Restricted and Unrestricted Fiscal Grants and Tax Effort of Panchayats in India

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The impact of restricted and unrestricted fiscal grants on tax effort of panchayats is examined using nationally representative panel data on finances. Three pathways are proposed through which these impacts accrue: wages, profits, and incentives. In order to deal with the simultaneities of grants received and taxation, a system of equations is estimated simultaneously, where the first stage equations predict the grants. The results show that a wage impact on taxation exists, but is very small and the productivity impact of grants on taxes is negligible. This means that incentive effects associated with the specifics of the intergovernmental fiscal system in the states are the main determinant of village taxation. Several policy conclusions are advanced.

Ever since Musgrave (1959), a large literature has argued that provision costs of public goods will be lowered if public goods are paid for by a benefits tax (or user fee). This fee is the household’s marginal utility from the public good. Furthermore, an elected local body (like the village panchayat) is more likely to reflect local preferences and effectively match the provision of public goods and services to such preferences. A local government will be administratively more responsible if at least part of its budget is financed by its own revenues, that is, through local taxation. This incentive is missing if the local government merely spends money handed down to it through vertical transfers.

In the context of Indian panchayats there is evidence that taxpayers are willing to pay local taxes provided the benefits are evident. This willingness also reveals improved governance. Yet fiscal (particularly revenue) devolution is lower in developing countries like India (where only 10% of panchayat expenditure are financed by local revenue) than in developed countries (Gardenne and Singhal 2014). Given this and the above-mentioned importance of local tax collection, it becomes imperative to examine the impact of such transfers on local tax collection, an issue that has been relatively neglected in the literature. This paper examines this issue at the level of panchayats in rural India. Our analysis shows that the type of grants from higher level governments matters. We argue that, at the margin, it is welfare enhancing to reduce employment generating grants and increase the block grants.

Since households consume both public and private goods, any increase in either the supply or the quality of public goods will have an added effect of increases in factor productivity (Faguet 2014), and household welfare. Economic development resulting from greater financial devolution is a result of a change in the utility of a representative household due to expansion of the household’s per capita budget constraint. However, the structure of vertical transfers may impact the panchayat’s budget constraint and, hence, its ability to finance expenditures.

We show that crowding out/in, or neutrality of vertical transfers that are earmarked, will depend on what we term as wage, incentive and profit effects of such transfers. Grants for public works or employment generation programmes—such as the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)—will increase employment, and therefore increase wages, depress profits, and could affect tax revenue. This is the wage effect of transfers. Furthermore, expenditures...
from grants can directly affect profits through the effect that creation of public goods and services—such as availability of healthcare services, clean drinking water, and agricultural expertise—has on productivity, which we call the profit effects of transfers. For instance, grants for better roads can improve market access and raise profits. Finally, the devolution of functions, the level of transfers, and autonomy over the use of transfers will provide positive or negative incentives to raise taxes, which we call the incentives effect of transfers.

Grants can either crowd out own revenue-raising or make it more attractive in order to complement the transfers. For example, a transfer for education may crowd out revenues raised for local schools, or unrestricted block grants may provide incentives to utilise these funds efficiently, as the public expenditure pattern can now conform more closely to the preferences of the village community. This has been explored in the context of specific states in India, such as Kerala (Rajaraman and Vasishtha 2000), but not at the national level. In this paper, we show that crowding out is caused by a combination of wage and incentive effects. We further show that if local governments transfer either all or a portion of a received tied grant to a fungible pool, this will not affect the tax base. Such transfers have large impacts on taxes raised through wage, profit and incentive effects.

Background and Extant Literature

The 73rd constitutional amendment in India brought into effect several reforms relating to local governance, devolution of powers to panchayats and gram sabhas, political reservations for women, and sharing of revenues collected by the states with panchayats. The Ministry of Panchayati Raj was set up in 2004 to enact and implement several policy initiatives and has since championed the cause of local self-governments in India. Recently, a devolution index was created under the Panchayat Empowerment and Accountability Incentive Scheme (PEAIS) to monitor the status of devolution across states. The index, however, reveals uneven devolution across states, with devolution of functions without the accompanying devolution of either finances or functionaries, resulting in a poor evaluation of the panchayats, and indicating that there has been incomplete implementation of reforms. Yet, very few studies have actually examined the impact of fiscal devolution on tax buoyancy of the panchayats in India.

Moreover, the existing evidence on the impacts of increased revenue buoyancy of local governments on local economic development is inconclusive. Davoodi and Zou (1998) find a negative relationship between fiscal decentralisation and growth if fiscal decentralisation increases expenditures on growth depressing items, notwithstanding local preferences; Hindriks et al (2006) suggest that even equalising grants (in a situation with revenue buoyancy) could distort provision of public goods if preferences of the recipients are ignored; Baskaran and Feld (2013) conclude that fiscal decentralisation is unrelated to local economic development, while Buser (2010) shows that it increases income but at a decreasing rate, indicating that the incentive effects wear out over time.

Alternatively, Robalino et al (2001) show that fiscal decentralisation has a significant positive impact on health outcomes such as reducing infant mortality. They point out that fiscal decentralisation helps reduce infant mortality even in a situation of high corruption. Kappeler et al (2013) show that fiscal decentralisation improves investment in infrastructure by sub-national governments and that fiscal decentralisation achieved through tied grants is less effective than that through fungible funds. The above-mentioned literature has at least two lacunae. First, pathways through which vertical transfers crowd out local revenue generation are not clear. Second, the relationship between fungible grants and local economic development is not clarified. Ilimi (2005), however, suggests that one of the reasons for the weak empirical results is the time periods used by these studies. During periods of relatively higher economic growth, the relationship between fiscal decentralisation and economic growth could be actually pronounced.

The literature on the effects of vertical transfers to local governments, however, is fairly extensive (Ferreira et al 2005; Jha et al 2019). “Flypaper effect” of transfers lead to varying conclusions, though the flypaper basis for evaluating the effects of vertical transfers ignores elasticities, and the adverse effects of governance that could be shifted to households. The local governments could “tax” the households for accessing these grants (Inman 2008).

In contrast, Skidmore (1999), McGuire (1975, 1978), Zampelli (1986), and Becker (1996) argue that recipient local governments often view tied grants as being fungible. Recent evidences from Africa have suggested that conditional grants could also play a complementary role in raising local revenues (Brun and El-Khdari 2016; Sanogo and Brun 2018). Hence, even tied grants could have a positive effect on local public goods. If incentives could be created for local governments to treat tied grants as fungible, then vertical transfers could lead to increased provision of public goods and even increased revenues through taxes. Experience with several community-driven development projects around the world has shown that communities are able to execute works of quality. Hired contractors may compromise quality despite charging high costs (Binswanger et al 2009).

Data and Descriptive Analysis

We have used panchayat-level data from the Rural Economic and Demographic Survey (REDS) conducted by the National Council for Applied Economic Research (NCAER). The data covers a period of 15 years from 1999 to 2006–07 (including three panchayat elections), for 241 villages (with sample sizes of 7,474 and 8,659 with 5,885 households repeated), across 17 states in India. We have categorised grants into block grants and restricted grants, and further differentiated the restricted grants into those that finance public works (and therefore have a wage impact), and those that are not expected to have a wage effect (such as grants for social welfare programmes).

We have selected those villages that contain data on all aspects of governance, including elections, gram sabha meetings, government programmes, taxation, expenditures, number of village level shocks, amongst other variables. The household
questionnaire is the raw data from which village profits, participation in gram sabhas, and the proportion of households affected by village shocks are estimated (as in Table 1). The data in Table 1 were collected in two different ways: all incomes, wages, village shocks and village population come from the rounds of 1999 and 2007, respectively, while the governance related variables were collected during the 2007 survey, with respect to the current panchayat period, and with a recall to the previous or previous to previous panchayat period.

In contrary to the argument that low-level of revenue generation by panchayats is due to high levels of poverty, the village-level analysis reveals that per capita bribes in rural India exceed per capita tax collected (Table 1).

Finally, a state level survey was used to collect the state-level attributes of the fiscal system. Table 2 gives descriptive statistics of the key variables for 15 states. Autonomy over use of tied resources is measured as an index incorporating eight separate grants involving employment generation, and seven grants for social programmes. For each we know whether the panchayati raj institution is in charge of allocating the funds, whether it selects the beneficiaries, and whether it is in charge of execution of the programmes. We add scores across these three functions and across all programmes and divide by 24 and 21 respectively for the two categories. We have data on the autonomy over use of untied funds for all 29 functions that are subject to transfer. In order to make the index more sensitive we focused on 16 of the major functions. The index adds up all cases in which autonomy is available, and divides it by 16. The index has minimum of 0 and a maximum of 1 across the states, a mean of 0.5 and a median of 0.44.

### The Model

Local governments receive programme (tied) and block (untied) grants. Programme grants are typically fixed for a given panchayat period, while block grants are received from higher-level governments, but are fungible and can be applied to a variety of programmes at the village level.

We consider a local government receiving transfers to fund an employment generation programme that guarantees fixed wages to participants. The market wage will be influenced by the wage offered. Let $\kappa$ be the tax base of the panchayat, and $t$, the tax rate. Hence, the tax collected is $x = \kappa t$.

Let $\rho(x)$ be the indirect cost of raising taxes whence the net tax collected is:

$$\kappa = x - \rho(x)x$$

where, $0 \leq \rho \leq 1$. The marginal cost of collecting tax is positive, that is, $\rho'(x) > 0$.

The impacts of government transfers, however, depend on the objectives behind such transfers, that is, whether these transfers are employment or welfare generating. We define the employment generating transfers as $g_p$ transfers that generate social welfare as $g_s$, and fiscal transfers in the form of block grants as $g_f$. Following the fiscal equalisation principle, we write $g_s$ as

$g_s = g_0^s - \lambda(x_{t-1}, x_t) x_t$ … (2)

$\lambda, \lambda', \lambda_{x_{t-1}} x_{t-1} \geq 0$ … (2a)

where, $\lambda$ is the rate at which $g_s$ is adjusted to reflect changes in tax collected and $g_0^s$ is the magnitude of $g_s$ received if the panchayat collected zero taxes.

Similarly, for $g_f$:

$g_f = g_0^f - \theta(x_{t-1}, x_t) x_t$ … (3)

$\theta, \theta_{x_{t-1}} x_{t-1} \geq 0$ … (3a)

All transfers to the panchayat not raised locally are written as $g$:

$g = g_0^s + g_0^f$ … (4)

Let the per capita budget constraint of the village government as well as that faced by the households be $z$:

$z = (1 - \rho(x)) x + g_2$ … (5)
where, $z$ is the revenue for public spending, $(1 - \rho(x))x$ is the net tax (net of cost of raising an additional unit of tax), and $g_2$ are the non-employment generating transfers from outside panchayat.

Thus, we can formulate the change in budget constrained due to local tax effort as

$$z_k = \frac{d(x - \rho(x))x + g_2}{dx} = 1 - \rho_x x - \rho(x) + g_2$$

... (6)

The change in government transfers due to local tax effort is given by $g_1$ where $g_1 = g_{1x} + g_{2x}$. Now,

$$g_{1x} = \frac{\delta g_1(x) - \lambda \mu}{\delta x} = g_{1x}^0 - \lambda x - \lambda$$

... (7)

We can write the expression for $g_{2x}$ in a similar manner.

Consumption $c$ of a representative household is determined by income from labour supply to private capital (denoted by $k$) and wages received from labour supply to government programmes. Hence,

$$c = f(k, g_1) - k_fx - g_{1f}$$

... (8)

We assume that the production function $f$ is Cobb–Douglas and is written as $f = Ak^{\gamma}g_1^{\delta}$, where $\delta_1 + \delta_2 < 1$ and $\delta_1, \delta_2 > 0$. It can then be shown that $kf_k = \delta_1 f$ and $g_{1f} = \delta_2 f$. Hence, $c = (1 - \delta_1 - \delta_2)f$. A representative household's utility $u$ is:

$$u = c + av(z),$$

... (9)

where, $av(z)$ is the utility from public goods. The panchayat maximises the utility of this representative household with respect to the tax collected $x$ which yields as first order condition

$$u_x = c_x + av'(z)x_x = 0$$

... (10)

Equivalently, $av'(z) = -\frac{c_x}{x_x}$

Now, change in household consumption with respect to tax is

$$c_x = (1 - \delta_1 - \delta_2)\frac{df}{dx} = (1 - \delta_1 - \delta_2)(f_kx_k + g_{1x}f_{g1})$$

... (11)

From the impact of tax on the budget constraint in (6), we derive the first order condition for utility maximisation from equations (10) and (11) as follows

$$av'(z) = \frac{(\delta_1 + \delta_2 - 1)(f_kx_k + g_{1x}f_{g1})}{1 - \rho_x x - \rho(x) + g_2}$$

... (12)

The panchayat uses its tax policy to satisfy this optimality condition.

**Remark 1:** In order to reconcile (12) with our empirical specification, we assume that the impact of raising local revenue on marginal utility of public goods can be aggregated to represent components of the wage effect, incentive effect, and the profit effect. To see this, we assume that grants lead to construction of public utilities, thereby also impacting wages. This shifts the household budget constraint outward (due to $x, \rho$ and $g_2$ increasing) as a new tax rate will be used to fund increased supply of public goods.

In (12) the denominator on the right-hand side (RHS) measures the response of public goods supply to an increase in tax collected, wherein $(1 - \rho(x) - \rho(x))$ denotes the net increase in tax revenue from a marginal increase in the tax base. This consists of the additional indirect cost of the tax collected in response to an increase in the tax base and additional grant ($g_1$). Hence, the denominator is the response of public goods supply to tax collected, and we know that this term is positive.

In the numerator, by the law of diminishing returns, $\delta_1 + \delta_2 < 1$. Further, $f_k$ and $f_{g1}$ are positive because the marginal products of capital and employment generating grants are both positive. However, $k_2$ and $g_{1x}$ are negative (the former because of the profit effect and the latter because of the wage effect). Hence, the numerator is also positive.

The left-hand side (LHS) is the scaled-up marginal utility of the public good, which is positive. Equation (12) states that the marginal utility of the public good should be equal to the impact of the higher tax needed to finance the public good (the numerator in the RHS of [12]), normalised by the impact of the additional tax on public goods supply (the denominator of the term on the RHS of [12]). Hence, at the margin, the marginal utility of the public good should equal the private output foregone to produce the public good. Essentially, the cost or benefits of raising own taxes and the quantum of grants received from outside (which directly affect the decision to raise taxes locally) have household-level impacts. For example, intergovernmental (vertical) transfers will affect the productivity or the tax base of the local economy by having an adverse effect on the marginal utility of public goods derived by the households.

**Remark 2:** We do not measure $\rho$ directly as the cost of raising taxes. $\rho$ is taken to represent three effects of local taxation in the form of wage, profit, and incentive effects as consolidated in equation (12). Thus, $\rho$ allows us to explore the underlying factors for the low-level of revenue generation.

We exploit the monotonic relation between the tax collected and public goods supply to argue that when public goods supply rises ($z$ goes up), the tax collected must rise to finance the increased public goods supply. We know the first term in the numerator on the RHS of (12) is negative, $f_{g1}$ is positive whence (assuming $g_{1x}$ is negative) $av'(z)$ will rise when $g_1$ goes up. This is possible only when $z$ goes down, that is the tax revenue falls. Further, from (12) (and under our assumptions) when $\rho$ rises $av'(z)$ will rise, that is $z$ will fall. The marginal utility of the public good is not observable and hence not testable. However, equation (12) leads to an estimable equation for the relation between tax collected, employment generation transfers, and tax revenue.

**Econometric Specification**

$g$ is the vector of the fiscal transfers from higher levels consisting of $g_f$ and $g_{wv}$ which stand for the earmarked grants that finance public works and social programmes, and $g_j$ is the fiscal transfers through block grants.

Let $x$ be the sum of farm and off-farm profits of the representative household, which represents the tax base including the returns to family labour. Let $t$ stand for all the tax revenues
raised by the panchayat itself, exclusive of user charges, which are earmarked for a specific purpose. Each of these variables is normalised by population.

Let \( p_i \) be the net cost or benefit of transfer \( i \) in terms of the tax base (by its net impact on the agricultural wage as well as the compensating impact of the public goods financed on agricultural profits). We can estimate the impact of these transfers across villages as:

\[
π = π_0 + π_1 g_1 + π_2 g_2 + π_3 g_3 + e
\]

... (13)

The variables are constructed so that grants that lead to construction activities, that is wage rises, are included in \( g_1 \), while other grants are included in \( g_i \). With only wage effects present, construction employment will increase, leading to an increase in wage represented by the coefficient \( π_i \). This implies that \( π_i \) should be negative, and should be larger in absolute value than \( π_o \), that is, \( π_i < 0 \). Expenditures of the panchayat out of block grants produce public goods and services, including some possibility of impacting construction activities. This implies that for \( π_i \) if there are only wage effects, the coefficients would be: \( π_i < π_o < π_i < 0 \).

We next look at the pathway of the impact of public expenditures via wages, by estimating the wage equation:

\[
w = \beta_0 + \beta_1 g_1 + \beta_2 g_2 + \beta_3 g_3 + e
\]

... (14)

Any labour demand effects of \( g_i \) and \( g_j \) would raise wages. If these are the only effects, we would expect the corresponding coefficients to be negative. However, productivity effects of public expenditures can have either positive or negative impacts on wages: if the productivity impact is neutral or labour using, productivity gains will lead to higher labour demand, and therefore to higher wages. In this case, the labour demand effect coming from public works and that coming from productivity-enhancing expenditures work in the same direction. It is only in the case when productivity impacts of public expenditures are labour-saving that the two might offset each other, leading to ambiguous signs on the coefficients.

The first order impact of a wage increase on profits, holding productivity constant, is the share of hired labour in total profits, that is, \( \frac{d\pi}{dV} = -\sigma \). Therefore, we can estimate the pure wage effect of the transfer on profits directly from (14) as

\[
v = \frac{d\pi}{dg_1} \text{profits} = -\sigma β_1
\]

... (15)

Similarly, the first order impact of the change in the tax base on tax revenue is the share of panchayat taxes in farm profits \( r \) multiplied by the impact of grant \( i \) on profits which we can estimate from (13), that is,

\[
r = \frac{dr}{dg_1} = τ r i
\]

... (16)

Suppose that the three expenditure types also finance public goods and services that increase agricultural productivity, and therefore profits, which means that \( π_i \) is composed of a wage impact \( ν_i < 0 \) and a productivity impact \( p_i > 0 \). Substituting from (14) we find:

\[
π = ν_i + p_i = -σβ_i + p_i
\]

... (17)

Which we can solve for the productivity effect of the grants \( p_i = π - \sigmaβ_i \).

Let \( a = (a_o, a_p, a_r, a_k) \) be the vector of attributes of the intergovernmental fiscal system in a particular state, which are exogenous parameters to the village, includes general variables such as the proportion of devolved functions (out of 29 states) in a particular state; the proportion of the function that requires own revenues; and how well the transferred functions have been funded. The \( a_j \) are autonomy indices specific to each type of grant, and include the autonomy that the gram sabhas has over the expenditures corresponding to each of the \( g_i \) in terms of (i) planning the expenditures, (ii) the autonomy over allocation of funds, and (iii) execution of projects financed by the funds. For \( g_j \), and \( g_j \), the indices include separate data for each of the specific earmarked funding stream that is contained in them, while for \( g_j \), the data was available for all unrestricted grants together.

We estimate the reduced form impact of the transfers and of fiscal systems attributes on own revenue as:

\[
t = c_0 + c_1 g_1 + c_2 g_2 + c_3 g_3 + a_o a_p + a_o a_r + a_o a_k + a_p a_r + a_p a_k + e
\]

... (18)

The \( c_i \) measures the impacts on taxes of the grants resources received, while the \( a_i \) coefficients measure the impact of the state fiscal systems parameters on taxes raised.

The data used for profits, taxes, and transfers refer to sample villages. In many cases, these villages belong to a larger panchayat.

How much of the restricted and block grants come to the village depends on the fiscal systems attributes of state and central government. But astute panchayat politicians will also be able to influence them, making them potentially endogenous to the panchayat. Since the data are village-specific and not available at the panchayat level, the volume of resources flowing into a specific village will also be influenced by the villagers’ own behaviour. Additionally, the transfers are also affected by the reactions of higher-level decision-makers to attributes of the fiscal system. For example, a state which transfers more functions may decide to transfer more block grants, or more grants with specific functions transferred to the panchayats. We therefore predict the grants going to the villages using variables that are related to the political behaviour of the village, as well as to the attributes of the fiscal system, that is, we estimate

\[
g_{ik} = d_0 + d V + s_o a_o + s_k a_k + e
\]

... (21)

where, \( V \) is a vector of village-specific variables, \( a_o \) is the vector of general attributes of the fiscal system as before, while \( a_k \) are grant-specific attributes for the \( k^{th} \) type of grant.

**Fiscal System Attributes**

In order to deal with the simultaneities of grants received and taxation, we estimate the system of equations via three stage least squares, where the grants are predicted in the first stage equations using the number of gram sabha meetings in the village, the proportion of villagers that participate actively in gram sabha meetings, per capita bribes paid, and the fiscal

\[
\]
systems attributes as explanatory variables. One of the fiscal systems attributes is specific to the type of grants, and ensures that there is one instrument that is included in each first stage equation that is not included in the second stage equations. For all the revenue and income variables we have data for 1999 and 2007, or for the closest years in the panchayat periods for which data was collected. In order to account for village-specific fixed effects, we can estimate the first difference of the equations between 2007 and 1999. However, the fiscal systems parameters are only available for the time around 2007. We know that these are changing very slowly in the states and, therefore, use their level to explain the growth of the endogenous variables.

**Results**

The proportion of devolved functions increases earmarked grants for social programmes and own taxes significantly, but reduces untied grants significantly with no clear effect on employment-generating grants (Table 3). The impact on own taxes is large, suggesting that devolving more functions leads to significant tax revenue increases. An increase in the proportion of devolved functions by 10% (approximately by three additional functions) increases revenue raised per capita tax revenue by ₹7.7, nearly half of total taxes raised. The same three additional functions increase g3 by ₹7.1, compared to its mean of ₹57. This may be because of governments transferring more resources when they devolve functions, or pressure from panchayats. Additional devolution of functions also tends to strongly reduce untied grants (g1), with three additional functions leading to a decrease in untied grants by ₹19 per capita.

The proportion of tax bases devolved increases block grants very significantly, with smaller, positive effects on other types of grants and tax. This may be because those state governments that devolve more tax bases are also devolving more block grants. While not statistically significant, it appears to provide some additional incentives to raise taxes, suggesting that it may not be lack of tax bases that holds revenue raising back, but unwillingness to tax. The proportion of actually devolved functions that require own revenue collection for their finance reduces g3 significantly, and again has no clear impact on own revenues. This indicates that funds from own revenue collection are less likely to be used for raising social welfare. It is not apparent if simply asking local governments to pay more for the functions devolved to them is effective in getting them to do so.

The autonomy indices used show that the impact of autonomy over employment generating grants is large and positive. There are eight sub-grants in this index, so any marginal increase in grant amounts to an increase of 12.5%, and potentially leads to an increase in employment generating grants (g3) of ₹7.9, presumably because the village may exert greater effort to obtain such grants. An overall increase in autonomy over one of the seven grants contained in the social grants

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**Table 3: Systems Estimates of Impacts of Transfers from Higher Levels on Own Taxation and Wages**

<table>
<thead>
<tr>
<th>Variables</th>
<th>G1</th>
<th>G2</th>
<th>G3</th>
<th>Tax</th>
<th>Wage Rate</th>
<th>Profits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Proportion of devolved functions</td>
<td>-188.9**</td>
<td>-189.6**</td>
<td>77.64**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(140.3)</td>
<td>(43.97)</td>
<td>(26.61)</td>
<td>(37.53)</td>
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<td></td>
</tr>
<tr>
<td>Proportion of tax bases devolved</td>
<td>25.79</td>
<td>1.380</td>
<td>224.6***</td>
<td>11.33</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>(101.9)</td>
<td>(56.12)</td>
<td>(25.94)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proportion of devolved functions requiring own revenue</td>
<td>1.402</td>
<td>-95.79***</td>
<td>-67.93</td>
<td>-19.86</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(63.85)</td>
<td>(49.54)</td>
<td>(19.64)</td>
<td></td>
<td></td>
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<tr>
<td>Correspondence index</td>
<td>-192.8**</td>
<td>21.97</td>
<td>-93.12**</td>
<td>14.30</td>
<td></td>
<td></td>
</tr>
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<td></td>
<td>(68.15)</td>
<td>(40.61)</td>
<td>(19.91)</td>
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<tr>
<td>Political conflicts</td>
<td>-86.46**</td>
<td>23.64</td>
<td>15.18</td>
<td>-4.858</td>
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<tr>
<td></td>
<td>(39.27)</td>
<td>(22.20)</td>
<td>(15.07)</td>
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<tr>
<td>Per capita bribe</td>
<td>0.229</td>
<td>0.347**</td>
<td>0.219</td>
<td>0.165</td>
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<td></td>
<td>(0.426)</td>
<td>(0.235)</td>
<td>(0.150)</td>
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<tr>
<td>Autonomy over g1 (expenditure)</td>
<td>223.3</td>
<td>(138.2)</td>
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<tr>
<td>Autonomy over g1 (beneficiary selection)</td>
<td>-194.1</td>
<td>(153.4)</td>
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<tr>
<td>Autonomy over g1 (execution)</td>
<td>24.95</td>
<td>(74.67)</td>
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<tr>
<td>Autonomy over g2</td>
<td>101.2***</td>
<td>(44.46)</td>
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<tr>
<td>Plans for expenditure of untied resources</td>
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<td>47.58</td>
<td>(59.54)</td>
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<td></td>
</tr>
<tr>
<td>Autonomy over use of untied funds (g3)</td>
<td>-134.1***</td>
<td>(50.98)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of gram sabha meetings in the village (previous period)</td>
<td>-1.765</td>
<td>(2.929)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proportion of households affected by village shocks</td>
<td>-52.09***</td>
<td>(16.51)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Predicted per capita grants from employment guarantee programmes (g1)</td>
<td>-0.0603</td>
<td>(0.0630)</td>
<td>0.0574</td>
<td>-0.00240**</td>
<td>(0.0369)</td>
<td>(0.000977)</td>
</tr>
<tr>
<td>Predicted per capita grants from non-employment guarantee programmes (g2)</td>
<td>-0.604**</td>
<td>(0.258)</td>
<td>-0.177*</td>
<td>0.00285</td>
<td>(0.0962)</td>
<td>(0.00247)</td>
</tr>
<tr>
<td>Predicted per capita block grants (g3)</td>
<td>0.237**</td>
<td>(0.117)</td>
<td>0.231***</td>
<td>0.00316*</td>
<td>(0.0681)</td>
<td>(0.00187)</td>
</tr>
<tr>
<td>Predicted per capita tax</td>
<td>-0.0668</td>
<td>(0.165)</td>
<td>0.00938*</td>
<td>0.00479</td>
<td>(0.0076)</td>
<td>(0.00237)</td>
</tr>
<tr>
<td>Number of village shocks</td>
<td>-1.064</td>
<td>(1.027)</td>
<td>0.0199</td>
<td>(0.0306)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of government officers working outside village</td>
<td>0.798</td>
<td>(0.818)</td>
<td>0.0486**</td>
<td>(0.0237)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>337.7***</td>
<td>-68.88</td>
<td>241.8**</td>
<td>-50.23</td>
<td>-1.867</td>
<td>-0.0631</td>
</tr>
<tr>
<td></td>
<td>(1179)</td>
<td>(43.69)</td>
<td>(96.90)</td>
<td>(33.64)</td>
<td>(6.002)</td>
<td>(1.54)</td>
</tr>
<tr>
<td>Observations</td>
<td>193</td>
<td>193</td>
<td>193</td>
<td>193</td>
<td>193</td>
<td>193</td>
</tr>
<tr>
<td>Chi²</td>
<td>23.24***</td>
<td>26.03***</td>
<td>23.02**</td>
<td>19.52*</td>
<td>23.41***</td>
<td>19.25***</td>
</tr>
<tr>
<td>Hansen–Sargan overidentification test</td>
<td>77.23***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Standard errors in parentheses. Significance levels *** p<0.01, ** p<0.05, * p<0.1.
would amount to an increase in the index of about 1.4% and would lead to an increase in these grants by $14. These grants include health and education expenditures as well as many social programmes. It appears that autonomy of using tied funds is especially valued by the rural population. In terms of untied programmes. It appears that autonomy of using untied funds is much higher than the use of tied funds. Such a negative impact would be consistent with states not being willing to provide more of such funds when there is a lot of autonomy of the local governments over their use. Having plans over the use of untied resources have no impact on their volume.

Political conflicts reduce the proportion of grants that generate employment significantly but have no impact on other fiscal transfers or on taxes. It may happen that it is difficult to administer construction or employment generation programmes in villages affected by conflict, or that such grants are withheld in situations of conflicts. Per capita bribes increase significantly, with each rupee paid in bribes increasing these grants by over Re 0.33. This is another indicator of the perceived value of social service grants. Bribes are often used to access welfare programmes. The positive impact of bribes on these types of grants suggests that when bribed, those receiving the bribes may exert more effort to attract such grants.

The number of gram sabha meetings held in the previous period has a small negative effect on own revenues raised, whereas an increase in the proportion of households affected by village-level shocks sharply reduces the own revenue raised by local governments, possibly due to diminished tax base.

Conclusions

This paper shows that there are many ways for government to provide more incentives for increasing the very low level of tax collection by panchayats. Devolving additional functions has a large impact on own revenue raising of the central and state governments. It also increases social transfers received by villagers, either from increased provisions from above, or more proactive seeking of such grants from below. The proportion of tax bases devolved does not induce more taxation, suggesting that it is not the lack of tax bases that holds revenue collection back but the lack of will to collect taxes. Also, it appears that states that devolve more tax bases to local governments are also providing them with more block grants. If governments devolve function and require them to be funded locally, panchayats raise more taxes, and also receive more grants.

Employment generating grants tend to increase wages, with an increase in the per capita grant by a rupee leading to a wage increase of 10 paisa. Block grants tend to increase wages even more, while social grants, as expected, have no impact. Since the share of wages in profits is very small, the impact of these wage increases on taxes is also very small. We conclude that wage impacts on taxation exist, but are very small. We conclude that the productivity impact of grants on taxes is negligible.

This means that incentive effects associated with the specifics of the intergovernmental fiscal system in the states are the main determinant of village taxation. Since different types of grants respond differently to such system changes, there is much potential to reallocate public expenditures among them in order to induce greater own taxation. First, reallocation among the restricted grants from social grants to employment generating grants increases own taxation. Supplementary analyses showed that shifting a rupee of grant (per capita) to block grants can significantly boost local tax revenues. Such a change is within the powers of the central government and involves a small shift from centrally-sponsored schemes to block grants. The revenue base of the PRIs needs to be broadened and deepened as recommended by the Second Administrative Reforms Commission (SARC). Incentives for own revenue collection should be provided by the states by devolving additional functions to local governments, by increasing the amount of untied grants, and by shifting resources from restricted grants to untied block grants. Other incentives could include the matching of own revenues by state resources and co-financing by panchayats or communities of programmes funded from the centre. To make these changes possible, the flow of funds for all public development schemes should be routed through the PRIs, and centrally-sponsored schemes should shed their separate vertical identity and become a part of the overall development plan of the panchayat, as also already recommended by the SARC.

Devolving additional functions has a large impact on own revenue raising. It also increases the social transfers received by villagers, either as a consequence of higher provisions from above, or more proactive seeking of such grants from below. The proportion of tax bases devolved does not induce more taxation, suggesting that it is not the lack of tax bases that holds revenue collection back but the lack of will or incentives to collect taxes that correspond to already provided tax bases. If governments devolve function and require them to be funded locally, panchayats raise more taxes, and also receive more social grants.

NOTES

1 This has been shown to be particularly the case where the local governments are headed by women (Nagarajan et al. 2017, ch 10).

2 The relevance of this analysis is more general. Similar experiences can be cited from Brazil and Poland.

3 One can conjecture that fungible monies could be used along narrow parochial lines and could lead to corrupt practices. What we propose is that both local revenues and fungible resources must exist together for optimal impact on the provision of public goods and services.

4 These include the National Commission to Review the Working of the Constitution (headed by Justice Venkatachaliah) in 2002, which suggested creating a separate fiscal domain for panchayats and municipalities; the Second Administrative Reforms Committee (ARC, headed by Yeevee Moily) in 2006, that recommended broadening and deepening the revenue base of local governments, and routing all local funds through panchayats; the Punchhi Committee on centre–state relations advocating empowering the gram sabhas for all village revenues, and timely devolution of funds and functionaries after devolution of functions.

5 Central and state finance commissions have recommended augmentation of the financial resources of panchayats through unconditional transfers, local tax raising for improving service provision, and improving the functioning of state finance commissions.

6 The flypaper effect is a concept from the field of public finance that suggests that a government grant to a recipient municipality or panchayat increases the level of public spending more than an increase in local income of an equivalent size.

7 On average across many community-driven development programmes across the world, where the implementation of funds and allocation are controlled by the communities, rather than sector staff, there is a cost reduction of approximately 40%.
8 These data were collected for each year of the respective panchayat periods, which is not the same across villages and panchayat periods, so they were converted to annual averages. There is no precise matching between the years 1999 and 2007 and the middle year of the respective panchayat period; so there is some error in the matching of years. Current period refers to 2007 and the previous period refers to 1999. The previous to previous period refers to 1992.

9 We have not modelled each of these components of the utility function separately in order to keep the analysis tractable.

10 We could also estimate this equation using total village profits or its component agricultural and non-agricultural profits.

11 Much public expenditure in these villages goes for roads, irrigation and land improvements, which would likely lead to labour saving productivity impacts. Therefore, the three coefficients in equation (1.4) are expected to be positive.

12 For further explanations about the sub-grants, one may contact the corresponding author.

13 Same as note 12.

14 There is considerable scarcity of social services in the rural setting. In addition, available funds and village preferences have to be matched as far as possible. Hence, such autonomy over resource use is valuable.

15 This is similar to the non-significant effects found by others in African local governments affected by conflict (Mogues and Benin 2012; Sanogo and Brun 2018).

REFERENCES


