

# Understanding Intergovernmental Cooperation in a Context of Devolution: An Empirical Study of Collaboration among Portuguese Municipalities

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## Abstract

Why do local governments engage in formal cooperative agreements to deliver municipal services? What are the determinants of these collaborative efforts? We review the literature on horizontal collaboration and intergovernmental relations developed by the political economy, public choice, institutional collective action, and network literatures and present a theoretical model that intertwines several arguments from these literatures.

The theoretical model suggests that the decision to collaborate is a product of prior experiences of competition/cooperation between municipal governments, the incentives for efficiency gains derived from cooperation, and the institutional setting in which intergovernmental relations take place. Based on this theoretical model and using a research design inspired by the literatures on international conflicts and coalition governments, we develop and test a series of hypotheses concerning the decision to cooperate by Portuguese municipal governments in face of recent decentralization trends. We find support for our trust and centrality hypotheses as incentives to cooperation, but fragmentation within local governments poses a constraint to collaborative efforts between municipalities.

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## **Introduction**

During the past decade, Portugal has witnessed the expansion of new forms of local governance placing an increased emphasis on regional and inter-local cooperation. This new trend is indicated by the significant increase in voluntary formal agreements between municipal governments, resulting in the formation of municipal associations to perform the delivery of services at the regional level. Many local governments have decided to participate in several of these associations, creating a true network of local government partnerships to respond to multiple service delivery goals.

The political pressure exercised by the E.U. Stability and Growth Pact created a grip on public spending at the national level, originating the decentralization of expenditures without the corresponding access to revenue sources by local governments. These voluntary regional agreements are the product of this continuing trend of political decentralization and devolution of service delivery responsibilities from national to local governments.

The common thread in these types of agreements is still largely unknown and the variable geographical boundaries involved require further investigation. The goal of this article is to explore the size, composition, and scope of intergovernmental agreements between Portuguese local governments and to develop a research design that will allow testing hypotheses derived from the literature on intergovernmental cooperation. Why do local governments cooperate? In other words, what are the factors influencing the decision made by local officials to join a regional type of association or government? Hopefully, the ideas outlined can be extended to other European experiences in horizontal collaboration, allowing further understanding of common trends and main differences.

After this brief introduction, we review the theoretical arguments presented in the literature to explain local intergovernmental cooperation. In the fourth section we illustrate the Portuguese experience in further detail, underlining the recent context of devolution trends faced by Portuguese local governments. Next, we describe and test a series of hypotheses based on a research design that borrows from the fields of international conflicts and coalition governments concerning the decision to cooperate by

Portuguese municipalities. Finally, we conclude with a summary and discussion of our findings.

### **Intermunicipal Cooperation: The State of the Art**

Intergovernmental cooperation can take several forms, depending on the type of agreement established between parties. Intergovernmental contracts have been addressed in the literature as widely used forms of service delivery (Stein, 1990; Agranoff and McGuire, 1999), but the limits imposed by national legislation justify a closer look at the Portuguese experience. LeRoux and Carr (2007) treat intergovernmental service contracts, joint service agreements, and intergovernmental service transfers as evidence of cooperation, but the Portuguese experience with intergovernmental agreements fits better with the joint service format, since local governments jointly plan, finance, and deliver specific services to all jurisdictions signing the agreement. In fact, Portuguese joint service agreements are named municipal associations, and characterized by formal contracting, single-purpose ends, and freedom of association between governments.

The literature on horizontal intergovernmental cooperation is characterized by mixed findings regarding the decision to collaborate. Many factors are usually pointed out as facilitating or hindering cooperation, but comparative analysis shows that intergovernmental cooperation is largely the product of the particular political order where it takes place (Kantor, 2006). In spite of these differences, we believe it is possible to find regularities across different economic and political settings that contribute to explain the decision to formally join a cooperative type of agreement.

#### *The Contribution from the Political Economy Literature*

The political economy model of intergovernmental cooperation argues that local actors analyze both economic and political costs and benefits when deciding to engage in cooperation for service delivery (Gerber and Gibson, 2005). Among the factors that are likely to facilitate collaboration, economic efficiency is the most often cited (Stephens and Wikstrom, 2000; Post, 2004). Economies of scale and specialization can be accomplished by arranging for regional service delivery of specific services, such as transportation, water supply, and solid waste collection and management.

Intergovernmental cooperation can generate tremendous cost savings, especially in capital-intensive projects, not only because larger producers can acquire materials and infrastructures at lower cost, but also because the increase in population size allows a reduction in average costs. Labour-intensive services are less likely to require or engender regional cooperation among local governments in metropolitan area settings (Post, 2004).

The political economy argument is also based on the idea that externalities between neighbouring jurisdictions lead to cooperative actions in search of economic efficiency (Gerber and Gibson 2005). Individually, some local initiatives generate negative externalities detrimental to the economic welfare of the region, but a regional approach, either through formal contracts, informal agreements or metropolitan partnerships, produces added gains. Regional action can also produce positive externalities for all the participants in interlocal contracts and agreements. The goal of these policies is developmental and, while they may favour some localities more than others, the region as a whole will be better off (Gerber and Gibson, 2005).

Related to economic efficiency arguments, the size of local jurisdictions is frequently stated as an obstacle in dealing with the increasing numbers of policies and programmes delegated from national governments to the regional and local levels. Pierre and Peters (2000) argue that when national bureaucracies became too rigid to deliver services effectively, devolution to local governments was the logical response. However, in many cases, municipalities still lack adequate financial and professional capacity to respond to citizen demands. Hence, the search for financial and technical expertise has been mentioned as a driving force for intergovernmental cooperation, particularly in rural and economically depressed communities (Lackey, Freshwater, and Rupasingha, 2002). In Europe, joint service provision agreements are regarded as an alternative to improve efficiency without relinquishing local autonomy through mergers or consolidation of local governments (Laamanen e Haveri, 2003; Haveri, 2006).

### *The Consolidation versus Fragmentation Debate*

The public choice argument can be traced back to the 1960s when Ostrom, Tiebout, and Warren (1961) argued that fragmentation within metropolitan areas could

induce competition among local governments so as to generate benefits to citizens able to “vote with their feet”. This idea, of course, undermines reforms promoting the consolidation of local governments, but does not impede cooperation between government entities within the metropolitan area. Instead, these polycentric political systems involve multiple centres of decision-making and:

“(…) to the extent that they take each other into account in competitive relationships, enter into various contractual and cooperative undertakings or have recourse to central mechanisms to resolve conflicts, the various political jurisdictions in a metropolitan area may function in a coherent manner with consistent and predictable patterns of interacting behaviour” (Ostrom, Tiebout, and Warren, 1961: 831).

From the perspective of public choice scholars, intergovernmental agreements creating regional providers become problematic when they assume a monopoly position, even under functional fragmentation. This type of agreements can sometimes produce economies of scale for certain services, but severely limits local citizen choices, generates producers that are unresponsive to preference diversity, and services are not provided at the least cost (Bish and Warren, 1972). Hence, territorial fragmentation and functional specialization are both needed to expand citizen choices, foster participation, and improve service delivery competition. In practice, public choice scholars downplay the argument of scale economies suggested by the political economy literature, since fragmentation is thought to generate local governments with optimal size to take advantage of diverse economies of scale for the provision of different public goods and services (Bish and Ostrom, 1973; Stephens and Wikstrom, 2000).

Even though fragmentation does not impede cooperation (Ostrom, Tiebout, and Warren, 1961; Ostrom, 1973), it may render it more difficult (Carmichael and Midwinter, 2000). Critics of public choice theory argue that as the number of local government entities increases through fragmentation, transaction costs rise and collective action becomes less likely due to the parochial political leadership arising from fragmented units of government (Keating, 1995). Since negative externalities occur between municipalities, in the absence of cooperation, significant territorial and functional

fragmentation leads to competition that can result in a negative sum game for the region as a whole.

Recently, Oakerson and Parks (1989) have argued that local public economies are much more complex than it is usually acknowledged. In reality, a local public economy is characterized by a large number of “provision and production units linked by a variety of interorganizational arrangements comprising a system of governance” (Stephens and Wikstrom, 2000). Hence, we are no longer talking about local governments as single-units responsible for service provision, but as integrated in a system of multiple units of local governance (Bouckaert et al., 2002). This argument opened up the dialogue between supporters of local government consolidation and public choice advocates of fragmentation, and constitutes the basis for the development of the ICA framework (Feiock, 2004).

### **Institutional Collective Action: An Alternative Framework**

Recent work by Feiock and colleagues emphasizes the concept of decentralized governance as a viable alternative to overcome the opposition between consolidation and fragmentation. If elected officials are able to extract political benefits net of transaction costs of developing, negotiating, monitoring, and enforcing collective action, they will support intergovernmental endeavours (Feiock, 2004; 2007). The core of the Institutional Collective Action (ICA) framework lies in the idea that municipalities “can act collectively to create a civil society that integrates a region across multiple jurisdictions through a web of voluntary agreements and associations and collective choices by citizens” (Feiock, 2004: 6).

#### *Transaction Costs Analysis and Cooperative Agreements*

The contribution of transaction costs analysis to the study of intergovernmental cooperation lies primarily in the unit of analysis – the formal contract established between cooperating entities. Contracting parties face a series of transaction costs associated with bargaining for an agreement under collective action dilemmas. Formal cooperation between local governments will increase if the transaction costs of establishing formal agreements are minimized (Feiock, 2007).

First, local government officials wishing to engage in voluntary cooperative agreements need information about the preferences of all participants in order to select a good potential partner that will provide opportunities for mutual gain (Feiock, 2007). Historical and geographical proximity help reduce information and coordination costs, since local governments will be able to find reliable partners based on prior experiences.

Second, contracting units have to negotiate the terms of agreement. This *division problem* is a major source of transaction costs and an obstacle to cooperative efforts, since the allocation of the benefits and costs of cooperation entails bargaining costs (Heckathorn and Maser, 1987). Services that are harder to quantify tend to be provided internally and competitively between municipalities, because this allows local officials to control performance, attend to service disruptions, and minimize opportunism.

Third, local governments establishing voluntary agreements face monitoring and enforcement costs. Contract provisions may include incentives and/or sanctions to avoid future defection that can be costly for involved parties. Ultimately, heterogeneity among municipalities is likely to become a barrier to contracting, given that diverging preferences act as incentives to defection (Feiock, 2007).

Finally, local government officials negotiating and signing cooperative agreements act as agents of their constituents. Agency costs surface when the preferences of citizens diverge from the preferences of local officials (Feiock, 2002). Significant agency costs reduce the likelihood of interlocal agreements because officials seeking reelection tend to avoid conflict with constituency preferences.

Municipalities are selective in terms of both the characteristics of governments they choose to cooperate with and the characteristics of the services involved in these cooperative endeavours. Here we are not concerned with the characteristics of the services, since the goal is to explain why local governments engage in cooperation rather than why they choose specific areas for voluntary agreements. Still, the number of transactions between two contracting agents is relevant to analyse the decision to cooperate (Williamson, 1985). When the number of prior formal agreements between any two given governments is high, the transaction costs involved in a new agreement remain low and the expected benefits of this contract are high. These municipalities will be able to reach efficient cooperative agreements.

Transaction costs analysis underlines the formal contract established by two government units and highlights the costs involved in partner selection, coordination and negotiation between units, enforcement provisions, and principal-agent dilemmas. The emphasis in the formal aspects of cooperation is insufficient to explain the development of voluntary agreements, since these are often associated with close ties between municipal governments sharing much more than just geographical boundaries and service contracts.

### *Trust, Networks and Collective Action*

Network theory explains local government agreements as the product of governance networks. Interlocal agreements aim at adopting a collective decision-making process and resource sharing. In the network form of association hierarchy is absent and replaced by stability and duration of relationships between partners with shared interests that go beyond purely market driven goals (Powell, 2004). Given the absence of regional governments in Portugal, the development of networks allows local governments to overcome service delivery deficits and create long lasting reciprocal patterns of communication and exchange. Since network development is based on informal rules and unwritten incentives and sanctions, they favour the formation of trust relationships, which in turn supports the establishment of cooperation between partners as identified by Putnam (1993) in the Italian context<sup>1</sup>. Prior successful experiences are likely to encourage local officials to search for new and more complex ways to collaborate, frequently dispensing formal contracting. The work of Robert Putnam emphasizes norms of reciprocity, trust, and civic engagement as ways to build social capital, pursue shared interests, and facilitate cooperation (Putnam, 1993). In addition, because trust is a pre-contractual condition, it reduces transaction costs and improves economic efficiency (Williamson, 1993).

Since the focus of our work is the decision to engage in formal agreements with neighbouring municipalities, these elements are vital in achieving intergovernmental cooperation because past formal and informal agreements shape present decisions to

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<sup>1</sup> Recent work by Raymond (2006) argues that the role of trust as a factor of cooperation is still under dispute. The author finds that, in the absence of trust, institutional mechanisms and political leadership can help to overcome collective action obstacles to environmental protection.



cooperate. This argument has been empirically verified in a wide variety of settings. These include local government cooperation in rural areas (Lackey et. al., 2002), regional economic development in metropolitan areas (Feiock, Tao and Johnson, 2004), and disaster and emergency management situations (Kapucu, 2006).

Networks are equally important because they increase the supply of entrepreneurs by reducing the risks and organizational costs of entrepreneurship (Schneider, Teske, and Mintrom, 1995: 176). Political leadership builds consensus and promotes shared goals, helping to overcome differences in economic and political resources across municipalities. In the American context, the formation of intergovernmental partnerships relies on the activities developed by political entrepreneurs<sup>2</sup>, such as mayors and city council members, as well as, managerial entrepreneurs, including city-managers and upper level bureaucrats (Schneider, Teske, and Mintrom, 1995). A strong, proactive leadership is likely to act as a facilitator of cooperative agreements, because policy entrepreneurs can reap a large proportion of the benefits provided by successful collective action (Feiock, 2004). These rewards can take several forms, including increased reputation, preferred governmental actions, and even money (Niskanen, 1978).

Local elites wishing to acquire prominence at the regional level are also likely to become supporters of intergovernmental cooperation, engaging in the art of heresthetics to influence the political agenda (Riker, 1961). This is especially important in the context of the European Union, where a “regional paradigm” of economic development and structural adjustment seems to have set in<sup>3</sup>. Given that structural funds are allocated by region, there is an incentive for cooperation to evolve, not only between municipalities, but also between these and private and non-profit sector actors. More generally, constitutional-level rules are shaping local actors’ incentives and behaviour, increasing the attractiveness of network governance and cooperation (Ostrom, 1990; McCabe and Feiock, 2005).

The efforts of policy entrepreneurs in overcoming collective action problems may be dampened by heterogeneity of local government preferences and goals (Feiock, 2007). The ICA framework stresses that heterogeneity is a strong adversary of voluntary

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<sup>2</sup> Public choice theory defines a political entrepreneur as “an actor who can correct the problem of underprovision through the coordination of expectations or coercing contributions” (Arce, 2001: 124).

<sup>3</sup> Since 1988, structural funds administered by the European Commission mandate the use of partnerships.

cooperation because when social, demographic, racial and income inequalities prevail between neighbouring municipalities within the same metropolitan area, the likelihood of successful collaboration is diminished, because constituents will regard these agreements with distrust. Homogeneity decreases transaction costs of intergovernmental agreements by emphasizing common interests and preferences among local governments.

Both in the United States and Europe, regional governments are perceived as threats to local autonomy and efforts to establish formal commitments at the regional or metropolitan level are frequently faced with strong opposition (Norris, 2001; Basolo, 2003; Laamanen and Haveri, 2003). Theory predicts that cooperation will be achieved only if local governments are racially and economically homogeneous, because this deflects the idea that community self-interest and preferences will be hurt as a result of interlocal cooperation (Post, 2004; Feiock, 2007).

In contrast, Kantor (2006) argues that the Dutch experience indicates that for income homogeneous areas – Randstad Holland and Amsterdam Metro – cooperation can hardly be regarded as successful, and local fragmentation is the rule. This suggests that some of the factors usually associated with successful cooperation may be country specific, which further justifies a probe into the Portuguese experience.

### **Intergovernmental Cooperation and Decentralisation: The Portuguese Experience**

Historically, Portugal is best characterized as a unitary and highly centralized state and this is certainly true for most of the twentieth century, during a period of close to fifty years of dictatorship (1926-1974). The *Democratic Revolution* of April 1974 reinstated democracy and became the first opportunity in over fifty years to promote political decentralization to local government authorities. Walter Opello Jr., a keen observer of Portuguese political life and institutions, stressed that administrative centralization and inadequate local financial autonomy remained unchanged during the first decade after the reinstatement of democracy (Opello Jr., 1981; 1991). Unfamiliar with the practice of democracy, local officials and citizens remained distant from participatory democracy and civic engagement.

National political culture and history are important contextual factors that contribute to explain the resistance to decentralised solutions for service delivery and the

predominance of centralized public sector-based alternatives. In countries such as Italy and Portugal, characterized by administrative systems in the Napoleonic tradition, working for lower levels of government is frequently associated with loss of status and prestige (Ongaro, 2006). This negative view of local government service provision and employment combined with a paternalistic relationship towards the central government and the State helps to explain the Portuguese scepticism and distrustfulness of the introduction of both decentralised service provision and market-oriented solutions. The limited amount of contracting at the local government level for the large majority of services is a strong indicator of this resistance to the generalization of New Public Management reforms and instruments.

The extensive decentralisation and devolution of service responsibilities identified in other countries, such as France, United Kingdom, and United States in the 1980s (Loughlin and Mazey, 1995; Evans and Harding, 1997; Pierre and Peters, 2000), and more recently in Spain and Italy (Evans and Harding, 1997; Ongaro, 2006), eventually found its way to Portugal in the end of the 1990s, starting with the publication of the *Municipal, Inter-municipal and Regional Corporations Act* of 1998 (Law 58/98). In the following year, Law 159/99 established functional areas over which local governments can exert authority (see Table I). This legislation represented a significant increase in local government responsibilities, with the resulting financial burden.

(Table I here)

Local officials were granted large discretion as far as service delivery options, even though they are still limited by financial constraints. The significant amount of intergovernmental grants and the relatively small proportion of local government self-financing confirm the centralized nature of the Portuguese national government. The average financial dependency of local governments – proportion of transfers from the national government to municipalities in total local revenues – is 45.5%, but it ranges from 10% to 90%, with a strong negative correlation with the level of economic development of the municipality. Transfers to local governments are not earmarked, but

the degree of autonomy in setting local tax rates is severely restricted by national legislation.

Local governments have adopted a cautious attitude by creating more flexible, single-purpose organisations, within the public sector, called *municipal corporations*<sup>4</sup>, which in many instances replaced direct service provision by in-house bureaucracies. However, prior work shows that only financially autonomous communities are truly able to enjoy the economic efficiency gains enabled by these organisational structures (Tavares and Camões, 2006; 2007).

In 2003, a new framework for regionalism and municipal collaboration was approved by Prime-Minister José Durão Barroso and the Center-Right coalition government, and has been enthusiastically supported by local officials, given the relative freedom of association allowed by the enacting legislation. As in other instances elsewhere in Europe, the national level government set the rules under which local governments exercise modernisation activities (Wayenberg, 2006). In contrast with the 1998 national referendum on the creation of regional governments, the 2003 reform provided a flexible set of rules for local government cooperation by encouraging bottom-up action on the part of local officials and organisations, rather than a top-down design of regional governments.

Law 10/2003 established the rules for the creation of metropolitan governments. *Great Metropolitan Areas* (GAM)<sup>5</sup> are multi-purpose government associations that can be formed by at least nine municipalities and 350000 inhabitants; *Urban Communities* (ComUrb)<sup>6</sup> are a similar type of metropolitan government, but the minimum requirements are less stringent (3 municipalities and 150000 inhabitants). The Metropolitan Areas of Lisbon and Porto were created in 1991, but, since the enactment of the new legislation, they have expanded their functional service areas and accepted new membership, and other types of regional organisations – ComUrb and CI – have also increased significantly, involving an ever larger number of municipalities and service areas.

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<sup>4</sup> Municipal corporations are single purpose organisations similar to what the Anglo-Saxon literature starting with Gulick (1947) identifies as public authorities. Portuguese municipal corporations are not allowed to levy taxes, generally rely on revenues derived from user fees, and are governed by an appointed executive board (see also Sbragia 1996; Frant 1997; Bourdeaux 2005; Eger III, 2005).

<sup>5</sup> *Grandes Áreas Metropolitanas*.

<sup>6</sup> *Comunidades Urbanas*.

According to Law 11/2003, *Inter-Municipal Communities (CI)*<sup>7</sup> can be either multi-purpose or single-purpose associations, but municipalities belonging to one of the former cannot integrate other GAM or ComUrb government. In addition, local governments can participate in more than one single-purpose inter-municipal community, also designated as *Municipal Associations*<sup>8</sup>. Contrary to metropolitan area governments (GAM and ComUrb), municipal associations tend to be easier to establish and involve a smaller number of local governments. Municipal associations are the dominant type of intergovernmental cooperation, showing that communities are more likely to pool their efforts to deliver specific services.

Among the activities developed by municipal associations, the most common are solid waste management (29 associations), local economic development (26), water and wastewater management (7), and environmental management (5). There are three municipal associations that describe their main activity as “*developing project applications to European Union structural funds*”. All the services mentioned are consistent with what the literature predicts as primary targets to intergovernmental agreements. Table II presents some descriptive data illustrating the Portuguese local intergovernmental cooperation experience.

(Table II here)

Several works in the urban literature have argued that regional associations and local government agreements are hindered by a desire of local government officials and populations to secure local self-rule and political autonomy (Norris, 2001; Basolo, 2003). In the Portuguese context, this generic statement has very specific implications.

The Portuguese Constitution allows for the implementation of regional governments. However, in November 1998, the Socialist government conducted a national referendum with the proposal to enact 8 regions. Results were undermined by poor turnout (48.30%) but, nevertheless, showed a clear rejection of the intentions of the

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<sup>7</sup> *Comunidades Intermunicipais*.

<sup>8</sup> *Associações de Municípios*. Those familiar with the French experience will recognize in Portuguese multi-purpose associations similarities with the SIVOM (*Syndicats à Vocation Multiple*) and the more recent *Communautés Urbaines*. The Portuguese single-purpose associations are replicas of the French SIVU (*Syndicats à Vocation Unique*).

national government to impose a top-down model of regional government (No= 63.51%). Portuguese voters regarded this proposal as an attempt by local level officials to promote their careers by becoming the leaders of a regional political class. This perception was particularly strong in more urban areas, which contributes to explain the unequivocal result of the referendum.

To further complicate the analysis, the Portuguese local government system is characterized by an additional tier of self-government – the *freguesia* – the smallest unit of self-government, reminiscent of the Catholic parishes, with a low number of competences and heavily financially dependent on the municipal government. The number of parishes varies significantly between municipalities, from just a few up to 89, and their boundaries are contained inside those of the municipal government they belong (Silva, 2004)<sup>9</sup>.

Both municipalities and parishes have a long-standing historical tradition and, despite some attempts at creating intermediate levels of government throughout the last two hundred years, they have remained as the symbol of local government social and political autonomy (Silva, 2004). In addition, recent attempts at promoting the consolidation of parishes by the national government were faced with strong opposition both by the National Association of Parishes and by local populations. Parishes wishing to become municipalities based on their size, population, and/or prior existence as municipalities face formal approval by the Portuguese parliament and by President. Recent endeavours failed and parish populations demonstrated their anger by refusing to vote on national elections.

The only intermediate level of government that vaguely resembles a regional government is the *distrito* (district). Formally established in 1835, the 18 districts in Continental Portugal cannot be considered a regional level of government since they are deconcentrated agents of the central state. The district governor acts as the representative of the national government in the regional district. Historically, the district capital is the most important and populated city in the region.

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<sup>9</sup> Currently, Continental Portugal, excluding the Azores and Madeira archipelagos, has 278 municipal governments and 4047 parishes.

All these events show how difficult it is to overcome strong traditions of local autonomy and self-government. Nevertheless, local governments do cooperate and overcome collective action problems, as the number of GAM, ComUrb, CI, and MA already shown on Table II confirms.

## **Hypotheses**

Local governments decide to join inter-local agreements when the anticipated benefits exceed the transaction costs of developing, negotiating, and monitoring these agreements. Rather than looking at the individual features of each local government that increase the propensity to cooperate, we suggest that the focus should lay on dyadic cooperation relations. In theory, any two given municipalities can engage in formal agreements; however, specific political, economic, and demographic characteristics are likely to favour or limit the number of agreements that gets crafted.

The most obvious factor that can influence the decision to cooperate is geographical proximity. Portuguese legislation establishes that only adjacent municipalities can associate to form GAM, ComUrb, and CI. The only type of organisation that does not require the sharing of geographical boundaries is the *Municipal Association* type. However, a close inspection of descriptive data indicates that the number of municipal associations where non-contiguity occurs is rather small (only two cases). Since this is the case, we assume contiguity by excluding these exceptions and proceed by analyzing what other factors affect municipal cooperation in service delivery.

The degree of homogeneity between two communities can be characterized using economic and demographic indicators, such as income, financial status, population size, and area. The larger the difference between these components, the less likely it is that two communities will engage in cooperation. Hence, intergovernmental homogeneity across jurisdictions signals potential shared interests and service preferences (Feiock, 2007).

As an example, the larger the difference in median income the less likely these communities are to cooperate, because benefits will appear as less appealing for the richer side. The financial status of prospective partners is thought to have an analogous effect. Municipalities heavily dependent on national government grants will explore other

forms of accomplishing local goals, including the association with neighbouring communities.

A similar reasoning can be extended to demographic features. Two small neighbouring communities with similar population size, area and density will find it in their best interest to cooperate, not only because they are more likely to share several personal, professional and recreational activities (Post, 2004), but also because they will be able to take advantage of scale economies. Demographic homogeneity also contributes to minimizing political and economic power asymmetries between jurisdictions, thereby facilitating the distribution of gains derived from cooperation (Feiock, 2007). Smaller cities are also more prone to cooperation because civic participation tends to be higher than that experienced by larger cities. Oliver (2001) found that individuals living in big cities were less likely to contact local officials, attend community meetings, or vote in local elections. With this in mind, we selected four variables and indicators to test our **homogeneity hypothesis**:

*H1.1: Municipalities that have small differences in purchase power capita personal income are more likely to cooperate.*

*H1.2: Municipalities that have similar population size are more likely to cooperate.*

*H1.3: Local governments that cover similar land areas are more likely to cooperate.*

*H1.4: Local governments with similar financial status as measured by their total revenues are more likely to cooperate.*

Several arguments in the literature suggest that cities struggling with financial difficulties are more likely to collaborate in order to generate additional revenue to respond to service needs. However, Morgan and Hirlinger (1991) argue that the relationship between financial status and cooperation may be more complex than the economies of scale argument seems to suggest. In fact, these authors found cooperation to be more prevalent at both low and very high levels of local government wealth. Slack revenues in very wealthy communities seem to facilitate innovative experiences in



service delivery. Recent work by LeRoux and Carr (2007) confirms this finding for public works service delivery in Michigan. Hence, according to our **financial autonomy hypothesis**, we expect that:

*H2: As the level of financial autonomy of a city increases, the likelihood of cooperation decreases, but at very high levels of autonomy cities will cooperate more.*

Although the level of civic participation influences the degree of local intergovernmental cooperation, past experience is also an important feature to gauge the level of trust and reciprocity. Because municipal borders tend to be fixed, cooperation between neighbouring jurisdictions is more likely, and the degree of uncertainty in transactions is minimized through repeated plays, defection is more easily detected, and mutual adjustment achieved less costly. The number of cooperative links and the time elapsed since the first cooperative agreement between any pair of jurisdictions can be employed as an indicator of credible commitment. They also provide a signal that the monitoring problem associated with making and enforcing credible commitments has been successfully solved (Ostrom, 1990).

With a few exceptions, most multi-purpose associations created in Portugal were the product of the 2003 legislation. The establishment of these regional associations were less a product of local politics than a response to an opportunity triggered by national legislation. In contrast with their multi-purpose counterparts, single-purpose municipal associations had been in existence prior to the 2003 legislative framework. In fact, some were long standing forms of cooperation, created as early as the beginning of the 1980s, as part of the drive for local democratisation post-1974. These long standing cooperative practices have helped to develop new agreements over new service areas.

In our view, this begs the consideration of local partisan politics as one of the factors motivating the decision to cooperate. Local jurisdictions led by local officials from the same political party are more likely to cooperate because the transaction costs associated with establishing and monitoring intergovernmental agreements and

negotiating the division of benefits will be lower. Hence, based in the **trust hypothesis**, we expect that:

*H3.1: The longer the time elapsed since the first cooperative agreement established between two local governments, the larger number of service delivery ties these governments are likely to display;*

*H3.2: Local governments headed by mayors of the same political party at the time of enactment are more likely to have more cooperative agreements.*

The number of parishes in each local government can impose tremendous decision-making costs to both the local executive and the legislative branches. Each parish tends to operate as an interest group, lobbying the municipal government for more and better services. Hence, fragmentation occurs not only at the municipal level, but also at the parish level, which complicates matters in terms of regional cooperation. As the number of parishes increases, cooperation between any two given municipalities will become more difficult, because the number of compromises necessary to reach an agreement will also be more complicated to achieve. Our **fragmentation hypothesis** states that:

*H4: As the number of parishes increases, the likelihood of contracting between two governments decreases.*

The district capital is the most relevant city in each district. Historically, these cities have been more populated, socially dynamic, and true engines of local economic development. Due to these historic, geographic and economic reasons, we expect that district capitals will display more numerous cooperative links with their neighbours. The same reasons help to understand why cities from the same district are also more inclined to cooperate.

Associated with network theory, the **centrality hypothesis** argues that:

*H5.1: District capital cities are more likely to be involved in cooperative agreements.*

*H5.2: Cities belonging to the same district are more likely to cooperate.*

The fourth section of this article presented our theory, tying it to the literature on the determinants of local intergovernmental cooperation. We began by describing the specific context where cooperation takes place – the Portuguese local government system – and proceeded by connecting the generic hypotheses developed in the literature to the Portuguese case. Next, we propose a research design to test these hypotheses.

### **Research Design**

The explanation of the determinants of municipal associations entails a specific research strategy. Each municipality may voluntarily opt to participate or not in a network of cooperation, but obviously it cannot cooperate alone. Cooperation implies a contractual arrangement between, at least, two local government units. Therefore, the focus of analysis should not be placed on individual municipalities but, rather, on contractual links.

This corresponds to analysing all the possible alternatives of cooperation. As the Portuguese experience shows, intergovernmental cooperation usually implies a network of more than two units. Considering the 278 Portuguese municipalities, there are 38503 possible dyadic combinations. With groups of three, the number rises to 3542276 combinations. Hence, the focus on dyadic relations is just a matter of keeping things simple and feasible in terms of empirical testing. A dyadic relationship, corresponding to a contractual link between two units, is our unit of analysis (say  $A \leftrightarrow B$ ). Similar studies have been employed in analysing international conflicts (Beck, King, and Zeng, 2000) and coalition governments (Martin and Stevenson, 2001). In all empirical studies, the common pattern is the focus on relations between units rather than individual units.

In this specific case, the research design implies the comparison between instances in which cooperation between municipalities occurs (yes=1) and instances where cooperation is absent (no=0). The explanations suggested by the hypotheses are also framed as characteristics of the relationship, not characteristics of each individual

municipality. Let us consider an example of four municipalities (A, B, C, and D), for which we speculate that differences/similarities in income (homogeneity) are the most important explanation for cooperation. The data we would need to collect would be on the existence of cooperation and some measurement of income (see Table III).

(Table III here)

The first column represents all feasible (permitted) dyads, that is, our units of analysis. The second column shows the dependent variable, a dichotomous variable representing whether or not cooperation occurs. The third column shows the independent variable, that is, some characteristic of that relationship. In this case, our hypothesis suggests that each observation measures income differences between the units considered in that link ( $I_j - I_i$ ). Of course, a larger set of explanatory variables can be included.

The next step is the estimation of the model. We estimate two models using different dependent variables. The first is a logistic model to estimate the probability of cooperation against the probability of non-cooperation and the effects of each explanatory variable on that probability. The second is a Poisson model where the dependent variable is the total number of cooperative agreements between each pair of local governments<sup>10</sup>. Based on the dependent variables suggested and the hypotheses developed in section four, our preliminary model is presented on Table IV.

(Table IV here)

As pointed previously, the number of possible dyadic combinations of the 278 Portuguese municipalities is 38503, which poses serious data-management problems. At this point, we follow more workable approach. We restrict our analysis to cooperation between contiguous municipalities. While we are conscious of the objections to this

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<sup>10</sup> The major assumption in a Poisson model is that the conditional mean of the distribution equals the conditional variance (equidispersion). We are aware that more often than not, the variance exceeds the mean (overdispersion) so that the Poisson model is no longer adequate. Then, the first step in determining the appropriateness of this model is to test for overdispersion (Long 1997; Green 1997). The goodness-of-fit  $\chi^2$  test does not allow us to reject the null hypothesis that the data are Poisson distributed, so a Poisson regression model is used in the estimation.

conservative strategy, namely some problems of selection bias, we are also convinced that it does not invalidate the main results. When non-contiguity is excluded and only cooperation between contiguous municipalities is assumed, the total number of dyadic relations drops to less than 1000. Therefore we work with 719 units of observation.

## **Findings**

This research aimed at exploring the factors that determine local government cooperation in service provision among Portuguese municipalities. We reviewed the literature explaining horizontal intergovernmental cooperation and derived and tested a series of hypotheses using a research design previously employed in two subfields of political science, but never used in the context of public administration research. Table V presents the results for our logistic regression model estimated by maximum likelihood. Table VI presents a Poisson regression model where the dependent variable is the count of cooperative agreements between each pair of local governments. Both models employ similar specifications. The only difference between specifications is the inclusion of a quadratic variable – total revenues squared – to test the financial autonomy hypothesis.

(Tables V and VI here)

To illustrate the numerical interpretation of the results, Table VII shows the computation of what Scott Long (1997) calls factor changes. They are derived from the Poisson regression model shown in Table VI. Simply put, a factor change means that, holding all variables constant, for a unit change in a given independent variable  $X_k$ , the output count changes by a factor of  $\exp(B_k)$  (Long 1997: 225). This factor has an important advantage when it comes to interpret the results. Contrary to what happens with the standard Poisson coefficients, the factor changes do not depend on the level of the variable of interest or all other variables in the model.

(Table VII here)

To illustrate, the factor change attached to the variable measuring trust based on partisanship is 1.15. This means that the existence of two mayors that belong to the same party is expected to increase 15%, on average, the number of associations. Conversely, a factor change of 0.99 in the variable parishes means a decrease. On average, it means that an increase, on average, in the number of parishes decreases by 1% the number of cooperative ties.

On the substantive side, although the results seem to confirm four out of five hypotheses, we argue that it is still too soon to reach definitive conclusions. It seems that political trust plays an important role in the decision to cooperate. If two mayors in neighbouring jurisdictions belong to the same political party they are more likely to cooperate, because the transaction costs of establishing and monitoring an agreement are minimized. Although we were not able to statistically test the idea that the time elapsed since the first collaborative effort increases the number of cooperative agreements between any pair of municipalities, we are still confident that this is a strong predictor of cooperation.

The most compelling evidence regards the centrality hypothesis derived from network theory. Local governments cooperate more with cities that belong to the same district, and district capitals attract more cooperative endeavours. District capitals seem to play an important role of centrality within each network of cooperative engagements. Historic, geographic and economic reasons help to explain this result and this suggests that, when a given municipality is considering cooperation with one of its neighbours, it will most likely prefer a district capital (if one is available) due to the dynamic associated with these cities. The *distritos* still represent a powerful constraint in the choice regarding cooperative efforts. Cities prefer to cooperate with other cities from the same district rather than with cities from neighbouring districts.

The division of Portuguese local governments in smaller units called *freguesias*, a reminiscence of the Catholic parishes, complicates the decision to cooperate. Because parishes act as an interest group, increasing decision-making costs to both the local executive and legislative branches, it becomes harder to reach cooperative agreements between municipalities. The amount of concessions needed increases with the number of parishes, making cooperative agreements much more difficult and lengthy to negotiate.

Ultimately, cooperation between any pair of local governments may be doomed to failure because local officials prefer to please their parish counterparts and electoral constituents rather than enter into uncertain cooperative agreements.

Finally, we find some evidence that corroborates the financial autonomy hypothesis. Our results confirm the findings of Morgan and Hirlinger (1991) and LeRoux and Carr (2007). As the level of financial autonomy of a pair of municipalities increases, the likelihood of these cities will cooperate decreases. However, at very high levels of financial autonomy, slack revenues allow for new experiences in cooperation.

### **Discussion and Directions for Future Research**

This paper shows that what explains individual choices can be very different of what explains intergovernmental trust. More individualistic and more cooperative approaches are adopted in different contexts. A large amount of work needs to be done to fit this puzzle of the diversity of services provided at the local level and the explanation of the different patterns of choice of public governance structures. At least two main steps follow in our research agenda.

One direction is to extend the present study to all or near all the possible dyadic relationships. The issue previously raised with regard to selection bias need to be addressed explicitly. Some of the mixed or irrelevant findings can then be checked and the significant ones made more robust, so we believe.

The other direction is less methodological and more substantive. It is to investigate the municipal associations themselves. We have already studied municipalities and their choices as units of analysis as well as the relationships between municipalities. In the present paper we assumed to study associations by studying the binary cooperative ties. But this is still a fiction because municipal associations are more than a simple sum of binary ties. They are independent organizations, even from a legal standpoint. Therefore a study taking the associations as units is necessary. As shown in Table II, the number of different voluntary associative is large enough to allow comparative findings.

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**Table I. Functional Areas Assigned to Local Governments by Law 159/99**

Economic Development
Recreation and Sports
Property, Culture and Science
Parks, Landscaping, and Building Maintenance
Environment, Water Supply, and Solid Waste Management
Parking, Transportation and Communications
Social Housing
Urban Policy and Land Use Management
Energy
Health
Education
Social Welfare, Day-Care and Elderly Equipment
Consumer Protection
Emergency Management
Municipal Police
Foreign Cooperation

**Table II. Local Intergovernmental Cooperation in Portugal**

	<b>Frequency</b>	<b>Average Number of Municipalities</b>	<b>Average Population</b>	<b>Average Area (km<sup>2</sup>)</b>
Great Metropolitan Areas (GAM) (*)	7	15.6	928434	3152
Urban Communities (ComUrb) (*)	14	10.6	230788	4366
Inter-Municipal Communities (CI) (*)	3	8.3	76619	2590
Municipal Associations (**)	81	8.6	297989	3790
<p>(*) All GAM, ComUrb, and CI are multi-purpose forms of cooperation and require contiguity between members;</p> <p>(**) All municipal associations are single-purpose forms of cooperation and most were formed prior to 2003, but the framework applies to them as well; contiguity is not required.</p>				

Source: National Association of Municipalities

**Table III. Example of Dyads**

<b>Unit of Analysis</b>	<b>Dependent Variable: Cooperation</b>	<b>Independent Variable: Income Homogeneity</b>
A ↔ B	0	$I_A - I_B$
A ↔ C	0	$I_A - I_C$
A ↔ D	1	$I_A - I_D$
B ↔ C	0	$I_B - I_C$
B ↔ D	1	$I_B - I_D$
C ↔ D	1	$I_C - I_D$

**Table IV. Variable Measurement and Hypotheses**

<b>Variable</b>	<b>Hypothesis</b>	<b>Measure of dyadic relationship</b>	<b>Expect Sign</b>
Purchase Power	Homogeneity	Difference in purchase power measured as a % of national purchase power	(-)
Population	Homogeneity	Difference in Population Size	(-)
Area	Homogeneity	Difference in Area	(-)
Municipal Revenues	Homogeneity	Difference in total revenues per capita	(-)
Financial Autonomy	Financial Autonomy	Financial autonomy measured as the sum of total revenues per capita	(+) (Nonlinear)
Partisanship	Trust	Same political party at time of enactment (1=Yes; 0=No)	(+)
Length of Relationship	Trust	Number of years elapsed since first formal agreement	(+)
Parishes	Fragmentation	Total number of parishes	(-)
District Capital	Centrality	One of the municipalities is a district capital (1=Yes; 0=No)	(+)
District Cities	Centrality	Both cities belong to the same district (1=Yes; 0=No)	(+)

**Table V. Results of the Logistic Regression Model**

Variable	Specification 1		Specification 2	
	Coefficient	Std. Error	Coefficient	Std. Error
Purchase Power	-.008	.007	-.008	.007
Population	.000	.000	.000	.000
Area	-.0003	.0004	-.0001	.0004
Revenue Homogeneity	-.001***	.0004	-.001***	.0004
Financial Autonomy	.002***	.0004	----	----
Financial Autonomy(Sq.)	----	----	.000***	.000
Partisanship	.410**	.194	.400**	.193
Parishes	-.011**	.004	-.012**	.004
District Capital	.867**	.383	.870**	.386
District Cities	1.882***	.200	1.861***	.198
Constant	-1.126***	.421	-.173	.292
Num. Obs.	719		719	
LR chi <sup>2</sup> (9)	143.19		136.27	
Prob > chi <sup>2</sup>	.0000		.0000	
Pseudo R <sup>2</sup>	.1737		.1653	
Log-L	-340.498		-343.958	

\* p < .10

\*\* p < .05

\*\*\* p < .01

**Table VI. Results of the Poisson Regression Model**

Variable	Specification 1		Specification 2	
	Coefficient	Std. Error	Coefficient	Std. Error
Power of Purchase	-.003	.003	-.002	.003
Population	.000	.000	.000	.000
Area	.000	.000	.000	.000
Revenue Homogeneity	-.0002	.0001	-.000	.000
Financial Autonomy	.000***	.000	----	----
Financial Autonomy(Sq.)	----	----	.000*	.000
Partisanship	.140**	.070	.138**	.070
Parishes	-.004**	.002	-.004**	.002
District Capital	-.068	.126	-.074	.126
District Cities	.838***	.099	.841***	.099
Constant	-.727***	.161	-.529***	.132
Num Obs.	719		719	
LR chi <sup>2</sup> (9)	112.56		108.51	
Prob > chi <sup>2</sup>	.0000		.0000	
Pseudo R <sup>2</sup>	.0586		.0565	
Log-L	-904.725		-906.747	

\* p < .10

\*\* p < .05

\*\*\* p < .01.



**Table VII. Factor Changes of the Poisson Regression Model**

Variable	Specification 1		Specification 2	
	Coefficient	Std. Error	Coefficient	Std. Error
Power of Purchase	.997	.003	.998	.003
Population	1.000	1.01e-06	1.000	1.00e-06
Area	1.000	.000	1.000	.000
Revenue Homogeneity	.999	.000	.999	.000
Financial Autonomy	1.000	.000	-----	-----
Financial Autonomy(Sq.)	-----	-----	1	4.96e-08
Partisanship	1.150	.081	1.148	.080
Parishes	.996	.002	.996	.002
District Capital	.934	.118	.929	.117
District Cities	2.313	.228	2.319	.229

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