Partial fiscal decentralization

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ABSTRACT

The fiscal decentralization impulse now sweeping the world often leads to partial decentralization, where subnational governments are funded by central transfers, rather than leading to full local autonomy. Despite the practical important of this arrangement, the literature contains no economic analysis of a partial decentralization regime in a Tiebout-style model. This paper provides such an analysis, relying on the key assumption that public-good provision requires effort on the part of government officials. By choosing different degrees of effort, localities can then provide different public-good levels even when a fixed, common transfer constrains them to spend the same amount. A number of useful results are derived.

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1. Introduction

Under fiscal decentralization, subnational governments are granted autonomy in the provision and financing of public goods. While subnational autonomy has long been a feature of the fiscal environment in the United States and several other countries, a greater degree of central control over the public sector is common elsewhere, especially in the developing world. However, partly in response to advice from the World Bank and other international agencies, many developing countries are seeking greater fiscal decentralization by attempting to reallocate spending and taxing authority to subnational governments. This movement has been motivated in part by the ideas of Tiebout (1956), who argued that local control of spending allows the public sector to respond more effectively to varied consumer preferences for public goods.

Despite this impulse toward decentralization, an obstacle to the achievement of true local autonomy in developing countries lies on the tax side. Even when spending authority is passed downward to subnational governments, a lack of adequate tax capacity (especially at the local level) often prevents these governments from funding expenditures out of their own revenues. Instead, spending relies heavily on transfers from the central government. As explained by Shah (2004),

...decentralization of taxing powers may not fully match the decentralization of expenditure and regulatory functions. ...Revenue systems in developing and transition economies are typically characterized by a large and dominant central government role and a heavy reliance on indirect taxes such as VAT, excises, taxes on external trade and fuel taxes. ...Local governments have very limited access to own source revenues such as property taxes and user charges and even for these limited tax bases, they typically have autonomy only with respect to rate setting within limits.

Reflecting limited own source revenues, figures presented by Shah and Shah (2006) show that, in a sample of ten lower-income countries,1 local governments relied on intergovernmental transfers for 51% of their revenue, in contrast to a smaller transfer share of 34% for OECD countries. For some sample countries (Uganda, Poland, Brazil), the transfer share exceeded 65%. In a larger sample of developing countries analyzed by Shah (2004), 42% of subnational revenue (local and provincial) came from transfers, with the share ranging from 75 to 95% in Indonesia, Nigeria, Mexico, Pakistan and South Africa. Although Shah does not present evidence on tax autonomy for his sample, a separate OECD study (1999) shows that, for one his countries (Mexico), subnational governments had effective control over only 14% of their tax revenue, with all of this control occurring at the state rather than local level. This fact suggests that limits on subnational autonomy may be even tighter than suggested by evidence of a high reliance on transfers.

Despite their reliance on intergovernmental transfers and potentially limited tax autonomy, subnational governments in Shah's sample had effective control over 58% of their expenditures. Thus,

1 The countries are Argentina, Brazil, Chile, China, India, Indonesia, Kazakhstan, Poland, South Africa, and Uganda.
developing countries appear to have more discretion in spending decisions than in the raising of public revenue, which suggests that the usual models from the Tiebout tradition should not be used to analyze their fiscal decentralization experiences. Instead, the appropriate model may be one of “partial fiscal decentralization,” where spending authority is devolved to the subnational level while financing relies on transfers from the central government. The purpose of the present paper is to propose and analyze such a model.

In the model, the central government levies a uniform head tax on each consumer and then transfers the resulting revenue to local governments, which are the only subnational units. The transfers are assumed to occur on a uniform per capita basis, perhaps reflecting a constitutional requirement for equal treatment of all local governments. Since consumer incomes are identical in the model, making regional equalization unnecessary, this uniformity assumption is natural.

In choosing the level of the uniform transfer, the central government’s goal is to maximize overall welfare. However, given its lack of information regarding consumer preferences, this goal may only be achieved in an approximate fashion. The analysis thus allows some divergence between the chosen central transfer and the efficient level.

Under partial decentralization, spending authority resides at the local level. But since local tax revenue is nonexistent by assumption in the basic model, localities must rely entirely on central transfers to finance their expenditures. In a standard setup, this arrangement would allow localities no freedom whatsoever in setting public-good levels, which would be dictated instead by the fixed per capita transfer. However, a key feature of the model gives localities discretion in the provision of public goods. In particular, the public-good cost function depends not only on \( z \), the level of the public-good, but also on \( e \), the “effort” level chosen by local-government officials. Higher effort reduces the per capita cost of providing any given \( z \). Even though this cost is constrained to equal the fixed central transfer, the ability to adjust both \( z \) and \( e \) means the locality gains discretion in the choice of \( z \) even though its spending level is controlled.

Both \( z \) and \( e \) are chosen taking into account a separate “cost” of effort, which does not appear in the public accounts. Interpreting effort as the education level of government officials, this cost would represent the private cost incurred by these officials in educating themselves, which is not covered by the central transfer.2

In characterizing the public sector equilibrium, the analysis relies on the modern formalization of the Tiebout model, drawing in particular on the “price-taking” approach of Wooders (1978) and Scotchmer and Wooders (1986).3 Government officials are assumed to collaborate with community developers, who build houses and sell them to consumers at a price that depends on the community’s public-good level \( z \). The officials’ objective function equals developer profit, which depends on \( z \), minus their own cost of effort. This “net profit” objective would be appropriate if the officials themselves played the role of developers, but it also applies in a case in which the officials are separate entities but extract all the developer profit via unmodeled taxes or perhaps bribes. For simplicity, the combined entity composed of developers and their associated government officials is referred to as a “locality” in the analysis.

In the model, Tiebout sorting occurs as localities, using their discretion in the choice of public goods, tailor \( z \) to suit consumer preferences, which are assumed to be heterogeneous. In addition, free entry of communities ensures that net profit is zero in equilibrium. The equilibrium public-good levels depend, of course, on the level of the central transfer.

The paper starts by considering two benchmarks against which partial decentralization can be compared. The first is full decentralization, under which localities can use freely chosen local taxes to finance public goods. The second is full central control, under which the central government specifies a fixed \( z \) that each locality must deliver and provides the transfer to finance it (implying a particular required effort level). Note that, despite central control, \( z \) must still be delivered locally, reflecting the nature of many public goods.

The first result, which comes as no surprise given the structure of the model, is that partial decentralization is preferred to full central control as long as preferences are heterogeneous. The reason is that full central control needlessly eliminates the variety in \( z \) made possible by adjustment of effort levels, which occurs despite the uniformity of the central transfer. Were it feasible, full decentralization would in turn be preferred to partial decentralization since it allows a fuller response to heterogeneous preferences. But with full decentralization ruled out by the lack of local tax capacity, partial decentralization is the preferred fiscal arrangement. This conclusion offers an important practical lesson by showing that, in a setting where localities have some discretion in choosing public-good levels despite a fixed spending requirement, the center should relinquish control of this decision, letting localities make their own \( z \) choices.

The analysis then compares patterns of public-good provision under partial and full decentralization. The discussion shows that, when the central transfer under partial decentralization is set at a “compromise” level that lies between the highest and lowest local taxes charged under full decentralization, the dispersion of \( z \) levels narrows relative to the full decentralization case. In other words, relative to full decentralization, \( z \) rises for low demanders and falls for high demanders under partial decentralization, a natural result. Despite this conclusion, the dispersion of effort levels could narrow or widen relative to full decentralization depending on the nature of preferences and costs.

Thus, while Tiebout sorting under partial decentralization generates a variety of public-good levels, the variety that emerges is lower than under full decentralization, imposing a cost on society. The analysis also explores how this variety comparison is affected when localities have the ability to levy a modest amount of local taxes up to some cap. In this case, public-good variety is only sacrificed at the extremes, with the middle of the \( z \) distribution the same as under full decentralization. The foregoing analysis is presented in Sections 2 and 3.

The discussion in Section 4 then asks whether partial decentralization could sometimes be the preferred institutional arrangement, rather than constituting best response to limitations on local tax capacity. To this end, the model is modified to include a Leviathan motive on the part of local officials, who derive enjoyment from spending tax money beyond any profit earned. Relying partly on numerical examples, it is shown that partial decentralization can be superior to both full central control and full decentralization under this modification. In such a case, partial decentralization would be the best arrangement even if unlimited local tax capacity made full decentralization feasible. The analysis also briefly considers the effects of other types of undesirable local behavior, including laziness on the part of government officials, which raises the cost of effort beyond its resource cost, and the theft of tax revenue.

This paper adds to a recent resurgence of research on fiscal decentralization, which builds on the classic treatment of Oates (1972) (see also Wildasin (1986)). Recent papers include Lockwood (2002), Besley and Coate (2003), Brueckner (2004) and Lorz and Willman (2005), among others (see Brueckner (2004) for fuller references). In the models of Besley and Coate and Lockwood, the central government is able to provide different \( z \)'s across regions when it has the responsibility for public-good provision, an outcome that would be analogous to allowing non-uniform transfers in the present setup. While non-uniformity in these models is the result of a political struggle between regions, non-uniform transfers would only appear to be appropriate in the present model as a means of addressing income inequalities, which are absent by assumption.

2 A drawback to interpreting \( e \) as education is that educational expenses do not then appear as income to any agent in the model (disrupting its closure).

3 See also Berglas and Pines (1980).
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