

## Fiscal Decentralization in Developing Countries : The Effects of Local Corruption and Tax Evasion

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A movement toward fiscal decentralization is underway in many countries across the world. This movement is partly justified by appeal to the classic argument of Tiebout (1956), who claimed that decentralized provision of public goods allows better fulfillment of diverse individual demands. Many commentators, however, have expressed concern that the conditions justifying Tiebout's argument are not present in many developing countries. This paper analyzes the consequences of altering Tiebout's model to include local corruption and tax evasion, which may exist in many developing countries. The analysis shows that these forces indeed limit the benefits from fiscal decentralization. By raising public-good costs, corruption cancels some of the gains from better demand fulfillment, which arise as Tiebout sorting generates homogeneous local jurisdictions. By creating incentives for mixing, thereby preventing formation of homogeneous communities, tax evasion may block the operation of the Tiebout mechanism, eliminating the gains from fiscal decentralization. *Journal of Economic Literature* Classification Numbers: H1, H2, H4, H7. © 2000 Peking University Press

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### 1. INTRODUCTION

Pursuit of fiscal decentralization is now widespread all across the world, as both developed and countries attempt to follow the example of the nations like the U.S., where local and regional governments enjoy considerable fiscal independence. Decentralization is justified in part by an appeal to the classic argument of Tiebout (1956), who claimed that decentralization

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leads to greater variety in the provision of public goods, allowing better fulfillment of the diverse demands for public spending in the population. Another justification was provided by Oates (1993), who claimed that when growth-enhancing public infrastructure spending is carried out at the local or regional level, greater benefits emerge. The reason is that infrastructure projects are then better suited to local conditions, so that their contribution to growth is more substantial.<sup>1</sup> Taking a different perspective, Brueckner (1999) argues that, by better fulfilling the diverse public-good demands of different age groups in the economy, fiscal decentralization affects the incentive to save, thus altering capital accumulation and growth, possibly in a positive direction.

While the push for decentralization in part reflects Tiebout's powerful intellectual legacy, many commentators recognize the potential fallacy of basing policy prescriptions for developing countries on a theory inspired by observation of fiscal affairs in a highly-developed country like the U.S. These commentators worry that, although the preconditions for beneficial fiscal decentralization may exist in the U.S., they may be absent in many LDC's. If so, decentralization may yield few benefits, and may actually be harmful, when pursued in the developing country context.

The relevant differences between developing countries and developed countries are discussed in a number of studies. For example, Litvack, Ahmad and Bird (1998) argue that a key ingredient of Tiebout's model, namely the ability of consumers to "vote with their feet," may be missing in developing countries. Low incomes and poor information flows may limit interjurisdictional mobility, preventing consumers from sorting themselves on the basis of their demands for public goods, as envisioned by Tiebout. In the absence of such sorting, many of the potential gains from decentralization cannot be realized.

Even if consumers are able vote with their feet, other imperfections in developing countries may block the fulfillment of Tiebout's theory, as noted by Tanzi (1996). For example, bureaucrats in local and regional governments may be poorly trained and thus inefficient in delivering public goods and services to the population. When delivered subnationally, the per-capita cost of such services is then higher than if they were delivered by the national government, whose bureaucracy may be more efficient. Exactly the same conclusion applies if all bureaucrats are equally efficient but corruption is more extensive at the local and regional levels than at the national level. The cost of subnational public-good provision is again higher, but the differential now serves to line the pockets of the bureau-

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<sup>1</sup>The connection between growth and decentralization is explored in a series of empirical studies by Zhang and Zou (1998), Davoodi and Zou (1998), and Xie, Zou and Davoodi (1999). Some of the findings disconfirm Oates's prediction, showing a negative relationship between growth and decentralization.

cracy rather than to offset technical inefficiencies in production. In both situations, the higher cost of subnational public-good provision limits the benefits from fiscal decentralization. In developed countries, by contrast, technical efficiency is high across all levels of government, and corruption is mostly absent at both the subnational and national levels, so that no such limitations exist.

Tanzi (1996) also argues that taxes levied at the subnational level may exhibit poor “productivity” relative to national taxes. One reason may be weak administration of income or property taxes by subnational governments, which allows consumers to engage in substantial and costless tax evasion. This outcome appears to limit the usefulness of such taxes as revenue sources, calling into question the ability of subnational governments to function as independent fiscal entities. In developed countries, by contrast, evasion of taxes levied by subnational governments is typically difficult, eliminating this obstacle to successful fiscal decentralization.

The purpose of the present paper is to explore these ideas by providing an elementary, diagrammatic analysis of the effects of corruption and tax evasion on the benefits of fiscal decentralization. The contribution of this exercise is to provide a formal demonstration of how Tiebout’s theory changes when some new ingredients that may characterize developing countries are added. While most of the discussion retains the assumption that consumers can vote with their feet, the effect of removing interjurisdictional mobility is also noted.

The analysis of corruption, which is presented in Section 2, is straightforward. It identifies a simple trade-off between better satisfaction of diverse public-good demands under fiscal decentralization, on the one hand, and higher costs of provision due to subnational corruption, on the other. Fiscal decentralization is welfare improving only if the first effect dominates the latter. If interjurisdictional mobility is absent, as argued by Litvack et al. (1998), then the first beneficial effect is not even realized, and fiscal decentralization serves only to raise the cost of public-good provision.

Analysis of the effect of tax evasion, which is presented in Section 3, generates some unexpected conclusions. The analysis assumes that one class of consumers (in particular, the high public-good demanders) is able to evade a portion of its subnational tax bill while the other class is not. As long as consumers are separated in homogeneous jurisdictions, this tax evasion has no effect. Because tax evaders ultimately care about public goods, they mutually agree to levy a larger tax bill (recognizing that only a portion will be paid) in order to generate the desired amount of public expenditure.

By contrast, when evaders and nonevaders live together in a mixed jurisdiction, the evaders benefit from underpayment of taxes, paying less than their fair share of public-good costs. While the evaders (who are in the mi-

nority) forsake the ability to control public spending, their lower taxes may make living in a mixed jurisdiction preferable. Such intermixing, however, ruins the economy's ability to match public goods to individual demands, so that the benefits of fiscal decentralization may disappear under tax evasion. Thus, instead of causing a collapse of public-good provision at the subnational level, tax evasion limits the benefits from decentralization by interfering with the process of Tiebout sorting.

The next two sections of the paper demonstrate the above conclusions. While the analysis in these sections explores potential failures of the Tiebout mechanism in an abstract fashion, Section 4 asks the broader question of whether the Tiebout approach is even relevant in a particular group of countries. Focusing on Argentina, Bolivia, Brazil, Colombia, and Mexico, the discussion reviews the details of the institutional structures of these countries, asking whether state and local jurisdictions enjoy the fiscal autonomy that is required for the Tiebout mechanism to operate. The conclusions are not encouraging, suggesting that fundamental institutional rigidities may prevent realization of some of the benefits of decentralization, independently of the effects of corruption and tax evasion.

## 2. THE EFFECTS OF CORRUPTION

The analysis is based on the simplest possible model. The economy contains two types of individuals, high and low demanders of the public good (denoted  $h$  and  $l$ ). The single public good, denoted  $z$ , is a private good produced with constant returns to scale. This means that the cost per unit of  $z$  is a constant  $c$ , and that an expenditure of  $ncz$  is needed to generate public consumption  $z$  in a jurisdiction of size  $n$ , yielding a per-capita cost of  $cz$ . Economies of jurisdiction size are thus absent, so that per-capita public-good costs would be the same at the national and local levels in the absence of local corruption. With corruption, however, the unit cost at the local level assumes the higher value  $\tilde{c}$ , with  $\tilde{c} > c$ . For simplicity, all subnational governments are referred to as "local" in the ensuing discussion, recognizing that the conclusions also apply to regional governments.

The public good is financed by a system of head taxes levied on a jurisdiction's residents. When a given  $z$  is provided nationally, each individual pays a head tax of  $cz$ . With local provision, a jurisdiction's head tax equals  $\tilde{c}z$ . Majority rule determines the public good in any jurisdiction, national or local. Since high-demand consumers are assumed to be in the minority, accounting for a fraction  $\theta < \frac{1}{2}$  of the national population, the public good in the mixed national jurisdiction is chosen to satisfy members of the low-demand majority. In the homogeneous local jurisdictions that

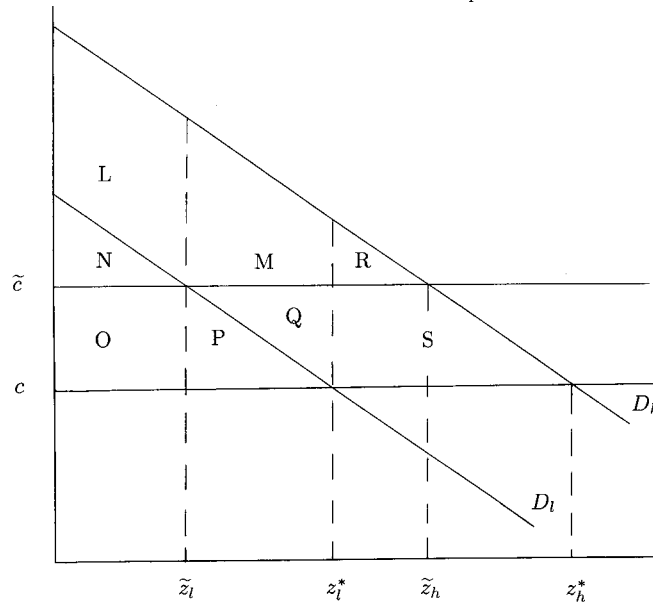
emerge under fiscal decentralization, voters are identical, so that majority rule leads to unanimous choices.

The effect of fiscal decentralization can be analyzed using Figure 1. The Figure shows the demand curves of the two consumer types, denoted  $D_h$  and  $D_l$ , along with horizontal lines representing the national and local unit costs,  $c$  and  $\tilde{c}$ . Since majority rule in the mixed national jurisdiction gives power to the low demanders, the public good is provided at their preferred level,  $z_l^*$ . The high demanders would like a higher level, namely  $z_h^*$ , but their minority status rules out consuming this much of the public good.

Now suppose that fiscal decentralization occurs. The single national jurisdiction, which provides the same level of  $z$  to everyone, is then replaced by local jurisdictions that can provide different public-good levels to suit the preferences of their residents. With a variety of  $z$  levels available, consumers then vote with their feet, moving to the jurisdiction providing their preferred amount of the public good. Consumers thus sort into two types of homogeneous jurisdictions, containing high and low demanders respectively.

Assume for a moment that local corruption is absent, so that the local cost of  $z$  equals the national value,  $c$ . Low demanders, retaining control of public-good provision in their own homogeneous jurisdictions, then consume the same  $z$  as was provided at the national level, namely  $z_l^*$ . In both

FIG. 1. The effects of corruption



cases, the consumer surplus enjoyed by the low demanders is given by the area  $N + O + P$  in Figure 1.

By voting with their feet under fiscal decentralization, high-demand consumers gain control over the amount of  $z$  they consume. Again assuming the absence of local corruption, high demanders set the public good level at  $z_h^*$  in each of their homogeneous local jurisdictions. This leads to a gain in consumer surplus, which rises by the amount  $R + S$  as  $z$  is increased, starting from the initial level of  $L + M + N + O + P + Q$  under national provision. The per-capita social gain from fiscal decentralization is then  $\theta(R + S)$ , where  $\theta$  is again the high-demand population share.

When local corruption is reintroduced, most aspects of the above discussion are unchanged. High- and low-demand consumers still have an incentive to form homogeneous jurisdictions, each of which provides its residents with exactly their preferred public-good level. But because corruption raises the cost of provision from  $c$  to  $\tilde{c}$ , this demand fulfillment takes place under unfavorable cost conditions.

Instead of providing  $z_l^*$ , voters in local low-demand jurisdictions respond to the higher cost of the public good by choosing the lower level  $\tilde{z}_l$ . The surplus enjoyed by low-demand consumers falls from  $N + O + P$ , for a loss of  $O + P$  relative to the case of national provision.

High-demand consumers again benefit from the freedom to choose  $z$ , but they suffer from the cost escalation caused by local corruption. High-demand jurisdictions set the public-good level at  $\tilde{z}_h$ , an amount less than the  $z_h^*$  that would have been chosen in the absence of corruption. High-demand consumers enjoy a surplus level of  $L + M + N + R$  with local corruption, which differs from the surplus  $L + M + N + O + P + Q$  under national provision. The change in high-demand surplus due to fiscal decentralization is thus equal to  $R - (O + P + Q)$ , which could be either positive or negative. If the surplus lost as a result of corruption's cost escalation, which equals  $O + P + Q$ , is smaller than the surplus gained from the ability to control  $z$ , which equals  $R$ , then high-demand consumers benefit from fiscal decentralization. Otherwise, they lose. Figure 1 shows the latter case.

Because low-demanders are unambiguously harmed, the social gain from decentralization is also negative in the situation shown in Figure 1. On a per-capita basis, the social gain equals  $\theta[R - (O + P + Q)] - (1 - \theta)(O + P) = (1 - \theta)(R - Q) - (O + P) < 0$ . Such a loss will arise whenever the demand difference between the consumer types is sufficiently small relative to the difference between  $\tilde{c}$  and  $c$ . In this situation, the high-demand consumers' gain from being able to adjust public spending is small relative to the cost escalation from local corruption. The area  $R$ , whose contribution is positive in the above social-gain expression, is then small relative to the other areas, making the expression negative.

This discussion shows that in the presence of local corruption, the benefits of fiscal decentralization may vanish. The unfavorable cost conditions generated by corruption are likely to cancel the gains from adjusting public consumption to suit individual preferences. When interjurisdictional mobility is absent, so that voting with one's feet is not an option, then the verdict is even worse. In this case, the population stays frozen in place as devolution of fiscal responsibilities occurs, so that each local jurisdiction is likely to maintain a mixed population reflecting the nation's overall population composition. Majority voting then determines the outcome in each local jurisdiction, mimicking the case of national provision, but with a higher cost of the public good. In this case, both high and low demanders are guaranteed to suffer surplus losses as a result of fiscal decentralization, making the policy counterproductive.

The preceding discussion applies equally well to the alternate case where local provision of public goods is technically inefficient rather than subject to corruption. Fiscal decentralization once again entails an increase in public-sector costs, which may overwhelm the gains from better fulfillment of public-good demands. Because of this effect, decentralization again may be counterproductive.

As a final point, it is interesting to explore the effects of reversing the maintained assumption on the location of corruption, assuming instead that corruption exists at the national rather than the local level. In support of this reverse assumption, it could be argued that competition between local governments for population and business investment disciplines their behavior, limiting the scope of corruption. By contrast, the absence of intergovernmental competition at the national level might allow corruption to flourish.

In this situation, fiscal decentralization generates dual benefits. While the population's diverse demands for public goods are again fulfilled, the absence of corruption at the local level leads to a lower, rather than higher, cost of public-good provision following decentralization. To quantify these benefits in Figure 1, observe that the public good would be provided at cost  $\tilde{c}$  at the national level, with the level  $\tilde{z}_i$  chosen under majority rule. The resulting surplus levels are  $L + N$  for the high-demand consumers and  $N$  for the low-demanders. Decentralization would reduce the public-good cost to  $c$ , and the chosen levels of provision would be  $z_h^*$  and  $z_l^*$  in the high and low-demand jurisdictions. High-demand surplus would rise to  $L + M + N + O + P + Q + R + S$ , for a gain of  $M + O + P + Q + R + S$ , while low-demand surplus would rise to  $N + O + P$ , for a gain of  $O + P$ . The social gain from decentralization would equal  $O + P + \theta(M + Q + R + S)$ .

By circumventing corruption at the national level as well as allowing consumers to vote with their feet, fiscal decentralization yields unambiguous benefits under this alternate scenario. Whether this case is more realistic

than the one where corruption resides at the local level is, of course, an empirical question.

### 3. THE EFFECTS OF TAX EVASION

Tax evasion at the local level may also affect the benefits of decentralization. To focus on these effects, assume that local corruption is absent, but that one class of consumers is able to partially evade local taxes. In particular, suppose that the high-demand consumers pay only a fraction  $\alpha$  of their local tax bill. Although the literature on tax evasion (originated by Allingham and Sandmo (1972)) analyzes the optimal choice of  $\alpha$  on the part of the tax evader, this parameter is taken as predetermined in the present discussion. Similarly, the absence of evasion among the low-demand consumers is not endogenously determined but rather is an imposed assumption. Presumably, some difference between the groups (perhaps in their levels of income) makes the high demanders more adept at tax evasion. The reverse assumption, namely that the tax evaders are the low rather than high demanders, would alter the discussion somewhat without changing its overall message. However, as noted below, the assumption of *differential* tax evasion is critical. The conclusions of the analysis would be altered if the groups *symmetrically* evade taxes, paying identical fractions of their true tax liabilities.

Consider first the effects of tax evasion when local jurisdictions are homogeneous. The low-demand jurisdictions are, of course, unaffected. In high-demand jurisdictions, tax evasion means that each resident pays only a fraction of his tax bill, with the payment equal to  $\alpha cz$ . Since the resulting revenue is insufficient to support the given level of  $z$ , the jurisdiction needs to send larger tax bills in order to generate enough revenue. Individual tax liabilities must be set at  $cz/\alpha$ , resulting in tax payments of  $\alpha(cz/\alpha) = cz$ . Therefore, tax evasion in a homogeneous jurisdiction ultimately has no effect on the tax payment required to enjoy a given level of  $z$ . Consumers must in the end pay equal shares of the cost of provision, leading to the same tax payment as they would make in the absence of evasion.

The situation is different in a mixed jurisdiction. To see this, consider a local jurisdiction of size  $n$  where high demanders comprise a fraction  $\lambda$  of the population. Let  $t$  represent the tax liability per unit of  $z$  for each resident, which must satisfy the following government budget constraint:

$$\alpha\lambda ntz + (1 - \lambda)ntz = ncz. \quad (1)$$

Note in (1) that the high demanders pay only a fraction  $\alpha$  of their tax liability, while the low demanders pay 100 percent. Solving (1) for  $t$  yields



$$t = \frac{c}{\alpha\lambda + (1 - \lambda)}. \quad (2)$$

The tax payments of the high and low demanders, denoted  $p_h$  and  $p_l$ , are then

$$p_h = \frac{\alpha cz}{\alpha\lambda + (1 - \lambda)}, \quad p_l = \frac{cz}{\alpha\lambda + (1 - \lambda)}. \quad (3)$$

Since  $p_h < p_l$ , the tax evaders pay less in taxes than the nonevaders. It is easily verified that  $\lambda np_h + (1 - \lambda)np_l = nc z$ , so that these payments cover the cost of the public good.

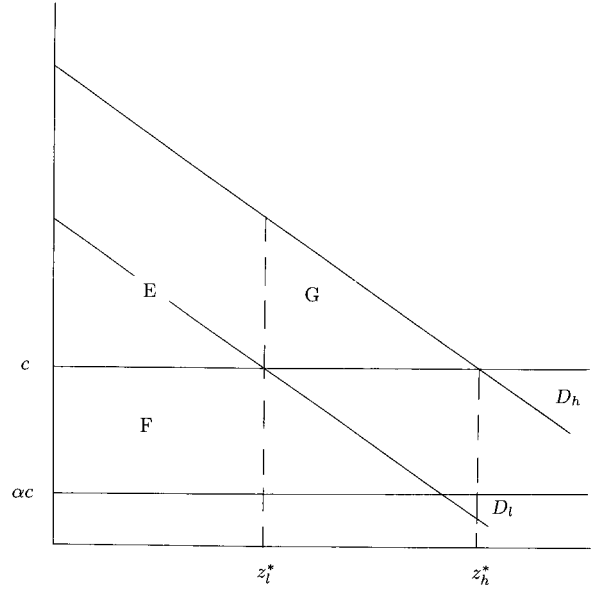
It should be noted that if both groups symmetrically evade taxes, then an  $\alpha$  would appear in the second term in (1). The expression in (2) would then equal  $c/\alpha$ , and  $p_h$  and  $p_l$  would both equal  $cz$ . Thus, in computing the ultimate tax burdens on consumers, symmetric tax evasion is equivalent to no tax evasion at all. Another point to note is that the current model of asymmetric tax evasion is formally equivalent to a model with property or income taxes rather than head taxes. In such a model, tax payments differ across individuals depending on their level of housing consumption or the amount of income earned. Here, tax payments vary according to one's ability to evade taxation.

The key implication of tax evasion is that high demanders can pay less than their fair share of taxes in a mixed jurisdiction. By spurring formation of mixed rather than homogeneous jurisdictions, this fact may limit the benefits of fiscal decentralization, which arise from fulfillment of diverse public-good demands as consumers sort into homogeneous groups.

To explore the incentive to mix, suppose that fiscal decentralization occurs and that the economy is initially organized into homogeneous high- and low-demand jurisdictions. Then, consider whether high demanders have an incentive to move into a low-demand jurisdiction. To do so, focus initially on the *first mover*, who becomes a minority of one in the low-demand jurisdiction. His tax payment is computed by setting  $\lambda = 0$  in (3), reflecting the fact that the low-demand jurisdiction starts out homogeneous and experiences a negligible increase in its high-demand proportion as the first mover enters. Making this substitution, the tax payments in (3) become  $p_h = \alpha cz$  and  $p_l = cz$ .

Figure 2 illustrates this situation, showing the demand curves,  $D_h$  and  $D_l$ , and the unit cost lines at heights  $c$  and  $\alpha c$ . If the high-demand consumer were to stay in his own homogeneous jurisdiction, he would enjoy a surplus level of  $E + G$ . By moving as a minority of one into the low-demand jurisdiction, he has to settle for the lower public-good level  $z_l^*$ , set according to low-demand preferences. But the high-demand mover reaps the benefits of tax evasion by paying less than his fair share of the cost. The

FIG. 2. The effects of tax evasion



mover's surplus in the low-demand jurisdiction equals  $E + F$ , and a move is worthwhile when this surplus level exceeds that in the original jurisdiction, which requires that  $F > G$ . This inequality, which is satisfied in Figure 2, says that the loss from lower consumption of the public good ( $G$ ) is more than offset by the gain from lower taxes ( $F$ ).<sup>2</sup> For the inequality  $F > G$  to be satisfied, creating an incentive for the formation of mixed communities, the demand difference between the groups must be sufficiently small relative to the extent of tax evasion. This makes the gap between the demand curves small relative to the gap between the cost lines, ensuring that the area  $G$  is smaller than  $F$ , as in Figure 2. Thus, substantial tax evasion on the part of one group may interfere with the emergence of homogeneous jurisdictions.

To see the ultimate outcome, the incentives faced by subsequent high-demand movers beyond the first must be analyzed. As additional high-demand residents enter the low-demand jurisdiction, the high-demand proportion  $\lambda$  rises away from zero. Since the common denominator of the expressions in (3) falls as  $\lambda$  increases, the cost lines in Figure 1 rise for both types of taxpayers. Responding to the higher tax burden, the ju-

<sup>2</sup>It should be noted that the analysis imposes the implicit assumption that the low demanders cannot prevent the invasion of their jurisdiction (which they dislike), and that they cannot escape by forming yet another homogeneous jurisdiction. The latter case leads to a game of "musical chairs," which has no equilibrium.

jurisdiction's low-demand majority cuts the level of the public good. This makes the jurisdiction look less attractive to potential movers, and this effect is compounded by the rising high-demand tax burden, a consequence of the growing presence of tax evaders in the jurisdiction.

To understand the operation of these forces, consider Figure 3. This Figure shows the mixed jurisdiction under the assumption that it has been fully invaded by high-demand consumers, whose population share  $\lambda$  now equals their overall share  $\theta$ . In this diagram, the area  $L + M + Q + R$  corresponds to the area  $F$  in Figure 2, while the area  $S$  corresponds to the area  $G$ , areas that apply when  $\lambda = 0$ . Since  $L + M + Q + R - S > 0$ , the first mover finds that entry into the low-demand jurisdiction raises his surplus, as in Figure 2.

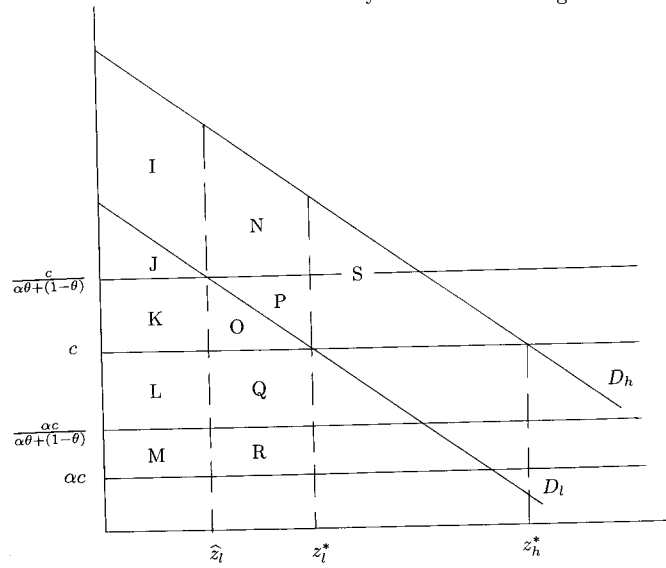
As  $\lambda$  rises from zero to  $\theta$ , the unit cost of  $z$  rises from  $c$  to  $c/[\alpha\theta + (1 - \theta)]$  for the low demanders, who respond by cutting the public-good level from  $z_l^*$  to  $\hat{z}_l$ . Because unit cost for the high-demanders is also larger, being equal to  $\alpha c/[\alpha\theta + (1 - \theta)] > \alpha c$ , the surplus generated from this smaller  $z$  equals  $I + J + K + L$ . Since a surplus of  $I + J + K + N + O + P + S$  applies in the homogeneous high-demand jurisdiction, the surplus advantage of the fully-mixed jurisdiction equals  $L - (N + O + P + S)$ . This advantage is less than the one encountered by the first mover, which equals  $L + M + Q + R - S$ . But the advantage is, in fact, negative in the situation shown in Figure 3, indicating that the fully-mixed jurisdiction generates lower surplus than the homogeneous jurisdiction.

In this case, the fully-mixed jurisdiction is not sustainable, and incomplete mixing occurs instead. To see this, observe that the surplus advantage of the low-demand jurisdiction starts out positive when  $\lambda = 0$  and becomes negative once  $\lambda$  has reached  $\theta$ . Since the advantage is thus decreasing in  $\lambda$ , there exists some intermediate value where it equals zero, indicating that the associated incompletely-mixed jurisdiction and the homogeneous jurisdiction are equivalent. Some high-demand consumers then remain in the homogeneous jurisdiction, while the remainder join the low demanders.

Although Figure 3 does not show this outcome, the fully-mixed jurisdiction could be superior to the homogeneous jurisdiction, so that complete mixing occurs. The condition guaranteeing this outcome is the same as the one discussed above: the demand difference between the groups must be sufficiently small relative to the extent of tax evasion. If this condition were to hold, the demand gap would be small relative to the unit cost gap in a redrawn version of Figure 3, and the area  $N + O + P + S$  would then be small relative to  $L$ , making  $L - (N + O + P + S) > 0$ .

When this inequality holds, tax evasion leads to complete intermixing of high and low demanders. The resulting distortion of public-good provision eliminates the social gain that fiscal decentralization would generate under normal circumstances. The social gain of  $\theta S$ , which equals the population-

FIG. 3. Tax evasion may lead to full mixing



weighted surplus gain for high demanders from greater consumption of  $z$  in homogeneous jurisdictions, is replaced instead by a social loss. To compute this loss, observe that both groups continue to consume a common public-good level, as they did under national provision, but that the level of provision falls to  $\hat{z}_l$ . This generates a social losses of  $O$  for the low demanders and  $(N + O + P)$  for the high demanders, for a total per-capita loss of  $\theta(N + P) + O$ . Thus, in the present model, the benefits of fiscal decentralization turn into losses when tax evasion short-circuits the process of Tiebout sorting. This same conclusion holds under incomplete mixing, but the social loss is smaller in magnitude.

It is worth noting that, in the absence of interjurisdictional mobility, a social loss from decentralization is guaranteed rather than merely probable when tax evasion occurs. Then, mixed local jurisdictions are inevitable, and the above welfare loss is assured.

#### 4. INSTITUTIONAL REALITIES

As discussed in the previous sections, the benefits of fiscal decentralization may be reduced or eliminated when corruption or tax evasion exists at the local level. In the absence of such impediments, decentralization works well in principle, provided that the institutional reality matches the other elements of the Tiebout model. The key element is the autonomy of local

governments in determining the levels of taxes and public expenditures. This autonomy is important because it allows local governments to adjust spending and taxes to suit the preferences of different types of consumers, who sort among jurisdictions as they vote with their feet.

A danger is that the fiscal decentralization effort in a given country may not provide true autonomy to local governments, as is required for the operation of the Tiebout mechanism. Instead, local governments may simply be assigned responsibility for provision of particular public goods, with the levels of provision specified by the national government and the necessary funds coming from national tax revenue via a revenue-sharing arrangement. In this case, local governments lack the ability to adjust their public-good levels in response to the preferences of their residents, and the upshot is that functioning of the Tiebout mechanism is blocked. The problem is that, rather than having true autonomy, subnational jurisdictions effectively serve as agencies of the national government.

This issue can be explored using information from an excellent volume edited by Ter-Minassian (1997), which contains detailed appraisals of fiscal decentralization in 21 countries around the world. Focusing on the experiences of five Latin American countries (Argentina, Bolivia, Brazil, Colombia, and Mexico), the evidence is not particularly encouraging. In particular, although there has been great progress toward fiscal decentralization in these countries, regional and local governments typically lack the autonomy enjoyed by such governments in a country like the United States. As a result, it appears that the preconditions for realizing the full benefits of decentralization do not yet exist in most of these countries. Of course, the obstacles explored in the above analysis (corruption and tax evasion) may be still be a factor, but the evidence suggests that structural rigidities may limit the gains from decentralization on a more fundamental level. To provide greater detail, the ensuing discussion briefly considers the experiences of these five countries.

#### **4.1. Argentina**

The discussion of Argentina draws from the chapter by Schwartz and Liuksila (1997) in the Ter-Minassian volume. As in other Latin American countries, the provision of education and health care has been decentralized in Argentina, with some responsibilities reassigned to the provinces and municipalities by the federal government. Reflecting this devolution, the federal government's share of education spending fell from 44 percent in 1983 to 22 percent in 1992, with the provincial share rising from 49 to 70 percent. Similarly, the federal share of health-care expenditures fell from 17 to 11 percent over this period, with municipal share rising by a corresponding amount.

The tax revenue that pays for these services along with the other expenditures of subnational governments originates largely at the federal level. For example, while provincial governments accounted for 54 percent of combined national and provincial spending in 1995, they generated only 20 percent of the combined national and provincial tax revenue, largely through a provincial turnover (sales) tax. As a result, only 40 percent of the provinces' spending was covered by their own revenue, with the remaining 60 percent supplied by transfers from the federal government, which are based on provincial population and income. Similarly, municipalities received 55 percent of their revenue in the form of transfers from provincial governments. All told, the federal government in Argentina transfers 31 percent of its revenue to subnational governments through revenue sharing.

Both subnational levels of government thus rely heavily on transfers, whose magnitude is largely beyond their control. This absence of control is apparently compounded by a failure to exercise autonomy in the areas where it is permitted. In particular, Schwartz and Liuksila state that, although the provinces may determine the rate of the turnover tax, they "have delegated much of their responsibility for legislating, administering, and collecting taxes to the central government . . ." Although most provinces have granted autonomy to their municipalities, giving them "at least in theory, the right to establish and administer their own taxes," the implication of this quote from Schwartz and Liuksila is that this right is seldom exercised, so that municipalities operate with little actual autonomy.

The picture that emerges of fiscal decentralization in Argentina thus matches the cautionary description above, with subnational governments relying heavily on funds from revenue sharing and exerting little discretion over the taxes that they are legally entitled to control. As a result, it appears that even in the absence of worries about corruption and tax evasion, the scope for operation of the Tiebout mechanism in Argentina may be limited by the institutional setting. This problem may be compounded by substantial tax evasion, which is evidenced by a low rate of compliance with the national VAT (the 55 percent compliance rate is notably lower than that in nearby countries).

#### **4.2. Bolivia**

The chapter by MacKenzie and Ruiz (1997) provides an overview of fiscal decentralization in Bolivia. Since Bolivia is a relatively small country, there is effectively only one layer of government at the subnational level, namely the municipalities. Fiscal decentralization, undertaken in 1996, gave the municipalities full responsibility for elementary and secondary education and for health services. This devolution was reflected in an increase in the

municipal share of total government expenditure from 8 percent in 1993 to 16 percent in 1996. The municipal share of capital expenditures also grew from 33 to 59 percent over this period, a result of the transfer of investment projects from other subnational entities.

These municipal spending responsibilities are supported by revenue sharing, under which 20 percent of national tax revenues are assigned to the municipal governments using a formula based on population and income (a smaller share than in Argentina). Such funds provided 85 percent of municipal revenue in 1996, and the distribution rules require that 85 percent of the transferred funds be spent for investment purposes. Municipalities also levy property taxes, but since the rates are low, such taxes do not constitute a significant revenue source.

Fiscal decentralization in Bolivia thus follows the general pattern of Argentina. Subnational governments have been made responsible for a greater share of expenditures, but they rely on transfers from the federal government for revenue, making little use of their own tax authority. Thus, decentralization appears not to have created true fiscal autonomy at the municipal level, with resulting limits on the benefits that can be achieved.

#### **4.3. Brazil**

According to the chapter by Ter-Minassian (1997), the decentralization trend in Brazil has been “more a response to the fiscal stress on the federal budget . . . than the result of a planned and orderly devolution of spending responsibilities.” As in the cases of Argentina and Bolivia, this decentralization trend (as well as previous spending patterns) have been supported by intergovernmental transfers, with 22 percent of federal tax revenues distributed in transfers to states and municipalities. These entities, however, are less reliant on federal transfers than in Argentina and Bolivia, with transfers accounting for only 26 percent of combined state and municipal revenue. The states rely mainly on a type of value-added tax for their own revenue, while municipalities rely on a tax on services as well as real estate transfer taxes. Along with federal transfers, these revenues support total expenditures that amount to half of all government spending (federal plus subnational) in the country.

The greater current self-sufficiency of state and municipal governments in Brazil, as compared to the cases of Argentina and Bolivia, testifies to a historical commitment to fiscal federalism as well to recent trends toward greater decentralization. As a result of this self-sufficiency, it would appear the Tiebout mechanism has greater scope for operation in Brazil than in the either Argentina or Bolivia.

#### 4.4. Colombia

As described in the chapter by Ahmad and Baer (1997), a constitutional change in Colombia in 1991 accelerated an existing trend toward fiscal decentralization. Once again, decentralization was supported by increases in federal transfers, which rose from 36.5 percent of federal revenue in 1993 to 44.5 percent (projected) in 1999. In the latter year, 20 percent of federal revenues went to municipalities, while 24.5 percent went to departments (regional governments). In contrast to the case of Brazil (and in common with Argentina and Bolivia), transfers accounted for a substantial share of subnational spending. In 1994, own tax revenue covered only 41.5 percent of municipal expenditure while accounting for 63.7 percent of departmental expenditure.

Reliance on transfers is matched by heavy federal involvement in the disbursement of funds, with most transfers being explicitly earmarked for particular uses. According to Ahmad and Baer, this practice reflects “a strong tradition of centrally determined norms for expenditures, such as education and health” as well as “accountability problems—the national government is not sure that public monies will be used for ‘appropriate’ purposes,” with “political and bureaucratic misuse of resources still . . . widespread.” More fundamentally, Ahmad and Baer state that the “departments and most municipalities lack the institutional capacity to effectively perform assigned expenditure functions.”

This description suggests that, despite decentralization of spending, subnational governments in Colombia function as agencies of the national government rather than enjoying true autonomy. While this arrangement may be necessary given the underdeveloped state of local and departmental administrative structures, it prevents realization of the full benefits of fiscal decentralization.

#### 4.5. Mexico

As discussed in the chapter by Amieva-Huerta (1997), fiscal decentralization in Mexico is an ongoing process that is by no means complete. Decentralization is focusing on health and education expenditures, with most progress being made in the latter case. For example, decentralization of education from the federal to the state governments in 1993 cut the share of all government workers employed at the federal level from 71 percent to 41 percent, while raising the share of state and municipal expenditures in GDP from 1.2 percent to 3.3 percent. This change raised the spending share of the subnational governments almost to parity with the national government, whose share equaled 3.5 percent in 1993 (this figure excludes public enterprises, which accounted for 7.3 percent of GDP).

Subnational spending is supported by revenue sharing, which claimed 19 percent of federal revenue in 1994. Transfers accounted for 50 percent



of state revenue and 58 percent of municipal revenue in that year. The remaining revenue at the state level came largely from a payroll tax, while the main municipal revenue source is the property tax. Property-tax rates are set at the state level, and their magnitudes are relatively low. Although state control over this local tax limits the autonomy of municipalities, states and municipalities enjoy a freedom that is not always present in the other countries that have been considered, namely the freedom to spend most of their revenue-sharing funds for any purpose.

Given this description, the fiscal structure in Mexico suffers from many of the same limitations seen in the other countries. Subnational governments rely heavily on federal transfers to support spending. Sources of own tax revenue are underdeveloped, and the tax rates are often not controlled by the government receiving the revenue. Thus, as in the other cases considered, subnational governments in Mexico do not enjoy the substantial autonomy that is required for operation of the Tiebout mechanism. As a result, the full benefits from fiscal decentralization may not be realized.

## 5. CONCLUSION

A movement toward fiscal decentralization is underway in many countries across the world. This movement is partly justified by appeal to the classic argument of Tiebout (1956), who claimed that decentralized provision of public goods allows better fulfillment of diverse individual demands. Many commentators, however, have expressed concern that the conditions justifying Tiebout's argument are not present in many developing countries. Consumers, it is argued, are unable to vote with their feet because of limited mobility. In addition, local public-good provision may be costly in LDC's because of corruption or inefficiency, and local taxes may be unproductive because of widespread evasion.

This paper has analyzed the effects of local corruption and tax evasion, showing that these forces indeed limit the benefits from fiscal decentralization. By raising public-good costs, corruption cancels some of the gains from better demand fulfillment, which arise as Tiebout sorting generates homogeneous local jurisdictions. By creating incentives for mixing, thereby preventing formation of homogeneous communities, tax evasion may block the operation of the Tiebout sorting mechanism, eliminating the gains from fiscal decentralization.

The last section of the paper explored a more fundamental issue, namely whether local governments in actuality enjoy the autonomy that is required for full operation of the Tiebout mechanism. A review of fiscal arrangements in five Latin American countries suggested that this precondition is mostly absent, with Brazil being the only case where subnational governments operate with substantial independence from the national govern-

ment. This conclusion suggests that the effects of corruption and tax evasion, although conceptually intriguing, may be less important than more-fundamental limitations in the fiscal structures of countries undergoing fiscal decentralization. Thus, a general conclusion from the paper is that a mechanical application to developing countries of the traditional theories of local public finance, which were developed in a First World context, may be hazardous. Since institutional differences may impair the relevance of these theories, they should be applied with great care.

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