Austerity measures and budget impact in municipalities: from political claims to empirical evidences*

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Abstract.

Europe and particularly the southern countries are undergoing a severe economic crisis that has renewed debates about the available strategies to economize their public resources in order to reduce the deficit. In this framework political leaders, both in the national and in the local level, have launched a wide range of different strategies aimed at diminish spending in a very short term. According to a generally accepted political discourse, relevant and drastic actions should be taken to warrantee economic and financial sustainability in times of austerity.

In this article we explore the main measures adopted by municipalities in order to examine their impact in budgetary terms. We firstly identify the most frequently implemented mechanisms including structural changes into the field of the political architecture (remunerations of the mayors, and other political staff, for instance), reorganisation of the public services (both from the input as for the output perspective) and operational economic restructuration (control and fiscal actions). Once identified and quantified, we monitor the presence and extent of each set of policies with a view to analysing their performance and effective impact and drawing hypothetical patterns of behaviour. Our main objective is to analyse the relation between concrete measures, mainly based on general political claims, and effective economic impact.

Data was gathered by launching a questionnaire targeted to the administration and economic chief (Interventor) so as to identify the local austerity measures in 2013. Information about the municipal budgets for the years 2011, 2012 and 2013 is also used with the purpose of operationalizing economic impact. The questionnaire was included into the project "Local Government Observatory" coordinated by the Pi i Sunyer Foundation, covering 620 municipalities in Catalonia with population above 500 inhabitants.

Keywords: local governments, austerity index, budget cuts, decrementalism

1. Introduction

Europe and particularly the southern countries are undergoing a severe economic crisis that has renewed debates about the available strategies to economize their public resources in order to reduce the deficit. Consequently, the Member States have promoted policies of austerity and spending cuts that, in some cases, have led to a profound transformation of the municipal structure. However, in the case of Spain, the basis of the municipal structure remains untouched, but special concerns were related to the incorporation of economies of scale into public service management, and the imperative to reduce public debt, and to implement budget equilibrium.

Even if local governments are not the main source of public debt and fiscal stress in Spain[1], they have been committed by central and regional governments to reduce costs and to implement measures to reduce their public expenditures. According to data from the Spanish Central Bank (Banco de España), the public debt of local governments, measured in percentage of the GDP, in December 2014, was 3.6%, while the same indicator for the State represented 97.7%, and 22.4% for regional governments. Indeed, for local governments this is not an extreme value neither represents an unprecedented increase, as it is the case for the other levels of government. Moreover, the % of debt belonging to local governments remains quite stable in time, even in the worst of economic crisis, starting in 2008.

Figure 1: Public debt by level of government in % of GDP
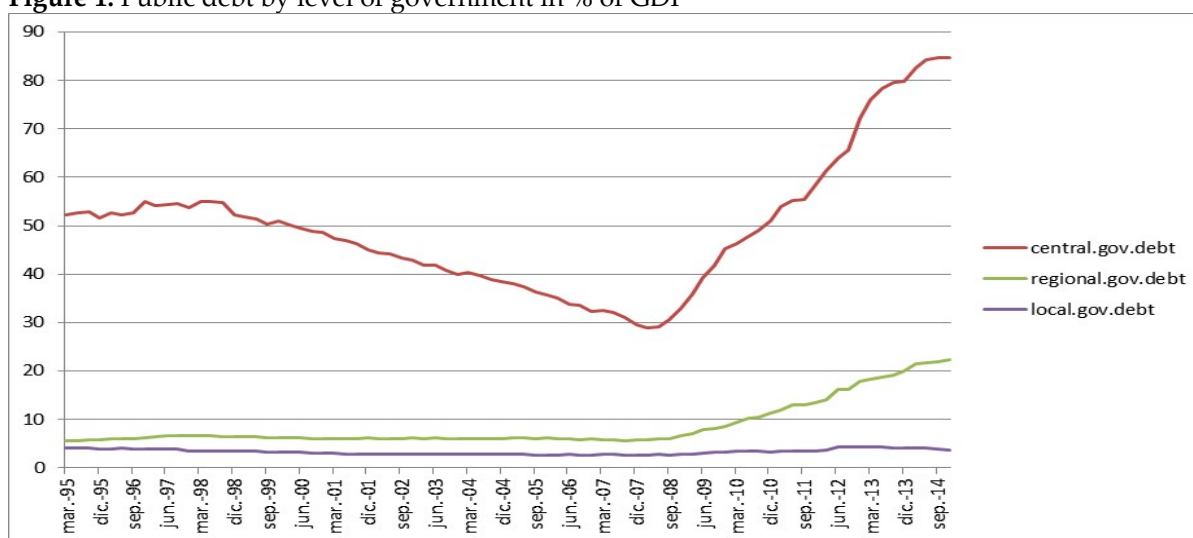
Source: Banco de España (www.bde.es)

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[1] Neither represents the biggest public investor, as the whole local system is in charge of about 14% of the total public spending per year (Banco de España).

In 2011, in the very heart of the financial crisis, fiscal austerity reached constitutional status when the amendment of the article 135 of the Spanish Constitution put budget stability, and the reimbursement of loans devoted to debt interest, as constitutional priorities. This constitutional protection of austerity lead to give birth to several laws devoted to fiscal austerity and budget stability, affecting all public institutions.

Since then, two main bills affect local finances: the Law 2 /2012, of 27 April, of Budget Stability and Financial Sustainability, which gave birth to specific economic requirements, and the LRSAL (Law 27/2013, of 27th December): a reform of the Local Act amending the legal framework established by Law 7/1985, regulating the Local Government Act and the Local Finances Act. Those bills address the structural reforms demanded by the UE and the Troika, but focused on local finances, rather than in structural reorganisation. Greece, Portugal and Italy launched reorganisation processes of their municipal map that involved a reduction in the number of municipalities and other units of local government, but for the case of Spain, special concerns were related to the incorporation of economies of scale and budget equilibrium, rather than reducing the number of local units. Despite the European trend of reducing the number of municipalities, Spain had stayed away from these measures, operating often in the opposite direction. In fact, in 1978 the total number of municipalities stood at 8.046, a figure that rose to 8.117 in 2013, after an interlude that reduced that number to 8.022 municipalities in 1981. Indeed, from that year on, the number of municipalities increased again when autonomous governments assumed the exclusive competence of the municipal alterations (Rodríguez Álvarez, 2011)

The institutional position of Spanish local governments on the political system is characterized by their belonging to the called "Franco or Napoleonic" group of local governments, mainly located on the south of Europe (Heinelt & Hlepas, 2006). This group of local governments systems are characterized by a high level of political autonomy and elite bargaining capabilities, but with low functionalities -which is to say, low performance in terms of output production- (Goldsmith, 1995; John, 2001; Page & Goldsmith, 1987; Wolman & Goldsmith, 1992). This southern group originally formed by Spain, France, Greece and Portugal seems to cling mostly to the idea of a strong local representative elite and a centralized bureaucracy. The member's notions of democracy are more related to create a sense of identification around the Mayor as a representative

of the local community, rather than any other consideration (Haus & Sweeting, 2006; Reynaert & Steyvers, 2011). The political expression of local autonomy, together with the generalized lack of capabilities and resources, faces us to a constellation of strong political institutions with narrow margins of real maneuver, and with low or very moderate economic impact in aggregate terms.

However, due to the unprecedented gravity of the economic crisis in Spain, LG have been object of political pressure, coming mainly from the Central State, to put budget reductions and fiscal consolidation in top of their agendas. Therefore, Mayors and local staff have begun a race against budget imbalances blaming on excessive spending. This political pressure has promoted municipal savings on public budget, achieving an average spending reduction per capita of 459 euros in Catalan LG, from 2009 to 2013. Despite of this decrease, it has been widely demonstrated by previous works that municipal budgets are incremental in nature (Davis, Dempster, & Wildavsky, 1966; Natchez & Bupp, 1973; Peters, 2010b), and also that there is an ability of incumbents to introduce cycles in spending (Alt & Lassen, 2006; Blais & Nadeau, 1992; Shi & Svensson, 2006). In this contradictory scenario, this work is the first attempt to explain "decrementalism" on public spending at the local level in Spain. Much of the research has focused on the patterns of spending (Bastida, Benito, & Guillamón, 2009; Bosch & Suarez-Pandiello, 1995; Roca, Pandiello, 1994), but no one has still paid attention to the political determinants of spending reduction. We tentatively assume that the austerity measures implemented by LG may have imply a reduction on public spending.

This paper aims to identify the concrete measures implemented, on the one hand, and to measure its impact in budgetary terms, on the other hand. For testing this assumption, we build an "Austerity Index" in order to measure and equalize the concrete measures implemented and to test its impact on public budgets. We analyse the relation between concrete decisions on austerity, mainly based on general political claims, and effective economic impact. Taking Catalonia as a case of study[2], we want to make an empirical assessment on the real impact of austerity measures in local budgets.

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[2] Catalonia, our case of study, does not differ in almost any kind with the basic institutional description of Spanish LG made above.

The paper is organized as follows: after this introduction, we make a brief outline on basic literature regarding crisis and expenditure patterns in LG, followed by a short and light explanation on the competences of local government for service provision in Catalonia and Spain. The third section presents the research question and its translation into two main hypotheses to test, together with a presentation of the data and the methodology to build an "Austerity Index". The fourth section is based on descriptive statistics and it identifies the most frequently implemented mechanisms on structure, reorganisation of the public services (both from the input as for the output perspective) and operational economic restructuration. The fifth section presents some preliminary results based on the determinants of our "Austerity Index", and relations between our index and the effective budget impact.

2. **Theoretical background**

The introduction of austerity measures at the local level includes a wide range of theoretical elements to be considered. Firstly, it could be useful to address some ideas concerning the concept of crisis and its implications. Intuitively, if crisis is conceived as a moment of transformation and decisive political intervention (Hay, 1999, 2012), we need also to consider some elements related to institutional change into the budgetary process. Besides, the question of the individuals and parties occupying public offices, in both elected and administrative positions, raise fundamental questions of political leadership (Mouritzen & Svara, 2002; Mouritzen, 1992) in addressing such change. Consequently, for an empirical assessment of the impact of economic crisis and austerity in LG, we need to take into account elements coming from the institutional structure, but also coming from the contextual elements shaping local structures.

2.1. The politics of budgetary process in times of crisis

There is no single or dominant concept to be found when defining crisis (Orr, 2009). In fact, some authors describe the concept crisis as one of the most undeveloped concepts in social and political theory (Hay, 1999; Orr, 2009). However, is it possible to identify it as a moment (or a continuity of moments) in which a decisive intervention is made in order to redress organizational dysfunctionalities. This capability to redress critical

situations differs along an ideal continuum which has in one extreme "dynamic and proactive systems" (based on organizational learning and ability for managing change and self transformation) and "inertial and re-active systems" on the other extreme (Hay, 1999).

In this sense, liberal-democratic state regimes are dependent upon a degree of operational legitimacy, implying that only in the last instance they will be able to solve the basic contradictions directly. Therefore, we can identify systemic versus conjunctural austerity strategies. The former can be conceived as a response to systemic failures, where institutions are fundamentally transformed. The later is a response to systemic failure in which a solution is sought within the pre-existing and unmodified structures (Hay, 1999). This is to say, we can easily differentiate on strategies affecting core functions of local institutions, against superficial strategies laying on minor or cosmetic changes. Again Hay (1999) offers up to four strategic responses that can be categorically classified, from stronger to lighter:

a. Responses to resolve the failures in their totality.
b. Responses to resolve selective contradictions and failures.
c. Responses to resolve the narrative of the crisis.
d. Purely discursive responses.

Much is discussed recently about the resilience of local governments and its ability to adapt in a changing environment (Lowndes & McCaughie, 2013; Shaw, 2012). Assuming this new trend, resilience can be viewed as the ability to change rather than the ability to continue doing the same thing (Shaw, 2012). Under this approach, local governments are, by nature, the more flexible and innovative institutions with a clear strategic leadership, able to change and to adapt.

Broadly speaking, the fundamental explanations in Political Science of institutional change are mainly four: incrementalism, path dependency, punctuated equilibrium and randomness -or "garbage can"- (March & Olsen, 2006; Rothstein, 2011; Thoenig, 2011). Each one of those explanations points out different mechanisms of evolution and change, and explains its shape and dynamics. However, when turning the attention to the specific field of public budgeting, it is widely accepted that "There are striking

regularities in the budgetary process" (Davis et al., 1966). These regularities, are based on the fact that a given budget approved on year *t* is highly dependent on the one approved on year *t-1* (Natchez & Bupp, 1973). However, this simplicity regarding the spending collides with the also well-known fact that the internal and administrative process of budgeting is "a crucial political battleground" (Peters, 2010a).

Public budgeting is the process of macro-allocation of resources coming from the central state, and at the local level, we are facing a process of micro-allocation, where tough choices must be made among a huge number of competing programs. However, there is also a general tendency to accept the previous year allocation as a given and to examine changes from that allocation: "the budgetary process itself appears to push toward incrementalist outcomes, even in economic environments that appear to call for 'rational decrementalism'" (Peters, 2010a).

In fact, the fundamental factors in the budgetary process tend to work in the line of incremental outcomes. First, the technical and sheer magnitude of the process itself; and second, the sequential and repetitive nature of budgeting. Both factors affect policy makers by making them conservative and cautious: any actor wishing to make any significant departure from existing patterns has strong incentives to take slow adjustments, that are far more probable than sudden shifts (Peters, 2010a).

Our approach to budget change is rather simple: we understand change as the increase or decrease of the budget of our localities. Therefore, the main hypothesis to be tested is the relation between the implementation of concrete austerity measures and the decrease of per capita spending in LG's budget.

2.2 Austerity measures and intentional design

Practitioners have therefore identified concrete measures or possibilities for action in local governments, seeking the dual challenge of expenditure reduction while maintaining the effectiveness of their community well-being (Claudio et al., 2011). A summary of those measures applied to the reduction of costs covers elements such as: reducing or sharing staff, eliminating bureaucracy or externalization of services. In past

crises, local governments in UK responded to fiscal stress trying to get more by raising taxes and revenue, and when it came to reduce spending the most popular strategy was across-the-board incremental cuts, rather than strategic cuts to precise programs (Claudio et al., 2011). Budget cuts can be conceived as incremental or strategic, being the former "salami-slicing" across all budgets and services, and the latter taking into account the nature and real priorities of political leaders. Thus, if local leaders seek fast feedback and effects they can inhibit long range commitments, while if they commit long range measures, in the short range they risk being unable to sustain their efforts and expectations (Lanzara, 1998). Moreover, times of economic insecurity advantage the central financial managers in their quest of restraint, as transfers are in practical terms the main source of revenue for agencies and LG (Peters, 2010a).

Besides this austerity measures, the institutional structure is both a deliberate design and an unintended consequence of human action and social interaction (Lanzara, 1998), local government appearing as an important site in which to explore crisis and institutional change (Baldersheim & Wollmann, 2006; Orr, 2009). The large-N phenomenon allows exploring nuances and diversity in implementing austerity measures; local institutions are extremely sensible to direct expressions of crisis, given its proximity to citizens and communities; and they perform both service-delivery and democratic roles (Orr, 2009). Indeed, the subnational level, allows better comparability as the institutional setting and legal restrictions operate in a homogeneous way all over the analyzed units.

Regarding the ability to manipulate public spending, it has been widely accepted the capacity of incumbents in LG for introducing cycles on local budgets (for an intensive review see Benito, Bastida, & Vicente, 2013). Under this assumption, incumbents manipulate economic activity in order to increase their chances to be re-elected. Cycles are strongly related to elections. Usually, the opportunistic behavior of incumbents appears when government spending increases, deficit increases or tux cuts are implemented before elections.

2.3 Relevant variables affecting local spending in Spain:

Several analyses of past fiscal strategies of Spanish local government have been tested, with unclear conclusions. Most of them relay heavily on sociopolitical explanations, and local political culture, rather than leadership, assuming that there is no general evidence of a common fiscal behavior on Spanish local governments related to ideological concerns (Bel & Fageda, 2007; Bel 2006; Navarro Yáñez & Huete García, 2005). Our strong mayor form has rarely been considered as a theoretical explanation for institutional change in Spain. However, politics is important at the local level in Spain and legal powers, a culture of individualized leadership, and councilor representation based on support for the party are important for understanding the mayor's position (Sweeting, 2009). This configuration leads to that the model underpins concentrated individualized leadership exercised by the mayor (Sweeting, 2012).

Thus, under conditions of extreme austerity and social cuts, an ideological explanation to the implementation or not of austerity decisions might also be plausible. The ideological dimension is easily captured by the left-right scale that offers a progressive and redistributive view of the role of the State against a more conservative and market oriented state outlook. This left-right scale taps into economic issues associated with redistribution of wealth, taxing and spending, and the role of the State in economy (Karyotis, Rüdig, & Judge, 2014). In most polities, the Left-Right dimension provides the fundamental structure of political competition, accepted by all relevant actors: voters appear to have the capacity to locate themselves and the parties within these terms of reference; analysts use it as the most common scale referent; and it constitutes the single most pervasive political division between party programs and electoral platforms. However, in Catalonia, the left-wing axis is deeply affected by the nationalist axis, having potentially disruptive effects on it (Liñera, Muñoz & Rico, 2014). Indeed it has never been proved as a good predictor of almost any municipal behavior, especially regarding economic issues (Bastida, Beyaert, & Benito, 2012; Benito, Bastida, & García, 2010). In any case, as the austerity program launched by the Spanish Government was backed and designed by conservative parties, we have considered that this might be a relevant variable explaining the differences in the amount of measures implemented. So, even if the ideological position of the mayor is only a proxy of the ideology of the city

council, we assume that right-wing parties will make deeper cuts and apply more austerity measures than left-wing mayors.

Besides the form of government and its implications, there is also a growing literature, mainly in political economy, linking expenditure and type of government, typically, majority vs coalition governments (Bastida et al., 2012). This approaches indicate that majority governments tend to get into lower levels of debt, and therefore better control spending. However, being this later assumption generally accepted, other authors precise that the type of government (coalitions) has a significant influence on personnel but not on material spending or investment expenditures, for instance (Garmann, 2012). We also have evidence of majority governments running budgets with a surplus two percentage points greater than that of coalition governments, and single party majority governments running fewer deficits than coalition governments (Artés & Jurado, 2014). Another indicator of political strength can be the share of elected officials of the Mayor (it is to say, the percentage of seats "belonging" to the Mayor's party). Moreover, the basics on intergovernmental relations in political economy assume that political coincidence of elected officials in upper-tier governments may also imply more fiscal transfers for spending in LGs (Solé-Ollé & Sorribas-Navarro, 2008).

Although there is no clear evidence on the direction of the impact of these partisan political variables, we considered that some mayors may reach easily a consensus about the implementation of measures into the political structure and that this fact may affect the possibility of the adoption of austerity strategies. As the Spanish political and party performance is characterized by a strong alignment of vote between party leaders and elected members, we consider that mayors of single party governments, with higher share on elected officials may, enface lesser problems to adopt this kind of measures. Therefore, powerful mayors will implement more measures, following the central political mood, than less powerful mayors (coalition or minority mayors).

Regarding socio-economic variables, the economic level of the municipalities, measured through average GDP per capita, has also been used as a proxy for wellness of the city (Bastida et al., 2009). In this sense, economic level has a positive impact on municipal spending. Relating to cuts in budget, no clear impact of this variable can be addressed

theoretically. The local shortfall may also have an impact on municipal cuts, and in this case we expect higher AMI scores on LGs with higher deficits. Unemploymet at the municipal level may also be considered as a relevant variable, who's impact on budget cuts is far from evident. We hypothesize that higher levels of unemployment will lead to lower scores on AMI, assuming a sort of "protection" from austerity for vulnerable citizens.

Population and density are also usual control variables in any LG study. Population does normally matters, and also in this case we wanted to explore if it does, and how. The general assumption of impact of population presumes that large cities, with a higher budget and a wider room for maneuver may adopt more austerity measures. Density is a predictor for the existence of economies of scale, making easy to reduce cost or increase savings. Moreover, a Mayor of a large city can easily apply more austerity measures, as it is more distant of his citizens than a small or medium local government.

3. <u>Hypothesis and Methodology.</u>

Given the decremental reality of LG's budgets in Catalonia, we want to test two simple hypotheses. The first one wills to identify the basic determinants of the implementation of Austerity measures at the local level: under which conditions LGs implement austerity measures? And the second one wants to test the impact of those austerity measures on local budgets. The concrete formulation of the Hypothesis is the following:

H1. Larger and more complex cities may apply more austerity measures (the bigger the values of AMI).

It is to say that the determinants of AMI are related to a group of relevant socio-political variables. We attempt to find higher scores of AMI in bigger, more dense, less politically fragmented, and right-wing cities than in others.

H2. The higher the score on AMI, the higher the budget reduction

Applying more austerity measures should generate a higher impact into budgetary terms. In this case, we are facing the core assumption of the paper. Does the adoption of austerity measures make any difference at all or are they mainly aesthetic? It is to say, the more measures undertaken (measured from AMI) implies the more budget

reduction? We must assume that yes, that the higher the AMI score, the deeper budget cuts.

3.1.   Methodology and timing details

In order to study the implementation of austerity measures, given the fact that there is no available official information, we are using information taken from the Project Observatory of Local Government, held by the Fundació Carles Pi i Sunyer , a non-profit organization devoted to gather and analyse data regarding the operation and performance of local institutions. The Observatory is regularly collecting objective data from municipalities in different parts of Spain, though the number of covered entities is steadily increasing. Data are gathered through the use of a questionnaire that is in part focused on public service delivery. To guarantee full comparability of the data, the compilation process is organised around a questionnaire administered personally by qualified research staff, who visit each body to interview the head of the municipal public administration (the General Secretary) and the head of the economic area (the Auditor). This process is repeated twice in each mandate (approximately every two years). A time series can therefore be created that allows the changes that have occurred throughout each period to be studied and worked on.

All Catalan municipalities of more than 500 inhabitants are included into the study. The city of Barcelona is the only exclusion due to its particular characteristics and regulation. The fieldwork for this study was conducted from September to December 2013.

As for the budged data we are using two different sources of information but we have ensured full comparability by two ways: firstly, we are using the official structure of municipal budgets and, secondly, data have been subdued to a validation process in order to ensure complete equivalence of concepts. Data from 2009 budget period has been also provided by the Local Government Observatory. Data from 2013 budgeting period was gathered by the Spanish Ministry of Public Administration.

As the study was supposed to cover period of time which includes the situation previous to the deepest impact of the economic crisis, the process of decision making and

implementation of measures and the impact in budgetary terms, three different moments could be identified into the methodological strategy:

1. Budget for 2009 (in terms of budget outturn according to the Spanish Public Accountancy System). This budget was developed in a previous period to the implementation of the austerity measures. It could be said that it was still configured as a budget within a framework of expansion or start of deceleration but still no stagnation or crisis. We have opted for this precise exercise as it could be considered as the last previous to the crisis and it offered advantages in terms of population equivalences.

2. Field work. The questionnaire included questions about the measures included into the 2013 budget.

3. Budget for 2013 (in terms of budget outturn according to the Spanish Public Accountancy System). This budged should reflect the impact of the impact measures. The budget outturn report for 2013 is not available until December 2014.

3.2. Operationalization and main variables

The questionnaire on austerity measures included a group of questions related to the implementation of this kind of measures.

Firstly, there was a group of what we considered as "structural" cuttings:

A set of measures covering aspects that affect directly to the structural organization and expenditure were incorporated. The list included the following issues:

- Adoption of an austerity plan

- Reduction of elected members salaries

- Reduction into the amounts paid for attendance to meetings (compensation of expenses).

- Reduction in the number of civil servants.

- Reduction in the number of other staff members.

Secondly, reductions related to public service delivery.

A set of measures covering aspects that affect the operation of public services. According to the Spanish Local Act, we divided them into compulsory and not compulsory, including the following actions:

- Compulsory services

    -     Public street lightening

    -     Waste collection

    -     Street cleaning

    -     Paving and maintenance of streets and roads

- Non-compulsory services

    -     Emergency Social Services

    -     Public transportation

    -     Housing Services

    -     Library

    -     Social centres, cultural centres and museums

    -     Sport public facilities

    -     Childcare

    -     Adult Education

    -     Music schools

And thirdly, contingency measures.

In this case a set of punctual measures headed to generate an immediate reduction were incorporated. The list of measures included the following aspects:

    -     Reduction in the overtime payments.

    -     Reduction in the representation allowances.

    -     Strategies designed to reduce energy consumption.

    -     Reductions in funds for investments.

We also included other variables we considered relevant for the analysis.

- General descriptors of the municipality. Including population and territory.

- Political variables. Including political affiliation of the Mayor (in ideological and political party terms) and type of government (majority, coalition or minority).

- Budget information. This information was taken from the 2009 and 2013 budged outturn report. We designed a variable to compare the evolution per inhabitant from 2009 to 2013, to avoid cycles, as they represent two mid-term budgets. Otherwise, the gross amount and pre-electoral, or post-electoral budgets would introduce enormous biases.

3.3.   Building the Austerity Measures Index (AMI)

In order to work with this variables we needed to define a mechanism to quantify the austerity measures took by every city council. We opted to operationalize the general concept of austerity measures into the proposal of an "Austerity Measures Index" which allow us to create a scale of the number and relevance of the strategies adopted.

AMI is made by a calculation based on all the declared austerity measures in every local government (from 0 to 24 possible measures). Afterwards, in order to create an homogeneous indicator, the index has been reduced as a 0 to 1 scale, and weighted in order to distinguish the different impacts of the different measures. This results for the following weights:

Structure into the long term. All that measures weight 0,4.

Public Services delivery. All the included services weight 0,35.

Contingency measures. All the considered contingency measures weight 0,25.

The design of the index presume, as indicated by the literature, that structural measures are supposed to develop effect not only in the short term, but also in the long term architecture of the organization. The public service delivery and the contingency measures may affect a punctual and determined moment in time but can be modified generating an immediate increase in expenses, but the former one has immediate effects in the relationship between the institution and the citizenship and covers the objective of the organization. Our basic concern is to create a reliable and simple index to measure budget change applied to local governments. The final aim of the paper is twofold: first, we test the socio-political determinants of AMI; second, using the index as an independent variable, we explore its relation to "decrementalism" in local public budgets. Both relations will be addressed by OLS regression techniques.

4. Descriptive statistics

This section shows the large and raw numbers related to austerity measures. It first aim is to identify the most frequent implemented mechanisms on structure, service public delivery and contingency measures. Secondly, we briefly present the descriptive for

AMI and for the budgets 2009 and 2013. We present whether local governments have undertaken or not austerity measures in concrete topics, leaving aside the precise type of measure. Although we have this information for most of the services, our preliminary aim is to detect where (in which services and topics) austerity measures are being implemented.

Regarding the implementation of structural measures, the following actions have been identified by respondents:

Table 2. Structural measures

		N	%	Mean %
Austerity Plan	Yes	53	9,8	
	No	490	90,2	
Reduction of elected member salaries	Yes	328	65,1	
	No	176	34,9	
Reduction of amounts paid for attendance	Yes	281	56,5	39,3
	No	216	43,5	
Reduction in the number of civil servants	Yes	104	19,2	
	No	439	80,8	
Reduction in the number of other staff members	Yes	251	46,3	
	No	291	53,7	

Source: own data

Results on table 2 show that we find austerity measures of structural aspects in a 40% of local governments on average. Political aspects such as reductions on elected salaries and amounts paid for attendance to committees or institutional meetings are reduced in most of the cases (65.1% and 56.1%). Those are immediate and visible measures, easily perceived and understood by citizens. However, in budgetary terms they cannot be especially relevant. Concerning the reduction of staff, it is important to notice that the reduction comes mostly from staff members (46.3%), rather than civil servants (only 19.2%), much more difficult to reduce because of his long-life positions, once obtained. Finally, it is quite unexpected to find out that only a 9.8% (53 out of 563) of local governments in Catalonia decided to implement such a general plan.

Concerning measures on public services, here we expect to find different and wider measures. We do have some compulsory services by law, and others based mainly on local self-government and political will. The results are the following:

Table 3. Measures implemented on compulsory public services

		N	%	Mean %
Public street lightening	Yes	173	33,4	
	No	345	66,6	
Waste collection	Yes	116	24,5	
	No	357	75,5	
Street cleaning	Yes	95	18,0	23,6
	No	432	82	
Paving and maintenance of streets and roads	Yes	95	18,6	
	No	417	81,4	

Source: own data

As for the non compulsory public services, we took into account the fact that the levels of service provision may be different as they are not guaranteed by law. The figure below (Table 4) show that the most affected service are, in fact, those directed to children, childcare and music schools.

Table 4. Measures implemented on NON compulsory public services

		N	%	Mean %
Social care	Yes	17	3,9	
	No	423	96,1	
Social Emergency Services	Yes	6	1,5	
	No	384	98,5	
Transportation	Yes	34	12,7	
	No	234	87,3	
Housing	Yes	19	7,7	
	No	228	92,3	
Public library	Yes	30	7,9	
	No	349	92,1	
Culture	Yes	44	10,4	12,4
	No	379	89,6	
Sports	Yes	47	9,7	
	No	439	90,3	
Childcare	Yes	176	37,1	
	No	298	62,9	
Adult learning	Yes	17	7,1	
	No	223	92,9	
Music School	Yes	76	25,8	
	No	219	74,2	

Source: own data

The following set of measures includes strategies supposed to develop an immediate impact. In general terms, we could say that the number of municipalities adopting this kind of measures is high. Special attention should be given to the strategies to reduce energy consumptions on that more than the 85% of respondents answered affirmatively.

Table.5. Contingency measures

		N	%	Mean %
Reduction in overtime payments	Yes	256	52,1	
	No	235	47,9	
Reduction in representation allowances	Yes	266	54,2	
	No	225	45,8	60,9
Strategies to reduce energy consumption	Yes	421	85,7	
	No	70	14,3	
Reductions in funds for investments	Yes	237	51,7	
	No	254	48,3	

Source: own data

Table 6 shows the main descriptive information for the AMI, which is scaled from 0 to 1. Should be noted that both a score 0 or 1 although materially possible are very improbable. The mean is set in 0,377 in a quite close position to the median.

Table 6. Austerity Measures Index

N		393
Mean		,3770850608
Median		,3650000000
Mode		,20500000
Standard Deviation		,16753842756
Variance		,028
Minimum		,06250000
Maximum		,80750000
Quartiles	Q1	,2475000000
	Q2	,3650000000
	Q3	,4930681818

Source: own data

Finally, table 7 includes some descriptive statistics about budget information. The general pattern is a strong reduction in expenses. The data for inhabitant show an average reduction of 459€, that represented almost a 30% of the mean of the value for 2009.

Table 7. Budget spending per habitant

		Spending/hab 2009	Spending/hab 2013	Difference on spending 09-13 / hab
N	Total	553	612	547
	Missing	72	13	78
Mean		1.534,56	1.067,71	-459,01
Median		1.374,11	962,47	-375,04
Standard Deviation		672,381	445,483	533,328
Variance		452096,631	198455,189	284439,136
Minimum		674	519	-7.441
Maximum		8.988	6.704	1.310
Quartiles	Q1	1.164,17	825,37	-586,00
	Q2	1.374,11	962,47	-375,04
	Q3	1.708,47	1.174,63	-223,01

Source: own data

We also launch some bivariate exploratory analysis in order to know more on our variables. Figure 2 takes AMI in the vertical axis and population (logged to avoid disrupting effects) into the horizontal one. The regression line is the central one, and the extern lines represent the 95% confidence interval. Ta8 offers a significant and moderate positive correlation between AMI and population.

Figure 2: Scatter plot of AMI & 2013 population (logged)
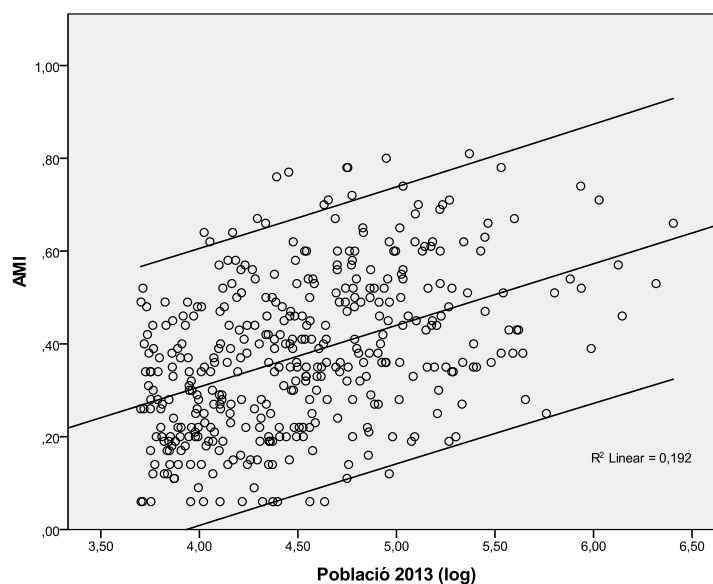

Table 8. Correlation AMI-Population

		Logged population 2013
AMI	Pearson's correlation	,440**
	Sig. (bilateral)	,000
	N	393

**. Correlation is significant in 0,01 (2 tails).

In Figure 3 we run a correlation between the cuts in public spending and the values of AMI, being the results quite clear: in a bivariate model, there is no clear impact of AMI in the decremtalism of local budgets.

Figure 3: Scatter plot of difference 2009-2013 in public spending per habitant & AMI
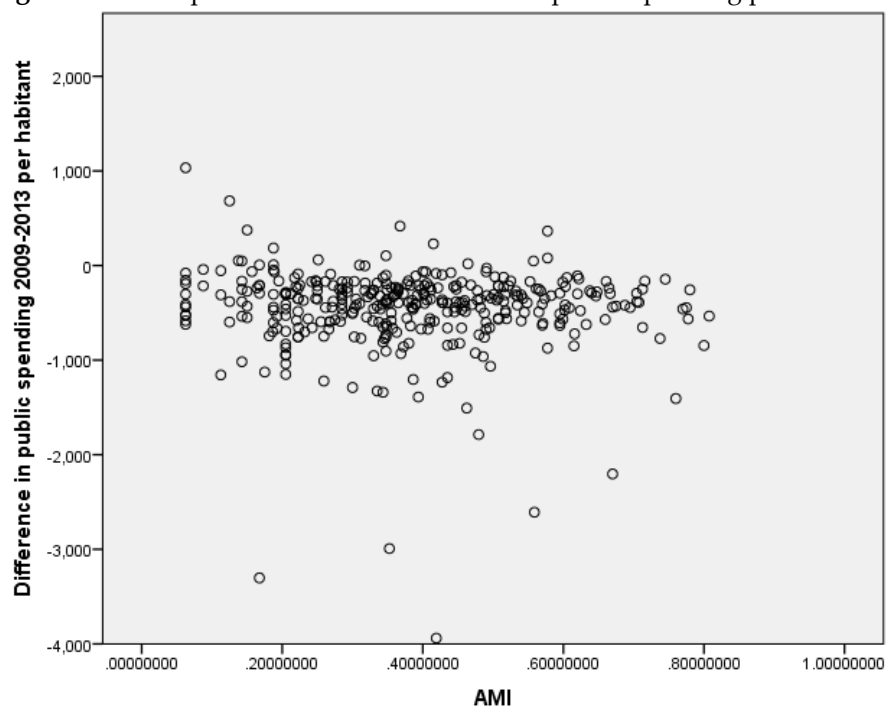
Source: own data

5. Discussion

In order to give a preliminary answer to our hypothesis we launch two OLS multivariate regressions in order to test diverse impacts of different sort of variables. Notice that in H1 we use our AMI as the dependent variable, while we use the budget reduction per habitant from 2009 to 2013 as a dependent variable for H2.

Regarding H1, we stated that Larger and more complex cities may apply more austerity measures (the bigger the values of AMI). We run two regression models to assess the impact of a first group of socio-economic variables (model 1), to add political variables in model 2. Results are shown on the following tables:

Resumen del modelo

Modelo	R	R cuadrado	R cuadrado ajustado	Error estándar de la estimación
1	,463ª	,214	,206	,14993
2	,471ª	,222	,202	,14929

ANOVAª

Modelo		Suma de cuadrados	gl	Media cuadrática	F	Sig.
1	Regresión	2,381	4	,595	26,484	,000ᵇ
	Residuo	8,744	389	,022		
	Total	11,125	393			
2	Regresión	1,981	8	,248	11,110	,000ᵇ
	Residuo	6,954	312	,022		
	Total	8,935	320			

Coeficientesª

Modelo		Coeficientes no estandarizados		Coeficientes estandarizados		
		B	Error estándar	Beta	t	Sig.
1	(Constante)	-,223	,071		-3,159	,002
	Deute per càpita 2013	,045	,014	,146	3,169	,002
	atur.percent 2013	-,003	,004	-,046	-,911	,363
	Densitat 2013	-2,040E-06	,000	-,020	-,378	,705
	population.log.13	,133	,017	,438	7,641	,000
2	(Constante)	-,405	,193		-2,099	,037
	Deute per càpita 2013	,042	,015	,143	2,777	,006
	atur.percent	-,003	,004	-,038	-,637	,524
	Densitat 2013	-2,004E-06	,000	-,021	-,364	,716
	population.log.13	,125	,021	,430	5,956	,000
	Ideologia alcalde [3]	,230	,151	,665	1,523	,129
	Força del govern [4]	,000	,001	-,028	-,495	,621
	Govern en coalició [5]	-,022	,019	-,064	-1,193	,234
	Coincidència nivells de govern	,265	,151	,768	1,761	,079

a. Variable dependiente: AMI

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[3] We recoded the original party affiliation of Mayors to a dichotomous variable left-right.

[4] Measured as the percentage share of elected officials belonging to the Mayor group on the total of elected officials

[5] Dummy variable capturing coalition governments (more than one party), against the others (majority and single minority governments)

The results on model 1 partially confirm the expected effects of population (logged) over AMI when controlling for other socio-demographic elements: the bigger the city, the higher the score on AMI. Indeed, we find a significant coefficient on "Deute per càpita 2013", indicating that the financial situation of the municipality has a positive impact on the decision of taking austerity measures. Model 2 maintains the explanatory power of both variables, population and debt. However, the rest of political variables are not significant to understand the scores of AMI.

The core of the paper wanted to test the impact of AMI in budget reduction, therefore H2 stated that the higher the score on AMI, the higher the budget reduction. In this case, we proceed as we did just now and we run two regression models to assess the impact of a first group of socio-economic variables (model 1), to add political variables in model 2. We propose a multivariate model taking into account the combined effects of several independent variables, some of them not tested up to this point. As we want to test AMI's influence, we do not take into account other independent variables that correlate directly with it, like population or debt. Instead, we make a calculation on the evolution of relevant variables, having in mind that our DV is also an evolution from 2009 to 2013, in percentage of change. We add some proxy variables to tests other aspects of local reality: we take as a proxy of local wealth the mean in the revenue tax at the municipal level for 2009, and the existence or not of budget extension in 2011 (as a proxy for the existence of margins of maneuver to change). Results are shown on the following tables:

Resumen del modelo

Modelo	R	R cuadrado	R cuadrado ajustado	Error estándar de la estimación
1	,403[a]	,162	,152	4645,81673
2	,289[a]	,083	,043	438,01880

ANOVA[a]

Modelo		Suma de cuadrados	gl	Media cuadrática	F	Sig.
1	Regresión	1744282567,228	5	348856513,446	16,163	,000[b]
	Residuo	9021950283,944	418	21583613,119		
	Total	10766232851,172	423			
2	Regresión	3949802,402	10	394980,240	2,059	,029[b]
	Residuo	43360465,868	226	191860,468		
	Total	47310268,270	236			

Coeficientes[a]

Modelo		Coeficientes no estandarizados		Coeficientes estandarizados		
		B	Error estándar	Beta	t	Sig.
1	(Constante)	-5382,930	1496,441		-3,597	,000
	Base imposable IRPF 2009	,159	,054	,141	2,918	,004
	L'any 2011 hi ha hagut pròrroga pressupostària?	-457,622	432,227	-,048	-1,059	,290
	Percentatge de canvi població 2013-2009	164,639	51,445	,158	3,200	,001
	Diferència del deute per càpita 2013-2009	-483,801	659,426	-,033	-,734	,464
	Evolució de l'atur 2013-2009 (en %)	63,209	10,871	,272	5,814	,000
2	(Constante)	-733,969	530,497		-1,384	,168
	Base imposable IRPF 2009	,000	,007	-,002	-,031	,975
	pròrroga pressupostària 2011	17,404	75,447	,015	,231	,818
	Percentatge canvi població 2013-2009	1,321	6,756	,014	,196	,845
	Diferència del deute per càpita 2013-2009	60,261	84,957	,048	,709	,479
	Evolució de l'atur 2013-2009 (en %)	1,716	1,404	,082	1,222	,223
	Ideologia alcalde	726,708	445,376	,784	1,632	,104
	Força del govern	-6,863	2,323	-,194	-2,954	,003
	Govern en coalició	-11,018	60,334	-,012	-,183	,855
	Coincidència nivells de govern	819,663	445,521	,886	1,840	,067
	AMI	-375,643	179,205	-,142	-2,096	,037

a. Variable dependiente: Diferència despesa total 2013-2009 per habitant

Model 1 gives three significant variables to explain budget cuts: personal revenue tax, the change on population from 2009 to 2013 and the evolution of unemployment 2009-2013. The variable revenue tax is only for 2009, so its effects might be nuanced, indeed its impact (0.159 is extremely modest). Different arguments apply to the evolution of population and unemployment. Both variables assume that an increase on one unit implies in both case a non-reduction of budget. Therefore, results in the increase of population are quite significant in impact terms (+164 euros per capita), while unemployment is less powerful (+63 euros per capita). However, in a general scenario of decrease, positive impacts are extremely interesting.

Model 2, is created by adding political indicators, and it offers a complete different scenario: none of the three previous variables appears as significant, while "força de govern" and AMI are statistically significant. Regardless of the concrete number of each coefficient, the directions of change occur as theoretically expected. Those powerful mayors have a negative impact on reduction, meaning that they are more able to pass austerity measures and make reductions in budget. Finally, our AMI has a strong negative effect on spending, meaning that as AMI increases, spending cuts are deeper.

Results show that the combined effects of the independent variables analyzed throughout this paper, added to others, partially explain budget reductions in Spanish local governments. In previous versions of this paper we did not find a clear relation among AMI and budget reduction. Thus, the debate is still in the line of finding the institutional variables determinants of budget reductions in catalan LGs. As the real marge of maneuver and fiscal autonomy of LG is low, explanations of budget reduction should also be elsewhere around, and not only on local governments' decisions. Our future aim is to identify other institutional variables, related the particular reality of the budgetary process and the linear nature of fiscal transferences (and its reductions) from the State to LGs budgets.

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