

# Privatization, contracting out and inter-municipal cooperation of local public services:

## New developments

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**Abstract:** In this paper we briefly review and discuss several advancements in the empirical analysis of privatization and inter-municipal cooperation of local public services. Factors driving delivery choices and the effects of privatization and cooperation are the core issues discussed here. Beyond the specific empirical content of each study, we note that innovative methodologies are applied in several of the included studies. Finally, we suggest orientations for further research.

**Keywords:** Privatization; contracting-out; inter-municipal cooperation; empirical studies.

### 1. Introduction<sup>1</sup>

Until recently, the literature on service delivery has mainly focused on the classic “make or buy” choice. The literature has begun to examine the outcomes of these choices, particularly whether public or private production results in lower delivery costs (e.g., Bel, Fageda, and Warner

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<sup>1</sup> The workshop “Empirical effects of cooperation or privatisation of municipal services” took place on December 5<sup>th</sup>, 2016, in *the School of Business and Economics* at the Vrije Universiteit Amsterdam. There were participants from Spain, Czech Republic, Germany, Denmark and the Netherlands. Based on this workshop, four papers were selected for this special issue on intermunicipal cooperation and privatisation. In addition, three other papers of colleagues in the field also based on these topics were chosen as well.

2010). The results of the privatization of local services have been mixed. Contracting services to private producers has not always produced the results expected by promoters. Research has identified some potential explanatory factors for this mixed record. Among them are variable transaction costs in the management of direct and privatized service delivery (Brown and Potoski, 2005) and the diminishment of competition over time for some goods and services or market concentration (Bel and Costas 2006; Bel and Fageda 2011; Dijkgraaf and Gradus 2007).

Outside the public and private dimension, other important production organizational forms exist, such as inter-municipal cooperations (IMCs) and delivery by municipality owned firms (MOCs). For the USA, the ICMA<sup>2</sup> surveys measure inter-municipal of different tasks and its fraction is almost twenty percent in 1992-2007 (Hefetz, Warner, and Vigoda-Gadot 2012). Also in Europe, IMCs have become more important in recent years. For example, in the Netherlands as a share of total local spending, inter-municipal spending has been increasing from 7 percent on average in 2005 to 18 percent in 2013. Also here the literature has begun to examine the outcomes of IMC, whether it lowers delivery costs. Although the number of studies is still too small to do a meta-regression (e.g., Bel and Warner 2015). Also, a full analysis of factors driving IMC can be found in Bel and Warner 2016.

In this special issue, we focus on relevant topics such as understanding why cost effects of privatization of local services have been mixed, and whether IMC can be an alternative to achieve better outcomes in local services delivery. This issue contains seven contributions: two on factors driving privatisation and IMC, two on the effects of privatization and contracting out local public services, and three on the effects of IMC.

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<sup>2</sup> The five-yearly International City County Management Association (ICMA) sample includes all US cities with a population of over 10,000 and counties with a population of over 25,000 and an additional sample of one in eight smaller municipalities (see Hefetz, Warner, and Vigoda-Gadot 2012).

### **Contributions on drivers of privatization and inter-municipal cooperation**

In “Inter-municipal Cooperation in the Case of Spillovers – Evidence from Western German municipalities”, Christian Bergholz examines the question of whether the existence of regional spillovers have an impact on the emergence of IMC, and he does so by focusing on tourism marketing. Bergholz uses data from a survey conducted among Western German municipalities merged with official statistics regarding municipalities’ fiscal, political and demographic conditions, as well as characteristics related to tourism. On the methodological side, Bergholz’s is the first research that applies a hazard model in order to explain the emergence of IMC, arguing that these models have important advantages over most commonly methods previously used. His results show that those municipalities (especially small ones) have the opportunity to free ride on great neighbours are less likely to engage in IMC. Recall, in that respect, that while free riding by small municipalities can entail little cost for large municipalities, small municipalities can obtain relative big savings from free riding, given their small overall budget.

The federal and state governments have provided limited assistance to local governments in the US after the Great Recession. This has led local governments to search for ways to cut costs and maintain services, and alternative service delivery is being emphasized as a solution. In “Can Alternative Service Delivery Save Cities After the Great Recession? Barriers to Privatization and Cooperation”, Yunji Kim studies whether alternative service delivery is a sustainable solution for local governments, and explores the relationship between procedural and structural barriers to alternative service delivery and actual rates of privatization and cooperation. Kim uses census data and a 2012 survey data of US municipalities, and she finds that procedural barriers (which include political and managerial issues) do not hinder privatization and cooperation; however, structural barriers of economy, demography, and market have a negative effect on rates of privatization and cooperation. Both privatization and cooperation are lower in places with lower home values, and privatization is lower in places with more poverty, or where poverty is increasing. Cooperation may be a promising alternative for places where poverty is increasing, but cooperation can be limited

by the lack of a willing partner. Overall, the results from this research suggest that alternative service delivery is not a promising solution for local governments under stress. In the case of privatization, because it privileges wealthier places. In the case of cooperation, because it is a spatially constrained tool. An important policy implication emerges from these results: the most stressed cities may be unable to use solutions of privatization and cooperation, and they should instead think in multilevel solution to address their structural challenges.

### **Contributions on effects of privatisation and contracting out**

In “Contracting out local road and park services: Economic effects and their strategic, contractual, and competitive conditions”, Andrej Lindholst, Ole Petersen and Kurt Houlberg empirically evaluate the economic effects of contracting out in the context of local road and park services in Danish municipalities. The authors draw on original survey data from mid-level managers in parks and roads departments, and find that competitive tendering has on average reduced costs by on average 5.5 per cent. Interestingly, they also find that savings are not associated with lower quality. Furthermore, they find that municipalities that repeatedly contract the services experience smaller savings, suggesting that competitive tendering is subject to declining marginal returns, consistent with results obtained for the Spanish region of Catalonia by Bel and Costas (2006). Finally, Lindholst, Petersen and Houlberg examine several factors contributing to variations in the outcomes of contracting out, and find that larger municipalities and those emphasizing spending cuts achieve the largest savings, whereas the degree of market competition and the design of contracts do not seem to explain variations in cost savings.

In “An empirical assessment of market concentration in local services: evidence from Dutch waste collection”, Raymond Gradus, Martijn Schoute and Elbert Dijkgraaf examine the effects of different concentration indexes for the costs of Dutch waste collection firms. They show that these market were highly concentrated in 2002, 2006, 2010 and 2014. The estimation results

in 2002 show that private collection is cheaper than collection by municipalities and there is some evidence that high concentration increases costs of private collection. In 2006, the savings gained from privatization and also the effect of concentration disappear, probably due to the introduction of a VAT-compensation fund.<sup>3</sup> In 2010, for a small area (i.e. radius of 30 kilometers) there is some evidence that high concentration increases costs, but for larger areas this effect disappears. For 2014, in most estimations, this concentration effect disappears. Overall, these estimation results are rather independent of the concentration indexes used.

### **Contributions on effects of inter-municipal cooperation**

In “Internal Factors of Inter-municipal Cooperation: What matters most and why?”, Jana Soukopová and Gabriela Vaceková examine cost reduction of waste collection due to inter-municipal cooperation (IMC) in the Czech Republic’s South Moravian Region. They use a sample of 658 municipalities of which 205 municipalities cooperate during 2012 - 2014. Cost reduction is significantly influenced by the institutional arrangement of IMC, the participation of municipal representatives in management, and professional (independent) managers. Cost increases are found to municipality sizes larger than 10,000 inhabitants and to profit-oriented behaviors of waste collection companies. So, a crucial role in cost reduction is played by internal factors that have been investigated only marginally, as far as we know. Therefore, an important policy implications of the research emerges, as it points out the importance of the internal factors of IMC, and it offers a new and innovative solution to the decision-making process of municipal representatives.

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<sup>3</sup> In the Netherlands, a VAT-compensation fund was introduced in 2003. The main reason for its introduction was the creation of a level playing field between self-supply and contracting out of public (local) services. In several other member states of the EU –Denmark, Finland, the Netherlands, Sweden and the UK- and Norway have also introduced refund schemes to address this distortion in most cases simultaneously with the introduction of the VAT-system (see Wassenaar, Groot and Gradus 2010)).

In “Intermunicipal cooperation, public spending, and service levels”, Maarten Allers and Tom de Greef discuss the efficiency argument for IMC, using Dutch panel data for 2005-2013 for three services (i.e. welfare provision, garbage collection, and tax collection). They find no evidence that IMC reduces total spending of the average municipality. Indeed, IMC seems to increase spending in small and large municipalities, leaving spending in mid-sized municipalities unaffected. They argue that instead of lowering spending, municipalities may have used possible cost savings as a result of IMC to improve public service levels. In one specific field, tax collection, spending may be reduced through IMC. They found no evidence that possible cost savings are used to improve the service levels. Overall, Allers and de Greef’s study does not provide evidence that cooperation increases efficiency. The authors suggest that much will depend on production technology. Prospects for cost savings are better for capital-intensive services like tax collection. On the contrary, in other services more labor-intensive such as social services, economies of size may not exist, or be negligible.

In “Does intermunicipal cooperation increase efficiency? A conditional metafrontier approach for the Hessian wastewater sector”, Frédéric Blaeschke and Peter Haug analyse the effects of intermunicipal cooperation on public service production, especially the potential differences in relative efficiency (input-oriented technical efficiency) between cooperating and non-cooperating municipalities or between different forms of cooperation. The paper focuses on sewage disposal services of a sample of Hessian municipalities (Germany) because of the widespread and time-tested cooperation in German municipal sewage services. In this paper, intermunicipal cooperation include joint intermunicipal bodies as well as contractual arrangements or mixed forms. Relative (technical) efficiency is specified as the relation of aggregated costs to estimated sewage volume. A conditional metafrontier approach is applied to test (a) if different forms of cooperation have access to the same technology set, and (b) to detect significant differences in efficiency between different forms of cooperation by comparing the group distributions of the technology gap ratios. Overall, the results reveal only limited returns to scale in

sewage services. Thus, only smaller municipalities might benefit. Furthermore, only contracting-out municipalities, which are also mostly small municipalities in this sample, turn out to be more efficient (group frontier nearer to metafrontier) than self-providers. Municipalities (mostly larger municipalities) that clean sewage for other municipalities are significantly less efficient than self-providers. The same goes for municipal associations. However, the efficiency differences diminish if environmental variables are taken into account.

Table 1 displays the most important characteristics of the different contributions in this special issue, including sample year, country (or region), the number of public service, the way of sample collection, the regression method, the number of observations and municipalities.

**Table 1. Different articles with some characteristics**

Authors	Sample Year	Country/region	#Public Service	A/S <sup>1</sup>	Regression method	#Obs.	#Municipalities
Bergholz	2000-2014	Western-Germany	1	S	Hazard Model	303	303
Kim	2012	US	76	S	Probit	1579	1579
Lindholm, Petersen & Houllberg	2014	Denmark	2	S	OLS	82	75
Gradus, Schoute & Dijkgraaf	2002, 2006, 2010, 2014	Netherlands	1	A	OLS	1610	453/407/392/358
Soukopová & Vaceková	2012-2014	South Moravian (Czech Rep.)	1	A-S	OLS	205	205
Allers & de Greef	2005-2013	Netherlands	4	A	GMM	3332	388/392
Blaeschke & Haug	2006	Hesse (Germany)	1	A	Conditional order-m metafrontier	193	421

Note: A: Administrative data set; S: Survey

These seven articles represent research from five countries (The Netherlands, Germany, Czech Republic, Denmark and the US), mostly after 2010. Four articles studies panel data and three articles studies cross-sections. In the past, the extant empirical literature has largely focused on cross-section of solid waste. In their meta-regression analyses of solid waste and water services, 38 of 46 observations were solid waste and 41 of 46 observations were cross-sections (Bel, Fageda and Warner 2010). In recent years, more and more panel data also on other tasks have become available also for another tasks than waste collection. More and more administrative data become available, which are highly representative. Some data are based on surveys and there can be an issue

of response bias. Especially, for the interesting case of tourism marketing studied by Bergholz this seems the case. Also, we see methodological developments in the papers included in this special issue. For example, Allers and de Greef use a General Method of Moments (GMM) as they point out that municipal expenditures are highly dependent on spending levels in previous years. In his innovative approach, Bergholz uses a hazard model to deal with the response bias of their data. Finally, Blaeschke and Haug use a conditional m-order metafrontier, which has been still scarcely used in the literature.

### **Privatization, contracting out and cooperation: Where are we and future research?**

As the articles in this special issue show, there is a wide array of issues that need to be addressed by future research to understand why cost effects of privatization of local services are so been mixed and if and under what conditions IMC can be an alternative.

#### *Privatisation and contracting out*

The studies on privatisation in this issue put further emphasis on the cost advantage of the privatization of local public services. Both show that this effect is rather limited and give insights that transaction costs, contract design and market concentration are explanations for this result. Although generalizations can be misleading, some new or still under-researched insights are emerging. Lindholm, Petersen and Houlberg (2018) did not find support for the hypothesis that cost savings of contracting are positively associated with the level of market competition for Denmark. Interestingly, in their study repeated tendering is associated with lower economic gains (as found in Bel and Costas, 2006), so this result underlines the importance of transaction costs due to contracting out. In addition, most markets for local public services seem to be highly concentrated. For example, the Dutch market for waste collection contains two large private firms and some, but not many, small firms. In recent years, in the waste market the number of Dutch



private firms dropped sharply. In 2002, in an area with a radius of 70 kilometres (i.e. 3,850 km<sup>2</sup>) the number of private firms was 9.9, in 2014 this was 5.5. With a total area of 7,196 km<sup>2</sup>, the waste market in South Moravian contains only eight private firms. Therefore, we would encourage further empirical research for the relation between costs and market concentration. Hereby, data for recent years should be investigated, and also other markets than the waste collection market should be investigated as well.

To understand the decreasing number of private firms, it is important that in future research the issue of re-municipalisation should be studied as well. Earlier analysis of US shifts over time shows not only that privatization and contracting out are important phenomena, but also that reverse privatization and contracting in exist and become more important (Hefetz and Warner 2004). In a more recent study, Warner and Hefetz (2012) show that for the periods 2002–07 and 2007–12, respectively, reverse contracting and new contracting out were almost evenly matched in the United States. Gradus and Budding (2017), based on shifts for Dutch waste collection between 1999-2014, show that reverse privatization is more common than privatization. Interestingly, for nearly half of the municipalities, it was a shift from a private to municipal owned enterprise. Evaluating ideological motivation, Gradus and Budding (2017) show conservative liberals are in favour of changing, particularly toward the market and privatization, whereas social democrats, in particular, are against change. In future research also the relation of re-municipalisation on costs and efficiency should be examined. As Hall, Lobina and Terhorst (2013) claim that there was extensive re-municipalization in the water sector in France and the energy sector in Germany, other markets should be investigated as well.

Finally, research should be done on the way that some public service markets are organized in a vertically way. This seems not only the case for waste collection with large firms in charge of collection, sorting and recycling of different materials, but also for construction, water and energy. Organizing markets in a vertically way can have some drawbacks as also recent research is showing. An ex-post evaluation of competition law enforcement effects in the German Packaging Waste

directive did shown that prices dropped with more than 60 percent, which is extremely large for a competition law enforcement effect. The main measure was that the monopoly of the compliance scheme by a green dot company has been broken and other compliance schemes entered the market.

### *Inter-municipal cooperation (IMC)*

In theory, IMC may improve efficiency if the production of public services is characterized by economies of scale. In larger organizations, fixed costs can be spread out over higher production volumes. On the other hand, corporate governance theory predicts that IMC increases agency costs and reduces the extent to which public servants are monitored. Based on the three multivariate empirical articles explaining costs in this special issue, the cost advantage of IMC is still an open issue.

Soukapovà and Vaceková (2018) found cost-advantage of IMC for South Moravian (Czech Republic), particularly for small municipalities. In the same way, Blaeschke and Haug (2018) find efficiency improvement with cooperation also for small municipalities in the Hessian (Germany) sewage sector. On the contrary, Allers and de Greef (2018) find that IMC in general does not seem to be an effective method to reduce local government spending. Even for tax collection, where due to the capital-intensive nature of tax collection they expect savings from IMC, total spending is unaffected, although the size of this spending is relatively small. For Dutch waste collection the result of Allers and de Greef (2018) is similar to Gradus, Schoute and Dijkgraaf (2018), who shows for 2002, 2006 and 2010 there is no (significant) cost advantage for IMC. Interestingly, for 2014 Gradus, Schoute and Dijkgraaf (2018) found a significant positive cost-advantage effect of cooperation of 17%. Therefore, future empirical research on outcomes of IMC of different public services, likely be based on panel data, should be encouraged. As Kim (2018) emphasize also citizen

interest and service quality should be included. In addition, as Soukapová and Vaceková (2018) point out, analysing the drivers behind these outcomes should be discussed as well.

An issue related to IMC is municipally owned corporations (MOCs). As Voorn, van Genugten and van Thiel (2017) show these MOCs have independent corporate status, allow shared ownership and facilitating extensive cooperation between different local governments. Moreover, based on their review of the exiting literature these MOCs are increasingly utilised to provide local public services and are often more efficient than local bureaucracies. In some countries as the Netherlands there is a clear and distinct differences between IMC and MOCs, where IMC is public and MOCs are private. As a consequence these MOCs operate under commercial law with more managerial autonomy for executive board. However, in other countries this difference is less accentuated. The relation with local politics is less clear and therefore managerial autonomy can be more limited. Therefore, as Voorn, van Genugten and van Thiel (2017) describes MOCs can have a high failure risk resulting from goal-conflict and agency problems. This is of course also an issue for IMC as well and governance research dealing with this issue should be encouraged.

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