

Fiscal and Regulatory Competition: Theory and Evidence

*Wallace E. Oates**

University of Maryland and Resources for the Future

Economic competition is a central feature not just of the private sector of the economy: governments themselves actively engage in competition to attract new business investment, jobs, and income – to encourage economic development generally. Moreover, this is a contentious issue. Some observers see such competition as a destructive force that leads to a debilitating ‘race to the bottom,’ resulting in tax rates that are too low accompanied by inadequate levels of public services. This has led, among other things, to the setting of a floor on VAT rates in Europe. Others, however, view this competition as an efficiency-enhancing force that constrains public decisions in a healthy way. Gary Becker (1998), for example, argues that ‘Competition among nations tends to produce a race to the top rather than to the bottom by limiting the ability of powerful and voracious groups and politicians in each nation to impose their will at the expense of the interests of the vast majority of their populations’ (p. 22).

There is now a vast economics literature that addresses this issue and that tries to assess the normative implications of economic competition among governments. This literature is mainly theoretical in character, but some empirical efforts have emerged recently that seek to deepen our understanding of the nature and effects of such competition. In this paper, I shall try to provide an overview of this literature, as I read it, along with some reflections. This is not an easy task, for not only is the body of literature a huge one, but it ranges very widely in terms of perspectives and findings.

At the outset, let me make one obvious point. We often hear references to ‘fiscal competition,’ but, as I indicate in my title, economic competition among governments makes use of a wide class of policy instruments including both fiscal and regulatory policies. Indeed, as we shall see, some of the important empirical (as well as theoretical) work on this issue comes from studies of

* Professor of Economics, Department of Economics, University of Maryland, College Park, MD 20742, USA, and University Fellow, Resources for the Future, Washington, DC. E-mail: oates@econ.bsos.umd.edu Telephone: 301-405-3496 FAX: 301-405-3542.

environmental regulation, where there has been widespread concern with the introduction of lax standards for pollution control as a mechanism for encouraging economic development. The analysis must examine the whole range of public-sector policy tools.

Finally, I should stress that the focus of this paper is on the implications of fiscal and regulatory competition for efficient resource allocation. The issue here is whether or not such competition is efficiency-enhancing or whether it introduces systematic distortions in public and private-sector decision-making. Interjurisdictional competition may also have important implications for the capacity of the public sector to carry out desired redistributions of income – to provide, for example, needed support for low-income households. This issue goes beyond the scope of this paper, although I shall offer some brief comments on this matter in the concluding section.

1. A Review of the Theory¹

To serve as a benchmark for our review, I reach back to the traditional theory of fiscal federalism (Oates 1972, 1999). This body of work lays out a general view of the assignment of functions to different levels of government. For my purposes and with some oversimplification, I simply note that a basic proposition flowing from this literature is that public services (or ‘public goods’) should be provided by the lowest level of government that, in a geographical sense, encompasses the benefits and costs of its provision. In this way outputs of services can be tailored to the preferences and costs of the different jurisdictions comprising the polity as a whole, rather than having a higher level of government provide more uniform levels of services across all jurisdictions. This leads to a vision of an economic system in which the central government provides outputs of ‘national public goods’ that benefit everyone in the country, while various decentralized governments (I will call them ‘local’ governments) provide outputs of local public goods that are consumed by their own constituencies. If governments seek to maximize the well-being of their citizenry, they will, in principle, extend the outputs of these public goods to the point where marginal benefits equal marginal costs; this leads to an efficient pattern of provision of public services at the various levels of government.

Some (but not all) of the theory of economic competition among governments effectively challenges this traditional view of fiscal federalism in different and interesting ways. I find it helpful in describing this literature to

1. Dietmar Wellisch (2000) has recently written a splendid volume that provides a systematic and comprehensive treatment of the theoretical literature on fiscal and regulatory competition. In addition, John Wilson (1996, 1999) has two excellent surveys of this body of theory: the first of the race-to-the-bottom literature in environmental regulation and the second of tax competition.

divide it into two strands. The first strand employs the traditional assumption in public finance that government seeks to maximize the welfare of its constituency, either in the form of benevolent planners or elected public officials whose desire to be re-elected compels them to behave efficiently. The second strand in this literature is in the more recent public-choice tradition. The assumption here is that government has its own agenda (or 'objective function') and that public decisions serve to further the interests of public decision-makers and special-interest groups; outcomes in such a world need no longer be efficient – they may, for example, involve excessive public spending associated with a goal of budget maximization of bureaucrats (Niskanen 1971).² As the literature makes clear, the normative properties of public-sector competition depend in fundamental ways on which of these perspectives on government behavior is operative (e.g., Edwards and Keen 1996; Frey and Eichenberger 1996; Oates 2001).

Let us begin with the first strand of the literature in which public decision-makers act solely to maximize the economic welfare of their constituencies. In this setting, we envision a competitive process in which governments compete with one another for a mobile stock of capital to enhance the economic development of their jurisdictions: they adopt tax rates and levels of public outputs so as to attract new investment and support a level of economic activity that maximizes the well-being of their residents.

It is important to note, first, that such competition need not be a source of inefficiency in either the public or private sectors. Indeed, it is perfectly straightforward to construct a standard kind of model of public-private activity in such a competitive setting that generates Pareto-efficient outcomes (e.g., Oates and Schwab 1988). These models are, moreover, quite rich in their content. Public decision-makers make use of both fiscal and regulatory instruments to provide public outputs to residents, public inputs to local business enterprises that increase their productivity, environmental regulations that constrain polluting waste emissions from local productive activities and raise the utility of local residents, and separate taxes on local residents and firms that finance the local public budget. In this world, competition among governments to attract capital is an efficiency-enhancing force: as they seek to attract new business investment and economic activity in general, public officials make economically efficient choices – there is no race to the bottom here.

These models, however, are admittedly restrictive. They involve governments that are 'small' in two senses: they operate in large national capital markets such that individual jurisdictions see themselves as price takers for

2. It is worth noting, however, that the pursuit of vote maximization or the maximization of the probability of being re-elected doesn't necessarily lead to inefficient public decision-making. In a setting of two parties, for example, the median-voter model can produce efficient outcomes under certain configurations of preferences (Bergstrom 1979). In some more recent models where special interest groups influence policy-makers with their political contributions (e.g., Grossman and Helpman 1994; Aidt 1998), we find that public-sector outcomes can still be efficient if all interest groups are represented.

capital and in a system with many competing governments in which strategic interactions do not take place. Of critical importance, they have access to the full range of fiscal and regulatory policy instruments required for efficient decisions. This allows them to charge what are effectively benefit taxes to both the residents and firms within their jurisdictions. Finally, there are no interjurisdictional spillover effects from local public services that could cause inefficiencies.

When we relax these assumptions, often in quite realistic ways, we find, not surprisingly, that the efficiency properties of these outcomes are compromised. Some of the early literature on fiscal competition, for example, takes as its point of departure a limitation on the taxing powers of local governments. In the most simple models, the assumption is that local government is limited to a single tax instrument – a tax on mobile capital – that it must employ to finance the entire public budget (Zodrow and Mieszkowski 1986; Wilson 1986; Wildasin 1989).³ This implies that in making decisions to expand public outputs and raise taxes, local governments must take into consideration the impact that the tax increase will have in driving away capital and lowering the local level of wages. Or put slightly differently, David Wildasin (1989) points out that, in such a setting, there exists a kind of fiscal externality: local governments, in choosing a tax rate and level of services, fail to take into account the fiscal impact that their decisions have on the tax base in other jurisdictions. As a result, they set a tax rate and level of public services that typically are too low.

Inefficient public decisions can have other sources as well. Governments may, for example, be sufficiently large that their decisions have an impact on the rate of return to capital. Such size may also mean that they must take into account the specific fiscal and regulatory decisions of their neighbors and the complex of policy interactions. There is now a large body of theoretical literature that explores the nature and impact of strategic decision-making among public-sector agents. In one early piece, Jack Mintz and Henry Tulkens (1986) showed that where neighboring jurisdictions use commodity taxation, a Nash equilibrium exhibits suboptimal levels of taxation and public outputs. More generally, strategic behavior in a variety of settings can result in a public sector that is too small (Wilson 1999). But this is not true in all cases; in certain instances, there can even be a race to the top. The models of strategic interdependencies are of particular interest, because, as we shall see shortly, some recent empirical studies find evidence of strategic behavior in interjurisdictional public decision-making.

I have not begun to do justice to what is a large and wide-reaching literature that explores many facets of fiscal and regulatory policy-making. This literature explores different forms of taxation, the use of multiple tax instruments,

3. In the U.S., these models were motivated by the heavy reliance of local government on property taxation.

competition through the use of public inputs, vertical tax competition, and bidding for firms, to mention only some topics. And we find, in many instances, that equilibria in these models exhibit inefficient outcomes – often, but not exclusively, involving levels of public outputs that are too low. In sum, this first strand of the public-sector competition literature has itself two parts. The first consists of analogues to our perfectly competitive models of the private sector in which small governments, with a full range of fiscal and regulatory policy instruments at their disposal, make efficient decisions on public outputs and levels of taxation. The second part, invoking a wide range of realistic fiscal institutions and constraints on fiscal choices, tends to find inefficient outcomes, typically involving suboptimal taxation and levels of public services that result from an effort to encourage local economic development.⁴

When we turn to the second strand of the competition literature with more of a public-choice orientation, we find a very different kind of world. Here there is a powerful tendency toward excessive expansion of the public sector, as public officials (with the support of various interest groups) seek to maximize the scope of their activities. In such a Leviathan setting (as Becker's earlier quote suggests), public-sector competition takes on a very different hue: it provides a mechanism to constrain the overly-expansive tendencies of the government sector. As Geoffrey Brennan and James Buchanan (1980) have put it, competition among governments in a setting of the '... interjurisdictional mobility of persons in pursuit of "fiscal gains" can offer partial or possibly complete substitutes for explicit constraints on the taxing power' (p. 184). From this perspective, they see fiscal decentralization and the competition that it encourages among local government as a device to disarm an overly expansive and monopolistically centralized government.

Several papers have formalized various aspects of this argument. In an early piece in this strand of the competition literature, Stefan Sinn (1992), making use of a diagrammatical analysis, showed that in a setting where public officials seek to engage in wasteful spending programs, fiscal competition associated with more efficient fiscal programs in neighboring jurisdictions can force local decision-makers to reduce levels of local tax rates. More recently, Michael Rauscher (1998) has extended this line of work with a model in which tax competition among governments (at least for the case of benefit taxes) compels public officials to make more efficient budgetary decisions.

This is, however, a complicated issue. In particular, the character of the outcome depends (among other things) on the precise form of behavior of elected officials and on the kinds of tax instruments that are available. Jeremy Edwards and Michael Keen (1996), for example, develop a model in which policy-makers are neither entirely self-serving nor benevolent: they have an

4. The literature has also long recognized that interjurisdictional competition can seriously constrain efforts to redistribute income at decentralized levels of government. In the context of the emerging European Union, Hans-Werner Sinn (1994, 1997) has pointed out the relevance of this and other constraints on domestic policies in the member nations.

objective function that contains both the size of the budget and the level of welfare of a representative citizen. Different outcomes can emerge in such a setting including one in which tax coordination (rather than competition) benefits the representative citizen. In his treatment of the Leviathan case, Dietmar Wellisch (2000) develops the intriguing insight that the scope for competition to be a restraining force on wasteful public spending depends on the form of taxation. Wellisch shows that where public officials have access to a land tax, a non-distorting form of taxation, they will engage in wasteful spending. The idea here is that they can tax land values or land rents without eroding the tax base or introducing any distortions in resource allocation. In such a setting, interjurisdictional tax competition will not exert any restraining force; local officials can tax land just as effectively in the presence of competition as in its absence. But if they must finance the budget through a distorting tax on mobile capital, then interjurisdictional tax competition will compel them to decrease the rate of taxation and wasteful public expenditure (pp. 74–87).

Competition in a Leviathan setting can also influence the use of regulatory instruments. It is straightforward to show, for instance, that in their pursuit of budgetary expansion, Leviathan public agents will set excessively lax environmental standards in order to reduce the costs to prospective firms and thereby encourage their entry and the increase of the local tax base (Oates and Schwab 1988). In this case, the outcome involves a suboptimal level of a local public good: environmental quality.

Fiscal and regulatory competition in a Leviathan world thus has many facets with some intriguing twists. But I think it fair to say that the general presumption here (in the spirit of Becker's quote) must be that such competition is likely to constrain somewhat the tendencies toward budgetary excess and wasteful expenditure. Some of the literature has pursued this theme in quite innovative directions. Bruno Frey and Reiner Eichenberger (1996, 1999) argue that rather than the conventional form of fiscal decentralization in the context of the existing structure of governments, what Europe needs is a new system of active government competition among specialized functional jurisdictions. The Frey-Eichenberger proposal envisions a world of overlapping functional governments – that is, jurisdictions fashioned to provide a particular public service – each with its own taxing power. Serving its own group of citizens, these governments would compete actively with one another and, at the same time, reflect accurately the particular preferences of their constituencies. They see such a system as a means for 'integrating Europe further without having to sacrifice democracy and diversity' (1999, p. 79).

Taking yet another tack on the public-choice approach, Barry Weingast (1995), Ronald McKinnon (1997), and their colleagues argue for a more conventional form of fiscal decentralization on the grounds of what they term 'market-preserving federalism.' The rationale for their proposal, similar in spirit to the Brennan-Buchanan view, is that a centralized, monolithic public sector poses a serious threat to the healthy functioning of a market system. They

argue for a decentralized fiscal system that would dissipate such power. In their world, decentralized governments would have the primary responsibility for fiscal and regulatory programs and would operate in an environment of 'hard budget constraints' (where they must raise their own revenues) and of mobile capital and economic agents. Competition among jurisdictions in such a world would constrain the public sector, protect markets, and provide a setting conducive to economic growth.

2. Some Thoughts on the Theory of Interjurisdictional Competition

Our brief overview of the theory of interjurisdictional competition does not point to any clear overall conclusions as to the normative character of such competition. Whether or not such competition is likely to be efficiency-enhancing depends on the institutional setting in which governments compete with one another and on their objectives. At the same time, the theory does serve to illuminate the various ways in which economic competition in the public sector can introduce (or reduce) distortions in resource allocation with some implications for reform.

The debate, however, often seems to be along ideological lines that are not so constructive. In particular, I find some of the terminology or rhetoric more than a little misleading. The distortions associated with the underprovision of public services caused by competition are typically described (both in the literature and the public debate) as a 'race to the bottom.' Such terminology, while colorful, is not very helpful. It conjures up an image of a dynamic process in which one jurisdiction reduces its taxes and levels of public services only to be followed by competing jurisdictions. Successive rounds of such cuts lead to 'the bottom,' which sounds like a very unsatisfactory outcome indeed! Yet this is not what the theoretical models describe. They (at least some of them) produce comparative-statics outcomes characterized by suboptimal equilibria. Rather than a race to the bottom, we find equilibria with less than efficient levels of public services.

And this brings us to the important question: the magnitude of such distortions. If competition does hold down levels of public outputs excessively, how large are these distortions? If they are relatively small, then the whole matter may not amount to much. But the theoretical literature cannot tell us much about this issue. So we turn next to see what we can learn from some recent empirical work on fiscal and regulatory competition.

3. Empirical Studies of Interjurisdictional Competition

The competition literature is primarily theoretical in character, but there is now emerging a body of empirical work that explores various manifestations of this competition. One point is of special importance here. There is plenty of evidence that fiscal and regulatory competition exists – that governments actively compete against one another to promote economic development. Timothy Bartik (1991), for example, surveys and assesses a large empirical literature in the United States that describes the often-intense competition among state and local governments and, in some instances, measures its economic impact. But the basic existence of such competition does not, most emphatically, tell us anything about its normative properties (Courant 1994). As we have seen from the theoretical papers, such competition can reduce waste and increase efficiency in the public sector – or it can be a source of distortions in public outputs. We need to imbed the empirical work in some kind of conceptual structure that will allow us to draw out its normative implications. And, as we shall see, this can be very tricky.

As noted earlier, one source of potential distortions in resource allocation in the public sector is strategic interaction across jurisdictions in budgetary and regulatory decisions. There is a small, but currently active, empirical effort to find evidence of such strategic behavior. In a seminal paper, Anne Case, Harvey Rosen, and James Hines (1993) found econometric evidence of budgetary spillovers and fiscal policy interdependence among state governments in the United States. More recently, several scholars have explored a wider range of strategic interdependencies. Jan Brueckner (2001) provides a valuable classification and review of these studies, along with a careful assessment of the econometric challenges posed by this issue. Brueckner distinguishes between interdependencies caused by benefit spillovers (which he calls ‘spillover models’) and those where jurisdictions compete for a mobile tax base (which he calls ‘resource-flow’ models). In the case of the spillover models, the interdependencies can have different sources. In the Case, Rosen, and Hines formulation, for example, residents of one state enjoy spillover benefits from the provision of public services in other states – and these benefits affect the provision of services in their own state. Positing a very different motivation, Timothy Besley and Anne Case (1995) propose a model of ‘yardstick-competition’ in which local voters examine the levels of services and taxes in other jurisdictions against which to assess the performance of their own local government. From this perspective, lower taxes and better services in nearby jurisdictions signal poor performance by local officials and induce an efficiency-enhancing response. Among the second class of interdependencies, the most popular of the resource-flow models are of tax competition, where jurisdictions with immobile labor levy a tax on mobile capital. Here lower taxes in neighboring jurisdictions can induce a response in local tax rates.

In the various cases both of spillover models and resource-flow models, the conceptual framework leads to the formulation of a reaction function. In fact,

one of the formidable problems here is that most of these models lead to similar types of reaction functions, making it operationally difficult to distinguish between them. Some further test is often invoked to make such a distinction.

The general econometric approach is to estimate the reaction function. The null hypothesis of no strategic interaction thus becomes the case where the reaction function has a slope of zero.⁵ There are now several such studies of budgetary behavior, and several of them find reaction functions with statistically significant, nonzero slopes.⁶ One can argue that such findings are consistent with models of tax competition that produce suboptimal fiscal and regulatory equilibria. The problem, however, is that they are also consistent with other models including the possibility of 'a race to the top' or of yardstick competition – so that their normative properties are not altogether clear. In some of these studies, additional tests are pursued in an attempt to distinguish among the alternative models.⁷ As Brueckner (2001) argues, such further tests are important if we are to discriminate among the competing hypotheses.

There are also some recent studies of strategic interaction in regulatory activities, notably in environmental regulation. Per Fredriksson and Daniel Millimet (2001) have explored the case where the stringency of environmental measures in one jurisdiction depends on their stringency in neighboring areas. Using panel data on the U.S. states, they find evidence of strategic interaction. Their findings are particularly intriguing in that there appears to be an asymmetry present. States seem to be 'pulled' upward toward more stringent standards by higher abatement expenditures in neighboring states, but they seem much less responsive (if at all) to changes in states with initially lower abatement costs.

Another body of recent work takes advantage of a change in policies in the United States during the 1980s under the Reagan administration. During this period, there was a deliberate devolution of responsibility for environmental management from the federal government to the states. And these studies

5. Brueckner and Luz Saavedra (2001) show that the reaction function can have either a negative or positive slope; its sign depends on the properties of the preference functions. Thus, the statistical test for the presence of strategic interaction involves simply the rejection of the null hypothesis of a zero slope for the reaction function.
6. See, for example, the papers by Bivand and Szymanski (1997, 2000), the Heyndels and Vuchelen (1998) study of 'tax-mimicking' among Belgian municipalities, and the Brett and Pinkse (1997, 2000) studies of Canadian municipalities. There are also similar types of studies using models of welfare competition, where transfers to the poor induce migration among jurisdictions. Brueckner (2000) provides a description of these studies and their findings. In addition, Brueckner (1998) has also found this kind of evidence in support of strategic interaction among local governments in the U.S. in the setting of regulations to control local growth.
7. Besley and Case (1995) and Revelli (forthcoming), for example, test for yardstick competition by estimating a further equation in which local voter approval of an incumbent depends on taxes in nearby jurisdictions. Brett and Pinsky (2000), in support of their model of tax competition, estimate an additional equation in which the local tax base depends on the tax rate.

search for evidence that the Reagan devolution set in motion competitive responses toward less stringent environmental measures by state and local governments. Three papers have addressed this issue. John List and Shelby Gerking (2000), using state-level data, have estimated fixed-effects models that examine both levels of environmental quality and abatement expenditures. Their findings indicate no deterioration or decline along either dimension: in some instances, they actually find improvements leading to the conclusion that '... in this instance, the race to the bottom did not appear to materialize' (p. 454). In a second paper, Daniel Millimet (2000) examined airborne emissions of sulfur dioxide and industry spending on pollution abatement. He also finds no evidence of any competitive movement toward less stringent environmental regulation; on the contrary, Millimet finds that actual emissions were lower and abatement spending higher than the forecasts from his model. His results thus suggest an increasing stringency of environmental measures rather than the reverse. And, third, Fredriksson and Millimet (forthcoming) have further findings in this spirit: they can find little impact of the Reagan devolution on environmental policy. What tendencies they do observe are in the direction of strategic improvements in environmental quality. This set of papers admittedly addresses a relatively short time span, but it is interesting that none of them can find any support for the sorts of suboptimal responses suggested in some of the theoretical literature.

There is one very recent paper that addresses head-on the question of the potential magnitude of the welfare losses associated with tax competition. Ian Parry (2001) has constructed a computable general-equilibrium model in which regional governments have a single tax instrument: a tax on mobile capital. Experimenting with a range of plausible estimates for the key parameters, Parry calculates the welfare losses that result from tax competition. For the case of welfare-maximizing local governments, he finds interestingly that these losses are, in most cases, quite modest – typical values for the excess burden per dollar of revenues are less than 3 percent. And equally interesting, when Parry allows for some traces of Leviathan (budget-maximizing) behavior by public officials, these welfare losses quickly diminish and soon become welfare gains. This strikes me as an intriguing and important line of analysis, as it provides a direct way to generate measurements of the welfare changes resulting from fiscal and regulatory competition.

4. Some Concluding Observations

The literature on fiscal and regulatory competition is, as we have seen, an enormous one that encompasses both theoretical and, more recently, empirical studies of public-sector behavior. The literature provides a rich array of insights into the forms of such competition and their potential impact. But when we try to reach some firm normative conclusions from this body of work, we are left in an uneasy position. Suppose a policy-maker asks the general question, 'Is

competition among governments a good thing? Is it something that we should encourage – or is it something to be held in check by measures that constrain or “harmonize” public policies (such as floors on tax rates)?” I find it hard to provide a definitive answer based on the existing literature. Instead, this is another of those issues where the economist is likely to respond ‘On the one hand, this ... and on the other hand, that ...’

But let me at least offer some thoughts. My sense is that the existing literature has not made a compelling case against the traditional view of fiscal and regulatory decentralization. This view implies that for those matters of primarily ‘local’ interest, local bodies should make decisions concerning the appropriate levels of output and (marginal) tax rates. The case for significant suboptimal outcomes (or the ‘race to the bottom’ in the current jargon) is not well established. One can find some support in the strand of the empirical literature on strategic interaction that has found statistically significant non-zero slopes of reaction functions. But other parts of the empirical literature find little evidence that competition has seriously constrained efforts, for example, to control polluting activities.

There is some less formal evidence that is, I think, valuable. Gebhard Kirchgässner and Werner Pommerehne (1996), in their insightful study of Swiss federalism, find that Swiss cantons have managed to function reasonably well in the context of a system of income taxes. Tax competition does not appear, in this case, to have seriously impaired the provision of public services at the canton level. Likewise, in his recent study of German local finance (where local governments rely heavily on business taxation), Thiess Buettner (2001), although finding some imprint of tax competition on local fiscal behavior, concludes that local governments have ‘considerable leeway in using the tax rate as an instrument of their policy’ (p. 215). Here again, tax competition seems not to have crippled local fiscal policies.

This accords with my sense of state and local government finance in the United States. Foreign observers are often astonished at the striking diversity of the fiscal systems across U.S. state and local governments. Moving from one state to another, we often find not just major differences in tax rates, but different forms and mixes of taxation. For instance, some states rely heavily on income taxes, while others do not even tax income. In some states, local governments use income taxation, but most do not. Likewise, systems of intergovernmental grants vary dramatically among the states. And yet, the overall fiscal system works – and performs, I believe, fairly well.

There are most certainly some allocative distortions arising from these divergent fiscal systems. But as Parry’s numerical exercises suggest, perhaps they are not all that large. Moreover, if there are Leviathan tendencies toward excessive expansion of public expenditure, perhaps these constraining forces have efficiency-enhancing aspects. In addition, the literature points the way to some helpful reforms. It suggests, for example, that decentralized governments are likely to function better if they have the right sorts of fiscal instruments available. If local governments can tax residents for the services they receive

and tax local business for productivity-increasing local inputs, we can better approximate a system of benefit taxation that should improve local fiscal performance and the associated private-sector responses. In my view, fiscal and regulatory competition *in the right institutional setting* is likely, on balance, to be an efficiency-enhancing force, one that improves the performance of the public sector in the efficient deployment of fiscal and regulatory measures.

At the same time, it is true that such competition tends to constrain the capacity of the public sector to redistribute income. In the case of a nation-state with a strong central government, this may not be a serious issue if the central government takes a primary responsibility for major welfare programs. In the setting of the emerging European community, in contrast, this is of real concern. Hans Werner Sinn (1994, 1997) and others (e.g., Oates 2001) have observed that the evolving structure of the public sector in Europe may encounter problems in providing traditional sorts of welfare programs – especially support for low-income households. Increasing economic competition (including a higher degree of mobility of both capital and households across national borders) among European nations may limit the capacity of national governments to implement welfare programs, while, at the same time, the relatively modest role and budget of the ‘central’ government at the community level will not permit much in the way of European-wide welfare measures. Thus, the efficiency-enhancing potential of inter-jurisdictional competition, must, to some extent, be weighed against the constraints it may impose on the public sector to carry out certain other functions including both redistributive and macro-economic policies.

References

- Aidt, T. (1998), Political Internalization of Economic Externalities and Environmental Policy, *Journal of Public Economics* 69, 1–16.
- Bartik, T. (1991), *Who Benefits from State and Local Development Policies?*, W.E. Upjohn Institute, Kalamazoo, MI.
- Becker, G. (1998), What's Wrong with a Centralized Europe? Plenty, *Business Week* 29, 22.
- Bergstrom, T. (1979), When Does Majority Rule Supply Public Goods Efficiently? *Scandinavian Journal of Economics* 81, 216–26.
- Besley, T. and Case, A. (1995), Incumbent Behavior: Vote Seeking, Tax Setting and Yardstick Competition, *American Economic Review* 85, 25–45.
- Bivand, R., and Szymanski, S. (1997), Spatial Dependence through Local Yardstick Competition: Theory and Testing, *Economics Letters* 55, 257–65.
- Bivand, R. and Szymanski, S. (2000), Modeling the Spatial Impact of the Introduction of Compulsory Competitive Tendering, *Regional Science and Urban Economics* 30, 203–19.
- Brennan, G., and Buchanan, J. (1980), *The Power to Tax: Analytical Foundations of a Fiscal Constitution*, Cambridge University Press, Cambridge.
- Brett, C. and Pinkse, J. (1997), Those Taxes are All over the Map: a Test for Spatial Dependence of Municipal Tax Rates in British Columbia, *International Regional Science*

- Review* 30, 203–19.
- Brett, C., and Pinkse, J. (2000), The Determinants of Municipal Tax Rates in British Columbia, *Canadian Journal of Economics* 33, 695–714.
- Brueckner, J. (1998), Testing for Strategic Interaction among Local Governments: the Case of Growth Controls, *Journal of Urban Economics* 44, 438–67.
- Brueckner, J. (2001), Strategic Interaction Among Governments: an Overview of Empirical Studies, Institute of Government and Public Affairs, University of Illinois, Working Paper #88.
- Brueckner, J. and Saavedra, L. (2001), Do Local Governments Engage in Strategic Tax Competition? *National Tax Journal* 54, 203–30.
- Buettner, T. (2001), Local Business Taxation and Competition for Capital: the Choice of the Tax Rate, *Regional Science and Urban Economics* 31, 215–45.
- Case, A., Rosen, H. and Hines, J. (1993), Budget Spillover and Fiscal Policy Interdependence: Evidence from the States, *Journal of Public Economics* 52, 285–307.
- Courant, P. (1994), How Would You Know a Good Economic Policy if You Tripped Over One? Hint: Don't Just Count Jobs, *National Tax Journal* 47, 863–81.
- Edwards, J., and Keen, M. (1996), Tax Competition and Leviathan, *European Economic Review* 40, 113–34.
- Fredriksson, P. and Millimet, D. (forthcoming), Strategic Interaction and the Determination and Environmental Policy Across U.S. States, *Journal of Urban Economics*.
- Frey, B. and Eichenberger, R. (1996), To Harmonize or to Compete? That's not the Question, *Journal of Public Economics* 60, 335–49.
- Frey, B. and Eichenberger, R. (1999), *The New Democratic Federalism for Europe: Functional Overlapping and Competing Jurisdictions*, Elgar, Cheltenham.
- Grossman, G. and Helpman, E. (1994), Protection for Sale, *American Economic Review* 84, 833–50.
- Heyndels, B., and Vuchelen, J. (1998), Tax Mimicking among Belgian Municipalities, *National Tax Journal* 51, 89–101.
- Kirchgässner, G. and Pommerehne, W. (1996), Tax Harmonization and Tax Competition in the European Union: Lessons from Switzerland, *Journal of Public Economics* 60, 351–71.
- List, J. and Gerking, S. (2000), Regulatory Federalism and U.S. Environmental Policies, *Journal of Regional Science* 40, 453–71.
- McKinnon, R. (1997) Market Preserving Federalism in the American Monetary Union, in: M. Blejer and T. Ter-Minassian (eds), *Macroeconomic Dimensions of Public Finance: Essays in Honor of Vito Tanzi*, Routledge, London, 73–93.
- Millimet, D. (2000), Assessing the Empirical Impact of Environmental Federalism, unpublished paper, Southern Methodist University.
- Mintz, J. and Tulkens, H. (1986), Commodity Tax Competition Between Member States of a Federation, *Journal of Public Economics* 29, 133–72.
- Niskanen, W. (1971), *Bureaucracy and Representative Government*, Aldine, Chicago IL.
- Oates, W. (1972), *Fiscal Federalism*, Harcourt-Brace-Jovanovich, New York.
- Oates, W. (1999), An Essay on Fiscal Federalism, *Journal of Economic Literature* 37, 1120–49.
- Oates, W. (2001), Fiscal Competition and European Union: Contrasting Perspectives, *Regional Science and Urban Economics* 31, 133–45.
- Oates, W. and Schwab, R. (1988), Economic Competition Among Jurisdictions: Efficiency-Enhancing or Distortion-Inducing? *Journal of Public Economics* 35, 333–54.
- Parry, I. (2001), How Large are the Welfare Costs of Tax Competition? Resources for the

Future Discussion Paper, No. 01–28.

- Rauscher, M. (1998), Leviathan and Competition among Jurisdictions: the Case of Benefit Taxation, *Journal of Urban Economics* 44, 59–67.
- Revelli, F. (forthcoming), Local Taxes, National Politics and Spatial Interactions in English District Election Results, *European Journal of Political Economy*.
- Sinn, H.W. (1994), How Much Europe? Subsidiarity, Centralization and Fiscal Competition, *Scottish Journal of Political Economy* 41, 85–107.
- Sinn, H.W. (1997), The Selection Principle and Market Failure in Systems Competition, *Journal of Public Economics* 66, 247–74.
- Sinn, S. (1992), The Taming of Leviathan: Competition among Governments, *Constitutional Political Economy* 3, 177–96.
- Weingast, B. (1995), The Economic Role of Political Institutions: Market-Preserving Federalism and Economic Development, *Journal of Law, Economics, and Organization* 11, 1–31.
- Wellisch, D. (2000), *Theory of Public Finance in a Federal State*, Cambridge University Press, Cambridge.
- Wildasin, D. (1989), Interjurisdictional Capital Mobility: Fiscal Externality and a Corrective Subsidy, *Journal of Urban Economics* 25, 193–212.
- Wilson, J. (1986), A Theory of Interregional Tax Competition, *Journal of Urban Economics* 19, 296–315.
- Wilson, J. (1996), Capital Mobility and Environmental Standards: Is there a Theoretical Basis for a Race to the Bottom? in: J. Bhagwati and R. Hudec (eds), *Harmonization and Fair Trade*, Vol. I, MIT Press, Cambridge MA, 395–427.
- Wilson, J. (1999), Theories of Tax Competition, *National Tax Journal* 52, 269–304.
- Zodrow, G. and Mieszkowski, P. (1986), Pigou, Tiebout, Property Taxation, and the Underprovision of Public Goods, *Journal of Urban Economics* 19, 356–70.

Abstract: This paper reviews first the theoretical literature and then the empirical studies of interjurisdictional competition among governments. Of central interest is the normative question of whether fiscal and regulatory competition promotes a more efficient functioning of the public sector or whether it is the source of distortions in the public and private sectors. This is a contentious issue; both the theoretical and empirical literature, while providing some rich insights into the potential impact of such competition, do not give us an unambiguous answer to the general normative question. The concluding section offers the author's thoughts on all this with a leaning towards the view that such competition is, on balance, efficiency-enhancing.