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National electoral cycles in transfers to subnational jurisdictions. Evidence from Argentina

NATIONAL ELECTORAL CYCLES IN TRANSFERS TO SUBNATIONAL JURISDICTIONS. EVIDENCE FROM ARGENTINA

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The political budget cycle literature studies the periodic fluctuations in governments' fiscal policies induced by the cyclicality of electoral processes, but the effects of elections on the distribution of federal resources among subnational governments has not been thoroughly investigated. This paper inquires into the presence of electoral cycles in federal government transfers, presenting evidence on how the Argentine national government has allocated, since the reestablishment of democracy in 1983, two different types of discretional transfers — cash and in-kind — among the subnational governments. There is an electoral manipulation of total transfers that favors subnational governments that are politically affiliated to the national government; cash transfers show that same pattern. However, in-kind transfers, which are more traceable to the national government than cash transfers, increase in non-affiliated subnational jurisdictions during election years.

I. Introduction

Opportunistic political budget cycle models predict that prior to elections incumbent governments engage in pre-electoral expansionary fiscal policy –

comprising higher expenditures, higher transfers and/or lower taxes – to increase their chances of reelection. Both in models of signaling (Rogoff and Sibert 1988, Rogoff 1990) and of career concern (Shi and Svensson 2002, Saporiti and Streb 2008), voters deduce their expected utility in the post election period from the fiscal performance observed before elections.

Much empirical work has been undertaken in order to contrast the existing theoretical models on political budget cycles with real-world evidence. The evidence is diverse and varies with the samples under consideration. But, in spite of the extensive literature on this issue, the analysis of the effects of the electoral processes in a framework in which fiscal variables are distributed among subnational governments has not been thoroughly investigated. A diversity of single-jurisdiction, cross-country and cross-district studies analyze these relationships focusing exclusively on only one layer of government. In a federal framework, however, the interaction between different layers of government can affect the way fiscal policies are manipulated prior to election.

This paper focuses on the subnational components of the variables under fiscal manipulation prior to electoral processes. It studies the electoral cycles in federal transfers from a national government to subnational jurisdictions, members of a federation. It analyzes how the Argentine national government allocates transfers among the subnational governments, inquiring into the presence of political budget cycles in two different kind of discretional transfers, which differ in the possibility they offer voters to trace the national government's actions.

The evidence presented suggests that, under a strategy subject to political competition in a lower layer of government, prior to electoral processes the national government (i) will allocate more cash transfers to the politically affiliated subnational jurisdictions; (ii) will allocate more in-kind transfers to non-politically affiliated provinces; and (iii) will allocate more transfers in general to politically affiliated subnational jurisdictions than to their non-politically affiliated counterparts.

The remainder of the paper is organized as follows. Section II formulates testable hypothesis for the analysis of the relationship between electoral cycles and transfers in a federal framework. Section III reports evidence from the Argentine case. Section IV concludes.

II. Electoral cycle and federal transfers

A. Federal framework

In a simple abstraction of a much more complex reality, assume there are j provinces or subnational jurisdictions (SJ) that comprise a federal country. The national government (NG) raises the revenues necessary to finance centralized and decentralized expenditures. Concomitantly, the SJs raise part of the revenues necessary to finance their own expenditures in a decentralized fashion. In order to bridge the fiscal gap between revenues and local expenditures, the NG implements different kinds of transfers. The federal budget constraint is the sum of the NG's budget constraint (1) and each SJ's budget constraint (2):

$$PE_j - \left(CR_j + ODR_j + PR_j\right) = PFN_j , \qquad (1)$$

$$NE + \sum_j PE_j - \left(NR + \sum_j CR_j + \sum_j ODR_j + \sum_j PR_j \right) = NFN + \sum_j PFN_j = TFN , \qquad (2)$$

$$NE = GNE + \sum_j NPE_j , \qquad (3)$$

where NE are the national expenditures; NR are the national revenues net of previous interjurisdictional arrangements (e.g., revenue-sharing with the SJ); and NFN is the resulting national financial necessity. PE are the provincial expenditures; CR are non-discretional transfers from the NG to the SJ (they are revenues emerging from interjurisdictional arrangements); ODR are other discretional resources the NG allocates among the SJ; PR are the revenues raised by the provinces; and PFN are the financial necessity of each province. Finally, TFN stands for the aggregate (federal) financial necessity.

In a federal country, in addition to transferring revenues through revenue-sharing systems and other discretional revenues, the NG distributes its expenditure among the different SJ in accordance to the annual federal budget. In fact, NE can be divided into two components as shown in (4):

$$NE = GNE + \sum_j NPE_j, \qquad\qquad (4)$$

where *GNE* are the expenditures aimed at the national population as a whole or at inter-subnational areas, while *NPE* are the national expenditures allocated among the different SJ. Though the *NPE* enter in the national budget constraint, only specific constituencies of the SJ benefit from those expenditures.

NPE, *ODR* and *CR* are the arenas in which the SJs compete among each other and with the NG for the common federal funds. Since the *CR* are ruled by relatively stable laws, while the *NPE* and *ODR* are determined year by year in a changing and discretional manner, the *NPE* and the *ODR* are the variables most likely to be manipulated by the NG for its strategic competition.

B. Electoral competition and types of transfers

Existing political budget cycle models studying fiscal manipulation in close proximity to elections concentrate either on equation (1) or in equation (2), neglecting the interaction among them and the aggregate constraint (3).[1]

In a federal setting, the national government's party can be thought of as a monopoly in the upper layer of government market and the challenger party as a potential entrant for the NG market. Because the NG and SJ markets are related, the presence of competitors in the subnational layer of government may threaten the incumbent's position in the national layer. Consequently, the NG incumbent will attempt to deter entry in order to secure its chance of staying in office for a next period.

According to the degree of political competition that relates the NG with each SJ (politically affiliated or not), NG can use different kinds of transfers:

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[1] For a model that explores the effect of discretional transfers from higher levels of government on the electoral and economic equilibrium at lower level governments, see Ferreira and Bugarin (2006).

in-kind transfers and cash transfers.[2] Transfers from the national government to each province j increase voters' utility; and though they come from the national government, the credit for those public provisions may be shared by both tiers of government.

The perception of (and consequent credit to) the incumbent's competence will be affected by a traceability factor θ. If the province is governed by NG's party, the voter inference problem is straightforward. However, if the province is governed by the challenger, the voter inference problem will depend on the traceability of the funding received and its consequences on competence expectations.

Dixit and Londregan (1996) use a traceability factor θ to account for a fraction of transfers lost during transport in the "leaky bucket" in the allocation process. Mebane and Wawro (2002) argue that the traceability of government's actions is a function of the institutional complexity and focus on the number of federal, state and local governmental institutions that are involved in the spending of federal funds. Arulampalam et al. (2009) present θ as the fraction of goodwill attached to the central government vis-a-vis the local governments.

In this setting the traceability factor $\theta \in (0,1)$ fluctuates across different kinds of transfers and across time; and has the following characteristics:

(i) The smaller θ is, the smaller the credit for the national government incumbent and the greater the credit for the local incumbent;

(ii) Because of their fungible nature, cash transfers are more difficult to trace than in-kind transfers:

$$\theta_{in\text{-}kind} \rightarrow; \theta_{cash} \rightarrow \text{ and } \theta_{in\text{-}kind} > \theta_{cash};$$

(iii) In election periods, the incumbent develops a technology for the traceability of its presence in the subnational jurisdictions, which is incremented in close proximity to elections. That supposes that if the incumbent does not involve himself in propaganda activities, the credit for the benefit derived is shared by the two parties.

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[2] Note that this is an asymmetric competition game in which only one party – the national incumbent's – makes a strategic move to increase the probability to remain in office for the next period. If national elections take place at the end of every other period t, $t+2$, etc., at the beginning of period t, the NG incumbent discretionally decides the allocation of in-kind and cash transfers (*NPE* and *ODR*) in each subnational jurisdiction. Voters, who derive utility from both kinds of transfers, compare their expected utility under each of the two parties: the national incumbent and the challenger. The incumbent is reelected if the expected utility in $t+1$ is greater under the incumbent than under the challenger.

If the NG incumbent party does not need to differentiate from a SJ's incumbent, he will use both kinds of transfers, irrespectively of their traceability. On the contrary, if he needs to differentiate, he will allocate transfers easily traceable that give himself political credit (in-kind transfers) and will avoid sending transfers that might help its potential challenger at the SJ (cash transfers).

Prior to elections, the incumbent will use more visible transfers in the jurisdictions in which the challenger party is governing in order not to lose part of the credit during the budget process. Since local governments know better the preferences of their SJ's citizens –aside from the credit appropriation problem – cash transfers appear to be the most efficient means to send funds for the politically affiliated subnational jurisdictions. These hypotheses are the basis of the empirical tests below.

III. Evidence from Argentina

The Argentine Constitution establishes a federal system of government in which different layers of government cohabit. Its federal fiscal system is organized in such a way that subnational jurisdictions (provinces) are heavily dependent on the national government.

Unilateral, bilateral and coalitional opportunism is common in the allocation of national resources to the subnational jurisdictions and the national executive has substantial discretion in the geographical allocation of the federal budget.

As a consequence, numerous covenants between the national government and the subnational jurisdictions have been written in attempts to restrain opportunistic incentives and national governmental discretion in fund allocation, progressively increasing the rigidity of the Federal Tax Sharing Agreement.

Even though a fixed formula is used to determine the share of revenue between the national and each subnational government, there are possibilities to change the allocation of funds through a series of substitute mechanisms such as geographically located programs or transfers for special purposes.[3] And, in

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[3] As Iaryczower et al (1999) emphasize, while the formula is chosen under something close to federal unanimity, the latter decisions rest in the hands of national Congress and, in some cases, of the national executive.

practice, the national executive remains with substantial discretion on the federal budget process (see Spiller and Tommasi 2003 and Porto 2004).

A. The data

The record of the geographical allocation of Argentine national expenditures is quite recent.[4] However, there exist two different types of budget transfers from the national government to the subnational governments whose records have been kept even without a legal mandate:

(i) one type of in-kind transfers: public works made by the NG in each SJ (CONST), and

(ii) one type of cash transfer: transfers from the national treasury to the SJ in emergency situations (ATN, Aportes del Tesoro Nacional).

Figure 1. Discretional (*ATN, CONST*) and non-discretional (*CR*) federal transfers
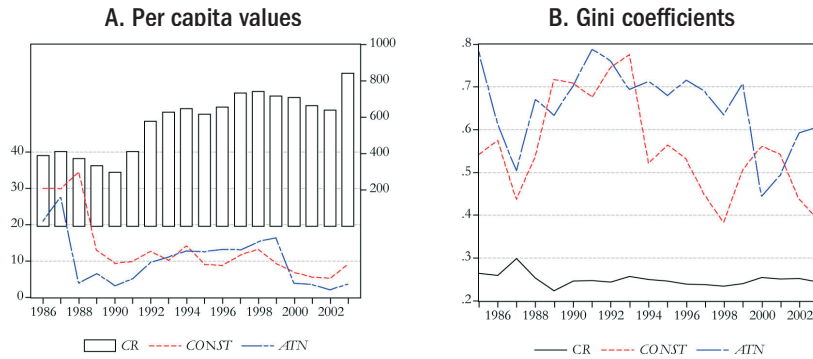
Note: ATN stands for Aportes del Tesoro Nacional, CONST for public works made by the national government in each SJ, and CR for revenues emerging from previous interjurisdictional arrangements (revenue-sharing and other resources).

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[4] The law (Law 24629) that compels national administration to present a geographical classification of budgets was sanctioned in 1994.

Although per capita public works and ATN are small transfers if compared with non-discretional transfers such as revenue-sharing transfers (see Figure 1A in which the three kinds of transfers are depicted), the variability in their distribution among SJ shows that this part of the Argentine federal budget is distributed in a highly discretional manner and, consequently, they are specially appealing for the analysis of electoral manipulations in the proximity of elections (see the graph of the Gini coefficient for the distribution of the three kinds of transfers in Figure 1B). Summary statistics of the discretional transfers to each one of the 23 SJ are reported in Table A1.[5]

The data, expressed in Argentine pesos of 2000, covers the period 1984 – 2003.[6] The basic source of the information on expenditures is the Contaduría General de la Nación, an office in the National Ministry of Economy (MECON) in charge of keeping the records of all the national accounts.

B. Empirical strategy

Existing empirical tests examine the relationship between the national electoral cycle and the cycle of *NE* (be they total or one of their visible components) or the cycle of *NFN*; or the relationship of local electoral cycles and the cycles of the components of budget constraint (2).

Among the empirical works that analyze the relationship between equation (1) and the national electoral cycle, Alesina, Roubini and Cohen (1992) study a 13-country-panel between 1961 and 1993 and find evidence of larger NFN in election years. Krueger and Turan (1993), show the existence of preelectoral fiscal manipulation in *NE* and *NR* in Turkey in a 30-year period (1950-1980). Block, Singh and Ferree (2001) – using a panel of 44 sub-Saharan countries from 1980 until 1995 – show that the first years of elections exhibit greater electoral cycles in *NE* and *NFN* than the following years. Shi and Svensson (2006), through an unbalanced panel of developed and developing countries (including Argentina) for the period 1975 - 1995, show that while the *NE* rise before the elections, the *NR* fall; generating bigger deficits in election years. They argue, however, that

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[5] The SJ Gobierno de la Ciudad de Buenos Aires is eliminated from the sample due to its status of federal capital of the country.
[6] Argentina has reestablished its democratic system in 1983.

there exist important differences among developed and developing countries as regards the size and composition of the electoral cycles. Gonzalez (2002) verifies the existence of electoral cycles in the *NE* of the Mexican national government in the period between 1958 and 1997. Brender and Drazen (2005) use a panel of 106 countries (including Argentina) between 1960 and 2001. By dividing their sample among new and established democracies, they provide evidence for the hypothesis that electoral cycles in *NE* and *NFN* are phenomena of new democracies.

At the subnational level, for the main 14 provinces of India between 1960 and 1994 Khemani (1999) highlights the fact that the electoral years have a negative effect on some *PR* (consumption taxes) and a positive effect on *PE*, though there is no change in the *PFN*. Medina and Lema (2003) study a panel of 22 Argentine provinces during the period 1985-2001 and find evidence of greater *PFN* and *PE* in the local electoral years. Also, based on data between 1995 and 2003, Akhmedov and Zhuravskaya (2004) find evidence of significant political cycles in budget spending and its composition in Russian regions and observe a shift of spending towards direct monetary payments to voters.

Based on the hypothesis of strategic behavior of NG, this paper analyzes the relationship between the national electoral cycle in a federal framework and two different kinds of discretional budget transfers from the national government to the subnational governments — in-kind and cash transfers —, inquiring into the connection between the political decisions in one layer of government and the manipulation of fiscal policy instrument that affect a lower layer a government.

In order to verify the hypotheses stated in Section II.B, I use annual information for the period between 1985 and 2003 on the budget transfers from Argentine NG to the SJs. The relationship between the national electoral cycle and the federal budget transfers (*NPE* and *ODR*) is estimated through dynamic models that include the first lag of the dependent variable for a panel of 23 subnational jurisdictions.[7]

$$Y_{jt} = \alpha + \beta Y_{jt-1} + \delta EC_t + \gamma PA_{jt} + \eta EC_t * PA_{jt} + \sum_s \theta_s Z_{s,jt} + \mu_{jt} \quad , \tag{5}$$

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[7] At an aggregate level, being a new-democracy implies a time-series analysis with a scarce number of observations. Thus, with the available information of the transfers to each SJ, a panel-data analysis is much more informative.

where Y_{jt} are per capita discretional transfers with different traceability factors–in-kind or in cash– that the subnational jurisdiction j receives in period t. The national electoral cycle (EC) captures the proximity to the electoral process, and it is defined as a dichotomic variable that equals 1 the year before the presidential elections (if elections take place during the first semester of the year) or the year of elections (if they take place during the second semester of the year), and equals 0 otherwise. PA_{jt} is a dichotomic variable that equals 1 in period t if the governor of the SJ j belongs to the same political party of the president and y 0 otherwise. In order to address the joint effect of national electoral cycle and the political affiliation, an interaction term between EC and PA is added in the estimation. This interaction will allow evaluating if the fact of being in an electoral year and being politically affiliated with the president modifies, on average, the amount of transfers received by a subnational jurisdiction.

Variables Z are budget controls and redistributive instruments in per capita terms that may move in the same direction or counteract the Y_t: non-discretional transfers received by the SJ from the NG that include revenue-sharing and other resources in pre- established laws (CR); tax revenues raised by each SJ (PR), gross geographical product (GGP) and the population (POP). μ_{jt} are unobservable factors that vary with j and t and that influence the distribution of transfers. Table A2 presents the variable description and the sources of information and Table A3 reports the summary statistics of centralization and dispersion.

Table 1 presents the estimated determinants of in-kind transfers (accrued public works), of the cash transfers (Aportes del Tesoro Nacional) and of the sum of both transfers, from the national government to the provinces. Columns (I), (II) and (III) present the information for all the SJ.

The results show there is evidence of a significant association between in-kind transfers and the national electoral cycle as well as between cash transfers and the national electoral cycle. And the sign of the coefficients of the two different kinds of transfers is opposite (columns (II) and (III), row 2). In spite of the fact that aggregated transfers do not reveal an electoral cycle, there is evidence of electoral manipulation in the allocation of transfers to the SJ.

Table 1. Electoral cycle and federal transfers, 1985−2003

Independent variables	Dependent variables Y(i,t)		
	(I) Total transfers	(II) CONST (public works per capita)	(III). ATN (ATN per capita)
Y(i,t-1)	.624 (0.000)	.371 (0.000)	.628 (0.000)
EC (national electoral cycle)	-9.445 (0.328)	11.997 (0.043)	-20.333 (0.014)
PA (political affiliation)	3.322 (0.706)	-13.024 (0.015)	18.029 (0.016)
EC * PA	27.392 (0.055)	-2.806 (0.751)	25.638 (0.034)
PR (SJ's own revenues)	.223 (0.000)	.176 (0.000)	.0665 (0.104)
CR (SJ's non-discretional transfers)	-.0140 (0.451)	-.042 (0.001)	.008 (0.612)
GGP (gross geographic product)	.004 (0.001)	.005 (0.000)	-.0006 (0.576)
POP (population)	.000018 (0.610)	-.00002 (0.360)	.00002 (0.516)
Constant	-2.798 (0.019)	.413 (0.578)	-2.697 (0.011)
Observations	391 (17 x 23)	391 (17 x 23)	391 (17 x 23)
Wald test	chi2(8)= 325.22	chi2(8)= 263.94	chi2(8)= 232.66
Two-step ST	chi2(152)=14.40 Prob>chi2=1	chi2(152)=18.14 Prob>chi2=1	chi2(152)=12.89 Prob>chi2=1
Two-step AB-1	z=-1.49 Pr>z=0.1350	z=-1.29 Pr>z=0.1976	z=-1.43 Pr>z=0.1518
Two-step AB-2	z=-0.76 Pr>z=0.4475	z=-1.52 Pr>z=0.1289	z=1.13 Pr>z=0.2601

Notes: estimations with GMM -Arellano-Bond; p-values in parenthesis; ST: Sargan's test of over-identifying restrictions; AB-1: Arellano-Bond test that average autocovariance in residuals of order 1 is 0; AB-2: Arellano-Bond test that average autocovariance in residuals of order 2 is 0. Source: author's calculations based on MECON.

Table 2 summarizes the conditional analysis of the electoral cycles by political affiliation. It presents the sign of the correlations between the national electoral cycle and each kind of transfers, net of all controls incorporated in the regressions.

The Argentine evidence is that the NG has allocated more cash transfers in the politically associated SJ and more in-kind transfers in the SJs in which competition is expected to be tougher (in the non-politically affiliated jurisdictions); supporting the hypothesis of expected competition in the lower layer of government.

Table 2. Transfers and national electoral cycles. Regularities found in the Argentine case

		Subnational jurisdictions (SJ)	
		Politically affiliated (PA=1)	Non-politically affiliated (PA=0)
	Cash transfers (ATN)	Positive **	Negative **
Transfers	In-kind transfers (CONST)	Positive	Positive**
	Total (ATN + CONST)	Positive	Negative

Notes: the effect of election years on transfers is given by EC + EC*PA, which differs between politically affiliated SJ (PA=1) and non-politically affiliated SJ (PA=0). *** Significant at 1% level; ** Significant at 5% level; * Significant at 10% level. For the non-politically affiliated SJ, the results come directly from Table 1. For the politically affiliated SJ, the coefficients (p-values of Wald test Chi-square statistic) are as follows: (i) cash transfers: 5.305 (0.025); (ii) in-kind transfers: 9.191 (0.468) and (iii) total transfers: 17.947 (0.151).

The evidence suggests that the political competition faced by the NG in the subnational jurisdictions and the traceability structure of the different kinds of transfers condition the composition of the electoral cycle. Under a strategy subject to political competition in a lower layer of government, prior to electoral processes the national government (i) will allocate more cash transfers to the politically affiliated subnational jurisdictions ($EC + EC*PA > 0$); (ii) will allocate more in-kind transfers to non-politically affiliated provinces ($EC > 0$); and (iii) will allocate more transfers in general to politically affiliated subnational jurisdictions than to non-politically affiliated jurisdictions ($EC*PA > 0$).

IV. Conclusions

Transfers from national government to subnational jurisdictions are an important ingredient of the federal budget constraint; and their allocation is a significant issue of fiscal federalism, which involves equity and efficiency concerns as well as deeply entrenched political considerations.

This paper analyzes how the Argentine national government allocates in-kind and cash budgetary discretional transfers between the subnational governments, inquiring into the presence of electoral cycles. The manipulation of those transfers is characterized and evaluated taking into consideration the degree of competition faced by the national government in each subnational government (politically affiliated or not) and a traceability factor (one whose policymaker is easily recognizable and the other whose policymaker is difficult to recognize). The electoral cycle can be dissociated and the electoral manipulation can be found in the allocation of different kinds of transfers to the subnational jurisdictions. A strategy subject to the expected political competition in each layer of government of a federal system allocates (i) more cash transfers to the politically affiliated subnational jurisdictions; (ii) more in-kind transfers to political competitors at the subnational jurisdictions, and (iii) more transfers in general to politically affiliated provinces than to non-politically affiliated jurisdictions.

Appendix

Table A1. In-kind and cash transfers from the NG to the SJ in Argentina, 1985-2003

SJ	Discretional per capita transfers (mean)		
	Totals	In-kind	Cash
BA	13.3	11.41	1.89
CAT	67.38	32.99	34.38
CHA	26.62	13.07	13.55
CHU	59.92	41.14	18.78
COR	12.4	8.02	4.38
CORR	46.39	17.23	29.16
ER	24.25	13.11	11.14
FOR	53.63	23.51	30.11
JUJ	31.59	17.12	14.46
LP	77.26	38.52	38.74
LR	386.31	63.59	322.72
MEN	21.93	13.81	8.12
MIS	20.86	13.68	7.18
NEU	80.89	42.83	38.06
RN	84.8	64.89	19.92
SAL	25.57	12.16	13.41
SC	66.63	48.84	17.79
SDE	31.91	15.55	16.36
SF	13.55	9.31	4.24
SJ	45.13	8.23	36.89
SL	29.43	15.63	13.8
TDF	201.75	139.12	62.62
TUC	21.81	8.18	13.63

Notes: NG stands for national government, SJ for subnational jurisdictions; in-kind transfers are public works, cash transfers are ATN (Aportes del Tesoro Nacional). BA: Buenos Aires; CAT: Catamarca; CHA: Chaco; CHU: Chubut; COR: Córdoba; CORR: Corrientes; ER: Entre Ríos; FOR: Formosa; JUJ: Jujuy; LP: La Pampa; LR: La Rioja; MEN: Mendoza; MIS: Misiones; NEU: Neuquén; RN: Río Negro; SAL: Salta; SC: Santa Cruz; SDE: Santiago del Estero; SF: Santa Fe; SJ: San Juan; SL: San Luis; TDF: Tierra del Fuego; and TUC: Tucumán. Source: author's calculations based on MECON.

Table A2. Data description and sources of information

Variable	Abbreviation	Description
In-kind transfers (public works)	CONST	Public works entail the implementation of works that remain in the floor in a permanent fashion composing an indivisible whole as well as the improvements in already existent works: highways, dams, bridges, buildings, irrigation and navigation canals, communication networks, distribution of energy and water, factories, etc. They do not include the value of land, which is included in the partial budget item "lands and terrains". It comprises, as well, cartographic and geological studies, etc., necessary for the implementation of the project. Public works include works in the public and private domain. Public works in private domain goods are expenditures aimed to the construction of works in the private domain, such as buildings for public bureaus; health, military, educational, cultural buildings, households, commercial, industrial and services activities. And public works in public domain goods: expenditures aimed to the construction of works in the public domain, such as streets, lanes, highways, squares, canals, bridges and any public work built for a common utility.Units: per capita Argentine pesos of 2000. Source: Contaduría General de la Nación – Ministerio de Economía de la Nación (MECON)
Cash transfers (Aportes del Tesoro Nacional)	ATN	The ATN fund is formed as a percentage of the revenue-sharing mass and it is aimed to assist SJ in emergency situations.Units: per capita Argentine pesos of 2000. Source: Dirección Nacional de Coordinación Fiscal con las Provincias– MECON
National electoral cycle	EC	Takes value 1 the year before the presidential elections (if elections take place during the first semester of the year) or the election year (if they take place during the second semester of the year); and takes value 0 otherwise. Presidential Elections: May 14, 1989 (CE=1 in 1988); May 14, 1995 (CE=1 in 1994); October 24, 1999 (CE=1 in 1999); April 27, 2003 (CE=1 in 2002). Source: Ministerio del Interior de la Nación y Guía Electoral
Political affiliation	PA	Takes value 1 in period t if the governor of SJ j belongs to the same political party than the president's; and 0 otherwise. Source: Ministerio del Interior de la Nación y Guía Electoral
SJ´s own revenues	PR	Tax revenues raised by each SJ. Units: per capita Argentine pesos of 2000. Source: Dirección Nacional de Coordinación Fiscal con las Provincias– MECON
SJ´s non-discretional transfers	CR	Revenues emerging from the Federal Tax Sharing Agreement (Ley N°23548) and a wide variety of norms (Garantía de Coparticipación, Ley 24049 - Transf. Servicios Educativos, Fondo Compensador Desequilibrios Fiscales, Fondo Gran Rosario, F.E.D.E.I., FO.NA.VI; among others). Units: per capita Argentine pesos of 2000. Source: Dirección Nacional de Coordinación Fiscal con las Provincias– MECON
Gross geographic product	GGP	Annual wealth generation in each SJ. Units: per capita Argentine pesos of 2000. Source: Porto (2004).
Population	POP	Number of inhabitants Source: Instituto Nacional de Estadísticas y Censos– MECON

Table A3. Summary statistics, 1985−2003

Variable		Mean	Std. Dev.	Min	Max
CONST		29.21523	52.89827	.2026473	608.817
	between		29.67681	8.016723	139.1243
	within		44.20265	-103.9734	498.908
ATN		33.5368	85.02022	0	665.7256
	between		64.67235	1.890388	322.7182
	within		56.73268	-280.099	376.5442
EC		0.2105263	0.4081497	0	1
	between		0	0.2105263	0.2105263
	within		0.4081497	0	1
PA		0.4965675	0.5005613	0	1
	between		0.2503214	0	0.8421053
	within		0.436449	-0.3455378	1.443936
PR		238.6698	171.5015	16.914	1160.292
	between		138.5687	70.93624	673.6077
	within		104.9008	-109.3198	821.0875
CR		984.1833	530.1699	145.6556	3234.946
	between		455.7007	308.5158	2172.091
	within		286.3392	-553.7414	2047.038
GGP		9810.855	7406.657	1944.534	63207.06
	between		6251.196	3523.896	29600.57
	within		4170.66	-8655.152	43417.35
POP		1357051	2637828	42696	1.45E+07
	between		2685669	84906.84	1.32E+07
	within		207599.2	-132521.3	2709219

Note: Observations N=437, n=23 and T =19.

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