This PDF is a selection from a published volume
from the National Bureau of Economic Research

Volume Title: Tax Policy and the Economy, Volume 16

Volume Author/Editor: James M. Poterba, editor

Volume Publisher: MIT Press

Volume ISBN: 0-262-16210-5

Volume URL: http://www.nber.org/books/pote02-1

Conference Date: October 30, 2001

Publication Date: January 2002

Title: Thinking Straight About the Taxation of Electronic Commerce: Tax Principles, Compliance Problems, and Nexus

Author: Charles E. McLure, Jr.

URL: http://www.nber.org/chapters/c10864

THINKING STRAIGHT ABOUT THE TAXATION OF ELECTRONIC COMMERCE: TAX PRINCIPLES, COMPLIANCE PROBLEMS, AND NEXUS

Charles E. McLure, Jr.
Hoover Institution, Stanford University

EXECUTIVE SUMMARY

The Internet Tax Freedom Act (ITFA), which imposes a moratorium on state and local taxes on Internet access and prohibits "multiple and discriminatory" state and local taxes on electronic commerce, has been extended until November 1, 2003, but the debate on whether and how to tax electronic commerce has not ended. This paper is intended to assist clear thinking about the taxation of electronic commerce. Under an *economically neutral* sales tax, all sales to consumers would be taxed, all sales to business would be exempt, and sales by local merchants and by remote (out-of-state) vendors would be taxed equally. A *compliance-friendly* sales tax would exhibit substantial simplicity and interstate uniformity in the tax base, legal framework, and administrative procedures. Existing sales taxes exhibit none of these characteristics. Many sales to

The author wishes to thank James Poterba and Walter Hellerstein for comments on an earlier draft.

consumers are exempt, many sales to business are taxed, and, because of the Supreme Court decision in *Quill*, which is based on the complexity of the system, many sales by remote vendors are not taxed. The system is extremely complex, in large part because there is essentially no uniformity from state to state. Under the Streamlined Sales Tax Project the states have recently begun serious efforts to simplify their sales taxes, by making them more nearly uniform, in hopes of gaining Congressional or judicial reversal of *Quill*. These efforts would substantially simplify the system, but would not achieve economic neutrality, as many sales to consumers would remain exempt and many sales to business would still be taxed. Moreover, differences in tax bases, legal frameworks, and administrative procedures would remain. Technology (lookup tables that categorize products as taxable or exempt in each state) might be able to handle differences in tax bases, but not those in legal structures and administrative procedures.

1. INTRODUCTION

The Internet Tax Freedom Act (ITFA) imposes a moratorium on state and local taxes on Internet access and prohibits "multiple and discriminatory" state and local taxes on electronic commerce. Initially enacted in 1998, the ITFA has been extended until November 1, 2003.[1] Unlike the "naked" extension of the ITFA that was enacted, some proposals for extension would have significantly restricted the taxing power of state and local governments, while others would potentially have expanded that power. The temporary extension of the ITFA did not definitively resolve the choice between these options, which will continue to be debated until at least the end of October 2003. This paper is intended to assist clear thinking about the taxation of electronic commerce.[2]

[1] The ITFA (which also created the Advisory Commission on Electronic Commerce, to be considered in section 5), was part of the Omnibus Appropriations bill. It expired briefly, its timely extension a victim of the terrorist attack on the World Trade Center and the anthrax scare that followed. The Act's pre-emptive effect is more symbolic than real, except in the case of taxes on Internet access, since (1) the Act has virtually no effect on sales taxes that do not discriminate against e-commerce and (2) decisions of the U.S. Supreme Court (to be considered in section 4) already effectively eliminate taxation of many e-commerce sales to consumers. The symbolism has at least three facets: the emergence of e-commerce as a politically favored sector, the victory of anti-tax forces, and Congressional intrusion into fiscal decisions of state and local governments.

[2] Electronic commerce is "the use of computer networks to facilitate transactions involving the production, distribution, and sale and delivery of goods and services in the marketplace." This definition, from Abrams and Doernberg (1997), is more useful than that in U.S. Treasury Department (1996, ¶3.2.1), the crucial part of which is ". . . the exchange of goods or services . . . using electronic tools and techniques." The Treasury definition does not

The current debate over the taxation of electronic commerce in the U.S. reflects basic defects in the way state and local governments tax sales and corporate income more than the inherent difficulty of taxing most electronic commerce. For the most part, the advent of electronic commerce has highlighted problems that were there all along; it did not create them. Most of these problems—but not all—stem from the lack of uniformity of the taxes imposed by the states (and the District of Columbia) and their numerous political subdivisions. Pointing to that lack of uniformity, the U.S. Supreme Court has said, most recently in the 1992 *Quill* decision (504 U.S. 298), that a state cannot require a remote (out-of-state) vendor to collect its sales tax unless the vendor has a physical presence in the state.[3] Since the states have not solved these problems cooperatively by increasing uniformity, despite having had ample opportunity and incentive to do so, some believe that it would be appropriate for the Congress to mandate a solution. Others warn that this is a step that should not be taken lightly, lest the fiscal sovereignty of the states be unduly compromised. They fear that Congress might legislate solutions to state problems where none are needed or impose inappropriate solutions; in any event, there would be unprecedented federal intervention in the fiscal affairs of state and local governments. Given recent state efforts to find a solution, they counsel a wait-and-see attitude, to allow the states time to simplify their systems. Some believe that the Congress should have signaled that it would relax the physical-presence rule if the states significantly simplify their sales tax systems.

Section 2 describes how a state sales tax that is economically neutral and relatively easy to comply with (hereafter the *economically neutral and compliance-friendly system*) would be structured, indicates how existing sales taxes deviate from that norm, and discusses the effects of those deviations. E-commerce, per se, plays a minor role in the discussion, which is equally applicable to sales by other types of remote vendors. It is perhaps best seen, alternatively, as a catalyst for long-overdue action by state and local governments to simplify their taxes or as a stalking horse for those who would undermine the taxing power of the states.

---

clearly differentiate what is commonly known as electronic commerce from such activities as telemarketing and television shopping, which are excluded by the Abrams–Doernberg definition. This paper, does, however, exclude financial services from its purview.

[3] Strictly speaking, remote vendors that have nexus in a state are required to collect the *use tax*, which is legally imposed on the in-state purchaser's use of the purchased item, rather than the *sales tax*, which is imposed on in-state sales and cannot be collected on sales originating outside the state. Except where required for clarity, this distinction is generally ignored in favor of the generic term "sales tax."

Section 3 summarizes arguments that have been made for and against exempting e-commerce from taxation and suggests that little revenue would be affected by the choice of whether to tax e-commerce. Section 4 describes key elements of recent proposals to accompany extension of the Internet Tax Freedom Act. Section 5 describes three prior attempts to find a solution to the problem of whether and how to tax e-commerce. Section 6 compares three approaches—the naked extension that was enacted and two alternatives—to reforms required to achieve the economically neutral and compliance-friendly system. The Appendix discusses application of business activity taxes, which include corporate income taxes and franchise taxes measured by income, to remote commerce. It discusses design issues and describes defects of the current system. It is substantially less detailed than the discussion of sales and use taxes, in part because the latter is where most of the current debate has focused.

2. AN ECONOMICALLY NEUTRAL AND COMPLIANCE-FRIENDLY SALES TAX[4]

It is generally agreed that taxes should, to the extent possible and consistent with other goals, be economically neutral and compliance-friendly.[5]

2.1 *A Neutral Sales Tax*

A state sales tax that was economically neutral would tax all consumption occurring in a state equally. A tax on all consumption is economically neutral in ways specified below. Moreover, to the extent private consumption and consumption of public services are correlated, such taxes can be seen as consistent with the benefit principle of taxation, which requires that taxes be related to benefits received from public services. Finally, taxing all consumption is simpler than taxing (or exempting) only selected products; this is explained further below. A state sales tax that satisfied this basic design objective would tax *all* consumption in the state; tax *no* sales to business; and tax sales by local and remote vendors equally.

[4] I have described this system and its rationale in greater detail in various publications, including McLure (1997), (1998a), (1998b), (2000a), (2000d), and (2001b).

[5] Some may object that the rules of optimal taxation, rather than economic neutrality, should guide tax policy. Those rules, which call for differential taxation of products, depending on the elasticities of demand and supply for the products, generally ignore the administrative difficulty of implementation, as well as the fact that a vast amount of information is required to put them into practice. See Slemrod (1990). On the other hand, not taxing business inputs, which is generally consistent with the conclusions of Diamond and Mirrlees (1971), is relatively easy to implement.

Economists emphasize the neutrality of such a system, which would not discriminate between types of consumption, would not distort choices of techniques of production and distribution, would treat local and remote vendors the same, and would not distort the location of economic activity. The increased efficiency of markets that is generated by e-commerce arguably makes achievement of the conditions for economic neutrality even more important than before.

2.2 *Administrative Tractability*

If the requirement that remote vendors collect tax is not to be onerous, and thus an unconstitutional burden on interstate commerce, the sales and use tax must be made "elegantly simple."[6] Simplicity, in turn, requires substantial uniformity of the sales and use taxes of all states. Moreover, clear de minimis nexus rules and realistic vendor discounts (rebate of taxes intended to cover part of the costs of compliance) would eliminate or substantially reduce compliance burdens on remote vendors making only small amounts of sales into a state.

2.2.1 Interstate Uniformity A uniform tax base, a uniform legal structure (i.e., uniform statutes, regulations, and interpretations), and simplified administrative procedures (e.g., "one-stop" registration, filing, etc. for all states) would simplify compliance. Uniformity of the tax base has many dimensions, including uniform definitions of products; uniform classifications of products as taxable or exempt; uniform treatment of tax-exempt sales to business, to non-profit organizations, and to governments; uniform tax-exemption certificates; and conformity of state and local tax bases in a given state. Uniform tax rates would not be required; states would retain complete control over tax rates, which is the key to fiscal sovereignty and not a source of complexity, at least for state taxes.

Under this system a vendor in San Jose, California (or in Tallahassee, Austin, or anywhere else), being familiar with the tax law of its own state, could easily calculate the tax due on sales to customers in any other state, simply by knowing three things: (1) Is it a taxable sale to a consumer or an exempt sale to business (or to a non-profit organization or a government)? (2) Where is the purchaser located? (3) What is the applicable tax rate? The vendor would not need to contend with interstate differences in such matters as the definitions of taxable and exempt products, exempt sales to business, exemption certificates for sales to

[6] This is the term Governor Mike Leavitt of Utah used in his address to the Inaugural Meeting of the Implementing States of the Simplified Sales Tax Project, held in Salt Lake City on November 28–29, 2001.

business, non-profits, and governments, or details of tax laws; by assumption these would be the same in all states.

2.2.2 The Simplicity of Taxing All Consumption and Only That Little has been said in the current debate about the need to tax all consumption and exempt all sales to business. (What has been said has usually focused on the political difficulty of taxing services and the reduction in the tax base and thus revenues—and the need to increase rates—that would result from exempting sales to business.) Since these two reforms do not figure in the *Quill* decision, why emphasize them? Is it only a question of economic neutrality?

Consider the statement above—that "a vendor . . . , *being familiar with the tax law of its own state,* could easily calculate the tax due on sales to customers in any other state. . . ." The condition stated in italics would be adequate to guarantee simplicity of compliance with the laws of other states only if the tax bases (and the tax laws) of all states were identical. There are, of course, an infinite number of ways to define the identical tax base. But none (at least none that make sense) are as simple as the rule under the economically neutral and compliance-friendly system, which can be summarized in two rules.[7] First, if a product is sold to a household, tax it. Second, if it is sold to a business, a government, or a tax-exempt organization, exempt it. Certainly this approach is far simpler than basing the tax of each state on uniform definitions of products and of types of sales that could be either taxed or exempt[8] or even on a uniform base that differed from that under the economically neutral and compliance-friendly system.

2.2.3 Nexus and Vendor Discounts Remote vendors that make only small amounts of taxable sales into a state could face a significant burden if required to collect the state's use tax. This burden could easily be avoided by exempting vendors from the duty to collect tax in states where they do not have a substantial physical presence *and* their taxable sales fall below a de minimis level.[9] (Stated differently, states could assert nexus only if a remote vendor had either a substantial physical presence or non-de-minimis taxable sales in the state.) This dual nexus rule for remote vendors could be supplemented by realistic vendor dis-

[7] It would, of course, be simpler to tax all sales, whether to businesses or to others. Such *turnover taxes* have long been known to create unacceptable inequities and distortions.

[8] This essentially describes the approach of the Simplified Sales Tax Project, to be described below.

[9] States where such vendors are located could be allowed to tax such sales.

counts that compensate for the costs of tax collection, which are disproportionately high for those making small amounts of sales in a state.

In applying the physical-presence prong of the dual nexus rule, the physical presence of a dependent agent in a state could be considered evidence of physical presence of the principal, as now. But, contrary to some state court decisions, so could the in-state presence of corporate affiliates offering essentially the same products as the out-of-state entity. (The presence of affiliates providing services such as delivery, acceptance of returns, and repairs would presumably be evidence of an agency relationship and thus a physical presence.[10])

Sales of agents and affiliates would presumably be combined with those of the principal or parent for purposes of the sales prong of the dual nexus rule. Thus a corporation or corporate group could not avoid nexus by employing agents or legally separate affiliates to make sales.

The physical-presence prong of the dual nexus rule just described contains a word not found in the nexus test the Supreme Court has provided—the word "substantial." This higher threshold for the physical-presence test would not have the same negative implications for revenues and the competitive position of local vendors as it would if merely added to the present nexus rule, as it would be supplemented by the sales test. Remote vendors that made a non-de-minimis amount of sales in the state would be found to have nexus, even if they had only an insubstantial physical presence in a state.

2.3 *Inevitable Administrative Problems*

Several administrative problems would exist even under the economically neutral and compliance-friendly system.

2.3.1 Digitized Content The discussion to this point has focused implicitly on commerce in tangible products. Aside from the difficulty of *sourcing* sales to local jurisdictions (assigning them to jurisdictions of destination), to be discussed below, there is relatively little difficulty in sourcing sales of tangible products, since the vendor generally knows where the products are shipped or delivered.[11] The situation can be quite different in

[10] The California Board of Equalization recently decided that Borders.com could be required to collect use tax, although it has no physical presence in the state, because its parent (Borders) acts as its agent in accepting returns in exchange for cash refunds. For further discussion of "entity isolation," see McIntyre (1997).

[11] Gifts of tangible products constitute an exception to this generalization. But the basic question—whether to assign gifts to the jurisdiction of the donor or that of the recipient—is, in the first instance, more a philosophical issue than an administrative one. Assignment to the jurisdiction of the donor is probably simpler.

the case of digitized content, which is directed to an e-mail address. In this case the vendor may not know—and may have no reliable way to learn—where the buyer is located. It may be possible to use the billing address as a proxy for the "ship to" address, but at some risk of manipulation.[12]

It is worth noting that this is the first time this discussion has touched upon an issue that is unique to electronic commerce—that is, one that is not also present in traditional mail-order business.

2.3.2 Local Taxes The discussion to this point has also focused on *state* sales taxes. In fact, local governments also levy sales taxes. This creates the need to determine the local tax rate(s) that should be applied to sales by remote vendors and the locality (or localities) that should receive the revenue from tax on such sales.[13] Provided an exact match of addresses and taxing jurisdictions is not required, it should be possible to overcome this problem in one of several ways, for example, by relying on nine-digit ZIP codes. Alternatively, at the cost of even less precision, remote vendors might be allowed to employ a *blended rate* that reflects the average of all local rates in a given state, relying on the state to divide revenues among local jurisdictions. (This approach would not survive judicial scrutiny under current law, because it would impose an unconstitutional burden on interstate shipments to local jurisdictions with tax rates below the blended rate. The Congress, acting pursuant to the Commerce Clause, could relax this constraint.) Of course, in either event it would be essential that the tax base and the legal and administrative framework for local taxes be identical to those for state taxes.[14]

2.4 Existing Deviations from the Economically Neutral and Compliance-Friendly System

The existing state sales taxes violate all of the principles of economic neutrality stated above and are extremely complex. First, the taxes do not

12 For a more detailed discussion, see Eads et al. (1997).

13 Varian (1999) has suggested that, because of the difficulties of implementing local sales taxes, local governments should abandon the sales tax in favor of the local income tax. McLure (2000b) argues that while Varian might be correct if the nation were starting de novo to create a system of tax assignment, the costs of transition to such a system seem too great to make it a viable alternative. Because of commuting between taxing jurisdictions, a local income tax, which could be imposed on the basis of residence, would probably track benefits of public services more closely than a local payroll tax, which would ordinarily be based on employment.

14 A vendor that had nexus in a state would presumably have nexus for all local use taxes in the state.

apply to all consumption; most services are exempt, as are a variety of tangible products (with the exemptions varying from state to state).[15] Second, the taxes apply to a wide range of sales to business; it has been estimated that, depending on the state, as much as 20–70 percent of taxable sales are not made to consumers.[16] Third, there is essentially no uniformity in any aspect of state sales taxes.[17] Moreover, some 2,300 local jurisdictions levy sales taxes, not all of which conform to the tax base or other provisions of the state tax of the state where they are located and some of which administer their own taxes. States provide few de minimis rules, and vendor discounts generally do not offset compliance costs, especially for small vendors. Fourth, because of this complexity, a state cannot compel a vendor to collect its use tax unless the vendor has a physical presence in the taxing state.

The existing system creates economic distortions in all the dimensions identified above. It favors the consumption of untaxed products; since many of these are services, the exemptions favor the more affluent, who consume disproportionately large amounts of services. Because many business inputs are taxed, it distorts choices of production and distribution techniques. It discriminates against local vendors. It distorts the location of economic activity (favoring remote vendors and producers who are not subject to tax on their inputs). This distortion is aggravated by *entity isolation*, the use of legally separate entities to avoid having nexus in a state.[18] Moreover, the de facto inability to tax remote sales to consumers implies that, for a given tax rate, revenues will be lower than if the tax applied to all purchases from remote sellers. Unfair competition from remote vendors and loss of tax base have received the greatest attention in the recent debate.

3. IMPLICATIONS OF EXEMPTING ELECTRONIC COMMERCE

Over the past several years many arguments have been heard for and against taxing electronic commerce. These are reviewed here, followed by a review of estimates of the revenue implications of the choice.

[15] See Due and Mikesell (1994).

[16] See Ring (1999).

[17] For a more complete description of interstate differences in tax bases, see Due and Mikesell (1994). Cline and Neubig (2000) tell horror stories involving interstate differences. McLure (2001b) calls the current system a "Great Swamp."

[18] On entity isolation, see McIntyre (1997).

3.1 Arguments against Taxing Electronic Commerce

Arguments for not taxing e-commerce take several forms, some of which are intertwined with arguments for exempting all remote sellers from a duty to collect use tax.

One line of reasoning might be characterized as an "infant industry" argument: that e-commerce should experience a period of tax exemption in order to allow it to "get on its feet." Several years ago, when it appeared that e-commerce would swallow the entire economy, the case for a tax subsidy on these grounds was not persuasive.[19] Now that e-commerce has "cratered," despite the de facto existence of that subsidy for many sales to consumers, the wisdom of the policy is even more suspect.

According to the "digital divide" argument, electronic commerce in general, and Internet access in particular, should be tax-exempt in order to avoid burdening low-income families, for whose children Internet access may represent an important way out of poverty. The general argument for exempting e-commerce is not persuasive, as affluent families spend far more on electronic commerce than do poor ones. The more limited case for exempting all charges for Internet access is also not compelling, since the ostensible objective could be achieved by exempting only basic service. Besides favoring affluent households, exempting all Internet access invites Internet service providers to "bundle" content with basic service. The difficulty of distinguishing between basic and

[19] Advocates of exempting e-commerce have badly misrepresented the implications of the work of Austan Goolsbee. Goolsbee's conclusion that taxing e-commerce would cause a reduction in the amount of e-commerce is not reason enough to exempt e-commerce; a similar conclusion could be reached for a tax on almost any product or form of commerce. What is required is evidence that there is some form of external benefit (e.g., network externalities) that should be subsidized by exemption. Given current levels of usage of the Internet (or even the levels of a few years ago), it is hard to believe that significant network externalities remain unrealized. Thus, Goolsbee and Zittrain (1999, p. 424), state, "The major network externalities are likely to exhaust or at least diminish once the Internet achieves major scale. Too often, infant industry protection turns into established industry protection. Further, we expect that eventually there will be an important negative network externality . . . increasing Internet congestion. . . . The congestion problem is likely to get worse as the Internet grows and it argues against subsidizing the growth rate through tax policies." Similarly, testifying on behalf of the Congressional Budget Office, Thomas Woodward (2001) has said, "Network externalities arising from additional users, however, occur primarily in the early stages of a network's growth. At this point in the Internet's development, there appears to be few external network benefits to be garnered from additional users. . . . Effectively exempting remote purchases from sales taxes is an indirect and unevenly focused means of promoting the Internet's growth that is unlikely to bring significant benefits in terms of additional users or uses." See also Zodrow (2000, 2002).

enhanced services could be sidestepped by limiting the exemption to a given dollar amount per month, say $25.

Advocates of exempting electronic commerce have adopted a theory advanced by the mail-order industry—that remote vendors should not be required to collect tax because they do not benefit from services provided by the states where their customers are located. This argument—and counter-arguments that implicitly accept the validity of its basic premise—confuse the issue by focusing on services provided to remote vendors, which should be essentially irrelevant. The point is that purchasers pay the sales tax and it is to them that states provide services; the remote vendor would merely collect the tax. There is no reason to believe that a consumer of a given product consumes fewer state services simply because the product is bought from a remote vendor.

Some cite the threat of competition from foreign vendors as a reason to exempt e-commerce. This threat is clearly far greater for digitized content than for tangible products. First, the cost of international shipping would limit the threat in the latter case.[20] Second, sales tax on tangible products could, in principle, be collected at customs or the postoffice. (In fact, the lack of incentive for the federal government or the Postal Services to collect the tax and the complexity of state and local sales taxes makes this solution problematic.) By comparison, digital content can be "shipped" without significant cost, and it does not stop at the customhouse or the postoffice. This highlights the need for international cooperation in the taxation of e-commerce.[21] At the very least, cooperation must encompass all members of the Organisation for Economic Co-operation and Development (OECD), and it may need to extend well beyond that.

Yet another argument against taxing e-commerce involves holding Main Street merchants hostage in order to gain lower taxes. The reasoning is that if e-commerce (or all remote commerce) is not taxed, representatives of Main Street will pressure state and local governments to lower taxes, so that they will not be at so great a competitive disadvantage.

The basis for one argument for not extending the present sales tax system to electronic commerce (or to any form of remote commerce)—

[20] The cost of shipping cannot, however, justify not taxing imported products, as has been argued in the case of interstate mail order. To the extent that the tax exemption subsidizes shipping that would not otherwise occur, it causes resources to be wasted.

[21] On the taxation of electronic commerce in the European Union, see McLure (2001a). On the way globalization limits national sovereignty in taxation, see McLure (2001c).

namely, the complexity of the system—is indisputable. This does not, of course, mean that e-commerce vendors should not collect a tax that is dramatically simplified.

3.2 *Arguments for Taxing Electronic Commerce*

Arguments for taxing electronic commerce are based on equity, economic neutrality, revenue (or lower tax rates), and simplicity of compliance and administration.[22] They are, however, predicated on the assumption that the system is simplified substantially. Neither equity nor neutrality would be furthered by requiring remote vendors to collect tax in the absence of simplification.

There are several strands to the equity argument for taxing e-commerce. Perhaps most important, it is unfair to exempt remote sellers, including those involved in electronic commerce, from the duty to collect a tax that local merchants must collect. Also, it is unfair to exempt e-commerce purchases, which are made disproportionately by the relatively affluent, while taxing purchases from local vendors, made disproportionately by the less affluent.

The neutrality argument for taxing e-commerce is implicit in the earlier description of an economically neutral system and the distortions of the existing system. Two aspects of the additional distortions that would be created by exempting all e-commerce deserve special mention. First, many products can be delivered in either a tangible or an intangible (digitized) form. Exempting the latter would tilt choices toward that form of delivery. Second, given the "footloose" nature of many aspects

[22] Woodward (2001) makes most of these points. The objective of taxing electronic commerce like traditional commerce has been endorsed by the U.S. Treasury Department (1996), the Organisation for Economic Co-operation and Development (2001), and Senator Wyden, one of the original sponsors of the Internet Tax Freedom Act, who has included these words in S. 288:

> As a matter of economic policy and basic fairness, similar sales transactions should be treated equally, without regard to the manner in which sales are transacted, whether in person, through the mails, over the telephone, on the Internet, or by other means.

More than 100 academic tax specialists endorsed the "Appeal for Fair and Equal Taxation of Electronic Commerce," which the author submitted to the Advisory Commission on Electronic Commerce at its meeting in San Francisco in November 1999. The Appeal, which is reproduced in McLure (2000a) and (2000d), contained the following language:

> Electronic commerce should not permanently be treated differently from other commerce. There is no principled reason for a permanent exemption for electronic commerce. Electronic commerce should be taxed neither more nor less heavily than other commerce.

of electronic commerce, exempting sales made by remote vendors would aggravate distortions of locational decisions.

Given the complexity of the present system, it may come as a surprise that simplicity of compliance and administration is cited as an advantage of taxing electronic commerce. Exemption of e-commerce in the content of an otherwise radically simplified system would place a premium on the definition of e-commerce and spur efforts to "shoe-horn" various forms of traditional commerce into the exempt category—and also efforts to prevent this—thereby creating complexity.

3.3 *How Much Revenue Is at Stake?*

A few years ago state and local officials were issuing dire warnings that their tax base would vanish into cyberspace. Even before the end of the dotcom boom it came to be realized that these fears were vastly overstated.[23]

First, remote sales to business represent a large fraction of e-commerce. Some of these (e.g., sales for resale) are exempt, and tax on much of the rest can be collected directly from the buyer, which risks being audited, if the vendor does not remit the tax.

Second, some e-commerce transactions would not be taxable in any event, because the products are exempt (e.g., food in many states and services in most).

Third, some e-commerce sales represent a shift from traditional remote transactions that would effectively go untaxed because of the physical-presence nexus rule of *Quill*.

Finally, some e-commerce sales are by vendors who have nexus and thus collect tax.

Cline and Neubig (1999) found revenue losses in 1998 from the failure to tax electronic commerce to be only one-tenth of one percent of total sales tax revenue. Goolsbee and Zittrain (1999) estimated that revenue losses in 1998 were less than one-quarter of one percent of sales tax revenues and that in 2003 losses would be less than 2 percent of total sales tax revenues. Bruce and Fox (2000) estimated losses in 2003 to be about 1.5 percent of total state and local tax revenues; they did not translate this figure into percent of sales tax revenues. Emphasizing the uncertainty of any such estimates, the General Accounting Office (2000) estimated that revenue losses for 2000 would be less than 2 percent of total sales tax revenues and that in 2003 revenue losses would fall within the range of 1 to 5 percent of total sales tax revenues.

[23] See Cline and Neubig (1999), Goolsbee and Zittrain (1999), Bruce and Fox (2000), and U.S. General Accounting Office (2000).

4. EXTENSION OF THE INTERNET TAX FREEDOM ACT

To understand the debate over provisions that might accompany extension of the ITFA, it is necessary to know a bit about *nexus rules*, the judicial and statutory standards that determine whether a state can tax income or require remote vendors to collect sales tax or pay business activity taxes (BATs).[24]

4.1 Nexus for Use Tax Collection

Even before enactment of the ITFA in 1998, many remote e-commerce sales were already effectively exempt from taxation. In 1967 (in *National Belas Hess*, 386 U.S. 753) and again in 1992 (in *Quill*), the U.S. Supreme Court ruled that the sales and use taxes imposed by the states are so complicated that requiring remote vendors to collect the tax would impose an unconstitutional burden on interstate commerce. Only if the vendor has a physical presence in the state can it be required to collect tax. Although the buyer is legally liable to remit the tax on purchases from remote vendors who lack nexus, few non-business purchasers actually do so.[25] Thus the tax on sales made to consumers by many remote vendors is, in effect, a voluntary tax that few pay.

Proposals for changes in the nexus rules affecting e-commerce fall into three groups. Industry representatives favored a proposal that would elevate the test of nexus for duty to collect use tax on remote sales from "physical presence" to "substantial physical presence" and provide a list of in-state activities that would not be deemed to constitute nexus. These changes in the nexus standard would significantly restrict the taxing power of state and local governments.

In response to the projected growth of e-commerce—and thus of effectively exempt sales—most of the states are participating in the Streamlined Sales Tax Project (SSTP), which is intended to simplify and

[24] For a much more detailed discussion, see Hellerstein (1997).

[25] Since the test of nexus under the Due Process Clause is not as high as that under the Commerce Clause, states might be able to require remote vendors to provide information on sales to their residents and use that information to collect tax from purchasers. Or states might agree to collect this information for each other. Compared to collection of tax at the time of sale, such an approach would be extremely inefficient and costly and would probably not be worthwhile, except for big-ticket items. States where mail-order houses are concentrated would face pressure not to participate in a scheme for exchange of information. If such a scheme were put in place, it can be expected that states would compete for the headquarters of businesses by not participating in it.

modernize sales and use tax collection and administration; the next section describes the SSTP in greater detail. State and local governments favored a legislative proposal that would, in effect, override *Quill* for states that adopt the recommendations of the SSTP.[26]

The legislation actually enacted simply extends the ITFA for two years. It thus leaves the physical-presence nexus rule of *Quill* intact, without assuring the states that simplification would be rewarded by relaxation of that rule.

4.2 *Nexus for Business Activity Taxes*

The Supreme Court has not applied to BATs the same physical presence test of nexus it applies to sales taxes. But in 1959 the Congress limited state assertion of nexus by enacting P.L. 86-272, which prohibits taxation of the income of a seller whose only business activity in the state is solicitation of orders (including solicitation by agents) for sales of tangible personal property to be filled by shipment from outside the state.

P.L. 86-272 provides no protection for a corporation selling intangible property in a state. The Supreme Court of South Carolina has thus ruled (in *Geoffrey,* 437 S.E. 2d 13, *cert. den.* 114 S. Ct. 550, 1993) that the presence of intangibles in the state creates nexus. Since the U.S. Supreme Court refused to grant certiorari in the case, other states have sought to assert "Geoffrey nexus" in similar cases. There is considerable concern in the business community that this legal doctrine could be used to justify income taxes on out-of-state e-commerce firms selling intangibles. To prevent this from happening, one proposal would extend the protection of P.L. 86-272 to sellers of intangible products and apply to business activity taxes a newly enacted "substantial physical presence" test of nexus (which would clarify that the presence of intangible assets in a state would not constitute nexus).

[26] On August 17, 2001 the governors of 42 states sent the following letter to all members of Congress:

> August 8, 2001
> TO ALL MEMBERS OF THE UNITED STATES CONGRESS:
> If you care about a level playing field for main street retail businesses and local control of states, local governments, and schools, extend the moratorium on taxing Internet access ONLY with authorization for the states to streamline and simplify the existing sales tax system. To do otherwise perpetuates a fundamental inequity and ignores a growing problem.

The governors of California, Colorado, Delaware, Georgia, Massachusetts, New Hampshire, New York, and Virginia did not sign the letter, which is available at http://www.nga.org/nga/legislativeUpdate/1,1169,C_LETTER^D_2466,00.html.

5. PRIOR EFFORTS TO FIND A SOLUTION

Over the past several years several groups have attempted to find a solution to the problems posed by the advent of electronic commerce, especially in the sales tax area; one of these efforts continues and seems to offer the best hope for a solution.

5.1 The NTA Project

In 1997 the National Tax Association convened a large group representing business, state and local government, and "others." Virtually all of the business representatives were from the e-commerce and high-tech sectors; other, "traditional" business interests were essentially unrepresented. (There seems to be a presumption that it is representatives of the industries that would be affected who should be asked about tax policy in this area. Not surprisingly, they have responded that they would rather not pay income taxes or collect use taxes.)

The NTA Project met periodically for two years. From the outset the Project focused on a possible "compromise" involving greater simplification of the sales and use tax in exchange for an expanded duty to collect tax on remote sales. The Project considered only "broad brush" reforms, such as uniform definitions of potential elements of the tax base (that is, uniform definitions of products that might be taxed or exempt in a given state), the sourcing of e-commerce transactions, and technological fixes such as processing by credit-card companies; it never considered the many details of compliance and administration the SSTP has addressed, much less more radical reforms, such as the economically neutral and compliance-friendly system described earlier, which were deemed to be beyond its frame of reference. Because of strict rules that demanded a substantial qualified majority to make a decision, the Project was unable to reach a consensus on recommendations. Even so, the Project served the useful purpose of identifying issues and increasing mutual understanding among the various parties represented.[27] One sticking point that deserves notice was concern that government representatives might attempt to parlay business agreement to an expanded duty to collect use taxes into a lower nexus threshold for business activity taxes. (See also the Appendix.)

[27] The Final Report of the NTA Project is available at http://ntanet.org/. It does not seem unreasonable to attribute part of the states' continued interest in simplifying their systems to greater appreciation that the potential compliance problems cited by business are real.

5.2 *The Advisory Commission on Electronic Commerce*

The Internet Tax Freedom Act created the Advisory Commission on Electronic Commerce, which was charged with making "a thorough study of Federal, State and local, and international taxation and tariff treatment of transactions using the Internet and Internet access and other comparable intrastate, interstate or international sales activities." While members of the Advisory Commission ostensibly represented state and local governments, traditional business, and consumers, as well as the e-commerce and high-tech sectors and the federal government, in fact the membership was packed with members who opposed taxation of e-commerce.[28]

At the end of the day it was only the combination of the requirement for a two-thirds majority for the adoption of a "finding or recommendation" and the unwillingness of the federal representatives to go along with the opponents of taxation that prevented the Advisory Commission from forwarding to the Congress proposals that, if adopted, would have drastically reduced the taxing powers of the states. Even so, the Advisory Commission forwarded the following "majority policy proposals."[29]

First, a five-year exemption for digitized content downloaded from the Internet and "their non-digitized counterparts." This proposal would effectively exempt recorded music, videos, books and magazines, games, and software from taxation.

Second, codification of the *Quill* decision regarding nexus for use tax purposes and provision of safe harbors that would prevent corporate affiliation, repairs, and returns from being construed as evidence of a physical presence in the state.

Third, application of the physical-presence test of *Quill*, extended as described above, to nexus for business activities taxes.

Fourth, a suggestion that the National Conference of Commissioners on Uniform State Laws (NCCUSL) be asked to draft a uniform sales and use tax act that would include: (1) uniform tax base definitions; (2) uniform vendor discount; (3) uniform and simple sourcing rules; (4) one sales and use tax rate per state and uniform limitations on state rate changes; (5) uniform audit procedures; (6) uniform tax returns/forms; (7) uniform electronic filing and remittance methods; (8) uniform exemption administration rules (including a database of all exempt entities); (9) a methodology for approving software that sellers may rely

[28] On this, see McLure (1999).

[29] Advisory Commission on Electronic Commerce (2000).

on to determine state sales tax rates; (10) a methodology for maintaining revenue neutrality in overall sales and use tax collections within each state.

5.3 *The Streamlined Sales Tax Project*

Forty of the 45 sales tax states are currently involved in the Streamlined Sales Tax Project (SSTP), 35 as voting participants and 5 as non-voting observers. The SSTP, in the words of its Executive Summary:

is an effort created by state governments, with input from local governments and the private sector, to simplify and modernize sales and use tax collection and administration. The Project's proposals will incorporate uniform definitions within tax bases, simplified audit and administrative procedures, and emerging technologies to substantially reduce the burdens of tax collection. The Streamlined Sales Tax System is focused on improving sales and use tax administration systems for both Main Street and remote sellers for all types of commerce.[30]

On December 22, 2000 state representatives to the SSTP voted unanimously to approve the Uniform Sales and Use Tax Administration Act and the Streamlined Sales and Use Tax Agreement. The Uniform Act would authorize the taxing authority of the state "to enter into the Streamlined Sales and Use Tax Agreement with one or more states to simplify and modernize sales and use tax administration in order to substantially reduce the burden of tax compliance for all sellers and for all types of commerce." The Agreement contains the many details of simplification and uniformity. The National Conference of State Legislatures (NCSL) endorsed the Act and Agreement on January 24, 2001, but only after making modifications that significantly reduce the implied simplification. (Among the items deleted pending further review are uniform definitions of items in the tax base and limitations on tax rate caps, thresholds, and sales tax holidays—all provisions that are important for simplification.) To date 22 states have approved some form of the legislation, and legislation has been introduced in 7 more states.[31]

[30] This description is from the Executive Summary of the SSTP, available at http://208.237.129.206/sline/execsum.pdf.

[31] Links to the Uniform Sales and Use Tax Administration Act and the Streamlined Sales and Use Tax Agreement, issue papers that explain the SSTP proposals, and a map showing the status of legislation are available at http://www.geocities.com/streamlined2000/ and at http://www.nga.org/nga/salestax/1,1169,,00.html. McLure (forthcoming) examines the SSTP proposals.

The key features of the Streamlined Sales Tax System developed by the SSTP include[32]:

Uniform definitions of products. Legislatures will still be able to choose what is taxable and exempt, but will use common definitions for broad groups of products (and a few more narrowly defined products, such as soft drinks). State and local governments in a given state will use the same tax base.

Simplified exemption administration. Proposals for simplification cover both use- and entity-based exemptions. Uniform codes will be used for exempt products.

Rate simplification. States will be encouraged to simplify state and local tax rates. States will accept responsibility for notice of rate and boundary changes.

State administration of local taxes. States will be responsible for the administration of all state and local taxes and the distribution of revenue from local taxes to local governments.

Uniform sourcing rules. The states will have uniform sourcing rules for all property and services.

Simplified "one-stop" online registration and uniform returns. Vendors would be able to register simultaneously in all participating states and file uniform returns.

Uniform audit procedures. Sellers who use one of the certified technology models described below either will not be audited or will have an audit that is limited in scope, depending on the technology model used.

Reliance on technology. The states would jointly certify software to be used to calculate the tax imposed by each sales tax jurisdiction. A vendor could use such software to calculate and remit its own tax, or it could rely on a certified service provider (CSP, called a "trusted third party" in earlier descriptions of this approach) to calculate and remit its tax. Alternatively, vendors could rely on proprietary software that had been certified by the states.

Paying for the system. To reduce the financial burdens on sellers, states will assume much of the financial burden of implementing the Streamlined Sales Tax System.

[32] Other simplifications would include standardized geographic coding, limited frequency and required advance notice for changes in tax rates and jurisdictional boundaries, limitations on the use of caps and thresholds in defining tax bases, requirement that tax holidays employ standard definitions of products, uniform provisions for bad debts, and uniform rounding rules. Where there are differences between the original SSTP proposals and those approved by the NCSL, the former are described.

The system being developed by the SSTP is a political compromise between simplicity and state sovereignty. It would substantially reduce complexity. But it falls short of the uniformity and simplicity of the economically neutral and compliance-friendly system described earlier, largely due to the desire to retain state control over many of the parameters of sales tax policy.

Rather than proposing a uniform tax base, the SSTP proposes uniform definitions of what might be taxed or exempt, leaving to each state the choice of whether or not to tax each identified item. Moreover, it achieves relatively little uniformity in the treatment of sales to business. To handle interstate differences in the tax base, the Project would rely heavily on technology, essentially comprehensive lookup tables that categorize products as taxable or exempt in each state.

Rather than proposing a legal and administrative framework that is uniform from state to state, the SSTP would leave the existing structure unchanged, except in particular ways. Thus vendors and CSPs will still face interstate differences in statutes, regulations, and interpretations and in administrative procedures.

6. SUMMARY AND ANALYSIS

6.1 *Summary*

The *economically efficient sales tax* system described earlier can be summarized in three rules: First, all sales to consumers would be taxed. Second, all sales to business would be exempt. Third, sales by local and remote vendors would be taxed equally.

A *compliance-friendly sales tax* would exhibit substantial simplicity and uniformity. Uniformity would extend to the tax base, to statutes, regulations, and their interpretation, and to administrative procedures, which would be drastically simplified. Remaining compliance costs would be mitigated by de minimis rules and vendor discounts.

Existing sales taxes exhibit none of these characteristics. At present many sales to consumers are exempt, many sales to business are taxed, and many sales by remote vendors are not taxed. The system is extremely complex, in large part because there is essentially no uniformity from state to state. States make little use of de minimis rules, and vendor discounts are inadequate to compensate for compliance costs.

In recent years the states have begun serious efforts to simplify their sales taxes and make them more nearly uniform. These efforts would substantially simplify the system, but do not go as far as the economically neutral and compliance-friendly system. Many sales to con-

sumers would remain exempt, and many sales to business would still be taxed.

6.2 *Analysis of ITFA Options*

As noted earlier, proposals for extension of the ITFA fell into three groups:

Extension only. The legislation that was enacted leaves many remote purchases by consumers effectively untaxed, with obvious implications for equity, efficiency, and revenues. It maintains pressure on states to simplify their systems, in hopes of gaining approval (from the Supreme Court or the Congress) of an expanded duty to collect use tax, but does not provide any assurance that the requisite approval will be forthcoming if simplification is achieved.

Government position. State and local governments favored a proposal that would authorize interstate cooperation to simplify sales and use taxes, promising that if such cooperation is forthcoming, the physical presence test of nexus would be replaced (for cooperating states) with one based on the volume of sales a remote vendor makes in a state. It would have been more conducive to economic neutrality, equity, and simplicity than the legislation actually enacted.

Business position. Business favored a proposal that would prohibit state assertion of nexus unless a remote vendor has a "substantial physical presence" in the taxing state and lists activities that would not constitute a substantial physical presence. This proposal would have eliminated tax on many sales; to the extent it achieved simplicity it would do so at the cost of economic neutrality, equity, and revenue. Some industry proposals also would have extended the expanded nexus test to BATs, further undermining state revenues, especially where states have adopted the sales-only apportionment factor or do not require unitary combination. (On this, see the Appendix.)

6.3 *Postscript*

On November 28–29, 2001, after the conference where this paper was presented, the "implementing states" of the SSTP held their inaugural meeting to chart the way forward. The proceedings of that meeting suggest that the states take seriously the need to simplify their sales and use taxes, in part because they realize that, if they fail to achieve real simplification by the time the ITFA expires again on November 1, 2003, the Congress may simply extend the ITFA permanently, without considering elimination of the physical-presence test of *Quill.*

APPENDIX: BUSINESS ACTIVITY TAXES

Whereas the debate on sales and use taxes has, from the outset, involved an attempt to gain agreement on a compromise that would combine simplification and an expanded duty to collect use tax, what little debate has occurred on business activity taxes has been limited to the question of nexus. (Business representatives would like to see the physical-presence nexus rule of *Quill*, perhaps expended as described in the text, applied to BATs; they fear that if they agree to a compromise on nexus for use taxes, states will attempt to stretch the parameters of that compromise to assert nexus for BATs.) But this is an extremely narrow view of the problem; nexus must be considered simultaneously with other aspects of BATs if a reasonable result is to be reached.[33]

A.1 Issues in the Design of State Business Activity Taxes

Unlike the state sales tax, the state corporate income tax and related forms of BATs cannot easily be justified under any accepted principle of taxation. The benefit principle does not provide a fully satisfactory justification, as it is hard to argue that the only businesses that benefit from public services are those that are incorporated, that only profitable corporations receive such benefits, or that benefits are proportionate to taxable profits. The "squishy" view that states are "entitled" to tax income that has its source within their boundaries fares only a little better. Perhaps the best approach is to be pragmatic, recognizing that the purpose of state corporate income taxes is to tax income that originates in the state.[34] Attempting to implement this "standard" encounters several obstacles and raises a number of issues that must be considered along with nexus rules.

A.1.1 Formula Apportionment Corporate taxpayers do not employ geographically separate accounting which attempts to measure the income that originates in each state, and requiring them to do so, besides being impractical, would be conceptually suspect and subject to abuse. First, because of the economic interdependence between parts of a corpora-

[33] As Dan Bucks, Executive Director of the Multistate Tax Commission, has said, "One cannot study business activity nexus separate from the rest of the structure of corporate tax or franchise taxes. Nexus standards interact with apportionment formulas and with reporting methods—and by reporting methods, I'm talking generally about combined reporting versus separate-entity corporate reporting. And the overall issue is very complex, and it really involves looking not just at nexus, but looking at an entire structure of the corporate taxes." Public testimony before the NCSL, reported in Sheppard (2001).

[34] The U.S. Supreme Court has applied a looser test: tax must be "reasonably related" to the taxpayer's activities in the state.

tion operating in various states, it is conceptually impossible to isolate the income originating in each state. Second, corporations could manipulate transfer prices for transactions between parts of the corporation operating in different states to shift net taxable income to low-tax states. To overcome these problems states use formulas to *apportion* the total income of a multistate corporation among the states where it operates. For many years most of the states used a standard formula that assigned equal weights to three apportionment *factors:* payroll, property, and sales (at destination). More recently there has been a decided shift toward using only sales to apportion income, so that now "sales only" is the most common formula. It appears that this shift has occurred as part of an attempt to attract economic activity, not because it is thought to produce a better measurement of income originating in the state.

A.1.2 Unitary Combination If each member of a corporate group is taxed as a distinct entity, manipulation of transfer prices and economic interdependence make isolation of the income of the various entities problematic. To overcome these problems some states combine the activities of related corporations deemed to be engaged in a "unitary business" in order to determine the income of corporations doing business within the state. Under unitary combination transactions between members of the unitary group (e.g., sales, interest payments, and dividends) are ignored and the total domestic income of the group is apportioned among the states according to the apportionment factors of the entire group.[35] Only a minority of states employ combination, despite its manifest advantages, and those do so do not all employ the same definition of a unitary business.

A.2 Defects of the Present System

The present system exhibits the following characteristics.

A.2.1 Inconsistent Nexus Rules and Apportionment Formulas It is readily apparent that the nexus rule of P.L. 86-272 and the sales-only apportionment formula are logically inconsistent; if merely having sales in a state does not create nexus and only sales are used to apportion income, substantial amounts of income may escape taxation. The inconsistency of the two rules can result in substantial loss of revenue, especially when a state does not combine the activities of corporate affiliates engaged in a unitary business; an out-of-state corporation could have

[35] During the 1980s some states' application of unitary combination on a worldwide basis created considerable international consternation and controversy. That practice has now ended and is not considered here.

significant sales in a state—including one where it has affiliates—without having nexus.[36] Enactment of the physical-presence test of *Quill* would exacerbate this problem.

To some degree individual states suffer from a problem they have created and could correct acting alone. That is, a state could minimize the damage to its revenues by requiring unitary combination and avoiding the sales-only apportionment formula. (By comparison, the inability to assert nexus for use tax is the result of the collective inability of the states to simplify the system and thus cannot be overcome by any individual state acting alone.) But this would not eliminate the loss of tax base that occurs when a corporation meets the standards of P.L. 86-272 (or that would occur under the "substantial physical presence" test of nexus). This could be avoided by replacing P.L. 86-272 with a de minimis nexus rule based on the in-state presence of significant amounts of the apportionment factors (as well as the existence of a significant amount of apportionable income).[37]

A.2.2 The Lack of Uniformity Such a reform would expose many more corporations to liability for BAT in states where they have no physical presence. This would accentuate compliance problems caused by the lack of uniformity of such taxes unless the relaxation of nexus rules were accompanied by simplification. A simplified system might exhibit the following forms of uniformity, some of which are analogous to those of the economically neutral and compliance-friendly sales tax system: first, a uniform definition of apportionable income (presumably based on the federal definition of taxable income, with such adjustments as are required by combination); second, application of unitary combination, based on a uniform definition of a unitary business; third, a uniform apportionment formula, based on uniform definitions of apportionment factors; fourth, uniform statutes, regulations, and interpretations; and fifth, simplified administrative procedures ("one-stop" registration, filing, etc.). As under the economically neutral and compliance-friendly sales tax system, states would retain complete control over tax rates.

There is currently a lack of uniformity especially in the application of unitary combination and the choice of apportionment formulas. This creates both complexity and the possibilities of over- and undertaxation. Because of reliance on federal concepts, there is somewhat more uniformity of legal and administrative standards than in the sales tax field.

[36] For further discussion of inconsistencies between these provisions, see Mazerov (2001).

[37] This argument is developed more fully in McLure (2000c).

REFERENCES

Abrams, Howard E., and Richard L. Doernberg (1997). "How Electronic Commerce Works." *State Tax Notes* 13(July 14):121–136.

Advisory Commission on Electronic Commerce (2000). *Report to Congress.*

Bruce, Donald, and William F. Fox (2000). "E-Commerce in the Context of Declining Sales Tax Bases." *National Tax Journal* 52 (no. 4, part 3, December):1373–1388.

Cline, Robert J., and Thomas S. Neubig (1999). "The Sky Is Not Falling: Why State and Local Revenues Were Not Significantly Impacted by the Internet in 1998." *State Tax Notes* 17(July 5):43–51.

Cline, Robert J., and Thomas S. Neubig (2000). "Masters of Complexity and Bearers of Great Burden: The Sales Tax System and Compliance Costs for Multistate Retailers." *State Tax Notes* 18(January 24):297–313.

Diamond, Peter A., and James A. Mirrlees (1971). "Optimal Taxation and Public Production II: Tax Rules." *American Economic Review* 61 (no. 2, June):261–278.

Due, John F., and John L. Mikesell (1994). *Sales Taxation: State and Local Structure and Administration* (2nd edition). Washington: Urban Institute Press.

Eads, James, et al. (1997). "National Tax Association Communications and Electronic Commerce Tax Project Report No. 1 of the Drafting Committee." *State Tax Notes* 13(November 17):1255–1270.

Goolsbee, Austan, and Jonathan Zittrain (1999). "Evaluating the Costs and Benefits of Taxing Internet Commerce." *National Tax Journal* 52(September):413–428.

Hellerstein, Walter (1997). "State Taxation of Electronic Commerce." *Tax Law Review* 52(no. 3, spring):425–506.

Mazerov, Michael (2001). "The Single-Sales-Factor Formula: A Boon to Economic Development or a Costly Giveaway?" Center on Budget and Policy Priorities.

McIntyre, Michael J. (1997). "Taxing Electronic Commerce Fairly and Efficiently." *Tax Law Review* 52:625–654.

McLure, Charles E., Jr. (1997). "Taxation of Electronic Commerce: Economic Objectives, Technological Constraints, and Tax Laws." *Tax Law Review* 52 (no. 3, spring):269–424.

McLure, Charles E., Jr. (1998a). "Electronic Commerce and the Tax Assignment Problem: Preserving State Sovereignty in a Digital World." *State Tax Notes* 14(April 13):1169–1381.

McLure, Charles E., Jr. (1998b). "Achieving a Level Playing Field for Electronic Commerce." *State Tax Notes* 14(June 1):1767–1783.

McLure, Charles E., Jr. (1999). "Electronic Commerce and the State Retail Sales Tax: A Challenge to American Federalism." *International Tax and Public Finance* 6(May):193–224.

McLure, Charles E., Jr. (2000a). "The Taxation of Electronic Commerce: Background and Proposal." In *Public Policy and the Internet Privacy, Taxes and Contracts,* Nicholas Imparato (ed.). Stanford, CA: Hoover Institution Press.

McLure, Charles E., Jr. (2000b). Rethinking State and Local Reliance on the Retail Sales Tax: Should We Fix the State Sales Tax or Discard It? *Brigham Young University Law Review* 2000:77–137.

McLure, Charles E., Jr. (2000c). "Implementing State Corporate Income Taxes in the Digital Age." *National Tax Journal* 53(December):1287–1305.

McLure, Charles E., Jr. (2000d). "How—and Why—the States Should Tax Electronic Commerce: Explanation of My ACEC Proposal for Radical Simplification." *State Tax Notes* (January 10):129–140.

McLure, Charles E., Jr. (2001a). "Taxation of Electronic Commerce in the European Union." Prepared for presentation at a conference on "Tax Policy in the European Union" held at the Research Center for Economic Policy, Erasmus University, Rotterdam, October 17–19.

McLure, Charles E., Jr. (2001b). "SSTP: Out of the Great Swamp, but Whither? A Plea to Rationalize the State Sales Tax." *22 State Tax Notes* 14 (December 31):1077–1086.

McLure, Charles E., Jr. (2001c). "Globalization, Tax Rules and National Sovereignty." *Bulletin for International Fiscal Documentation* 55(August):328–341.

McLure, Charles E., Jr. (forthcoming). "Taxing Electronic Commerce: Legal, Economic, Administrative and Political Issues." Prepared for presentation at the Annual Meeting of the Association of American Law Schools, San Francisco, January 5, 2001. Forthcoming in *Urban Lawyer*.

Ring, Raymond J., Jr. (1999). "Consumers' Share and Producers' Share in the General Sales Tax." *National Tax Journal* 52(March):79–90.

Organisation for Economic Co-operation and Development (2001). "The Ottawa Taxation Framework Conditions." In *Taxation and Electronic Commerce: Implementing the Ottawa Framework Conditions.* Paris: OECD.

Sheppard, Doug (2001). "NCSL Approves Internet Tax Resolutions." *State Tax Notes* 21(August 20):570.

Slemrod, Joel (1990). "Optimal Taxation and Optimal Tax Systems." *Journal of Economic Perspectives* 4(no. 1, winter):157–178.

U.S. Department of the Treasury, Office of Tax Policy (1996). "Selected Policy Implications of Global Electronic Commerce." Available at http://www.ustreas.gov/taxpolicy/internet.html, visited August 22, 2001.

U.S. General Accounting Office (2000). *Sales Taxes: Electronic Commerce Growth Presents Challenges; Revenue Losses Are Uncertain.*

Varian, Hal (1999). "A Proposal to Eliminate Sales and Use Taxes," a submission to the Advisory Commission on Electronic Commerce. Available at http://www.ecommercecommission.org/library.htm.

Woodward, G. Thomas (2001). "Economic Analysis of Taxing Internet and Other Remote Sales." Testimony before the Committee on Finance, U.S. Senate, August 1.

Zodrow, George R. (2000). "Evaluating the Case for a Temporary Moratorium on the Taxation of Electronic Commerce." *State Tax Notes* 19(December 4):1515–1521.

Zodrow, George R. (2002). "Network Externalities and Indirect Tax Preferences for Electronic Commerce." Forthcoming in *International Tax and Public Finance.*