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Comments on State Energy Revenues

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Fiscal Federalism and the Taxation of Natural Resources

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Comments

Roy Bahl

Peggy Cuciti, Harvey Galper, and Robert Lucke have added much to what is known about the intergovernmental dimension of state energy taxation. Using the RTS approach, they have provided a first careful set of estimates of the influence of the uneven distribution of energy resources on interstate variations in taxable capacity. Their result is important: there is a growing gap in taxable capacity between the energy-rich and other states. The purpose of this comment is not to quibble with this general finding, for it is essentially correct. Rather, the purpose here is to point out an inherent problem with the measurement of taxable capacity using the RTS approach and to raise a question about the efficiency implications of the results.

Measurement Problems

A correct measure of taxable capacity will permit interstate comparison of the resource base available for taxation. In theory, measured taxable capacity in state i should be independent of actual fiscal decisions taken in state i or in any other state. Cuciti, Galper, and Lucke see this as a virtue of the RTS approach: "Any variation among states in tax capacity is attributable not to differences in state tax laws but rather to the distribution of uniformly defined taxable bases." This, unfortunately, is not quite the case, since the RTS estimates of taxable capacity are sensitive to the fiscal choices made. One can demonstrate, for example, that New York State's estimated taxable capacity is sensitive to Texas's choice to raise \$701 per capita in taxes in 1979 as well as to Texas's choice as to how to raise this amount.

Taxable capacity of state i (\hat{T}_i) is defined under the RTS as

$$\hat{T}_i = \sum_j \bar{r}_j B_{ji}$$

where \bar{r}_j = the average tax rate employed in the fifty states for the j th tax and B_{ji} = the base of the j th tax in state i . Quite clearly, \bar{r}_j is influenced by tax laws and fiscal choices in all states. For example, New York's choice to cut income taxes lowers the average national rate and therefore affects the estimated taxable capacity (\hat{T}_i) of every state. By the same token, Texas's choice to tax natural resources rather than individual income dampens the estimated taxable capacity of energy-poor states such as New York because it results in a lower average income-tax rate (New York's income-taxable

base is strong) and a higher average energy tax rate (New York has little capacity to tax natural resources).

This problem can lead to a number of misleading inferences. For example, these rate effects could produce estimates of future declines in taxable capacity in industrialized but energy-poor states, even if per-capita income, consumption, and property values were increasing. It would only be necessary for the national-average rates on traditional bases to fall and for energy tax rates to increase.

Related to the measure of taxable capacity (\hat{T}_i) is tax effort (E_i), a measure of how intensively a state actually uses its capacity, defined as $E_i = T_i / \hat{T}_i$ where T_i equals the actual taxes collected. Again, the fiscal-choices issue raises problems. A limitation movement such as Proposition 13 in California could lower \hat{T}_i in other property-tax-dependent states and increase tax effort in state i , even though state i had not increased the rate at which it was taxing its existing bases.

Efficiency Effects

Cuciti, Galper, and Lucke offer the proposition that a state that can impose a large share of its total tax burden on a captive tax base may be able to reduce the tax burden on more mobile resources, thereby attracting capital and labor. This happens because residents of the energy-rich state face a lower tax price if energy taxes are chosen as the means of finance. Although the point is essentially correct, the second-round effects raise a number of interesting questions for research. Two are especially important: the possibility that public-expenditure effects will offset some of the tax price advantage, and the possibility that federal-grant effects will reinforce this tax-price advantage. In neither case is the result unambiguous.

Although a greater energy tax base offers a greater potential tax-price reduction, there may be offsetting public-expenditure effects. As the relative price of public goods falls in energy-rich states, and as immigration of capital and labor is induced, the quantity of public goods demanded will increase. If the supply curve is perfectly elastic in both growing and declining states, the story ends here and the tax-price disparity induced by taxing the natural-resource rent remains. The energy states end up taxing mobile factors at a lower rate to provide the same quantity of public output. On the other hand, there is a body of research that suggests that the unit cost of government goods rises with increased output in that sector, in part because of increases in the scope and quality of services required.¹ In this case an increase in population and income will cause a shift in demand and will increase expenditures and drive the tax price back up if the traditional, non-energy channels of finance are used. If the supply curve were downward sloping, as in the pure-public-good case, the tax-price advantage of energy-rich states would be reinforced by immigration.

The interregional migration of capital and labor may also induce a change in the rate of flow of intergovernmental transfers to energy-rich and other states. Under a per-capita-income-equalizing federal-grant system, the relative level of grants to such states would fall and the reduction in public output would depend on which grants were reduced and on the income and price elasticity of demand for public goods. The current federal-grant system, however, is not equalizing, and one would expect that states gaining relative shares of population and income would also gain an increased share of federal grants. If grants are primarily substitutive, the tax-price advantage of energy-rich states will be further reinforced. Certainly the potential for an important federal-grant effect is present. Indeed, energy taxes account for only about 4 percent of total taxable capacity, far less than the federal-grant share of taxable capacity.

Implications

These caveats do not detract from the basic findings of the Cuciti, Galper, and Lucke chapter. The taxable capacity of energy-rich states is high and growing, and an important fiscal advantage is being created. But we need to know much more. Do these advantages induce significant migration of labor and capital? Do immigrants and increased economic activity in the growing region lead to public-sector expansions that will eventually erase the fiscal advantage of energy-rich states? Does the federal-grant system reinforce or offset the comparative fiscal advantage of energy-rich states?

Note

1. See Roy Bahl, Jesse Burkhead, and Bernard Jump, Jr., eds., *Public Employment and State and Local Government Finances* (Cambridge, Mass.: Ballinger, 1980).