

# Are Federal Nations Decentralized? Provincial Governments and the Devolution of Authority to Local Government\*

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## Abstract

The literature on federalism has typically presumed that the devolution of powers to any level of subnational government can be equated with decentralization. We show, using a formal model, that there are good reasons to believe that this may not be true. Introducing a provincial or state level of government can reduce the resources available to the local level. We find that in actual fact, this effect of federalism (by which we mean a system with state governments) on local government resources is very large. Federal countries have a local share of all government expenditure which is, on average, 9 percentage points lower than that of unitary countries, while the mean local share for all countries is 19%. We also find evidence that suggests that the low local share of government expenditure in federal countries is not simply a matter of substituting state-level provision for local provision of goods which are provided just as well at the state level. A brief case study of India illustrates these points. JEL Classification:

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# 1 Introduction

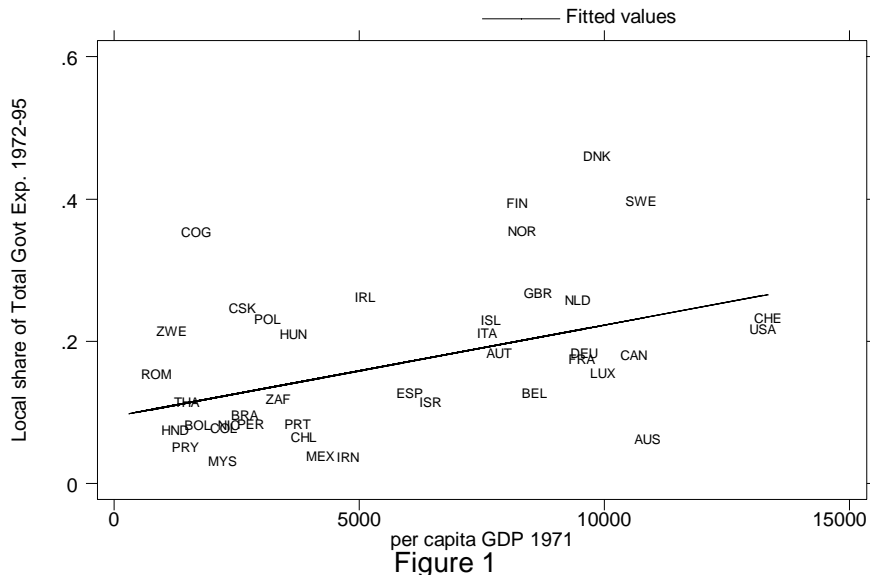
Contemporary research in economics and political science on federalism has focused largely on its economic effects (for instance, Treisman, 2001; Weingast 1995; Wibbels 2000). Inspired by such research, the devolution of power to subnational governments is also advocated in the policy domain (Shah 1994; World Bank 1996). Devolution is promoted for a variety of reasons. Weingast (1995) has argued that competitive federalism is good for economic development and the preservation of markets. It is also argued that lower levels of government are better equipped to tailor policies to meet local needs (Tiebout 1956, Oates 1972, Inman and Rubinfeld 1997, but see Gordon 1983, on possible drawbacks of decentralization).

However, the literature has been silent on the question of whether one or two (or more) levels of government below the national level are desirable. In fact, the term ‘federalism’ has often been used to mean any political system with a subnational level of government, with no distinction being made between state and local government. Cross-country evaluations of ‘decentralization’ are typically based on the size of subnational governments, with no distinction being made between state and local governments (Davoodi and Zou 1998, De Mello 2000). The result is that any devolution of power to a subnational government, whether state, regional, or local, has been seen as decentralizing.

This paper shows, using a formal model and cross-country data, that the creation or strengthening of a state-level or middle tier of government cannot be equated with decentralization, since this tier can be expected to take resources away from local governments as well as from the national government. The position local governments find themselves in with respect to higher levels of government has important implications for their financial position. Local governments in federal systems (where there are two levels of government – state and national, above the local governments) are worse off than local governments in unitary systems (with only one level of government above the local governments). Federalism, (*a term used throughout the paper to mean a system with three levels of government*) limits the ability of local governments to provide public goods.

Turning to the literature on local government, it has been widely argued that the strength of local government follows from economic development (Sharpe 1988, Bahl and Linn 1992) accompanied by democratization (Somanathan, 1998). Sharpe, in particular, argues that increasing incomes are accompanied by urbanization, which raises the demand for local public goods. So it is no surprise that poorer countries like India are not decentralized. Cross-sectional evidence supports this claim and shows that local government expenditures

are indeed higher in wealthier countries.



A examination of local expenditures reveals that *every* federal country lies below the mean expenditures for countries with its level of per-capita income. That is, for every federal country in the data, including Switzerland, the United States, Australia, Canada, Germany, Austria, Spain, Mexico, South Africa, Peru, Brazil, Malaysia, and Bolivia, the local share of government expenditure is lower than would be predicted on the basis of its per-capita income. Why do local governments fare poorly in federal systems?

A simple functionalist answer that could be offered is that state governments substitute for some of the functions of local governments and thus local (and, of course, national) governments may be expected to be smaller in federal states. This suggests that the introduction of a middle level of government would be efficiency enhancing by permitting an intermediate level of government to provide public goods which are regional rather than national or local in scope. But such an argument presumes, incorrectly, that if a system exists, it must be efficient. It ignores the fact that states and their governments are formed by political processes, not competitive markets that may be expected to lead to efficient outcomes. As Olson (1986) points out,

the overwhelmingly large role of national governments...has probably arisen mainly because national governments are the jurisdictions that have had the military or final power. This has given them the capacity to claim for themselves functions that often could have been performed more efficiently by other jurisdictions...

This implies that we should not expect the allocation of resources between different levels of government to be efficient. Rather, it is likely to be slanted in favor of national governments in particular, and higher-level (and, therefore, more powerful) governments in general. It follows that local governments in unitary states are likely to be smaller than desirable. Therefore, if they are smaller still in federal states, (as the evidence in Section 4 demonstrates), this effect of federalism is likely to be efficiency-reducing, not efficiency-enhancing. The explanation we offer below for the relatively small size of local governments in federal states is based on the power relations between different levels of government.

We argue that the relative financial weakness of local governments in federal systems is a consequence of two elements that characterize many federal polities: first, that most resources are collected by the national government and transferred to the level immediately below, the states, which in turn are the allocative agencies for local governments. And second, that the preferences of the national and state governments on the distribution of resources often differ. It is this difference that results in local governments having less financial autonomy in federal than in non-federal systems. The argument is developed through a formal model of a federal system in which there are three levels of government, central, state, and local. The national government is posited to have preferences over the allocation of resources by lower levels of government. In federal systems, however, the preferences of the state governments often differ from those of the center and the allocation of resources by the states to localities is not optimal from the central government's perspective. We show that this prompts the central government to adjust its allocations in a way that results in fewer resources being allocated to the local level. Hence, the introduction of a middle tier of government is likely to impoverish local governments.

Evidence for the argument comes from a cross-country statistical analysis which shows that local governments in federal systems have fewer resources and lower expenditures than systems in which there are only two levels of government. The effect of federalism on local government resources is very large. Federal countries have a local share of all government expenditure which is 9 percentage points lower than that of unitary countries, while the mean local share for all countries is 19%.

Moreover, an examination of expenditure on purely local public goods such as Housing and Community Affairs, shows that even in unitary states, the national government is responsible for a significant fraction of expenditures. This provides support for Olson's (1986) prediction of the over-allocation of powers to the national government. In federal states, the local share of expenditures on these goods is much lower, suggesting that the large reduction

in local government size that accompanies federalism is not all benign. A brief case study of local government in India is used to illuminate this point.

The paper proceeds as follows. After a brief discussion of the existing literature on federalism and its relationship to local government in Section 2, Section 3 of the paper develops a formal model which examines the allocation of resources when there are three levels of government. Section 4 presents a statistical analysis of cross-country data. The Indian experience is discussed in some detail in Section 5. We conclude the paper with some caveats and suggestions for future research.

## 2 The Theory

To answer the question of why local governments may be expected to fare poorly in federal systems, we develop a model of the determinants of resource allocation in federal and unitary systems of government. The model is based on one key assumption: that higher levels of government have control over the resources available to the level immediately below them, but cannot, by and large, control how these resources are spent. In a federal system then, the central government can give grants to state governments but not to local governments directly. This may strike some as an unusually strong assumption given that there are instances when national governments bypass state governments and allocate resources directly to localities. It is, however, undeniable that a transfer of resources through the middle tier of government is a structural feature of most federal nation-states. In other words, in most federal states, resources are collected by the national government and partly passed to the state governments, which then allocate a portion to the localities. In Ontario, Canada, for instance, external funds for local governments “come mainly from the provincial government, with a few federal transfers amounting to less than 1 percent of total revenues” of local governments (Islam 1998, 70). Not only are resources to local governments allocated by state governments rather than national governments, but local governments often exist at the behest of state governments. In the United States, local governments are creatures of state governments (Banfield and Wilson, 1963; Frug 1980, p.1109; Schultz 1989). Burns and Gamm (1997) note that local politics is tied to state politics and that “local policy outcomes often occur in state legislatures” (p. 61). In India, state governments can change the boundaries of local governments, can dismiss local governments, and play a key role in the administration of local governments (Bagchi 1991).

We suppose that the politicians who control governments, at every level, central, state,

and local, get utility from disbursing government expenditures, such as money  $m$  and public goods  $g$ . The use of government expenditures by politicians either to benefit themselves or their immediate supporters is termed  $m$ . Politicians get utility from public goods  $g$  because they care about serving the public or because it increases public support for them or both.

Politicians controlling a local government need to allocate resources so that they are able to arrive at the appropriate balance between public goods ( $g$ ) and disbursement of government resources for their private uses ( $m$ ). The levels of  $g$  and  $m$  are constrained by the revenues the local government generates and the transfers it receives from higher levels of government. In other words, a local government needs to

$$\max U_l(m_l) + V_l(g_l) \text{ subject to } m_l + g_l = R_l + T_l,$$

where  $R_l$  is local government revenue and  $T_l$  is a transfer received by local governments from state governments, and  $U_l$  and  $V_l$  are assumed strictly increasing and concave.<sup>1</sup> We assume that  $g$  is a normal good for governments so that the solution  $g_l^*(T_l)$  is a strictly increasing function of  $T_l$ . The resulting indirect utility of local transfers is  $V_l^*(T_l) \equiv V_l(g_l^*(T_l))$ .

In a unitary state, the central government allocates resources to local governments directly. However, to facilitate comparison with a federal state, we suppose that the central government appoints a governor to determine the allocation of resources to a set of localities (or a province).<sup>2</sup> The governor is a perfect agent of the central government. We shall refer to the governor as a central agent. The central agent cares both about the state-level public good  $g_s$  and the level of locally provided public goods  $g_l$  because both kinds of public goods are important to the central government. Again, this may be because central politicians' care about their citizens' welfare or because these goods matter for getting public support. The central agent allocates resources between state public goods  $g_s$  and transfers to local governments  $T_l$  to

$$\max V_s(g_s) + V_l^*(T_l) \text{ subject to } g_s + T_l = T_s + R_s, \tag{1}$$

where  $T_s$  is the transfer received by the central agent from the central government,  $R_s$  is the central agent's tax revenue, and  $V_s$  and  $V_l^*$  are assumed strictly increasing and concave.<sup>3</sup>

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<sup>1</sup>For simplicity, we assume throughout that revenues at every level of government are fixed and not subject to choice.

<sup>2</sup>This assumption is in no way essential to the argument and is made purely for ease of exposition.

<sup>3</sup>The concavity of  $V_l^*$  follows from the concavity of  $V_l$  provided  $g_l^*(T_l)$  is not too convex. This is plausible because the convexity of  $g_l^*(T_l)$  implies a decreasing share of  $m$  in local expenditure, which does not seem too likely.

Assuming an interior solution  $(g_s^*, T_l^*)$  to this problem, marginal utilities of state public goods  $g_s$  and transfers to local governments  $T_l$  must be equated:

$$V'_s(g_s^*) = V'_l(T_l^*). \quad (2)$$

In a federal system, by contrast, a state government is not a perfect agent of the center, and cares about money it spends on its supporters  $m_s$ , in addition to  $g_s$  and  $g_l$ . It chooses  $m_s$ ,  $g_s$ , and  $T_l$  to

$$\max U_s(m_s) + V_s(g_s) + V_l^*(T_l) \text{ subject to } m_s + g_s + T_l = T_s + R_s, \quad (3)$$

where  $R_s$  denotes the state's revenue and  $T_s$  the transfer received by the state from the central government. Once again, assuming an interior optimum, the necessary conditions for a maximum imply

$$V'_s(\hat{g}_s) = V'_l(\hat{T}_l), \quad (4)$$

Throughout this discussion we use hats to denote governments' optimal levels of choice variables in the federal system, while stars denote governments' optimal levels of choice variables in the unitary system. The function  $V_l^*(\cdot)$ , is the same in both federal and unitary systems.

Now we consider the central government's decision. For simplicity, we omit the central government's choice of  $m$  throughout and allow it to choose only  $T_s$  and central expenditure on public goods,  $g_c$ , to maximize its utility from spending on public goods by the three levels of government. In a unitary system the central government will

$$\max V_c(g_c) + V_s(g_s^*(T_s)) + V_l^*(T_l^*(T_s)) \text{ subject to } g_c + T_s = R_c, \quad (5)$$

while in a federal system it will

$$\max_{g_c, T_s} V_c(g_c) + V_s(\hat{g}_s(T_s)) + V_l^*(\hat{T}_l(T_s)) \text{ subject to } g_c + T_s = R_c, \quad T_s \geq 0, \quad (6)$$

This suggests that in a federal system, if a states' revenues are sufficiently large, their state-level spending on public goods and their transfers to local governments may be high enough that the central government has no incentive to transfer any resources to them at all. In such case, a federal system could result in transfers to local governments that are higher than in a unitary system since the national government will not allocate funds to state governments. A limiting case of this would arise if the states formed independent countries. In most federal systems, however, the centre is left with sufficient powers of taxation that it does end up making grants to the states. This is the case that is considered in the following proposition.

**Proposition 1** *In a federal system in which the central government's optimal transfer  $\hat{T}_s$  to the states is positive, transfers received by local governments will be lower than in a unitary system.*

**Proof.** We prove the proposition in two steps. In the first step we show that, for a *given* amount of resources available to state-level governments, transfers to local governments will be lower in a federal system than in a unitary system. This is because, in federal systems there are competing demands which a state politician has to support that need not be supported in unitary systems where the state is assumed to be a perfect agent of the center. The second step shows that, under the assumption that the centre *does* make a transfer to the states, the resulting resources available to the states will be lower in a federal than in a unitary system. The reason for this second fact is that in a federal system, every unit of currency that is transferred by the central government to the state government provides the center with less utility than it would if the state were a perfect agent of the center. In other words, in federal systems the marginal utility of a transferred unit of currency falls.

We now prove the first claim:

$$\hat{T}_l(.) < T_l^*(.). \quad (7)$$

This follows from a comparison of the maximization problems of the state (3) and the central agent (1). Since the former chooses a positive level of  $m$  while the latter does not, we must have

$$\hat{g}_s(T) + \hat{T}_l(T) < g_s^*(T) + T_l^*(T) \text{ for any } T.$$

Since the state equates marginal utilities from  $\hat{g}_s$  and  $\hat{T}_l$  (4), and the central agent equates marginal utilities from  $g_s^*$  and  $T_l^*$  (2), we use the strict concavity of  $V_s$  and  $V_l^*$  to conclude that

$$V_s'(\hat{g}_s) = V_l^{*'}(\hat{T}_l) > V_s'(g_s^*) = V_l^{*'}(T_l^*).$$

By strict concavity of  $V_l^*$ , (7) now follows immediately.

The second step of the proof proceeds by contradiction. First, we examine the central government's maximization problem (5) in a unitary state. The first-order condition is

$$V_c'(g_c^*) = V_s'(g_s^*(T_s^*))g_s^{*'}(T_s^*) + V_l^{*'}(T_l^*(T_s^*))T_l^{*'}(T_s^*),$$

where  $g_c^*$  denotes the central government's optimal expenditure on central public goods and  $T_s^*$  denotes the central government's optimal transfer to the central agent in a unitary system. Using the first-order condition (2) of the central agent, this can be rewritten as

$$V_c'(g_c^*) = V_l^{*'}(T_l^*(T_s^*)) [g_s^{*'}(T_s^*) + T_l^{*'}(T_s^*)]. \quad (8)$$



The expression in square brackets on the right-hand side is 1 because every additional dollar of resources obtained by the central agent is spent on  $g_s$  or  $T_l$ . Similarly, using (6), we obtain the first-order condition of the central government in a federal system to be

$$V_c'(\hat{g}_c) = V_l^{*'}(\hat{T}_l(\hat{T}_s)) \left[ \hat{g}_s'(\hat{T}_s) + \hat{T}_l'(\hat{T}_s) \right], \quad (9)$$

Here, we use the assumption  $\hat{T}_s > 0$  to guarantee an interior solution to the central government's maximization problem (6). But now, in the federal system, the expression in square brackets is less than 1 because an additional dollar of resources obtained by the state government is partly spent on  $m$ .

Now suppose, by way of contradiction, that  $\hat{T}_l(\hat{T}_s) > T_l^*(T_s^*)$ . Strict concavity of  $V_l^*$  now implies that the central government's marginal utility of state-level resources is lower in the federal system than in the unitary system, that is, the expressions in equation (9) are smaller than those in equation (8). Therefore, by concavity of  $V_c$ , it follows that  $\hat{g}_c > g_c^*$ . The central government spends more at the central level in a federal system than in a unitary system, and therefore it must transfer fewer resources to the state level in a federal system than in a unitary system:  $\hat{T}_s < T_s^*$ . But we can now use the conclusion from Step 1 of the proof to infer that  $\hat{T}_l(\hat{T}_s) < T_l^*(T_s^*)$ . This contradicts our assumption above. ■

This proposition shows that unless states' powers of raising revenue are sufficiently large, local governments will be left with fewer resources than they would obtain with a unitary structure of government. It follows as an immediate corollary that they will then spend less on local public goods. The determination of revenues by local governments has been left exogenous in this discussion. In fact, higher-level governments typically have some control over the revenue-raising capabilities of lower-level governments. But this should not affect the conclusions of the analysis. Higher-level governments would prefer to use revenue assignments (as opposed to grants) to transfer resources if it were easy to do so, for that would place the burden of raising taxes on lower level governments. The fact that they actually use grants suggests that it is easier for them to control grants than revenues, at least in the short run. Our analysis has also assumed that the game between the central and state governments is static. With repeated interaction, the problem of underfunding that arises here could be mitigated. However, in practice, politicians' horizons may be too short for this to make much difference (see, for example, Sridharan 1991).

### 3 Cross-country Evidence

To test whether the addition of a middle tier of government does have a negative effect on local government resources, we analyzed the variance in some measures of local government finance contained in the International Monetary Fund's Government Finance Statistics (GFS) 1970-1996. These contain data on grants received by local governments, their revenues and expenditures, and a breakdown of expenditures into categories such as recreation, and community services and housing. We first examine the two sources of local government resources, grants and revenues, and then total expenditures. Following this, we examine the determinants of the local shares of sub-classes of expenditure on local public goods.

Data on Gross Domestic Product (GDP) and population are from the Penn World Tables of Summers and Heston (2000), while a measure of democracy is taken from the Polity 98 data set of Jagers and Gurr (1998). All variables except for per capita GDP were averaged over the period for which the GFS data were available for the country in question. Per capita GDP for 1971 (close to the start of the period) was used so as to avoid possible endogeneity of per capita GDP. The GFS data on local governments were available for 51 countries. These are listed in the appendix, together with the years for which the data on local grants, revenue, and expenditure were available. Data on ethnic fractionalization is an average of five measures as reported in La Porta et. al (2000).

Proposition 1 would suggest that grants to local governments will be lower in federal systems. To control for total resources available to all levels of government, we work with grants to local governments as a proportion of total revenues of all government. This variable ranges from 0.1% to 33% with a mean of 8% and a standard deviation of 7% (Table 1). We measure the size of local governments by their shares of total government revenues and expenditures. The local government revenue share ranged from 2% to 64% with a mean of 15% and a standard deviation of 12%. The local government expenditure share ranged from 2.5% to 58% with a mean of 19% and a standard deviation of 12%.

**Table 1: Summary Statistics**

Variable	Observations	Mean	Standard Dev.	Minimum	Maximum
Local Grants	51	0.079	0.074	0.001	0.328
Local Expenditure	51	0.194	0.122	0.025	0.577
Local Revenue	51	0.149	0.118	0.019	0.643
Democracy	49	6.343	3.544	0	10
ln GDP	40	8.417	0.775	6.759	9.498
ln Population	40	9.288	1.427	5.322	12.236
Local Housing Exp	32	0.593	0.216	0.019	0.932
Local Community Exp	32	0.539	0.171	0.231	0.940
Ethnic Fractionalization	42	0.207	0.207	0.0017	0.831

Federalism is represented by a dummy variable which takes the value 1 if the GFS data contain state-level expenditures and revenues for any of the years in question. There are 15 federal countries in the data (listed in the appendix).<sup>4</sup> The democracy measure is on a scale from 0 to 10 with higher values indicating more democratic governments. The variable ranges from 0 to 10 with a mean of 6.3 and a standard deviation of 3.5.

Table 2 provides support for Proposition 1 which stated that grants to local governments will be lower in federal systems. It is seen from Column 1, a bivariate regression, that grants to local government are 5.5 percentage points lower in federal countries than in unitary countries. In unitary countries, the grants provided to local governments average 9.6% of all revenues. It appears that federalism lowers grants to local governments as a fraction of all government revenues by over 50 percent.

But local grants could be a function of local revenues, since countries in which local revenues are higher would require lower levels of grants from state and national governments. And, as federalism is positively correlated with democracy ( $r^2 = 0.25$ ), and GDP ( $r^2 = 0.28$ ), the coefficient in the bivariate regression might be picking up the effects of these other variables, which are themselves positively correlated with local revenue. Moreover, larger countries are more likely to be federal, ( $r^2 = 0.4$ ) and size, as measured by population, might also affect local grants. It could also be argued that federalism merely captures the effect of ethnic fractionalization whose effects on the distribution of public goods in more well known

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<sup>4</sup>Spain is the only country in the data which changed its status, starting out as unitary and becoming federal. State-level data for Spain begin in 1980 while local data begin in 1974. While the results reported treat Spain as federal, the results are almost unchanged when it is treated as two countries, one unitary (for the earlier period) and one federal (for the later period).

(Banerjee and Somanathan, 2000; La Porta et al, 2000). Columns 2 to 7 report regressions that control for these possibilities. The magnitude of the coefficient on the federal dummy in all the multi-variate regressions is larger than in the bivariate regression. In column 7, which includes democracy and logged population, the only statistically significant controls, the coefficient on the federal dummy is -0.09. Using the regression in column 7, the predicted value, for federal countries, of grants to local governments as a percentage of total government revenue is 4 percent at the mean values of democracy and population for federal countries. The regression indicates that a unitary country at these levels of democracy and population would allocate more than three times as large a share of all government revenue to local grants. Thus, the evidence strongly supports Proposition 1's prediction of a negative effect of federalism on grants received by local governments, and shows that the size of the effect is large.

**Table 2: Grants Regressions**

Dep Var	Grants to Local Government						
Ind Var↓	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Fed Dum	-0.055 (0.00)	-0.061 (0.00)	-0.057 (0.00)	-0.061 (0.00)	-0.086 (0.00)	-0.084 0.00	-0.090 (0.00)
lnGDP		0.042 (0.00)	0.038 (0.00)	0.012 (0.36)	-0.003 (0.83)	0.001 (0.98)	
LocRev			0.103 (0.50)	0.080 (0.58)	0.161 (0.22)	0.164 (0.21)	
Democracy				0.007 (0.06)	0.011 (0.01)	0.009 (0.00)	0.010 (0.00)
lnPop					0.023 (0.00)	0.02 (0.00)	0.018 (0.01)
EthFrag						-0.03 (0.26)	
# Obs	51	40	40	40	40	40	42
$R^2$	0.12	0.33	0.35	0.40	0.55	0.56	0.46

P-values in brackets computed with robust standard errors. Grants and revenues are proportions of total government revenues.

Since revenues are an even larger source of local government resources than grants, we turn next to the determinants of local revenues. The introduction of a middle tier of government not only reduces the grants received by local governments, it also tends to lower the

revenues that accrue to local governments as a share of total government revenues. Column 1 of Table 3 shows that federalism is associated with a 5 percentage point drop in the revenue share of local government. This result holds even after we control for GDP and democracy on the assumption that the share of government revenues that can be attributed to local governments would be higher in wealthier and more democratic countries (the positive coefficients on both variables in Columns 2 and 3 supports this thesis). Using the regression in Column 2 of Table 3, the predicted local government revenues as a percentage of total government revenue is 9 percent for federal countries at the mean value for GDP for federal countries. The regression indicates that local governments' share of revenue in a unitary country at this level of GDP would be 50% higher.

The overall negative effect of federalism on local revenues, however, is weaker than its effect on local grants. This may be seen from the fact that since the variance in grants is smaller, federalism explains a larger fraction of the variance in grants than in revenues. Also, the federal dummy is statistically significant at lower levels in the grants regressions than in the revenue regressions. Finally, when the log of population is included as a control, the federal dummy (together with all other variables) becomes insignificant at even the 10% level in the revenue regression, although it is still negative. This pattern is consistent with the observation made in the introduction that higher-level governments would find it easier to control grants to local governments rather than revenues.

**Table 3: Revenue Regressions**

Dep Var	Local Revenue Share		
	(1)	(2)	(3)
Ind Var↓			
Fed Dum	-0.050 (0.11)	-0.041 (0.07)	-0.043 (0.07)
ln GDP		0.037 (0.04)	0.024 (0.27)
Democracy			0.004 (0.46)
# Obs	51	40	40
$R^2$	0.04	0.16	0.17

P-values in brackets computed with robust standard errors. Local revenues are proportions of total government revenues.

Turning to expenditures, Table 4 provides clear evidence that local government expenditure shares are also lower in federal systems. In Column 1, a bivariate regression, expen-

ditures by local governments average 9.1 percentage points less in federal countries than in unitary countries. In unitary countries, local expenditures average 22% of all government expenditures. It follows that federalism is associated with a drop in local government expenditures of almost 40 percent. The other columns in Table 4 report the partial effects of federalism on local government's share of all government expenditures controlling for local revenue shares, per capita GDP, democracy, and population. It is seen that in all the regressions, the federal dummy has a large and statistically significant negative effect, lowering the expenditure share of local government by between a half and three-quarters of a standard deviation.

**Table 4: Expenditure Regressions**

Dep Var	Local Government Expenditure Share					
Ind Var↓	(1)	(2)	(3)	(4)	(5)	(6)
Fed Dum	-0.091 (0.00)	-0.094 (0.00)	-0.051 (0.00)	-0.053 (0.00)	-0.067 (0.00)	-0.067 (0.00)
lnGDP		0.063 (0.00)	0.024 (0.00)	0.010 (0.35)	0.005 (0.54)	0.002 (0.88)
LocRev			1.036 (0.00)	1.024 (0.00)	1.073 (0.00)	1.071 (0.00)
Democracy				0.004 (0.18)	0.004 (0.08)	0.006 (0.06)
lnPop					0.011 (0.01)	0.013 (0.00)
EthFrag					-0.012 (0.62)	
# Obs	51	40	40	40	40	40
$R^2$	0.12	0.33	0.88	0.89	0.91	0.91

P-values in brackets computed with robust standard errors. Expenditures are proportions of total government expenditures, revenues are proportions of total government revenues.

All the results reported so far measure the size of local government as a fraction of total government. It is possible that the total size of government in federal countries is larger than in unitary countries, so that local government resources, measured as a fraction of GDP, may be larger (or not much smaller) for federal countries as compared to unitary countries. We examined this possibility, and it proves to be false. The regression results are

essentially the same as those reported above, and, for the sake of brevity, we do not report them here.<sup>5</sup>

It is now clear that the introduction of a middle tier of government takes resources away from local governments. Before turning to the question of whether this is desirable or not, we comment briefly on the other determinants of local government size. These include per capita income and democracy, both of which have positive effects on local government size. An examination of the regression results shows that the effect of democracy tends to be more robust than that of income. Country size, as measured by population, is positively related to local expenditures but negatively to local revenues.

As argued at the end of Section 2, theory suggests that the reduction in local government size brought on by federalism, is likely to result in inappropriately small local governments becoming smaller still. We examine this issue empirically by looking at those expenditure categories that are most likely to be provided most efficiently at the local level. The GFS data break expenditures into General Public Services; Public Order and Safety; Health; Social Security and Welfare; Housing and Community Amenities; Recreational, Cultural and Religious Affairs; Agriculture, Forestry, Fishing, and Hunting; Transport and Communications; Other Economic Affairs and Services; and Other Expenditures. Of these, Housing and Community Amenities appears to be in the class of goods most likely to be purely local in nature, that is, least likely to have any spillover effects beyond the locality.<sup>6</sup> From a normative point of view, the local share of expenditures on this category should be 1 or close to 1, and should be unaffected by the introduction of a middle tier of government.

This is, however, not the case. Table 5 shows that the mean local share of government expenditure on Housing and Community Affairs is well below one for unitary countries, federal countries, and all countries. This difference from one is statistically significant for all three classes of countries. This provides support for the hypothesis that political power, and not just efficiency, is a significant determinant of the allocation of resources between the different levels of government.

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**Table 5: Summary statistics for Local Share of Exp on H & CA**

<sup>5</sup>The regressions were also examined for the influence of outliers and none were found.

<sup>6</sup>Provision of public housing is a redistributive expenditure, so it might be supposed that it ought to be carried out by a higher level of government. But while the expenditure may be financed by a higher-level government, this is the sort of good which local government is best placed to implement, since it is local in scope.

	<i>n</i>	Mean	Standard Deviation	Minimum	Maximum
Unitary countries	25	0.63	0.20	0.02	0.93
Federal countries	7	0.45	0.21	0.15	0.69
All countries	32	0.59	0.22	0.02	0.93

The regressions reported in Table 6 below show that federalism lowers local governments' share of expenditures on housing and community amenities by about 20 percentage points or one standard deviation. This again provides evidence against the simple functionalist view that the negative effect of federalism on local government expenditures is simply a matter of optimal reallocation of resources between the levels of government.

**Table 6**

Dep Var	Local Govt Share of Exp on H & CA				
Ind Var↓	(1)	(2)	(3)	(4)	(5)
Fed Dum	-0.189 (0.04)	-0.222 (0.02)	-0.169 (0.08)	-0.217 (0.05)	-0.207 (0.06)
Democracy		0.011 (0.37)	-0.019 (0.41)	0.004 (0.76)	-0.012 (0.67)
lnGDP			0.088 (0.34)		0.068 (0.51)
lnPop				0.300 (0.33)	0.025 (0.48)
# Obs	32	31	23	25	23
$R^2$	0.14	0.16	0.16	0.17	0.19

P-values in brackets computed with robust standard errors. The dependent variable is local governments' share of expenditure on housing and community amenities as a proportion of total government expenditure on housing and community amenities.

## 4 Provincial Governments and the Financial Authority of Local Government

One clear implication of the model is that as provincial governments become stronger relative to the central government local governments should be less well off. This is quite true in India despite the fact that scholars and politicians have long asserted the deep historical



roots of local government in India. During the freedom movement, Gandhi focused on the autonomous village republics of India, and the Indian constitution is quite explicit about the role that ought to be played by local government in the functioning of the state and in economic development. Yet, local governments in India have no resources and little financial autonomy. While local government expenditures in the developed world vary between 20 and 29 percent of total government expenditures, in India “local government account[ed] for only 8.6 percent of total government expenditure in 1976-77 and 6.4 per cent in 1986-87” (Datta 1992, p.146). These minimal expenditures are a direct consequence of the small revenue base of local governments in India. “Sixty percent of the panchayats (lowest levels of rural local government) of the country have a per capita income below Rs 0.50” [about a penny at the current exchange rate] (Jain 1993, p.182). The central government has, on occasion, set up commissions and also attempted a constitutional amendment to provide more resources to local governments. Despite these numerous efforts and pronouncements by the national government in India that focus on strengthening local governments, they remain, for the most part, economically powerless.

The implications of our model for central, state, and local relations in India are quite straightforward. Since India has three tiers of government it is not surprising, as we noted earlier, that local governments would have low revenues and expenditures. The model also suggests that state governments would be loth to permit a change in the way resources are allocated to local governments, that is, through them, for this would reduce the grants they receive from the central government and their freedom to allocate resources for their own ends. Supportive evidence for this comes from the failed attempts of the Indian government to give local governments more financial autonomy – most notably with the 64th and 73rd constitutional amendment bills. In 1989 the Congress Party of India, with an overwhelming majority in the Lok Sabha, the lower house of Parliament, introduced the 64th Amendment to the Constitution as Bill No. 50 in Parliament. The purpose of the bill was to reorganize local government in India. Article 243a would have made it obligatory for all states to establish a three-tier system of local governments – known as *Panchayats*, and for each State Legislature to devolve powers and responsibilities to the Panchayats. The amendment sought to secure authorization from State Legislatures for grants-in-aid from the Consolidated Fund of the State; provide for the constitution of a Finance Commission to review local government finances every five years; and for the Comptroller and Auditor-General of India to audit these accounts. In other words, the central government wished to remake the nature of federalism in India. The bill got more than two-thirds of the votes in

the Lok Sabha, but failed in the Rajya Sabha – the council of states, on 15 October 1989 by 2 votes. It is significant that most members of the Rajya Sabha are not elected by popular vote, but by state legislators.

In September 1991, the Congress Party reintroduced the 64th amendment as the 73rd and 74th constitutional amendment bills, dealing with rural and urban local government respectively. The bills were passed by both houses of Parliament in December 1992 and were soon ratified by more than half the state assemblies and brought into force in April 1993. The 73rd Amendment dealt with the same issues as the 64th Amendment—the power of rural local governments—and it would seem that the central government managed to provide local governments with some financial and political autonomy. A close reading of the bill and the events that followed, make it clear that the constitutional amendment did not alter the nature of Indian federalism significantly and maintained the power of state governments over local governments. The 73rd Amendment made some key changes to the 64th amendment with respect to financial relations between state and local governments. In the 64th Amendment bill, the State Finance Commissions’ recommendations were to govern the “determination of taxes, duties, tolls and levies which could be assigned to, or appropriated by, the Panchayats.” This transfer of authority to an independent body was deleted in the 73rd Amendment, thereby placing local finances in the hands of the state government instead of an independent commission. At the same time, references to audits of local government finance by the Comptroller and Auditor-General of India (which would have diluted the authority of state governments) were deleted; and audits were now to be conducted by the state legislature, thereby preventing the national government from influencing financial relations between state and local governments. In other words, while the central government wanted to change the federal setup and give more authority to local governments, the states did not want to cede financial authority to local governments. The financial position of local governments in India is still weak, as they do not have any independent basis for raising revenues and expenditures, which are still determined by the priorities of state and central governments. State Finance Commissions have yet to complete their reports in many states; in some states such as Gujarat, the Finance Commission, a statutory body, was dissolved before it submitted its complete report on the terms of reference for which it was appointed (Bhatt and Shah, 2000).

Canada provides an interesting test of our argument. Canada is widely regarded as one of the most decentralized nation-states in the world. Most observers of Canadian politics point to the autonomy of the provincial governments vis a vis the central government as indicative of the greater degree of decentralization in Canada than in other federations. This was,

however, not always the case in Canada. During the last third of the 19th century and the first part of the twentieth provincial governments in Canada were relatively weak compared to the federal government in Ottawa. Provincial governments came to be politically powerful in just before the Great Depression though the consistent devolution from the center to the provinces began in real earnest only in the early 1960s. Since then the story of Canadian federalism has been one of devolution. Consistent with the expectations of the model presented in the paper we find that local governments were stronger when the provinces were weaker relative to the center. As the provinces gained authority local governments were financially squeezed. Table 7 reports expenditures on social activities by provincial and local governments. It is quite clear that as the provincial governments gained authority from the center local government expenditures on social welfare, health and education dropped.

**Table 7: Summary Statistics**

(per capita local and provincial expenditures in Canadian dollars)

	1913	1933	1953.	1980
Local Social Welfare expenditures	1.13	3.82	2	17
Provincial Social Welfare expenditures	0.60	4.18	7	317
Local Health expenditures		1.36	4	15
Provincial Health expenditures		1.73	14	612
Local Expenditures on Education	3.84	7	25	165
Provincial Expenditures on Education	1.33	2.54	16	531

Source: Kitchen and McMillan, 1985.

The formal model has focused on the differences in fiscal relations between the lowest level of government and higher levels of government in federal and non-federal systems. Fiscal relations between different levels of government are often not static. These institutional relationships change. While the model does not deal explicitly with institutional changes in relations between state, local, and central governments, our framework does suggest that increases in local fiscal capabilities are more likely to be instituted when the state governments are as close to perfect agents of the center as possible. The Indian experience suggests that this may indeed be the case. The first reform of state-local relations occurred in the late 1950s when a single party – the Congress – controlled the center and all of the states. The movements to allocate more resources and authority to the localities lost steam when state

governments came to be controlled by parties different from those at the center. This was true for much of the period till the failed constitutional reforms attempted in 1989, which were seen by state politicians as centralized decentralization. Even though commissions were adopted to assess the role of local governments in 1977, the central government took no action to increase local governments' fiscal autonomy.

## **5 Are Other Levels of Government Substituting for the Local Government?**

It could be argued that it is of little consequence whether public goods are provided by the local government especially if other levels of governments pick up the slack. To assess whether substitution is at work we examined the influence of federalism on total government expenditures on a public good such as housing. The regressions reported in Table 8 below show that substitution may not be at play. If other levels of government were providing housing then we would expect the federal arrangement to have no effect on government expenditures on housing. In fact, however, the results show that federalism lowers total government expenditures (i.e. of all levels of government, federal, state, and local) on housing and community amenities by about 2 percentage points (total government expenditures on housing average about 5 percent of total government expenditures). This suggests quite clearly that the simple substitution argument - that other levels of government may be stepping in and provide public goods if local governments do not do so is questionable.

**Table 8**

Dep Var	Total Govt Share of Exp of H&CA				
Ind Var↓	(1)	(2)	(3)	(4)	(5)
Fed Dum	-0.179 (0.00)	-0.015 (0.01)	-0.029 (0.004)	-0.016 (0.03)	-0.019 (0.025)
Democracy				-0.001 (0.67)	-0.001 (0.53)
lnGDP		0.002 (0.67)	0.001 (0.64)	0.003 (0.58)	0.004 (0.43)
lnPop			0.004 (0.04)	0.004 (0.09)	0.004 (0.06)
EthFrag				-0.012 (0.51)	
# Obs	32	24	24	24	24
$R^2$	0.19	0.16	0.31	0.34	0.33

P-values in brackets computed with robust standard errors. The dependent variable is total government expenditure on housing and community amenities as a percentage of total government expenditure.

## 6 Caveats and Conclusion

Most of the evidence in this paper has come either from cross-national analysis or from the experience of federalism in India and Canada and . There is evidence to suggest, in consonance with the cross-country data, that the Indian and Canadian experiences is not isolated. As provincial governments gain more power they look to gain resources from other levels of governments and local governments are one easy place. Zhuravskya (2000) notes that “Russian localities never became financially independent from regional governments and ... [the] revenue sharing relations between local and regional governments hinder local government incentives for providing infrastructure for private business development” (p.365).<sup>7</sup> In addition, [Zhuravskya argues that] “the fiscal dependence of local government on the region has a negative effect on the efficiency of local public goods provision (p.365). In Belgium, which introduced formal provincial level governments in 1993 there too it has been noted

<sup>7</sup>Russia is not a federal country by our definition, since fiscal data for the regions is not provided separately from local data. However, the regions are effectively a middle tier of government.

that the provincial governments are taking away some of the authority of local governments (Downs, 1999)

To conclude, this paper has argued that, perhaps contrary to expectations, local governments are less well off in federal than in unitary systems. Moreover, there is evidence to suggest that the reduced resources available to local governments in federal versus unitary states is not efficiency-enhancing. The paper has dealt only with financial relations between the three levels of government. There is, of course, more to federalism than financial transfers. Regulations governing the administration of the various levels of government and other dimensions are indeed deserving of attention. There are also instances when nations move from unitarism to federalism and vice-versa and it could be important to determine why a nation changes its federal relationships, especially when the move is from a unitary to a federal system. Why do central politicians willingly alter power relations? We leave these issues for future research.

## 7 Appendix

	Country	Code	Federal Dummy	Time span of data
1	Albania	ALB	0	1995-95
2	Australia	AUS	1	1970-96
3	Austria	AUT	1	1970-95
4	Belgium	BEL	0	1978-95
5	Bulgaria	BGR	0	1988-96
6	Bolivia	BOL	1	1985-96
7	Brazil	BRA	1	1982-94
8	Canada	CAN	1	1971-93
9	Switzerland	CHE	1	1970-95
10	Chile	CHL	0	1974-88
11	Congo	COG	0	1970-76
12	Colombia	COL	1	1974-86
13	Czechoslovakia	CSK	0	1989-91
14	Czech Republic	CZE	0	1993-96
15	Germany	DEU	1	1970-96
16	Denmark	DNK	0	1970-95
17	Spain	ESP	1	1970-94
18	Estonia	EST	0	1991-96
19	Finland	FIN	0	1970-95
20	France	FRA	0	1972-96
21	United Kingdom	GBR	0	1970-95
22	Honduras	HND	0	1972-76
23	Hungary	HUN	0	1981-90
24	Ireland	IRL	0	1970-94
25	Iran	IRN	0	1970-89
26	Iceland	ISL	0	1972-93
27	Israel	ISR	0	1974-94
28	Italy	ITA	0	1973-96
29	Luxembourg	LUX	0	1970-96

	Country	Code	Federal Dummy	Time Span of Data
30	Mexico	MEX	1	1970-94
31	Mongolia	MNG	0	1992-96
32	Malaysia	MYS	1	1973-97
33	Nicaragua	NIC	0	1989-95
34	Netherlands	NLD	0	1975-96
35	Norway	NOR	0	1970-95
36	Peru	PER	1	1990-96
37	Poland	POL	0	1984-96
38	Portugal	PRT	0	1974-95
39	Paraguay	PRY	0	1973-93
40	Romania	ROM	0	1970-96
41	Russia	RUS	0	1994-95
42	Sweden	SWE	0	1970-96
43	Thailand	THA	0	1972-96
44	USA	USA	1	1972-95
45	South Africa	ZAF	1	1977-95
46	Zimbabwe	ZWE	0	1976-91
47	Belarus	BRS	0	1992-92
48	Croatia	CRO	0	1994-96
49	Latvia	LAT	0	1994-96
50	Yugoslavia	YUG	1	1970-90
51	Netherlands Antilles	NLA	0	1974-95



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