

Doc. 035/1991

**SEVEN HYPOTHESES ABOUT PUBLIC CHOICE AND  
LOCAL SPENDING. (A TEST FOR  
SPANISH MUNICIPALITIES)**

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Meeting of the European Public Choice Society 1991  
Beaune, 3-6 April, 1991

SEVEN HYPOTHESES ABOUT PUBLIC CHOICE AND LOCAL SPENDING(\*)

(A test for Spanish municipalities)

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Preliminary version

(\*)The authors are grateful to ENCARNA PERAN for her work  
in the data processing.

## SUMMARY

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## 1. INTRODUCTION

If we attempted to identify one area of the social sciences whose development in recent years has been especially fruitful and stimulating, it would have to be the theory of public choice. Advances in this theory, whose main exponent is the winner of the Nobel Prize for Economics James Buchanan, have entailed a clear improvement in knowledge regarding the way decisions are made in the public sector and the effect that these decisions have on other sectors operating within a market economy (1), or similarly, in the positive analysis of a discipline such as Public Sector economy in which normative theory has been the dominant criterion for its study up to now.

In our opinion, the fundamental contribution of the theory of public choice is basically its interdisciplinary vision of social relations, or in other words, in the interconnection that it proposes between the different methods of analysis employed by overlapping social sciences (2) such as Economics, Sociology and Political Science (3).

This paper intends to explore some of these interrelations. It specifically attempts to contrast the extent to which local expenditure is seen to be influenced by certain factors of a political nature. To this end, the second section shows the behaviour hypotheses that are going to

becontrasted. The third explains the method of estimation and the data used in the contrast, which refers to medium-large Spanish local authorities. A fourth section gathers together the results of the estimate, concluding with a final summary.

## 2. THE HYPOTHESES

The starting point of our analysis is the assumption that in a democratically based institutional system characterised by political pluralism and electoral competition, the authorities performing the functions of government will direct their activities toward the fundamental objective of being reelected at the next election (4). We also assume that a small part of the electorate maintains an "ideologically active militancy" which causes them to vote for parties with a manifesto more in agreement with their own ideological viewpoint and ignore the data obtained from their experience of the previous government. However, we assume that a large majority of the electorate, which in any case will be determining, do not exercise their vote for these motives, but follow more pragmatic criteria relative to their individual perception of cost and benefit derived from the budgetary activities of the government.

From these premises, we assume that the party or coalition in power will attempt to maximise the number of votes at the next election, a question that can be interpreted both from a selfish (Downs, 1957) and "altruistic" viewpoint, in the sense of assuming that the number of votes received by the politically dominant group acts as a "proxy" of the function of social welfare of the collective mass, as it can be interpreted that decisions benefitting the majority of the population will be endorsed by a majority vote for the group in government, which implies that the objective of maximising social well-being would coincide with the objective of maximising the number of votes on the party of the government.

The maximisation function could therefore be defined as follows,

$$V=V(E,T) \quad [1]$$

where, V represents the number of votes,

E public expenditure, as a measure of the volume and quality of the public services provided, and  
T the volume of tax resources.

We assume that the number of votes grows with the quantity and quality of public services, but at a decreasing pace, or

$$\frac{\partial V}{\partial E} > 0, \quad \frac{\partial^2 V}{\partial E^2} < 0$$

In relation to taxation, a threshold exists beyond which an increase in fiscal pressure leads inevitably to a fall in the number of votes (6), or

$$\exists T_0 / T > T_0 \Rightarrow \frac{\partial V}{\partial T} < 0$$

Finally, the restriction regarding electoral "fidelity", or ideologically active political militancy can be defined thus:

$$V \geq V_0$$

with  $V_0$  the number of "captive" votes.

Having settled on this equation, the objective of this paper is to explore the relevance of certain political factors in determining the size of the variable  $E$  (public expenditure).

We shall therefore analyse the logic of the policies that may be offered by the governing party or coalition

focussing mainly on the variable E (positively related to the maximising function), without this implying a total rejection of the income side. In short, it deals with contrasting the validity or otherwise of seven hypotheses regarding the behaviour expected from public spending at local government level, which state that:

HYPOTHESIS 1: Ideology is a relevant variable. The parties of the left (social democrats, socialists or communists) are more inclined toward public intervention than those of the right (liberals or conservatives), which implies that expected per capita expenditure under the government of a left wing party or coalition should be greater than that under a right wing government (7).

HYPOTHESIS 2: Political negotiation, interchange of votes or "logrolling" positively affects the growth of public expenditure. In consequence, the expected per capita expenditure will be greater in those places whose government is not backed up by a political group that has obtained an absolute majority in recent elections. The instability of the group in power will make it negotiate the projects to be approved with opposition groups, which will lead to greater concessions to the latter's initiatives and consequently higher public expenditure(8).



HYPOTHESIS 3: A population which participates a lot in the political process reduces the probability of the "captive" electorate of a party being very relevant, implying that in such circumstances the government would be expected to increase expenditure when faced with new elections. Therefore, local government expenditure per head is higher the greater the population's participation in elections.

HYPOTHESIS 4: The property tax is the main source of income for Spanish local authorities. There also exists an important degree of discretion when it comes to fixing the rates of this tax, which moreover is a tax clearly noticeable by the population. In consequence, and given that local authorities will attempt to compensate for political impopularity generated by "excessive" use of this tax, it is to be expected that local government per capita expenditure will be greater the higher the rate of tax applied to property values.

HYPOTHESIS 5: If we assumed in hypothesis 1 that ideology is important when it comes to making fiscal decisions, we can assume that there will exist a certain "intergovernmental ideological solidarity" in the relevant fiscal relations between the different territorial levels of administration, in such a way that governments at superior levels (central and regional), will focus the greater part of their expenditure, and consequently the

provision of public services, in those places with governments with whom there exists an ideological affinity, which would imply a fall in the level of expenditure to be borne by these local authorities. Therefore, local government per capita expenditure will be higher when the "political colour" of the local authority is different from the "colour" of the central and/or regional government.

HYPOTHESIS 6: Not all local expenditure is based on decisions taken exclusively by the government in power at any time. On the contrary, there exist certain items that stem from previous agreements or that in some way represent a "received inheritance" by the government taking over power, an inheritance that is particularly negative when the previous government has become heavily in debt. If the new government behaves responsibly and tries to reduce the deficit, then local government public expenditure per capita will be lower the greater the burden of inherited financial liabilities, these liabilities being excluded from the measurement of expenditure. However, a vote maximising government would have scarce incentive to behave responsibly in this sense.

HYPOTHESIS 7: The structure regarding sources of financedecisively affects the amount of local expenditure. Specifically, we can distinguish among four large groups of local resources, a) individual taxes clearly perceptible by

the contributor, b) individual taxes hidden from the contributors, or generators of fiscal illusion, c) grants from higher levels of government and d) credit resources. The last three sources of resources can be seen as instruments that cause an undervaluation of the cost of local public services by the contributors/voters of any particular place. In other words, the population will behave with a certain degree of myopia and will therefore demand more public services than they would if they were capable of assigning the true cost to such public services. In consequence the total per capita expenditure of the local government will be less the greater the proportion of total income represented by noticeable taxes (9).

### 3. VARIABLES

In order to contrast the validity of the seven hypotheses the function is defined

$$E = E (ID, VG, EP, PT, CD, RD, FC, VT) \quad [2]$$

where, E is local per capita expenditure,

ID is a "dummy" variable of an ideological nature that takes the value 0 when the party or coalition in government is of the right or centre and 1 if it is of the left.

VG is the percentage of votes obtained by the governing party in the last elections held.

EP is the percentage of electoral participation in the last elections held in the municipality.

PT is the level of tax applied to property values in the municipality.

CD is a "dummy" variable that takes the value 0 when ideological concordance exists between central and local government and 1 if the opposite is true.

RD is a "dummy" variable that takes the value 0 when ideological concordance exists between regional and local government and 1 if the opposite is true.

FC measures the financial liabilities by interest and mortgages of outstanding debts that the local government must deal with annually.

VT is the percentage represented by the local individual taxes most visible or noticeable by the contributors in the total resources of the municipality.

The contrast is made by the ordinary least squares method of the equation,

$$E = \alpha_0 + \alpha_1 ID + \alpha_2 VG + \alpha_3 EP + \alpha_4 PT + \alpha_5 CD + \alpha_6 RD + \alpha_7 FC + \alpha_8 VT \quad [3]$$

where the signs expected from the parameters are those shown in Table 1 (10).

The estimate is made from a sample consisting of all Spanish municipalities of more than 50.000 inhabitants, excluding the city of Madrid (pop. 3 058 182) and Barcelona (pop. 1.708.812), which includes a total of 105 municipalities(11), and is in accordance with a cross-section analysis which takes the fiscal data from 1988 (budgets settled by the municipalities) and the electoral data from 1987, (year of the last local elections held in Spain).

Table 1

SIGNS EXPECTED FROM THE VARIABLES RELATED TO EXPENDITURE

INDEPENDENT VARIABLE	EXPECTED SIGN
ID	+
VG	-
EP	+
PT	+
CD	+
RD	+
FC	-/+
VT	-

As dependent variables we have tested four alternatives, which we have called:

E1= Total per capita local government expenditure.

E2= Per capita local government investment expenditure.

E3= Total per capita local government expenditure excluding financial liabilities.

E4= Total per capita local government expenditure excluding financial liabilities and payments made to personnel working for the government.

The reason for using these different alternatives is based on the wish to contrast our hypotheses when faced with different scenarios of political discretion in local

government. Evidently the power of decision that public administrators have in cases such as financial responsibilities derived from previously contracted obligations is not the same as they enjoy when proposing new investment. The cost of personnel in this sense would occupy an intermediate position given the spanish relative rigidity of the spanish public labour market.

With respect to independent variables, it is necessary to point out that each of the proposals is related to one of the hypotheses to be contrasted, with the exception of the variables CD and RD, both connected with hypothesis 5 (12).

#### 4. RESULTS

Table 2 shows the main results of the regressions performed, which allow us to find certain empirical evidence in most of the assumptions that supports the relevance of the proposed hypotheses. Indeed, variables ID, PT, CD and VT show the expected signs in all cases, and their coefficients are always significantly different from zero to a relatively high level of reliability, which allows us to verify the relevance of hypothesis 1 (ideological factor), 4 (relative to the levels of taxation applied to property values), 5 (ideological concordance with the central government) and 7 (perceptibility of tax

resources). Specifically, the variable VT presents the highest coefficient (significant to 99% in all four cases), which leads us to the conclusion that the growth of local public spending would be slowed down by increasing the tax responsibility of the local authorities in the sense of giving them greater power to establish individual taxes which are clearly noticeable and identifiable by the citizen contributor; in other words, methods of finance that do not involve financial illusion effects, which would have to be directed toward reducing the weight of intergovernmental transfers or grants.



Table 2

RESULTS OF THE REGRESSION ANALYSIS

INDEPENDENT VARIABLES	DEPENDENT VARIABLES			
	E1	E2	E3	E4
CONSTANT	15.441,62 (0,952)	-5.172,82 (0,645)	15.441,62 (0,952)	7.550,35 (0,547)
ID	30.753,87 (3,183)***	12.016,42 (2,514)**	30.753,86 (3,183)***	20.623,86 (2,508)**
VG	-296,54 (-3,160)***	-34,29 (0,739)	-296,54 (-3,160)***	-188,24 (-2,358)**
EP	154,01 (1,094)	156,22 (2,243)**	154,01 (1,094)	144,80 (1,209)
PT	269,04 (2,026)**	138,65 (2,111)**	269,04 (2,026)**	218,53 (1,934)**
CD	31.550,33 (3,337)***	11.477,34 (2,454)**	31.550,32 (3,337)***	19.887,32 (2,472)**
RD	1.841,93 (0,931)	506,77 (0,518)	1.841,93 (0,931)	1.624,32 (0,965)
FC	1,11 (8,621)***	-0,14 (-2,263)**	0,11 (0,829)	0,03 (0,311)
VT	-496,24 (-3,583)***	-290,10 (-4,235)***	-496,24 (-3,583)***	-400,56 (-3,398)***
R2	0,596	0,237	0,287	0,213
F	17,718***	3,726***	4,841***	3,253***

The figures in brackets show the value of the statistic "t"  
 \*\*\* Significant to a level of reliability of 99%  
 \*\* Significant to a level of reliability of 95%

In relation to hypothesis 2 (support obtained by the political group in government), it is necessary to point out that the variable VG also shows the expected sign

(negative) and its coefficient is significantly different from zero in three of the four estimates made. It only lacks significance, although still maintaining the correct sign, when we use public investment as the dependent variable. The behaviour of this variable is more erratic, or less homogenous, during time. All things considered, there seems to be certain empirical support for the existence of a degree of "logrolling" type of behaviour at a local level.

With respect to hypotheses 3 and 6, regarding the influence of electoral responsibility and inherited financial liabilities respectively, the results are more changeable. As can be seen in Table 2, the variable EP, although showing the expected sign, only gives statistically significant results when the dependent variable is investment. From this it can be deduced that greater electoral participation leads to growth in public spending, but confined to investment, for as it is easily visible by the voter it will better serve the objective of winning those votes uncaptured from the electorate. However, given the erratic nature of the investments, skepticism is necessary regarding the verification of hypothesis 3.

The variable FC shows a positive and strongly significant sign when the dependent variable is total expenditure. It is positive but not significant if the dependent variables

are E3 (total expenditure minus financial liabilities) and E4 (total expenditure minus financial liabilities minus personnel expenditure), and negative and significant when the dependent variable is investment. Bearing in mind the formulation of hypothesis 6, according to which we must exclude the financial liabilities themselves in the variable dependent chosen, we could discard the result obtained in the first estimate (when the variable dependent is E1) as tautologous. As one of the principal components of public expenditure by local government is precisely the expenditure derived from debts contracted by previous governments, it is perfectly logical that the coefficient that affects FC should be positive and strongly significant, without us being able to extract any implication of "public choice" from it. On the other hand, when financial liabilities are not included in the dependent variable, it would be necessary to interpret the results in terms of the political behaviour of the local authorities. In this sense we see that the evidence, where it exists, would point towards responsibility or self-control on the part of these authorities, as the only significant coefficient with a reasonable degree of reliability is the negative one (95%). With this, the already mentioned erratic character of local investment, together with the positive sign, although not significant of the coefficients in the other two situations, makes us skeptical about the implications (13).

Finally, the coefficient of the variable RD, linked with hypothesis 5, although giving the expected sign, does not give a statistically significant result. The scarce value of the tstatistic for its coefficients does not allow us to conclude that the divergence between the "political colours" of regional and local governments has caused greater public expenditure. It could help us to understand the differences between the statistical significance of the variables CD and RD - on one side the pronounced inequality in the distribution of tasks amongst the distinct Spanish "Comunidades Autónomas" (regional governments), and, on the other the greater financial dependence of Spanish local government on central rather than regional government, this second case being almost nonexistent.

## **5. CONCLUSION**

In this paper we have tried to contrast seven hypotheses concerning the political behaviour of the local authorities in relation to public expenditure. The contrast performed for a sample of 105 Spanish municipalities with a population above 50.000 based on an analysis of regression by the system of ordinary least squares has allowed us to find empirical evidence for the following:

- Municipalities governed by political groups of the left spend relatively more per head.
- Municipalities whose government is of a political colour different from that of the central government spend relatively more.
- Municipalities whose government has established higher rates of property tax spend relatively more.
- Municipalities financed to a greater extent by visible individual taxes spend relatively less.

Similarly, weak evidence has been found showing that high electoral participation tends to expand public spending and municipal self-control in relation to the inherited financial responsibilities. These variables are only significant with regard to investment spending.

#### **NOTES**

(1). Theoretical developments also exist regarding the mechanisms of public choice in systems other than the market system, which we have not used for this paper. See, for example Tullock (1987), Sands (1990) and Schuknecht (1990).

(2). See Brennan (1984).

(3). A schematic summary of the key ideas in the theory of public choice can be found in Buchanan (1979). A more detailed analysis can be found in Mueller (1979).

(4). Note that this objective can be explained both for strictly selfish reasons, as assumed by the individualist logic of the central theoretical body of the collective choice theory started by Downs (1957), as for altruistic motives, in the sense of perceiving the ideology of the governing party and the functions of social utility from the point of view of who is governing as identical.

(5). A more detailed explanation can be found in Suárez Pandiello (1989).

(6) The existence of a threshold ( $T_0$ ) beneath which an increase in fiscal pressure does not necessarily bring about a fall in electoral support could be explained in terms of income obtained from taxes which generate "fiscal illusion"; in other words, those which are not easily perceived by the electors. For this see Buchanan (1967).

(7) Some recent empirical studies incorporate this argument by means of the use of qualitative or "dummy" variables. See, for example Naert (1990) and Zappan (1990).

(8) For further information on this argument see Tullock (1976), chapter V.

(9) As empirical studies of the influence of fiscal illusion at a local level, see Wagner (1976) and Pommerehne and Schneider (1978). In the Spanish case see Monasterio and Suárez Pandiello (1989).

(10) The ambiguity of the parameter that affects the variable FC can be explained in terms of the dichotomy that we outlined previously about the ultimate implications of the vote maximising objective. Thus, if this objective tries to only satisfy the selfish interests of the governing group, this group will not be expected to produce "responsible" politicians in the medium term, and therefore the expected sign will be positive. The opposite will be true if we assume that a greater financial balance is more consistent with the relevant function of social welfare, and it is this which is relevant in the objective of maximising the number of votes.

(11) Of the 105 municipalities of the sample, 53 have a population between 50.001 and 100.000 inhabitants, 48 between 100.001 and 500.000 and 4 between 500.001 and 1.000.000.

(12) In the case that in any municipality a post- electoral coalition of parties is in government, the "political colour" assigned to that municipality will be the one which corresponds to the party of the mayor. This restriction also affects the variable VG, given that the percentage of votes incorporated in the estimate will be those obtained by the party to which the mayor belongs as president of the corporation.

(13) Note that both the absolute value of the coefficients, such as that of the t statistic, are kept for all the variables, with the obvious exception of the variable FC, when we eliminate the financial liabilities from the dependent variable.

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