Pricing joint use of municipal services : theoretical perspectives and regulatory issues

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Abstract: This paper analyses price regulation of inter-municipal contracts in Finland to demonstrate interpretative problems of regulatory rules specifying full-cost or market prices and, by so doing, deepen understanding of the theoretical underpinnings for pricing collaborative municipal services. It considers how to price inter-municipal services taking into account the specific socio-economic nature of inter-municipal cooperation, including both financial and non-financial objectives, through a new joint-use pricing model of municipal services that challenges the supremacy of full-cost pricing requirements in cases of inter-municipal collaborative contracting. Acknowledging limitations and benefits, it concludes European Single Market rules militate against municipal discretion and localism.

Keywords: public procurement; inter-municipal contracting; joint use; full-cost pricing; market pricing

INTRODUCTION

This study analyses pricing issues for inter-municipal contracting. It considers how to price local governments' collaborative services and the implications of different pricing options for financial governance. Utilizing Finnish case materials, it focuses on municipal joint use systems, where a municipal service is at the disposal of at least two local authorities simultaneously or consecutively. It shows that the economic principles of the European Single Market (ESM) are inconsistent with both Nordic countries' strong municipal autonomy and the European Charter of Local Self-Government's principles for local democracy (ECLSG, 1985).

The European Union (EU) has sought to create and promote the realization of the ESM by abolishing trade barriers on goods and services in member states and instituting a transparent competitive system of public procurement (Bovis, 2013). However, non-tariff obstacles to trade have proved difficult to remove, various bureaucratic or discriminatory governance practices against outsourcing provision of public services to the private and third sectors being justified on special grounds (Hansson & Holmgren, 2011).

In Finland, attempts to justify such non-conforming practices generally refer to the decentralist principles promulgated by the Council of Europe to propagate local democracy (ECLSG 1985, Stivachtis & Habegger, 2011). Fostering the regulation and management of a substantial share of public affairs by municipalities themselves through localism seems to conflict with EU-wide regulation.

Nordic countries have an administrative tradition of relatively strong local autonomy allowing municipalities to choose whether they want to produce their services via their own (i.e. in-house) organization or municipal collaboration. Elsewhere in the EU, inter-municipal collaboration is also widespread and has many operative models (Hults & van Montfort, 2011). This can be regarded as closed outsourcing because it blocks supply of public services by private law organizations and so militates against a consistent ESM regulatory framework.

Previous studies of the regulation of public procurements and inter-municipal contracting demonstrated legal uncertainties regarding the grounds on which municipalities may sign inter-municipal contracts without following EU public procurement rules (Burgi & Koch, 2012). Baciu & Dragos (2015) reported inconsistent practices in member states related to under what conditions municipalities engage in horizontal inter-municipal transactions and there was evidence of an increasingly flexible interpretation for the scope for inter-municipal contracting (Clarke, 2015). There is no obligation to apply public procurement regulation if inter-municipal contracting delivers local public services in a co-operative manner and the contract does not involve remuneration.

The aim of this paper is to contribute to these discussions about how well grounded or functional are the public procurement regulations providing rules for horizontal inter-municipal transactions and how to improve regulatory reasoning from the perspective of financial management. Accordingly, we consider the issues of joint use contracts relating to

the specific socio-economic nature of inter-municipal cooperation, including both financial and non-financial objectives.

Our study analyses how the pricing settings of collaborative inter-municipal contracting are regulated in Finland in order to highlight the interpretative problems of top-down price control of municipal joint use services and deepen understanding about the theoretical underpinnings of pricing inter-municipal services. Our purpose is to demonstrate how the issues of capacity utilization and the relationship between contracting municipalities are overlooked by the current price regulation and so we argue the case for a new pricing model for joint use of municipal services.

Pricing intra-organizational contracts can use cost-based, market-based, negotiated or dual prices. Cost-based and market-based prices are the most popular transfer pricing methods for the internal pricing of goods and services moving between corporate divisions in private sector companies (Cravens, 1997; Tang, 1992). Our study also analyses full cost and market-based pricing methods but within the public sector to highlight the influence of regulatory policies on alternative pricing methods and their financial governance from the perspectives of public administration, law, economics, and accounting.

The pure pricing problem of inter-municipal contracting is universal but how to regulate prices or pricing methods is an economic region or country specific issue. EU directives and European Court of Justice (ECJ) cases constitute a comprehensive legislative framework limiting regulatory leeway for member states. Nevertheless, the wording of

European statutes create remarkable legal uncertainties for public-public collaboration and so are subject to various interpretations by member states (Hausmann & Queisner, 2013).

Our study of the Finnish case demonstrates how the loose legal statutes of inter-municipal co-operation leave unresolved the demarcation between joint use of services as part of municipal public administration based on democratic self-government and public procurements as part of the ESM. It also demonstrates how this lack of resolution creates governance problems in municipal financial management and so contributes to the tightening of state regulation of the pricing decisions of local governments. Furthermore, the conceptual analysis reveals the weaknesses of the key cost and price terms used by courts and lawmakers in their efforts to regulate pricing of inter-municipal services. This analysis is relevant not only for Finland but also for the rest of the EU and elsewhere.

METHODOLOGY AND STRUCTURE

The paper proceeds by explaining our research data and methodology, thereafter considering the wider theoretical foundations of contractual public service delivery via agency theory within a quasi-market framework. Regulatory differences between inter-municipal co-operation and local public procurements are then summarized to demonstrate recently introduced judicial pricing requirements for contractual municipal services. Analysis of the regulatory foundations of joint use systems and pricing requirements utilizes documentary reviews of Finnish legislation, law drafting materials and selected

legal judgements of court cases complemented by a summarized review of European legal court cases.

After highlighting the emergence of full cost pricing and market pricing rules, we problematize regulatory requirements by explicating interpretative ambiguities, considering how those requirements could be understood and implemented by assessing the intelligibility of legal terms and through critical appraisal of the ambiguous presumptions regarding the availability and robustness of the data required for economic decision making in municipalities.

A new pricing model is then developed as follows. First, we develop new theoretical perspectives of pricing inter-municipal services by considering the justification of economic cost concepts and by recombining some related elements of agency theory, pricing theories and quasi-market theory. Second, we create a two-dimensional matrix of four different methods of pricing taking account of the mode of joint contracting and utilization of service capacity. Although tentative and instrumentalist, the conceptual model is shown to promote socio-economic efficiency within public-public collaboration, demonstrating what form of pricing is justifiable and providing a constructive framework for drafting laws and guidance. The discussion section provides a summary of findings and arguments, makes clear their theoretical and regulatory relevance and considers the implications and limitations of our analysis and pricing model. Finally, we provide a short concluding section summarizing the origin of the regulatory pricing problem and crystallizing our case for a new pricing doctrine.

THEORETICAL PERSPECTIVES FOR COLLABORATIVE CONTRACTING

Agency theory has been used to analyze contractual assignments and contractual buyer/supplier relationship (Murray, 2009). Following agency theory, a local government may act as a principal and hire an agent to operate as a collaborative party and produce specified public services. The principal selects a suitable agent that can be another local authority or a private organization and signs the service contract. The service delivery agent can be considered a contractor of the local government (Lane, 1997).

The ESM regime requires competitive tendering for collaborative contracts whereas some municipalities may prefer negotiation-based relationships with other municipalities based on familiarity, trust and straightforwardness. Applying the theory of collaborative advantage (Huxam, 2003), inter-municipal collaboration may increase communication between neighboring municipal policy makers; improve shared understanding about sub-regional problems and spillovers and thereby create potential for synergy from working collaboratively; provide a solution to the problem of regional free riders; deliver benefits which cannot be achieved by either of the collaborative municipalities acting alone; and avoid the need to make radical administrative reforms such as the creation of joint organizations or municipal amalgamations. On the other hand, inter-municipal contracting may be inhibited, suffer, or fail due to collaborative inertia, which may arise from opposite

interests, lack of trust, inconsistent regulatory framework, and lack of incentives for effective operations / lack of cost control mechanisms.

Agency theory emphasizes that principal and agent have different goals and incompatible attitudes towards risks and that contracting happens in a situation of asymmetric information. The principal faces considerable uncertainty because of limited knowledge about the qualities and potential of the agent and because the agent may manipulate information which it provides to the principal as it tries to organize cost-effective supervision of the agent's performance via reporting arrangements and auditing (Eisenhardt, 1989).

The ESM requirement of competitive tendering for contracts may also create a quasi-market, this being a regulated institutional framework where public and private sector service organizations compete for public service contracts. A quasi-market framework represents a hybrid form of governance including regulated imitations of market mechanisms and business-like contracting processes (Hurri et al. 2016).

Although compulsory competitive tendering, the purchaser-provider split, contract requirements, and other aspects of contract governance are expected to improve economic efficiency of public service delivery (Dowding & John, 2009), the legally stipulated procurement practices or administratively designed market-like settings may themselves cause problems. First, regulated organizations may oppose rules or observe them only in a ritualistic way. Second, regulation may cause performance ambiguities since it can be

difficult to specify meaningful or appropriate courses of action. Third, all parties may have difficulty obtaining suitable data in order to confirm the appropriateness and lawfulness of actions (Ashworth, Boyne, & Walker, 2002).

ALTERNATIVE REGULATORY FRAMEWORKS

Contracts for municipal joint use services can be considered public procurement contracts or municipal administrative contracts. The key principles for the governance of public procurements within the ESM are open competitive tendering, neutrality, non-discrimination, and transparency in selection criteria and decision-making. The processes of the calls for bids, bidding, and the comparison of bids are precisely stipulated. The procurement rules provide options for parties to seek redress for the prevention of corruption and misconduct (Arlbjørn & Freytag, 2012). The legal framework of public procurements is exhaustive, providing very detailed rules regarding what kind of phases and policies a procurement procedure managed by a public authority must include.

The statutes relating to administrative contracting are much more limited and liberal and less prescriptive than for public procurements in the ESM, giving municipalities more degrees of freedom when planning, negotiating, selecting, and renewing service contracts. Municipalities are not required to call for bids from the private sector since they are free to select municipal partners with whom to cooperate as they wish.

Although the differences between public procurement contracts and municipal administrative contracts clearly lies in the conditions for their preparation and implementation, there have been considerable judicial and administrative uncertainties among municipal managers and councilors regarding the regulatory grounds on which they may buy or acquire services from another municipality and the types of contractual stipulations available (Hausmann & Queisner, 2013).

If a municipality chooses administrative contracting in situations where it should have used procurement contracting, private (i.e. non-contracting and external) service organizations may challenge the joint use service system by complaining to the market court and municipalities may end up in long and undesirable litigation processes with negative publicity.

PRICING REQUIREMENTS OF INTER-MUNICIPAL SERVICES

The pricing requirement set by the European Court of Justice (ECJ)

A study of legal cases of the European Court of Justice (ECJ) considered exceptions to the judicial requirement to apply procurement rules to municipal contracting, concluding that municipalities are allowed to adopt inter-municipal co-operation outside the ESM and procurement framework if five conditions hold simultaneously (Baciu & Dragos, 2015). These are that the contract is signed exclusively between public authorities, the contractual relation is aimed to ensure the delivery of a public duty of the contracting parties, it excludes private capital, it is based on a genuine cooperation with the public interest in

mind, and the contract implies no profits. The non-profit condition has been applied in the ECJ cases allowing reimbursement of costs incurred in providing the service as long as commercial purposes are excluded from the contract (Baciu & Dragos, 2015; Hausmann & Queisner, 2013; Panagopoulos & Partners, 2011).

The pricing requirement set in Finnish legal praxis

Finnish courts have recently developed principles for pricing the contracts of joint use services outside the rules of public procurements. The city of Hanko agreed a co-operative contract for joint use of ambulances owned by the city of Espoo, the former paying the latter a fixed annual charge. Both cities regarded this joint-use system of municipal services to be consistent with the framework of municipal co-operation promulgated by the Finnish Municipality Act (365/1995). However, a private ambulance operator challenged the contract in the Finnish Supreme Administrative Court. The Court judged that the two municipalities had agreed a commercial contract because the fixed contract price gave the city of Espoo an opportunity to generate profits and entailed risks without creation of any joint body or collaborative governance arrangements (KHO 2004:102). The Court therefore concluded that the joint use contract was not a collaborative contract in terms of the Finnish Municipality Act (365/1995) and should therefore have taken the form of a public procurement subject to competitive bidding.

In a subsequent case (KHO 2011:24) the Court concluded that inter-municipal contracting in the framework of the Municipal Act (365/1995) should be based on long-term

commitments and solidarity, overriding short-term commercial considerations. Unlike conventional procurement contracts, whose pricing follows principles of commercial profitability, municipalities should share the cost and exclude possibilities for profit making when pricing pure inter-municipal contracts. In the 2011 case municipalities had decided to jointly use ambulances based on full-cost prices and so the Court determined that it was a classic inter-municipal (i.e. administrative) service contract because the purchasing authority could not make profits and could avoid economic risks typical in open market transactions.

From these two cases, it seems that if municipalities wish to implement a joint use system based on administrative contracting (i.e. not be subject to public procurement legislation), they must adopt full cost pricing in order to be risk free and enter into governance arrangements characterized by long-term commitment and municipal solidarity.

It is notable that, in reaching its judgement, the Court did not consider the nature and capacity of the joint-use service and the wider collaborative contexts of contracting municipalities, for example, whether their collaborative relationship was reciprocal or one-sided.

The new legislative pricing requirement

The 1995 Municipality Act did not prescribe how local governments should price their service offerings for negotiated or competitive contracts and so it needed clarification. A

2013 reform now requires local governments to corporatize municipal services sold on the open market (the Finnish Municipality Act [410/2015]). Corporatization entails abandonment of the municipal form of organization to create a company under private law that is owned by the local government(s) but which is given legal capacity to be managerially and financially independent (Valkama, 2013). As a new private law-based legal entity, an inter-municipal joint venture or co-operative (i.e. corporation) faces the possibility of insolvency and there is no consequent need to regulate its pricing practices.

However, the New Municipality Act (410/2015) still allows municipalities to sign some short term market-based contracts (i.e. sell services to external parties) without having to corporatize services, for example to sell surplus service capacity by utilizing a market-based pricing method (HE, 2013). These regulatory rules mean that if a local government provides (i.e. sells) joint-use services to other local governments or any other organizations via public procurement it must follow market prices to make sure that local governments cannot distort market competition (HE, 2013).

PROBLEMS RELATING TO PRICING REQUIREMENTS

Pricing options and methods for public services

Prices of public services can be set so as to recover more than full costs in order to generate a cash surplus or to reach a target rate of return, to only break-even, or to recover less than full cost thereby resulting in a loss or deficit meaning that the service must be subsidized from other revenues. Figure 1 demonstrates how fundamental pricing principles or

approaches relate to more specific pricing methods (see Table 1). The solid line in Figure 1 illustrates the axiomatic relationships between the categories and methods and the broken line illustrates the pricing methods consistent with either surpluses, full costs, or deficits.

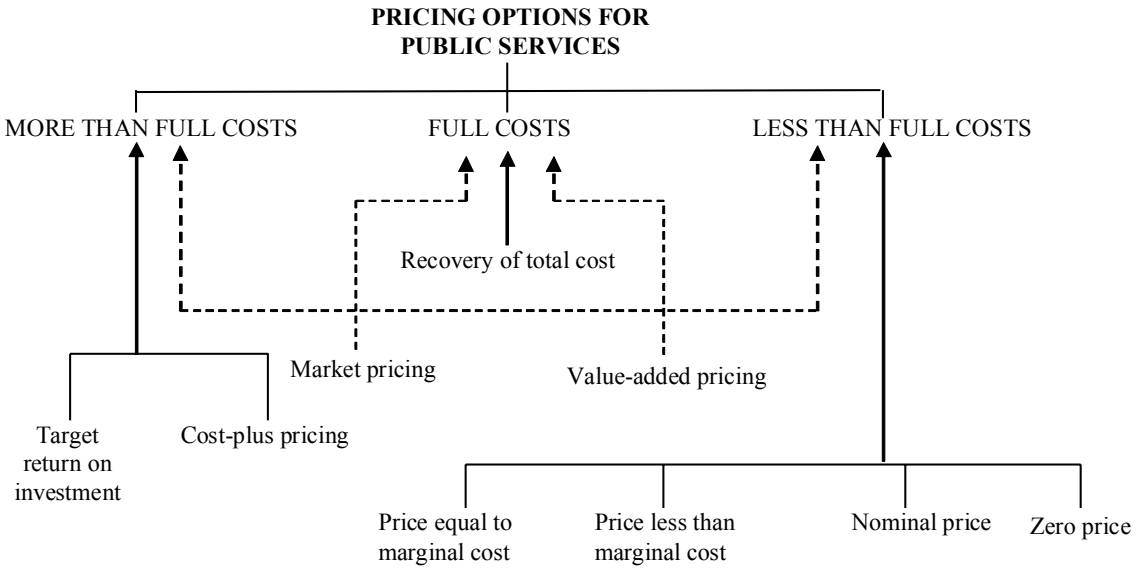

Figure 1. Pricing approaches and methods for public services (Valkama 2006).

Table 1. Characteristics of pricing methods

Principal pricing options	**Pricing methods**	**Content**
1) More than full cost	a) Return on investment pricing	Price is set to achieve a target rate of return on capital employed
	b) Full cost plus pricing	A mark-up is added to the full cost price
2) Full cost	Recovery of total cost	Recovers running and capital costs (i.e. accounting costs) but not opportunity costs (i.e. what service resources could earn if put to alternative uses)
3) Less than full costs	Marginal cost pricing	Marginal cost refers to the cost of increasing the rate of service output
	Less than marginal cost pricing	Recovers only short-run marginal (i.e. operating costs) costs, not long-run marginal costs, the latter being greater than the former by an amount equal to the

		future cost of renewing the capital infrastructure when it becomes economically obsolete.
	Nominal price	The price is purely symbolic, being minimal and not seeking to recover costs
	Zero price	The service is free at the point of consumption
All the above pricing principles (1, 2, 3)	Market pricing	Price is set according to that charged by other organizations in the market so that it is competitive.
	Value added pricing	Price is set according to customers' valuation of the service (revealed by willingness-to-pay or willingness-to-accept evaluation methods)

Sources: authors' summary of Avlonitis & Indounas, 2005; Jones & Pendlebury, 2000; Williamson, 1996; Department of Treasury and Finance, 2007.

Problems relating to full-cost pricing

Full-cost pricing refers to selling services at a price equal to what it costs to produce them, i.e. the client is billed for all the direct costs (i.e. front-line costs) and the indirect costs (i.e. the appropriate portion of overheads) (Local Government Association of South Australia, 2013; Sipilä, 2003). Full-cost pricing is widely applied in public policies and public law-based regulation (Groot & Budding, 2004; Harmon, 2015; Coller & Collini, 2015).

It may sound a neutral (i.e. not normative) and straightforward concept but there is no well-established full cost theory and 'full cost' remained a differentially applied concept. Although conceptually clear, the calculated amount of full costs depends crucially on accounting methods used in its calculation and especially on how to allocate indirect costs on final service products or performances. Inter alia, it is not clear whether accounting for the depreciation of the value of capital assets used in production of the service should be calculated on the basis of historic or current (i.e. replacement) costs, the latter being less

certain than the former (Fog, 1994; Jones & Pendlebury, 2000). This and other classic problems of management accounting are noted in Table 2.

Table 2. Alternative ways to value and allocate costs.

Questions	Prime options
On what cost basis should depreciation of service assets be calculated?	Historic cost; current cost (e.g. fair value); replacement cost; opportunity costs
Which method of depreciation should be used?	Straight line; reducing balance; sum of years' digits; units of activity
How should inventories (i.e. stored goods) be valued?	Specific identification; first-in, first-out (FIFO); last-in, first-out (LIFO); weighted average
How should capital cost be calculated?	Market rates; administrative rates
How should overhead costs be allocated?	Job order costing; activity-based-costing; departmental costing

Sources: Ellwood, 1996; Arrunada, 2001.

Contrary to some other EU countries, there is no regulation of the methods of municipal management accounting in Finland. Municipalities can instigate self-government by managing their internal systems of cost accounting, how they formulate the structures of cost centers and define cost categories (Raulinajtys-Grzybek, 2014).

The Finnish Supreme Administrative Court (KHO, 2011:24) used the term "own-cost principle", causing confusion by implying only those costs borne by the local government and so diverging, perhaps significantly, from 'full costs' where the latter is funded by other stakeholders via intergovernmental grants, investment subsidies, sponsorship, donations and bequests etc.

Full-cost pricing regulation has drawbacks. First, it excludes dynamic price setting from contract negotiations and specifications by requiring a 'one-size-fits-all' pricing method (Allen & Petsoulas, 2016). Second, it does not provide an effective governance framework for rational decision making as there are no effective incentives to minimize costs. Thirdly, the service producer municipality no longer has full control over demand-led running costs as it responds to changes in service take-up in the other joint-use municipality and the service may become economically obsolete due to changes in (say, educational and medical) technology (Bartlett et al., 2004).

Problems with market-based pricing

Market-based pricing reflects the going market rate for the service. Finnish government guidance is that municipalities have to apply the same prices as private organizations (HE, 2013). The aim of the market-price requirement is to make sure that there is a 'level playing field' (i.e. competitive neutrality) in the non-administrative transactions (HE, 2013; Virtanen & Valkama, 2009).

Problems relating to the gaps in data are very different with market-based pricing regulation compared with the requirements of full-cost pricing. Regulated organizations (i.e. municipalities) do not produce market price data and so it is sometimes difficult for individual service organizations to determine 'market price'.

Figure 2 makes clear that 'market price' is not a conceptually robust term, instead being conceptually vague and virtually oscillatory (Swedberg, 2003). It can refer variously to competitors' prices, organizations' list prices, most recent bid prices received and prices negotiated within markets characterized by monopoly power (Eccles, 1985; Vancil, 1978).

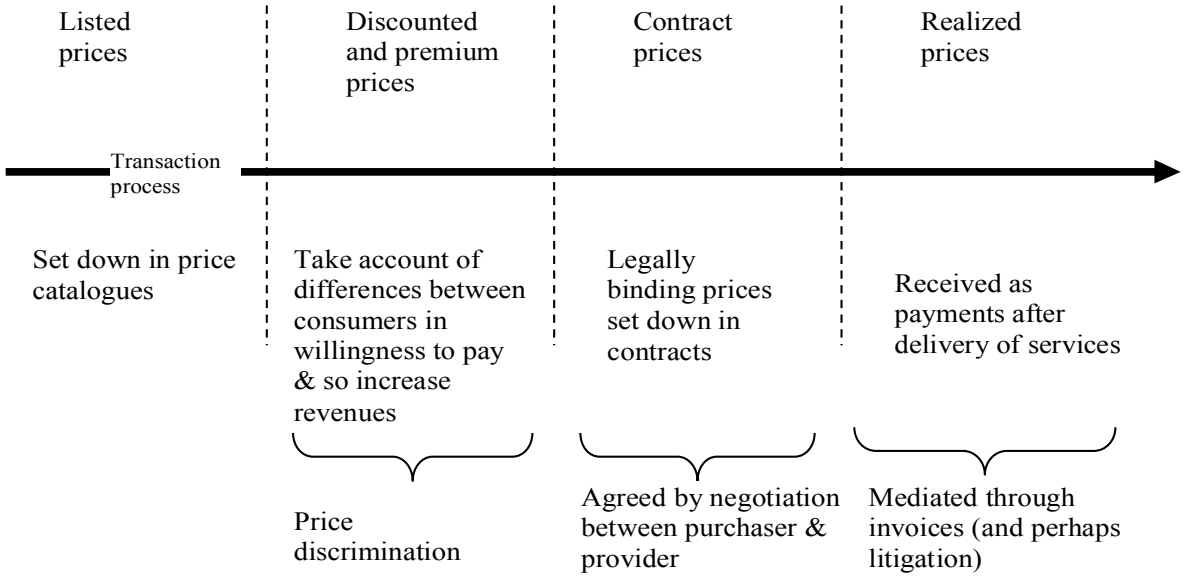

Figure 2. The conceptual indeterminacy of 'market price'.

Published price lists often do not take account of quality of service. Moreover, not all prices appear in published lists. In practice, prices are often discounted, contracted-for and modified subsequent to service delivery in the form of finalized prices. Furthermore, levels of competition vary on a geographical basis when there are many more suppliers in some regions than in others. These factors increase municipalities' search costs when they seek to determine prices for their services, particularly for professional and statutory municipal services compared with non-professional and voluntary services information (Williamson,

1996). However, in cases of asymmetric information, the requirement of market pricing is more neutral towards both the principal and agent than the requirement of full-cost prices.

Rather than being truly competitive, market prices may be set by private profit-making enterprises acting as 'price makers' in regions or for services characterized by monopoly power arising from there being only one supplier (monopoly) or several colluding (oligopoly). There can be little if any justification for municipalities being required to copy exploitative prices set to generate monopoly profits.

The fundamental problem of the market pricing requirement is that it effectively makes redundant governance of cost accounting for pricing purposes because municipalities have to determine the price within the open market, thus becoming 'price takers'. It can be argued that while the pricing requirement clearly promotes a 'level playing field' it happens at the cost of constraining the competition dynamics within markets, as local governments cannot develop their own pricing policies.

THEORIZING AND MODELING PRICING OF INTER-MUNICIPAL SERVICES

New theoretical perspectives for pricing inter-municipal services

The pure economic theory of pricing is that sales in the current period are economically justifiable as long as their short run marginal cost (SRMC) is fully recovered by the revenue generated by those sales (Abelson, 2002). For that trade to continue over

subsequent years the price must cover long run marginal cost (LRMC), which is greater than SRMC by the amount of depreciation of capital assets and so those additional revenues can ultimately be used to finance replacement of the physical infrastructure used to provide the output when it is worn out.

This pricing rule is consistent with the assumption that trading is aimed at maximisation of profits, the intention of private sector enterprises being to charge as much as the market will bear so that price not just equals LRMC but exceeds it in order to generate profits and so pay dividends to shareholders and other owners of those companies.

In the case of inter-municipal services, however, the working rule is full operational (i.e. running) and capital cost recovery (i.e. of LRMC), price therefore not generating profits but, instead, revenues above SRMC being reinvested in service continuity and improvement. Put another way, this non-profit pricing rule is meant to recover costs over a run of years, that being the rule for so-called trading services in the UK local government sector (Bailey, 2010).

The prohibition of profit maximization in Finnish inter-municipal services apparently aims to pursue a broader set of objectives, both financial and non-financial. Financial objectives are to cover full costs. Non-financial objectives relate to inter-municipal cooperation in order to provide services not otherwise sustainable if provided separately by local authorities for use only within their own jurisdictions. Inter-municipal joint-use services therefore benefit both contracting partners and so the economic theory of profit maximising

pricing is not relevant in this case. The profit objective has to be replaced with a value for money (VFM) pricing rule. However, this VFM concept is broader than the so-called 3Es of economy, efficiency and effectiveness. It also has to incorporate consideration of equity (a fourth E), but where equity applies to both of the contract partners rather than to individual service users.

This new and broader conceptualization of inter-municipal equity requires a modified fourth E. It means that the authority buying the service from the provider municipality must only be expected to fully cover SRMC and make some (less than 100%) contribution to LRMC, the difference being covered by the local authority producing the service because its citizens also use that service.

Each local government fully covers SRMC, price paying for the day-to-day running (i.e. non-capital) costs of service provision, including wages and salaries of service employees, rents and insurances for service premises and their maintenance (but not replacement) costs etc. The sharing of capital costs (i.e. LRMC) covered by the recipient and provider municipalities is determined not only by a sense of equity in the sharing of those long-term (i.e. infrastructure replacement) costs but also by broader objectives relating to the perceived benefits of inter-municipal cooperation. These include its stimulation of community development beyond the geographic boundaries of individual local governments and the preservation of the desired range of public services at local community level, so precluding their transfer to much larger-scale and more remote regional governments or even national government.

Accordingly, there is no attempt by the provider municipality to take advantage of its sub-regional monopoly position to raise the contracting price above LRMC. Hence, the economic model of monopoly pricing does not apply in this case. There not being a highly competitive market for this inter-municipal service means that the profit maximizing pricing rule of the perfect competition market model also does not apply. That rule requires the price (determined by the market, not set by the producer) to equal the cost of incremental production (i.e. marginal revenue equals marginal cost).

Hence, these modified propositions of (non-profit) pricing can be applied to quasi-marketized (i.e. partly-marketised) inter-municipal trading which, besides seeking full-current-cost recovery immediately, also seeks to promote sustainability of capital investments with sub-regional welfare gains. This is a form of cost-benefit analysis (CBA) and is a broader form of VFM than that based on the 3Es considered in the 'new public management' literature. Consideration of the fourth E (equity) extends to the inter-municipal level.

Although developed only on the Finnish case studies presented in this paper, these theoretical propositions for inter-municipal pricing can be further developed during the current public sector austerity era. Local governments in many European countries seek to reduce and share the costs of services (not just so-called back-office but also front-line services) and so need a pricing model in order to do so.

A new pricing model of municipal joint use services

According to the theory of perfect competition, prices are economically optimal if they satisfy one of the following two (mutually exclusive) conditions. First, when they equal LRMC of supply in the case of perfect competition. Second, when each service user is charged the maximum amount he or she is willing to pay for a service supplied by a monopoly provider, with the result that the marginal (i.e. incremental) benefit of service consumption equals marginal revenue (i.e. price). The latter case is referred to as 'price discrimination' because the price set by the monopoly provider discriminates between individual service users in direct relation to their willingness to pay for that service, this term being used in Figure 2 (Lepage, 1991; Arrunada, 2001).

However, as made clear above, market prices may not be economically optimal because, even if accurate cost data (including for depreciation and overheads) were available, some pricing methods do not make use of LRMC either explicitly or implicitly (see Table 1). Moreover, it is even more difficult to determine the benefit (referred to as value added in Figure 1 and Table 1) of service use (whether to the individual user or community) than to determine the costs of producing services. Measurement of benefit makes use of willingness-to-pay and/or willingness-to-accept evaluation methods but they often yield very different measures. For example, willingness to pay for an extra amount of service may be much less than the payment service users would be willing to accept as compensation for an equivalent reduction in service they already receive.

Irrespective of these methodological problems, the policy and practices of pricing have to be pragmatic and, whichever pricing rule is adopted, managerial decisions should be guided by the prices actually paid for procured services. Bearing these points in mind, this section develops a new pricing model for joint use of municipal services, which can be used as a conceptual tool in order to develop the legal pricing requirements of administrative (i.e. negotiation based) contracting.

First, the municipality considering acquiring joint-use services could compare the price of those procured services with what it would cost to provide the service itself (Bergdahl, 1994). Similarly, the producer municipality should consider whether to sell its surplus productive assets and do so if their sale earns more than retaining them to produce and sell the service. These options need to be augmented to incorporate the risks associated with those decisions. For example, the estimates of future costs and revenues may be subject to wide margins of error as market conditions change on both the supply and demand sides of the service in question.

Free and nearly free joint-use services can only be justified when the producer municipality, for some particularly pressing reason, wishes to encourage another municipality to engage in joint use of services. This could be to achieve economies of scale and/or scope through which the producer municipality can achieve such substantial improvements in both output and outcome effectiveness that the benefits far outweigh the costs. In practice, such situations are extremely uncommon, possible examples being rehabilitation services for offenders and users of illegal narcotics that reduce the incidences

of crime and use of hard drugs across all municipalities within a region, thereby reducing demand on prison, medical and other remedial services whose costs are borne by the municipality producing the (nearly) free rehabilitation service.

The pricing model outlined here could replace the legal requirement for full-cost pricing. The former depends upon the nature of the joint use relationship and the utilization of service capacity presented in Figure 3.

The right-hand side of Figure 3 depicts the pricing options for a purchaser-provider collaboration where the production of service is one-sided. Price is set relative to LRMC if there is spare service capacity. For example, a mobile library owned by one local authority provides services to the residents of another local authority, the latter paying appropriate (i.e. fair) proportions of vehicle running and maintenance costs, salary costs and capital costs (which include interest as well as amortization charges).

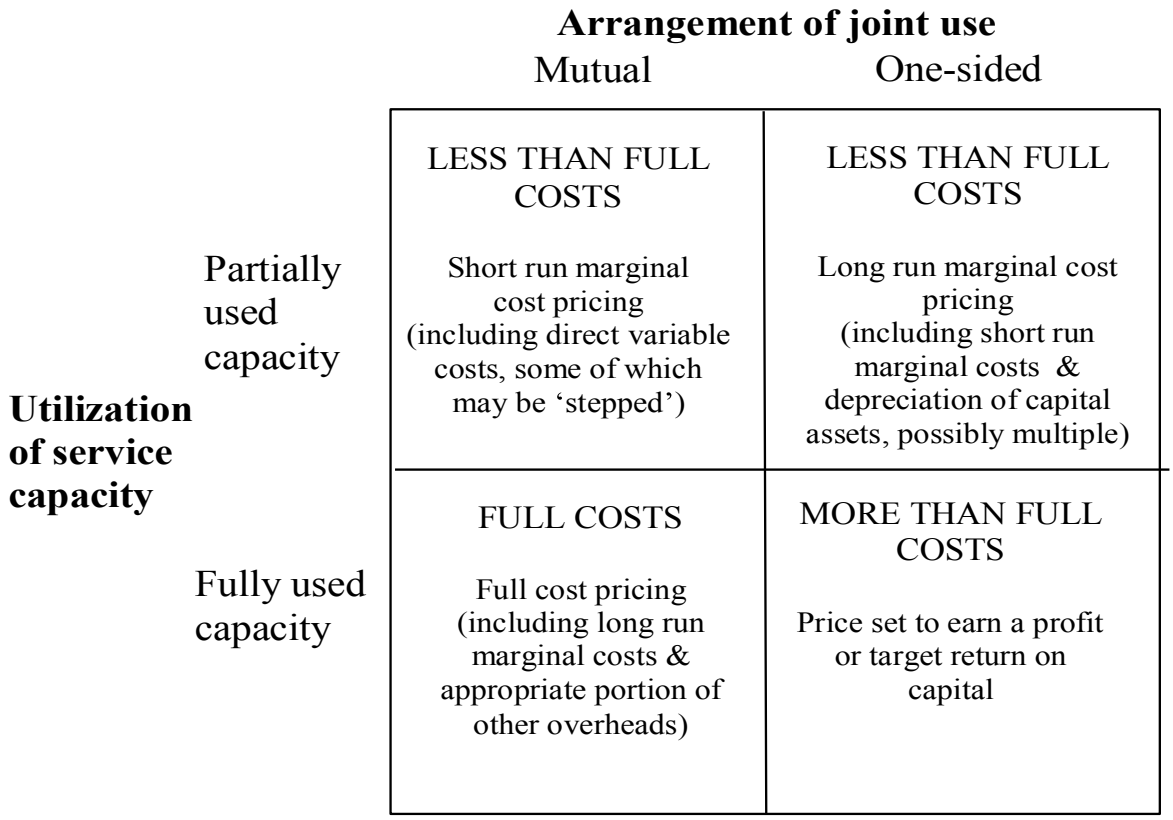

Figure 3. A new pricing model for joint use services.

The rationale for the pricing model to depend upon the degree of utilization of service capacity is that there is no need to ration supply via a price if there is surplus service capacity and so price need only cover LRMC to be consistent with the wellbeing criteria just considered.

There are two possible complications of this pricing rule. First, capacity (and depreciation) will typically relate to many different assets not merely one major investment. Second, some variable costs may increase in steps rather than being perfectly divisible, for example

labour and materials respectively. Except for 'zero-hours contracts', labour is a step-variable cost only available in chunks (i.e. a newly contracted full-time employee). Zero-hours contracts are typically used by organizations to hire unskilled workers with no guaranteed hours (e.g. sales assistants and couriers) and whose costs are therefore perfectly divisible. In contrast, skilled/knowledge workers are usually recruited on contracts with guaranteed hours (e.g. 40 hours per week, 52 weeks per year) and so their costs are not perfectly divisible. In the latter (but not former) case, SRMC is stepped. These two complications require agreement between both municipalities about the proportions of multiple assets and chunks of labour costs that have to be covered by price.

Bearing these caveats in mind, if service capacity becomes fully utilized the price must be set above LRMC so as to earn a cash surplus or target rate of return on capital employed (i.e. profit), as depicted in Figure 3. That profit is necessary to finance building additional production capacity with which to supply the purchaser municipality. Moreover, the associated increase in fixed costs entails long-term commitment and risk taking on the part of the provider municipality and, ultimately, by its citizens. A private sector enterprise seeks profit and the higher the risk the greater the required rate of return on capital employed necessary to compensate for risk taking. Municipalities, however, are not profit-seeking commercial organizations: they do not seek profit for its own sake. Instead, their responsibility is to fulfill their locally decided and legally imposed (i.e. statutory) duties and promote the public interest. For that reason, the provider municipality should only invest in services that promote the wellbeing of its citizens. This investment decision rule is also consistent with subsidizing the purchaser authority (i.e. setting price below LRMC)

when there are wider benefits at the regional scale which also benefit citizens in the purchaser authority, the hard drugs and crime examples noted above. In economics-speak, this pricing and investment decision rule promotes achievement of allocative efficiency (Bailey, 1999).

Rather than a one-sided relationship, municipalities may have a reciprocal (i.e. mutual) relationship represented by the left-hand side of Figure 3. Then price may be set only to cover SRMC when service capacity is partially utilized and full accounting costs when fully utilized. In neither case is there any addition to price to compensate the provider municipality for the risk it incurs when building additional service capacity with which to supply the purchaser municipality.

An example relating specifically to costs would be a city municipality offering care services for children and adults in an adjacent authority in order to achieve economies of scale and scope for the same service within its own boundaries. The four costing cells in Figure 3 provide the approach to pricing in the four service scenarios to which those cells relate. Higher-level management costs are indivisible and so should be accounted for and priced separately from the costs of individual service units (i.e. residential care homes and day care centres). Prices should then be set for services provided by the separate service units, ideally organized as cost centres (Bailey et al., 1993), taking account of utilization of capacity in each. Less than full costs (here SRMC) would be charged if there is spare capacity and the demand for care services is expected to fall in the future. Full costs (here LRMC) would be charged if there is no spare capacity and the demand for care services is

not expected to change in the near future. More than full costs (here LRMC plus a target return on capital) would be charged if there is no spare capacity and the demand for care services is expected to rise in the future due to an ageing demography and/or more single elderly adult households.

Some municipalities may hesitate to engage in joint use contracts, for example if cost structures are very different for mutually contracted services (e.g. labor-intensive front-office services versus capital-intensive back-office services). In these cases, the acceptability of the joint use contracts and their pricing model may be improved by agreeing the duration of contracts and to rotate joint use services periodically.

It is arguable that municipal investments already made should not be included in the calculation of the costs of joint-use services because these fixed upfront ('sunk') costs of irreversible public investments occur whether or not a joint use agreement is implemented (Lyon & Mayo, 2005). Nevertheless, especially in one-sided cases of fully used capacity, new physical infrastructures or facilities (e.g. school buildings) provide the service to another municipality and are subject to wear and tear (i.e. depreciation) and will ultimately need to be replaced. Hence, the more the use of new capacity is facilitated by the old capacity, the higher share of its sunk costs should be included in the cost base.

DISCUSSION

Our study is not an empirical review of how different pricing methods are applied and so it does not present municipal data. Such data may have little value for analysis because it is unrealistic to expect to find anything other than data demonstrating that municipalities apply full cost prices. This is because, according to current regulations and legal interpretations, other pricing methods are (probably) not legal in administrative contracting. It is not within the remit of the paper to identify illegal practices. Moreover, although having empirical data demonstrates what municipalities do, it is not necessary to consider what might be an appropriate way of pricing because that consideration is based on ESM and ECJ rules. Instead, this study prompts regulators and municipalities to consider more fundamentally the nature of inter-municipal service charges.

It is arguable that agency theory helps understand and explain typical municipal-private (i.e. public procurement) contracting based either on negotiations or on competitive tendering. Municipalities and private enterprises are fundamentally different kinds of organizational forms, which emphasizes institutional gaps between abilities to respond to and bear risks. Their inherent orientation to information capture on pricing issues is fundamentally different. Enterprises focus on formulating competitive price setting strategies whereas the local government sector rarely considers alternative costing methods and pricing strategies as most public services are provided to their users and citizens free of charge and, more fundamentally, public services are sometimes considered too unquantifiable or heterogeneous for accurate cost accounting (van Helden, 1997).

We argue that agency theory lacks the same conceptual functionality in cases of the reciprocal joint use of municipal services since local governments operate within the same risk frameworks and concepts, taking commercial risks only for the special legal category of trading services operating within competitive markets. Their ability to bear risks is the same in legal terms in that they are all subject to the same local government legislation but, otherwise, differences in their financial resources (positively related to size of municipality) cause variation in their actual risk-bearing capacity. It is also arguable that collaborative municipalities' preconditions minimize the problems of asymmetric information on cost accounting within their mutual relationships since they share the same public governance, regulatory and guidance frameworks of local public financial management.

Quasi-market-based regimes may be appropriate where the largest municipality within a cooperating group produces the service that the smaller municipalities consume. This is because the smaller municipalities are only marginally involved in the governance of the producing unit, if at all, and they could conceivably buy service provision from other providers. Otherwise, in a network of relatively more equal municipalities, our analysis and suggestions for regulatory regimes would seem more appropriate.

Table 3 provides a comparative summary of how inter-municipal contracting is perceived from agency and partnership perspectives. We argue that conventional (i.e., administrative) joint use systems of municipal services need to be understood as a partnership arrangement, where equally competent and functional contracting parties are able to sustain a higher trust (Johansson & Siverbo, 2011). Collaborative joint use systems between alike public law

organizations and democratic partners operating on the basis of equal financial operating rules (i.e. not-for-profit) promote social learning of local communities through contracts. This allows specifications of service needs and mutual co-operation to evolve in tandem in different sectors of local public services due to the democratic participation of local citizens (Vincent-Jones, 2013).

Table 3. A comparative summary of agency and partnership perspectives on inter-municipal contracting.

	Agency perspectives on inter-municipal contracting	**Partnership perspectives on inter-municipal contracting**
Creation of contracts	Through open competitive tendering	Through negotiations between municipalities
Assumed goals of contract parties	Different goals	For the most part the same goals
Duration of contract	Fixed- and short-term	Long-term or possibly not fixed-term (i.e., modus vivendi)
Renewal of contract	At regular intervals according to the public procurement rules	According to mutual agreement
Division of labour	Clearly divided	Overlapping
Legal nature of contractual relationship	Public procurement	Public law relationship based on an administrative contract and local self-government
Assumed utility function	Minimizing operative efforts and maximizing financial return by the contractor municipality (i.e., the provider of a joint use service) and maximizing service value by the consumer municipality while minimizing its financial costs	Stimulating sub-regional developments, providing services not otherwise sustainable as a single authority service, and/or preserving the desired range of public services at local community level through municipal solidarity and social learning in the framework of the 4Es (economy, efficiency, effectiveness, and equity)
Monitoring mechanisms	Typically, the principal supervises its contractor to ensure the latter fulfils the terms of the contract.	Shared governance and control mechanisms (for example through a joint governance body)
Role / function of prices	Prices are products of a market mechanism and, in theory, accomplish market equilibrium	Essentially prices are the signals of risks associated with the service capacity and the convergence of mutuality between contracting municipalities
Idealistic aim of pricing decisions	Profit maximization	Full operative cost recovery of LRMC
Pricing methods /	Pricing method: Market prices	Pricing approach: fit-for-context pricing,

approaches		which may result in prices higher, equal to or below full costs

Recent developments have made municipalities' pricing decisions for supply of municipal services less of an autonomous local political decision. Increasingly, decisions are constrained by legal requirements developed through legal precedent requiring municipalities to apply full cost prices in administrative (i.e. closed) inter-municipal contracts. However, it can be argued that it is too simplistic to believe that the ideology of non-commercial (i.e. pure administrative) contracting is perfectly fulfilled by full cost prices. Although full cost pricing apparently eliminates the risks of inter-municipal transactions, it cannot eliminate operational and financial risks associated with borrowing money, making investments in physical infrastructures and maintaining public service facilities. A public service does not necessarily need to be free nor require fixed prices. Service charges may vary depending on the impacts of user behavior on production costs. Furthermore, some public authorities use multidimensional pricing mechanisms for internal rents and internal invoicing. The major limitation of the full-cost pricing requirement is that it is empty of context, formalistic, and imposed top-down.

Finland's legislators also developed its new statute requiring local governments to adopt market-based prices and short-term contracts when they sell their service capacity to external organizations. However, this paper demonstrated that 'market price' is a vague term because market prices are dynamic and change during market processes and they are variable regionally and locally. Difficulties in determining market prices and justifying

those they adopt, means that municipalities have reason to expect further specification and criteria from lawmakers or supervisory bodies.

There is a rationale to replace the full-cost pricing requirement with our two-dimensional pricing model which demonstrates that optimal pricing of joint use services is contingent upon factors associated with utilization of service capacity and the mode of contractual arrangements. It makes clear the need to take account of service arrangements, whether one-sided or mutual and whether the service is at full or less than full capacity. Theoretically, a non-provider municipality jointly using services with a provider municipality should only fully cover SRMC and make only a partial contribution to LRMC, the equitable sharing of these capital costs being with reference to broader objectives relating to the perceived benefits of inter-municipal cooperation. These benefits include stimulation of further community development beyond the geographic boundaries of individual local governments and the preservation of the desired range of public services at local community level, thereby precluding their transfer to much larger-scale and more remote regional or national government. The new pricing model demonstrates what costs to consider in each of the resulting four service scenarios in Figure 3 and how joint-use prices should be set. Nevertheless, it has some limitations.

First, the model does not resolve the data deficiency shared with the full-cost pricing requirement nor asymmetric information. Second, economic costs terms are not necessarily easy to apply within the cost accounting systems normally used, some costs being neither purely variable nor fixed. Third, the model does not take into account the contractability of

services, the less contractable they are, the more there will be a need for coordination through mechanisms other than markets or quasi-markets. Fourth, many costs are 'stepped' in public services in that they increase in lumps rather than being the perfectly divisible costs required by the marginal cost rules. Fifth, service capacity (and depreciation) inevitably relates to a range of assets (rather than a single major investment), some of which will be at full capacity but not others and so there are mixed capacity issues that complicate the conceptual simplicity of the new pricing model for joint use services in Figure 3 above. Because of these limitations, the model provides a broad guidance framework rather than detailed pricing and accounting rules.

The previous jurisprudential literature referring to financial issues focused on descriptions of regulatory-compliant pricing methods (e.g., Janssen, 2014; Burgi & Koch, 2012; Panagopoulos & Partners, 2011). Our new pricing model challenges those dominant judicial pricing considerations and shows how to develop and prioritize alternative approaches to pricing. Ultimately, the pricing model militates against performance ambiguities by providing an avenue for a more appropriate course of action, both for producing and procuring municipalities. It includes fit-for-purpose incentives for cost containment and productivity improvements in the production and consumption of jointly used municipal services. It guides municipalities to be more accountable for their investment decisions and encourages them to produce new information about the utilization rate of service capacity. Furthermore, it encourages municipalities to consider how they can improve their citizens' access to local public services at a regional level and how to generate revenues by utilizing 'frozen assets'.

The new pricing model does not introduce new pricing methods per se. In that sense the new model is not an instrumentalist 'how to price' guide, instead being tentative and argumentative. However, the new pricing model is a new conceptual contribution to theoretical discussions, namely how critical issues of the pricing problem of joint use services between equal public law partners could be addressed. The new model is instrumentalist only in the sense that it attempts to make the case for adoption of a fresh approach to an established pricing doctrine. The implications of the new model are increased use of municipal self-government, increased relevance of financial management, incentives for cost efficiency, and more rigorous considerations for make-or-collaborate and prudential investment decisions.

CONCLUSION

The regulation of public procurements has provided no rigorous definition of 'procurement' as a legal concept but procurement rules are increasingly applied to inter-municipal contracting in seeking open and transparent competition. In this way, the procurement legislation overlaps other fields of public law and limits municipal self-government's ability to make autonomous pricing decisions in cases of joint use of municipal services. The valid legal statutes and legal praxis do not reflect the political economy and the regional, historical or logistical context within which the local policy-making and practices of inter-municipal co-operation take place.

ECJ rulings allow municipalities to sign exclusive closed inter-municipal contracts provided they ensure fulfilment of a public duty of the contracting parties, exclude private capital, are based on genuine cooperation with the public interest in mind, and the contract implies no profits. The last point is the full cost principle – at least as interpreted in Finnish legal case practices. Because the full cost principle does not specifically encourage cost efficiency and productivity improvements, this study developed its new pricing model. It is new compared with both the EU regulatory regime in general and the Finnish context in particular and it provides wider, more risk and incentive aware and fit-for-context pricing approaches.

It is difficult to see the new pricing model causing problems in respect of the ESM or commercial interests if all the other criteria hold. The full cost doctrine represents a formalistic and 'one-size-fits-all' regulatory orientation, meaning that a municipality cannot sign a lucrative inter-municipal contract in any circumstances. The new pricing model developed in this paper would not change the fundamental nature of municipalities as balanced-budget bodies or make them resemble profit-seeking organizations. What that model does do is guide lawmakers and courts to take into consideration the specific nature and context of each municipal joint use contract and so consider the appropriateness of the application of different prices in different situations.

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