Small local governments between Scilla and Carriddi. Incentives for territorial reform.

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Abstract

Local governments role is not only to provide local goods, but also to interpret and represent the local citizens wishes to central government. In this paper, even if governments are non benevolent both at local and central level, the accuracy in interpreting citizens wishes is higher in small councils than in big ones, because citizens? control is higher in the former. On the contrary, the capacity of a council to make its requests be satisfied by central government is higher for a big council than for a small one. Thus, when the dimension of local government increases, the effectiveness of representation activity increases, but the objectives of citizens diverge from administrators ones. Thus the amount of grants received by central and regional governments changes according to a trilateral game among citizens, local government and central ones. In small city, citizens control the government but the effectiveness of their voice is limited by suboptimal grants from higher level of governments. Bigger cities, on the contrary, can better represents citizens and can receive higher amount of grants, but often they represent only a part of the citizens, by this way grants can be over the optimal level. A territorial reform which aims to reduce the number of municipalities modifies such trilateral game, providing different incentive schemes for local governments. In this paper we propose a model which can tackle these theoretical issues and we provide an empirical validation.

Keywords: Intergovernmental Grants, Accountability, Interests Representation, Territorial Reform

JEL: H71, H77

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1 Introduction

In many countries, small local governments are inefficient in public services provision. Small councils can neither exploit scale and scope economies, nor internalize externalities. Moreover, they have little fiscal capacity to provide services. For these reasons, Boadway and Hobson (1993) propose a system of intergovernmental grants towards small size local governments. The issue of optimal transfers to local governments is common in the literature and in political debate. Summing up, the prescription is to grant intergovernmental transfers to small size councils in order to compensate them for not achieving scale economies. Alternatively the dimension of councils should be increased. In effect, many countries are trying to design a territorial reform pushing local councils to compulsory amalgamation or to voluntary association in order to efficiently provide local public services to citizens.

In 2008, Denmark reduces the number of its municipalities from 350 to 100. In Finland, since 2006, from around 450 down to 320. In Greece (2010) from 1033 to 325 municipalities. Albania has planned a municipal mergers as well.

Other countries favour the ‘co-operation’ approach, in France municipalities continue to exist as entities after joining an inter-municipal body in a functional cooperation. A similar approach was followed in Italy from Dlgs 267/2000. Cooperation was promoted rethinking the "Unione di Comuni" as a new local inter-municipal body where municipalities voluntary decide to provide jointly local public goods to citizens.

As in France, for stimulating such intermunicipal bodies were incentivated by extra state grant and permit to provide extra public goods.

Such a stimulus for functional cooperation diminished in recent time and Italy seems to abandon the co-operation approach in favor of mergers. Actually compulsory mergers it is entangled in the continuous extension granted by the laws that impose mergers. In 2012, with law 135, small municipalities have to jointly provide local public goods. In 2014, with law 56, provincial local government importance was reduced in favor of regions and municipalities. Small municipalities should merge fundamental functions and should provide jointly local public goods. At the same time both voluntaristic co-operation and compulsory associations of local governemtns are both mantained, thus in Italy municipalities could voluntary co-operate in an intermunicipal body "Unione di Comuni" or signing an agreement ("Convenzione") with other municipalities. They compulsory have to joint to the board of Optimum Territorial Area which have to provide local public goods, such board is regulated as a secondary cooperative local government... In any case small municipalities in Italy are perceived as inefficient, and in the last 15 years, each national government overlaps its own idea of territorial reform to previous ones.

The focus of territorial reform is usually the provision of local public goods. Generally speaking small municipalities face a dilemma: if they try to preserve their territorial identity they are not able to provide a sufficient level of public goods to citizens.

Furthermore, a local council has other tasks, is an institution devoted to
collect the local requests of its own citizens to be presented to central and regional government; hence, a local government interprets and represents the local citizens’ wishes to central government. Thus, they bargain with central government in order to represent local interests at central level. In any case, when local councils ask for resources from central or regional governments they do on the behalf of their citizens. Clearly, when the government is benevolent, the objective functions of citizens and of administrators coincide, and the representation of citizens’ requests is consistent. On the contrary, a non benevolent government does not perfectly represent citizens’ objectives.

Without considering the role of a local government in representing citizens’ interest at central and regional governments, it can be hard to understand the resistance to territorial reform and merger from citizens living in small municipalities, even if the provision of local public good could increases. Such consideration could also gives some hints to have a successful reform.

2 Is it a question of accountability?

Actually, the accountability models in fiscal federalism theory do not apply a big effort in defining what accountability consists on. In effect these models neither describe the mechanism of accountability, nor analyse the relation between local councils and their stakeholders. It must be note that the concept of accountability is “a comprehensive one, since it embraces three different ways of preventing and redressing the abuse of political power. It implies subjecting powers to the threat of sanctions; obliging it to be exercised in trasparent ways; and forcing it to justify its acts” (Schedler, 1999). Each of these issues encompasses multifaced aspects. Regarding this paper, we can summarize that a local council is accountable towards its citizens through two channels. The first one is informal and depends on direct and personnel knowledge among citizens and their administrators. The second channel is the existence of formal institutions, such as media, political parties, unions and so on, which can collect the citizens needs and present them to councils. This second channel can be important in a big council, not in a small one where the behavior of the government cannot be verified by these institutions. Actually, in very small councils, what grants accountability is the first channel: citizens know directly and personally the administrators and thus they can daily control them, not only in the electoral dates. Since we are focusing on small councils we will analyze the informal channel and not the formal one. For very small municipalities, the informal

\footnote{Bargaining among different tiers of governments is evident when intergovernmental grants are discretionary, but also when they are not. A bargain among different tiers of governments is important in defining formulas which assign grants to local governments and in all democratic nations there are some places where bargaining, i.e. lobbying activity, are institutionalized, German Bundestag, Usa’s Senate, Italian Conferenza Stato-Regioni-EELL... A review on how different tiers of government can bargain on grants is in Feld and Schaltegger (2005).}

\footnote{Moreover, Besley and Prat (2006) affirm that big councils can “capture” media and political parties do not represent citizens’ needs, so when the councils are big the relations between dimension and accountability cannot be easily defined. A similar unclear link between formal}
channel of accountability is important: the claims and the pressure of citizens on public administrators is stronger and administrators have to consider not only costs depending on non re-election but the costs of everyday claims. Clearly this channel disappears when the municipality is too big to permit personnel knowledge of administrators.

If we try to consider these aspects, two issues would emerge. The first is that, in small councils, the accountable relation between administrators and citizens is stronger than the one suggested by the idea that the control of citizens on politicians depends on voting as in models of fiscal federalism theory where accountability problem collapse in electoral decision and promises.

The second issue is that even if a local government is fully accountable, such accountability could be ineffective. The accuracy in interpreting citizens' wishes is higher in small councils than in big ones, because of the citizens' control is higher in the former. Similar results could be obtained following Mankur Olson's suggestion: in a big city local could be capture by a small well organized lobby. In this case local government just defends the interests of a small group and not of all the citizens. In a small municipality such a problem is less important.

On the contrary, the strength of representation is higher for a big council than for a small one. The strength of representation power consists in the capacity of a council to make its requests be satisfied by central government. It is worth to note that here "strenght of representation" does not mean that local government represents the true requirements of its citizens, but only that it is able to obtain what it asks for from central government, even if such requests correspond to the needs of only a part of its own citizens.

In order to bargain with central and regional governments there are three successful factors: 1) the weight of local government which depends on population; 2) personal connections between governors on board both at local and at central government; 3) the existence of few local lobbies which can determine the political requests that the local governments present to central one.

Thus, when the dimension of a local government increases, the importance of representation activity (lobbying activity) increases, but the objectives of citizens diverge from administrators’ ones. In other words, increasing dimension of local governments, lobbying power increases while accountability decreases. For citizens there is a trade-off between the strength of local councils in representing interests at central level and the accuracy (accountability) in representing them.

Institutions and the size of governments can be found in the literature of corruption: also in this literature the linkages between the size of governments and corruption is unclear: Goel and Nelson (1998); Alesina and Angeletos (2005) provide empirical and theoretical support to a positive link between corruption and the size of governments; on the contrary La Porta and al. (1999); Billger and Goel (2009) give the opposite empirical evidence.

3In other words, in a small council if snow should be removed, citizens do not contact an office in the council claiming for snow remotion and threatening not to re-elect the mayor in case of inefficiency, they directly go to the mayor with a shovel.

4An indirect proof of the importance of informal knowledge is supplied by Hart, Haughton and Peck (1996) which affirm that in small councils many stakeholders seeing accountability an exercise in public relations with administrators.

5From this point of view a big local municipality which is not accountable can bargain easily with central government.
3 The model

3.1 The public goods provision

We assume $J$ local councils having $N_i$ population, national population is $N = \sum_i N_i$. Let us assume that per capita income is equal everywhere$^6$ and let us normalize it ($Y_i = 1$).

$G_i$ and $G_N$ are, respectively, local and national public goods. For simplicity we assume that they are non rival. Local governments provide local public goods using local tax revenues $(t_i)$ and intergovernmental transfers they receive from central government as matching grant $(S_i = N_i s_i)$. Thus

$$G_i = N_i t_i + S_i = N_i (t_i + s_i) = N_i (t_i + s + \sigma_i) = N_i (T_i + \sigma_i)$$ (3.1)

where $S_i$ is the intergovernmental transfer received by council $i$, $s_i$ is the per capita transfer and $N_i$ is the population of region $i$.

Central government provides national public goods using the central tax revenue minus the transfer to local governments

$$G_N = N t_N - \sum_i N_i s_i = N \left( t_N - \sum_i n_i s_i \right) = N T_N$$ (3.2)

where $n_i = \frac{N_i}{N}$, thus $s = \sum_i n_i s_i$ is the average per capita transfer, $T_N = t_N - s$, $T_i = t_i + s, E(\sigma_i) = 0$.

3.2 Citizens objective functions and Pareto Optimum

In each local council $i$ citizens have the following utility function:

$$U^C_i = \alpha \ln G_i + \beta \ln G_N + \ln (1 - T_N - T_i)$$ (3.3)

s.t. \hspace{1cm} \ln G_i \geq \ln \hat{G}, \forall i$

The constraint implies that there is a minimum provision of local public goods in all council $i$, such a minimum is the same in all municipalities.

Thus the pareto optimum is obtained maximizing the following lagrangean

$$\Lambda = \sum_i N_i U^C_i + \sum_i N_i \phi_i \left( \ln G_i - \ln \hat{G} \right) + \epsilon N \sum_i n_i \sigma_i$$ (3.4)

if the constraint is not binding ($G_i > \hat{G}$), then $\phi_i = 0$, otherwise $\phi_i > 0$. The

$^6$Thus local councils differ only for population.
constraint $\sum n_i \sigma_i = 0$ always holds. Substituting 3.1 and 3.2

$$\Lambda = K + \alpha \sum N_i \ln(T_i + \sigma_i) + \beta N \ln(T_N) +$$

$$+ \sum_i N_i \ln(1 - T_N - T_i) +$$

$$+ \sum_i N_i \phi_i \left\{ \ln[N_i(T_i + \sigma_i)] - \ln \hat{G} \right\} -$$

$$- \epsilon N \sum n_i \sigma_i$$

Equation 3.5 FOCs are

$$\frac{\partial \Lambda}{\partial T_i} = \frac{\alpha N_i}{T_i} - \frac{N_i}{1 - T_N - T_i} + \frac{\phi_i N_i}{T_i + \sigma_i} = 0$$  \hspace{1cm} (3.6)

$$\frac{\partial \Lambda}{\partial T_N} = \beta \frac{N}{T_N} - \sum_i \frac{N_i}{1 - T_N - T_i} = 0$$  \hspace{1cm} (3.7)

$$\frac{\partial \Lambda}{\partial \sigma_i} = \frac{\alpha N_i}{T_i} + \frac{\phi_i N_i}{T_i + \sigma_i} - \epsilon N_i = 0$$  \hspace{1cm} (3.8)

$$\phi_i > 0 \perp N_i(t_i + s_i) > \hat{G}$$  \hspace{1cm} (3.9)

$$\epsilon > 0 \perp \sum n_i \sigma_i = 0$$  \hspace{1cm} (3.10)

thus from 3.9 and 3.7

$$\frac{\alpha + \phi_i}{T_i + \sigma_i} = \frac{1}{1 - T_N - T_i}$$

$$\frac{\alpha + \phi_i}{T_i + \sigma_i} = \epsilon$$

$$\frac{T}{1 - T_N - T_i} = \epsilon$$

$$T_i = T$$

$$\beta(1 - T_N - T) = T_N$$

$$(\alpha + \phi_i)(1 - T_N - T) = T + \sigma_i$$

$$\frac{T + \sigma_i}{T_N} = \frac{\alpha + \phi_i}{\beta}$$  \hspace{1cm} SMS

6
\[(\alpha + \phi_i)(1 - T) - \beta(T + \sigma_i) = T + \sigma_i\]
\[(\alpha + \phi_i)(1 - T) = (1 + \beta)T + (1 + \beta)\sigma_i\]
\[(\alpha + \phi_i) = (1 + \beta + \alpha + \phi_i)T + (1 + \beta)n_i\sigma_i\]
\[\sum n_i(\alpha + \phi_i) = \sum n_i(1 + \beta + \alpha + \phi_i)T + (1 + \beta)\sum n_i\sigma_i\]
\[\alpha + \sum n_i\phi_i = (1 + \beta + \alpha + \sum n_i\phi_i)T\]

I write \(T\), \(T_N\) and \(\epsilon\)

\[T = \frac{\alpha + \sum n_i\phi_i}{1 + \beta + \alpha + \sum n_i\phi_i}\]
\[T_N = \frac{\beta}{1 + \beta + \alpha + \sum n_i\phi_i}\]
\[\epsilon = 1 + \beta + \alpha + \sum n_i\phi_i\]

if \(\frac{\sigma}{\epsilon} = T + \sigma_i > \frac{\hat{G}}{N_i}, \phi_i = 0 \Rightarrow \frac{\sigma}{\epsilon} = -\frac{\sum n_i\phi}{1 + \beta + \alpha + \sum n_i\phi}\)

Let us call \(n_0 = \sum_{i \in \phi_i = 0} n_i\)

if \(\frac{\sigma}{\epsilon} < \frac{\hat{G}}{N_i} \Rightarrow \phi_i = \epsilon \frac{\hat{G}}{N_i} - \alpha\)

\(\sigma_{i \in \phi_i > 0} = \frac{\hat{G}}{N_i} - \frac{\alpha + \sum n_i\phi_i}{\epsilon}\)

Verifying

\[\sum n_i\phi_i = \sum_{i \in \phi_i > 0} n_i\phi_i\]
\[\sum n_i\sigma_i = n_0\sigma_0 + \sum_{i \in \phi_i > 0} n_i\sigma_i\]
\[n_{i \in \phi_i > 0}\sigma_{i \in \phi_i > 0} = n_{i \in \phi_i > 0}\frac{\frac{\hat{G}}{N_i}}{N_i} - n_{i \in \phi_i > 0}\frac{\alpha + \sum n_i\phi_i}{\epsilon}\]
\[\sum_{i \in \phi_i > 0} n_i\sigma_i = J\frac{\hat{G}}{N} - \sum_{i \in \phi_i > 0} n_{i \in \phi_i > 0}\frac{\alpha + \sum n_i\phi_i}{\epsilon}\]
\[\sum_{i \in \phi_i > 0} n_i\sigma_i = J\frac{\hat{G}}{N} - (1 - n_0)\frac{\alpha + \sum n_i\phi_i}{\epsilon} = 0\]

where \(J = \sum_{i \in \phi_i > 0} 1\) number of small municipalities.
\[ J(1 + \beta)G - \left( N - JG \right) \alpha + N_0 \alpha = \left( N - JG \right) \sum n_i \phi_i \]

thus
\[
\sum n_i \phi_i = (1 + \beta) \frac{JG}{N - JG} - \alpha + \frac{N_0}{N - JG} \alpha
\]

\[
\epsilon = \frac{(1 + \beta)N + \alpha N_0}{N - JG}
\]

3.3 Government objective functions

Since we assume that governments are non benevolent, pareto solutions we describe is not the actual solution. Local and central government maximizes an objective function which is different from citizens’ one. Local governments consider only the utility which citizens receive by local public expenses and the disutility of taxation over local citizens:

\[
U_i = N_i \gamma \ln G_i + N_i \ln(1 - T_N - T_i) \quad (3.11)
\]

where \( \gamma > \alpha \) means that the importance of local public expenses for government is higher than for citizens.

In the same way, central government maximizes an objective function considering only the utility which citizens receive by central public expenses and the disutility of taxation over all citizens:

\[
U_N = N\delta \ln G_N + \sum_i N_i \ln(1 - T_N - T_i) \quad (3.12)
\]

where \( \delta > \beta \) means that the importance of public expenses for government is higher than for citizens.

In this case it is easy to demonstrate that local government set the tax rate in order to \( T_i = \frac{\gamma}{1 + \gamma + 3} \), obviously an intergovernmental transfer permits to local government to reduce the tax rate. Moreover, the central tax rate is higher than Pareto optimum \( T_N = \frac{\delta}{1 + \delta + 3} \) and intergovernmental transfers occur is \( T < \frac{G}{N_i} \).

3.4 Citizens’ control on local governments

In local councils, citizens control their own local governments not only by voting, but through daily contact with administrators. Such direct control could be the only accountability channel for small councils and it decreases when the population of the local government increases, since the frequency of daily contact with administrators decreases. Hence, even if local administrators are not benevolent, it is easy to think that citizens can obtain higher utility than reservation one. Thus the appropriate way to model this control is a Nash’s bargaining between citizens and their local governments.

\[
W_i = \lambda (N_i) N_i U_i^C + (1 - \lambda (N_i)) U_i \quad (3.13)
\]
where $\lambda(N_i)$ (with $0 \leq \lambda(N_i) \leq 1$, $\lambda(1) = 1$) is the weight of the sum of citizens' utility and depends on daily controls on administrators (voice strength), let us assume that voice strength decreases when local population increases ($\frac{\partial \lambda(N_i)}{\partial N_i} < 0$) because the daily contact are no more possible and the voice has to be express using more formal instruments (political parties, union, ...). In order to have an explicit formula we assume $\lambda(N_i) = 1 - n_i$.

It is easy to show that the solution for local taxation is increasing with local population. Larger the population is, higher the local tax rate is. When the number of citizens decreases, the control on administrators increases, and local politicians provide an higher utility since tax rate is not different from pareto optimum.

Thus, if policies depends on a bargaining between citizens and local government, government raises a lower tax revenue and provide less local public good than it wants. It is clear that in this case, without intergovernmental transfers, small municipality could not provide the minimum level of local public goods and could face the dilemma of raising taxes higher than the ones raised by bigger municipalities or to provide a not adequate level of local public goods.

4 The role of municipalities

In the previous section, we show that small municipalities could provide a low level of local public goods, both in a benevolent and in a non benevolent framework. Intergovernmental transfers in that section as the only role to permit to smaller municipalities to provide a sufficient amount of local public goods. From this point of view a territorial reforms which reduce the number of small municipalities could face such a problem and it could help to provide an adequate level of local public goods.

The cost of a reduction of small municipalities is only a potention reduction in accountability. Actually we assume that the citizens’ direct control decreases when population increases. Such reduction of accountability could be compensate by an institutional control throughout media, unions, political parties.

The main point of this paper is that provision of public local goods is not the only tasks of a municipality. Moreover the solution to non benevolent behaviour is not only an increase in institutional accountability.

A big role of local government is to bargain with central one in order to induce central government to provide the right level and quality of central public good and to receive an higher amount of intergovernmental transfer. Actually, governments commit themselves in political bargaining. In effect local governments make activities in order to gain better results for their own citizens. Or they provide to central government a representation of the needs of local population.

\footnote{In this case there are no conclusive results on the impact of municipality size on citizens’ control (Besley and Prat, 2006)}
In this paper, in order to have explicit solution, we assume that central government contracts with all local ones jointly, \( \mu \) is the cumulate weight of local government in the bargaining. Each local government weight is \( \mu N_i = \mu n_i \); the weight of each local government \( \mu n_i \) increases with population. Intergovernmental grants and national and local tax rates are set maximizing the following function:

\[
\Omega = (1 - \mu) \frac{U_N}{N} + \mu \left( \sum_i n_i \frac{W_i}{N_i} \right)
\]

subject to \( G_i > \hat{G} \) and \( \sum n_i \sigma_i = 0 \).

Substituting we can write the lagrangian

\[
\Theta = K + (1 - \mu) \delta \ln(T_N) + \mu \sum_i n_i \left[ n_i^2(\gamma - \alpha) + n_i \alpha \right] \ln(T_i + \sigma_i) + \mu(1 - H) \beta \ln(T_N) + \sum_i n_i \ln(1 - T_N - T_i) + \sum n_i \phi_i \left[ \ln(N_i(T_i + \sigma_i) - \ln \hat{G}) - \epsilon \sum n_i \sigma_i \right]
\]

Where \( H = \sum_i (\frac{N_i}{N})^2 \) is the Herfindal’s concentration index.

Solving the FOCS system we obtain

\[
\epsilon = \frac{(1 - \mu) \delta + \mu(1 - H) \beta + \mu(\gamma - \alpha)(H - H_0) + \mu(1 - n_0) \alpha}{1 - J_0 \frac{\hat{G}}{N}} \]

\[
\sum n_i \phi_i = \epsilon - \left[ (1 - \mu) \delta + \mu(1 - H) \beta + \mu(\gamma - \alpha)H + \mu \alpha \right]
\]

\[
T_i = \frac{\mu [H(\gamma - \alpha) + \alpha] + \sum n_i \phi_i}{\epsilon(H)}
\]

\[
\frac{T_N}{T + \sigma_i} = \frac{(1 - \mu) \delta + \mu(1 - H) \beta}{\mu [n_i(\gamma - \alpha) + \alpha] + \phi_i}
\]

if \( \phi_i = 0 \) \( \sigma_i = \frac{\mu(\gamma - \alpha)(n_i - H) - \sum n_i \phi_i}{\epsilon} \)

if \( \phi_i > 0 \) \( \sigma_i = \frac{\hat{G}}{N_i} - \frac{\mu [H(\gamma - \alpha) + \alpha] + \sum n_i \phi_i}{\epsilon} \)

Central tax rate, central public good and the average per capita transfer decreases with concentration. Central government overspends in central public goods if \( \delta > \beta + \frac{\mu}{n_0} H \beta \), otherwise central public goods is less than optimal.

When concentration increases it is easy to move from an overspending condition to a towards a suboptimal level of central good. Non concentrated municipalities have low power on respect to central government, we may think that they
compete in order to represent local needs to central government and such com-
petition permits the central government to overspend. Few big municipalities,
on the contrary have the power to force central government to reduce the cen-
tral tax pressure, by this way they gain possibility to raise local taxes without
reducing citizens utilities.

On respect to pareto optimum we have an overspending in local public goods
if \( n_i(\gamma - \alpha) > \alpha \frac{1-\mu}{\mu} \). In this case subspending is likely in small municipalities,
overspending in big one.

From equations 4.7 and 4.8 we obtain the following testable proposition:

If municipality is big enough, the per capita intergovernmental transfer
is increasing with population of municipality.

The effect of concentration is ambiguous. In the next section we test such a
proposition, in effect if the per capita transfer is really increasing with city
dimension we contrast with theoretical prescription of Boadway and Hobson
(1993). Moreover in several country, an also in Italy, small municipalities expe-
cially the ones in montainous areas received extra transfer in order to compen-
sate the difficulties to provide a sufficient level of local public goods.

5 Empirical analysis

Theoretical model suggests some testable results.

1. Intergovermental per capita transfer should increases with municipality
dimension

2. Intergovernmental per capita transfer should decreases with territorial
concentration

The first result seem to be both against citizens optimality and against norms
which provide small cities with transfer in order to face the lack of scale econ-
omy. The second result depends on bargaing: in a concentrated region the
bigger municiplality exert a bigger pressure on central government, but reduce
the pressure of a large number of small councils. By this way central govern-
ment reduces its own per capita spending. We test the two propositions in the
next pages, while we discuss the policy implications in the last one section.

5.1 The data

In order to test both propositions, we cannot analyze the national grants to
lower tiers of government in only one country. We should compare the capita
grants from higher tiers of governments to lower ones in different countries or
regions. Obviously, the legal framework and other structural differences should
not be to high in order to not introducing too much heteroskedasticity. The
data of “Ministero dell’Interno” on councils budgets can be considered a good
dataset for our exercise. In particular we study the regional transfers received by
the Italian councils from their own regions from 2006 to 2010. In such a period rules on national grants and on local taxes change, but this change cannot be considered a mayor one as the change to ‘Fondo di Solidarietà Nazionale’ which completely redesign the rules on national transfers.

From this database we calculate the per capita transfers that each municipality receives from the central government (National grants), from its own region (Regional Grants) not paid for the delegated functions and the per capita regional transfers paid for delegated functions (Delegate function) since municipalities act on the behalf of regions, finally we calculate per capita local taxes.

Finally from regional accounts we take the per capita regional GDP.

In order to compare regions which are different for population and income, we normalize per capita figures by the average per capita income of each region. From data on Population we calculate the regional Herfindal concentration index.

We estimate fixed effect panels for regional grants. In our estimation we consider only the council which belong to ordinary law regions or "Regioni a Statuto Ordinario", moreover we exclude from the database 160 councils bigger than 40000 inhabitans, since national law provide them with higher per capita national transfer and they behave as outlier (we use 6540 councils as cross-sectional units).

5.2 Results

TABLES 1 about here

6 Conclusions: The territorial reform of a nation

In order to provide some suggestion for a territorial reform of a nation we have to summarize the main results of the paper.

On respect to traditional theory Boadway and Hobson (1993), in this paper we consider that a municipality has not only the task of providing local public goods but also to represent the local needs to central governments. If a proposal of regional reform focuses only on the low level of local public goods provision and on the cost that central government has to pay in order to grant intergovernmental transfer to small municipalities, it is possible to design a territorial reform which does not work. Firstly, we demonstrate, theoretical and empirically, that small local governments receive small transfers in spite of Boadway and Hobson prescription and even if norms state that some transfer must be received specifically by small municipalities.

A reform which reduce the number of councils, concentrating them, does actually reduce the total amount of intergovernmental grants, but in this model

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8We estimate also a pooled OLS and a GLS - random effect model, Hausman’s test suggest that random effect is inconsistent thus the fixed effect models seem to work well.
it is not due to an efficient provision of local public goods because the reduction of scale diseconomy. It is due to bargaining between municipalities and central government which reduce average per capita grants. Furthermore, in this case municipalities could ask for a correct provision of national public goods. At the same time municipalities push up their own fiscal pressure providing an excessive local public good. Basically, a big municipality is more able to ask to central government a correct level of national policy, but at the same time citizens control decreases and we may have an overprovision of local public goods.

Small local council are between the Scilla monster of the underprovision of local goods (and overprovision of national public good) with a great control (direct voice) over local government and political weakness on respect to central government (representation power) and the Cariddi Monster of overprovision of local public goods but higher political strenght of local power in representing their need at central level. In defining the incentives for accepting a territorial reform the consideration of such representation power may be as important as the argument of low provision of local public good in small councils in defining than the low provision of public goods.

The claims of local government in favour of concentrating the municipalities are that they are not considered by central government in provision of central public goods (school, roads among cities, justice, health care). The claims against concentration usually considered as localistic ones reflect the difficulty of having a direct control on local governors.

A territorial reform that does not considers the above trade off and that does not modify the bargaining condition may fail even if it is designed in order to produce an efficient outcome.

From this point of view, we may judge the instruments for territorial reform in Italy. From legge bassanini up to now the issue of reducing the number of local government is political reform agenda. This paper suggest that an instrument of cooperation that does not change the bargaining parameters among municipalities and central government may fail.

From this point of view, the law states that small municipalities have to join in order to provide local public goods. Such compulsory prescription could be complied with amalgamation (fusione) among local council, with a new local government which is an association of small government (Unione di Comuni) or with an agreement among municipalities (Convenzione).

The contractual agreement (Convenzione) does not change the representation power, thus following this paper it does produce small or no results since it does not change the political parameter and in particular the representation power.

On the other side the amalgamation (Fusione) does produce this change but such a referm could fiercely challenged by citizens of small municipalities.

A voluntary association of small municipality may have success since it produces less opposition on respect to Fusione but it actually change bargaining parameter. Such association (Unioni di Comuni) can produce more results if it involve also medium municipalities.
References


Dollery B. and Robotti L. (2008), eds., The Theory And Practice Of Local Government Reform, Edward Elgar Publishing Ltd.


Table 1: Dependent variable: Regional grants per capita

Fixed-effects estimates
Dependent variable: Trasferimenti regionali pro capite

<table>
<thead>
<tr>
<th></th>
<th>(1)</th>
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<th>(3)</th>
<th>(4)</th>
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</thead>
<tbody>
<tr>
<td>const</td>
<td>0.1207*</td>
<td>0.8671*</td>
<td>1.067**</td>
<td>0.5423**</td>
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<td>(0.006673)</td>
<td>(0.2545)</td>
<td>(0.2568)</td>
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<td>Imposte comunali per capite</td>
<td>0.007052*</td>
<td>0.007018*</td>
<td>0.007027*</td>
<td>0.007131**</td>
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<td>(0.0004156)</td>
<td>(0.0004249)</td>
<td>(0.0004213)</td>
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<tr>
<td>Trasferimenti statali per capite</td>
<td>0.004258**</td>
<td>0.004216**</td>
<td>0.004226**</td>
<td>0.004182**</td>
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<td>(0.0002928)</td>
<td>(0.0003011)</td>
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<tr>
<td>Trasferimenti funzioni delegate per capite</td>
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<td>−0.04321</td>
<td>−0.04107</td>
<td>−0.03814</td>
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<tr>
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<td>(0.03170)</td>
<td>(0.03116)</td>
<td>(0.03131)</td>
<td>(0.03162)</td>
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<tr>
<td>Popolazione</td>
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<td>0.02602</td>
<td>0.05781</td>
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<td>(0.04456)</td>
<td>(0.02603)</td>
<td>(0.04100)</td>
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<td>Herfindal</td>
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<td>−0.0007941*</td>
<td>−0.0003303</td>
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<td>(0.0002666)</td>
<td>(0.0003125)</td>
<td>(0.0002623)</td>
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<td>log popolazione</td>
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<td>0.2229**</td>
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<td>(0.04886)</td>
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<td>log Herfindal</td>
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<td>−0.1069**</td>
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<td></td>
<td>(0.04775)</td>
<td>(0.04633)</td>
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<tr>
<td>PIL regionale per capite</td>
<td>−1.555e-05**</td>
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<tr>
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<td>(3.774e-06)</td>
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</tbody>
</table>

$\bar{n}$ = 25453, $\bar{R}^2 = 0.6992$, $\bar{E} = -2.608e+04$

---

Standard errors in parentheses
* indicates significance at the 10 percent level
** indicates significance at the 5 percent level
Table 2: Dependent variable: Log Regional grants per capita

<table>
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<td>const</td>
<td>2.158**</td>
<td>52.57**</td>
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<td>log local taxes per capita</td>
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<td>(0.02632)</td>
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<tr>
<td>log national grant per capita</td>
<td>0.01873</td>
<td>−0.04305**</td>
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<tr>
<td></td>
<td>(0.01197)</td>
<td>(0.01259)</td>
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<tr>
<td>log delegated function per capita</td>
<td>0.002305</td>
<td>0.004245</td>
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<tr>
<td></td>
<td>(0.01227)</td>
<td>(0.01219)</td>
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<tr>
<td>log population</td>
<td>1.305**</td>
<td>0.7962**</td>
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<tr>
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<td>(0.2208)</td>
<td>(0.2255)</td>
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<td>log Herfindal</td>
<td>−0.6538**</td>
<td>−0.4409**</td>
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<td>(0.1561)</td>
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<td>log regional PIL per capita</td>
<td>−5.160**</td>
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<tr>
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<td>(0.3904)</td>
<td></td>
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| n         | 11713    | 11713    |
| R^2       | 0.7581   | 0.7637   |
| \( \ell \) | −1.053e+04 | −1.039e+04 |

Standard errors in parentheses
* indicates significance at the 10 percent level
** indicates significance at the 5 percent level