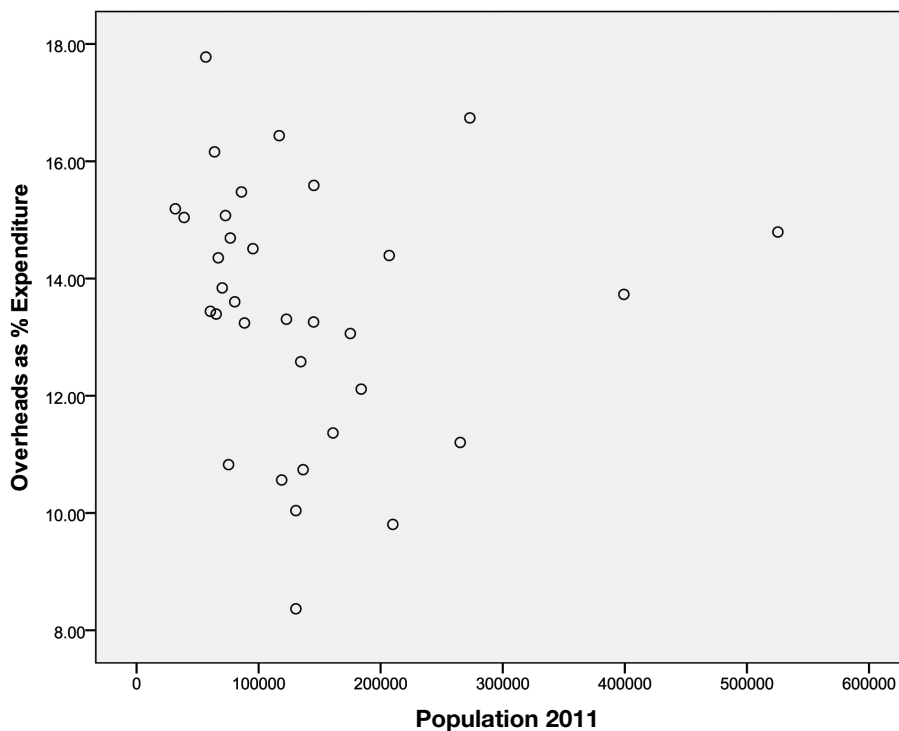
We also examined the relationship between population size and expenditure costs in different budget sub-headings. Again in most areas there was no clear statistical relationship between size and expenditure levels. Where relationships were found, the research suggests some surprising, perhaps counter-intuitive, findings. For example, one might expect larger local authorities to have lower per capita costs in areas such as housing maintenance than smaller local authorities. However, in this case, a strong positive correlation is found between local authority size (local authority housing stock) and levels of per capita expenditure on housing maintenance ($r = +0.597$) (see Figure 3).

Figure 3: *Local Authority Size and Expenditure on Housing Maintenance, 2011*



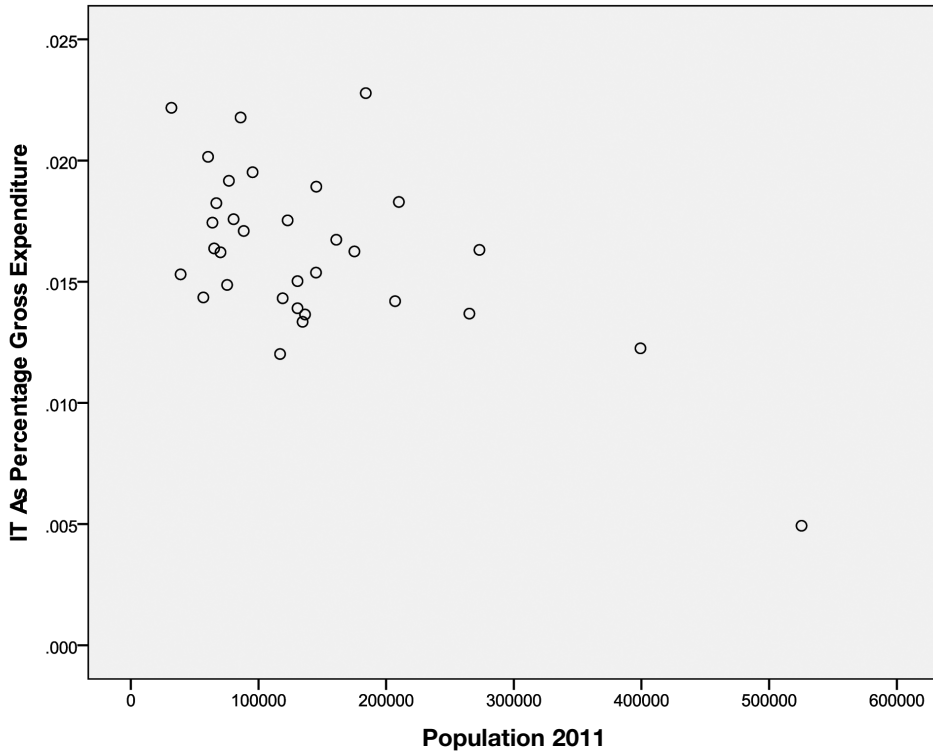
One area suggested by international research as potentially offering scope for economies of scale is administrative overheads, including corporate services such as human resources (HR), finance, IT services, and maintenance of local authority buildings. In this case, Annual Financial Statement (AFS) data from 2011 for all local authorities allowed us to examine relationships between organisational size and different overhead elements.² Figure 4 suggests that there was no major trend identified in the relationship between population size and total administrative overheads as a proportion of expenditure ($r = +0.013$). Once outliers are excluded a significant correlation can be found ($r = -0.42$), however, the results are by no means convincing.

² All data from 2011 Annual Financial Statements, Appendix 7 was examined.

Figure 4: *Local Authority Size and Administrative Overheads, 2012*

Similarly, we found no perceptible link between local authority size and expenditure on specific “back office” support services such as HR or building overheads. The only exceptions were the cases of expenditure on IT services which showed an association with population size ($r = -0.356$), and expenditure on finance which showed an association with the number of local authority staff. Thus, in the case of IT services we found that larger local authorities tend to spend proportionately less on IT overheads than smaller local authorities (see Figure 5).

Figure 5: *Local Authority Size and Expenditure on Information Technology, 2010*



The most notable feature of our preliminary analysis is the absence of clear evidence of economies of scale in service indicator data and budgetary and AFS data. In spite of the limited nature of the data analysis, this is surprising given commonplace assumptions in Irish political discourse. The exercise points to the need for more detailed modelling to further test assumptions about economies of scale in local government. Data envelopment analysis and stochastic frontier analysis methods have been used elsewhere to examine cost efficiency in local government (Geys *et al.*, 2013; Kalb, forthcoming). As a next step, it is proposed as a separate exercise to develop a non-parametric model of local government efficiency in an Irish context. However, significant work is needed to identify appropriate/available inputs and outputs to develop this econometric approach.

VI CONCLUSION

Clearly, the assumption that fewer but larger units of local government will reduce costs, improve services and create efficiencies is not unique to Ireland. It is a relatively simple argument to make, and appeals perhaps to an intuitive logic. International experience suggests that these ideas can quickly gain traction amongst policymakers and interest groups, and have become part of the political discourse around local government reform (see for example Reid, 2008; Dollery *et al.*, 2008; Copus, 2006; Elcock *et al.*, 2010; John, 2010). Yet the actual experience with amalgamation where it has been implemented suggests that such expectations can be exaggerated. One comparative review of amalgamations suggests that "... countries that rely on amalgamation as the major instrument of structural reform have either reduced the pace of reform (as in Australia and New Zealand) or they have even de-amalgamated (as in Canada). In these nations there seems to be a broad consensus that their experience has been unsatisfactory and not completely successful" (Fiorillo and Ermini, 2008, p. 243).

The economic recession and the national budget deficit in Ireland have brought with them several proposals to reform public services and realise savings for the taxpayer. This sentiment of course is entirely appropriate to these circumstances. Nevertheless, decisions need to be made on evidence rather than assumptions, intuition, and "conventional wisdom". Any reasonable measure of value for money would involve an estimate of supposed *net* gains – i.e., estimated ongoing savings less both the ongoing costs from diseconomies of scale and the one-off transitional costs of amalgamation.

As is clear from both our own research and the international evidence, the often assumed relationship between "cause" (larger local authorities) and "effect" (better and more efficient services) is difficult to establish, with the evidence being mixed. We cannot, therefore, take it for granted that by becoming larger, local authorities in Ireland (which are already very large by international standards) will cost less to run at all.

Given the labour-intensive nature of most local government services, the economic benefits of local authority mergers from economies of scale may not be significant. Merging local authorities can involve significant one-off transitional costs, as well as ongoing costs due to diseconomies of scale. There are, however, some specific areas within local government where economies of scale may exist, such as specialised services, the production costs of capital-intensive services, and some administrative overheads and "back office" functions.

One implication of these findings might be to examine local government responsibilities in each service area to identify optimal scales for individual

services with a view to a possible redistribution of responsibilities at sub-county, county, regional and national level (King, 1996). Indeed such an exercise should not be confined to the current responsibilities of local government, but could extend to labour-intensive services that are centrally managed but which require a local presence (such as education and policing) that the international literature suggests could be more efficiently provided locally.

Pending a fundamental redistribution of functions in line with optimal levels of public service provision, the best intermediate option would appear to lie with selectively targeting those service areas that exhibit economies of scale through local authority cooperation, shared service arrangements and outsourcing, but only where this can be justified on a realistic assessment of anticipated savings and benefits, and where these clearly outweigh both ongoing and transitional costs. While such arrangements have their own disadvantages, they represent a possible means of selectively availing of economies of scale without the costs of amalgamation.

We therefore summarise the policy implications of our analysis as follows:

- Contrary to the common perception that Ireland for a small country has “too many” local authorities, it has a comparatively small number of local government units. In particular, Ireland’s county and city councils are very large by international standards;
- Given the labour-intensive nature of most local government services, the cost savings directly arising from economies of scale are unlikely to be significant;
- There is a likelihood of newly-merged local authorities incurring additional ongoing costs in some service areas due to diseconomies of scale, and significant one-off transitional costs;
- Economies of scale are most likely to arise in specific areas such as more specialised services, the production costs of capital services, and some administrative overheads;
- As a longer term venture, public services could be redistributed at sub-county, county, regional and national levels in line with optimal scales, which are likely to vary according to service – future research could usefully develop more robust models to test for associations between scale and efficiency, while controlling for variables relevant to specific service areas, such as revenue base, wealth and population income levels, dependency ratio, population density, and topography. This exercise should not be restricted to the current suite of local government services but should also extend to services managed centrally but which require a local presence.

REFERENCES

- ALLAN, P., 2003. "Why Smaller Councils Make Sense", *Australian Journal of Public Administration*, Vol. 62, No. 3, pp. 74-81.
- ANDREWS, R. and G. BOYNE, 2009. "Size, Structure and Administrative Overheads: An Empirical Analysis of English Local Authorities", *Urban Studies*, Vol. 46, No. 4, pp. 739-759.
- ANDREWS, R. and G. BOYNE, 2012. "Structural Change and Public Service Performance: The Impact of the Reorganization Process in English Local Government" *Public Administration*, Vol. 90, No. 2, pp. 297-312.
- ANDREWS, R., G. BOYNE, A. CHEN and S. MARTIN, 2006. *Population Size and Local Authority Performance*, London: Department of Communities and Local Government.
- AULICH, C., 2005. "Australia: Still a Tale of Cinderella?" in B. Denters and L.E. Rose (eds.), *Comparing Local Governance: Trends and Developments*, Basingstoke: Palgrave Macmillan, pp. 193-210.
- BALDERSHEIM, H. and L. E. ROSE, 2010. "A Comparative Analysis of Territorial Choice in Europe – Conclusions" in H. Baldersheim and L.E. Rose (eds.), *Territorial Choice: The Politics of Boundaries and Borders*, Basingstoke: Palgrave Macmillan, pp. 234-259.
- BIRRELL, D., 2007. "The Role of Local Government in the Review of Public Administration in Northern Ireland: The Challenges of Enhancement, Devolution and Modernisation", *Local Government Studies*, Vol. 33, No. 5, pp. 657-675.
- BIRRELL, D., 2008. "The Final Outcomes of the Review of Public Administration in Northern Ireland. Tensions and Compatibility with Devolution, Parity and Modernization", *Public Administration*, Vol. 86, No. 3, pp. 779-793.
- BISH, R. L., 2001. "Local Government Amalgamations: Discredited Nineteenth-Century Ideals Alive in the Twenty-First", *C.D. Howe Institute Commentary – The Urban Papers*, No. 150 (available at: <http://cdhowe.org/governance>).
- BLOM-HANSEN, J., 2010. "Municipal Amalgamation and Common Pool Problems: The Danish Local Government Reform in 2007", *Scandinavian Political Studies*, Vol. 33, No. 1, pp. 51-73.
- BLOM-HANSEN, J., 2012. "Local Government in Denmark and the 2007 Municipal reform" in A. Moisio (ed.), *Rethinking Local Government: Essays on Municipal Reform*, Helsinki: Government Institute for Economic Research VATT publication no. 61, pp. 43-81 (available at: <http://www.vatt.fi/en/publications/>).
- BOEDELTEJE, M. and B. DENTERS, 2010. "Step-by-Step: Territorial Choice in the Netherlands" in H. Baldersheim and L.E. Rose (eds.), *Territorial Choice: The Politics of Boundaries and Borders*, Basingstoke: Palgrave Macmillan, pp. 118-137.
- BOYNE, G., 1992. "Local Government Structure and Performance: Lessons from America", *Public Administration*, Vol. 70, No. 3, pp. 333-357.
- BOYNE, G., 1995. "Population Size and Economies of Scale in Local Government", *Policy and Politics*, Vol. 23, No. 3, pp. 213-222.
- BYRNES, J. and B. DOLLERY, 2002. "Do Economies of Scale Exist in Australian Local Government? A Review of the Research Evidence", *Urban Policy and Research*, Vol. 20, No. 4, pp. 391-414.
- CDLR (Steering Committee on Local and Regional Authorities), 1995. *The Size of Municipalities, Efficiency and Citizen Participation*, Local and Regional Authorities in Europe, No. 56, Council of Europe.

- CDLR (European Committee on Local and Regional Democracy), 2001. *Relationship Between the Size of Local and Regional Authorities and their Effectiveness and Economy of their Action*, Report by the CDLR, Council of Europe (available at: http://www.coe.int/t/dgap/localdemocracy/WCD/FS_Local_Regional_en.asp#).
- CDLR (European Committee on Local and Regional Democracy), 2008. *The Relationship Between Central and Local Authorities*, Report by the CDLR, Council of Europe (available at: http://www.coe.int/t/dgap/localdemocracy/WCD/FS_European_Practice_en.asp#).
- CHISHOLM, M., 2010. "Emerging Realities of Local Government Reorganization", *Public Money and Management*, Vol. 30, No. 3, pp. 143-150.
- COLEMAN, M., 2009. *Back from the Brink: Ireland's Road to Recovery*, London: Transworld Ireland.
- COMMISSION ON ADMINISTRATIVE STRUCTURE, 2004. *Recommendation of the Commission on Administrative Structure – Summary* (Recommendation no. 1434), Copenhagen: Ministry of Interior and Health.
- COPUS, C., 2006. "British Local Government: A Case for a New Constitutional Settlement", *Public Policy and Administration*, Vol. 21, No. 2, pp. 4-21.
- DAHL, R. A. and E. R. TUFTE, 1973. *Size and Democracy*, Stanford: Stanford University Press.
- DE CEUNINCK, K., H. REYNAERT, K. STEYVERS and T. VALCKE, 2010. "Municipal Amalgamation in the Low Countries: Same Problems, Different Solutions", *Local Government Studies*, Vol. 36, No. 6, pp. 803-822.
- DENTERS, B. and P-J. KLOK, 2005. "The Netherlands: in Search of Responsiveness" in B. Denters and L.E. Rose (eds.), *Comparing Local Governance: Trends and Developments*, Basingstoke: Palgrave Macmillan, pp. 65-82.
- DERKSEN, W., 1988. "Municipal Amalgamation and the Doubtful Relation Between Size and Performance", *Local Government Studies*, Vol. 43, No. 1, pp. 31-47.
- DESMOND, D., 2011. *Ireland First: Political Reform – Effective and Efficient Government* (available at: <http://www.irishtimes.com/focus/2011/desmond-plan/index.pdf>).
- DE VRIES, M. S. and I. SOBIS, 2013. "Consolidation in Local Government: An International Comparison of Arguments and Practices", *Administration*, Vol. 61, No. 3, pp. 31-50.
- DOENI (Department of the Environment (Northern Ireland)), 2009. *Local Government Service Delivery – Economic Appraisal of Options for Local Government Service Delivery in its Entirety*, Study commissioned by the Department of the Environment and carried out by Pricewaterhouse Coopers (available at: http://www.doeni.gov.uk/index/local_government/local_government_service_delivery-2.htm).
- DOLAN, D. A., 1990. "Local Government Fragmentation: Does It Drive Up the Cost of Government?" in *Urban Affairs Quarterly*, Vol. 26, No. 1, pp. 28-45.
- DOLLERY, B., 2009. "Local Government Amalgamation", Working Paper 02-2009, Centre for Local Government Working Paper Series, University of New England (available at: <http://www.une.edu.au/clg/working-papers/>).
- DOLLERY, B. and L. CRASE, 2005. "Is Bigger Local Government Better? An Evaluation of the Case for Australian Municipal Amalgamation Programs", *Urban Policy and Research*, Vol. 22, No. 3, pp. 265-275.

- DOLLERY, B. and E. FLEMING, 2005. "A Conceptual Note on Scale Economies, Size Economies and Scope Economies in Australian Local Government", Working Paper 2005-6, Working Paper Series in Economics, University of New England (available at: <http://www.une.edu.au/bepp/working-papers/economics/1999-2007/index.php>).
- DOLLERY, B., J. BYRNES and L. CRASE, 2008. "Australian Local Government Amalgamation: A Conceptual Analysis of Population Size and Scale Economies in Municipal Service Provision", *Australasian Journal of Regional Studies*, Vol. 14, No. 2, pp. 167-175.
- DOLLERY, B. E., J. GARCEA, and E. C. LESAGE Jr. (eds.), 2008. *Local Government Reform: A Comparative Analysis of Advanced Anglo-American Countries*, Cheltenham: Edward Elgar.
- DOWDING, K., P. JOHN and S. BIGGS, 1994. "Tiebout: A Survey of the Empirical Literature", *Urban Studies*, Vol. 31, Nos. 4/5, pp. 767-797.
- ELCOCK, H., J. FENWICK and J. McMILLAN, 2010. "The Reorganization Addiction in Local Government: Unitary Councils for England", *Public Money and Management*, Vol. 30, No. 6, pp. 331-338.
- FAULK, D. and G. GRASSMUECK, 2012. "City-county Consolidation and Local Government Expenditures", *State and Local Government Review*, Vol. 44, No. 3, pp. 196-205.
- FIORILLO, F. and B. ERMINI, 2008. "Common Themes in Structural Reforms", in B.E. Dollery and L. Robotti (eds.), *The Theory and Practice of Local Government Reform*, Cheltenham: Edward Elgar, pp. 237-255.
- FRAANJE, R. and M. HERWELJER, 2009. "What are the Effects of an Imposed Merger of Municipalities in Comparison to a Locally Initiated Merger of Municipalities?", Paper presented at the European Consortium for Political Research (ECPR) Conference, 10-12 September 2009, Potsdam.
- FOX, W. F. and T. GURLEY, 2006. "Will Consolidation Improve Sub-National Governments?", World Bank Policy Research Working Paper 3913, 2006/05 (available at: <http://econ.worldbank.org/>).
- GARCEA, J. and E. C. LESAGE Jr., 2008. "Local Government Reforms in Canada" in B. E. Dollery, J. Garcea, and E. C. LeSage Jr. (eds.), *Local Government Reform: A Comparative Analysis of Advanced Anglo-American Countries*, Cheltenham: Edward Elgar, pp 158-189.
- GEYS, B., F. HEINEMANN, and A. KALB, 2013. "Local Government Efficiency in German Municipalities", *Raumforschung und Raumordnung*, Vol. 71, No. 4, pp. 283-293.
- GOVERNMENT OF IRELAND, 2012. *Putting People First – Action Programme for Effective Local Government*, Dublin: Stationery Office (available at: <http://www.environ.ie>).
- HEARFIELD, C. and B. DOLLERY, 2009. "Representative Democracy in Australian Local Government", *Commonwealth Journal of Local Governance*, No. 2, pp. 61-75.
- HENDRICK, R. M., B. S. JIMENEZ, and K. LAL, 2011. "Does Local Government Fragmentation Reduce Local Spending?", *Urban Affairs Review*, Vol. 47, No. 4, pp. 467-510.
- HIRSCH, W. Z., 1959. "Expenditure Implications of Metropolitan Growth and Consolidation", *The Review of Economics and Statistics*, Vol. 41, No. 3, pp. 232-241.

- HOLCOMBE, R. G. and D. W. WILLIAMS, 2008. "The Impact of Population Density on Municipal Government Expenditures", *Public Finance Review*, Vol. 36, No. 3, pp. 359-373.
- HOULBERG, K., 2010. "Municipal Size, Economy and Democracy" in P. Swianiewicz (ed.), *Territorial Consolidation Reforms in Europe*, Local Government and Public Service Reform Initiative, Budapest: Open Society Institute, pp. 309-331 (available at: <http://lgi.osi.hu/publications.php>).
- ILLNER, M., 2010. "The Voluntary Union of Municipalities: Bottom-up Territorial Consolidation in the Czech Republic" in P. Swianiewicz (ed.), *Territorial Consolidation Reforms in Europe*, Local Government and Public Service Reform Initiative, Budapest: Open Society Institute, pp. 219-235 (available at: <http://lgi.osi.hu/publications.php>).
- JOHN, P., 2010. "Larger and Larger? The Endless Search for Efficiency in the UK" in H. Baldersheim and L.E. Rose (eds.), *Territorial Choice: The Politics of Boundaries and Borders*, Basingstoke: Palgrave Macmillan, pp. 101-117.
- KALB, A., (Forthcoming). "What Determines Local Governments' Cost-efficiency? The Case of Road Maintenance" in *Regional Studies* (doi: 10.1080/00343404.2012.731044).
- KERR, R., 1999. "Toward More Efficient and Democratic Local Government", Speech by Executive Director of the New Zealand Business Roundtable, Hamilton: The Business Network (available at: <http://www.nzbr.org.nz/>).
- KING, D. N., 1996. "A Model of Optimum Local Authority Size" in G. Pola, G. France and R. Levaggi (eds.), *Developments in Local Government Finance, Theory and Policy*, Cheltenham: Edward Elgar, pp. 55-76.
- KING, D. N., and Y. MA, 2000. "Local Authority Size in Theory and Practice", *Environment and Planning C: Government and Policy*, Vol. 18, No. 3, pp. 255-270
- KJAER, U., U. HJELMAR and A. L. OLSEN, 2010. "Municipal Amalgamations and the Democratic Functioning of Local Councils: The Case of The Danish 2007 Structural Reform", *Local Government Studies*, Vol. 36, No. 4, pp. 569-585.
- LASSEN, D. D. and S. SERRITZLEW, 2011. "Jurisdiction Size and Local Democracy: Evidence on Internal Political Efficacy from Large-scale Municipal Reform", *American Political Science Review*, Vol. 105, No. 2, pp. 238-258.
- LEACH, S., 2009. "Reorganisation, Reorganisation, Reorganisation: A Critical Analysis of the Sequence of Local Government Reorganisation Initiatives, 1979-2008", *Local Government Studies*, Vol. 35, No. 1, pp. 61-74.
- LESAGE, E. C. Jr., and J. GARCEA, 2005. "Reflections on Municipal Reform: Reconfiguration or Reinvention?" in J. Garcea and E.C. LeSage Jr. (eds.), *Municipal Reform in Canada: Reconfiguration, Re-Empowerment, and Rebalancing*, Oxford: Oxford University Press, pp 289-341.
- LOCAL GOVERNMENT EFFICIENCY REVIEW GROUP, 2010. *Report of the Local Government Efficiency Review Group*, Dublin: Stationery Office (available at <http://www.environ.ie>).
- LOMAX, K. S., 1943. "The Relationship Between Expenditure per Head and Size of Population of County Boroughs in England and Wales", *Journal of the Royal Statistical Society*, Vol. 106, No. 1, pp. 51-59.
- LOMAX, K. S., 1952. "A Criterion of Efficiency in Local Administration", *Journal of the Royal Statistical Society*, Vol. 115, No. 4, pp. 521-523.

- LOWERY, D., 2000. "A Transactions Costs Model of Metropolitan Governance: Allocation Versus Redistribution in Urban America", *Journal of Public Administration Research and Theory*, Vol. 10, No. 1, pp. 49-78.
- LUARCC (Local Unit Alignment, Reorganization, and Consolidation Commission), 2009a. *Literature Review and Analysis Related to Optimal Municipal Size and Efficiency*, Study commissioned by the LUARCC and carried out by the School of Public Affairs and Administration at Rutgers State University of New Jersey (available at: <http://www.nj.gov/dca/affiliates/luarcc/>).
- LUARCC (Local Unit Alignment, Reorganization, and Consolidation Commission), 2009b. *Literature Review and Analysis Related to Municipal Government Consolidation*, Study commissioned by the LUARCC and carried out by the School of Public Affairs and Administration at Rutgers State University of New Jersey (available at: <http://www.nj.gov/dca/affiliates/luarcc/>).
- MARSHALL, N., 2008. "Local Government Reforms in Australia" in B.E. Dollery, J. Garcea, and E.C. LeSage Jr. (eds.), *Local Government Reform: A Comparative Analysis of Advanced Anglo-American Countries*, Cheltenham: Edward Elgar, pp. 16-45.
- MARTIN, L. L. and J. HOCK SCHIFF, 2011. "City-County Consolidations: Promise Versus Performance", *State and Local Government Review*, Vol. 43, No. 2, pp. 167-177.
- MCKINLAY, D., 2006. *Local Government Structure and Efficiency – A Report Prepared for Local Government New Zealand* (available at: <http://www.lgnz.co.nz/library/publications/download-docs.html>).
- MINTZBERG, H., 1983. *Structure in Fives: Designing Effective Organizations*, New Jersey: Prentice Hall.
- MOISIO, A., 2012. "Introduction" in A. Moisio (ed.), *Rethinking Local Government: Essays on Municipal Reform*, Helsinki: Government Institute for Economic Research VATT publication no. 61, pp. 1-13 (available at: <http://www.vatt.fi/en/publications/>).
- MOURITZEN, P. E., 1989. "City Size and Citizens' Satisfaction: Two Competing Theories Revisited", *European Journal of Political Research*, Vol. 17, No. 6, pp. 661-688.
- MOURITZEN, P. E., 2010. "The Danish Revolution in Local Government: How and Why?" in H. Baldersheim and L.E. Rose (eds.), *Territorial Choice: The Politics of Boundaries and Borders*, Basingstoke: Palgrave Macmillan, pp. 21-41.
- NEWTON, K., 1982. "Is Small Really So Beautiful? Is Big Really So Ugly? Size, Effectiveness and Democracy in Local Government", *Political Studies*, Vol. 30, No. 2, pp. 190-206.
- OFMDFM (Office of the First Minister Deputy First Minister), 2006. *Exercise to Estimate the Costs and Efficiencies of the Review of Public Administration Proposals – Executive Summary*, Study commissioned by the OFMDFM and carried out by Deloitte.
- O'CONNOR, F., 2009. "Local Government: Time for a Radical Shake-up?" *Business & Finance*, 10 September 2009.
- POLLITT, C., 2009. "Structural Change and Public Service Performance: International Lessons?", *Public Money and Management*, Vol. 29, No. 5, pp. 285-291.
- POWER, J., 2012. "Local Government Reform Plan a Welcome Step", *Irish Examiner*, 19 October 2012.

- PRICEWATERHOUSE COOPERS, 2006. *National Financial Sustainability Study of Local Government*, Study commissioned by the Australian Local Government Association (available at: <http://alga.asn.au>).
- REFORM SCOTLAND, 2012. *Renewing Local Government*, (available at: <http://reform.scotland.com/>).
- REID, M., 2008. "Structural Reform in New Zealand" in B.E. Dollery and L. Robotti (eds.), *The Theory and Practice of Local Government Reform*, Cheltenham: Edward Elgar, pp. 199-216.
- SANCTON, A., 1996. "Reducing Costs By Consolidating Municipalities: New Brunswick, Nova Scotia and Ontario", *Canadian Public Administration*, Vol. 39, No. 3, pp. 267-289.
- SANCTON, A., 2008. "Structural Reform in Canada" in B.E. Dollery and L. Robotti (eds.), *The Theory and Practice of Local Government Reform*, Cheltenham: Edward Elgar, pp. 115-131.
- SHARPE, J., 1995. "Local Government: Size, Efficiency and Citizen Participation", pp. 63-82 in CDLR (Steering Committee on Local and Regional Authorities) *The Size of Municipalities, Efficiency and Citizen Participation*, Local and Regional Authorities in Europe, No. 56, Council of Europe.
- SLACK, E., and R. M. BIRD, 2012. "Merging Municipalities: Is bigger better?" in A. Moisio (ed.), *Rethinking Local Government: Essays on Municipal Reform*, Helsinki: Government Institute for Economic Research VATT Publication No. 61, pp. 83-130 (available at: <http://www.vatt.fi/en/publications/>).
- SPECIAL GROUP ON PUBLIC SERVICE NUMBERS AND EXPENDITURE PROGRAMMES, 2009. *Report of the Special Group on Public Service Numbers and Expenditure Programmes*, Dublin: Stationery Office (available at <http://www.finance.gov.ie>).
- SWIANIEWICZ, P., 2010. "If Territorial Fragmentation is a Problem, is Amalgamation a Solution? An East European Perspective", *Local Government Studies*, Vol. 36, No. 2, pp. 183-203.
- TIEBOUT, C. M., 1956. "A Pure Theory of Local Expenditures", *Journal of Political Economy*, Vol. 64, No. 5, pp. 416-424.
- TRAVERS, T., G. JONES, and J. BURNHAM, 1993. *The Impact of Population Size on Local Authority Costs and Effectiveness*, York: Joseph Rowntree Foundation.
- VETTER, A. and N. KERSTING, 2003. "Democracy Versus Efficiency? Comparing Local Government Reforms Across Europe" in N. Kersting and A. Vetter (eds.), *Reforming Local Government in Europe: Closing the Gap between Democracy and Efficiency*, Opladen: Leske + Budrich, pp. 11-28.
- VOJNOVIC, I., 1998. "Municipal Consolidation in the 1990s: An Analysis of British Columbia, New Brunswick and Nova Scotia", *Canadian Public Administration*, Vol. 41, No. 2, pp. 239-283.
- VOJNOVIC, I., 2000. "The Transitional Impacts of Municipal Consolidations", *Journal of Urban Affairs*, Vol. 22, No. 4, pp. 385-417.
- VRANGBÆK, K., 2010. "Structural Reform in Denmark, 2007-09: Central Reform Processes in a Decentralised Environment", *Local Government Studies*, Vol. 36, No. 2, pp. 205-221.
- WALLIS, J. and B. DOLLERY, 2001. "Local Government Policy Evolution in New Zealand: Radical Reform and Ex-Post Emergence of Consensus of Rival Advocacy Coalitions", *Public Administration*, Vol. 79, No. 3, pp. 533-560.

WESTERVELD, H. W., 1995. "Policy on Municipal Boundary Reforms in the Netherlands and A Number of Recent Developments", CDLR (Steering Committee on Local and Regional Authorities) *The Size of Municipalities, Efficiency and Citizen Participation*, Local and Regional Authorities in Europe, No. 56, Council of Europe, pp. 97-103.

