

Viard, Alan D.

**Working Paper**

## The Dormant Commerce Clause and the balkanization of the municipal bond market (with technical appendix)

AEI Working Paper, No. 139

**Provided in Cooperation with:**

American Enterprise Institute (AEI), Washington, DC

*Suggested Citation:* Viard, Alan D. (2007) : The Dormant Commerce Clause and the balkanization of the municipal bond market (with technical appendix), AEI Working Paper, No. 139, American Enterprise Institute (AEI), Washington, DC

This Version is available at:

<https://hdl.handle.net/10419/280488>

**Standard-Nutzungsbedingungen:**

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

**Terms of use:**

*Documents in EconStor may be saved and copied for your personal and scholarly purposes.*

*You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.*

*If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.*



*American Enterprise Institute for Public Policy Research*

# The Dormant Commerce Clause and the Balkanization of the Municipal Bond Market

Alan D. Viard  
*American Enterprise Institute*

---

AEI WORKING PAPER #139, October 22, 2007  
[www.aei.org/workingpapers](http://www.aei.org/workingpapers)  
<http://www.aei.org/publication26952/>  
# 22310

# **THE DORMANT COMMERCE CLAUSE AND THE BALKANIZATION OF THE MUNICIPAL BOND MARKET (WITH TECHNICAL APPENDIX)**

Alan D. Viard is a resident scholar at the American Enterprise Institute. He filed an *amicus* brief in support of the respondents in *Davis v. Department of Revenue of Kentucky*. He thanks Alan J. Auerbach, Alex Brill, James R. Hines, Jr., Phil Levy, N. Gregory Mankiw, Thornton Matheson, Jason L. Saving and Cindy Soo for helpful comments and discussions. He is solely responsible for any errors or omissions. This article was published, without the technical appendix and with other minor changes, in *State Tax Notes* on October 22, 2007.

This report argues that the selective municipal bond exemption challenged in *Davis* functions as an import tariff in the municipal bond market by favoring within-state holdings of municipal bonds over interstate holdings. Observation confirms that the selective exemption has balkanized the municipal bond market and harmed investors. The recognized exceptions to the dormant commerce clause of the Constitution should not be extended to uphold the selective exemption.

<b>I. Summary</b>	<b>2</b>
<b>II. The Dormant Commerce Clause</b>	<b>4</b>
A. Background	4
B. State Taxes and Subsidies	5
C. Understanding Nondiscrimination	8
<b>III. The Selective Municipal-Bond Exemption</b>	<b>11</b>
A. Background	11
B. Design of Exemption	12
C. Economic Effects of Single State's Exemption	14
D. Economic Effects of Many States' Exemptions	18
E. Balkanized and Inefficient Market	21
<b>IV. Comparison to Subsidy for all Holders of State's Bonds</b>	<b>24</b>
<b>V. Comparison to Subsidy for Residents' Holdings of All States' Bonds</b>	<b>26</b>
<b>VI. The Market-Participant and <i>United Haulers</i> Exceptions</b>	<b>30</b>
A. Exceptions Lack Strong Conceptual Foundations	30
B. Exceptions Should Not Apply to Selective Exemption	35
<b>VII. Concluding Observations</b>	<b>40</b>
<b>Technical Appendix: Simple Economic Model</b>	<b>41</b>

The U.S. Supreme Court will soon hear arguments in *Davis v. Kentucky Department of Revenue*, in which the taxpayer-plaintiffs contend that Kentucky violates the dormant commerce clause (DCC) of the U.S. Constitution by granting its residents a state income tax exemption for interest on home-state municipal bonds while taxing out-of-state municipal bonds. This selective exemption for home-state municipal bonds, also practiced in some form by 42 other states, is a significant barrier to interstate commerce and has balkanized the municipal bond market. The Supreme Court should affirm the Kentucky Court of Appeal's ruling and strike down the exemption under the DCC.

## I. Summary

State taxes and subsidies obstruct interstate commerce if they favor within-state sales over interstate sales; import tariffs and export tariffs are the paradigmatic examples. In contrast, uniform taxes on purchases made within the state (whether from in-state or out-of-state sellers) do not obstruct interstate commerce, nor do uniform taxes on sales originating within the state (whether to in-state or out-of-state buyers). A policy's relative treatment of within-state and interstate sales is a real economic property that does not depend upon whether the policy is called a "tax" on interstate sales or a "subsidy" to within-state sales. Also, the relevant question, whether a policy favors within-state sales over interstate sales, should not be confused with the question of whether the policy favors in-state parties over out-of-state parties. Misunderstandings on this point have led to much confusion in discussions of the DCC, including discussions of *Davis*.

The selective municipal bond exemption obstructs interstate commerce. By taxing residents on their purchases of out-of-state municipal bonds, but not on their purchases of home-state bonds, Kentucky imposes an import tariff on municipal bonds. Nothing changes if, as is convenient, the Kentucky tax system is relabeled as combining a neutral income tax on residents' entire bond income combined with a subsidy that applies only to residents' purchases of home-state bonds. Under either label, the Kentucky tax system favors within-state bond holdings over interstate bond holdings.

Kentucky's policy obstructs interstate commerce because it gives Kentucky residents an incentive to purchase Kentucky bonds rather than out-of-state bonds *without giving nonresidents the same incentive to prefer Kentucky bonds*. There would be no obstruction of interstate commerce if Kentucky subsidized all holders of its own bonds (residents and nonresidents) or subsidized all of its residents' municipal bond holdings (home-state and out-of-state). Instead, Kentucky's selective exemption subsidizes only residents' holdings of home-state bonds, i.e., within-state holdings.

A simple economic model reveals that a single state's subsidy to its residents' holdings of home-state bonds inefficiently reduces interstate bond holdings. The interest rate on the state's bonds falls, but by less than the amount of the resident subsidy. State residents gain, because they earn a higher (subsidy-inclusive) return on home-state bonds. The state treasury incurs a net financial loss, as the cost of the subsidy outweighs the interest savings. The residents' gain is typically larger than the state treasury's cost, yielding a net within-state gain. Nonresidents lose, however, because they receive a lower interest rate

on the subsidizing state's bonds. Furthermore, the losses to nonresidents exceed the within-state gain. When a single state imposes a selective exemption, therefore, it reduces overall national wellbeing in the course of benefiting its residents at the expense of nonresidents.

If all states subsidize within-state holdings, interstate bond holdings are further reduced. In the simple model, net losses are sustained in all states, as each state seeks to gain at the expense of the others. The economic harm from a single state's exemption is reinforced, not offset, by other states' adoption of exemptions.

Actual experience amply vindicates the predictions of economic theory. Of the municipal bonds that are held in mutual and money-market funds, one-third or more are held in single-state funds that are marketed primarily to residents of the state, accommodating investors' tax-driven preference for within-state bonds. These single-state funds suffer from limited diversification, illiquidity, and higher expenses. This market balkanization is a textbook example of what the DCC is intended to prevent.

The selective municipal bond exemption has nothing in common with hypothetical, clearly permissible, policies by which Kentucky could provide a subsidy to *all* holders of its bonds, residents and nonresidents. Unlike the selective exemption, such policies would not favor within-state bond holdings over interstate holdings.

Supporters of the selective exemption argue that Kentucky should not be expected to extend its exemption to out-of-state bonds (as the price of maintaining its exemption for home-state bonds) because doing so would require Kentucky to subsidize other states. In reality, any uniform subsidy to residents' purchases of a good can generate some gains for out-of-state sellers, as could any increase in residents' demand for the good. That concern cannot justify a subsidy limited to within-state sales or an import tariff.

The market-participant exception to the DCC should not be used to uphold the selective exemption. The exception's theoretical rationale, that states participating in the market should have the same freedom as private entities to boycott interstate transactions, has little merit; the analogy between states and private entities is unfounded, since states acquire funds through taxation and do not face marketplace tests. In any event, the market-participant exception should not be extended to uphold a state policy – differentiating between residents of different states while transacting in a public securities market – which no private party could realistically adopt. Indeed, Kentucky is able to implement this policy only by using its tax system, an option unavailable to private entities. Moreover, the obstruction to interstate commerce from this policy vastly exceeds that encountered in any of the Supreme Court's prior market-participant cases.

Earlier this year, the Supreme Court identified another exception to the DCC, permitting laws that restrict private competition with state and local governments, provided that the restriction treats in-state and out-of-state businesses neutrally and serves legitimate local interests that outweigh any harmful impact on interstate commerce. This exception also should not be used to uphold the selective exemption. In this instance, the challenged

policy restricts competition with other state and local governments, not with private entities. In any case, the massive impact of the selective exemption on interstate commerce far outweighs the asserted legitimate local benefits, which are vague and conjectural. Also, because the exception applies solely to state and local governments' own activities, it is inapplicable to private-activity bonds, roughly one-quarter of all municipal bonds, in which state and local governments act as mere conduits for private borrowers.

The remainder of this article is organized as follows. Section II describes the DCC and section III applies its principles to the selective municipal bond exemption. Section IV contrasts the selective exemption with permissible policies that promote bond holdings by both residents and nonresidents and section V contrasts it with a tax exemption for residents' holdings of all municipal bonds. Section VI discusses the applicability of the DCC exceptions. Section VII concludes.

## **II. The Dormant Commerce Clause**

### **A. Background**

The commerce clause of the Constitution provides that “Congress shall have Power ... To regulate Commerce with Foreign Nations, and among the Several States, and with the Indian Tribes.”<sup>1</sup> Although the text merely grants authority to Congress, it has been settled, at least since 1852, that the clause also limits state authority to impede or burden interstate commerce when Congress has not spoken.<sup>2</sup> This implicit restriction on state authority is known as the dormant commerce clause or DCC.

The U.S. Supreme Court has stated, “The very purpose of the Commerce Clause was to create an area of free trade among the several states.”<sup>3</sup> The Court has elaborated that “the fundamental purpose of the Clause is to ensure that there be free trade among the several States. This free trade purpose is not confined to the freedom to trade with only one State; it is a freedom to trade with any State, to engage in commerce across all state boundaries.”<sup>4</sup> This vision of the DCC was clearly expressed by the Court in a 1949 opinion authored by Justice Robert H. Jackson:

“This principle that our economic unit is the Nation ... has as its corollary that the states are not separable economic units ... The material success that has come to inhabitants of the states which make up this federal free trade unit has been the most impressive in the history of commerce.”<sup>5</sup>

The Supreme Court has stressed the role of free interstate trade in promoting economic efficiency. It has condemned “state statutes requiring business operations to be performed

---

<sup>1</sup> U.S. Const., Article 1, § 8, cl. 3.

<sup>2</sup> *Cooley v. Board of Wardens*, 53 U.S. 299 (1852); see also *Gibbons v. Ogden*, 22 U.S. 1 (1824).

<sup>3</sup> *McLeod v. J.E. Dilworth Co.*, 322 U.S. 327, 330 (1944).

<sup>4</sup> *Boston Stock Exchange v. State Tax Comm'n*, 429 U.S. 318, 335 (1977).

<sup>5</sup> *H.P. Hood & Sons v. Du Mond*, 336 U.S. 525, 537-538 (1949).

in the home State that could be more efficiently performed elsewhere”<sup>6</sup> and has declared that “this Nation is a common market in which state lines cannot be made barriers to the free flow of both raw materials and finished goods in response to the economic laws of supply and demand.”<sup>7</sup> Striking down a law that would “divert to South Carolina employment and business that might otherwise go to Georgia,” the Court noted that such a diversion would “force an artificial rigidity on the economic pattern of the industry.”<sup>8</sup>

It is important to realize that the DCC does not actually forbid economically inefficient policies; the choice between economic efficiency and economic inefficiency remains, as always, with the political branches. Instead, the DCC simply requires that any decision to inefficiently obstruct interstate commerce be made by the political branches of the federal government, rather than those of the state governments. Not only can Congress adopt policies that obstruct interstate commerce, it can also authorize states to adopt such policies and such authorization immunizes those policies from DCC challenges.<sup>9</sup> But when Congress is silent, states may not block the free flow of interstate commerce. It is easy to see that a decision to block commerce between the states should be made by the national legislature, rather than state legislatures that are likely to reflect the parochial interests of their own jurisdiction.

## B. State Taxes and Subsidies

The relevant economic question is whether a state tax or subsidy treats interstate sales less favorably than within-state sales. Since 1977, this criterion has been enshrined in DCC jurisprudence as the third prong of the *Complete Auto* test, which requires that a tax “not discriminate against interstate commerce.”<sup>10</sup> Similarly, the Supreme Court has said that a tax “may not discriminate between transactions on the basis of some interstate element”<sup>11</sup> and that a state “may not tax a transaction . . . more heavily when it crosses state lines than when it occurs entirely within the State.”<sup>12</sup>

From any state’s standpoint, sales can be divided into the following categories:

- *Within-state sales*, in which the purchaser and the seller are both in-state
- *Out-of-state sales*, in which the purchaser and the seller are both out-of-state
- *Interstate sales*, in which one party is in-state and the other party is out-of-state. Interstate sales include both *imports*, in which the purchaser is in-state and the

---

<sup>6</sup> *Pike v. Bruce Church, Inc.*, 397 U.S. 137, 145 (1970).

<sup>7</sup> *Hughes v. Alexandria Scrap Corp.*, 426 U.S. 794, 803 (1976).

<sup>8</sup> *Toomer v. Witsell*, 334 U.S. 385, 404 (1948).

<sup>9</sup> See *Prudential Insurance Co. v. Benjamin*, 328 U.S. 408 (1946) (upholding state tax on out-of-state insurance companies because tax was authorized by federal statute); *Northeast Bancorp, Inc. v. Board of Governors of the Federal Reserve System*, 472 U.S. 159 (1985) (upholding state restrictions on acquisitions by out-of-state bank holding companies because restrictions were authorized by federal statute).

<sup>10</sup> *Complete Auto Transit, Inc. v. Brady*, 430 U.S. 274, 279 (1977). The second prong requires that the tax be fairly apportioned; when applicable, this is merely an application of the nondiscrimination prong. The other two prongs are discussed in *infra* note 13.

<sup>11</sup> *Boston Stock Exchange, supra* note 4, 429 U.S. at 332, n. 12.

<sup>12</sup> *Armco Inc. v. Hardesty*, 467 U.S. 638, 642 (1984).

seller is out-of-state, and *exports*, in which the seller is in-state and the purchaser is out-of-state

States generally lack the constitutional authority to tax out-of-state sales.<sup>13</sup> The relevant question then becomes the relative treatment of within-state sales and the two types of interstate sales, imports and exports.

A tariff that applies only to imports clearly discriminates against interstate sales, as does a tariff that applies only to exports. The analysis becomes slightly more difficult for other types of taxes. Fortunately, the well-established economic theory of international trade, which also applies to interstate trade, offers useful results:

- A uniform broad-based tax on all sales originating in the state (both within-state sales and exports) does not obstruct interstate commerce.
- A uniform broad-based tax on all purchases made in the state (both within-state sales and imports) does not obstruct interstate commerce.

Economic theory demonstrates that neither of these taxes reduces the volume of interstate sales relative to the volume of within-state sales. Indeed, due to price adjustments, these seemingly different taxes are economically equivalent to each other under certain conditions.<sup>14</sup>

Each of these taxes includes a tax on within-state sales; the first adds an export tax while the second adds an import tax. Either type of trade tax can be added without obstructing interstate commerce; conversely, if neither tax is added, the tax system favors interstate commerce.

In contrast, a system that taxes within-state sales and *both* imports and exports reduces interstate sales relative to within-state sales. More generally, a broad-based tax obstructs

---

<sup>13</sup> Oddly enough, this restriction is considered to be imposed, at least in part, by the DCC. The first prong of the *Complete Auto* test for the validity of a tax under the DCC (see *supra* note 10) requires that the tax apply to an activity with a substantial nexus to the taxing state. The fourth and final prong, which the Court has effectively abandoned, requires that the tax be fairly related to services provided by the state; if this prong was susceptible to judicial resolution, it would be an elaboration of the nexus prong.

It is misplaced to view these restrictions as part of DCC jurisprudence; state taxation of out-of-state sales would not systematically obstruct interstate commerce. The objections to a state's power to tax or regulate out-of-state sales are quite different; any such power in the hands of one state would infringe on the authority of other states and the rights of out-of-state parties who are not represented in the state's political processes. The territorial limitations of a state's powers are best viewed as arising from the due process clause (U.S. Constitution, Amendment XIV, §1, "nor shall any State deprive any person of life, liberty, or property, without due process of law") or from structural features of federalism. The Supreme Court has held, *Quill Corporation v. North Dakota*, 504 U.S. 298, 312-313, 318 (1992), that the due process clause also restricts a state's ability to tax out-of-state parties; although the due-process restrictions are less strict than those of the DCC, they cannot be waived by Congress.

<sup>14</sup> See David F. Bradford, *The X Tax in the World Economy: Going Global with a Simple, Progressive Tax* (Washington, D.C.: AEI Press, 2004), pp. 5-9; Harry Grubert and T. Scott Newlon, *Taxing Consumption in a Global Economy* (Washington, D.C.: AEI Press, 1997), pp. 8-10; Alan D. Viard, "Border Adjustments Won't Promote Competitiveness," *Tax Notes*, October 4, 2004, pp. 122-124 (and the numerous references cited therein).



interstate commerce if, and only if, the tax rate on imports plus the tax rate on exports is higher than the tax rate on within-state sales.<sup>15</sup>

Parallel results necessarily apply to broad-based subsidies, since a subsidy is merely a negative tax.<sup>16</sup> A subsidy to all sales originating in the state is neutral with respect to interstate commerce, as is a subsidy to all purchases made in the state. A broad-based subsidy system obstructs interstate commerce if, and only if, the subsidy rate on imports plus the subsidy rate on exports is lower than the subsidy rate on within-state sales. A subsidy that applies only to within-state sales, excluding both imports and exports, clearly obstructs interstate commerce.

The analysis becomes more complex for narrow-based taxes and subsidies that apply to only some goods. A narrow-based tax on, or subsidy to, certain goods is facially neutral if it either applies to all sales of those goods originating in the state (both within-state sales and exports) or to all purchases of those goods made within the state (both within-state sales and imports). Nevertheless, such a tax or subsidy reduces interstate commerce in the following cases:

- A tax on purchases made in the state (or a subsidy to sales originating in the state) reduces interstate commerce if it applies primarily to goods that the state imports; any such measure reduces imports.
- A tax on sales originating in the state (or a subsidy to purchases made in the state) reduces interstate commerce if it applies primarily to goods that the state exports; any such measure reduces exports.

Each of these policies share the key feature of import and export tariffs; they encourage in-state purchasers to buy from in-state sellers, but do not encourage out-of-state purchasers to buy from in-state sellers. Indeed, if a state imports a particular good, the combination of a facially neutral tax on purchases of that good made in the state and a facially neutral subsidy to sales of the same good originating from the state is identical to an import tariff on the good.<sup>17</sup> The commerce reduction caused by the tariff reflects the reduction caused by each of the components.

---

<sup>15</sup> This criterion is an internal-consistency test, rejecting any tax system that, when imposed by all states, causes interstate sales to pay a heavier combined tax to the two affected states than that paid on within-state sales. Economic theory establishes, however, that the test correctly describes the interstate-commerce impact of a single state's *broad-based* tax system, regardless of what other states do (except, possibly, when internal consistency is satisfied by one state granting credit for other states' taxes). The Supreme Court applied the internal consistency test in *Armco*, *supra* note 12, and *Goldberg v. Sweet*, 488 U.S. 252 (1989).

<sup>16</sup> Once again, it is convenient to ignore out-of-state sales. Although states presumably have the constitutional authority to subsidize such sales, no state is likely to do so.

<sup>17</sup> In contrast, if the state exports the good in question, a tax on purchases made in the state and a subsidy on sales originating in the state combine to form an export subsidy, which is a commerce-expanding measure. If the purchases tax and the sales subsidy are applied to all goods (those imported and those exported), the commerce-obstructing and commerce-expanding effects offset each other. As noted earlier, broad-based taxes on purchases made in the state, broad-based subsidies to sales originating in the state, and a combination thereof are neutral with respect to interstate commerce.

A recurring issue in DCC jurisprudence has been whether facially neutral taxes and subsidies are sufficiently targeted on imported goods (or exported goods, as the case may be) so that they should be invalidated as obstructions of interstate commerce. A related, and difficult, question is the extent to which the state's motivation should be relevant and, if so, how its motivation should be determined. Still another difficult question is the extent to which commerce-expanding features of a state's fiscal system should be allowed to offset commerce-obstructing features. In addressing these questions, the Supreme Court has vacillated between activism and deference. The Court struck down a Hawaii tax on purchases made in the state of certain liquors, most or all of which the state imported, *Bacchus Imports, Ltd. v. Dias*.<sup>18</sup> It also struck down (milk-importing) Massachusetts' policy that combined a tax on milk purchases made in the state with a subsidy to milk sales originating in the state, *West Lynn Creamery, Inc. v. Healey*.<sup>19</sup> On the other hand, the Court upheld (coal-exporting) Montana's tax on coal sales originating in the state, *Commonwealth Edison Co. v. Montana*.<sup>20</sup>

Fortunately, the resolution of these contentious issues is not necessary for the purposes at hand. This article addresses the selective municipal bond exemption, which facially favors within-state bond holdings over interstate bond holdings.

Before discussing *Davis*, it is necessary to address a persistent misunderstanding about nondiscrimination that has played an important role in commentary about the case.

### **C. Understanding Nondiscrimination**

Although the *Complete Auto Transit* test prohibits discrimination *against interstate commerce*, a common misunderstanding holds that it does, or should, prohibit *discrimination against out-of-state parties*. This view is mistaken and cannot be applied in a coherent manner.

It is difficult to see why any state should, or how any state could, treat its residents the same as nonresidents. States routinely and properly "discriminate" against nonresidents in voting rights and transfer payments and "discriminate" against residents in the exercise of civil jurisdiction. More to the point, states also "discriminate" between residents and nonresidents with respect to taxes and subsidies.

As noted above, states generally cannot tax out-of-state sales. Accordingly, all constitutionally permissible taxes must "discriminate" on the basis of residence, although (ironically) the "discrimination" is against residents. For example, a uniform broad-based

---

<sup>18</sup> 468 U.S. 263 (1984).

<sup>19</sup> 512 U.S. 186 (1994). The Court struck down the combined tax and subsidy (over two dissenting votes) because it recognized that, as noted in the text above, they combined to form an import tariff. Unfortunately, the Court mistakenly assumed that neither the tax on milk purchases nor the subsidy to milk sales would reduce interstate commerce on its own and therefore had no coherent explanation for why the combination reduced interstate commerce. In reality, as explained in the text, each of these measures reduces interstate commerce on its own. The voluminous academic commentary on *West Lynn Creamery* displays similar confusion.

<sup>20</sup> 453 U.S. 609 (1981).

tax on all sales originating in the state “discriminates” against in-state sellers, but does not discriminate against interstate commerce because in-state parties selling to other in-state parties are taxed the same as in-state parties exporting to out-of-state parties. Similarly, a uniform broad-based tax on purchases made in the state “discriminates” against in-state buyers, but does not discriminate against interstate commerce, because in-state parties purchasing from other in-state parties are taxed the same as in-state parties importing from out-of-state parties.

Conversely, since states do not subsidize out-of-state sales, state subsidies inevitably “discriminate” against out-of-state parties. For example, a uniform broad-based subsidy to sales originating from the state “discriminates” against out-of-state sellers, but does not discriminate against interstate commerce because in-state parties who export to out-of-state parties receive the same subsidy as in-state parties who sell to other in-state parties. A uniform broad-based subsidy to purchases made in the state “discriminates” against out-of-state purchasers, but does not discriminate against interstate commerce, because in-state parties who import from out-of-state parties receive the same subsidy as in-state parties who buy from other in-state parties.

Interstate commerce is obstructed, however, if a state subsidizes only sales in which both the buyer and seller are in-state or taxes only sales that have an out-of-state party. The problem is not that such measures discriminate against out-of-state parties, but that they discriminate against interstate sales. Indeed, this is precisely what Kentucky has done through its selective municipal bond exemption, as discussed in section III.B, below.

In other words, state subsidies do not obstruct interstate commerce if they exclude either transactions with out-of-state sellers or those with out-of-state buyers. But, subsidies do obstruct interstate commerce if they combine both exclusions, so that the subsidy applies only to within-state transactions between in-state sellers and in-state buyers.

In 1997, the Supreme Court confronted this issue in *Camps Newfound/Owatonna, Inc. v. Town of Harrison*,<sup>21</sup> where it struck down (over four dissenting votes) a Maine property tax exemption for in-state summer camps, limited to those that served state residents, correctly rejecting the state’s argument that the exemption was a legitimate way to favor its residents. There would have been no obstruction of interstate commerce if Maine had subsidized all summer camps, whether in-state or out-of-state, serving state residents, an option to which the Court alluded.<sup>22</sup> There also would have been no obstruction of interstate commerce if Maine had subsidizes all in-state camps, whether serving residents or nonresidents. Instead, however, Maine subsidized only in-state camps that served residents, thereby limiting its subsidy to within-state sales and discriminating against interstate sales. Without this subsidy, the property tax would have been a neutral tax on

---

<sup>21</sup> 520 U.S. 564 (1997).

<sup>22</sup> The Court noted that Maine could provide financial support to parents of resident children attending summer camp, *id.*, 520 U.S. at 582 n.16.

all in-state sellers of summer camp services; the exemption for camps serving residents turned the tax system into an export tariff, as the Court expressly noted.<sup>23</sup>

As discussed further below, Kentucky's selective municipal bond exemption is essentially identical to Maine's property-tax exemption. There would be no obstruction of interstate commerce if Kentucky subsidized all holders of Kentucky bonds, both residents and nonresidents. There would also be no obstruction of interstate bond holdings if Kentucky subsidized all resident holders of municipal bonds, both home-state and out-of-state. The selective exemption does obstruct interstate bond holdings, however, because it subsidizes only Kentucky residents' holdings of Kentucky bonds.

Any DCC jurisprudence based on the principle that states may not "discriminate" against out-of-state parties quickly becomes incoherent. Since state subsidies inevitably "discriminate" against out-of-state parties, as noted above, an exception to the nondiscrimination principle is usually granted for subsidies. But, that exception destroys the principle. For example, an import tariff can be relabeled as a tax on purchases of the good made in the state combined with a subsidy to within-state sales of the good. The first component does not "discriminate" against out-of-state parties (it actually "discriminates" in favor of them!) and the second component is exempted from the "nondiscrimination" rule because it is a subsidy. Since each of the tariff's components is consistent with the DCC, the tariff must be consistent with the DCC. A voluminous, and thoroughly confused, legal literature defends the "nondiscrimination" principle while seeking to avoid these (unavoidable) logical implications.

Fortunately, these problems vanish when it is recognized that the relevant problem is discrimination against interstate sales relative to within-state sales. There is no subsidy exception; subsidies that favor within-state sales are just as invalid as taxes that disfavor interstate sales. Since taxes and subsidies are treated the same, relabeling a policy never changes its legal status. For example, when an import tariff is relabeled as a neutral tax on purchases made in the state combined with a subsidy to within-state sales, the tariff's discrimination against interstate sales shows up in the subsidy component.

The Supreme Court has often said that the DCC allows states to support in-state businesses and to seek to attract business to the state, clearly rejecting any premise that states cannot "discriminate" against out-of-state parties.<sup>24</sup> (Though, once again, a voluminous legal literature seeks to square the circle and reconcile these contradictory ideas.) The DCC should permit a state to aid in-state firms in ways that do not

---

<sup>23</sup> The Court noted that "the Maine statute therefore functionally serves as an export tariff that targets out-of-state consumers by taxing the businesses that principally serve them," *id.*, 520 U.S. at 580-581. Unfortunately, the Court took a sharp detour from economic analysis by raising the possibility (without resolving the issue) that the DCC might permit Maine to subsidize only in-state camps serving residents, if it provided direct cash payments rather than tax exemptions, 520 U.S. at 582 n.16. Obviously, this change in form would do nothing to mitigate the obstruction of interstate commerce.

<sup>24</sup> See, e.g., *Trinova Corp. v. Michigan Dept. of Treasury*, 498 U.S. 358, 385-386 (1991) (it is a "laudatory goal in the design of a tax system to promote investment that will provide jobs and prosperity to the citizens of the taxing State"); *West Lynn Creamery*, *supra* note 19, 512 U.S. at 199, n.16 (it is "undisputed that States may try to attract business by creating an environment conducive to economic activity").

discriminate against interstate sales, as through a uniform subsidy to all sales by in-state firms, including both within-state sales and exports. Of course, the DCC should not permit a state to aid in-state firms in ways that discriminate against interstate sales, as through an import tariff or a subsidy confined to within-state sales.

In short, the DCC is concerned, not with “discrimination” against nonresidents, but with discrimination against interstate sales.<sup>25</sup>

This discussion of nondiscrimination is essential to a correct understanding of *Davis*. Much of the commentary incorrectly assumes that the objection to the selective municipal bond exemption is either that it favors the state’s own bonds over other states’ bonds or that it favors the state’s residents over other states’ residents. Instead, as suggested above and explained below, the exemption’s flaw is that it favors within-state holdings (those that involve *both* the state’s own bonds and the state’s residents) over interstate holdings.

### III. The Selective Municipal-Bond Exemption

#### A. Background

Kentucky imposes state income tax on interest that its residents receive from out-of-state municipal bonds while exempting the interest they receive from home-state municipal bonds. At present, 37 other states follow this policy in its pure form. Moreover, four other states follow a lesser form of this policy: Illinois, Iowa, and Wisconsin exempt some home-state municipal bonds while taxing all out-of-state municipal bonds and Utah exempts all home-state municipal bonds while taxing some out-of-state municipal bonds. Although Florida does not have a state income tax, it had (before January 1, 2007) a property tax on intangibles that exempted home-state municipal bonds while taxing out-of-state municipal bonds. I refer to these 43 states’ policies as *selective municipal bond exemptions* or simply as *selective exemptions*. The other seven states do not have such policies. Indiana exempts all municipal bond interest from its income tax and Alaska, Nevada, South Dakota, Texas, Washington and Wyoming have no state income taxes.<sup>26</sup>

---

<sup>25</sup> Some forms of discrimination against out-of-state parties may violate the equal protection clause, U.S. Constitution, Amendment XIV, §1 (“No State shall . . . deny to any person within its jurisdiction the equal protection of the laws.”), or the privileges-and-immunities clause, U.S. Constitution, Article IV, §1, cl. 1 (“The Citizens of each State shall be entitled to all Privileges and Immunities of Citizens in the several States.”)

<sup>26</sup> For discussions and tabulations of states’ tax treatment of municipal bonds, see Kentucky Department of Revenue petition for certiorari, pp. 7-8 (hereafter “Cert. Petition”); the *amicus* brief filed by the 49 states other than Kentucky in the *Davis* case, pp. 7-8; *Bond Buyer*, State Tax Treatment of Municipal Bonds: 2006.

All state income taxes must exempt U.S. Treasury bonds under 31 U.S.C. §3124. They also must exempt Puerto Rico bonds under 48 U.S.C. §745, Northern Marianas bonds under §607 of the Covenant to Establish a Commonwealth of the Northern Mariana Islands in Political Union with the United States of America (approved by 48 U.S.C. §1801), Guam bonds under 48 U.S.C. §1423a, and U.S. Virgin Islands bonds under 48 U.S.C. §1574(b)(ii)(A).

In 1994, an Ohio appellate court upheld the constitutionality of Ohio’s selective exemption against a taxpayer’s DCC challenge; both the Ohio Supreme Court and the U.S. Supreme Court denied review.<sup>27</sup>

In April 2003, George W. and Catherine V. Davis filed suit in the Jefferson Circuit Court in Kentucky challenging Kentucky’s selective municipal bond exemption under the DCC.<sup>28</sup> In August 2004, the court upheld the selective exemption and granted summary judgment to the Kentucky Department of Revenue. On January 6, 2006, a unanimous three-judge panel of the Kentucky Court of Appeals reversed the Circuit Court, striking down the exemption. The Kentucky Supreme Court denied the Department’s request for discretionary review on August 17, 2006. On November 9, 2006, the Department petitioned the U.S. Supreme Court for certiorari, which was granted on May 21, 2007.<sup>29</sup>

On July 19, 2007, the Kentucky Department of Revenue filed its merits brief (hereafter “Petitioners’ brief”). Eight *amicus* briefs were filed supporting its position. *Amicus* briefs were filed by the following entities: the Churchill Tax-Free Fund and twelve other single-state municipal bond funds (hereafter “Churchill brief”); the Multistate Tax Commission (hereafter “MTC brief”); all forty-nine states, other than Kentucky itself (hereafter “Forty-Nine States brief”); the National Association of State Treasurers (hereafter “NAST brief”); the Securities Industry and Financial Markets Association (hereafter “SIFMA brief”); Nuveen Investments, Inc. (hereafter “Nuveen brief”); Dupree Mutual Fund (hereafter “Dupree brief”); and the Government Finance Officers Association and eight other groups affiliated with state and local governments (hereafter “GFOA brief”). Also, the National Federation of Municipal Analysts filed an *amicus* brief supporting neither party (hereafter “NFMA brief”). I quote from these briefs extensively below.

On September 21, 2007, the Davises filed their merits brief. I filed an *amicus* brief in support, joined by six other public policy scholars (Alex Brill, Christopher DeMuth, Jason Furman, Kevin A. Hassett, R. Glenn Hubbard, and Kent Smetters), and the Tax Foundation also filed an *amicus* brief. The Revenue Department’s reply brief is due on October 26, 2007. Oral arguments are scheduled for November 5, 2007.

## **B. Design of Exemption**

As discussed above, Kentucky’s selective exemption obstructs interstate commerce because the exemption is limited to within-state holdings. In other words, it is limited to holdings of Kentucky municipal bonds by Kentucky residents. Both dimensions of the limitation – that based on the source of the bond and that based on the residence of the bondholder – are critical. In accordance with the general analysis in section II.C, above,

---

<sup>27</sup> *Shaper v. Tracy*, 647 N.E.2d 550 (Ohio App. 10 Dist. 1994), *motion to certify denied*, 645 N.E.2d 1257 (1995), *cert. denied* 516 U.S. 907 (1995).

<sup>28</sup> The Tax Injunction Act, 28 U.S.C. §1341, generally requires that challenges to state tax systems, including challenges based on the U.S. Constitution or other federal law, be filed in state court.

<sup>29</sup> *Davis v. Department of Revenue of the Finance and Administration Cabinet*, 197 S.W.3d 557 (Ky. App., 2006), *cert. granted*, 550 U.S. \_\_\_, 127 S.Ct. 2154 (2007).

neither limitation alone would trigger an obstruction of interstate bond holdings; only the combination has that effect.

The first dimension of limitation, to Kentucky bonds, is apparent on the face of the state statute.<sup>30</sup> The second dimension of limitation arises from the fact that Kentucky, in accordance with the limits on its constitutional authority to tax beyond its borders, generally taxes only its residents on interest income, as explained by the Kentucky Department of Revenue:

Petitioners' Brief (p. 3): "The incidence of Kentucky's tax on sister State bond interest falls almost entirely if not exclusively on Kentucky residents. This is because income from intangibles such as municipal bonds is taxable by the State of the bondholder's domicile, and is considered taxable by a State other than the bondholder's domicile only if the bonds have acquired a 'business situs' ... outside the State of domicile."

The selective municipal bond exemption is similar to the property tax exemption in *Camps Newfound/Owatonna*, which was limited to camps located in the state and serving residents. In that case, Maine imposed property tax only on in-state summer camps located in the state, due to the constitutional limits on its power to tax beyond its borders. Maine then exempted camps serving residents, leaving in place only an export tariff on camps that exported services to nonresidents.

The key facts in *Davis* are that residents are taxed on out-of-state, but not home-state bonds, while nonresidents are not taxed on any municipal bonds interest. In other words, Kentucky taxes only residents' purchases from nonresidents, with no tax on within-state transactions. The exemption transforms a neutral tax on all municipal bonds purchased by residents into a tariff on residents' importation of municipal bonds from other states. The fact that the tax is imposed on the income from such purchased bonds rather than the purchase itself is merely a matter of form.

Interstate commerce would not be obstructed by a tax that applied to residents' interest incomes from all (home-state and out-of-state) municipal bonds with no tax on nonresidents; that would be a uniform tax on purchases made in the state. Interstate commerce also would not be obstructed by a tax on all holders (residents and nonresidents) of Kentucky bonds; that would be a uniform tax on sales originating in the state. But, Kentucky has chosen instead to tax only imports, a clear obstruction of interstate commerce.

As discussed above, the impact of a policy on interstate commerce does not change when it is relabeled. For purposes of this analysis, it is convenient to relabel the Kentucky tax system as imposing a uniform tax on its residents' incomes from municipal bonds, combined with a subsidy that applies solely to residents' home-state bond holdings. The

---

<sup>30</sup> See Kentucky Rev. Stat. Ann. § 141.010(10)(c) (adding back "interest income derived from obligations of sister states and political subdivisions thereof" to the federal definition of adjusted gross income, which excludes interest on municipal bonds of all states, Internal Revenue Code section 103(a).)

first component is commerce-neutral while the second, the subsidy to within-state holdings, is commerce-obstructing. It makes no difference whether Kentucky is viewed as imposing a discriminatory tax on interstate holdings (an import tariff) or as offering a discriminatory subsidy to within-state holdings (in conjunction with a neutral tax).

The commerce-obstructing feature of the selective exemption is the following: *A Kentucky resident has an incentive to buy Kentucky municipal bonds rather than out-of-state municipal bonds while a nonresident has no similar incentive to buy Kentucky municipal bonds rather than other municipal bonds.* The problem is this difference of incentives between residents and nonresidents. An ineluctable consequence, confirmed by actual observation, is a concentration of Kentucky bonds in the hands of Kentucky residents. Interstate bond holdings are therefore reduced. It is well settled, of course, that interstate holdings of financial securities are a form of interstate commerce, with which states are not permitted to interfere.<sup>31</sup>

To examine the economic effects of the selective municipal bond exemption, I draw on a simple economic model of this policy.<sup>32</sup> The model assumes a number of states which are of equal size; each state's residents would hold the same amount of municipal bonds if they all faced the same tax treatment. Each state issues a fixed volume of bonds, though the volume may vary across states. Each state's bonds have the same *degree* of risk, but are not exposed to the same risks. As a result, the various states' bonds are imperfect substitutes for each other. Residents of each state hold a perfectly diversified portfolio when all bonds offer the same returns, but increase or decrease their holdings of particular bonds when rates of return change. Residents also can hold other, non-municipal-bond, assets. Although this model is greatly simplified, it provides valuable information about the effects of the selective exemption, as discussed in subsections C and D, below. The key effects are also confirmed by observation of the municipal bond market, as discussed in subsection E.

### **C. Economic Effects of Single State's Exemption**

In this section, I consider the case in which a single state (for concreteness, Kentucky) provides a subsidy to its residents' holdings of home-state bonds.

#### **1. Reduction in Interstate Bond Holdings**

In the simple model, the following effects occur:

- The interest rate on Kentucky bonds falls, reflecting the fact that the bonds are now more attractive to some holders, namely Kentucky residents. The interest-

---

<sup>31</sup> See *Boston Stock Exchange*, *supra* note 4, 429 U.S. at 336 (“diversion of interstate commerce and diminution of free competition in securities sales are wholly inconsistent with the free trade purpose of the Commerce Clause.”) Also see *Fulton Corp. v. Faulkner*, 516 U.S. 325 (1996) (striking down North Carolina intangibles tax that imposed higher rate on corporate stock issued by firms with more limited presence in the state).

<sup>32</sup> The details of the model and the results are presented in the technical appendix at the end of this working paper.



rate decline is smaller than the amount of the subsidy because some holders, namely residents of other states, do not receive the subsidy. Compared to the no-subsidy world, therefore, Kentucky residents earn a higher subsidy-inclusive return on Kentucky bonds, while residents of other states earn a lower return on Kentucky bonds.

- The interest rates on other states' bonds are unchanged.

The changes in returns from holding Kentucky bonds alter everyone's portfolio decisions:

- In response to their higher subsidy-inclusive return on Kentucky bonds, Kentucky residents increase their holdings of Kentucky bonds and reduce their holdings of other states' bonds and of other, non-municipal-bond, assets.
- In response to their lower returns on Kentucky bonds, residents of the other states reduce their holdings of Kentucky bonds and increase their holdings of all other states' bonds (including their own states' bonds) and of other, non-municipal-bond, assets.

The above results have an important implication:

- In each state, more of the state's bonds are held by residents and less by nonresidents. There is a nationwide increase in within-state bond holdings and decline in interstate bond holdings.

For DCC purposes, that is the bottom line: *interstate commerce is obstructed*.

The Kentucky Department of Revenue and many of its supporting *amici* acknowledge that the selective exemption reduces interstate bond holdings:<sup>33</sup>

Cert. Petition (p. 12): "The tax exemption influences a Kentucky resident to choose to acquire a bond issued by Kentucky or a Kentucky municipality over a bond issued by another state or other state's municipality that pays a higher rate of interest or has a stronger credit rating."

GFOA Brief (p. 24): "The principal economic effect of the exemption is to alter the residential distribution of those persons holding Kentucky municipal bonds ... the proportion of investors holding Kentucky municipal bonds who are Kentucky citizens is substantially greater than it would be absent the exemption. The same is almost certainly true, to greater or lesser degrees, for all 42 states that offer a tax preference."

Dupree Brief (p. 7): "Without the tax exemption, residents of Kentucky might be encouraged to divert more of their investment money to municipal bonds issued out-of-state."

---

<sup>33</sup> In addition to the quoted statements, see MTC brief, p. 13; SIFMA brief, p. 14; NAST brief, p. 27; Nuveen brief, p. 7

The reduction in interstate commerce is therefore undisputed.

## 2. Adopting State Gains at Expense of Other States

The simple economic model also identifies the winners and losers from Kentucky's selective exemption. To begin, consider how it affects parties within the state.

- The Kentucky treasury *loses* because the subsidy payments to residents holding its bonds turn out to be larger than the interest savings on its bonds. The subsidy would be a wash for the Kentucky treasury if holdings remained unchanged from the no-subsidy equilibrium, but as Kentucky residents increase their holdings of Kentucky bonds, subsidy costs increase and a net loss emerges.
- Kentucky residents *gain* because they earn higher subsidy-inclusive returns on their holdings of Kentucky bonds, with no change in returns on their holdings of other states' bonds.

These conflicting effects should be netted against each other, since the state treasury can recoup its losses by imposing other taxes on the residents:

- Unless the subsidy is too large, Kentucky has a net *gain*.

There is no effect on the treasuries of the other states, because those states do not pay the subsidy and the interest rates on their bonds do not change. But, residents of other states are affected:

- Residents of other states *lose* because they earn lower net returns on their holdings of Kentucky bonds, with no change in returns on their holdings of other states' bonds.

Kentucky's exemption therefore provides it with a gain, but inflicts a loss on other states. This is a standard result in the theory of trade restrictions. A single jurisdiction can often gain by restricting trade. This occurs if the jurisdiction can tilt what economists call the terms of trade in its favor. By selling less of its products to residents of other jurisdictions, it can bid up the price that residents of other jurisdictions pay for that product, in the same manner as a private monopolist who cuts back on his production. In this case, Kentucky sells fewer of its bonds to nonresidents, driving up the price that nonresidents must pay (driving down the interest rate they receive).

Of course, the single jurisdictions' gains from its trade restrictions do not reflect any improvement in technology or increase in total output; instead, its gains come entirely at the expense of residents of other jurisdictions. Economists therefore refer to such trade restrictions as "beggar-my-neighbor" policies.<sup>34</sup>

---

<sup>34</sup> See, e.g., Dennis R. Appleyard, Alfred J. Field, Jr., and Steven L. Cobb, *International Economics*, 5<sup>th</sup> edition (Boston: McGraw-Hill, 2006), pp. 311-313. Kentucky could not affect the price nonresidents pay for one of its products if the state was only a small part of a market in which other jurisdictions are selling

Whether one nation should attempt to exploit other nations in this manner may be a difficult question. But, when the jurisdictions are the states that comprise our nation, the DCC forbids such exploitation, unless authorized by Congress.

This analysis squarely refutes the claims, made by the Kentucky Department of Revenue, its supporting *amici*, and some commentators, that Kentucky's selective exemption burdens only Kentucky residents:<sup>35</sup>

Petitioners' Brief (pp. 24-25): "The burden of the exemption for Kentucky bond interest is that Kentucky arguably loses ... tax revenue ... That revenue loss must either be offset by ... [tax increases or spending cuts] ... borne by the citizens of Kentucky, the very people whose representatives voted for the law."

MTC Brief (p. 13): "The economic burdens of Kentucky's limited income tax exemption fall entirely within Kentucky."

NAST Brief (p. 28): "The most palpable harm from Kentucky's tax exemption is likely to fall upon the very people who voted for the laws."

Greg Germain: "Kentucky is not funding its subsidy with revenue from out-of-state citizens ... The subsidy is funded from taxes collected by in-state residents."<sup>36</sup>

In reality, as shown by the above analysis, Kentucky's selective exemption imposes a burden on nonresidents. They face a scarcer supply of Kentucky bonds (which have been disproportionately purchased by Kentucky residents), forcing them to buy the remaining bonds at a lower interest rate. The selective exemption can avoid harming nonresidents only if, contrary to the predictions of the economic model, it does not lower interest rates. In reality, statistical studies confirm that the selective exemptions drive down interest

---

perfect substitutes for the state's product. In the simple economic model, Kentucky has market power with respect to its own municipal bonds, though they comprise only a small part of the municipal bond market, because other states' bonds are imperfect substitutes for Kentucky bonds. If one assumed, instead, that all states' bonds were perfect substitutes, then Kentucky's subsidy to within-state holdings could not lower the interest rate on Kentucky bonds unless the subsidy was large enough to prompt Kentucky residents to hold all of the Kentucky's bonds, eliminating all holdings by nonresidents. (The reason is that no nonresident would hold Kentucky bonds at an interest rate lower than the rate paid on the perfectly substitutable bonds issued by other states). Since it is undisputed that nonresidents still hold some Kentucky bonds and it is also undisputed, as discussed in the text, that the selective exemption lowers interest rates, Kentucky bonds and other states' bonds must be imperfect substitutes, as assumed in the simple model. The imperfect substitutability presumably reflects differences in risk and liquidity.

<sup>35</sup> In addition to the quotations below, see GFOA brief, p. 20 and Daniel R. Ray, "Extending *United Haulers* to Fit *Davis*: Tax Exemptions as a Downstream 'Flow Control' Device," unpublished paper, available at [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1005762](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1005762), pp. 22-23 .

<sup>36</sup> Greg Germain, TaxProf Blog, Sept. 5, 2006 ([http://taxprof.typepad.com/taxprof\\_blog/2006/09/davis\\_another\\_c.html](http://taxprof.typepad.com/taxprof_blog/2006/09/davis_another_c.html)).

rates.<sup>37</sup> Furthermore, the Kentucky Department of Revenue and its supporting *amici* acknowledge that the selective exemption drives down interest rates.<sup>38</sup> The harm to nonresidents is therefore clearly established.

### 3. Net Loss to Nation

The simple model yields a clearcut statement about the relative size of the in-state gains and out-of-state losses:

- The loss to residents of other states exceeds the net gain to Kentucky, causing a net national *loss*.

This is also a familiar result from the theory of trade restrictions; beggar-my-neighbor policies reduce the combined wellbeing of all of the affected jurisdictions.

### D. Economic Effects of Many States' Exemptions

As noted in subsection A, above, the selective exemption has been adopted, not only by Kentucky, but by most of the other states. Unfortunately, this makes things worse. The simple economic model provides the following results when all states subsidize within-state holdings (by the same amount):

- The interest rate on each state's bonds falls. The interest-rate decline is smaller than the subsidy, reflecting the fact that only within-state holders receive the subsidy. Compared to the no-subsidy world, each state's residents earn higher subsidy-inclusive returns on their own state's bonds and lower returns on other states' bonds.
- Each state's residents hold more of their own state's bonds and less of every other state's bonds, with no change in holdings of other (non-municipal-bond) assets.

Once again, there is a nationwide increase in within-state holdings and a nationwide reduction in interstate holdings. Once again, therefore, *interstate commerce is obstructed*. The consequences are dramatic:

- Each state's treasury has a loss, as the cost of its subsidy payments outweigh the interest savings. The subsidies would be a wash for the treasuries if holdings remained unchanged from the no-subsidy equilibrium, but as investors increase their within-state holdings, subsidy costs increase and a net loss emerges.
- Each state's residents have a net gain in risk-adjusted subsidy-inclusive returns.

---

<sup>37</sup> C. Steven Cole, Pu Liu and Stanley D. Smith, "The Capitalization of the State Tax Exemption Benefit in Municipal Bond Yields," *Journal of Financial and Strategic Decisions*, 7(2), Summer 1994, pp. 67-77; David S. Kidwell, Timothy W. Koch and Duane R. Stock, "The Impact of State Income Taxes on Municipal Borrowing Costs," *National Tax Journal*, 47(4), December 1984, pp. 551-561.

<sup>38</sup> Petitioners' brief, p. 23; GFOA brief, p. 20; Forty-Nine States brief, pp. 9-10; NAST brief, p. 20; Dupree brief, p. 6; MTC brief, pp. 6, 14. The interest-rate effect is also confirmed by the *amicus* supporting neither party, NFMA brief, pp. 8-9.

- In each state, the gain in risk-adjusted returns is half of the aggregate budgetary cost to state treasuries. The other half of the budgetary cost is the net loss from the policy.

In this simple setup, every state is a net loser once all states are impeding the interstate flow of bonds. Holding fixed what the other states are doing, no state would want to unilaterally abandon its own policy; it gains from that policy, with the (larger) losses borne by those beyond its borders. Yet, it suffers correspondingly large losses from what all of the other states are doing.

The theory of international trade has long taught that all jurisdictions tend to lose from trade wars.<sup>39</sup> I recently made the analogy to other trade barriers:

Alan D. Viard: “Suppose Idaho gave a tax credit to its residents for any purchases of the state's celebrated potatoes, but not for purchases of out-of-state potatoes. With a bigger demand for Idaho potatoes at home, the price would be bid up, restricting the supply available to the rest of the country. Outsiders would pay more for Idaho potatoes, bringing more money into the state. And residents wouldn't mind paying more, since they'd be getting the tax credit. Although this scheme would inflict higher prices on the rest of the country and interfere with consumers' choice of potatoes, it would be good for Idaho. Until, of course, every other state responded in kind, restricting interstate trade in its own products. Idaho hasn't adopted this policy in the potato market. But, it pursues a similar policy in the municipal bond market. By giving tax breaks to in-state, but not out-of-state, muni bonds, Idaho restricts the supply of its bonds to the rest of the country, thereby driving down its interest payments to outsiders. Most of the other states follow the same inward-looking policy, each trying to gain at the expense of the others.”<sup>40</sup>

Some *amici* supporting the Kentucky Department of Revenue and some commentators have made a particularly pernicious, and fallacious, argument about the effects of multiple state exemptions:<sup>41</sup>

Nuveen Brief (p. 9): “Each state is fully capable of ... providing favorable tax treatment to in-state purchasers of its own bonds. Thus, there is no discrimination against interstate commerce.”

NAST Brief (p. 28): “An overwhelming majority of States has enacted tax exemptions like Kentucky's. These exemptions tend to offset any loss of municipal bond sales to Kentucky taxpayers by *increasing* sales to in-State taxpayers.” (emphasis in original)

---

<sup>39</sup> Appleyard, Field and Cobb, *supra* note 34.

<sup>40</sup> Alan D. Viard, “Set the Munis Free!” *Forbes.com*, May 29, 2007 (available at <http://www.aei.org/publication26256>).

<sup>41</sup> In addition to the quoted statements, see SIFMA brief, pp. 6-7.

Daniel R. Ray: “Any state can respond to Kentucky’s law with a similar law of its own ... the vast majority of states with an income tax have done precisely that ... the states ... have already achieved what they see as a satisfactory and more-or-less level playing field in municipal finance.”<sup>42</sup>

Linda M. Beale: “The home-state bond exemption scheme has not caused the frictions and barriers to commerce that led to the Founders’ adoption of the Commerce Clause. Most states have similar laws.”<sup>43</sup>

These statements misperceive the objection to Kentucky’s selective exemption to be that it favors Kentucky bonds over, say, Ohio bonds. Such an objection would presumably be addressed by the fact that Ohio’s selective exemption favors Ohio bonds over Kentucky bonds, since neither state is then disadvantaged relative to the other. As emphasized above, however, the problematic discrimination is between interstate and within-state commerce, which is reinforced, not negated, when other states adopt selective exemptions, as each exemption further reduces interstate holdings.

If every state had import tariffs against the others’ products, then there would be little or no net *discrimination against any state’s firms*. Each state’s producers would face a tariff when selling across state lines and each could avoid the tariff by selling within its own state. But, there would be massive nation-wide *discrimination against interstate commerce* precisely because each state’s producers would face a penalty on interstate sales, relative to within-state sales.

Exactly that situation holds in today’s municipal bond market. Leaving aside the states without a selective exemption and differences in the size of various states’ subsidies, no state’s bonds are particularly disadvantaged, relative to the other states’ bonds. But, interstate bond holdings are massively disadvantaged throughout the nation.

The harm from Kentucky’s selective exemption is not that Kentucky bonds become a larger part of national bond holdings; *the harm is that Kentucky bonds become a larger part of Kentucky residents’ holdings*. That effect is reinforced, not offset, when other states adopt selective exemptions. The fact that 43 states have selective exemptions does not mean that the playing field is level. It means that 43 playing fields are tilted.

Fortunately, the Supreme Court has recognized that trade barriers do not offset each other. The Court has clearly that a state cannot obstruct interstate commerce as retaliation for another state’s obstruction of interstate commerce, *A&P Tea Co. v. Cottrell*.<sup>44</sup> In *Hood*, the Court described the consequences of such retaliation:

---

<sup>42</sup> Ray, *supra* note 35, pp. 14-15, 19.

<sup>43</sup> Linda M. Beale, “The Tax Exemption for Home State Bonds, Misguided Though it May Be, Should Not Be Considered to Violate the Dormant Commerce Clause,” *ABA Section of Taxation Newsquarterly*, 26(2), Winter 2007, pp. 11-14, at p. 13.

<sup>44</sup> 424 U.S. 366, 378-381 (1976) (striking down Mississippi law that allowed milk to be imported only from states that allowed Mississippi milk to be imported on reciprocal basis).

“We need only consider the consequences if each of the few states that produce copper, lead, high-grade iron ore, timber, cotton, oil or gas should decree that industries located in that state shall have priority. What fantastic rivalries and dislocations and reprisals would ensue if such practices were begun! Or suppose that the field of discrimination and retaliation be industry. May Michigan provide that automobiles cannot be taken out of that State until local dealers’ demands are fully met? ... Could Ohio then pounce upon the rubber-tire industry, on which she has a substantial grip, to retaliate for Michigan’s auto monopoly?”<sup>45</sup>

Since the above discussion has largely relied on theory, it is now useful to examine actual conditions in today’s municipal bond market.

### **E. Balkanized and Inefficient Market**

The reality is, if anything, worse than the theory. Thanks to the states’ widespread selective exemptions, the municipal bond market is balkanized, with harmful consequences for investor wellbeing. The condition of the market is best described in the NFMA brief, which was filed in support of neither party, and in the Churchill brief filed in support of the Kentucky Department of Revenue.

The most striking feature of the municipal-bond market, which has no parallel in the corporate-bond market, is the prominent role of single-state funds, which hold municipal bonds issued in a specific state and are marketed to residents of that state. NFMA notes that single-state funds exist for 42 states, all of the states with selective exemptions except Illinois. There are no such funds for the seven states with no selective exemption.<sup>46</sup>

NFMA notes that there were 481 single-state open-end mutual funds that held long-term bonds at the end of 2006. That enumeration does not include single-state closed-end funds.<sup>47</sup> The Churchill brief lists 642 single-state funds that hold long-term bonds in May 2007, including both open-end mutual funds and closed-end funds. Even this list does not include single-state tax-exempt money-market funds that hold short-term municipal debt, which might add hundreds of more funds.

These funds hold substantial amounts of bonds. NFMA states that, at the end of 2006, \$155 billion of long-term municipal bonds were held in single-state mutual funds, about 42 percent of all long-term municipal bonds held in mutual funds. Churchill reports May 2007 holdings of \$192 billion in single-state funds, including both mutual funds and closed-end funds. NFMA also reports that \$125 billion of short-term municipal debt was

---

<sup>45</sup> *Hood, supra* note 5, 336 U.S. at 538-539.

<sup>46</sup> The NFMA brief, p. 14, notes that single-state funds exist for Florida, which has no income tax and therefore no selective *income tax* exemption. NFMA attributes the existence of such funds to Florida investors’ affinity to municipal issuers in their backyard. While that may be correct, recall that Florida did have an intangibles tax that exempted home-state, but not out-of-state, municipal bonds, which is why Florida is listed in this article as having a selective municipal bond exemption.

<sup>47</sup> Unlike shareholders of mutual funds, shareholders of closed-end funds cannot continuously redeem their shares at the net value of the fund’s assets.

held in single-state money-market funds, about 33 percent of all short-term municipal debt held in money-market funds.<sup>48</sup>

The majority of municipal bonds are held by individuals, banks and corporations outside of mutual funds. There are no reliable data on the extent to which such holdings are concentrated in home-state bonds. NFMA states, however, that the degree of concentration in such holdings is unlikely to “deviate substantially” from the 42 percent and 33 percent values observed in mutual funds and money-market funds.<sup>49</sup> Accordingly, it appears that at least one-third of municipal bonds are traded in single-state markets, with the remainder traded in national markets. While the balkanization is obviously not complete, its scope is astonishing, considering that the product (municipal bonds) has no transport costs and would therefore be highly tradable in a free national market.

It is undisputed that these single-state funds exist due to the selective exemption and that few of them would survive the demise of the exemption:

Churchill Brief (pp. 6-7): “The widespread and longstanding practice ... has given rise to ... state-specific municipal bond funds ... If the Kentucky appellate court’s ruling is affirmed, that regime almost certainly will ... be replaced by a national municipal bond market.”

NFMA brief (p. 18): “One predictable impact of the elimination of tax incentives for the purchase of municipal bonds issued in a specific state would be the disappearance, through consolidation into national mutual funds, of single state mutual funds. Although a handful of single state funds might continue to exist for a small number of states (such as Florida) with high populations that have a high affinity for local bond issuers, the current state tax system is the *raison d’etre* for virtually all single state funds, and they would cease to be financially viable in the absence of a tax advantage that outweighed their relative lack of diversification vis-à-vis national funds and their reduced asset base.”

As the leading treatise on state taxation, that by Hellerstein and Hellerstein, comments, “If one ever needed proof that such discriminatory state taxes Balkanize our national capital markets, one need look no further than the state-specific municipal bond funds that have arisen directly as a result of these discriminatory state taxes.”<sup>50</sup>

People trade across state lines for their mutual benefit, which is the same reason that they trade across national boundaries or that they trade with each other at all. When that trade is obstructed, economic inefficiency arises as the gains from trade are lost. The Supreme Court emphasized the gains from free trade in *Hood*:

“Our system, fostered by the Commerce Clause, is that every farmer and every craftsman shall be encouraged to produce by the certainty that he will have free

---

<sup>48</sup> NFMA brief, p. 11; Churchill brief, p. 11.

<sup>49</sup> NFMA brief, p. 12.

<sup>50</sup> Jerome Hellerstein and Walter Hellerstein, *State Taxation* 4-110, ¶ 4.13[2][e] (3d ed. 1998).



access to every market in the Nation, that no home embargoes will withhold his exports, and no foreign state will by customs duties or regulations exclude them. Likewise, every consumer may look to the free competition from every producing area in the Nation to protect him from exploitation by any. Such was the vision of the Founders; such has been the doctrine of this Court which has given it reality.”<sup>51</sup>

As one might expect, the obstruction of free trade caused by the selective exemption has led to substantial economic inefficiency. NFMA describes the consequences:

NFMA Brief (pp. 13, 19): “Because of their sharply reduced geographical diversification and somewhat higher expense ratios relative to national funds (because the fund’s fixed expenses generally are spread over a smaller asset base), single state funds appeal primarily to investors seeking to maximize their tax-exempt return ... Elimination of single state funds would lead to a reduction in the number of municipal mutual fund analysts employed within mutual fund complexes that offer a substantial number of such funds ... national mutual funds place a higher premium on the liquidity of their holdings than do single state funds, which are willing to purchase less liquid municipal bonds of smaller and less familiar issuers because of the state tax advantage.”

NFMA does not condemn these features of the municipal bond market. But, the reader can clearly recognize them as economic harms arising from market balkanization. The single-state funds suffer from limited diversification and poor liquidity, yet they are more costly, both because they employ more analysts and because they have a smaller asset base over which to spread their fixed costs. Incurring higher costs to provide an inferior product is the epitome of economic inefficiency.

This description certainly rebuts SIFMA’s statement that “the municipal bond market is extremely efficient.”<sup>52</sup> On the contrary, this balkanized market is operating on nineteenth-century standards. In an era when Treasury-bond and corporate-bond money flows freely across national boundaries, the trapping of municipal-bond money inside state lines is profoundly anachronistic.

The Kentucky Department of Revenue offers the maxim, “One man’s economic balkanization is another man’s market segmentation.”<sup>53</sup> But, regardless of the terminology that any man, or any woman, might use, the market is divided along state lines, which is precisely what the DCC is intended to prevent.

One commentator confuses economic inefficiency with technical progress:

Linda M. Beale: “Innovations create new commercial opportunities, crafting customized niche products that appeal to a particular range of customers ... In

---

<sup>51</sup> *Hood, supra* note 5, 336 U.S. at 539.

<sup>52</sup> SIFMA brief, p. 16.

<sup>53</sup> Petitioners’ brief, p. 27.

fact, a new industry has used home-state bonds to differentiate the market and sell new products – mutual funds with single state bonds – to permit taxpayers to enjoy the full tax exemption benefit.”<sup>54</sup>

When markets are rearranged solely to obtain tax savings, however, no “new commercial opportunities” are being created for the nation. The new arrangements do not increase national output; they merely allow participants to reduce their tax liabilities, placing greater tax burdens on others. Under Professor Beale’s analysis, corporate tax shelters have created a plethora of new commercial opportunities.

Another commentator also casts doubt on the gains from free trade, arguing that the gains “seem questionable when the principal beneficiaries of an imagined free market – the state competitors – have now said they do not want a Court-imposed free market.”<sup>55</sup> This statement obviously overlooks the gains that a free market would offer investors.

This analysis establishes that the selective exemption obstructs interstate commerce, in both theory and practice, with the predictable adverse consequences. The selective exemption has been defended, however, by comparing it to clearly permissible policies by which a state promotes its bonds to both residents and nonresidents.

#### **IV. Comparison to Subsidy to all Holders of State’s Bonds**

The Kentucky Department of Revenue and other defenders of the selective exemption offer an array of unfounded analogies:<sup>56</sup>

Petitioners’ Brief (p. 13): “The exemption is nothing more than an economic term of Kentucky’s relationship with its direct trading partners, no more objectionable than a discount or rebate would be if Kentucky bought goods or services.”

GFOA Brief (p. 20): “The tax exemption is indistinguishable in practical effect from a program under which the Commonwealth offered no tax exemption but made direct cash payments to its municipalities when they issued bonds, a program that would plainly be constitutional.”

Edward A. Zelinsky: “If, for example, Kentucky can no longer exempt from its state income tax only the interest paid by Kentucky and its localities, Kentucky might instead enhance the competitiveness of its securities by sending an economically equivalent subsidy check to *every purchaser* of a Kentucky bond ... Suppose further that Kentucky (or any other state) adopts special financial controls to assure bondholders of the safety of their investments. It is strange to think of the dormant commerce clause as invalidating the financial controls. However, there is no principled basis for sustaining the effort to enhance the

---

<sup>54</sup> Beale, *supra* note 43, p. 13.

<sup>55</sup> Greg Germain, “Germain Critiques Opening Briefs in *Davis*,” TaxProf Blog, July 24, 2007 ([http://taxprof.typepad.com/taxprof\\_blog/2007/07/germain-on-the-.html](http://taxprof.typepad.com/taxprof_blog/2007/07/germain-on-the-.html)).

<sup>56</sup> In addition to the quoted statements, see Dupree Brief (pp. 15-16) (analogy to cash rebate or coupon).

competitiveness of a particular state's bonds while striking other tax-based effects under the banner of dormant commerce clause discrimination.” (emphasis added)<sup>57</sup>

It requires little thought to see that none of these policies are remotely comparable to the selective exemption. To reverse, and thereby correct, Professor Zelinsky's statement, there is no principled basis for treating these policies *similarly* to the exemption under the DCC. None of these policies – a rebate or subsidy check to all purchasers of Kentucky bonds, a subsidy to Kentucky municipalities, or better financial protections for Kentucky bonds – would favor within-state holdings over interstate holdings. All of the policies would treat resident and nonresident purchasers of Kentucky bonds the same.

Therefore, none of the policies would have the effects described above; they would not balkanize the market and would not lower the returns received by nonresidents. These policies would not spawn hundreds of illiquid, poorly diversified, high-cost single-state funds. None of these policies would pose the slightest threat to DCC values. To be sure, these measures would encourage Kentucky residents to hold Kentucky bonds, which, standing alone, would reduce interstate holdings. But, the measures would also encourage nonresidents to hold Kentucky bonds, which would provide an offsetting increase to interstate holdings, yielding no net systematic impact on interstate holdings.<sup>58</sup>

In contrast, the selective exemption gives Kentucky residents an incentive to hold Kentucky bonds rather than other states' bonds *without giving nonresidents the same incentives to prefer Kentucky bonds*. It thereby promotes within-state holdings over interstate holdings.

These analogies reflect a (by now familiar) misunderstanding about the objection to the selective exemption and about how policies affect interstate commerce. As emphasized in section III.B, above, the flaw in the selective exemption is not that it treats Kentucky bonds more favorably than the bonds of other states; the flaw is that it treats within-state holdings more favorably than interstate holdings. As discussed in section II.C, above, there is no DCC problem when a state subsidizes sales originating from the state while providing no subsidy to sales originating in other states; it is merely necessary that both exports and within-state sales be subsidized. In-state producers can be favored, so long as within-state sales are not favored. This confusion is reflected in the following statement:

---

<sup>57</sup> Edward A. Zelinsky, “*Davis*: Incoherence of Dormant Commerce Clause Nondiscrimination,” *Tax Notes*, July 2, 2007, pp. 57-62, at pp. 61-62.

<sup>58</sup> In its petition for certiorari (p. 13, n.9), the Kentucky Department of Revenue raised another improper analogy, comparing the selective exemption to a state's exemption of its own land holdings from property tax. Similarly, Ray, *supra* note 35, p. 34 n. 227, compares the selective exemption to “virtually any tax or fee from which the taxing state exempts itself, such as sales or severance taxes.” It is economically irrelevant whether a state pays tax to itself and excusing such a tax payment does nothing to reduce interstate transactions. Similarly, there would be no harm in the state granting a subsidy to *everyone* who buys or leases land from or sells land to or otherwise transacts with the state. Of course, a subsidy limited to *residents* who engage in such transactions with the state would obstruct interstate commerce in the same manner as the selective municipal bond exemption.

SIFMA Brief (p. 7): “The Constitution simply was not intended to prevent States from preferring their own municipal bonds over the municipal bonds of other States.”

Though supremely irrelevant to *Davis*, this statement is completely and unequivocally true. So long as resident and nonresident holdings are treated the same, Kentucky may certainly treat its own bonds more favorably than the bonds of other states. Clearly, Kentucky does treat its own bonds more favorably. Kentucky spends millions of dollars making interest and principal payments on its own bonds while, quite properly, spending not a penny to make such payments on other states’ bonds. Kentucky may, and perhaps does, conduct advertising in which it praise the merits of its own bonds in the most effusive terms while excoriating the deficiencies of other states’ bonds in the harshest of terms. Such actions raise no DCC problems because they do not treat within-state holdings by Kentucky residents more favorably than interstate holdings by nonresidents.

The confusion between a subsidy to Kentucky residents’ holdings of Kentucky bonds and a subsidy to all holders of Kentucky bonds also produces the following misconception:<sup>59</sup>

Petitioners’ Brief (p. 23) “Conversely, taxing interest income received by Kentucky taxpayers on Kentucky bonds might reasonably be thought by the Kentucky General Assembly to be a zero sum game: any additional revenue collected would be offset by increased bond interest expense.”

Contrary to this statement, the tax exemption on Kentucky bonds has real effects; the exemption’s effects are not fully offset by an interest-rate decline. Although a full offset and a lack of real effects would occur from a subsidy to *all* holders of Kentucky bonds,<sup>60</sup> such an outcome cannot occur for a subsidy limited to Kentucky residents. First, as discussed in section III.C, above, the interest rate declines by less than the amount of the subsidy, an inevitable outcome of the fact that the subsidy applies only to some holders. As a result, the subsidy-inclusive return rises for residents. Second, nonresidents, who share the burden of the interest-rate reduction but do not receive the subsidy, earn lower returns on Kentucky bonds. As a matter of logic, a tax exemption granted only to resident holders clearly cannot be negated by an interest-rate adjustment that affects both resident and nonresident holders.

Analogies between the selective exemption and policies that promote the state’s bonds to residents and nonresidents alike reflect a profound misunderstanding of how policies affect interstate commerce.

## **V. Comparison to Subsidy for Residents’ Holdings of All States’ Bonds**

---

<sup>59</sup> In addition to the quoted statement, see MTC brief (p. 14) and Forty-Nine States Brief, pp. 9-10.

<sup>60</sup> In the simple economic model, a uniform subsidy provided by Kentucky to all holders of its own bonds has no real impact, as the interest rate on the state’s bonds falls by the amount of the subsidy. All holders of Kentucky bonds receive the same subsidy-inclusive return as before, since the subsidy exactly offsets the interest-rate decline. The state treasury is unaffected, since its interest savings exactly offset the cost of the subsidy.

As discussed in the previous section, a state can subsidize its own municipal bonds without obstructing interstate bond holdings, if the subsidy is available to both resident and nonresident holders. Conversely, a state can subsidize its' residents holdings of municipal bonds without obstructing interstate bond holdings, if the subsidy is available to both home-state and out-of-state bonds. Interstate bond holdings are obstructed only when the subsidy is limited along both dimensions, applying only to residents' holdings of home-state bonds.

These conclusions reflect the general principles of section II, above, that subsidies can be limited either to sales involving in-state sellers or to those involving in-state buyers without obstructing interstate commerce. The subsidy obstructs commerce only when it is limited to within-state sales, those in which both the buyer and the seller are in-state.

To avoid an obstruction of interstate commerce, therefore, a state may, but need not, abolish its municipal bond exemption. If it prefers, it may extend the exemption to cover all municipal bonds held by residents, both home-state and out-of-state. This section considers that option.

Defending the selective exemption, Greg Germain comments that “there is no commerce clause objection to a state providing state benefits only to its own citizens.”<sup>61</sup> That statement is correct, but does not justify the selective exemption. States are perfectly free to limit their subsidies to their own residents, but may not limit the subsidies to *those residents who engage in within-state transactions*. Kentucky may lavish vast subsidies on its citizens who hold municipal bonds while refusing to provide a penny to nonresidents who hold municipal bonds, but any such subsidy must include residents who hold out-of-state municipal bonds as well as those who hold Kentucky bonds.

In the simple economic model, a Kentucky subsidy for its residents' holdings of all municipal bonds, in-state and out-of-state, has the following effects:

- Interest rates fall uniformly for all states' municipal bonds because all bonds are more attractive to one set of holders, Kentucky residents; the interest-rate decline is smaller than the subsidy because the subsidy is limited to a small set of holders. Kentucky residents earn higher subsidy-inclusive returns on all states' bonds while residents of other states earn lower returns on all bonds.

This change in returns prompts changes in investors' portfolios:

- Kentucky residents uniformly increase their holdings of all states' municipal bonds and reduce their holdings of other, non-municipal-bond, assets. Residents of other states uniformly reduce their holdings of all states' municipal bonds and increase their holdings of other, non-municipal-bond, assets.

---

<sup>61</sup> Germain, *supra* note 36.

The Kentucky subsidy therefore rearranges municipal bond holdings. As one would expect, it shifts municipal bonds toward Kentucky residents, who are subsidized on such holdings, and away from residents of other states, who are not subsidized on such holdings. By itself, this is a form of economic inefficiency. But, it is worth noting why this inefficiency does not raise DCC concerns (and why states are therefore perfectly free to adopt this policy):

- The volume of interstate bond holdings is unchanged; the increase in Kentucky residents' holdings of other states' bonds offsets the decline in other states' residents' holdings of Kentucky bonds.

Accordingly, *there is no obstruction of interstate commerce*. The impacts on the affected parties are as follows:

- The Kentucky treasury *loses* because it pays the subsidy, which outweighs its interest saving.
- Other state treasuries *gain* because they pay lower interest rates, but do not pay any subsidies.
- Kentucky residents *gain* because they earn higher subsidy-inclusive returns on all states' municipal bonds.
- Residents of other states *lose* because they earn lower returns on all states' municipal bonds.

As before, it is appropriate to net the effects on a state's treasury against the effects on its residents, because the treasury can recoup its losses from, or spread its gains to, the residents. The net impact is a combination of two things:

- Each state that exported bonds in the no-subsidy equilibrium gains and each state that imported bonds in the no-subsidy equilibrium loses. (Kentucky is subject to this effect on the same terms as the other states). These gains and losses cancel each other out.
- Kentucky loses while each of the other states gains. Kentucky's loss exceeds the combined gains of the other states.

The net outcome is the following:

- There is a net national loss, reflecting the inefficiency of diverting municipal bond holdings toward Kentucky residents.

The first effect is straightforward. The nationwide interest-rate reduction benefits each state as it issues bonds and harms each state as its residents hold bonds. The net effect is harmful to importers and beneficial to exporters. This effect vanishes if, in the no-subsidy equilibrium, each state held the same number of bonds as it issued. It is simplest to focus on that case to isolate the more interesting issues raised by this policy.

The second effect reflects the impact of the portfolio arrangement. Residents in all of the states change their portfolios to take advantage of the subsidy, with Kentucky residents substituting out of other assets into municipal bonds and residents of other states doing the opposite. Investors gain from this rearrangement in all of the states, while the Kentucky treasury incurs losses. It is unsurprising that Kentucky is a net loser from this rearrangement; not only are the national losses greater than the national gains, but Kentucky experiences all of the losses (because it is the state that has chosen to pay the subsidy) while its investors experience only part of the gains.

In view of the second effect, it could be argued that Kentucky ends up subsidizing other states when it adopts this subsidy to its residents' holdings of municipal bonds. Indeed, some have argued that it is unreasonable to expect Kentucky to extend its selective exemption to encompass its' residents' holdings of out-of-state bonds, since doing so forces it to "subsidize" other states:<sup>62</sup>

Nuveen Brief (p. 17): "[A uniform resident-based exemption] would require the state to grant a subsidy, not just to its own political subdivisions, as it does currently, but to all of its sister states and their political subdivisions."

Kirk Stark: "Another way of framing the question is to ask whether a state must subsidize the borrowing activities of other states and their subdivisions."<sup>63</sup>

These objections misunderstand the economics of interstate markets. If accepted, they would justify import tariffs and subsidies limited to within-state sales for any product. Suppose, for example, that a state chooses to subsidize food consumption, either for all of its residents or for certain disadvantaged residents. Note that, so long as imported food is eligible for the subsidy on the same terms as food produced within the state, there is no obstruction of interstate commerce.

The food subsidy increases state's residents' demand for food. If the state is a non-trivial part of the food market, the rise in demand increases the market price of food, generating gains for food producers. Since the subsidy applies to imported food, some of those gains will go to out-of-state producers. One can imagine the state complaining about its subsidy benefiting these out-of-state parties and demanding that it be allowed to confine the subsidy to in-state food or (equivalently) to counterbalance the subsidy with a tariff on imported food. It is clear, however, that the DCC does not tolerate such measures. Out-of-state producers must be allowed to benefit from the demand increase caused by the state subsidy, in the same way that they would benefit from a demand increase arising from other economic forces. This outcome is a natural byproduct of the free flow of interstate commerce; it can be prevented only by actions that obstruct interstate commerce. Similarly, therefore, if a state subsidizes municipal bonds, it must include out-of-state municipal bonds, even though part of the subsidy is shifted to other states. A state

---

<sup>62</sup> In addition to the quoted statements, see MTC brief, pp. 12, 14, Forty-Nine States brief, p. 11, and Ray, *supra* note 35, pp. 22-23.

<sup>63</sup> Kirk Stark, TaxProf Blog, Sept. 5, 2006 ([http://taxprof.typepad.com/taxprof\\_blog/2006/09/davis\\_another\\_c.html](http://taxprof.typepad.com/taxprof_blog/2006/09/davis_another_c.html)).

that wishes to avoid this outcome can, of course, choose not to subsidize municipal bond holdings.

There can be no doubt that the selective exemption obstructs interstate bond holdings. If a selective exemption of this type were applied to corporate bonds, it would clearly violate the DCC. But, because the exemption applies to the state's own bonds, it is necessary to consider two legal exceptions to the DCC.

## **VI. The Market-Participant and *United Haulers* Exceptions**

The Supreme Court has held that the DCC does not restrict states when they directly participate in the market, rather than regulating or taxing the actions of private parties in the market. Earlier this year, the Court introduced another exception to the DCC, allowing states, in some cases, to require private in-state parties to deal with state governments. The applicability of these exceptions to the selective municipal bond exemption is likely to be a key issue in *Davis*.

### **A. Exceptions Lack Strong Conceptual Foundation**

#### **1. Market-Participant Exception**

In 1976, the Supreme Court introduced the market-participant exception to the DCC, ruling 6-3 that Maryland could sell junk cars to in-state processors on more favorable terms than to out-of-state processors, *Hughes v. Alexandria Scrap Corp.*<sup>64</sup> In 1980, the Court held 5-4 that South Dakota could sell cement produced at its state-owned plant solely to residents, *Reeves, Inc. v. Stake*.<sup>65</sup> In 1983, the Court held 7-2 that a Massachusetts municipality could require its contractors to provide an employment preference for city residents in projects contracted by the municipality, *White v. Massachusetts Council of Construction Employers, Inc.*<sup>66</sup>

In *Reeves*, the Court justified the market-participant exception by analogizing states to private market participants:

“State proprietary activities may be, and often are, burdened with the same restrictions imposed on private market participants. Evenhandedness suggests that, when acting as proprietors, States should similarly share existing freedoms from federal constraints, including the inherent limits of the Commerce Clause.”<sup>67</sup>

It is far from clear that Congress always imposes the same statutory restrictions on state proprietary activities that it imposes on corresponding private activities. But, even if states and private proprietors are subject to the same statutory restrictions, the analogy still fails, as Justice Powell noted in dissent:

---

<sup>64</sup> 426 U.S. 794 (1976).

<sup>65</sup> 447 U.S. 429 (1980).

<sup>66</sup> 460 U.S. 204 (1983).

<sup>67</sup> *Reeves*, *supra* note 65, 447 U.S. at 439.



“Precisely because South Dakota is a State, it cannot be presumed to behave like an enterprise ‘engaged in a entirely private business’ ... A State frequently will respond to market conditions on the basis of political rather than economic concerns ... a State may attempt to act as a ‘market regulator’ rather than a ‘market participant’ ... In that situation, it is a pretense to equate the State with a private economic actor.”<sup>68</sup>

A firm that acquires funds through voluntary transactions and that must compete against other firms is, and should be, free to boycott interstate transactions if it sees fit. But, the same freedom should not be enjoyed by a state that acquires funds through the coercive process of taxation and that does not face the marketplace tests faced by private firms. Certainly, it is clear in other contexts that the Constitution does not always allow states, when acting as proprietors, the same freedom as private proprietors; for example, even if Congress and the states repealed the statutory prohibitions against private-sector employment discrimination, the equal protection clause would continue to prohibit states from engaging in invidious employment discrimination.

A different rationale for the market-participant exception, never definitively embraced by the Supreme Court, suggests that the state may confine to its own borders any commerce that the state itself has created.<sup>69</sup> The notion is that the state could have refrained from creating the commerce at all, in which case none of it would have crossed state lines. Accordingly, if the state creates the commerce, but confines it within state lines, no interstate commerce has been lost. This rationale has appeared in discussions of *Davis*, as reflected by Dupree’s statements that “Kentucky’s issuance of municipal bonds creates a market that otherwise would not exist”<sup>70</sup> or a commentator’s statement that “when a state ... issues bonds, it is ... creating a *new stream of commerce* as a market participant” (emphasis in original).<sup>71</sup>

This rationale is flawed, however, because state-created commerce does not materialize from thin air. The economic resources that states use when they engage in market activity could, and generally would, have otherwise been used in private activities. (For example, if South Dakota had not hired labor and rented or purchased capital to produce cement, the labor and capital could have been employed at private firms to produce goods, whether cement or something else.) While the private participants in these hypothetical alternative activities would, as noted above, have had the legal right to boycott interstate transactions, it is generally unlikely that they would have done so. Generally, therefore, some of the private commerce that is displaced by the state-created commerce would have crossed state lines. If the state-created commerce is limited to within-state transactions, interstate commerce has generally been reduced.

---

<sup>68</sup> *Id.*, 447 U.S. at 450 (Powell, J., dissenting opinion).

<sup>69</sup> This rationale was relied upon by one justice in *Alexandria Scrap*, *supra* note 64, 426 U.S. at 814, 815-816 (Stevens, J., concurring opinion). The Court opinion, joined by the other five members of the majority, expressed sympathy for the rationale, but did not definitively embrace it, 426 U.S. at 809 n.18.

<sup>70</sup> Dupree brief, p. 11.

<sup>71</sup> Beale, *supra* note 43, p. 13.

This point certainly applies to the municipal-bond market. If states and localities did not borrow money, investors would find other uses for the \$2 trillion they now hold in municipal bonds. Most of these funds would be loaned in other financial markets, which operate freely across state, and even national, boundaries.

To be sure, a state participating in the market should be able to block interstate commerce in some cases. After all, the Supreme Court has held that the DCC allows states to block interstate commerce in their regulatory capacities, when necessary to achieve sufficiently strong governmental interests; for example, Maine was permitted to ban the importation of out-of-state baitfish for environmental reasons, *Maine v. Taylor*.<sup>72</sup> It is equally sensible to allow states to block interstate commerce in their market-participant capacities, when necessary to achieve sufficiently strong governmental interests.

For example, states are surely allowed to provide police protection and some other services only to their residents. The Supreme Court alluded to this issue in *Reeves*, citing as permissible “rules restricting to state residents the enjoyment of state educational institutions, energy generated by a state-run plant, police and fire protection, and agricultural improvement and business development programs” because “such policies ... reflect the essential and patently unobjectionable purpose of state government—to serve the citizens of the State.”<sup>73</sup>

As repeatedly emphasized in sections II.B, II.C, and V, the DCC allows states to favor their residents over nonresidents, provided that they do not favor within-state transactions over interstate transactions. In principle, then, a state could aid its residents in obtaining police protection without obstructing interstate commerce. To do that, however, the state would have to provide vouchers to its residents allowing them to obtain police protection from in-state or out-of-state entities; if the state chose to provide police protection itself, it would need to offer its services on equal terms to both residents and nonresidents. Obviously, it would be absurd for a state to follow such policies; doing so would abdicate the state’s own sovereign responsibilities and violate the sovereignty of other states. Although states obstruct interstate commerce when they provide police protection to only their residents, the obstruction is necessary to achieve compelling governmental interests and is therefore as permissible as Maine’s ban on out-of-state baitfish.

It may be difficult to determine how far this exception should extend.<sup>74</sup> In any case, it is clear that such compelling interests do not arise in all market-participant cases and certainly it is hard to see any here. To be sure, some defenders of the selective exemption

---

<sup>72</sup> 477 U.S. 131 (1986).

<sup>73</sup> *Reeves*, *supra* note 65, 447 U.S. at 442.

<sup>74</sup> One dispute concerns states’ provision of subsidized university education to state residents through in-state tuition rates, which is a clear obstruction of interstate commerce. Do states have a legitimate interest in adopting this policy rather than giving their residents vouchers or tax breaks for higher education obtained in any state while opening their own universities on equal terms to both residents and nonresidents? While interesting, that question need not be answered here.

draw an analogy between the government's provision of public services and its borrowing of funds:<sup>75</sup>

Petitioners' Brief (p. 27): "The sovereign States are not farmers or craftsmen attempting to provide goods and services to the citizens of their sister States. A consumer of public goods provided and financed by Kentucky can never 'look to ... free competition' from other States to provide education, roads, sewers, prisons, and bridges for Kentucky."

While true, this statement is completely irrelevant to *Davis*. States can and do compete to borrow money from lenders in the same state, which is what *Davis* involves. The case does not challenge Kentucky's provision of roads and sewers to its residents; it challenges Kentucky's penalty of borrowing disproportionately from its residents.

The fact that the borrowed funds are used to provide the roads and sewers is also irrelevant. It is perfectly possible for the *financing* of services to be amenable to interstate competition even when the *provision* of services is not; it is perfectly clear that such a situation holds in this context. Nonresidents have the same ability as residents to write checks to buy bonds and the sale of the bonds to nonresidents does not infringe on any state's sovereignty. By analogy, the infeasibility of competition might justify giving a regulated utility a monopoly franchise to serve an area's residents, but would not justify giving the utility a monopoly on the right to borrow from the residents.

A properly formulated market-participant exception would, therefore, be quite narrow and would not remotely encompass the selective municipal-bond exemption. Of course, the Court has embraced a much broader exception. Nevertheless, as argued in subsection B.1, below, there are sound reasons why the Court's jurisprudence should not be read as applying the exception in this context.

## **2. *United Haulers* Exception**

On April 30, 2007, the Supreme Court upheld 6-3 two New York counties' ordinances requiring firms hauling waste in the counties to bring the waste to a publicly owned disposal facility, *United Haulers Association, Inc. v. Oneida-Herkimer Solid Waste Management Authority*.<sup>76</sup> The Court's opinion, authored by Chief Justice John Roberts, held that the DCC allows states, at least in some circumstances, to mandate that residents transact with the state, banning out-of-state (as well as private in-state) competition. Because such mandates extend beyond the state's *voluntary* market transactions, this new exception is distinct from the market-participant exception.<sup>77</sup>

As commentators have noted, the contours of the new exception remain unclear. Some passages in the Court opinion suggest that the exception may not apply to all government

---

<sup>75</sup> In addition to the quoted statement, see MTC brief, p. 9.

<sup>76</sup> 550 U.S. \_\_\_, 127 S. Ct. 1786 (2007).

<sup>77</sup> The Court's opinion does not refer to the market-participant exception, leaving undisputed the dissent's observation, *id.*, 127 S. Ct. at 1806-1807 (Alito, J., dissenting opinion), that it does not apply.

activities. The Court justified its deference to the counties' waste disposal policy by noting that waste disposal was "both typically and traditionally a local government function,"<sup>78</sup> and a "customary and traditional government function."<sup>79</sup> Other parts of the opinion, however, contain broader language. The Court did stress that the ordinances "benefit a clearly public facility, while treating all private companies exactly the same."<sup>80</sup>

Because it is not limited to the state's voluntary transactions, the *United Haulers* exception has a broader scope than the market-participant exception. Nevertheless, it is weaker along another dimension. When the market-participant exception applies, it appears to free the state practice from any DCC scrutiny at all.<sup>81</sup> In contrast, a state practice shielded by the *United Haulers* exception remains subject to some scrutiny. A four-member plurality in *United Haulers* held that the challenged practice must satisfy the balancing test set forth in *Pike*.<sup>82</sup> Any state policy that invokes the *United Haulers* exception, but fails to satisfy *Pike* balancing, will presumably be invalidated by seven members of the Court, namely the four-justice plurality and the three justices that reject the *United Haulers* exception altogether.<sup>83</sup>

The *Pike* balancing test compares the burden on interstate commerce to the local benefits of the challenged practice. It has historically been applied to laws directed to legitimate local concerns, with incidental effects on interstate commerce. In *United Haulers*, the plurality upheld the county ordinances after finding that the ordinances promoted recycling and raised revenue for the county governments.

As with the market-participant exception, something like the *United Haulers* exception makes sense. Again, as with police protection, the state not only offers its police protection solely to residents, it also mandates that residents must obtain certain types of core law enforcement services solely from itself, rather than from any other private or public entities. Clearly, this mandate is justified by a legitimate governmental interest. The Court, however, seems to envision a broader exception:

"Unlike private enterprise, government is vested with the responsibility of protecting the health, safety, and welfare of its citizens. ... Given these differences, it does not make sense to regard laws favoring local government and laws favoring private industry with equal skepticism ... when a law favors in-state business over out-of-state competition, rigorous scrutiny is appropriate because the law is often the product of simple economic protectionism ... Laws favoring

---

<sup>78</sup> *Id.*, 127 S. Ct. at 1796.

<sup>79</sup> *Id.*, 127 S. Ct. at 1797 n.7.

<sup>80</sup> *Id.*, 127 S. Ct. at 1795.

<sup>81</sup> In *Reeves*, *supra* note 65, 447 U.S. at 444, the Court did leave open the possibility that the market-participant exception might not apply to a state's transactions involving its exclusive control of a natural resource.

<sup>82</sup> *Supra* note 6.

<sup>83</sup> Justice Scalia, adhering to his narrow view of the DCC, would not apply any scrutiny when the *United Haulers* exception applies, *United Haulers*, *supra* note 76, 127 S. Ct. at 1798 (Scalia, J., concurring in part). Similarly, Justice Thomas continues to adhere to his rejection of the DCC in its entirety, 127 S. Ct. at 1799 (Thomas, J., concurring in the judgment).

local government, by contrast, may be directed toward any number of legitimate goals unrelated to protectionism.”<sup>84</sup>

Still, the exception is limited by the requirement of *Pike* balancing. As discussed in subsection B.2, below, the selective municipal bond exemption would not survive under any serious form of *Pike* balancing.

## **B. Exceptions Should Not Apply to Selective Exemption**

Neither the market-participant, nor the *United Haulers* exception, should be applied to uphold the selective municipal bond exemption.

### **1. Market-Participant Exception Should Not Apply**

At first glance, the market-participant exception appears to justify a number of practices analogous to the selective municipal bond exemption:<sup>85</sup>

Nuveen Brief (p. 7): “[Kentucky] could have achieved the same financial result by authorizing a higher rate of interest on those bonds held by its own citizens.”

NAST Brief (p. 20): “Kentucky could choose to borrow money solely from its own citizens ... Alternatively, Kentucky could choose to take the less drastic step of offering more favorable terms to in-State bond purchasers ... Kentucky’s tax exemption is economically equivalent to paying a higher interest rate to Kentucky taxpayers, or granting them a discount or rebate on the purchase price.”

These analogies are more sensible than the spurious analogies considered in section IV, above. As noted in that section, the selective exemption, which applies only to residents, bears no resemblance to rebates and subsidies granted to both resident and nonresident purchasers. In contrast, the selective exemption is similar to rebates and subsidies granted only to residents. Like the selective exemption, such selective rebates and subsidies obstruct interstate bond holdings by encouraging residents, but not nonresidents, to hold home-state municipal bonds. Such policies would not be permitted under the narrow market-participant exception endorsed in subsection A.1, above, but they may appear to be permissible under the Court’s market-participant exception.

Further reflection suggests, though, that the practices described in the above statements should not, after all, be covered by the exception. Moreover, even if these practices are covered, it is still not clear that the selective tax exemption should be covered.

To begin, *Davis* differs sharply from *Reeves*, *Alexandria Scrap*, and *White* with respect to the size and nature of the affected market. The municipal bond market has more than \$2 trillion of debt outstanding.<sup>86</sup> The balkanization of such a large market is a far cry from

---

<sup>84</sup> *Id.*, 127 S. Ct. at 1795-1796.

<sup>85</sup> In addition to the quoted statements, see Beale, *supra* note 43, p. 12; Germain, *supra* note 36.

<sup>86</sup> Petitioners’ brief, pp. 4-5.

the buying of junk cars, selling of cement, or hiring of workers on a city's construction projects.

More important, the application of the market-participant exception in this context strains the exception's (dubious) rationale. The Court has said that states should have the same freedom as private entities to boycott interstate transactions and it has upheld state actions that it is possible to imagine similar private entities undertaking. A seller of junk cars, a cement factory, or a building contractor could, if it wished, limit its involvement in interstate transactions in the same manner as the state actors in *Reeves*, *Alexandria Scrap*, and *White*. But it would be impossible for a private participant in a public securities market, such as the municipal-bond market, to offer different terms to in-state and out-of-state parties, even if it has the legal right to do so. The economic function of a public securities market is to enable parties to deal with each other impersonally, with no regard for the identities of the counter-parties. Allowing a state to invoke the market-participant exception to justify practices that no private market participant could adopt stretches the exception beyond any reasonable basis. Accordingly, the Court should not extend the market-participant exception to uphold practices such as paying higher interest rates to resident bondholders.

But, even if those practices were to be upheld, it is still unclear that a similar dispensation should be granted to the selective tax exemption. To be sure, as noted above, the selective tax exemption is economically similar to the payment of a higher interest rate to residents. But, it is important to return to the exception's rationale, the analogy between a state's market participation and a private entity's market participation. No private entity could implement a distinction between in-state and out-of-state contracting partners through the state's tax system; it would have to implement the distinction directly, as part of the underlying transaction. If the rationale of the exception is that the state should have the same freedom to choose its contracting partners as private parties, then the state should also be restricted to the techniques available to private parties. Kentucky should not be allowed to reap the administrative benefits of public securities markets by transacting impartially with residents and nonresidents while introducing differential treatment when state income tax returns are filed.<sup>87</sup>

Nuveen makes a counter-argument: If a state may pay higher interest to residents through an administratively inconvenient method (directly or through coupons), it should be permitted to do the same thing through an administratively convenient method (the selective tax exemption) that does not otherwise cause any harms.<sup>88</sup> The argument would be right if a state's obstruction of interstate commerce as a market participant were viewed as constitutionally harmless; the state should then be free to choose the most convenient method of obstruction. A better view of the market-participant exception, though, is that state obstruction of interstate commerce as a market participant is a constitutional harm that is tolerated in order to put states on parity with private entities. It

---

<sup>87</sup> The fact that Kentucky implemented its obstruction of commerce through the tax system is the ground on which the Kentucky Court of Appeals rejected the applicability of the market-participant exception, *Davis*, *supra* note 29, 197 S.W. 3d at 564.

<sup>88</sup> Nuveen brief, pp. 8-9.

then makes sense to require that states use the same administratively inconvenient methods that are available to private entities, thereby limiting the constitutional harm to the scope implied by the rationale allowing it to occur.

If the Supreme Court reverses the Kentucky Court of Appeals' judgment, it will countenance a far more sweeping application of the market-participant exception than arose in its prior cases. The Court can pull back at this juncture, without overruling the results of its earlier cases.

## **2. *United Haulers* Exception Should Not Apply**

The fact that Kentucky has implemented its obstruction as part of its tax system clearly does not prevent the *United Haulers* exception from applying; that exception applies even when the state is mandating private behavior. Nevertheless, this exception cannot save the selective municipal bond exemption, for two reasons.

First, the provision upheld in *United Haulers* primarily prohibited competition from private entities, although it may have theoretically prohibited competition from public waste disposal facilities in other counties. The challenge, in any event, was brought by private firms demanding that they be allowed to compete. The primary distinction therefore was between transactions with public and private entities, not between transactions with in-state and out-of-state entities. In contrast, the challenge in *Davis* to the selective exemption is that it treats residents' holdings of out-of-state municipal bonds differently from their holdings of home-state bonds; there is no challenge to the fact that the selective exemption treats private bonds differently from municipal bonds. The distinction between within-state and interstate transactions is front and center in *Davis*. Related arguments have been developed at length by Ethan Yale and Brian Galle.<sup>89</sup>

Second, the selective exemption cannot survive any reasonable version of *Pike* balancing. The relevant question is whether the "burden imposed on [interstate] commerce is clearly excessive in relation to the putative local benefits." Here, the burden on interstate commerce is massive and the local benefits are virtually nonexistent.

The vast disruption to interstate commerce has already been described. The diversion of hundreds of billions of dollars in bond holdings from interstate markets to within-state markets dwarfs the diversion of waste disposal services in *United Haulers*. Any offsetting justification would need to be weighty indeed.

Strikingly, the Kentucky Department of Revenue identifies no such interest in its brief. To be sure, the brief emphasizes the state's obviously compelling interest in issuing municipal bonds,<sup>90</sup> but that interest is inapposite. The challenge is not to Kentucky's sale of bonds, but to its steering of such sales to its own residents. The fact that bond sales are

---

<sup>89</sup> "Muni Bonds and the Commerce Clause After *United Haulers*," *Tax Notes*, June 11, 2007, pp. 1037-1046, at pp. 1041-1046.

<sup>90</sup> Petitioners' Brief, pp. 17-18, 22.

so important actually undercuts the case for the selective exemption, since it curtails the market in which the bonds are sold.

In *United Haulers*, the counties raised revenue from their monopoly on waste disposal. In this case, however, the state's subsidy to within-state holdings actually costs it money; as discussed in sections II.C and II.D, above, the states' loss of tax revenue outweighs their saving in interest costs, a result established by both economic theory and statistical studies of the exemption.<sup>91</sup> It is true, as discussed in section III.C, above, that the exemption shifts the financing costs from state residents to nonresidents, but such shifting is a form of protectionism rather than a legitimate local benefit under *Pike*.

Also, in *United Haulers*, the state monopoly allowed the state to implement recycling policies that private proprietors might not have adopted. Here, there is little sign of a similar governmental purpose achieved by selling bonds to residents rather than nonresidents. To be sure, NAST suggests both that bondholders make better residents and that residents make better bondholders.<sup>92</sup>

NAST Brief (p. 27): "By providing Kentucky citizens with an additional incentive to purchase Kentucky bonds, the Commonwealth may increase the participation of its own citizens in its financial affairs. Such participation may lead to a more informed electorate, provide an additional check on State and local government, and attract investors who are better informed and more committed to the projects funded with their money."

These benefits are completely conclusory. On the first point, if receiving the state's services and paying the state's taxes do not make a person "more informed" and a better "check on state and local government," it is doubtful that owning the state's debt securities will do so. On the second point, "better informed and more committed" investors should be the ones who buy the state's bonds anyway, even without the selective exemption. It would be highly disturbing if the Supreme Court were to accept these conjectural benefits as sufficient to outweigh the massive disruption of interstate commerce caused by the exemption.

Another argument is that having a significant share of bonds sold in state-specific markets serves the legitimate interest of helping smaller and more obscure municipalities issue debt.<sup>93</sup> While market balkanization probably does make it easier for small municipalities to issue debt, that effect is insufficient to justify the balkanization. It merely suggests that it is inefficient for these small governmental units to be issuing their own debt. It would also be very difficult for, say, the Bureau of International Labor Affairs in the U.S. Department of Labor or the Census Bureau to issue bonds, a problem

---

<sup>91</sup> The statistical evidence is discussed by Brian D. Galle and Ethan Yale, "Can Discriminatory State Taxation of Municipal Bonds Be Justified? Thoughts on the *Davis* Topside Briefs," *Tax Notes*, October 8, 2007, pp. 153-159.

<sup>92</sup> GFOA brief, pp. 24-25 echoes the former argument; Nuveen brief, p. 7 echoes the latter argument.

<sup>93</sup> This argument is set forth in Churchill brief, pp. 18-19 and Nuveen brief, pp. 14-15. The effect on small issuers is also noted by NFMA brief, pp. 18-19.



that is remedied by having the federal government issue U.S. Treasury bonds that finance the activities of these agencies and many others. While one possibility in the municipal-bond context is for state governments to borrow directly on behalf of small localities, that degree of centralization is not necessary. It is also possible for small localities to band together to form pooled-credit arrangements, many of which already exist.<sup>94</sup> Of course, states are entitled to have their localities borrow in a completely decentralized manner if they wish, but they should bear the burdens of such a policy (perhaps by providing additional financial support to the localities) rather than using the policy as an excuse to balkanize the nation's financial markets.

If such a large disruption of interstate commerce can be justified with such flimsy rationales, *Pike* balancing is truly toothless.

### **3. *United Haulers* Should Not Apply to Private-Activity Bonds**

Even if the *United Haulers* exception justifies the selective municipal bond exemption with respect to bonds issued for governmental operations, it does not justify it with respect to private-activity bonds. In private-activity bonds, which comprise about one-quarter of all municipal bonds, the state or local government effectively functions as a conduit for a private borrower, either a business or a nonprofit organization.<sup>95</sup>

Congress has recognized that statutory benefits granted to state and local governments can be inappropriately expanded if these governments can claim those benefits while acting as conduits for private entities, because the benefits are effectively transferred to, or shared with, those entities. Accordingly, while Congress generally grants a federal tax exemption for municipal bonds, it has placed strict limitations on the availability of this exemption for private-activity bonds.<sup>96</sup>

It seems clear that the *United Haulers* exception should not apply when the state acts as a conduit for a private firm. As noted above, the applicability of the exception is premised on private businesses being treated the same. But, when Kentucky grants a tax exemption for private purpose bonds, private businesses are not treated the same. Kentucky residents are granted a tax exemption for their holdings of conduit bonds that Kentucky issues on

---

<sup>94</sup> Two random examples located through brief Internet searches are the Vermont Municipal Bond Bank (<http://www.vtbondagency.org>) and the New Jersey Economic Development Authority (<http://www.njeda.com>).

<sup>95</sup> NFMA brief, pp. 6-7; Joel Michael, "Department of Revenue of Kentucky v. Davis: Implications for State Tax Policy and Dormant Commerce Clause Doctrine," *State Tax Notes*, Sept. 17, 2007, pp. 753-763. Also, Andrew Ackerman and Peter Schroeder, "High Court to Hear *Davis* Case," *Bond Buyer*, May 22, 2007, reported the uncertainty of some observers about whether private-activity bonds would receive the same constitutional treatment as other municipal bonds.

<sup>96</sup> To qualify for federal tax exemption, a private activity bond must fall into one of the specific categories listed in Internal Revenue Code section 141(e) and must satisfy the detailed restrictions imposed on its category in sections 142 through 145, as well as additional restrictions imposed in section 147. Moreover, under section 146, only a specified volume of private activity bonds issued by each state (and its subdivisions) may receive the exemption. If a bond satisfies these criteria, its interest is exempt from the regular income tax, but may remain subject to the alternative minimum tax under section 57(a)(5).

behalf of private businesses in Kentucky, but not for their holdings of conduit bonds that other states issue on behalf of their private businesses.

## VII. Concluding Observations

The economic case against the selective municipal bond exemption is ironclad. Nevertheless, there is a natural reluctance to upset a longstanding arrangement.

The transition will require some sweeping changes. Single-state funds will merge, or transform, into national funds. Some states will gain market share in the municipal-bond market while others will lose market share. Such disruption is the inevitable price of economic progress. When new technology is developed, allowing better production processes to be used, existing markets and institutions are often thrown into disarray; similar effects are to be expected from policy improvements.

Transfers of wealth will also occur if the Supreme Court invalidates the selective exemption. Subject to their statutes of limitations, states will probably refund past taxes collected from residents holding out-of-state bonds. For existing bonds, states will probably extend their exemption to out-of-state bonds, even if they choose to end the exemption altogether for newly issued bonds. These measures will impose some financial burdens on state treasuries. The values of existing bonds will also change.

Nevertheless, Congress can absorb some of the burdens on state treasuries. Also, contrary to some claims, existing bonds are likely to rise rather than fall in value, assuming again that, for outstanding bonds, the exemption is extended to out-of-state holders rather than removed from home-state holders.<sup>97</sup> In summary, transition concerns should not be used as an excuse to permanently maintain an anachronistic, inefficient, and protectionist policy that has balkanized the municipal bond market.

By affirming the judgment of the Kentucky Court of Appeals in *Davis*, the U.S. Supreme Court can strike a decisive blow for free interstate trade in the nation's financial markets.

---

<sup>97</sup> NFMA brief, pp. 20-1 and Forty-Nine States brief, p. 19 claim that existing bonds are likely to decline in value. NFMA appears to compute the price change as the change in the present value of the *before-tax* interest and principal payments on existing bonds, discounted at the *before-tax* interest rate on new bonds. The correct computation, however, is the change in the present value of the *after-tax* interest and principal payments on existing bonds, discounted at the *after-tax* interest rate on new bonds, since investors care about after-tax, not before-tax, cash flows.

Under the maintained assumption that existing bonds will become exempt for out-of-state as well as home-state investors, after-tax returns rise on those bonds; note that the interest rate on existing bonds has already been fixed and cannot decline to offset the tax windfall. The after-tax interest rate on newly issued bonds should be roughly unchanged for the average state, although it may rise for some states and decline for others. For most states, maybe all, the windfall gain in after-tax returns on existing bonds should be the dominant effect, boosting bond values.

In contrast, the values of existing bonds would probably fall if, for such bonds, the exemption was revoked for in-state holders rather than extended to out-of-state holders.

## TECHNICAL APPENDIX: SIMPLE ECONOMIC MODEL

### Assumptions

There are  $N$  states, each of equal wealth and population. Each state  $i$  issues bonds of quantity  $B_i$ , which may vary across states, with average bond issuance  $\bar{B} \equiv \sum_i B_i / N$ .

### *Subsidies*

Let  $S_{ij}$  denote the subsidy received by residents of state  $i$  on their holdings of bonds issued by state  $j$ . To determine equilibrium interest rates, portfolio holdings, investors' utility, and aggregate budgetary costs, it is unnecessary to specify whether state  $i$ , state  $j$ , or another state pays the subsidy.

For future reference, define three measures of average subsidy rates:

$$D_i \equiv \left( \sum_j S_{ij} \right) / N, \quad O_i \equiv \left( \sum_j S_{ij} \right) / N,$$

$$\bar{S} \equiv \left( \sum_i \sum_j S_{ij} \right) / N^2 = \left( \sum_i D_i \right) / N = \left( \sum_j O_j \right) / N$$

$D_i$  is the unweighted average subsidy for bonds held by  $i$ -residents.  $O_i$  is the unweighted average subsidy available on  $i$ -bonds (those issued by state  $i$ ).  $\bar{S}$  is the unweighted average subsidy on all bond holdings and is also an unweighted average of  $D_i$  and  $O_i$ .

The following equalities will be useful,

$$\sum_i \sum_j S_{ij} O_j = N \sum_j O_j^2; \quad \sum_i \sum_j S_{ij} D_j = N \sum_j D_j^2.$$

### *Optimization Problem*

Individuals divide their wealth between municipal bonds issued by the  $N$  states and an alternative asset with a safe return. Municipal bond returns are described by a single-factor model. Each bond is subject to a single common risk factor with variance  $f$  and to idiosyncratic risk with variance  $v$  that is uncorrelated across states and uncorrelated with the common factor. Each bond therefore has variance  $f+v$  and each pair of bonds has covariance  $f$  and correlation coefficient  $f/(f+v)$ . Let  $R_i$  denote the equilibrium return on municipal bonds issued by state  $i$  *in excess of the return available on the safe asset*.

Individuals have mean-variance preferences, with a resident of state  $i$  maximizing

$$(1) \quad \sum_j M_{ij} (R_j + S_{ij}) - \frac{X}{2} \left\{ M_i^2 f + \left( \sum_j M_{ij}^2 \right) v \right\}$$

where  $M_i \equiv \sum_j M_{ij}$  is the total bond holdings of the resident and  $X$  is absolute risk aversion, also assumed to be constant across the states.

The first-order conditions for residents of state  $i$  are

$$(2) \quad R_j + S_{ij} = X \left\{ M_i f + M_{ij} v \right\}, \quad \forall j,$$

The  $j$ -bond excess return equals risk aversion times the covariance of the return with the wealth of  $i$ -residents.

### Equilibrium

To solve the model, holdings are found as a function of the interest rates, subsidies, and the other exogenous parameters. Imposing the equilibrium condition that the holdings of each state's bonds equals the amount issued by the state,  $B_j = \sum_i M_{ij}$ , yields the interest rates as a function of the subsidies and the other exogenous parameters. Substituting back into the portfolio equations then gives the holdings as a function of the subsidies and the other exogenous parameters.

#### *Interest Rates and Portfolios*

The interest-rate equation is the following,

$$(3) \quad R_i = \bar{B}Xf + \frac{B_i Xv}{N} - O_i.$$

The risk premium on each state's bonds reflects compensation for both common and idiosyncratic risk and is reduced one-for-one by the average subsidy to the state's bonds. Since the compensation for the idiosyncratic risk is greater if the state issues more bonds, each state faces an upward-sloping interest-rate schedule. The compensation for each state's bonds' exposure to the common factor depends upon the quantity of all municipal bonds issued, not the quantity issued by that state.

The portfolio equations are the following,

$$(4) \quad M_{ij} = \frac{B_j}{N} + \frac{S_{ij} - O_j + (\bar{S} - D_i)[Nf / (v + Nf)]}{Xv}, \quad \forall i, j.$$

The first term shows that, without subsidies, each state's residents hold the same portfolio,  $(1/N)$  of all bonds issued. The second term reveals four effects of subsidies:

- The holdings of  $j$  bonds by  $i$  residents are increasing in  $S_{ij}$ .
- With  $S_{ij}$  fixed, the holdings of  $j$  bonds by  $i$  residents are decreasing in the average subsidy to state- $j$  bonds. A higher  $O_j$  (with no change in  $S_{ij}$ ) means that other states' residents are more highly subsidized to hold  $j$ -bonds; in equilibrium, other states' residents hold more  $j$ -bonds.
- With  $S_{ij}$  fixed, the holdings of  $j$  bonds by  $i$  residents are decreasing in the average subsidy for holdings by  $i$ -residents. A higher  $D_i$  (with no change in  $S_{ij}$ ) means that  $i$ -residents are more highly subsidized to hold other states' bonds; in equilibrium, they hold more other bonds and fewer  $j$ -bonds.
- With  $S_{ij}$ ,  $O_j$ , and  $D_i$  fixed, the holdings of  $j$  bonds by  $i$  residents are increasing in the overall average subsidy. A higher  $\bar{S}$  (with no change in  $S_{ij}$ ,  $O_j$ , and  $D_i$ ) means that other states' residents are more highly subsidized to hold other (non- $j$ ) bonds;

in equilibrium, other states' residents hold more non- $j$  bonds,  $i$ -residents hold fewer non- $j$  bonds, and hence more  $j$ -bonds.

Summing (4) across all  $j$ , the total holdings of bonds by  $i$ -residents are

$$(5) \quad M_i = \bar{B} + N \frac{(D_i - \bar{S})[v/(v + Nf)]}{Xv}, \quad \forall i.$$

So,  $i$ -residents hold more total bonds if their bond holdings are subsidized more heavily than the national average. Aggregate within-state holdings are

$$(6) \quad \sum_i M_{ii} = \left( \sum_i B_i \right) \frac{1}{N} + \frac{\sum_i S_{ii} - \bar{S}N}{Xv}.$$

With no subsidies, within-state holdings comprise  $1/N$  of all holdings. In the presence of subsidies, within-state holdings increase if the average subsidy to within-state holdings exceeds the national average subsidy.

#### *Utility, Budgetary Costs, and Deadweight Loss*

As indicated by (3),  $i$ -residents experience a change in returns of  $S_{ij} - O_j$  on holdings of  $j$ -bonds. Because the objective function (1) is quadratic, the utility impact of the change in returns (relative to utility with no subsidies) is given by

$$\begin{aligned} \Delta U_i &= \sum_j \left\{ \frac{B_j}{N} (S_{ij} - O_j) + \frac{1}{2} \Delta M_{ij} (S_{ij} - O_j) \right\}, \text{ which is} \\ \Delta U_i &= \sum_j (B_j S_{ij} / N) - \sum_j (B_j O_j / N) \\ (7) \quad &+ \frac{1}{2} \frac{\sum_j S_{ij}^2 - 2 \sum_j S_{ij} O_j + \sum_j O_j^2 - N(\bar{S}^2 - 2\bar{S}D_i + D_i^2)[Nf/(v + Nf)]}{Xv} \end{aligned}$$

Summing across all states gives the aggregate change in utility,

$$(8) \quad \Delta U = \frac{1}{2} \frac{\sum_i \sum_j S_{ij}^2 - N \sum_j O_j^2 + \{N^2 \bar{S}^2 - N \sum_i D_i^2\} [Nf/(v + Nf)]}{Xv}.$$

This expression is non-negative. There is no aggregate first-order welfare change; if portfolios remained unchanged, the interest-rate reductions would offset the subsidies. The second-order welfare gain arises from the portfolio changes, as investors rearrange their holdings to take advantage of the subsidies.

The aggregate gross budgetary cost of the subsidies is

$$\sum_i \sum_j S_{ij} M_{ij} = \sum_i B_i O_i + \frac{\sum_i \sum_j S_{ij}^2 - N \sum_i O_i^2 + \{N^2 \bar{S}^2 - N \sum_i D_i^2\} [Nf/(v + Nf)]}{Xv}. \text{ The}$$

aggregate change in interest costs is  $\sum_i B_i \Delta R_i = -\sum_i B_i O_i$ , yielding a net fiscal cost,

$$(9) \quad C = \frac{\sum_i \sum_j S_{ij}^2 - N \sum_i O_i^2 + \{N^2 \bar{S}^2 - N \sum_i D_i^2\} [Nf/(v + Nf)]}{Xv}$$

This term is twice the aggregate utility gain given by (8). Of the budgetary cost of the subsidy, half is a transfer to investors and half is deadweight loss.

### Impact of Single State's Subsidy to Within-State Holdings

Assume that a single state,  $k$ , offers a subsidy of size  $s$  to within-state holdings. This policy can be described, as follows,

$$(10) \quad S_{kk} = s, \text{ else } S_{ij} = 0; \quad D_k = O_k = \frac{s}{N}; \quad D_i = O_i = 0, \forall i \neq k; \quad \bar{S} = \frac{s}{N^2}.$$

#### *Interest Rate and Portfolio Effects*

The interest-rate impact is

$$(11) \quad \Delta R_k = -\frac{s}{N}; \quad \Delta R_i = 0, \forall i \neq k.$$

State  $k$  lowers its own interest rate by  $s/N$ , with no change in other states' interest rates.

The equilibrium bond holdings of  $k$ -residents are affected as follows,

$$(12) \quad \Delta M_{kk} = s \frac{N-1}{N} \frac{v + (N-1)f}{(v + Nf)Xv} > 0, \quad \Delta M_{kj} = -s \frac{N-1}{N} \frac{f}{(v + Nf)Xv} < 0, \forall j \neq k.$$

They hold more  $k$ -bonds and less of other states' bonds. It can be shown that total bond holdings rise, so that holdings of the safe asset fall.

Residents of other states change their holdings as follows,

$$(13) \quad \Delta M_{ik} = -s \frac{1}{N} \frac{v + (N-1)f}{(v + Nf)Xv} < 0, \forall i \neq k, \quad \Delta M_{ij} = s \frac{1}{N} \frac{f}{(v + Nf)Xv} > 0, \forall i \neq k, \forall j \neq k.$$

They reduce their holding of  $k$ -bonds in response to the interest-rate reduction on such bonds. They increase their holdings of other states' bonds (including, in each case, their home-state bonds). Total bond holdings fall, so holdings of the safe asset rise.

Aggregate within-state holdings rise,

$$(14) \quad \sum_i \Delta M_{ii} = s \frac{N-1}{N} \frac{1}{Xv} > 0.$$

#### *Utility, Budgetary Cost, and Deadweight Loss*

The utility of  $k$ -residents is changed as follows,

$$(15) \quad \Delta U_k = s \frac{N-1}{N^2} B_k + \frac{1}{2} s^2 \left( \frac{N-1}{N} \right)^2 \frac{v + (N-1)f}{(v + Nf)Xv}.$$

They have a first-order utility gain, reflecting the higher (subsidy-inclusive) returns that they earn on their initial holdings of home-state bonds and a second-order gain, reflecting their substitution into home-state bonds to capture additional benefits from the subsidy.

For residents of other states, the utility effect is

$$(16) \quad \Delta U_i = -s \frac{1}{N^2} B_k + \frac{1}{2} s^2 \frac{1}{N^2} \frac{v + (N-1)f}{(v + Nf)Xv}, \forall i \neq k.$$

This group has a first-order utility loss, reflecting the lower interest rates earned on their initial holdings of  $k$ -bonds, and a second-order gain reflecting their substitution away from such bonds, which limits their losses.

The net fiscal cost of the subsidy to state  $k$  is

$$(17) \quad C = C_k = s^2 \frac{N-1}{N} \frac{v + (N-1)f}{(v + Nf)Xv} > 0.$$

There is no fiscal impact on the treasuries of the other states, since these states pay no subsidies and the interest rates on their bonds do not change.

The aggregate utility gain can be shown to be half of the fiscal cost.

The net gain to state  $k$  (the gain to investors minus the fiscal cost) is

$$(18) \quad \Delta U_k - C_k = s \frac{N-1}{N^2} B_k - \frac{1}{2} s^2 \frac{N^2 - 1}{N^2} \frac{v + (N-1)f}{(v + Nf)Xv}.$$

This is positive for small values of  $s$ . It reaches a maximum at  $s^* = \frac{B_k}{N+1} \frac{(v + Nf)Xv}{v + (N-1)f}$  and then begins to decline, reaching zero when  $s$  equals  $2s^*$ .

#### All States Subsidize Within-State Holdings

Suppose that every state adopts a subsidy  $s$  to within-state holdings. This policy can be described as follows,

$$(19) \quad S_{ii} = s, \forall i; \quad S_{ij} = 0, \forall i \neq j; \quad D_i = O_i = \frac{s}{N}, \forall i; \quad \bar{S} = \frac{s}{N}.$$

All states' interest rates fall,

$$(20) \quad \Delta R_i = -\frac{s}{N}, \forall i.$$

Within-state holdings rise

$$(21) \quad \Delta M_{ii} = s \frac{N-1}{N} \frac{1}{Xv} > 0, \forall i.$$

The increase in each state's within-state holdings with universal subsidies equals the aggregate increase that occurred when one state subsidized within-state holdings. The aggregate increase in within-state holdings is  $N$  times greater than the aggregate reduction from a single state's subsidy.

$$(22) \quad \sum_i \Delta M_{ii} = s \frac{N-1}{Xv} > 0, \forall i,$$

The utility effect is identical across states.

$$(23) \quad \Delta U_i = s^2 \frac{1}{2} \frac{N-1}{N} \frac{1}{Xv} > 0, \forall i \Rightarrow \Delta U = s^2 \frac{1}{2} \frac{N-1}{Xv} > 0.$$

The budgetary costs are

$$(24) \quad C_i = s^2 \frac{N-1}{N} \frac{1}{Xv} > 0, \forall i \Rightarrow C = s^2 \frac{N-1}{Xv} > 0.$$

A comparison of (24) and (17) reveals that the aggregate budgetary costs, and hence the aggregate deadweight loss (which is half of the budgetary costs), increases by a factor of  $N \frac{v+(N-1)f}{v+Nf}$  when  $N$  states rather than one adopts a subsidy to within-state holdings. If bonds were uncorrelated ( $f=0$ ), then  $N$  exemptions would be  $N$  times more harmful than one; when bonds are correlated ( $f>0$ ), the increase is less than proportionate.

### State Subsidizes its Own Bonds

Suppose that state  $k$  provides a subsidy  $s$  to the holdings of their own bonds, whether by residents or nonresidents. This policy can be described as follows,

$$(25) \quad \begin{aligned} S_{ik} &= s, \forall i; & S_{ij} &= 0, \forall i, \forall j \neq k; & O_k &= s; \\ O_i &= 0, \forall i \neq k; & D_i &= \frac{s}{N}, \forall i; & \bar{S} &= \frac{s}{N}. \end{aligned}$$

The interest-rate impacts are as follows,

$$(26) \quad \Delta R_k = -s; \quad \Delta R_i = 0, \forall i \neq k$$

There is no impact on bond holdings or utility and no net fiscal cost as the gross cost of the subsidy  $sB_k$  is exactly offset by interest savings. There is no change in subsidy-inclusive interest rates on any bonds.

### State Subsidizes its Residents' Holdings of all Bonds

Suppose that state  $k$  offers a subsidy  $s$  to all of its residents' holdings of any bonds. This policy can be described as follows,

$$(27) \quad S_{kj} = s, \forall j; \quad S_{ij} = 0, \forall i \neq k, \forall j; \quad D_k = s; \quad D_i = 0, \forall i \neq k; \quad O_i = \frac{s}{N}, \forall i; \quad \bar{S} = \frac{s}{N}.$$

Every state's interest rates are driven down, because residents of state  $k$  have increased demand for holdings of all states' bonds.

$$(28) \quad \Delta R_i = -\frac{s}{N}, \forall i.$$

Residents of  $k$  impartially increase their holdings of all bonds,

$$(29) \quad \Delta M_{ki} = s \frac{N-1}{N} \frac{v}{(v+Nf)Xv} > 0, \forall i \Rightarrow \Delta M_k = s(N-1) \frac{v}{(v+Nf)Xv} > 0, \forall i.$$

Residents of the other states correspondingly reduce their holdings of all bonds,

$$(30) \quad \Delta M_{ji} = -s \frac{1}{N} \frac{v}{(v+Nf)Xv}, 0, \forall j \neq k, \forall i \Rightarrow \Delta M_j = -s \frac{v}{(v+Nf)Xv}, 0, \forall j \neq k, \forall i.$$



There is no net change in within-state bond holdings,  $\sum_i \Delta M_{ii} = 0$ .

$k$ -residents have a utility gain from higher (subsidy-inclusive) returns on all bonds,

$$(31) \quad \Delta U_k = s \frac{N-1}{N} \bar{B} + \frac{1}{2} s^2 \frac{(N-1)^2}{N} \frac{v}{(v+Nf)Xv}$$

Residents of the other states have a utility loss due to lower interest rates,

$$(32) \quad \Delta U_i = -s \frac{1}{N} \bar{B} + \frac{1}{2} s^2 \frac{1}{N} \frac{v}{(v+Nf)Xv}, \forall i \neq k.$$

The aggregate utility effect is

$$(33) \quad \Delta U = \frac{1}{2} s^2 (N-1) \frac{v}{(v+Nf)Xv}.$$

The subsidy has a budgetary cost for state  $k$ , as it pays a subsidy of  $s$  on all of its residents' holdings, while securing an interest saving of only  $s/N$  on its own bonds,

$$(34) \quad C_k = s \left[ \bar{B} - \frac{B_k}{N} \right] + s^2 (N-1) \frac{v}{(v+Nf)Xv} > 0.$$

Unlike any of the policies previously considered, this policy affects the treasuries of the other states. Although they pay no subsidies, they reap interest savings on their bonds,

$$(35) \quad C_i = -s \frac{B_i}{N} < 0, \forall i \neq k.$$

The aggregate net fiscal cost is

$$(36) \quad C = s^2 (N-1) \frac{v}{(v+Nf)Xv} > 0.$$

The net utility gain is half of the cost; the other half of the cost is deadweight loss.

The net impact on state  $k$ 's wellbeing is

$$(37) \quad \Delta U_k - C_k = s \left[ \frac{B_k - \bar{B}}{N} \right] - \frac{1}{2} s^2 \frac{N^2 - 1}{N} \frac{v}{(v+Nf)Xv}.$$

The first-order term is positive (negative) if the state is, in the no-subsidy equilibrium, an exporter (importer) of bonds. This is a familiar result; an exporting state can improve its terms of trade by taxing purchases of the exported good. The second-order term is always negative; the state- $k$  treasury incurs a loss (greater than its residents' gains) from the rearrangement of portfolios that result from the subsidy.

The net impact on other states' wellbeing is

$$(38) \quad \Delta U_i - C_i = s \left[ \frac{B_i - \bar{B}}{N} \right] + \frac{1}{2} s^2 \frac{1}{N} \frac{v}{(v+Nf)Xv}, \forall i \neq k.$$

The first-order term is positive (negative) for each state that exports (imports) bonds in the no-subsidy equilibrium. The second-order term is positive; non- $k$ -residents gain as they rearrange their portfolios to exploit the interest-rate changes caused by the subsidy.