Yardstick competition, fiscal disparities, and equalization

Maarten A. Allers[1]

Center for Research on Local Government Economics (COELO), University of Groningen

Abstract
The theory of political yardstick competition states that a comparison of public service levels and tax rates with those in nearby jurisdictions can provide voters with a useful instrument to assess politicians' performance. However, we argue that fiscal disparities bias this yardstick, and that this bias may be removed through fiscal equalization.

Keywords: yardstick competition, fiscal disparities, equalization

JEL classification: D72, H77

[1] University of Groningen, PO box 800, 9700 AV Groningen, The Netherlands. E-mail m.a.allers@rug.nl; Telephone +31 50 363 3745; Fax +31 50 363 7337.

1 Introduction

Political yardstick competition is seen as an instrument helping voters get a grip on elected administrators at relatively low cost (e.g., Besley and Smart, 2007). By comparing their incumbent's performance with the performance of administrators in similar jurisdictions, voters can re-elect good politicians and send non-performers packing. This in turn gives administrators an incentive to perform better. The key to yardstick competition is transparency. If administrators' performance cannot be derived from subnational government output and tax rates in a straightforward manner, yardstick competition is likely to be biased.

This is the case when fiscal disparities exist. Then, politicians in jurisdictions with a large revenue capacity relative to spending needs can take more rent than their counterparts in less favored fiscal circumstances, and still keep a good reputation. Administrators of jurisdictions suffering from adverse fiscal circumstances may acquire a bad reputation even if they do not take any rent at all. This has been neglected in the existing literature on yardstick competition. This letter argues that yardstick competition may be more effective if fiscal disparities are equalized.

The impact of fiscal disparities on accountability has not yet attracted systematic analysis. Kotsogiannis and Schwager (2008) argue that yardstick competition is more effective if differences in revenue capacities are equalized, but their reasoning is completely different from ours. In their model, yardstick competition is not more effective because equalization helps voters improve their estimate of incumbents' rent-taking. On the contrary, in their approach, voters are not interested in rent-taking: because there are only two periods, every administrator they choose after the first period will take maximum rent in the second.

2 Yardstick competition

Dissatisfied citizens have two options: vote or exit. People can either move away or send the incumbent packing. The exit option is characterized by high transaction costs. Vote, on the other hand, is relatively cheap. However, to be effective, this instrument requires that voters are able to identify 'good' politicians, that is, politicians who do not take (much) rent. If voters are able to identify good politicians from bad ones, they can re-elect good ones and dismiss the bad ones (selection effect; Besley and Smart, 2007).

Moreover, politicians will have an incentive to perform well in order to be re-elected (incentive effect).

The problem, however, is to assess performance. As Salmon (1987) points out, in a world with only one government, the only way to do this is to compare government output and tax rates over time. As a result of the frequent occurrence of exogenous shocks, past output is an imperfect indicator of performance. The retrospective vote is, therefore, a blunt instrument. But if there are comparable jurisdictions, subject to the same exogenous shocks, voters can use tax rates and service levels in other jurisdictions to create a yardstick for assessing their administrators' performance. Incumbents seeking re-election need to compare favorably to administrators in other jurisdictions. This results in policy competition. A steadily increasing number of empirical studies confirm the occurrence of yardstick competition (Allers and Elhorst, 2005; Besley and Case, 1995; Bordignon et al., 2003; Revelli, 2006). The slope of the reaction function is typically in the range [0.2-0.6] (Allers and Elhorst, 2011).

This letter is concerned with an aspect of yardstick competition that has received little attention. Yardstick competition needs the existence of comparable jurisdictions. However, jurisdictions, even if they operate in the same institutional setting, have the same service responsibilities, and are susceptible to common exogenous shocks, differ with respect to fiscal capacity and spending need (e.g., Ladd and Yinger, 1994). Fiscal disparities arise for different reasons. First, some subnational governments must spend more money per inhabitant than others in order to provide an equivalent service level. That is because the demand for services may differ (e.g., the proportion of schoolchildren varies). Also, because of adverse geography, geology, climate, etcetera, some services are more costly to produce in some regions than in others. Secondly, the revenue capacity of subnational governments varies as well. Jurisdictions with a rich tax base enjoy high tax revenues even with moderate tax rates.

In order for political yardstick competition to work, differences in subnational government output and tax rates should reflect only differences in policies, not fiscal disparities. It would be sub-optimal to punish or to credit incumbents for factors outside their control. But this is what happens if fiscal disparities exist.

3 Yardstick bias

Consider 2 jurisdictions,[2] which are identical except for their revenue-raising capacities and their spending needs. Jurisdictions provide a public service and finance this through tax revenues. The jurisdiction's budget constraint is

$$E_i = \theta_i \beta_i B \tag{1}$$

where E_i is jurisdiction i's per capita expenditures; B the average per capita tax base; β_i the relative per capita tax base, defined as $\frac{B_i}{B}$, where B_i is the per capita tax base of jurisdiction i; and θ_i the tax rate, defined as the share of the tax base that the jurisdiction collects ($0 < \theta_i < 1$). Thus, $\beta_i B$ is jurisdiction i's per capita tax base, and $\theta_i \beta_i B$ is its tax revenue. Administrators know β_i; voters do not.

Each jurisdiction is governed by an elected politician, who extracts a fraction ρ_i of public expenditures as rent ($0 \leq \rho_i < 1$). As a result of common exogenous shocks ω, the service level corresponding to a certain amount of spending varies. Following the literature (e.g., Besley and Case, 1995), we assume that jurisdictions experience identical shocks. Apart from ω, the per capita service level S_i depends on per capita spending on the public service $(1-\rho_i)E_i$, and on spending need, which may be expressed as the jurisdiction's cost index γ_i:

$$S_i = \omega \frac{(1-\rho_i)E_i}{\gamma_i}. \tag{2}$$

γ_i reflects both demographic and other factors outside the control of the subnational government that determine the amount of spending on the public service needed to supply a certain service level in jurisdiction i. Like β_i, γ_i is expressed in relative terms; $\gamma_i > 0$, with average value one. Administrators know γ_i; voters do not. The current yardstick competition literature unrealistically assumes γ_i to be the same for all i, either explicitly (e.g., Besley and Case, 1995) or implicitly.

Voters do not observe ρ_i. We assume that they only observe service levels and tax rates. Voters value high service levels and low tax rates. They maximize value for money: the ratio of services provided to tax sacrifice $\frac{S_i}{\theta_i}$. Regularly, voters choose a politician to govern their jurisdiction. They either re-elect the incumbent, or elect a challenger. Voters use a relative performance yardstick π_i to judge the incumbent. If $\pi_i > 1$,

[2] It is straightforward to extend the analysis to a greater number of jurisdictions.

jurisdiction i's incumbent's performance is considered superior to that of his or her counterpart in the other jurisdiction, and the incumbent is re-elected. If $\pi_i < 1$, i's incumbent is considered inferior; he or she is not re-elected.

Given voters' preferences, the obvious benchmark for jurisdiction i's incumbent's relative performance π_i is $\frac{S_i}{\theta_i}$, value for money, relative to the corresponding ratio in the jurisdiction of reference:

$$\pi_i = \frac{\frac{S_i}{\theta_i}}{\frac{S_j}{\theta_j}} \tag{3}$$

where $i \neq j$. Substituting (2) in (3), the performance benchmark becomes

$$\pi_i = \frac{(1-\rho_i)\frac{E_i}{\gamma_i \theta_i}}{(1-\rho_j)\frac{E_j}{\gamma_j \theta_j}}. \tag{4}$$

Note that ω is cancelled out of the equation because jurisdictions i and j experience identical shocks.

It is convenient to define $\lambda_i = \frac{\frac{\beta_i}{\gamma_i}}{\frac{\beta_j}{\gamma_j}}$. This is the relative fiscal advantage of jurisdiction i, compared with jurisdiction of reference j. Substituting (1) in (4) yields

$$\pi_i = \frac{(1-\rho_i)}{(1-\rho_j)}\lambda_i. \tag{5}$$

When they notice that $\pi_i > 1$, voters think jurisdiction i's incumbent's performance is superior to that of his or her counterpart in the other jurisdiction. If $\lambda_i = 1$, this requires $\rho_i < \rho_j$, and π_i gives a true picture of the incumbent's performance. If $\lambda_i \neq 1$, π_i is clearly a biased performance indicator. Equation (5) suggests that, in the presence of fiscal disparities, yardstick competition is hampered by the fact that rent-taking politicians in jurisdictions with a large revenue capacity relative to cost index are less likely to be found out, whereas administrators who do not take rent may still compare unfavorably if their jurisdiction suffers from adverse circumstances. As a result, yardstick competition does not result in reaction functions with an identical slope for different

jurisdictions, as has been assumed in the literature. In fact, the slope of the reaction function depends on the relative fiscal advantage of the municipality.

4 Discussion

We assume that voters do not take fiscal disparities into account. Is that realistic? In order to do so, voters would need information about economic and demographic characteristics of jurisdictions that influence revenue capacity and cost index. Then, expenditures and taxes may be regressed on these characteristics. Based on the parameter estimates, *anticipated* expenditures and tax rates may be calculated: the values that would be expected given a jurisdiction's fiscal, demographic etc. circumstances. Rent extraction is hidden in the residuals of these regressions (Allers and Elhorst, 2005; Besley and Case, 1995; Bordignon et al., 2003). The assumption that voters are sufficiently versed in econometrics (and can be bothered) to run such regressions is not plausible. Remember that yardstick competition is supposed to be a simple tool used by voters unable to determine what level of public service they can expect for a given tax rate. Someone who is able to run complicated regressions in order to end up with an unbiased yardstick should also be able to estimate the subnational governments' cost curve.

5 Conclusions

In many countries, fiscal disparities are equalized to some extent through a system of intergovernmental grants. Traditionally, equalization is advocated on the grounds that it improves locational efficiency, as it removes an incentive to move to jurisdictions with favorable fiscal conditions; on equity grounds; or as an insurance against regional shocks (e.g., Boadway, 2006).

We argue that, additionally, a case can be made for equalization in order to improve the decision-making process of subnational governments. If fiscal disparities are equalized to the extent that every jurisdiction is able to provide the same service level at the same tax sacrifice, subnational government output levels, combined with tax rates, provide an unbiased indicator of subnational government performance.

Three avenues for further research present themselves. First, existing and new models of yardstick competition may be extended to include fiscal disparities. Second, it may be tested empirically whether the slope of the yardstick competition reaction function depends on the relative fiscal advantage of jurisdictions, as predicted in this letter.

Finally, existing equalization schemes may be tested for their ability to remove the yardstick bias.

References

Allers, M.A., Elhorst, J.P., 2005. Tax Mimicking and Yardstick Competition Among Local Governments in the Netherlands. International Tax and Public Finance 12, 493-513.

Allers, M.A., Elhorst, J.P., 2011. A Simultaneous Equations Model of Fiscal Policy Interactions. Journal of Regional Science 51, 271-291.

Besley, T., Case A., 1995. Incumbent Behavior: Vote-Seeking, Tax-Setting, and Yardstick Competition. American Economic Review 85, 25-45.

Besley, T., Smart, M., 2007. Fiscal Restraint and Voter Welfare. Journal of Public Economics 91, 755-773.

Boadway, R., 2006. Intergovernmental redistributive transfers: efficiency and equity, in: Ahmad, E., Brosio, G. (Eds.), Handbook of Fiscal Federalism. Cheltenham, Edward Elgar, pp. 355-380.

Bordignon, M., Cerniglia, F., Revelli, F., 2003. In Search of Yardstick Competition: A Spatial Analysis of Italian Municipal Property Tax Setting. Journal of Urban Economics 54, 199-217.

Kotsogiannis, C., Schwager, R., 2008. Accountability and Fiscal Equalization. Journal of Public Economics 92, 2336–2349.

Ladd, H.F., Yinger, J., 1994. The case for equalizing aid. National Tax Journal 47, 211-224.

Revelli, F., 2006. Performance Rating and Yardstick Competition in Social Service Provision. Journal of Public Economics 90, 459-475.

Salmon, P., 1987. Decentralisation as an Incentive Scheme. Oxford Review of Economic Policy 3, 24-43.