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Are State R&D Tax Credits Constitutional? An Economic Perspective

Policymakers at both the state and local level have long used tax incentives, in some form or other, to entice firms to locate or stay in their communities. While some economists have raised serious concerns about whether such incentives lead to socially wasteful "tax competition," a federal appeals court decision in September 2004 has raised serious doubts about whether some are even constitutional. The ruling focused particularly on tax credits for physical investment, but it may have opened the door for legal challenges to other special state tax provisions pertaining to "favored" business activities.

One such activity is research and development (R&D). Currently, over half of all U.S. states have some form of R&D tax credit, and policymakers in many of these states regard them as a key element in promoting high-quality job growth and productivity growth. Thus, the question of whether these credits could be challenged and eventually ruled unconstitutional is of vital importance.

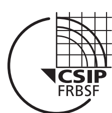
This *Economic Letter* discusses how the unique economic nature of R&D may bear on the question of the constitutionality of state R&D tax credits. In particular, I discuss the conditions laid out by the U.S. Supreme Court for determining the constitutionality of a state tax credit and how economic research can play a critical role in assessing whether these conditions are met.

The dormant Commerce Clause

The case *Cuno, et al. v. DaimlerChrysler, et al.* No. 01-3960, U.S. 6th Circuit Court of Appeals (2004) (hereafter, *Cuno*) involved a legal challenge to a set of tax breaks, including an investment tax credit, established in 1998 by the city of Toledo and the state of Ohio as a way to encourage DaimlerChrysler to keep its Jeep plant in Toledo and not relocate to another state. The U.S. Court of Appeals of the 6th Circuit ruled that this tax credit violates the "dormant Commerce Clause." The dormant Commerce Clause is a doctrine inferred by the U.S. Supreme Court from the Commerce Clause (clause 3) in Article I, Section 8 of the U.S. Constitution, which empowers the U.S. Congress to regulate interstate commerce. The inference is that, because the Commerce Clause explicitly grants the U.S. Congress the power to enact legislation pertaining to interstate commerce, by implication it bars states and localities from doing so (this same legal principle underlies the recent Supreme Court ruling concerning direct-to-consumer shipments from out-of-state wineries).

The U.S. Supreme Court has established a number of requirements that a tax statute must satisfy in order to be considered constitutional under the dormant Commerce Clause. The requirement at issue in the *Cuno* case is that "the tax does not discriminate against interstate commerce." The Court has found that a tax discriminates if it "tax[es] the products manufactured or the business operations in any other State" (*Boston Stock Exchange v. State Tax Commission,* 429 U.S. 1977). It is crucial to note that both economically *and legally*, a tax credit or exemption is equivalent to a negative tax, and hence discrimination via tax credits is as invalid as discrimination via positive taxes, a point made in the *Cuno* decision: "The fact that a statute 'discriminates against business carried on outside the State by disallowing a tax credit rather than imposing a higher tax' is therefore legally irrelevant....Indeed, economically speaking, the effect of a tax benefit or burden is the same" (*Cuno,* citing Supreme Court decision *Westinghouse Elec. Corp. v. Tully*, 466 U.S. 1984).

The 6th Circuit Court went on to say: "In general, a challenged credit or exemption will fail Commerce Clause scrutiny if it discriminates on



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its face or if, on the basis of 'a sensitive, case-by-case analysis of purposes and effects,' the provision 'will in its practical operation work discrimination against interstate commerce,..., by providing a direct commercial advantage to local business." (*Cuno*, citing Supreme Court decisions *West Lynn Creamery v. Healy,* 512 U.S. 1994 and *Bacchus Imports v. Dias,* 468 U.S. 1984). The Court also mentioned one caveat: A state's discriminatory tax policy may be valid *if* "it advances a legitimate local purpose that cannot be adequately served by reasonable nondiscriminatory alternatives" (*New Energy Co. of Ind. v. Limbach*, 486 U.S. 1988, quoted in *Cuno*).

The 6th Circuit Court concluded that the Ohio investment tax credit violated the dormant Commerce Clause since the credit lowered the Ohio (franchise) tax burden for companies only if the investment was done in Ohio. The legal rationale behind the ruling appears to apply specifically to tax *credits*; other state tax provisions, such as property tax exemptions or general corporate income taxes have been judged by the Supreme Court to be constitutionally valid. Interestingly, the Supreme Court has established that the dormant Commerce Clause is not applicable to states' use of direct subsidies as opposed to tax credits, despite the economic equivalence of subsidies and credits.

Given the ruling regarding tax credits on physical investments in a state and the fact that state R&D tax credits similarly apply only to R&D performed within the state, it is easy to see how state R&D tax credits also could be challenged for violating the dormant Commerce Clause. Below, I examine whether R&D tax credits are discriminatory and how they relate to the caveat about "legitimate local purpose"—two issues that will be crucial when and if legal challenges to state R&D tax credits do occur.

Are R&D tax credits discriminatory?

From a legal perspective, the discrimination question turns on whether one state's R&D tax credit has a detrimental impact on the R&D activity of other states (for example, those with lower or no credits). Such a tax credit may have little or no impact insofar as companies are unable or unwilling to relocate R&D activities from one state to another because of, for example, high labor and capital relocation costs, substantial benefits from co-locating R&D activity with existing manufacturing facilities and/or company headquarters, or a lack of taxable earnings in other states. In such instances, a state's R&D tax policy may not violate the dormant Commerce Clause.

R&D tax credits may have an impact insofar as companies are willing to relocate. Consider, for example, large multinationals, which may have R&D facilities in multiple states (and earn taxable income in multiple states) and hence may find it nearly costless to shift funding and activities from one facility to another based on beneficial (detrimental) changes in R&D tax policy in the state where the latter (former) facility is located. In that case, the state's R&D tax policy may violate the dormant Commerce Clause.

Although observing such intrafirm reallocations of funds (activities) and the rationale behind the locational choices of R&D facilities is virtually impossible, the presence of such effects can be detected in cross-state panel data using econometric techniques. Wilson (2005) investigates this issue and is able to detect a quantitatively important impact, on average, of a state's R&D tax credit on R&D activity in other states. Thus, to the extent that R&D activity qualifies as commerce, this research would seem to support the argument that R&D tax credits do, in their "practical operation," "work discrimination against interstate commerce."

Do R&D credits advance a "legitimate purpose unachievable by nondiscriminatory means"?

This question actually consists of three separate and important questions.

(1) Is there a legitimate purpose of state R&D tax credits? One argument that proponents of state R&D tax credits frequently cite is that R&D performed within the state generates positive productivity spillovers to other firms in the state. Indeed, a large body of both theoretical and empirical economic research has found that such spillovers do occur and, moreover, that they are localized to a large extent (see, e.g., Jaffe, Henderson, and Trajtenberg 1993). Thus, economic research appears to give some support to the position that promoting in-state R&D does have a legitimate purpose, at least with regards to local spillovers.

(2) Are the credits effective in achieving this purpose? Again, economic research provides some guidance. Though very little research has been done on R&D tax credits at the state-level, several studies have looked at the efficacy of federal R&D tax credits, both in the U.S. as well as other countries (Hall 1993 and Bloom, Griffith, and Van Reenen 2002). These studies generally find that R&D tax credits do significantly spur private R&D investment. A typical result is that an R&D tax credit that reduces the effective cost of R&D

by 1% leads to an increase in R&D in the long run of at least 1%. The findings of Wilson (2005), however, suggest that the bulk of this response, at least at the state level, is actually due to firms shifting R&D funds from other states to take advantage of the reduction in costs rather than to an increase in the R&D funding for labs already in the state.

(3) Can this purpose be achieved by an alternative that does not discriminate via tax policy against out-of-state activity? The empirical research on this issue is informative but not conclusive. Some studies have pointed to the various economic factors and policies that foster an environment favorable to innovation and R&D activity, such as state education policies, infrastructure (e.g., a stable electrical grid), a low business cost environment (e.g., low energy costs, low worker's comp costs), and favorable employment laws (e.g., "covenants not to compete"). Each of these are nondiscriminatory policies that may encourage in-state R&D activities. Whether they are as effective at doing so as R&D tax credits is an empirical question that has not yet been answered.

Conclusion

Clearly, economic research plays a vital role in assessing the legal validity, with regard to the dormant Commerce Clause, of tax provisions. In fact, U.S. Supreme Court decisions have explicitly called for empirical cause-and-effect analysis to help determine whether a tax provision violates this Clause. In any deliberation concerning the constitutionality of state R&D tax credits, such economic analysis would seem particularly vital given the unique nature of R&D investment. In particular, R&D activity is far less tied to any particular location than physical investment, so R&D may be more easily relocated from one state to another in response to differential R&D tax credits. This feature seemingly favors the legal argument that state R&D tax credits are discriminatory "in practical operation" and not just statutorily. R&D investment is also unique in that its output—knowledge—has positive externalities to other firms (and consumers). The extent to which these externalities stay within the state where the R&D is performed is both an interesting academic issue as well as a critical issue for the question of constitutionality of state R&D tax credits. If it were shown that these externalities are extensive and could only be generated by R&D tax credits, then such credits might still be deemed valid. Some economic research into these questions has been conducted, though much more remains to be done.

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