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Fiscal Federalism, European Stability Pact, and Municipal Investment Finance: A Microdata Analysis of Spanish Municipalities

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In countries where subnational governments control a large part of the public finances, the central government's ability to keep its commitment to the European Union's Stability and Growth Pact can be a difficult matter. European rules demand that the overall budget be balanced over the medium term; applying this rule at subcentral level may unduly reduce capital outlays and local budgetary autonomy. This article examines the possible impact of budgetary stability legislation on the capital expenditure of Spanish municipalities. The empirical findings suggest that the new budgetary stability framework will oblige municipalities to (i) limit their investments, (ii) raise the tax burden, or (iii) reduce the funds allocated to other budget items. We believe the Spanish municipal experience is generalizable to other federal countries in Europe that are facing hard budget constraints and high earmarked grants.

The fiscal framework of the European Monetary Union (EMU) aims to combine budgetary discipline with flexibility through two main requirements. These are the Treaty on European Union (Maastricht Treaty) requirement to avoid excessive deficit positions (measured against reference values for deficits and debt of 3 and 60 percent of GDP, respectively), and the requirement of the Stability and Growth Pact (SGP) to achieve and maintain a budgetary position "close-to-balance or in-surplus" over the cycle.[1] The new fiscal rule focus on the budget balance—the difference between total revenues and total expenditures and not on the level or the composition of the two—has displaced the focus of concern from the issues of intergenerational equity and financial solvency toward compliance with macro-economic objectives established at the level of central government (stabilization). Compliance with the "close-to-balance or in-surplus" requirement secures fiscal discipline and the sustainability of public finances, and thus contributes to maintaining an economic environment in which monetary policy can effectively pursue price stability. It also provides the necessary room for maneuver to allow the automatic stabilizers to play freely (Eichengreen and Wyplosz 1998).[2]

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Since November 2003, doubt has been cast on the feasibility of controlling national fiscal policies, and on the willingness to comply with the rules in the future. On one side of the fierce debate that has broken out are those who believe that the SGP serves no useful purpose. Their main criticisms are that the SGP: (i) is unable to cope with large-scale recessions and adverse economic shocks; (ii) is asymmetric in that it makes no arrangements for savings during prosperous economic years to be used during recessions; (iii) discourages public investment; (iv) focuses on short-term commitments disregarding structural reforms; (v) lays down rules which are too uniform, leading to equal levels of budget deficit for countries with different debt levels; and (vi) lacks economic foundations and its rules are arbitrary and easy to breach (Buti, Eijffinger, and Franco 2003).

Furthermore, the Treaty and SGP requirements are defined in terms of the budget balance of the general government (that is, central and local/state governments and social security), although the specific budget targets in stability and convergence programs are set by the central government. The challenge in meeting EU budgetary requirements is therefore affected by the way in which Member States allocate fiscal functions (both revenues and expenditures) across different levels of government. This is especially the case in federal countries and the Member States where local authorities have considerable budgetary autonomy. The contribution of subcentral authorities to the overall budget position is changing in a number of countries in light of efforts to devolve certain public functions to regional/local authorities (European Commission 2003).

The direct contribution of lower levels of government to the general government deficit and debt is generally limited since all Member States apply restrictions to local government borrowing: the exception is Germany, where net borrowing by local and state governments accounts for nearly half of the general government budget deficit. However, it should be borne in mind that de facto central governments often have to bear the cost of financing difficulties that emerge at subcentral level. To help comply with the EMU's fiscal rules, federal Member States (Germany, Belgium, and Austria) and Italy and Spain have recently introduced arrangements that aim at coordinating the budgetary position across levels of government (usually referred to as national stability pacts). More experience with the implementation of these arrangements is needed before conclusions can be drawn on their effectiveness in contributing to the objectives of the EMU's fiscal framework. A priori, a strong legal base and enforcement mechanism would be expected to contribute to the credibility and effectiveness of the arrangements.

The process of decentralizing responsibility for some policies raises a second issue in the context of EMU, namely the investment projects. It has been claimed that the budgetary requirements of the Treaty and SGP result in public investment expenditures of excessively low levels, and that a sustained growth in public

investment expenditures would improve the EMU's growth potential (European Commission 2003).[3] These requirements imply that most public expenditures, including those in investment projects, have to be funded from current revenues. While the existing framework provides for no special treatment of public investment as regards the definition of the budget balance (and consequently in terms of the budgetary objectives which Member States must respect), the framework for budgetary surveillance does, however, take account of public investment as part of the assessment of Member States' fiscal position.[4] For example, Member States are required to report public investment levels and plans in their annual updates to stability and convergence programs, and the Broad Economic Policy Guidelines (BEPGs) frequently recommend that an increased share of total public expenditures be devoted to productive items such as investment. In brief the budget balance requirements of the Treaty and SGP are compatible with a high share of public spending being devoted to public investment. The recent Commission communication on strengthening the coordination of budgetary policies sought to cater to the budgetary impact of large investment projects while, at the same time, respecting the commitment to sound and sustainable public finances. The European Council has shown some flexibility in interpreting compliance with the "close-to-balance or in-surplus" requirement to reflect significant planned increases in public investment programs.

In this context, we are going to consider the national stability pacts that have been put in place by Member States to coordinate the budgetary positions across levels of government, in part to comply with the provisions of the Treaty and SGP. Specifically, we seek to throw light on the potential conflict between the design of national budgetary stability legislation (BSL) and the principle of municipal financial autonomy of Spanish municipalities and on the likely outcomes or impacts in terms of a decline in investment due to the link between indebtedness and capital expenditure that has historically existed at the local level in Spain.[5] This association is driven not only by a series of theoretical recommendations but also by the legal framework in Spain, which ties funds raised by way of local government borrowing to the funding of capital investment projects.

The following section describes the main features of capital expenditure from a budgetary perspective, highlighting the connection between investment and the sources of finance used, which include capital transfers, current savings, and debt. We then explain the treatment applied to the data to obtain comparable series for different municipalities over time, propose the explanatory hypotheses for the sources of finance for municipal capital expenditure which we shall subsequently verify, establish the specifications of the model, and report our results. The last section sets out our main conclusions from this research.

Table 1 Municipal investment expenditure in relation to total municipal expenditure (TME), to General Government Investment Expenditure (GGIE), and to GDP across European countries

Country	Percent TME	Percent GGIE	Percent GDP
Albania	14.44	3.05	1.11
Austria	16.77	70.30	2.13
Belgium	17.80	27.97	0.87
Bulgaria	8.90	54.20	0.80
Cyprus	17.10	6.70	0.24
Czech Republic	40.00	55.90	3.72
Denmark	5.70	51.40	1.26
Finland	6.99	47.70	1.26
Germany	19.40	64.30	1.57
Greece	27.92	3.88	0.93
Hungary	13.80	42.20	2.35
Iceland	25.27	25.11	2.23
Ireland	32.00	25.00	1.57
Italy	3.31	26.18	0.23
Latvia	0.64	7.76	0.08
Luxemburg	28.05	75.22	2.78
Malta	6.79	0.22	0.02
The Netherlands	17.50	80.10	2.33
Norway	9.40	60.00	1.78
Poland	22.50	52.00	1.58
Portugal	41.40	41.50	1.90
Slovakia	31.20	38.80	–
Slovenia	43.00	11.20	1.89
Spain	24.43	20.41	1.19
Sweden	5.60	49.80	1.54
Switzerland	31.70	15.83	3.42
Turkey	22.00	16.00	5.53
United Kingdom	10.00	38.00	1.10

Source: Council of Europe (1997).

Evolution of Capital Expenditure and its Financial Consequences

Before we review the sources for municipal capital financing, it may be of interest to contextualize the relative importance of investment made at the municipal level. Table 1 shows how Spain compares with other European countries concerning the ratios of municipal capital expenditure over total municipal expenditure (KE/TME), municipal investment expenditure over general government investment expenditure (KE/GGIE) and municipal investment over gross domestic product

(KE/GDP). Concerning the first ratio (KE/TME), only one country is below 1 percent, while the figures for the remaining countries can be found from 3 percent onwards. Three European states can be found above 30 percent. Concerning the second ratio (KE/GGIE), values range from below 1 percent to over 80 percent. Eleven countries cast particularly high values (around or over the 50 percent mark). Concerning the third ratio (KE/GDP), values are below 4 percent. Eight countries cast values below 1 percent, and only two over 3 percent. From this, we can conclude that in the most European countries the municipalities control a large part of public effort in terms of investment.

Table 2 presents the evolution of total government capital expenditure compared to GDP in Spain for the different levels of government. On the basis of these data, we conclude that the share of municipal capital expenditure is on average 1.1 percent of GDP, fluctuating between 12.7 percent and 20.5 percent of total public capital expenditure for the Spanish government at all levels.[6] Furthermore, there has been a sea change in the structure of government capital expenditure in recent decades. In 1988, central government capital expenditure compared to GDP was over half of the total, but by 2000, this expenditure had dropped to 34.5 percent and had been overtaken by autonomous community expenditure, which represented 41.7 percent of the total investment made by government at all levels. In the case of the municipalities they may have gradually increased their capital projects, although investment remains lower than at the regional government level.

Analysis of aggregate capital expenditure data for the municipalities provides an initial view of investment at this level of government, although the situation varies widely in the different towns and cities. Consequently, to make a comparative as well as an aggregate analysis and draw relevant conclusions without making the study overcomplicated,[7] we shall work with average aggregate data for the 1,001 municipalities grouped by population strata for the period 1995–1999.[8] A longer time horizon for the study is unfortunately not possible. Table 3 provides information on the relative share of sources of finance for capital investment averaged over 1995–1999. Let us note here that the second column of table 3 reflects a wide range of capital expenditure patterns in the different groups of municipalities grouped per population stratum.

The percentage of total spending applied to capital investment in Spanish municipalities represents an average 23.9 percent of total outlay over the period 1995–1999.[9] Moreover, there seems to be a certain inverse correlation between population and the investment made by each municipal stratum (except municipalities with a population of between 50,001 and 100,000 inhabitants), with the result that smaller municipalities invest more in relative terms. Thus, in towns with a population of between 1,001 and 5,000 inhabitants, capital expenditure represents an average 34.4 percent of total

Table 2 Distribution of capital expenditure by governmental level in Spain

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Percent of GDP														
Central government	3.8	4.0	4.1	4.0	2.9	3.3	2.8	2.6	2.3	2.1	2.3	2.2	2.0	3.0
Social Security or Health Care Administration	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Autonomous Communities	1.9	2.2	2.6	2.8	2.5	2.5	2.4	2.1	2.1	2.1	2.3	2.3	2.4	2.3
Local Corporations	1.7	1.6	1.7	1.4	1.3	1.4	1.4	1.2	1.1	1.2	1.4	1.5	1.3	1.4
Municipalities	1.0	1.2	1.3	1.1	1.0	1.1	1.1	1.0	0.9	0.9	1.2	1.3	1.0	1.1
Total	7.4	7.8	8.4	8.3	6.9	7.3	6.6	6.0	5.6	5.6	6.1	6.1	5.8	6.8
Percent of total capital expenditure														
Central government	51.6	50.8	48.5	48.7	42.2	45.0	42.1	43.2	41.5	38.5	38.0	35.4	34.5	43.1
Social Security or Health Care Administration	0.7	1.2	1.2	1.6	1.4	1.7	1.4	1.6	1.7	1.7	1.6	1.5	1.8	1.5
Autonomous Communities	25.4	28.1	30.5	33.4	36.8	34.6	36.1	34.7	37.4	38.4	37.0	37.8	41.7	34.8
Local Corporations	22.4	19.9	19.7	16.3	19.6	18.7	20.4	20.5	19.5	21.4	23.3	25.2	22.0	20.7
Municipalities	13.0	15.6	15.8	12.7	15.2	14.3	15.8	15.9	15.3	16.9	19.2	20.5	17.7	16.0
Total	100	100	100	100	100	100	100	100	100	100	100	100	100	100

Source: Own work based on data provided by the Directorate General for the Coordination of Territorial Finance, BADESPE, and the Social Security authorities.

Table 3 Relative share of the sources of finance for capital investment in Spanish municipalities (average data for the period 1995–1999)

| | Capital Investment | | Funding sources relative to GDP (percent) | | | | Determining factors for saving in relative terms compared to GDP (percent) | | | | |
	Relative share of total spending (percent)	In terms of municipal GDP (percent)	Total	Net current savings	Capital revenues	Gross debt	Tax revenues*	Nonfinancial current spending	Current saving compared to GDP (percent)	Capital transfers compared to GDP (percent)	Net debt compared to GDP (percent)
1,001<Pop.<5,000	34.35	2.33	2.56	0.81	1.42	0.33	2.82	3.99	0.96	1.28	0.18
5,001<Pop.<10,000	26.63	1.67	2.00	0.64	0.92	0.44	3.01	4.08	0.82	0.81	0.25
10,001<Pop.<20,000	21.85	1.45	1.86	0.46	0.79	0.61	3.50	4.50	0.72	0.59	0.36
20,001<Pop.<50,000	18.63	1.28	1.73	0.45	0.65	0.63	3.78	4.74	0.77	0.49	0.31
50,001<Pop.<100,000	22.59	1.81	2.42	0.36	1.14	0.92	4.15	5.03	0.78	0.66	0.50
100,001<Pop.<500,000	18.61	1.27	1.96	0.32	0.66	0.98	3.52	4.40	0.70	0.45	0.60
Total	23.93	1.63	2.06	0.52	0.92	0.62	3.41	4.42	0.80	0.73	0.35

*Tax revenues have been calculated by aggregating revenues in respect of direct and indirect taxes and levies and other revenues (revenue captions 1–3).
Source: Own work based on data provided by the Directorate General for the Coordination of Territorial Finance (DGCHT).

spending in the period studied, compared to just 18.61 percent of total spending in towns with between 100,001 and 500,000 inhabitants, which is practically the same level as found in municipalities with a population of between 20,001 and 50,000.

It is necessary not only to keep in mind the diversity between municipalities depending on the population stratum to which each belongs but also to consider the information in relative terms based on certain nonbudgetary variables capable of standardizing the data. This is because the size and competences of each municipal stratum would otherwise be the determining factors. After performing these operations (numerical data as a ratio to GDP or population), we find that towns with a population of between 1,001 and 5,000 do indeed invest more in relative terms than large towns and cities (between 100,000 and 1,000,000 inhabitants), which invest 22 percent less than the average.

The very significant level of public investment in Spain is due to the conviction that the only way to achieve rapid convergence with European levels of economic development is to narrow the gap in terms of capital stock. Consequently, the discrepancy that may exist between municipalities in terms of the sufficiency of spending capacity is a key issue, since the approval of BSL has reopened the old debate concerning the relationship between public spending and economic growth on the one hand, and the economic effects of funding options (debt or tax) for capital expenditure on the other.

On the first count, we obviously cannot expect there to be a relationship between public spending and economic growth at the municipal level, since the effects of any expansive public sector measure on the part of town councils would spill over into neighboring jurisdictions. To the extent that municipal capital expenditure raises the marginal productivity of private factors of production located in the municipality, however, it would seem reasonable to expect some increment in private investment and, eventually, in municipal revenues (a crowding in effect). Hence, municipal capital expenditure is a key factor in improving and fostering competitiveness and productivity, because such investments play a supplementary role as drivers of the stock of private capital.

Municipal public investment may thus be an effective instrument for local redistribution policy, preventing the action of the market from intensifying the spatial duality of economic activity (center-periphery or development hotspots) by facilitating accessibility, reducing business and communication costs, stimulating the location of businesses, and driving municipal convergence. From the standpoint of the efficiency of the economic system, moreover, public investment may help ensure appropriate development of the capacity and potential for economic growth in different geographical areas.

As is usual in any economy, there is an exchange between efficiency and equity, which means that it is not possible simultaneously to provide significant resources

for municipalities with small populations or low per capita income and for those with a low ratio of public to private capital stock (efficiency criteria), as López (2000) explains.[10] Thus, an investment policy that only takes the objective of equity between municipalities into account will be partial, and therefore inefficient.

Subcentral Sources for Capital Expenditures Financing: The European Case

Consequently, we need to consider issues related to the capacity to finance capital expenditure projects, because these will have major implications for municipalities. There are three main strategies available to finance investment at levels below central government:[11]

- Strategy 1: Policies affecting net current savings. Three types of strategies, or a combination of them, can be used to act on net current savings. First, municipalities can establish a policy of austerity with regard to current spending, allowing them to free up funds for additional investment. Second, municipalities can set higher taxes to fund a greater volume of capital expenditure, though this will depend on the tax capacity of each town and, in the final instance, on the tax burden established by central government. Finally, a well-planned debt repayment policy that will ensure the municipality's cash flow is in step with its investment plans. This strategy will eventually be conditioned by spending obligations established by the central government.
- Strategy 2: Policies affecting capital transfers. In this case, the levels of government providing transferred funds for capital expenditure may reduce the percentage financing that municipalities are obliged to put up for investments, thereby allowing them to increase capital expenditure.[12] Municipalities have little room for maneuver in this regard, and it may fairly be said that these funds are determined exogenously.
- Strategy 3: Policies affecting funds raised through indebtedness. In this case, there are once again two options with regard to levels of capital expenditure, which are generally related with the strategies implemented by central government to ensure appropriate use of debt and control the indebtedness policies of lower tiers of government. On the one hand, the central government usually acts to restrict the use of debt to certain specific purposes such as funding capital expenditure. This guarantees the principle of intergenerational equity and stimulates capital as opposed to current expenditure. The second option consists of restricting the capacity of municipalities to make capital expenditures, establishing a maximum period for repayment and requiring them to draw up a debt repayment taxation plan or setting maximum limits for indebtedness, and therefore indirectly on investments. The effect is to create

additional costs for investment policies with the aim of reducing the political benefits associated with the use of debt or to prevent the use of financial strategies that might jeopardize the financial balance.

There are large differences between EMU States in the way budgetary responsibilities are divided between different levels of government. This is in part linked to the system of government and particularly if the country is a federal (Austria, Belgium, and Germany) or unitary state. However, the distinction is not clear cut. Spain and Italy could be classified in both groups, since they are unitary states with some characteristics of a federal state. The Nordic countries (Denmark, Finland, and Sweden) also have some special characteristics, as they are unitary states where the principle of local self-government is grounded in the constitution.

A common indicator for assessing the degree of fiscal decentralization is to look at subnational expenditures and revenues, both as a percentage of GDP and of total public expenditures. These figures must be interpreted with care as they give an approximate indication of the size of lower levels of government but do not measure budgetary autonomy. When measured in terms of subgovernment expenditure (that is, state and local) as a percentage of total government spending, the federal and Nordic countries and Spain are the most decentralized (table 4). The most centralized states are Luxembourg, Portugal, and Greece. With respect to the development of lower levels of government over time, the figures generally show slow changes in the level of decentralization since 1995, the first year for which figures are available for all Member States. Nevertheless, a relative increase since 1995 is recorded in the size of the states in Austria and Spain and the local level of government in Denmark, Sweden, and Italy. A relative decrease is recorded in the size of the local government in the Netherlands.

A considerable percentage of the resources of subcentral authorities is devoted to items such as education, housing, recreation, and culture: decentralized provision of these items may be justified on the ground of tailoring public goods and services to local needs and preferences. The largest differences between Member States can be found in the categories of health and social security and welfare, where subcentral authorities in several countries have an important role to play. It should be noted, however, that the scale and composition of public spending by subcentral authorities does not coincide with the actual degree of budgetary autonomy of subnational authorities. This is because the central government can influence, to a large degree, the expenditure choices of subcentral authorities, for example, by mandating standards of public goods and services that subcentral authorities must provide. Local or state government expenditures include expenditures that are part of national programs.[13]

Table 4 Expenditure and revenues at state and local government level across European countries

Country		Total expenditure						Total revenues					
		Percent of GDP			Percent of total			Percent of GDP			Percent of total		
		1995	2000	2001	1995	2000	2001	1995	2000	2001	1995	2000	2001
• Federal structure													
Belgium	State	14	13	14	26	27	27	13	14	14	27	27	28
	Local	7	7	7	12	14	13	7	7	7	14	13	13
Germany	State	13	14	14	27	29	28	12	13	12	26	28	27
	Local	8	7	7	15	15	14	8	7	7	16	15	16
Austria	State	8	10	10	14	15	18	9	10	10	16	20	19
	Local	9	8	8	16	14	15	8	8	8	16	16	15
Spain	State	7	9	9	15	22	23	6	8	8	16	21	21
	Local	6	6	6	13	15	15	6	6	6	15	16	16
Italy	Local	13	14	14	24	30	30	13	14	15	28	30	32
• Unitary structure													
Greece	Local	2	2	2	3	4	4	2	2	2	5	4	4
France	Local	10	10	10	18	19	19	10	10	10	20	19	19
Luxemburg	Local	7	6		15	14		7	6		15	13	
Portugal	Local	5	7		12	33		5	5		14	12	
United Kingdom	Local	12	10	11	26	33	26	11	10	11	29	25	26
The Netherlands	Local	23	16	16	45	18	35	23	16	16	49	34	35
Denmark	Local	32	31	31	53	56	57	33	31	31	56	53	54
Finland	Local	19	16	17	31	39	34	20	16	16	36	29	30
Sweden	Local	23	22	23	34	28	40	23	23	23	37	38	38
EUR-12			16	16		31	33		16	15		33	32
EU-15			16	15		31			16	15		33	32

Source: European Commission (2003).

The four main sources of local government finance are loans, charges, taxes, and grants. However, these should not be regarded as wholly substitutable. In fact, four guidelines can be asserted in the use of sources:[14]

- charges or fees should be used where possible for current spending and rarely for capital spending;
- where charges or fees cannot be used for current spending, taxes should be used as far as possible in the case of genuine local services. Taxes should rarely be used for capital spending;
- where charges cannot be used for current spending on agency services, grants should be used as far as possible. Grants may also be appropriate for some capital spending;

- loans are very suitable for capital spending but should rarely be used for current spending.

There are large differences in the way Member States finance their expenditure at lower levels of government. Transfers to local governments are high in the U.K. and the Netherlands, which indicates their relatively centralized system of financing local governments. This contrasts with Italy and France, where the autonomy of lower levels of government in raising taxes is greater. In Italy in particular, reforms in the 1990s have strongly decreased local governments' dependence on transfers from the center and extended their autonomy in raising taxes. Finally, the data for the category of taxes on income and wealth show very large differences between Denmark, Finland, and Sweden, where figures range from 10 to 15 percent of GDP, and other Member States, where this figure is usually below 2 percent of GDP, in line with the fact that income taxes are the most important source of income at local level for the Nordic countries.

Table 5 gives percentages for each of the categories mentioned above. It can be observed that the aggregates of municipal funding vary to a considerable extent. Exclusive local taxes and financial transfers are particularly important to assess the financial structure of local government. The weight of exclusive local taxes in municipal funding ranges from 0 percent to over 60 percent. In nine Member States, exclusive local taxes do account for more than 30 percent of municipal funding.

As a general rule, fees and charges do not account for more than one-third of municipal funding. They account for more than 20 percent in five countries and 3 percent or less in seven. In its various forms (earmarked grants, block grants, share taxes, or others), financial transfers represent the main component of municipal funding. National figures for this item range from 18 percent to 98 percent, with most states situated in the 30–60 percent band. Nine Member States have percentages of over 60 percent; four below 30 percent. Two main types of transfers can be distinguished: grants—which include two subtypes: earmarked grants and block grants—and shared taxes. Other types of transfers are grouped under the heading "other".

Local borrowing for financing municipal expenditure often accounts for less than 10 percent of the total municipal funding. Two are on this mark and five are above it. In most EMU countries, central governments had large powers of control over the deficits and/or the amount of debt incurred at the lower levels of government (Ter-Minassian and Craig 1997; Sutherland, Price, and Joumard 2005). Until the Treaty of Maastricht and the EMU, each country could adopt the rules that it found best, even with regard to borrowing abroad. In recent years, a number of Member States have reconsidered the fiscal relations across different levels

Table 5 Sources of municipal funding across European countries (percent of total municipal revenues)

Country	Local taxes	Fees and charges	Transfers					Borrowing	Other
			Total	Shared	General grants	Earmarked grants	Other		
Albania	2.5	3	94	1	59	29	5	0	0.5
Austria	15	19	35	26	1	0	8	8	23
Belgium	32	5	40	0	25	5	10	13	10
Bulgaria	1	10	78	34	37	7	0	2	9
Cyprus	25	33	30	0	7	22	1	12	0
Czech Republic	16	12	45	23	8	10	4	11	16
Denmark	51	22	24	2	12	0	11	2	1
Estonia	0.1	0.9	91	60	27	4	0	2	6
Finland	34	11	31	1	29	1	0	3	21
France	36	2	26	0	24	0	2	10	26
Germany	19	16	45	17	15	13	0	9	11
Greece	2	22	58	25	25	0	8	6	12
Hungary	4	8	66	7	52	6	2	4	18
Iceland	12	16	53	43	7	1	2	5	14
Ireland	18	10	57	0	11	46	0	2	13
Italy	18	11	38	2	8	24	5	9	24
Latvia	6	1	68	23	35	6	3	0	25
Luxemburg	31	29	37	24	2	0	11	3	0
Malta	0	0	98	0	91	0	7	0	2
The Netherlands	5	13	60	0	20	38	3	19	3
Norway	42	16	33	0	17	14	2	7	2
Poland	21	7	60	23	15	22	0	0	12
Portugal	20	19	38	1	31	4	2	6	17
Romania	5	16	79	33	25	21	0	0	0
San Marino	0	0	31	0	31	0	0	69	0
Slovakia	10	9	39	30	1	8	0	5	37
Spain	31	16	37	0	29	8	0	10	6
Sweden	61	8	19	0	11	8	0	1	11
Switzerland	46	24	18	1	3	14	0	3	9
Turkey	7	1	56	3	0	3	51	0	36
United Kingdom	11	6	77	17	32	27	0	0	6

Source: Council of Europe (1997).

of government which take into account the need to comply with EU budgetary requirements.[15]

Apart from borrowing and budgeting restrictions for subnational authorities, the federal Member States (Germany, Belgium, and Austria) and Italy and Spain have also introduced institutional arrangements at national level, usually referred to as national stability pacts.[16] Some Member States have chosen to replicate the medium-term objective of the SGP of "close-to-balance or in-surplus" at the local or regional level, while others have chosen to define specific budgetary targets on a yearly basis. In some cases, the arrangements are laid down in national law, while in others they are formulated as an agreement between levels of government. There are also institutional differences with respect to the way the arrangements are implemented and monitored. Finally, some arrangements specify the specific actions to be taken in case of noncompliance, such as imposing sanctions, while others do not.

These initiatives also sought to correct a form of vertical institutional imbalance, whereby the Treaty and SGP obligations concern the general government as a whole (i.e., central, state, and local government plus social security), but commitments given at European level (notably in the annual updates to stability and convergence programs) are made by the central government. Compliance with budgetary commitments given at EU levels is dependent upon the budgetary performance of all levels of government, whereas the costs of noncompliance (either the reputational cost or ultimately in the form of a pecuniary sanction) are borne by central government.[17] This would reduce the autonomy of subnational governments. Perhaps the main risk then is that national governments might use their enhanced power of control over deficits and borrowing to crowd out the capacity to borrow of the lower-level governments. This would be a serious problem in countries in which these lower-level governments or jurisdictions are responsible for a large part of public infrastructures and capital formation. It would significantly hamper the capacity of governments at the same level to compete among themselves.

The Spanish Municipal Context

To finance capital expenditures, Spanish municipalities must increase available net current savings by raising municipal taxes or reducing current spending.[18] Small municipalities (less than 5,000 inhabitants) and large towns (over 50,000) have higher level of current savings. Larger municipalities benefit from their privileged treatment in the system of current transfers, which is based mainly on population (Pedraja and Suárez 2004). Small towns have fewer competences and also a lower demand for current spending from their inhabitants, as well as lower financial expenses, which allow them to save more.[19] Not only do spending

competences increase with population, but also national legislation regulates the power of municipalities to set the rates of local taxes depending on their size.

The central government could implement a policy to compensate differences in the capacity of municipalities to generate savings by redistributing resources in inverse proportion. In fact, a capital transfers policy has been designed to favor small municipalities, probably to compensate them for the lower funding they receive by way of current transfers.[20] Municipalities with fewer than 5,000 inhabitants receive significantly more funds than the average for the investments made, while the reverse is true for larger towns. As a result, small municipalities have been able to spend more on investment than very large towns, which invest less than the average because their per capita income blocks access to capital transfers. More developed municipalities with larger populations are condemned to a higher tax burden, more indebtedness, or less current spending, because one source of finance for investment (capital transfers) is closed to them.

However, the final result in terms of capital expenditure relative to GDP is less varied than might be expected on the basis of the capacity to generate savings and capital income because the funds raised through indebtedness have so far operated as an adjustment mechanism in the finance system, offsetting the low level of funding obtained from other sources. This adjustment was sanctioned by prevailing local government legislation,[21] since new credit operations and modifications to the terms of existing loans arranged abroad (i.e., in foreign currency) by public agencies and with a term of over one year were conditioned either on the basis of their purpose (investment) or by certain budgetary ratios (maximum financial charges equal to 25 percent of current income in the preceding year, positive net savings, and outstanding debt of less than 110 percent of current income). These conditions also implied that authorization for the debt operation had to be sought from the Ministry of Economy and Finance.

Small municipalities have been able to maintain levels of indebtedness that are significantly lower than the average because of the surplus funds received by way of transfers. Municipalities with a population of over 50,000 inhabitants have had to make more intensive use of debt due to their more limited capacity to generate current savings and, especially, the lower level of capital transfers. On the basis of the comparison between gross and net debt shown in table 3, however, a part of these transfers have been used to refinance debt. Consequently, the higher funds raised by large towns and cities through debt are not associated with capital expenditure, but rather with above average financial expenses (debt repayment). This situation is also observable in the difference between gross and net savings.

In Spain, then, the local framework regulating access to debt on the part of municipalities combines various instruments in view of the multiple objectives pursued, among which are (i) to guarantee intergenerational equity in the use of debt by tying the funds raised through borrowing to investments, thereby

establishing a relationship between beneficiaries and taxpayers; (ii) to ensure the financial balance, preventing the possibility of default through the imposition of various restrictions such as the maximum threshold for financial charges, regulations governing net savings, and the stock of debt compared to current income, as well as the need for budget surpluses; (iii) to coordinate public debt decisions in order to ensure their compatibility with macroeconomic stabilization objectives via an authorization system and the annual General State Budget Acts, in which the limits on the borrowing capacities of local corporations can be fixed (centralization). Finally, the legislation requires that short-term debt be used exclusively to cover temporary cash flow requirements arising as a result of the cadence of collections and payments (i.e., this debt may not be deferred to subsequent years).

The approval of the new BSL in December 2001 displaced the focus of concern from the issues of intergenerational equity and financial solvency toward compliance with macroeconomic objectives established at the level of central government (stabilization).[22] This change in the legal framework was a response to the SGP, in accordance with which the Member States of the European Union, including Spain, undertook to pursue the objective of balanced budgets by creating automatic stabilization measures to ensure compliance with the limits established in the Maastricht Treaty.

In a highly decentralized country such as Spain, the efforts of the state in this regard would be futile if they were not accompanied by all levels of government. Consequently, the new BSL presents municipalities with a challenge in the field of budgetary coordination, since all levels of government are required to comply with the balanced budgets principle. If a local corporation prepares or settles a budget that is in breach of these regulations, it will now be under the obligation to implement an adjustment plan to correct the situation medium term. Furthermore, the requirement for central government approval in such cases has been extended to all local borrowing operations. Finally, if a local corporation fails to abide by the rules and this causes or contributes to nonperformance by Spain of its obligations toward the European Union, the corporation concerned will be liable for the attributable part of any sanctions imposed as a result.

Even if the municipalities should opt to reschedule the whole of the debt repaid on an annual basis, since the budgetary stability rules only prohibit new borrowings, the relative share of their income from debt compared to GDP would fall long term to insignificant levels. In the medium term, then, we may affirm that indebtedness will cease to operate as a potential source of finance for capital expenditure. In this light, we are interested in the potential conflict between BSL and the principle of municipal financial autonomy and on likely outcomes or impacts in terms of a decline in investment due to the link between debt and capital expenditure that has historically existed at the local level in Spain.

Specification of the Econometric Model for Municipality Capital Expenditure

We develop an explanatory model for a municipality's capital expenditure, applying the simultaneous equations technique in our estimates in order to solve certain econometric problems affecting existing studies of these issues.

Among the difficulties of this study are the diversity of municipal organizational structures and the limitations affecting the possibility of carrying out econometric studies based on time series. Nevertheless, we believe these problems can be resolved, at least in part, by using panel data, allowing us to operate with less periods and at the same time facilitating the examination of different patterns occurring in the municipalities.

In addition to the difficulty of examining such a disparate reality as municipal government, we are faced with two further problems. These are the heterogeneity of the data and comparability between different strata and budget years. We have been able to harmonize the data by using only the data provided by the former Directorate General for the Coordination of Local Finance (currently the Ministry of Economy and Finance Directorate General for Community Funds and Territorial Finance). In order to overcome the obstacle presented by the comparison of the same magnitudes over time and between municipalities pertaining to different strata (and therefore presenting widely differing characteristics), we have, where necessary, expressed the data as a percentage of municipal income (GDP).

Hypotheses

We seek to establish the extent to which capital expenditure varies in response to sources of finance. Four main variables require empirical verification (the variables, symbols used, and expected direction of each are summarized in table 6). Initially, we wish to test the effect of the municipal tax burden (or the capacity to raise taxes) on capital expenditure depending on the population strata of municipalities. Also, we seek to establish the possible stimulus for investment projects represented by capital transfers. Another potential source of finance for capital expenditure is to reduce current expenditure, and we have therefore also included this strategy as an explanatory variable. Finally, we seek to test whether indebtedness is linked to capital expenditure, as suggested by the theory and required by local government legislation. We have also included various control variables. Finally, after estimating the model, we will be in a position to consider in detail the possible effects of BSL on the investment policy of Spanish municipalities.

Table 6 Expected direction of variables

Symbol	Hypotheses	Expected direction
TAX	Municipal tax burden (direct and indirect taxes and levies)	+
KTR	Financing of capital expenditure required of municipalities (income from capital transfers)	+
D	Indebtedness (funds raised through borrowing)	+
PCE	Crowding out effect of expenditure items (personnel expenses, cost of goods and services, and current transfers)	−
PCGDP	Relative wealth (per capita GDP)	+
DTEND	Trend of municipal capital expenditure (1989–1999)	−
DMUNX ($X = 1, 2, \ldots, 7$)	Tax capacity, mandatory competences, cost of providing services, and transfers (level of competences)	Indeterminate

Municipal Tax Burden (TAX$_{it}$)

We wish to determine the extent to which greater powers of taxation affect capital expenditure, since the legal framework allows municipalities differing capacity to raise taxes. This hypothesis is tested using the ratio between own taxes (levies, and direct and indirect taxes) and GDP. The expectation is that municipal tax burden will produce a positive sign because any reduction in the burden of own taxes, for example, will lower the extent to which the capacity to raise taxes is exercised, resulting in a reduction in the municipality's capital expenditure assuming that other discretional sources of constant income are maintained.

Relevance of Income from Capital Transfers (KTR$_{it}$)

The question here is whether capital expenditure is affected by the municipalities' legal obligation to apply all income from capital transfers to investment projects. We should remember that capital transfers may stimulate higher levels of expenditure by reducing the perceived cost of investment projects compared to current spending (flypaper effect). This variable is constructed as the ratio of income from capital transfers to GDP and is expected to be positive.

Indebtedness (D$_{it}$)

This variable reflects whether indebtedness is a result of carrying forward the cost of investments made in the current year to subsequent periods, in order to spread the burden of investment programs among the generations benefiting from them, in line with the theory (intergenerational equity) and as provided for in the Spanish

Local Treasuries Act, which tying the funds raised through borrowing to capital expenditure. This variable is the ratio between income from debt-less financial charges and GDP, and is expected to be positive.

Crowding Out Effect between Expenditure Items (PCE$_{it}$)

The aim here is to establish the extent to which current expenditure may operate as a counterweight to capital expenditure or, to put it another way, whether increased investment can be financed by cutting current spending (primary current expenditure). On the other hand, it is well-known that it is precisely capital expenditure that tends to suffer the deepest cuts in times of budgetary adjustment with the aim of maintaining current spending. To test this hypothesis, we have financial charges excluded from current spending, since municipalities do not have the power to change such expenses, at least in the short term. This variable is expected to be negative, which is to say the higher the nonfinancial current expenditure compared to GDP, the lower the capital expenditure will be because the municipality has less income with which to fund its investment programs, assuming that available income remains constant.

Also included are various control variables intended to capture institutional, tax, and economic factors that may have a significant impact on variations in capital expenditure. The control variables and the expected direction of their relationship with investment projects are as follows:

Relative Wealth (PCGDP$_{it}$)

The argument that establishes a relationship between per capita GDP and capital expenditure is based on the fact that income is a determining factor in the demand for public expenditure. It may therefore reveal whether the funds provided through the financing system are insufficient to cover the demand for spending faced by municipalities where per capita income is high, because the system is insufficiently flexible to adapt to differing preferences. We expect this variable to be positive.

Evolution of Municipal Investment Policies (DTEND$_{it}$)

The aim here is to establish whether there is any clear trend in capital expenditure. We have tried to capture this effect using a qualitative variable that assigns one to the first year of the period (1989–1999), two to the second year (1990) and so on. In principle, the direction of this variable will be indeterminate, although we might expect the coefficient to be negative in view of two circumstances. Firstly, successive reforms have made the municipal financing system more rational, although the funds in respect of taxes and capital transfers available to town councils do not appear to have grown significantly compared to income, and the problems of financial insufficiency explained above have not been solved. Secondly, increasing

concern about the financial situation of regional and local government, especially following the Maastricht Treaty, means that we can expect a decline in indebtedness and, hence, in municipalities' capacity to finance capital expenditure.

Level of Competences (DMUNX$_{it}$)

We seek here to establish the possible impact of differences in the level of municipal powers, tax-raising capacity, and the characteristics of towns belonging to each population stratum on capital expenditure. The hypothesis is represented by a series of "dummy" variables taking a value of one for each population stratum and zero for the rest, except for municipalities with a population of less than 5,000 inhabitants (small municipalities) to avoid problems of multicolinearity. The variable is expected to be ambiguous.

Specification of the Model and Main Results

Our objective is to determine the relationship between capital expenditure and the different sources of finance available to municipalities. Consequently, the evolution of municipal capital expenditure should be explicable in terms of the relative tax burden and variations in nonfinancial current expenditure as determining factors of net current spending, income from capital transfers as the basic component of capital income, and the debt raised by each municipality. The model to be estimated using the panel data is as follows:

$$KE_{it} = D(TAX_{it}, PCE_{it}, KTR_{it}, D_{it}, PCGDP_{it}, DTEND_{it}, DMUNX_{it}) \quad (1)$$

where: i = municipality, t = year (1995–1999), and DX = dummy variable.

The proxy used for municipal capital expenditure is the ratio of investment plus expenses in respect of capital transfers to GDP (KE_{it}), which captures the total flow of resources the municipalities apply to investment projects each year.

Before analyzing and commenting on the results obtained in more detail, let us note that these should be treated with some caution in view of the problems associated with the available sample of municipalities. In the first place, we have checked for the presence or absence of certain problems that might appear in the estimations.[23] In order to solve the problems associated with the endogeneity of the variables, we have made an alternative specification of the model using simultaneous equations.

On the basis of equation: $ke = ncs + kr + d$ (remember note 11), we propose a system of simultaneous equations with capital expenditure (ke), net current savings (ncs), and funds raised through debt (d) as the endogenous variables. This system of simultaneous equations is intended to simulate the behavior of economic agents, and we therefore need to consider how municipalities would simultaneously arrive

at decisions concerning their capital expenditure, net current savings, and borrowing.

Let us assume that municipalities decide net current savings on the basis of two factors, their capacity to generate funds, representing the relative tax burden (*tax*) and debt (*d*), and the application of these funds. Thus, the municipality must establish the volume and quality of the current goods and services provided (*pce*) and the amount of planned capital expenditure (*ke*). The municipal decider will plan investment projects on the basis of the available resources, which is to say the funds generated by way of net current savings (*ncs*) and capital income (*kr*), financing any remaining capital expenditure by way of debt (*d*). Finally, funds raised by way of indebtedness will represent the difference between actual capital expenditure (*ke*) and the funds generated by way of net current savings (*ncs*) and capital operations (*kr*). We have also included two additional variables to capture the possible refinancing of debt (financial expenses in respect of debt repayments: *dr*) and the impact of the ceiling placed on the municipal debt burden for the year [i.e., the maximum limit for indebtedness based on financial charges: *mld(−1)*], since it may be expected that municipalities with lower levels of indebtedness will contract less debt in future years as a result of the new legislation.

Each of the equations also includes *per capita* income (*pcgdp*), the trend (*dtend*), and dummies for each population stratum (*dmunx*) as control variables. Following the same *modus operandi*, all of the variables are relativized to GDP where necessary. In view of the evidence found for problems of heteroskedasticity and autocorrelation, meanwhile, we have employed a simultaneous equations model and three-stage least squares (3SLS) estimation to solve endogeneity problem. The results are presented in table 7. The behavioral equations proposed are as follows:

$$KE_{it} = D\big(NCS(+)_{it},\ D(+)_{it},\ KTR_{it},\ PCGDP_{it},\ DTEND_{it},\ DMUNX_{it}\big) \quad (2)$$

$$NCS_{it} = D\big(KE_{it},\ D(-)_{it},\ TAX_{it},\ PCE_{it},\ PCGDP_{it},\ DTEND_{it},\ DMUNX_{it}\big) \quad (3)$$

$$D_{it} = D\big(KE_{it},\ NCS(-)_{it},\ KTR_{it},\ DR_{it},\ MLD(-1)_{it},\ PCGDP_{it}, \\ DTEND_{it},\ DMUNX_{it}\big) \qquad (4)$$

Estimation of the model indicates that the municipal capital expenditure decisions are explained largely by a combination of the proposed variables. With regard to the hypotheses proposed, the variables capturing the relationship between capital expenditure and available sources of finance are significant and take the expected direction. Savings, capital income, and net debt are found to be determining factors for capital expenditure. Consequently, the capital expenditure of municipalities that are able to generate more net current savings or have higher financial or capital income is higher. We may also note here that municipalities

Table 7 Estimation of the model of simultaneous equations and (3SLS) estimation for municipal population strata (1995–1999)

	KE equation		NCS equation		D equation	
	Coefficient	t-test	Coefficient	t-test	Coefficient	t-test
C	−0.008232	−3.282818*	0.000273	0.153918	−0.005575	−1.993484**
KE			0.539090	50.413522*	0.179128	5.144940*
D	0.421470	15.946251*	−0.242166	−16.873587*		
NCS	0.811140	55.457584*			−0.126827	−5.504641*
TAX			0.019500	1.692748**		
PEC			−0.426195	−2.635526*		
KTR	1.548457	11.122885*			−0.135375	−4.108658*
DR					0.659117	3.705457*
MLD(−1)					0.041000	3.182345*
PCGDP	−1.46E-09	−1.930821**	6.66E-10	1.079905	−5.36E-10	−0.973226
DTEND	0.000654	4.914484*	0.000181	1.813496**	0.000424	2.587802*
MUN2	0.011623	4.952282*	0.003323	1.840671**	0.001768	0.870480
MUN3	0.007391	3.209187*	0.001830	1.075231	0.002305	1.252916
MUN4	0.003781	1.666909**	−0.000286	−0.176033	0.002131	1.309165
MUN5	0.002659	1.149193	−0.000651	−0.394640	0.001014	0.678900
MUN6	−0.000396	−0.147114	−0.001383	−0.732389	7.05E-05	0.042914
R^2	0.4921		0.4985		0.4074	

The value of the "Student t-test" is given in brackets beneath the coefficient estimated.
*Significantly different from 0 with a confidence level of 99 percent in the bilateral test.
**Significantly different from 0 with a confidence level of between 95 percent and 90 percent in the bilateral test.

wishing to raise their capital expenditure are indirectly obliged to attain higher levels of net current savings and to contract a higher volume of debt.

The most significant institutional control variables is the temporal variable, which shows a clearly increasing trend for capital expenditure, and the variable reflecting the economic characteristics and fiscal capacity of the different population strata, which exhibits an inverse relationship between the population of the municipalities and their capital expenditure. This result may be explained in light of the pattern of specialization of municipalities by population strata. Thus, the municipalities with the highest population tend to provide a higher volume of current services in response to demand from the citizen.[24] Furthermore, the increasing tendency followed by capital expenditure would be linked to the steady improvements in the financing system, with no clear impact being made by the

growing budgetary restrictions linked to the Maastricht Treaty. Additionally, the empirical results relative to per capita income lead us to think that one possible explanation for the evolution of the capital projects executed by the municipalities corresponds to the pressure exerted by the demand side (motivated, more particularly, by the normal character of public goods), which cannot be satisfied with the available resources (i.e., savings, and capital or financial revenues) at the disposal of the large-sized municipalities.

Our conclusions on the indirect effect of current savings and funds raised by way of borrowing on capital expenditure are as follows. With regard to savings [estimation of equation (3)], the nonfinancial current expenditure policy that reflects the amount and quality of the goods and services provided by the municipality takes a negative coefficient, as was to be expected. Thus, the empirical evidence suggests a certain crowding-out effect between budget items, and the restraint of current spending relative to income may therefore operate indirectly as a possible funding mechanism for capital projects at certain time, or vice versa. The available evidence concerning municipal tax revenues supports the conclusion that the fiscal responsibilities entrusted to the municipalities provide them with some room for maneuver to generate higher net savings, despite legal limits, since the relationship between net current savings and capital expenditure is positive. Finally, the relationship between net current savings and funds raised through debt is negative, which means that tighter restrictions on indebtedness would oblige the municipalities to save more in order to finance capital expenditure.

We may conclude as follows with regard to the indirect effects arising between funds raised by way of debt and capital expenditure [estimation of equation (4)]. Those municipalities with a higher volume of capital income (principally transfers) use debt less, which indirectly offsets their greater capacity to undertake capital expenditure projects. In addition, current savings acts as a cushion, since municipalities that aggressively apply this policy to finance their capital expenditure also borrow less and, given that the relationship between funds raised through debt and capital expenditure, indirectly invest less. Based on the estimation of equation (4), a sharply increasing relationship exists between debt and financial charges, as a result of which a large part of the funds raised are actually applied to refinance debt. This process does not intervene in the capital expenditure process, since higher repayments lead to higher levels of debt and, consequently, higher capital expenditure. Finally, the estimation of equation (4) indicates that the municipalities with the weakest financial position based on the maximum limit for financial charges (25 percent of current revenues for the prior year) have borrowed more heavily, and this control mechanism therefore has not had any indirect impact on restricting capital expenditure.

In view of this result, we carried out an additional step, seeking to identify possible divergent behavior patterns in the different years and population strata.

This is because the global estimations using microdata for the proposed simultaneous equations model concur with the results of the initial empirical data for the variables considered using average data for population strata, with the exception of the threshold affecting indebtedness. What we seek to establish, then, is whether this result is consistent or whether it arises because institutional restrictions only operate, as the theory suggests, when the variable controlled reaches values that are close to the threshold established. In this case, the contradictory result obtained would be associated with the period in which individualized data are available for the municipalities.

The only result to change significantly across the different periods is the institutional restriction established as the 25 percent threshold for financial charges. In this regard, we may affirm that this control mechanism produces a perverse incentive for municipal borrowing, although the effect is only partial. Let us note first that the variable is not significant in any single year, and as we enter the crisis years of the late 1990s (i.e., the periods in which it is to be supposed that debt rises to threshold levels on the basis of the results obtained for this variable in the third section) the coefficient representing the control mechanism changes direction. This result may indicate that these mechanisms only operate when binding values are reached for the variable subject to control, as the theory predicts and earlier studies have shown.

The simultaneous equations estimated on an individual basis for the municipalities belonging to each population stratum produced robust but more heterogeneous results. For all of the equations estimated, the trend and per capita income are not significant with the exception of a few specific cases. The only notable feature of the results of the equations for capital expenditure is that indebtedness is not significant in large cities, which may be because of the strong connection between debt and financial charges in this population stratum. The estimations for net current savings, meanwhile, reveal that investment plans have no correlation with higher net savings in the large cities and are mainly determined by indebtedness. Once again, we believe this result to be associated with the important debt reduction process undertaken by these municipalities during the period analyzed.

Finally, in the estimation of the indebtedness equations, the coefficient representing the maximum limit for financial charges of 25 percent of current income for the prior year changes depending on the population stratum considered. Moreover, its effect is only partial, contrary to the outcome pursued with regard to the behavior of municipalities. We may note here that the coefficient representing control of municipal debt ceases to be significant and changes direction as we move through the population strata from small municipalities to large towns and cities. As we move across the population strata toward those municipalities with lower levels of financial solvency, we are seeing the effect on

those towns where the restriction does provide a stimulus for councils to avoid excessive indebtedness, as the theory predicts and other empirical studies have shown. Another significant result is that the models exhibit increasing explanatory power as population rises. This effect seems to reflect an increasingly important process of debt refinancing by large municipalities. Furthermore, the capital expenditure coefficient for major cities is not significant compared with the pattern found in small towns with less than 50,000 inhabitants, which apply a large part of debt to financing investment. Finally, the expected substitution relationship between indebtedness and savings does not obtain for municipalities with a population of between 50,000 and 100,000 inhabitants, and nor does it appear in the case of capital income for large cities.

At this point, we may ask what the potential effects of the new BSL on capital expenditure will be. Even if the municipalities should opt to reschedule the whole of the debt repaid on an annual basis, the relative share of their income from debt compared to GDP would fall in the long term to insignificant levels. Thus, indebtedness ceases to operate as an endogenous variable, and the analysis is restricted to the current savings and capital expenditure equations. Given the estimates obtained then, the new restriction affecting indebtedness will have a direct marginal impact on capital expenditure, reducing them, if the remaining variables are kept constant, to 0.42147 in marginal terms. Nevertheless, the indirect effect of funds raised by way of debt on current savings results in an opposite impact. Thus, the veto on the use of net debt will result in an increase of 0.242166 in the current savings of municipalities in marginal terms, eventually translating into an increase of 0.19643 in capital expenditure in marginal terms. This effect only partially offsets the initial reduction in capital expenditure brought about by the BSL.

Consequently, the new restriction on the use of indebtedness at the local level imposed by the BSL will remove one of the sources of finance for municipal capital expenditure in the long term and will eventually result in a significant reduction in local investment. However, the indirect effect produced by the loss of access to debt on net savings will induce municipalities to increase their net savings, but these funds will only partially offset the initial reduction in capital expenditure. Finally, the net effect will not be evenly spread across municipalities because its impact depends on the relative significant of the various sources of finance available to councils, which depend on the population strata.[25]

Since the fiscal responsibilities of municipalities are limited by the division of income sources between the different levels of government established by national legislation, allocating those sources that provide the highest revenues to central government in accordance with the theoretical postulates of classical fiscal federalism, it is necessary to include some kind of additional measures to allow municipalities to maintain their financial autonomy. Consequently, the results

obtained indicate that the imposition of greater restrictions on access to debt, as is the case with the BSL, could or should be offset by an increase in fiscal responsibility, allowing municipalities to re-establish their room for maneuver through the use of current savings to fund capital expenditure if the aim is to maintain the financial autonomy of municipalities. This is because the relationship between own tax revenues and current savings is positive. There is, however, another possibility, which is that municipalities could be required to reduce the volume and quality of the current goods and services provided to their citizens as a consequence of an exogenous decision made at the level of central government.

Final Considerations

Municipal capital expenditure is strongly dependent on the available sources of finance, which are materialized in income from capital transfers, current savings, and municipal indebtedness. In the Spanish municipal context, the greater part of capital transfer income is concentrated, in municipalities with smaller populations or lower levels of per capita income. In the case of current savings, meanwhile, the financing system has allowed municipalities to maintain differing tax policies and adopt divergent current expenditure strategies. This means that small municipalities have enjoyed above-average savings, while large cities have suffered problems of financial insufficiency that have prevented them from funding investment projects out of net savings. In short, capital expenditure is determined by a territorial policy that is based on the criterion of equity, which may have had significant costs in terms of the capacity to finance investment and economic growth in those municipalities with larger populations and higher per capita income.

The last part of the financing structure consisted of funds raised through debt or annual indebtedness on which all of the pressure of capital expenditure and current and financial operations rested. In order to prevent inappropriate or excessive use of borrowing, national legislation regulates access to debt by lower tiers of government, establishing a series of restrictions which include prohibiting the use of debt to finance any expenditure other than investment outlay. However, the limited room for maneuver provided by municipal tax revenues with regard to current expenditure, the concentration of capital transfers on the municipalities with smaller populations, and the link between the amount of current income and the cost of providing public services has led some municipalities to opt for excessive borrowing and raise loans even to fund current expenditure.

In the explanatory econometric model of municipal capital expenditure, we have designed a system of simultaneous equations because of the problems of endogeneity present in the estimates. This is because public decision makers simultaneously determine the necessary level of current savings, plan capital expenditure, and establish the amount of debt to be raised. The estimation of this

system of simultaneous equations confirmed the majority of the hypotheses proposed, as follows. Those municipalities that make the greatest effort in terms of current savings obtain higher levels of capital transfers or raise more debt in order to undertake a higher level of capital expenditure. Nevertheless, it is clear that municipalities pursuing a more active investment policy must generate higher current savings and increase their indebtedness. Second, significant indirect effects on capital expenditure unquestionably appear derived from current savings and funds raised by way of debt.

In light of these findings, we may make an assessment of the BSL. We think the Spanish municipal experience might be generalizable to other federal countries in Europe that are facing similar situation (hard budget constraints and high earmarked grants). If municipalities are to continue with their present rate of capital expenditure, the results obtained from the system of simultaneous equations suggests the BSL may have significant effects on investment policy and the provision of municipal goods and services. Capital projects can be financed either out of indebtedness or taxes. The use of debt is not only justified from a theoretical standpoint on the grounds of intergenerational equity, but also municipalities have in practice used this source of finance to cover a large part of the capital expenditure.

The BSL does not in practice represent a radical change in the regulatory framework established in the Local Treasuries Act, but only includes new disciplinary measures. However, it treats debt as an exceptional source of finance and provides for much stricter control of the aggregate stock of local government debt, which may be construed as a veto on the use of this financial resource. The new budget regulation displaced the focus of concern from the issues of intergenerational equity and financial solvency toward compliance with macroeconomic objectives established at the level of central government (stabilization). It does not seem likely that all municipalities will be able to substitute taxes for the funds they have so far raised through debt.

As a consequence, the new budgetary stability framework, the scope and impact of which remains unknown, will oblige town councils either to limit their investments (positive relationship between debt and investment), or to raise the tax burden (positive relationship between current savings and tax revenues), or to reduce the funds allocated to other budget items. However, it will probably also provide an incentive to improve administration, resulting in a more efficient allocation of resources or a combination of all of these results. In any case, impacts will differ depending on the population strata to which the municipalities belong, and a more unfavorable outcome is to be expected in the larger municipalities, which depend more heavily on the use of debt to finance capital expenditure.

Thus, if we wish to maintain municipal financial autonomy it will be necessary to implement supplementary measures to the BSL allowing municipalities to maintain their financial independence, since the restrictions imposed by the legislation on access to debt could, or should, be compensated with a greater degree of fiscal responsibility. This would re-establish municipalities room for maneuver to finance capital expenditure out of capital expenditure, given the relationship between own tax revenues and positive current savings, which would indirectly influence capital expenditure. Such measures are necessary because the fiscal responsibility of municipalities is limited by national legislation.

Long term, the BSL may have a positive effect on the capacity of municipalities to finance capital expenditure. This is because the decline in the relative share of interest expenses and current financial charges that will take place over time, given that new debt has been prohibited, as GDP rises will release additional funds, and these may be applied to finance capital expenditure. However, the risk that debt ceilings will be affected by a certain lack of justification and arbitrariness remains inherent in the design of the BSL from the standpoint of funding for capital expenditure. If inappropriate limits are set, the resulting surplus or shortfall will be detrimental to municipal finances. The limits set by the BSL may turn out to be too strict, which would have potential costs in terms of the municipalities' capacity to finance capital expenditure and growth, providing an incentive for town councils to maintain unnecessarily high levels of debt, as well as stimulating them to arrange higher debt prior to the approval of the debt in order to achieve greater room for maneuver after it comes into effect. Such strategic behavior could have been avoided by linking growth rates to debt and investment.

Notes

1. There are serious economic and political consequences in the sense that the required mix of fiscal and monetary policy for stability and growth in Europe is not forthcoming [European Commission (2004)].

2. The Pact is based on two fundamental procedures. The first incorporates the principle of Multilateral Surveillance. According to that principle, each Member State should present to both the Council and the Commission a five-year program regarding public accounting objectives, beginning on March 1, 1999. After that date the Member States are expected to submit annual updates (Convergence Programmes). The Multilateral Surveillance maintains a constant "dialogue" on Economic and Budgetary Policy between Member States, the Council and the Commission. The chief element of this dialogue is the "Broad Economic Policy Guidelines" or BEPGs. The second procedure is the Excessive Deficit Procedure (EDP), which is activated whenever there are signs that

a Member State's budget deficit is likely to rise above the ceiling of 3 percent of Gross Domestic Product (GDP). The SGP also incorporates sanctions for noncompliance. The Council may impose sanctions in the form of a noninterest bearing deposit with the Community. Deposits are converted into a fine after two years if the excessive deficit is not corrected.

3. Public investment can make an important contribution to meet the output and employment goals of the Lisbon strategy. However, in considering the links between public investment and growth, it is important to focus on net as opposed to gross investment levels (that is, taking account of the depreciation of the existing capital stock) and also the interaction between trends in public and private investment levels. Existing studies reveal that public investment has a positive impact on output and productivity, although the results are not very strong and depend quite crucially on the analytical methodologies employed. This is explained by the fact that only a fraction of public investment expenditures are devoted to projects which aim directly at improving the allocation of resources and raising productivity (for example, investment in transport infrastructure); a significant proportion of public investment is devoted to projects that pursue other objectives such as environmental protection or redistribution across regions, which only indirectly contribute to output.

4. Though not a very common practice, some form of golden rule has been operational in some countries or subnational jurisdictions. In the European context, the countries currently operating some form of a golden rule are Germany and the U.K. In both cases, the rule is designed in such a way that budget deficits should not be higher than some definition of public investment, but the characteristics of the German and the U.K. golden rule are quite different. Various proposals have been made to introduce some form of a golden rule into the EMU's fiscal rules, that is, exclude investment expenditures from the measure of budget balance.

5. Until very recently, it was possible only to estimate the financial and credit situation of Spanish municipalities on the basis of aggregate information for the different population strata. However, a sufficiently representative sample of microdata is now available to investigate the individual investment and borrowing behavior and evolution of Spanish municipalities over a part of the 1990s, a significant improvement allowing us to revisit existing studies. Our work therefore represents a new approach in the Spanish literature. We also hope this study will contribute to closing this lacuna in empirical studies of Spanish municipalities. Empirical studies of capital expenditure are generally associated with research on indebtedness due to the link established both by the theory and by local government legislation between debt and investment. The empirical evidence in the municipal sphere is still basically limited to the econometric contribution of Escudero and Prior (2002), which focuses on Catalan municipalities and was presented at the 9th Conference on Public Economics, the work of Vallés, Pascual, and Cabasés (2003), and the recent contribution by Fernández et al. (2004), which they defended at the 11th Conference on Public Economics. For a discussion of the regional context, see the summary of the main papers by López and Vallés (2002). Significant contributions in the comparative literature include

Heins (1963); Mitchell (1967); Pogue (1970); McEachern (1978); Farnharm (1985); Epple and Spatt (1986); Holtz-Eakin and Rosen (1989); Bayoumi and Eichengreen (1994, 1995); Temple (1994); Dafflon (1996); Kiewiet and Szakaly (1996); Cropf and Wendel (1998); Poterba and Rueben (1999); Rattsø and Tovmo (2002); and Woo (2003).

6. Territorial government is composed of regions (Autonomous Communities) and Local Corporations (Provincial Council, supramunicipal authorities or associations of municipalities, and Municipalities).

7. In this study, we use budget settlement data (1995–1999) provided by the former Directorate General for the Coordination of Local Finance (DGCHT), currently the Ministry of Economy and Finance Directorate General for Community Funds and Territorial Finance, as well as National Statistical Institute data (Spanish Regional Accounts), Institute of Fiscal Studies data (BADESPE), and the Economic Yearbook published by the savings bank *La Caixa*.

8. The authors have individual data for each of the magnitudes and ratios examined by municipality and for each population stratum over the period analyzed. With a view to simplifying the analysis and to facilitate understanding, however, we have provided only average results.

9. This spending is split between direct real investment and capital transfers (21.4 percent and 2.5 percent of total average spending, respectively).

10. Those municipalities with the lowest ratio of public to private capital would be likely to achieve faster economic growth as a consequence of the "pull" exercised by public investment.

11. In order to establish the main sources of finance for capital expenditure available to municipalities, let us start with the basic budgetary restriction faced by any government: $CE + KE + FE = CR + KR + FR$, where: (E) and (R) respectively represent expenditure and income, and (C), (K), and (F), current, capital, and financial items. Considering that FR may be broken down into annual funds raised by way of debt (D) and other financial income (OFR), FE comprises debt repayments (DR) and other financial expenses (OFE), and KR can be disaggregated into capital transfer revenues (KTR) and disposals of real estate (DRE), if we eliminate OFE, OFR, and DRE, which are of only very limited relevance, we may operate on the expression to obtain: $KE = CR - CE + KTR + D - RD$. Grouping the terms of equation (2), $KE = (CR - CE - RD) + KTR + D$, and dividing by both sides of the equation by GDP (reflected in lower case), we have: $ke = ncs + ktr + d$. Thus, the proportion of capital expenditure to GDP is a function of net current savings (ncs), income obtained from capital transfers (ktr), and debt (d).

12. In fact, capital transfers may more than proportionally stimulate capital expenditure because they reduce the perceived cost of investment projects compared to current spending (flypaper effect).

13. In the Nordic Member States, central control is generally confined to setting a broad policy framework, leaving them a high degree of independence in areas like primary

education, social, and health services. Their counterparts in the Netherlands, Germany, Austria, and Italy have a role too in providing the major welfare services, though with more detailed steering by higher tiers of government (Committee of the Regions 2001).

14. Other sources of funding are grouped under the heading "other". They include fines and penalties, specific incomes from municipal organizations, interest of municipal deposits, and, most important, incomes resulting from the use of municipal goods and from sale of municipal property. The latter explain to a certain extent, considerable high figures for this category in certain countries.

15. Borrowing restrictions are usually found to be effective in restraining fiscal policies at lower levels of government [e.g., Bayoumi and Eichengreen (1995)]. All European countries apply restrictions to local government spending and borrowing, but in various forms and degrees [Kennedy and Robbins (2001) Dafflon (2002)]. In EU, local and state governments usually balance their budgets or run small deficits or surpluses. The only notable exception is Germany, where net lending by local and state government accounts for almost half of the general government deficit in 2002.

16. See Balassone and Franco (1999); Salmon (2000); Committee of the Regions (2001); European Commission (2001, 2003); Fischer and Giudice (2001); Von Hagen, Hughes, and Strauch (2001); Wendorf (2001); Balassone, Franco, and Zotteri (2002, 2003); and Von Hagen (2003).

17. In response to these pressures, governments in recent years have paid close attention to the incentives embedded in the design of grants and revenue-sharing arrangements with subcentral authorities. Many countries have also introduced borrowing restrictions for lower levels of government, and empirical studies indicate that higher degrees of vertical imbalance and subnational borrowing restrictions are indeed associated [Eichengreen and Von Hagen (1996)].

18. A recent study by Joumard and Giorno (2005) describes public sector decentralization in Spain.

19. As in the case of taxation, municipalities with less than 10,000 inhabitants appear to have set a level for the quantity and quality of goods and services provided that is below the average for all municipalities taken as a whole, while the current spending of towns with a population of between 20,000 and 100,000 is above the average.

20. The existence of conditioned transfers is justified by the existence of certain externalities and differences in the cost of delivering services, territorial economic development, and situations of severe deprivation in certain specific areas. Specifically, the State Programmes for Local Economic Cooperation at the municipal level provide that the distribution of capital grants will be determined in view of infrastructure requirements as assessed in the Survey of Local Infrastructure and Installations, the financial capacity of municipal treasuries and other socioeconomic indicators and the results of prior State cooperation.

21. The Local Treasuries Act regulates the access of local corporations to borrowing. The Act has, however, been continually amended, affecting the control mechanisms established

by central government. For a review of these issues, see Monasterio (2000) and Vallés, Pascual, and Cabasés (2003).

22. The central feature is that all general government subsectors should show a surplus or a balanced budget. Temporary deficits are allowed only in exceptional situations, where two-to-three year plans will be discussed in Parliament to return to a surplus or a balanced budget. The central government monitors budgetary execution and assesses the degree of fulfillment of the objectives. As a part of enforcement, the central government will be able to condition any recourse to debt by subnational governments. Possible fines under the budgetary rules of the Treaty and the SGP will be shared by those public entities responsible for the deficits.

23. Thus, we have tested for the possible presence of autocorrelation in the perturbation without observing any significant problems, although we did find some indication of this effect. Secondly, we checked for the possible presence of heteroskedasticity using the Breusch-Pagan test. The model did not pass this test. The possible endogeneity of the explanatory variables was also considered using the Hausman test. Once again, the hypothesis of endogeneity of the variables cannot be rejected.

24. A recent study by Pedraja and Suárez (2004) describes this relative specialization of municipalities by population.

25. The final result will also be conditioned by the stock of debt existing when the new BSL came into effect, because this volume will determine the municipalities' room for maneuver in the short term.

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