METU Studies in Development, 28 (1-2) 2001, 203-218

A cross-section analysis of local public spending in Turkey

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Abstract

This paper examines a model of demand for local government-provided goods, and applies this to municipal spending in Turkey. Two sets of variables are tested: the socio-economic characteristics of the localities, and the political variables. The results are generally in line with the previous findings for a set of socio-economic variables, however none of the political variables seem to have explanatory power, probably because of the high dependence of local governments on the central government and hence the lack of local accountability. We argue that the present system motivates local politicians to prefer relying on the central government rather than the local revenue sources as a way of avoiding the tax-related political risks. Thus, a serious local tax reform could be a crossroad to create local-political accountability.

1. Introduction

Local governments have been less important in practice and highly dependent on the central government in Turkey, despite the theoretical debates on decentralisation of government services in the 1980s. The local government finances have also suffered serious difficulties similar to that of general public finance, and hence local taxation has been a significant part of the tax reform debates. To discuss a reform of local government finance, first the demand for local public goods should be carefully

* My thanks, for helpful comments, to an anonymous referee and the participants of the 2000 Annual Meeting of the European Public Choice Society in Siena, Italy. The usual disclaimer applies.

analysed. The initial questions would be what the socio-economic determinants of the demand for local public services are and whether local governments utilise scale economies in the provision of these services. Then the finance of those services should be analysed: the dependence of local governments on the central government and the importance of local taxes. Secondly, the analysis should include the political accountability at the local level, which is closely related to local government finance.

It is argued, in public choice theory, that demand for government-provided goods is expected to be a reflection of the voters' preferences revealed through the political process. There have been numerous empirical studies of demand for local government-provided goods. Most early studies were based on the standard demand theory applied to public sector provision, in which voter-taxpayers are assumed to maximise their utility from the consumption of private and public goods subject to their budget constraint (Borcherding and Deacon, 1972; Bergstrom and Goodman, 1973). Median voters' preferences are also generally assumed to dominate, and as a result, the majority of empirical studies were based on the median voter hypothesis (Holcombe, 1989).[1] The majority of the empirical findings suggest that the differences in the size of expenditures over the local governments depend on the per capita incomes, voters' tax shares, and the population size. Although some studies have compared the decisive power of mean and median incomes, such as Pommerehne and Frey (1976), Inman (1978), and Turnbull and Djoundourian (1994), the main framework of the demand aggregation in the political decision-making process has remained the same.

An important issue in local government finance is the so-called 'flypaper effect' which hypothesises that central grants 'stick where they hit'. If the median voter (correctly) perceives a grant as equivalent to an increase in the voter's income, the effect of the grant should be the same as that of an increase in income – the 'equivalence theorem' (Bradford and Oates, 1971). However, much empirical evidence suggests that the effect of grants on spending is much greater than that of income – the flypaper effect (e.g., Grossman, 1990; Heyndels and Smolders, 1994; Oates, 1991; Turnbull and Djoundourian, 1994; Gemmell *et al*, 1998). While evidence

[1] The question of whether individual preferences can be aggregated, posed by Arrow (1951), received a positive answer from public choice theorists: in a majority decision model for which preferences are single-peaked, it is the median voter's preferences that produce the minimum welfare loss for the whole group. The median voter is the marginal voter who establishes a majority under the assumptions of a single dimensional vector of public goods and single-peaked voters' preferences in that one dimension. Single-peakedness refers to a homogeneous preference ordering where the paradox of voting does not occur. (For further discussion of majority rule and multidimensional issues, and a proof of the median voter hypothesis for the multidimensional case, see Mueller, 1989: 67-74).

supports the flypaper effect, the interpretations differ. Barnett *et al.* (1991) demonstrate that the effect can be observed even if voters correctly perceive the budget constraint, whereas Cullis *et al.* (1991, 1993) argue that the effect arises because voters misperceive the budget constraint.

In this paper, we use a standard public choice model of demand for government-provided goods to analyse local government expenditures in Turkey. The study focuses on two important issues. First, a standard demand model is estimated to examine whether the municipal expenditures in Turkey respond to income, population size, and a "tax-price" specification suggested in public choice theory. The effect of central grants (i.e., the flypaper effect) is also tested within this framework. Secondly, some taste variables are included in the regressions: some are related to the personal characteristics such as education level, and others are about the political behaviour of voters and local politicians, such as the level of participation in local elections, fragmentation of the votes and the party in power.

The remainder of the paper is organised as follows: in Section 2, a model of demand for local government-provided goods is outlined. Section 3 explains the data to be used, and reports the empirical results. Some conclusions and further area of studies are drawn in section 4.

2. A model of local public spending

Following standard practice, the voter-taxpayer i's demand for local government provided goods is hypothesised to depend on i's income, i's tax-price, and a vector of local taste variables as follows:

$$G_i = a\, Y_i^{\alpha} P_{gi}^{\beta} P_x^{\theta} Z^{\lambda},\ i=1,2,...,N \qquad (1)$$

where G_i is i's consumption of government-provided goods, Y_i is i's income, P_{gi} is i's (true) tax-price for G_i, P_x is the price for composite private goods, and Z is a vector of taste variables.

The tax-price is defined by Borcherding and Deacon (1972) and Bergstrom and Goodman (1973) as '$P_{gi} = T_i\, C\, N^{\eta}$', where T_i is i's tax share, C is the unit cost of G, and N is population with the degree of publicness measured by η i.e., if η=0, then G represents a pure public (Samuelsonian) good, while the unity of η implies a private good. On the other hand, G may exhibit both characteristics and appear to be a mixed good if η takes the values between zero and unity. Substituting for P_{gi} in (1), yields:

$$G_i = a\, Y_i^{\alpha} (T_i C)^{\beta} N^{\eta\beta} P_x^{\theta} Z^{\lambda} \qquad (2)$$

An important issue is the measurement of the tax-price. Due to an absence of data on C, Bergstrom and Goodman (1973) were forced to

assume that the ratio of prices of public to private goods differs little between local governments. Thus, implicitly C=1, and the tax-price becomes $P_{gi} = T_i \, N^{\sigma}$. They then compute the tax bill on the house of median value. This is divided by total property tax revenue for the municipality to produce an estimate of the share of the real property taxes paid by the consumer with median income, T_i. It is also assumed that the voter-taxpayer i pays the same share of other municipal revenues as she/he does of the property tax. Under this assumption the tax-price becomes $P_{gi} = N^{\hbar u}$. The case of Turkey will be discussed in Part 3.[2]

If voter-taxpayers are subject to tax-price misperceptions, their preferences for government-provided goods depend on the perceived tax-price rather than the "true" tax price. i's perceived tax-price may be defined as $\hat{P}_{gi} = \Pi_i \, P_{gi}$, where Π_i is a 'perception parameter' for individual i, which is hypothesised to be a function of the fiscal structure of the local government. In particular, for local government expenditures, Π_i is assumed to be a function of the local fiscal structure. The most important issue in Turkish local finance would be the flypaper effect. Incorporating this into the model gives the following expression: $\Pi_i = S_i^{\pi}$, where S_i is per capita central government grants and is a proxy for the flypaper effect.[3] Substituting this equation into (2), and taking natural logs, the model becomes:

$$lnG_i = lna + \alpha \, ln \, Y_i + \beta \, ln \, (T_iC) + \eta\beta \, ln \, N + \theta \, ln \, P_x + \delta \, ln \, S_i + \sum\lambda Z + u \qquad (3)$$

where $\delta = \pi \, \beta$. This is the model we are going to estimate in the next section.[4]

3. Empirical analysis

3.1. Data

The data used in this paper are from the State Institute of Statistics, entitled *Economic and Social Indicators* and *Budgets-municipal and special provincial administrations and villages 1993*, in Turkey. The former dataset covers various socioeconomic information, and the latter contains the detailed dataset on the revenues and expenditures of local

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2 Bergstrom and Goodman (1973) pointed out that these are purely assumptions of convenience that should be modified wherever better information is available. The availability of data allows us to capture C for the Turkish municipalities.

3 Other proxies were also included in the specification of the perceptions, however, none is relevant in this context (see Gemmell *et al*, 1999).

4 See Appendix for the derivation of the basic model.

governments.[5] Some descriptive data statistics are given in Table A1 (see Appendix for the list of variables).

3.1.1.Dependent variable

The per capita local government expenditures (G_i) are computed by dividing municipal expenditures by the population (taken from the 1990 census).[6] The mean of all the municipalities is about 1.4 million Turkish Lira (TL). Ankara, the capital city, has the highest G_i at about 4.6 million TL, while Şırnak has the lowest at about 0.3 million TL. While the other metropolitan cities, particularly İstanbul, İzmir, and Adana, are also expected to have high levels of G_i, this is not the case. One reason may be the substantial immigration that has taken place to these three cities in recent years. The size of the immigration makes it difficult for these local governments, at least in the short-run, to provide sufficient local services to the additional population.

Table 1
Some Descriptive Statistics of the Municipalities in Turkey

Variables (thousands)	Mean	Stand. Dev.	Minimum	Maximum
Expenditures per capita (G_i)	1,369	612	264	4,630
Income per capita (Y_i)	27,373	14,734	6,494	99,450
Population (N)[1]	454	869	41	6,754
Local Tax/LGE[2]	0.05	0.03	0.01	0.14
Central grants/LGE	0.43	0.11	0.20	0.70
Public sector price index	1	0.86	0.06	5.08
Private sector price index	1	0.15	0.76	1.76

[1] This is the municipal population, i.e. does not include the villages. [2] Local government expenditures.

3.1.2. Independent variables

The gross domestic product (*GDP*) for each city is divided by the population to obtain the per capita income (Y_i). Kocaeli is the city with the highest *GDP* per capita at about 99 million TL, and Kars is the city with

5 There are 76 cities in 1993, however, the status of three (Ardahan, Bartın and Iğdır) were recently changed, and hence are not included because some of the data are not available. There are 8 metropolitan cities, where the municipality is organised by different regulations.

6 The villages and the special provincial administrations are excluded as they have independent budgets, and their relative shares of local expenditures are quite small. Furthermore, the major local government goods and services are provided by the municipal administrations.

the lowest *GDP* per capita at about 6 million TL. The mean for all the cities is approximately 27 million TL.

The property tax and other municipal taxes are levied on households in Turkey (unlike a poll tax, which is levied on individuals). The ratio of local taxes to local government expenditures is, on average, around 5% (see Table 1). The tax share is computed by dividing households' average local tax bill by total local tax revenues in each locality.[7]

The availability of local expenditures both at current and at 1994 prices allows us to compute an index for the unit cost of local government goods and services. A proxy for the price of private sector is computed by using the GDP at current and at 1987 prices. The share of the payments from general budget tax revenues is considered in this study to be a lump-sum grant. On average about 43% of municipal expenditures is financed through lump-sum grants. Public choice theory postulates that lump-sum grants have both income and price effects (Oates, 1991), and various proxies are used in empirical studies. Among the studies on the flypaper effect, Logan (1986) uses per capita central grants (S_i=*GRA/N*) as a proxy. A similar approach is adopted in this study.

Some taste variables are also used in the regressions: the ratio of population in the cities (*URB*), the ratio of local residents with a university degree or higher (*SCL*), the level of participation in local elections (*PLE*), the concentration of local electors on a party (*PCON*)[8], municipalities held by the party in power (*PAP*). Finally, a dummy for metropolitan municipalities (*DM*), and separate dummies for İstanbul and Ankara (*DI* and *DA*, respectively) were used in the regressions.

The variables are expected to influence the local government expenditures as follows: Income (Y_i) is expected to have a positive effect if the local government-provided goods are normal goods, while the tax share (T_i) together with unit cost (C) is expected to have a negative effect. The consumer price index (P_x) is expected to have a positive effect on the local government expenditures. A combination of the coefficients for tax share, unit cost and population (N) is used to compute the degree of publicness (η), which is predicted to take a value between zero and unity. The proxy computed by using lump-sum grants (S_i) is expected to have a positive sign and to be greater than the coefficient of income if the

7 It should be noted that, as pointed out by Bergstrom and Goodman (1973), this is purely an assumption of convenience and should be modified wherever better information is available. This definition of tax share is identical to 1/*N*.

8 The Herfindahl index of concentration is used in computing this variable: $PCON=\sum (V_i / TV)^2$, where V_i is the number of voters who support party i, and TV is the total number of voters in the locality. The index takes higher values (approaches to unity) when votes are concentrated on a single party and lower values when votes are fragmented.

flypaper effect operates. The variables *URB*, *SCL*, *PLE*, *PAP* are expected to lead to higher local spending, while the effect of *PCON* depends on the local governments decision-making process. A fragmented municipal council may tend to spend more under the pressure of various party members, and a single party-dominated council may also spend more since the spending decision could easily be taken. Finally, the variables *DM*, *DI* and *DA* are expected to be positive; they should, however, be analysed together with the other relevant variables.

3.2. Empirical results

The model outlined in Section 2 is estimated by OLS, and the results are reported in Table 2. The dependent variable is per capita municipal expenditures (G_i), and the explanatory variables in the standard model of demand for government-provided goods are income per capita (Y_i), unit cost (C), consumer price index (P_x), population (N), and central grants per capita (S_i) (Table 2: Eq. 1). The tax share has been excluded from the regressions because it is identical to $1/N$ in the specification here. The model to be estimated is modified by defining T_i as: $T_i = 1/N = N^{\eta}$ and

the tax-price then becomes $P_{gi} = C\,N^{\eta-1}$.[9]

As seen in Table 2, the results appeared to be quite robust, and the χ^2 test supports the absence of heteroscedasticity. Regarding the multicollinearity problem, the correlation coefficients between the explanatory variables seem to be reasonable (see Table A2 for a full matrix of correlation coefficients). Following Greene (1993: 268-69), auxiliary regressions were also run to test the possibility of any independent variable being a linear combination of other independent variables (See Table A3). The computed R^2s for those regressions are all lower than the overall R^2 in the regression, which may be considered to be an indication of the absence of multicollinearity.

The income variable has a positive effect on local government expenditures implying that the goods and services supplied by municipalities are normal goods, and that the income elasticity is substantially lower than unity. The degree of publicness is a product of '$\beta(\eta-1)$' and gives an index that is also lower than unity (about 0.90), suggesting that the local government-provided goods and services are mixed goods.[10] This may be explained by the fact that municipalities

[9] The coefficient for N will be $\beta(\eta-1)$ in this case (see Appendix).

[10] A similar approach was applied to general government expenditures in Turkey and η was found to be around 0.70 (see Pınar, 1998).

supply mainly infrastructure services, while services such as health and education are provided by the central government. The consumer price index is positive as expected and slightly significant. The coefficient on unit cost is highly significant in all cases, but positive contrary to theoretical expectations. This may be because of the supply-side effect of the unit cost dominating the tax-price effect.

As mentioned above, the tax-price is a combination of tax share and unit cost, and the former cannot be distinguished from the population effect due to the nature of the local property tax. Only about 5% of the local spending (on average) is financed through property tax and central grants amount to a substantial proportion of local finance. The per capita central grants are used to test for the 'flypaper effect', and a significantly positive effect is found in all cases. The magnitude of the coefficient of S_i is much greater than the coefficient on per capita income (Y_i), supporting the flypaper effect. It should be noted that the high dependency ratio on central grants reduces the local accountability as voters do not bear the direct cost of local services.

Table 2

Empirical Results (Dependent Variable= *Ln* G_i, N. of Obs.=73)

Variables	Eq.1.	Eq.2.	Eq.3.	Eq.4.	Eq.5.
Constant	-2.15***	0.65	1.58	0.79	0.24
	(0.57)	(1.12)	(1.69)	(1.16)	(1.07)
Ln Y_i	0.42***	0.27***	0.28***	0.26***	0.28***
	(0.06)	(0.08)	(0.08)	(0.08)	(0.08)
Ln N	-0.008	-0.009	-0.009	-0.01	0.006
	(0.03)	(0.03)	(0.03)	(0.03)	(0.04)
Ln C	0.08***	0.08***	0.09***	0.08***	0.08***
	(0.03)	(0.03)	(0.03)	(0.03)	(0.03)
Ln P_x	0.36*	0.27*	0.29*	0.27*	0.23
	(0.18)	(0.16)	(0.16)	(0.16)	(0.15)
Ln S_i	0.79***	0.76***	0.76***	0.76***	0.77***
	(0.08)	(0.07)	(0.08)	(0.07)	(0.08)
Ln URB		-0.17*	-0.18*	-0.15	-0.13
		(0.10)	(0.10)	(0.11)	(0.11)
Ln SCL		0.30***	0.29***	0.30***	0.25***
		(0.09)	(0.08)	(0.09)	(0.08)
Ln PLE			-0.23		
			(0.37)		
Ln PCON			0.07		
			(0.16)		
DPAP				0.03	
				(0.05)	

DM					-0.14
					(0.11)
DI					-0.01
					(0.11)
DA					0.47***
					(0.11)
F-ratio	80.4***	68.6***	52.1***	59.3***	50.9***
χ^2 (het.)	12.0 (5)	13.0 (7)	13.0 (9)	13.6 (8)	11.5 (10)
R^2(adjusted)	0.85	0.87	0.86	0.87	0.87

Notes: Figures in parentheses are standard errors, ***denotes significance at the 1% level, ** significance at the 5% level and * significance at the 10% level. The F-ratio is a joint significance test for the set of variables included in the regressions. The χ^2(het) is the Breusch-Pagan test for heteroscedasticity (the degree of freedom in parentheses). See Table A3 for the multicollinearity tests.

Other local-political variables were also used to test for local accountability as seen in Table 2 (Eqs. 3 and 4). It is argued that a higher participation ratio in local elections (*PLE*) implies that voters are more concerned with local services and that this would make for higher local spending. However, *PLE* seems to be negative and insignificant. One reason could be that voters do not expect the participation in local elections to affect their benefit from local services, which brings to mind the concept of 'rational ignorance' introduced by Downs (1957).[11] We have also tested for the argument that a more fragmented local council would tend to spend more as members would try to satisfy their own electors. A Herfindahl index is used to capture the degree of concentration and the result is positive although insignificant.

Another issue is the municipalities dominated by the party in power who could obtain greater support from the central government. The dummy for the parties in power (*PAP*) is positive but insignificant.[12] It is well known that central grants are allocated according to the local population. However, as Falay *et al* (1996) emphasise, the central government's fiscal support, *inter alia*, depends also on the popularity of the locality and the political ability of the region's representatives. Despite the fact that local administrations dominated by the incumbent party have

[11] Downs (1957) presented the 'rational voter hypothesis' as an answer for the question of why individuals choose to vote. The rational voter's decision to vote is assumed to be based on the expected utility that may be enjoyed as a result of his/her participation in the political process. However, there are costs associated with the act of voting. If the voter does not believe that his/her vote will influence the outcome of the election, he/she may not be willing to incur the costs of gathering information, and such behavior leads to rational voter ignorance.

[12] There was a coalition government by DYP and SHP in 1993. The coefficient reported here is for the joint dummy used for both parties. Separate dummies for each party were also tested, however the results were insignificant (not reported here).

a better chance of getting central government support, some grants are not allocated by transparent rules through other institutions, such as İller Bankası. Such support does not appear in the municipal budget.

Among the taste variables, the ratio of population with a university degree (*SCL*) has strong explanatory power. The positive significance of *SCL* is partly due to the likelihood of educated people higher incomes, and the income elasticity is lower when this variable is included in the regressions. It could also be argued that educated people are expected to be more aware of political outcomes and thus have greater skills for evaluating government-provided goods and services. Hence, a higher ratio of local tenants with a university degree leads local governments to spend more on local services to satisfy the electorate.

The variable for urbanisation (*URB*) has a negative sign and slightly significant effect in some cases only. A similar variable is the dummy for metropolitan cities (*DM*), which is negative and insignificant. This may be explained by the substantial immigration particularly to the major metropolitan cities, and the fact that many of the immigrants settle outside the city centers where major municipal services are not provided properly. When a dummy is included for individual cities, the one for İstanbul (*DI*) is also negative but insignificant.[13] It should be noted that İstanbul is the city most influenced by the huge immigration from the other cities. The dummy for Ankara (*DA*) is the only positive and significant city dummy. Two possible reasons could explain this: one is that Ankara is less influenced by immigration compared to İstanbul and İzmir; another reason could be that Ankara, being the capital city, always has the best chance to be taken care of by any government.

4. Conclusions

This paper has examined a model of demand for local government-provided goods, and applied this to local government spending in Turkey. Two sets of variables have been tested: one includes the socio-economic characteristics of the localities, such as income, unit cost of the local services, population, and the level of central grants; the other is the political characteristics of the localities, such as the level of participation in local elections, fragmentation of the votes and party in power. The results are generally supportive of previous findings for a set of socio-economic variables: empirical results suggest a positive impact of income on the demand for local government expenditures with an elasticity lower than unity; local government-provided goods seem to be quasi-private;

[13] The exclusion of *URB* and *DM* improved the coefficient for *DI*, but it still remained insignificant.

and the flypaper effect finds strong support. On the other hand, none of the political variables seem to have significant explanatory power.

It is assumed in standard (normative) theories of public finance that the state is a single decision-making unit acting for society as a whole, and a government's objective is to maximize social welfare. Since the 1950s, studies of the decision-making process have accelerated and 'public choice theories' emerged as a systematic approach to the economics of the political processes. Governmental decisions also have some endogenous elements similar to private economic decisions, and analysis of the public economy will be unsatisfactory unless examined in a collective decision-making framework. The insignificance of political variables could probably be explained by the high dependence of the local governments on the central government and hence the lack of local accountability. So, the public choice approaches would hardly make any contribution in explaining the local government behaviour in Turkey, unless a proper fiscal decentralisation is inserted into the system.

One shortcoming of such an analysis is that the price elasticity of demand for local services cannot explicitly be evaluated because the ratio of local tax is too small to create local accountability. The present system of property tax is not equitable either. This encourages many debates on local tax reform. It could be argued that the present system motivates local politicians to prefer relying on the central government rather than the local revenue sources as a way of avoiding the tax-related political risks. Thus, a serious local tax reform could be a conducive to creating local-political accountability.

Appendix

The Derivation of the Model

$$G_i = a\, Y_i^{\alpha} P_{gi}^{\beta} P_x^{\theta} Z^{\lambda},\ i=1,2,...,N \quad \text{(A1)}$$

$$P_{gi} = T_i\, C\, N^{\phi} \quad \text{(A2)}$$

Substituting (2) into (1), yields:

$$G_i = a\, Y_i^{\alpha} (T_i C)^{\beta} N^{\phi\beta} P_x^{\theta} Z^{\lambda} \quad \text{(A3)}$$

$\overset{U}{P}_{gi} = \Pi_i P_{gi}$, where Π_i is a 'perception parameter' for individual i.

$$\Pi_i = S_i^{\pi}, \quad \text{(A4)}$$

Substituting $\overset{\grave{U}}{P}_{gi}$ by P_{gi}, and taking natural logs, the model becomes:

$$\ln G_i = \ln a + \alpha \ln Y_i + \beta \ln (T_i C) + \eta\beta \ln N + \theta \ln P_x + \delta \ln S_i + \Sigma\lambda Z + u \quad \text{(A5)}$$

where $\delta = \pi \beta$.

Computing the average tax share for each locality,

$T_i = (T/N) / T = N^{-1}$

Substituting this in (3) and making similar arrangements, the following model is obtained:

$$lnG_i = lna + \alpha \ln Y_i + \beta \ln C + \eta(\beta - 1) \ln N + \theta \ln P_x + \delta \ln S_i + \Sigma \lambda Z + u \quad \text{(A6)}$$

Table A1

The List of the Variables in the Model

G_i	Per capita local government (municipal) spending
Y_i	Per capita gross domestic product
N	Municipal population
C	The unit cost of G (the deflator for the municipal spending)
P_x	Consumer price index in the localities
P_{gi}	The "true" tax-price (^ refers to the perceived tax-price)
T_i	Tax share (individual tax bill/total tax revenues)
Z	A vector of taste variables
S_i	Per capita central grants
URB	Urbanization rate (the population in the urban area)
SCL	Schooling (the ratio of population with a university degree)
PLE	The ratio of participation in local elections
PCON	The fragmentation of votes in local councils
DPAP	Dummy variable for the party in power
DM	Dummy variable for metropolitan cities
DI	Dummy variable for İstanbul
DA	Dummy variable for Ankara

Table A2

Correlation Matrix

	Ln Y_i	***Ln N***	***Ln P_x***	***Ln C***	***Ln S_i***	***Ln URB***	***Ln SCL***	***LnPLE***
LnPCON								
Ln Y_i	1.000							
Ln N	.43887	1.000						
Ln P_x	-.47142	-.27882	1.000					
Ln C	.15445	.10090	-.32609	1.000				
Ln S_i	.52446	.44716	-.13197	.27712	1.000			
Ln URB	.56466	.52912	-.27691	.12804	.64071	1.000		
Ln SCL	.79216	.45803	-.29330	.10832	.59661	.54174	1.000	
Ln PLE	.60470	.17193	-.37059	.22172	.24443	.25568	.49236	1.000
Ln PCON	-.05794	-.15312	.10155	-.17725	-.03309	-.08055	-.05907	.06062
1.000								

Table A3
Tests for Multicollinearity

Left-Hand Side	Right-Hand Side	R^2
Y_i	$N, C, P_x, S_i, URB, SCL, PLE, PCON$	0.69
N	$Y_i, C, P_x, S_i, URB, SCL, PLE, PCON$	0.42
C	$Y_i, N, P_x, S_i, URB, SCL, PLE, PCON$	0.20
P_x	$Y_i, N, C, S_i, URB, SCL, PLE, PCON$	0.29
S_i	$Y_i, N, C, P_x, URB, SCL, PLE, PCON$	0.56
URB	$Y_i, N, C, P_x, S_i, SCL, PLE, PCON$	0.50
SCL	$Y_i, N, C, P_x, S_i, URB, PLE, PCON$	0.69
PLE	$Y_i, N, C, P_x, S_i, URB, SCL, PCON$	0.23
$PCON$	$Y_i, N, C, P_x, S_i, URB, SCL, PLE$	0.18

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Özet

Türkiye'de yerel kamu harcamalarının kesit analizi

Bu çalışma Türkiye'de belediyelerce yapılan harcamaları bir yerel kamu malları modeli çerçevesinde incelemektedir. Temel olarak iki değişken kümesi sınanmıştır: yerel sosyoekonomik özellikler ve siyasal değişkenler. Sosyoekonomik değişkenlerle ilgili sonuçlar genel olarak daha önceki çalışmaları destekleyici nitelikte olduğu halde yerel-siyasal değişkenlerden elde edilen sonuçlar çok anlamlı görünmemektedir. Bunun muhtemel bir nedeni yerel yönetimlerin büyük ölçüde merkezî yönetime bağlı olması ve bu yüzden yerel-siyasal sorumluluğun yeterli düzeyde olmamasıdır. Mevcut durum yerel politikacıları siyasal olarak riskli olan yerel vergi gibi öz kaynaklarına yönelmek yerine merkezî yönetime daha bağımlı olmaya yöneltmektedir. Dolayısıyla ciddî bir yerel vergi reformunun, yerel-siyasal sorumluluğu sağlamada önemli bir aşama olacağı düşünülmektedir.