Harvard Journal of Law & Technology Volume 13, Number 3 Summer 2000

TAXATION OF ELECTRONIC COMMERCE

Hal R. Varian*

One of the apparent attractions of Internet shopping is the absence of sales tax collection: according to a recent survey, 46% of online buyers said they have never paid sales tax on an Internet purchase, and 75% said they would buy less on the Internet if a sales tax were imposed. State officials, alarmed by the rapid growth of Internet commerce and the potential of lost sales tax revenue, have called for legislation allowing them to collect sales taxes on Internet transactions. Others have argued that the de facto tax-free status of online shopping has provided an important stimulus to electronic commerce. In 1998, Congress passed the Internet Tax Freedom Act, which placed a three-year moratorium on new Internet taxes. In 1999, Congress created the Advisory Commission on Electronic Commerce, a 19-member panel of representatives from government and the high-tech industry, to study online taxation and related issues. The Commission released its report in April 2000.²

The purpose of this Comment is to lay out the relevant issues and consider some of the proposed solutions. My conclusion: The current system of state taxes is overly complex and poorly designed. No matter what one thinks will happen with online purchases, the system stands in need of serious reform.

^{*} Dean, School of Information Systems and Management, University of California at Berkeley. I would like to thank Alan Auerbach, Austan Goolsbee, Roger Gordon, Charles McLure, Annette Nellen, Richard Prem, George Zodrow, and John Zysman for their helpful comments on earlier drafts. I am, of course, solely responsible for any remaining errors in this briefing.

^{1.} From an online survey of 7,000 online buyers at point of sale, conducted by Bizrate.com in September 1999.

^{2.} See Advisory Commission on Electronic Commerce, Report to Congress (visited June 1, 2000) http://www.ecommercecommission.org/report.htm.

I. POLICY BACKGROUND

A. Sales Taxes and Use Taxes

In 1998, state sales taxes generated about \$157 billion, roughly 25% of state and local tax revenues.³ This amounts to about 5% of household income and is equivalent to \$1,900 per household or about \$770 per capita.⁴ The only states that do not have a sales tax are Alaska, Delaware, Montana, New Hampshire, and Oregon, which together comprise about 3% of the U.S. population.⁵

Sales taxes are typically collected by the seller at the point of sale and thus apply only to purchases made in a given state. However, all forty-five states that have sales taxes also have "use taxes," which apply the same sales tax rate to out-of-state purchases made by state residents. The problem is that there is no easy way to enforce the collection of use taxes, since states do not have tax jurisdiction over out-of-state companies and thus cannot require them to collect use taxes at the point of sale.

B. Collecting Use Taxes From Consumers

Experiments in collecting use taxes directly from consumers have not been successful. Michigan and Wisconsin, for example, have asked taxpayers to report their out-of-state purchases on their state income tax forms, but very few taxpayers have responded.⁶ Nevertheless, several states have indicated that they intend to pursue educational campaigns

^{3.} The national total of state general sales and gross receipt taxes for 1998 was estimated at \$157,307,000,000. See U.S. Census Bureau, Quarterly Summary of State and Local Tax Revenue (visited June 1, 2000) http://www.census.gov/govs/www/qtax.html. Note that these figures include sales taxes paid by both businesses and consumers.

^{4.} The real median income of households in the United States in 1998 was estimated to be \$38,885. See U.S. Census Bureau, Income 1998 Highlights (last modified Sept. 30, 1999) http://www.census.gov:80/hhes/income/income98/inc98hi.html. The United States Census Bureau projected that there were 101,042,864 households in the United States in 1998. See U.S. Census Bureau, Projections of Households by Type: 1995 to 2010 (visited June 1, 2000) http://www.census.gov/population/projections/nation/hh-fam/table1n.txt.

^{5.} See Population Reference Bureau, 1999 United States Population Data Sheet (visited June 1, 2000) http://www.prb.org/pubs/usds99/usds99a.htm.

^{6.} See, e.g., Michigan Dep't of Treasury, SUW Introduction (last modified May 22, 2000) http://www.treas.state.mi.us/mitax/suw/useindex.htm.

and other efforts to get consumers to pay use taxes. Few observers hold out much hope for these efforts.

Since use taxes are so difficult to enforce, most people regard outof-state purchases as being effectively tax free, making mail order and online purchases more attractive than if they were taxed the same as local purchases. Economist Austan Goolsbee analyzed a survey of the purchase behavior of 25,000 consumers and estimated that online sales could drop by almost 25% if online purchases were taxed the same as local purchases.⁷

C. Collecting Use Taxes From Firms

The situation is quite different for businesses. Businesses are subject to tax audits by state authorities, which give states a relatively easy way to enforce payment of use taxes. Although estimates of use tax compliance by businesses vary widely, it is generally agreed that compliance is much higher by businesses than by consumers. The higher compliance rate by businesses is important since only about 60% of state tax revenues come directly from consumers; the remaining 40% comes from business and non-profit purchases.⁸

Economists argue that taxing business purchases is not wise since these taxes end up being passed along to consumers in the form of higher prices, which distorts both consumer purchasing and business structuring decisions. Suppose that firm A sells a product to firm B for \$1 plus a 5% sales tax. Firm B then sells the same product to a consumer for \$2 plus another 5% sales tax. If all of these taxes are passed along, the consumer ends up paying 15 cents tax on a \$2 purchase. The increase in the final tax paid by the consumer due to the taxation of business inputs is known as "pyramiding" or "cascading." This pyramiding of taxes will cause consumers to consume less of the good than they would have otherwise and may cause firms to change their behavior simply to reduce their tax burden. For example, firms may choose to vertically integrate solely to avoid taxation on purchases of intermediate products.

^{7.} See Austan Goolsbee, In a World Without Borders: The Impact of Taxes on Internet Commerce, 115 Quarterly J. of Econ. 561, 573 (2000). See also Austan Goolsbee & Jonathan Zittrain, Evaluating the Costs and Benefits of Taxing Internet Commerce, 52 Nat'l Tax J. 413, 414 (1999). It is worth noting that the estimated decline in mail order purchases is of similar magnitude.

^{8.} See Raymond J. Ring, Jr., Consumer's Share and Producer's Share of the General Sales Tax, 52 NAT'L TAX J. 79 (1999).

The situation is not quite as simple as this example suggests since all states exclude from sales tax goods that are directly intended for resale, and many states exclude component parts of taxable goods. However, goods such as office furniture, yellow note pads, and computer equipment are often subject to state sales or use taxes. The cost of these goods goes into overhead, but these overhead costs generally end up being reflected in the final price that consumers pay, which can make the effective tax on consumer purchases far higher than intended.

This pyramiding effect of U.S.-style sales taxes should be contrasted with the Value Added Tax ("VAT"), which is widely used in other countries, including Canada and most of Europe. Under a VAT system, each business receives a credit for the taxes paid to its suppliers, so that only final consumption ends up being taxed. In the example given above, firm B could deduct the 5 cent sales tax paid to firm A, making the tax burden on the end consumer only 5%. The American sales tax treatment of out-of-state purchases is particularly perverse since, in practice, it exempts final consumption but taxes business production, which is exactly the opposite of what should happen.

D. Difficulties With Enforcement

It is important to understand that collecting a sales tax — or, more properly, a use tax — on out-of-state purchases is not a "new" tax. Use taxes have been on the books for years in most states. The issue is simply one of enforcement. States are able to collect use taxes on businesses located within the state since businesses are regularly audited and are required to prove that they have paid the taxes levied on them. Individual consumers, however, are rarely audited by state tax authorities and therefore generally escape payment of use taxes.⁹

It might be thought that a state could simply require out-of-state businesses to collect sales taxes on items shipped to its residents. In 1987, North Dakota tried to do just this by passing a law defining a "retailer" to include "every person who engages in regular or systematic solicitation of a consumer market in the state." Lawyers use the term "nexus" to describe the degree of business activity or presence required before a tax jurisdiction can require collection of a tax by a remote

^{9.} There are exceptions. For example, automobiles are required to be registered in the state where they are operated, so authorities can collect use taxes at that point.

^{10.} Quill Corp. v. North Dakota, 504 U.S. 298, 302-03 (1992).

vendor. The North Dakota law asserted that mere solicitation of a consumer market in a state was enough to create nexus. Subsequently, the state attempted to collect taxes from mail order companies located in other states.¹¹

Quill Corporation, a mail order vendor of office equipment and supplies located in Illinois, took the position that since the company did not have a physical presence in North Dakota, it should not be required to collect sales tax from its customers and remit the tax to the state. The trial court ruled in favor of Quill, noting previous rulings that supported the physical presence requirement for nexus. The North Dakota Supreme Court reversed this ruling, but, in 1992, the U.S. Supreme Court overturned the state court's decision and ruled that North Dakota's enforcement of its use tax against Quill was a violation of the Commerce Clause of the U.S. Constitution.

According to the U.S. Supreme Court, North Dakota could not unilaterally make its own jurisdictional definition. However, the Court noted that the Commerce Clause gives Congress the power to regulate interstate commerce and that Congress could choose to establish new requirements for nexus if it wished. Some attempts were subsequently introduced in Congress to establish conditions under which out-of-state commerce could be taxed, but they were never enacted. Taxation of out-of-state purchases was subsequently relegated to the back burner until the rapid growth of Internet commerce again brought this issue to the fore.

Note that companies that do have a physical presence in a state are required to collect sales tax on purchases made by state residents, and this requirement is widely enforced. E-commerce vendors that also have physical presence in several states argue that they are at a competitive disadvantage relative to "pure" e-commerce vendors. Some companies, such as Barnes & Noble and Gateway, have created separate subsidiaries to avoid the requirement of collecting sales tax. Such a policy precludes the subsidiary from offering any services (such as returns) through the local outlets.

^{11.} See id. at 303.

^{12.} See id.

^{13.} See id.

^{14.} See id. at 314.

^{15.} See id. at 318-19.

II. POLICY OPTIONS

There are four broad policy options. The first is to maintain the status quo, which requires consumers to pay taxes on in-state purchases but effectively allows them to avoid taxes on most out-of-state purchases. A second option is to legitimize the status quo by banning sales taxes for all Internet purchases. The third option is to set up a system that will allow states to collect use taxes on out-of-state purchases. The fourth is to eliminate the sales tax for all purchases, online and offline, and use other forms of taxation to make up for the lost revenue.

A. Maintain the Status Quo

There are many forecasts for the growth of e-commerce. However, these forecasts often lump together business-to-consumer ("B2C") with business-to-business ("B2B") transactions. Since businesses generally pay use taxes, the appropriate number to consider is online shopping by consumers. Jupiter Communications estimates that online shopping (excluding cars and real estate) totaled about \$5.8 billion in 1998 and will grow to \$37 billion in 2002. Total retail sales in 1998 were about \$2.75 trillion, if implying that online shopping comprised about 0.2% of total retail sales in 1998. In the fourth quarter of 1999, online shopping totaled \$5.3 billion, which was 0.64% of total retail sales during that period.

Even using very optimistic forecasts, online sales to consumers in 2002 will comprise only about 1% of 1998 retail sales. By way of comparison, catalog sales totaled at least \$60 billion in 1995, roughly 4% of total retail sales in that year and perhaps much larger.¹⁷ It is also important to recognize that not all online sales are of taxable goods. The "big ticket" item currently sold on the World Wide Web is, in fact, tickets – airline tickets, which are not subject to state sales tax. Hence, only a fraction of online sales represent lost state tax revenue. It may well happen that online sales peak out at some point in the future, just as catalog sales and home shopping have peaked out. If online sales do peak out at a relatively low level, they may just be regarded as a nuisance and the issue of taxing online commerce may recede into the

^{16.} See U.S. Census Bureau, Annual Retail Trade Survey: 1986 to 1998, (last modified May 26, 2000) http://www.census.gov/svsd/www/artstbl.html.

^{17.} See Jared Sandberg, At Last, Main Street.com Is Opening for Business, WALL ST. J. INTERACTIVE EDITION, June 17, 1996.

background, just as the issue of taxing mail order sales did several years ago.

University of Tennessee economists Donald Bruce and William F. Fox estimate that in 2003 the lost state tax revenue due to Internet commerce will be approximately \$10.8 billion. Although this sounds like a lot, it is less than 2% of their forecast state and local tax revenues for 2003.

B. Ban Internet Taxation

Senator John McCain has introduced Senate Bill 1611, which broadens the scope of the Internet Tax Freedom Act and makes the current moratorium on new Internet taxes permanent.¹⁹ There are many unanswered questions about how such a ban would work. Would businesses not be required to pay use tax on items purchased over the Internet? It is widely expected that businesses will move much of their procurement to the Internet; they would likely accelerate this movement if it allowed them to avoid sales tax entirely, and this would result in substantial revenue loss for state and local governments.

Would a sales tax ban for Internet purchases apply to companies selling to in-state purchasers? If so, we might expect to see many Main Street merchants move to an Internet-based ordering system. An extreme example might be a computer terminal in a local drugstore that allowed a user to place an order "over the Internet" and pick up the goods on the way out the door.

A permanent ban on Internet taxation gives favorable tax treatment to one form of purchase. The Internet Tax Freedom Act argued that this practice was justified due to the "infant industry" nature of the Internet. As the Internet matures, however, this argument becomes less tenable.

C. Collect Taxes on Out-of-State Sales

At the urging of the states, Congress could decide to pass a law eliminating the physical presence requirement for nexus, which would allow states to compel out-of-state vendors to collect use taxes.

^{18.} Donald J. Bruce & William F. Fox, *E-Commerce in the Context of Declining State Sales Tax Bases* 11 (Center for Business and Econ. Research, University of Tennessee Working Paper, Apr. 2000) (visited June 1, 2000) http://cber.bus.utk.edu/e-comm.pdf>.

^{19.} See S. 1611, 106th Cong. (1999).

However, it must be noted that such a law would be politically unpopular in some quarters. Congress may well be reluctant to act since it is being asked to enable the collection of a tax but would receive none of the revenues from that tax.

Alternatively, states could form coalitions that would allow them to collect taxes for each other. The trouble with this plan is that the more states that join such a coalition, the more attractive it would be for other states to stay out of it. Suppose, for example, that California and Arizona form such a coalition. If Nevada refused to join, e-businesses would likely find Nevada a very attractive place to locate their servers and warehouses.

A third option would be to create a central tax collection agency (a "trusted third party") to collect taxes on remote purchases and distribute revenues to the states. Such a collection agency could be created either by a coalition of states or by the federal government, but, for the same reasons discussed above, undoubtedly would be politically unpopular.

Even if these obstacles could be overcome and states were able to enforce use tax collection, there would still be an implementation problem. One possibility is that credit card companies could collect the tax, but the most likely outcome is that the tax would be charged when the order is processed by the vendor.

A serious complication to any plan is that there are thousands of sales tax jurisdictions in the United States, since many localities charge their own sales taxes on top of the state sales tax. In fact, sales taxes represent about 15% of local tax revenues in the United States.²⁰ The boundaries of these tax jurisdictions do not typically coincide with zip code boundaries, making exact calculation of local sales taxes particularly difficult. To avoid detailed calculation of sales taxes, mail order firms that are required to collect taxes in states where they have a physical presence sometimes follow the "capital city rule," in which the sales tax collected is equal to the rate that prevails in the capital city of the state.

However, there are software programs that will estimate appropriate sales tax rates — for example, http://theSTC.com features a demonstration of a sales tax calculator. Programs like this sell for \$50-\$1,000, depending on their degree of sophistication. For this reason, determining the appropriate tax jurisdiction and looking up the

^{20.} See 2 United States Advisory Commission on Intergovernmental Relations, Significant Features of Fiscal Federalism 1989, at 38–39 (1989), reprinted in Richard D. Pomp & Oliver Oldman, State and Local Taxation (3d ed. 1998).

correct rate may be a nuisance, but it is a manageable one. A more significant issue is the way the tax base differs across states: books are taxable in California, but not in Massachusetts. There are plenty of more bizarre examples: at one time New York counted large marshmallows as taxable snacks, while small marshmallows were designated tax-exempt food.²¹

Even this issue is not as significant as it first appears since remote vendors of a single category of consumption goods, such as clothes or books, would not find it particularly onerous to track which states exempted those items from sales tax. On the other hand, a vendor selling multiple product lines, such as Wal-Mart, would find it hard to track all the sales tax rules for all the jurisdictions to which it might ship items. Getting sales tax calculations 100% right would be quite costly; but getting them 95% right would not be terribly difficult.

If sales taxes are to be collected on out-of-state purchases, it would be highly desirable to harmonize the definitions of what is taxable in various states and to simplify the local variation in tax rates. In *Quill*, the Supreme Court explicitly noted the compliance burden due to the complexity of state sales tax treatment. Various state organizations, such as the National Governors' Association, recognize that tax simplification is an important aspect of e-commerce taxation.²²

D. Eliminate the Sales Tax

As this quote illustrates, sales taxes are not regarded as a particularly "good" or "well-designed" type of tax by most economists. I have already mentioned the tax pyramiding problem. Another

^{21.} See Howard Gleckman, The Tempest Over Taxes, BUSINESS WEEK, Feb. 7, 2000, at EB32.

^{22.} See National Governors' Association & NGA Center for Best Practices, NGA Online, (visited June 1, 2000) http://www.nga.org/>.

^{23.} John F. Due, Retail Sales Taxation in Theory and Practice, 3 NAT'L TAX J. 314, 314 (1950).

difficulty is that sales taxes apply primarily to physical goods. Since the 1930s, services have risen significantly as a share of consumption, and these services often escape taxation.²⁴ Groceries, as well as many other goods, are almost entirely tax-exempt as well, with the result that only about 40% of consumption in the United States is actually subject to the sales tax.²⁵

Economists generally argue that a low tax rate on a large base is better than a higher tax rate on a narrow range of consumption goods. A 5% tax rate on 40% of consumption raises approximately the same revenue as a 2% tax rate on all consumption, but the creates greater distortions in consumer purchasing decisions.

Forty out of the fifty states have an income tax, so eliminating the sales tax and increasing the income tax would have almost no incremental administrative cost. Sales tax, by comparison, has to be collected at every point of sale, which is a substantial cost to businesses. Even states that do not currently have a sales tax would not face much of a new administrative burden since almost all state income taxes are tied to the Federal Adjusted Gross Income. In addition, establishing a simple 2% income tax in place to replace sales tax revenues would require no measurements or audits. In fact, most states devote few resources to audits of individual state income tax returns in the first place. Instead, they let the federal Internal Revenue Service ("IRS") do the auditing, and base their own charges on the outcome of that audit.

Some have argued that the sales tax system is attractive since it is a tax on consumption rather than income. However, the sales tax is a particularly poorly designed consumption tax. A much better way to tax consumption is to make savings tax deductible. This is not as revolutionary a change in taxation policy as is commonly thought, since a substantial portion of the U.S. population already faces something close to a consumption tax, due to the availability of IRAs, 401(k) plans, Keough plans, and other tax-deferral plans. If one wanted to move our current system closer to a consumption tax, the easiest way to accomplish it would be to relax constraints on these tax-deferred savings vehicles rather than expand the sales tax.

^{24.} Hawaii, New Mexico, and South Dakota tax several services; in other states, only a few services are taxed.

^{25.} See Bruce & Fox, supra note 17, at 4.

^{26.} Since consumption equals income minus savings, this is equivalent to a very broad-based consumption tax. See Murray Weidenbaum, Taxing e-sales without hindering the 'Net, The Christian Science Monitor, Jan. 20, 2000, at 9.

Some research would be necessary to see how closely one could approximate the current incidence of the sales tax with an income or consumption tax, but this problem is solvable, given the right data. Indeed, until 1986, the IRS allowed taxpayers to deduct sales taxes and provided tables illustrating average sales taxes paid by income level in each state.²⁷

There are, however, drawbacks to replacing the sales tax with an income or consumption tax. This is a significant change from what we are doing now, so there would certainly be transition costs.²⁸ Also, taxpayers would inevitably find and exploit loopholes to avoid paying income tax, just as they currently use Internet shopping to avoid paying sales tax. In addition, the total tax burden on taxpayers in each state would be much more explicit, which can be viewed as either a benefit or a cost, depending on one's point of view.

Eliminating the patchwork of state sales taxes in favor of state income or consumption taxes should certainly be given serious consideration, however, because it eliminates the differential impact of remote purchases via the Internet or any other means. This option is also attractive in its own right since it would result in a lower tax rate on a broader base than the current system.

III. INTERNATIONAL ISSUES

Because online commerce is global, its tax treatment is also global. For example, Canada and most European countries rely on the VAT, which is built into the price that the end consumer pays. When goods are exported from these countries, the VAT is refunded to the exporter.

If a CD is shipped from the United States to, say, the Netherlands, as a matter of practice it generally escapes both U.S. sales tax and the Netherlands VAT since small-value imports are exempted from the VAT. However, if a dozen CDs are shipped to an address in the

^{27.} If sales taxes were rolled into state income tax, some adjustment in the federal income tax would be necessary since state income taxes are currently deductible, while sales taxes are not. Some way would have to be found to allow local taxing jurisdictions, which currently receive about 15% of the sales tax revenue, to receive a similar amount from such an income tax surcharge.

^{28.} Noted tax economist Charles McLure argues that substituting an income tax for a sales tax has its merits, but concludes, "[t]he primary reason for not favoring substitution of state and local income taxes for the sales and use tax is the tyranny of the status quo; such a wholesale switch in tax policy would cause wrenching adjustments." Charles E. McLure, Jr., Rethinking State and Local Reliance on the Retail Sales Tax: Should We Fix the Sales Tax or Discard It?, 2000 BYU L. REV. 77, 107 (2000).

Netherlands, the customs officials will hold the shipment until the purchaser pays the appropriate VAT. It is likely that VAT countries will push for a tax treaty requiring U.S. companies to collect VAT taxes for shipments to their residents. The United States could, in turn, require collection of state use taxes for foreign shippers, if Congress and the states relax nexus requirements. Such negotiations would have to be part of international tax treaties.

The situation will become even more complicated when there is no physical good such as a CD that is transferred, but rather just a stream of "bits," or pieces of computer code, traveling over the Internet. Detection of "taxable bitstreams" could be very difficult and may be more trouble than it is worth, especially if competition pushes the price of such digital goods to very low levels.

IV. SUMMARY

This Comment has made several points that are worth reiterating:

- Even optimistic forecasts of online shopping indicate that it will be several years, if ever, before lost sales tax revenue becomes a serious problem.
- If lost sales tax revenue does become a serious problem, Congress could easily pass a law relaxing nexus standards, thereby allowing states to collect taxes from out-of-state vendors.
- State and local sales tax systems are overly complex and confusing, with a variety of rates, bases, exemptions, and practices. Simplification of sales taxes should be part of any plan allowing taxation of remote purchases.
- Ideally, businesses should not have to pay sales tax on purchases of any intermediate products; only final consumption should be taxed.
- It is generally better to have a low tax rate on a broad base rather than a high tax rate on a narrow base. Due to the growth of the services sector, a relatively small part of consumption is actually subject to the sales tax, resulting in potentially significant economic distortions.

• Even if we develop a more coherent sales taxation scheme for the United States, several of the same issues will arise for international purchases.

We have plenty of time for careful study of the issue of online sales tax. Whatever one thinks about the eventual magnitude of sales tax losses due to online purchases, it is clear that the current state and local sales tax systems in the United States are in need of serious reform. Instead of adding another patch to a poorly designed and inefficient system, it would make more sense to use the current attention being paid to sales taxes as an opportunity to make some fundamental changes.