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ANDREW YOUNG SCHOOL OF POLICY STUDIES

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SALES TAXATION IN A GLOBAL ECONOMY*

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Introduction

The American states and their sub-units of government are relatively unique in their significant reliance on the retail sales tax. Most countries have shifted their reliance on indirect taxes to the value added tax (VAT). Until recently Russia offered itself as a relative exception as it allowed a subnational retail sales tax with a national-level credit/invoice VAT. Several other examples exist including some Canadian provinces and Bosnia. Long-standing hard-to-tax problems that have some similarities across indirect taxes exist and the emerging trends create serious difficulties in sustaining revenue productivity and in allocating revenue to the proper taxing jurisdiction.

This paper examines the hard-to-tax problem as it relates to the operation of the retail sales tax in general and particularly in the context of an increasingly global economy, with freer trade and factor mobility and heightened horizontal tax and market competition. The perspective of globalization taken here is drawn largely from that of competition and openness across American states; international globalization simply represents an extension of the current problems associated with attempts to administer a destination-based indirect tax in an open economy that falls on a subset of both household consumption and business input purchases. A primary conclusion is that avoidance and evasion, coupled with legislative initiatives, will cause a continued narrowing of the tax base and a further deterioration in revenue productivity. These problems are not unique to the sales tax and would likely follow regardless of the choice of indirect tax instrument. Interstate compacts, such as the ongoing Streamlined Sales Tax Program

(SSTP) will be necessary to (i) reduce tax complexity by promoting ease of compliance and administration and (ii) ensure the ability to impose tax on remote transactions by collecting use tax revenue. Ultimately the viability of indirect taxes structured on a destination basis will require international as well as sub-national interjurisdictional agreements on the collection of tax on remote transactions.

The remainder of the paper is organized as follows. The next two sections provide a detailed overview of the structure and revenue performance of the state and local sales tax in the U.S. This is followed by a discussion of the classical hard-to-tax problems that are encountered in administering the sales tax, including underreporting. The factors that have lead to erosion of the sales tax base, including the growth of services and the general border tax problem, are then explored. Next is a discussion of two problems that will grow further in importance in the global economy, the revenue allocation problem arising from the inability to collect the use tax and horizontal tax competition that leads to discretionary narrowing of the sales tax base. The paper closes with a brief conclusion.

Role of Sales and Use Taxes in U.S. Sub-national Government Finance

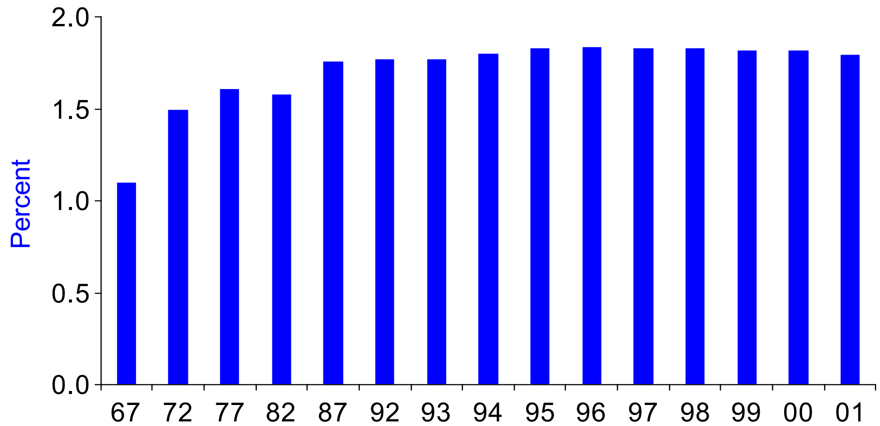
Imposition of sales taxes by U.S. states dates back at least to the Pennsylvania mercantile license tax that was initially introduced in 1821, though this and other early taxes were not broad-based. Buehler (1940) attributes development of modern state sales taxes to the depression era. He credits Kentucky with the first tax levied exclusively on retailers. The initial tax, passed in 1930, was progressive, but was replaced in 1934 with a 3 percent flat rate tax and then was eliminated in 1936. The current Kentucky sales tax was adopted in 1960. Commerce

ClearingHouse credits Mississippi with the first sales tax, also in 1930. Forty-five states and the District of Columbia currently impose sales taxes. Twenty-four of the states first levied the tax during the 1930s, six in the 1940s, five in the 1950s, and eleven in the 1960s. In 1969, Vermont was the last state to impose a sales tax. Alaska, Delaware, New Hampshire, Montana and Oregon do not levy general sales taxes. These initial retail sales tax systems--as well as early wholesale tax systems--were by and large structured to fall on *easy*-to-tax elements of the economy, particularly tangible goods, avoiding the service sector and its small vendors who are prone to non-compliance.

State sales taxes raised \$179.3 billion in 2001 while local sales taxes raised an additional \$41.8 billion,[1] for combined collections of \$221.1 billion. State sales tax collections represented 1.80 percent of personal income in 2001, nearly the same percentage that was raised through most of the decade. A longer term look shows state sales taxes rising as a share of personal income during the 1960s through 1980s, but stabilizing during the 1990s (see Figure 1).

[1] Local sales tax revenues were estimated by increasing 2000 local revenues by the 2001 percentage growth rate in state sales tax collections.

Figure 1: STATE GENERAL SALES TAX COLLECTIONS AS A PERCENT OF GDP

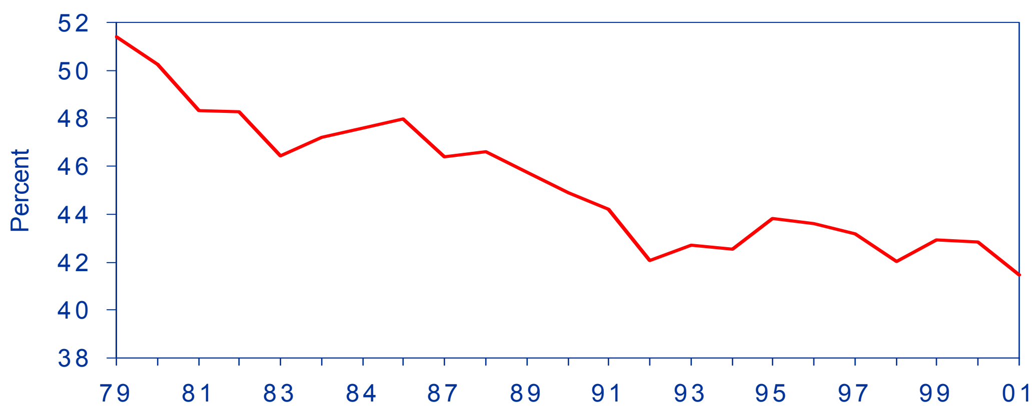


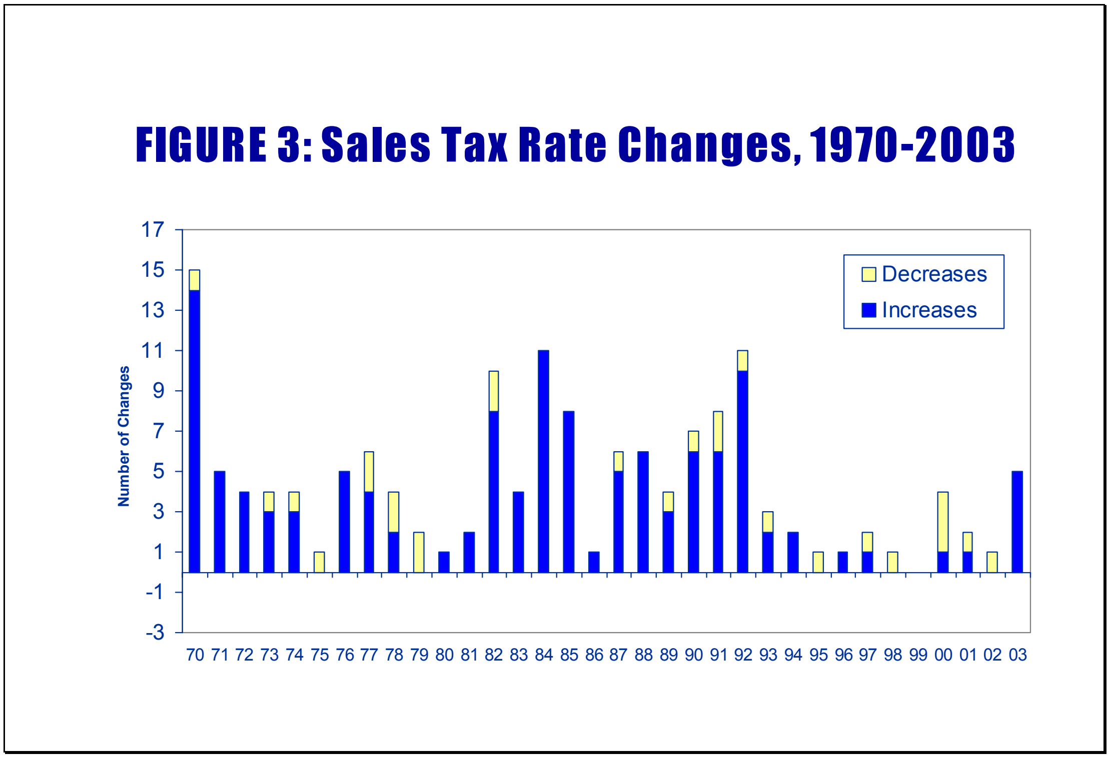
The sales tax base fell from 51.4 percent of personal income in 1979 to 42.1 percent in 2000 (see Figure 2). Higher tax rates were until recent years sufficient to compensate for base erosion from evasion and avoidance, shifts in economic structure towards largely non-taxed services, and legislated exemptions from the base. The median state sales tax rate was 3.25 percent in 1970, 4.0 percent in 1980, and 5.0 percent in 1990, where it remains today (see Table 1). [2] Combined state/local rates vary from 1.05 percent in Alaska (which has no state tax) to 9.35 percent in Tennessee. Rates have been increased much less frequently since the 1990 recession, causing the share of personal income paid in sales taxes to fall slightly. Notably, sales tax rate increases have not been used as regularly to lessen the impact of revenue slowdowns from the

[2] Twenty-six states and the District of Columbia have more than one sales tax rate, but the additional rates are normally applied to a small set of specific commodities and need not affect the overall growth rate.

2001 recession (see Figure 3). At least 31 rate increases occurred from 1982 to 1985 and 22 took place from 1990 to 1992, but only five increases were enacted in 2002 and 2003. The sales tax will shrink further relative to the economy if base erosion continues and sales tax rate increases continue to be infrequent.

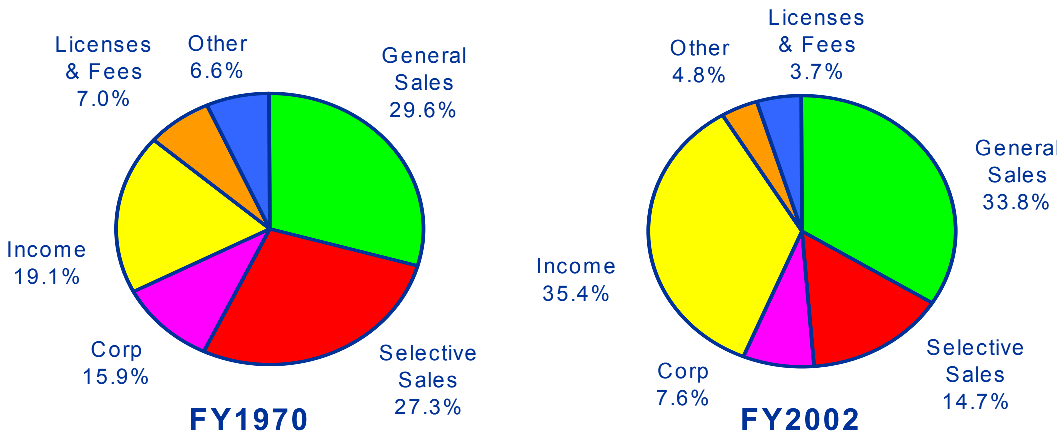
FIGURE 2: U.S. Sales Tax Base as a Percent of Personal Income, 1979-2001





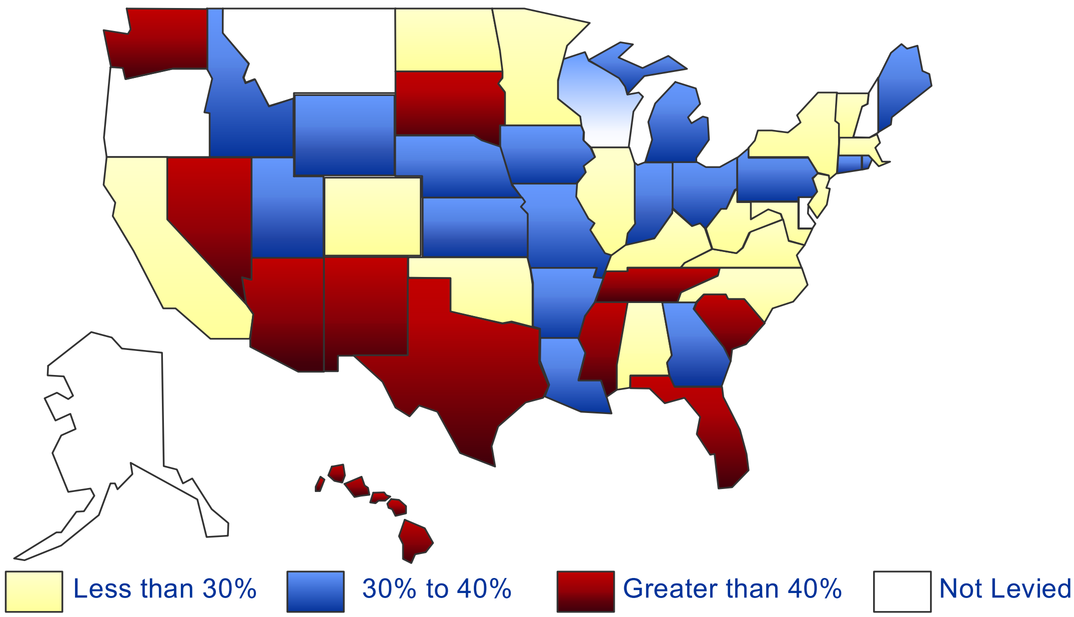
The sales tax was the largest source of state government finance from 1970 until 1998 when it was supplanted by the personal income tax (see Figure 4). The higher income elasticity for the income tax compared with the sales tax is the primary reason that the income tax has supplanted the sales tax. Bruce, Fox and Tuttle (2003) estimate that the average state income tax had an income elasticity of 1.76 between 1968 and 2000 and the average sales tax had an elasticity of 0.81. The income tax elasticity tends to be higher in states with more progressive rates, broader bases and without an earned income tax credit. Sales tax elasticities tend to be higher in states that tax more services and that rely relatively less on taxation of intermediate transactions.

FIGURE 4: Distribution of U.S. State Taxes, 1970 and 2002



Despite the more rapid income tax growth, the sales tax provided more than one-third of state government finance in 2002 and ranks second to the income tax in importance as a source of state finance. Reliance on the sales tax varies widely by state. Sales taxes are much more important in the south and west than in New England and the industrial Midwest (see Figure 5). Florida, Washington, Tennessee, and Texas all generate more than 50 percent of their tax revenue from the sales tax, and the first three of these states raise nearly 60 percent from the sales tax. New York, on the other hand, only raises about one-fifth of its revenues from the sales tax.

FIGURE 5: State General Sales Taxes as a Percent of Total Taxes, 2001



Property tax revenues dominate local tax finance. Still, local governments in 34 states use sales taxes, allowing for some revenue diversity. All local sales taxes together generate only 11.1 percent of local tax revenues versus the nearly three-fourths provided by property taxes. Local sales taxes are generally more important in the southeast and southwest (see Figure 6). Local income taxes by comparison are used in only 13 states and generate only 5.2 percent of local tax revenue.

FIGURE 6: Local Sales Taxes as a Percent of Total Local Taxes, 2000

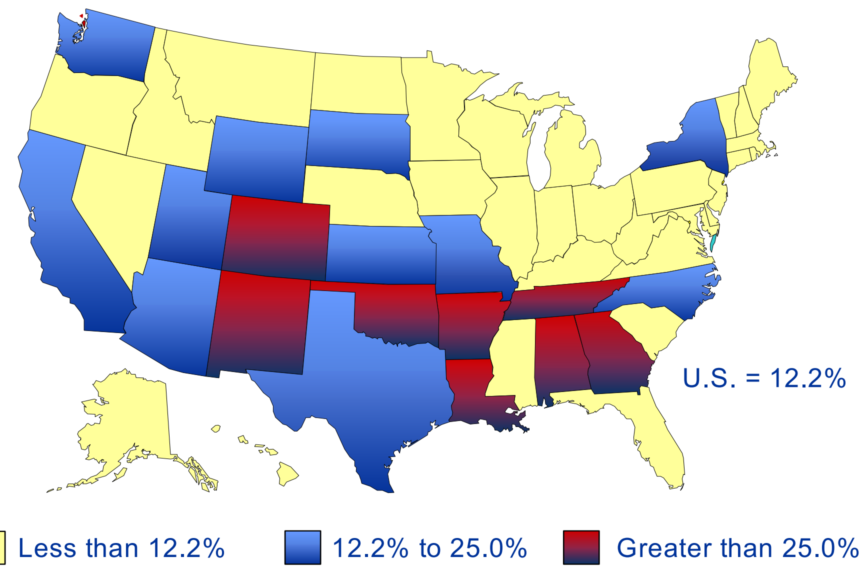


Table 1: State Sales Tax Rates and Combined Average City and County Rates					
	State Sales	**Combined**		**State Sales**	**Combined**
Alabama	0.04	0.077	**Montana**	--	
Alaska	--	0.0105	**Nebraska**	0.055	0.0625
Arizona	0.056	0.076	**Nevada**	0.065	0.0715
Arkansas	0.05125	0.0695	**New Hampshire**	--	
California	0.06	0.079	**New Jersey**	0.06	0.0595
Colorado	0.029	0.0605	**New Mexico**	0.05	0.0595
Connecticut	0.06		**New York**	0.04	0.08
Delaware	--		**North Carolina**	0.045	0.07
Dist. of Columbia	0.0575		**North Dakota**	0.05	0.055
Florida	0.06	0.065	**Ohio**	0.05	0.0615
Georgia	0.04	0.066	**Oklahoma**	0.045	0.0785
Hawaii	0.04		**Oregon**	--	
Idaho	0.05	0.0605	**Pennsylvania**	0.06	0.0625
Illinois	0.0625	0.074	**Rhode Island**	0.07	
Indiana	0.06		**South Carolina**	0.05	0.0555
Iowa	0.05	0.062	**South Dakota**	0.04	0.0515
Kansas	0.053	0.067	**Tennessee**	0.07	0.0935
Kentucky	0.06		**Texas**	0.0625	0.079
Louisiana	0.04	0.0845	**Utah**	0.0475	0.0645
Maine	0.05		**Vermont**	0.05	
Maryland	0.05		**Virginia**	0.035	0.045
Massachusetts	0.05		**Virgin Islands**	0.04	
Michigan	0.06		**Washington**	0.065	0.083
Minnesota	0.065	0.067	**West Virginia**	0.06	
Mississippi	0.07		**Wisconsin**	0.05	0.054
Missouri	0.04225	0.067	**Wyoming**	0.04	0.053
Source: The Sales Tax Clearinghouse, 2003					

Sales Tax Structure and Administration in the U.S.

Sales taxes are normally evaluated both by analysts and legislators as consumption taxes, but their use by U.S. states (and other governments as well) differs in two significant ways. First, the sales tax base is much smaller than consumption because of the many exclusions and exemptions that are allowed in nearly every state except Hawaii. Exemptions are granted for many reasons, including a) concerns about fairness, b) the hard-to-tax problem of administrative difficulties in collection, and c) concerns that other states fail to tax the same good or service and that loss of sales tax base and other economic activity could result if the tax was imposed. The justifications for exemptions have differing degrees of validity, but the bottom line is the exemptions result in a base that is much smaller than consumption. As noted above the resulting overall tax base in the average state is only equal to about 42 percent of personal income. Exemptions that violate the intent to tax all consumption include those for:

- purchases financed with certain forms of preferred income, such as exemptions for food stamp purchases
- food, clothing, prescription drugs, and other transactions that are not taxed because of perceptions of vertical equity
- many services
- sales by certain types of vendors, such as governments and not-for-profit businesses

Second, sales taxes are levied on many business-to-business transactions with no tax credit allowed when goods or services are sold to final consumers (as would exist with a VAT). State revenue departments and legislators often defend this structure by distinguishing between intermediate purchases that become component parts of produced goods and other intermediate goods. So, most states allow exemptions for sales for resale, for manufacturing equipment, for intermediate products that become component parts of a manufactured product and for select other business-to-business transactions, but impose the tax on a wide range of business purchases. In the traditionally hard-to-tax service sector, sales tax generally does not fall on the value of the final service while tax would be paid on the tangible inputs (and any taxable services) that go into the production of the service. No direct estimates are available on the share of the tax base that is comprised of business-to-business transactions because states collect data according to reports filed by vendors selling taxable goods and services, not by the purchasers. Ring (1999) estimates that the business component of the tax base could be as much as 40 percent of the total tax base. Combined with the base being only 42 percent of personal income, this suggests that the tax base comprised of final consumption by individuals represents only about 25 percent of personal income in the average state.

In concept, the sales tax can be structured closely to a consumption tax by exempting all business-to-business transactions through use of exemption certificates. However, statutory tax rates would need to be much higher to raise the same revenue, and this is politically difficult for elected officials. Also, it is difficult to ensure that the certificates are used only for business purchases, since an incentive exists to create businesses simply to get sales tax exemptions or to make household purchases through legitimate businesses. This suspension element of the sales tax is often criticized relative to a VAT. Under the sales tax, suspension of tax rests on vendors' good faith acceptance of a buyer's exemption certificate; under a VAT there is the self-enforcing credit/invoice system that requires misrepresentation to revenue authorities.

Vendors are generally responsible for remitting sales tax revenue, while the statutory burden of payment generally falls on the consumer. In practice only firms with nexus--typically construed as some form of physical presence--are required to collect tax in a given jurisdiction. Problems surface in the context of border shopping and remote purchases via mail order and electronic commerce. Since the sales tax is in principle a destination tax, it is possible to physically cross state boundaries and make tax-preferred or tax-exempt purchases. Purchases made via mail order or electronic means may escape vendor collection if the firm does not have nexus. While individual consumers remain liable for the use tax on these purchases, collections are small as noted below. Problematic are schemes whereby firms can shelter themselves from collection responsibilities and facilitate consumer use tax evasion.

Current Scope of the Hard to Tax Problem

There is good empirical evidence indicating serious non-compliance problems with the sales and use tax structure. Non-compliance with the use tax stands out as being the most formidable problem confronting policymakers and tax administrators today, and looms on the horizon as a serious challenge in the increasingly globalized economy. As with any levy, hard-to-tax problems under the sales tax include both avoidance and evasion behavior that lead to revenue losses.[3] This section explores various channels whereby businesses and households play out the sales tax non-compliance game, and summarizes the available empirical evidence on magnitude of the non-compliance problem and the returns to tax enforcement.

Tax Enforcement: Auditing

Non-compliance is kept in check through traditional enforcement mechanisms including the auditing of retailers and wholesalers, special programs like amnesties and interstate tax

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[3] This discussion focuses solely on noncompliance arising from transactions over legal economic activity. Sales tax would likely apply in most states to the sale of tangible contraband like drugs since their sales are not specifically exempted. The sales of illegal services, including prostitution, would probably be exempt since they are normally enumerated for taxation. Transactions over these illegal goods and services are not considered here.

compacts, and through procedural verification of tax return entries. Available estimates suggest significant returns to sales tax enforcement, in particular through standard audit procedures. Murray (1995) finds the returns per audit hour to be $1,124 using a sample of firms from the State of Tennessee. The State of Washington (1987) reported a figure of $537 per auditor hour in 1987. The State of Iowa (1994) conducted a tax gap study showing that systematic sales tax audits yielded a return of $282 per auditor hour versus only $63 per hour for randomly chosen audit cases. A comparison of contract audits versus revenue agency audits in Florida shows returns per audit hour in excess of $368 and estimates of assessments per dollar of agency costs above $4.82 (Birch, 1997). An analysis of managed versus traditional audits in Ohio found that the former yielded $536 in assessments per hour as opposed to $657 for agency audits (Marshall, 1997). These estimates understate the returns to auditing to the extent there are indirect or ripple compliance effects to other taxpayers through, for example, word of mouth, industry associations and the media (Mikesell, 1985).

Tax amnesties have been effective in generating sales and use tax revenue, and adding taxpayers to the rolls. For example a recent amnesty conducted by the state of Kentucky produced $36.1 million in sales and use tax revenue, versus $18.3 million for the corporate income tax and $12.8 million for the personal income tax (Kentucky, 2003). A Maryland amnesty in 1988 generated sales and use tax revenue equal to 0.5 percent of collections as opposed to 3.5 percent for the corporate and 0.5 percent for the personal income taxes (Maryland, 2001).

<u>Tax Avoidance</u>

Avoidance under the sales tax includes self supply and the choice of location for both households and firms. Households might choose to self produce otherwise taxable activities like cleaning and lawn care services, and perhaps food through gardening. While the sales tax would generally fall on the tangible inputs that go into self production, households can avoid the tax on the value of labor embodied in the good or service produced. For businesses self supply would take the form of changes in organizational structure including the degree of vertical integration across the production chain. As with households the savings would take the form of reduced tax on the labor value added through self supply. Sales taxes may also affect location decisions. Households may choose to locate in low sales tax states or communities to enjoy a lower tax on consumption. Similarly, businesses may choose to locate in places where taxes on productive inputs can be minimized; businesses also may choose to locate facilities to minimize collection burdens under the use tax and enjoy a price advantage over competitors. Some of these location effects are pure tax sheltering schemes with firm ownership being placed off shore or in states for which nexus is not established. The use tax collection avoidance scheme of firms often translates into a tax evasion problem as final consumers fail to remit use tax. There is no empirical evidence on the magnitude of these forms of avoidance behavior under the sales tax or other indirect taxes but the problem appears to be growing.

<u>Tax Evasion</u>

Evasion problems include non-registration and over-registration, non-filing, underreporting taxes owed (via understating sales or overstating exemptions) and non-payment of use tax. Only scant information is available on the extent of the non-registration problem;

Due and Mikesell (1994) state that the problem is "negligible." An amnesty program administered by the State of California in 1984-85 produced only 200 new retailers from across the state (Dotson, 1986). Michigan's 2002 amnesty identified 429 new sales tax vendors and 78 new use taxpayers (Michigan, 2003). In the early 1990s the State of New York conducted an audit of repair shops registered with the Department of Motor Vehicles and found only 58 firms from a population of approximately 25,000 businesses had failed to register as sales tax vendors (New York State Department of Taxation and Finance, 1996). Failure to register may be a greater problem for virtual firms (i.e., firms with no brick and mortar presence) that establish nexus by regularly conducting business in the state.

Due and Mikesell (1994) argue that over-registration is a more serious problem than under-registration. While some of these registrants reflect defunct business entities, others represent individuals who seek to defraud the system. Gains may accrue through the suspension of tax on purchases via the sales tax exemption system, charging tax on incidental and casual sales that would otherwise be exempt and the opportunity to purchase goods at wholesale prices. There is no empirical evidence on the scope of these problems.

Underreporting sales and overstating exemptions is pervasive but outright fraud problems seem to be the exception rather than the rule. In most instances these problems arise from misunderstandings and mistakes rather than concerted attempts to defraud the revenue agency (State of Washington, 2003 and State of Iowa, 1994).[4] For example, in Washington accounting errors accounted for 56.9 percent of the noncompliance problem across all taxes; negligence and fraud represented only 6 percent of the instances of noncompliance. Underreporting, as well as

[4] In practice it is difficult to prove tax fraud, and "misunderstandings and mistakes" may often reflect a taxpayer's

many other compliance problems, are disproportionately attributed to smaller firms in labor intensive service sectors of the economy (like construction), the same places where problems are encountered with other indirect and direct taxes.[5] Both Iowa and Washington find noncompliance rates highly negatively correlated with establishment size. Iowa (1994) notes that nearly 70 percent of its sales tax gap came from firms with less than $250 thousand in annual sales; Washington finds greater revenue losses for larger firms. The State of New York (1982) found "flagrant abuses" of the exemption system but offered no estimates of the magnitude of the problem. The State of Iowa (1994) attributed 18.8 percent of the sales tax gap to erroneous use of exemptions. Dotson (1986) notes enforcement gains against abuse of the exemption system through audits and investigations but the magnitude of the returns were modest.

The most onerous non-compliance problem pertains to the often-misunderstood use tax. Non-compliance occurs in two ways. First, firms may purchases items for an exempt use (like resale) and later convert the purchase to taxable use such as operating the business. Second, non-compliance surfaces as business and household consumers make tax exempt (or tax preferred) purchases in one jurisdiction for consumption in another and then fail to remit their use tax liability. This would include many remote purchases made via mail order and through electronic channels, as well as traditional border shopping. There is a fairly long line of research on the traditional tax-induced border tax problem that indicates elastic consumer responses to sales tax

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attempt to evade tax.

[5] For example, see US Department of Labor (1992). Informal suppliers, which have low rates of voluntary compliance with the personal income tax, are concentrated in agriculture, construction, manufacturing, transportation, retail trade and services.

rate differentials.[6] There are also estimates of substantial revenue losses for this long-standing problem. For example, New York and New Jersey together estimated a loss of $100 million a year in sales and use tax revenue due to goods purchased in one state and transported to the other (Kaluzny and Small, 1987). Given the high costs of traditional border shopping relative to the low costs of remote acquisition via modern means, one would expect even stronger behavioral responses to rate differentials today. Goolsbee (2000) found such a result, concluding that the imposition of sales tax on electronic commerce would reduce sales by 25 to 30 percent. With an average state (only) sales tax rate of 5.15 percent in 2000, this implies a very large tax price elasticity.

Auditing and other enforcement activities have been instrumental in uncovering significant amounts of use tax liability on the part of businesses. The recent Washington State compliance study notes that the use tax has the lowest compliance rate of any state-administered tax, with a gap of 27.9 percent as opposed to only 1.3 percent for the sales tax. Based on field audits for 1990-1993, over 77 percent of assessments came from the use tax. Due and Mikesell (1994) report that use tax audit assessments were 40 percent, 30 percent and 24.9 percent of total assessments in Illinois, Indiana and California. Iowa's study (1996) found that 8.7 percent of the tax gap came from consumption of business inventories. Michigan's amnesty yielded $4.1 million in use tax revenue, while capturing $13.5 million in sales and $21.2 million in single business tax revenue (Michigan, 2003). The New York amnesty of 1994 focused on three problem areas, including the use tax which accounted for 9 percent of amnesty revenue (New York, 1996). Interstate tax compacts also have proven fruitful in identifying use tax problems

[6] See Mikesell (1970), Fisher (1980), Fox and Campbell (1984), Walsh and Jones (1988), Snodgrass and Otto

and recovering revenue. For example, the New York-New Jersey cooperative agreement generated $12 million in taxes in the first 15 months of operation in the mid 1980s (Kaluzny and Small, 1987).

The extent of consumer compliance with the use tax is unknown; anecdotal and inferential evidence suggests it is abysmal. States have the means to enable consumers to self assess their use tax liabilities but little money is in fact collected. About 10 states, including Maine, have a line on the state personal income tax return where consumers can self assess use tax liability. In the case of Maine, consumers can apply 0.04 percent to adjusted gross income or rely on a use tax table. Items with a purchase price in excess of $1,000 must be itemized. An unpublished survey taken several years ago by the Federation of Tax Administrators found no state collected more than $1.5 million through the income tax return.

Aggregate estimates of the tax losses from remote sales are substantial. The U.S. ACIR estimated that $3.3 billion in revenue was lost on interstate mail order sales in 1994, representing 2.4 percent of sales and use tax revenue. More recent estimates that account for rapid growth in electronic commerce are more pronounced and emphasize the importance of business-to-business losses over business-to-consumer losses. Goolsbee and Zittrain (2000) estimate a revenue loss as high as $3.5 billion for 2003, or about 2 percent of potential sales tax revenue. Bruce and Fox (2001) estimate an incremental revenue loss from electronic commerce of 1.5 percent of state tax revenue for 2003, i.e., revenues that would have been collected absent electronic commerce.[7]

(1990), Love (1992), and Chervin, Edmiston and Murray (2000). Boisvert and Thirsk (1994) and Ferris (2000)

Some Efficiency Considerations

The hard-to-tax problem is usually couched in terms of non-compliance behavior, revenue losses and tax enforcement. But there are important efficiency dimensions of the hard-to-tax problem as well. One is the issue of optimal enforcement. As noted above the returns to sales tax enforcement (particularly auditing) are significant, suggesting a role for expanded auditing activities. But the proper calculus calls for minimizing the social costs of taxation, including excess burden, administrative costs, noncompliance effort and compliance effort (Mayshar, 1991). As Bruce, Fox and Murray (2003) note, there is little or no empirical evidence on these four margins.

A second consideration is the potential efficiency-enhancing consequences of border shopping and the associated failure to pay use tax. Trandel (1992) considers exactly this case. Welfare losses are incurred through consumer border shopping and through higher tax rates imposed to offset the drain of tax revenue; welfare gains accrue as the competition from border shopping reduces the prices charged by firms with market power. Depending on parameter values, efficiency can be improved through use tax non-compliance. Lovely (1994), who considers a similar framework but allows for endogenous enforcement and taxpayer uncertainty, finds a similar result.

An Alternative View of the Hard-to-Tax Problem

The previous section used the standard framework for assessing the tax hard-to-tax problem, focusing on evasion, avoidance and tax enforcement. This section offers an alternative

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consider border effects and the Canadian general sales tax (GST).

and complementary perspective on the underlying reasons why the sales tax represents a hard-to-tax problem. Four major causes of base erosion are considered that will continue to influence the base in the future including:

- Limited taxation of services
- Frequently legislated exemptions
- Cross-border shopping
- Technological change

<u>Limited taxation of services</u>

State tax legislation is normally written so that all tangible goods are taxable unless they are otherwise exempted and services are taxable only if they are specifically enumerated. The existing taxation of services varies widely across states, with some, such as Hawaii, New Mexico and South Dakota, taxing services relatively broadly, and others, such as California and Nevada, taxing few services (see Due and Mikesell, 1995). The consumption of services is growing much faster than the consumption of goods and failure to tax services results in the base declining relative to economic activity. Services comprised 47.4 percent of personal income in 1979 but had risen to 58.4 percent in 2001.

Despite the implications for the tax base, the case for taxation of services is not as obvious as it appears to be at first glance, and ultimately the question is not whether services should be taxed, but which services to tax. Services belong in the tax base to enhance horizontal

[7] See Bruce and Fox (2000) for a discussion of the methodology.

equity of the tax and increase neutrality between goods and services.[8] A broader base allows a lower rate to collect the same revenue, which should reduce the excess burdens created by the sales tax. Taxation of services may make the tax base less regressive, though the consumption of almost all goods and services is regressive. As noted by Bruce, Fox and Tuttle (2003) greater taxation of services increases the sales tax's income elasticity.

On the other hand, many services, such as legal and accounting services, are primarily purchased by businesses and expansion of the base to include these services could increase the extent to which the sales tax base is composed of business-to-business transactions. Administrative and compliance costs will rise as more services are taxed because service vendors tend to be smaller on average than goods vendors. Tax would need to be collected on final sales and exemptions would need to be provided for inputs to avoid pyramiding and this could create new opportunities for tax evasion. Taxation of services that can be remotely provided would be particularly difficult to enforce, increasing the chance that the tax will disadvantage in-state service providers relative to out-of-state providers. Concerns about equity also arise with taxation of some services, such as some forms of health care.

Legislated exemptions

States have legislated some of the narrowing of the base. Legislated exemptions belong in the list of hard to tax sales tax issues because of a special problem: the political difficulties of imposing the tax on some transactions. In some instances this has taken place because of horizontal competition and concerns over taxation of mobile capital inputs; in other instances it

[8] Merriman and Skidmore (2000) concluded that failure to tax services accounted for one-eighth of the service sector's growth during the 1980s and 1990s.

reflects a form of yardstick competition regarding equity provisions in one state tax base versus that of another state. State sales taxes often started with relatively inclusive taxation of goods. In subsequent years, however, most states have exempted many otherwise taxable goods from their base. Discussion of the desirability of these exemptions should be separated into exemption of consumer goods and exemption of business-to-business transactions. The arguments for consumer goods exemptions have often focused on making the sales tax less regressive. Exemption of food for consumption at home, which is now done by 30 states, is an obvious example. Non-prescription drugs are another good that has been exempted by some states in recent years. Other consumer goods are sometimes exempted because the selling industry makes an impassioned plea that exemption will stimulate the economy. Sales tax holidays, which have been enacted in nearly 10 states since 1997, are an example that has been justified on both grounds[9].

The case against exemption of consumer goods is similar to the arguments in favor of taxing services. Nearly every good and service is regressive in consumption so it is very difficult to design a sales tax that is not regressive, even if the base is narrowed. Further, these exemptions raise the costs for administering and complying with the tax (for example, because of the problems of defining the exempt transactions), create non-neutralities (like encouraging border shopping), and require higher tax rates for any given amount of revenue to be raised (which raises the distorting effects).

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[9] Opponents of sales tax holidays argue that the benefits are poorly targeted to the intended beneficiaries and may simply supplant discounting that otherwise would occur, increase compliance costs, and reduce tax revenue.

The case for greater exemption of business-to-business transactions is much more clear cut than the case for limiting consumer exemptions. Taxation of inputs potentially creates a series of distortions that include encouraging vertical integration, altering the location of business, and favoring non-taxed inputs[10]. Perhaps the major concern is that the exemptions enacted in recent years are often structured to benefit a narrow set of firms.

Cross-border shopping

The rapidly growing extent of cross-border shopping through mail order, e-commerce, telephone, television, and driving across state lines has created significant problems for collection of the tax. The result is a narrower base on which the tax is actually collected. The compensating use tax on the enjoyment of items within a state is due on items purchased remotely but there is extensive non-compliance with the use tax. As noted above a general conclusion of the research on border taxes is a tendency for the location of some purchases to be altered during efforts to evade the sales tax. Future research is expected to uncover a growing pattern of remote purchasing because widespread access to the Internet and mail order sales eases remote ordering and evasion of sales and use taxes.

Technology Changes

Recent technologies have narrowed the sales tax base as well. New technologies provide the mechanism through which many remote transactions occur offering an opportunity for use tax evasion or legitimate tax-free consumption. The technologies have fostered a new set of

[10] A stronger case can be made for imposing taxes on many inputs used in production of untaxed services. Taxation of the inputs is an indirect way to tax the output. However, input taxes as proxies for output taxes are levied in the origination of the product rather than the destination of the consumer.

services including e-mail, on-line information, and on-line games. Further, digitization allows a set of goods, such as books and music, to be accessed in different formats.

Each of these effects from new technologies can narrow the base. The influence of cross border sales was discussed in the previous section. Sales taxes are not normally imposed on services unless they are specifically enumerated so development of new services may mean an additional series of non-taxable transactions. Digitization can also change the taxability of transactions. Canned software is taxable in every state when sold via diskettes but is exempt in about one-third of the states when downloaded via the Internet. Books and music are normally taxable in states but are not taxable in some states when digitized. Thus, new technologies shrink the sales tax base unless states modernize their structures. The problem becomes a political one, as many legislators are loath to be seen as increasing taxes.

Globalization and Sales Taxation

Globalization has many dimensions across economic, legal, financial and other spheres. For example, the growing extent of globalization can be seen through increasing trade in goods and services, rising investment flows across state and national boundaries, and greater population mobility. The transfer of information and knowledge across borders via the Internet and other means is another area of increasing globalization. Globalization combined with the other factors that make the sales tax hard to enforce suggest that the sales tax is an increasingly difficult tax instrument to use unless major changes can be instituted. These problems are largely an extension of the current problems being encountered by the American states. Opportunities for border shopping will expand, technology will facilitate further remote acquisition and lead to increased digitalization of products, interjurisdictional competitive pressures will be increased and services will remain a vexing problem for both taxation and exemption.

The ever more global economy exaggerates two key tax concerns: tax competition and allocation of tax revenues between states and between local governments. Globalization would not be a concern if the sales tax could be enforced on a destination basis. An effectively imposed *destination based consumption* tax creates no incentives for tax competition except to the extent that consumers will change residence in response to differential consumption tax rates. It seems very unlikely that residential location would be highly elastic to the sales tax in the range of rates imposed in the US.[11] Further, the allocation decision is properly solved with the destination tax since the tax revenues are allocated and collected in the place of consumption.

Sales taxes as they are actually imposed differ from the destination based tax in two important ways: they are levied on many intermediate transactions and the destination intent cannot be imposed because of the inability to collect the use tax. These differences from a destination tax allow the effects of globalization to become potentially large. Effects on the allocation of revenues are relatively modest with a retail sales tax. Except for the limited case of people traveling into another state, paying the sales tax and taking the goods home, the revenue that is collected goes to the intended government. The greater problems are collection of the tax revenue (as discussed above) and the efficiency distortions that develop because of the incentives that arise in the system.

[11] Little research has been conducted on the effects that sales tax rates have on location. In one example, Fox, Herzog, and Schlottman (1989) found no evidence that local sales tax differentials had a statistically significant effect on the decision to enter or leave a metropolitan area. However, the effects of an enforced destination based

Inability to impose a destination tax can affect the what, where and how that consumers buy because of the incentives to purchase from firms in remote locations that are not required to collect the sales or use tax. Remote purchasing from firms that do not collect the tax potentially offers consumers the same advantages that could be obtained by moving to a low tax jurisdiction. Thus, the implications of differential tax rates on consumer location become even smaller as the opportunities to buy without tax rise.

Non-neutral taxation of consumers creates incentives for firms to alter their structure in a tax favored manner. Significant production distortions can result, though to some extent the same benefits can be obtained through careful construction of the corporate structure. At a minimum, firms have the incentive to establish complex corporate forms where nexus is established in relatively few states. For example, firms are responding by separating their bricks and mortar operations from their dot.com operations and asserting that nexus by one part of the corporate structure does not result in nexus for other parts. The hope is to protect the dot.com activity from a tax collection responsibility. Alternatively, firms can locate their physical activities in states where there are few potential taxpayers or where no tax is imposed.[12]

The distortions do not stop with those created by taxation of final consumers. Taxation of intermediate inputs creates additional incentives for firms to locate in low tax jurisdictions. But, in this case a complex corporate structure will not eliminate or lessen the tax burden – firms must locate in low tax rate states to lessen the burden on intermediate purchases. A wide literature

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consumption tax would be more similar to an income tax than the existing sales tax. The authors found modest evidence that income taxes affect movement into a metropolitan area.

[12] Note that locating in a non-sales tax state is not that different from locating in a small state in terms of limiting the compliance burden on consumer purchases. The firm only needs to comply with the tax structure for the residents of

exists on how corporate income taxes affect business locations[13] but the effects of sales taxes on business location have only been studied to a very limited extent. For example, in a county level analysis Fox and Murray (1990) found that local sales tax rates influenced the location of moderate sized firms. Two points can be made. First, the sales tax on intermediate transactions is a much larger tax cost than the corporate income tax and can be expected to have a larger effect on location decisions (assuming Ring's estimates are of the proper order of magnitude). For example, the sales tax on intermediate transactions in Tennessee is nearly twice as large as corporate tax collections. Second, technologies that facilitate globalization will make tax differentials ever more important in location decisions.

States are responding to the incentives for distorted business locations and the lost economic activity and tax revenue. First, states are seeking to cooperate in an attempt to move more towards a destination tax, as exemplified by the SSTP. A requirement that remote vendors collect the tax for all U.S. states would be a large movement towards a destination tax and would lessen the production distortions created by remote sales to consumers. Second, tax competition grows as states seek to lessen the perverse incentives caused by taxation of intermediate transactions. So far the competition has resulted in states exempting intermediate transactions for industries that are believed to be the most mobile. For example, during the past several decades many states have exempted manufacturing equipment. Firm specific concessions for sales tax on intermediate transactions are another example of the competition. Sales taxes on final sales will also be affected by tax competition if the SSTP is not able to establish a more enforceable

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the one small state and can sell without a collection responsibility into the other sales taxing states.

[13] See Wasylenko (1997) for a survey of this literature.

destination tax. For example, there will be strong pressure to exempt items that are most easily sold remotely, such as items that can be digitized including software, music, and books.

An obvious concern is whether this growing tendency for tax competition is good or bad. Arguments have been made both for and against tax competition with some seeing tax competition as efficiency enhancing and others seeing it as efficiency reducing. One efficiency-enhancing argument is that competition forces business taxes down to benefit charges. Competition is also seen as healthy because it limits the potential for government to grow unabated. Also, tax concessions can allow the basic tax structure to remain in place while allowing a state to reduce burdens on the most mobile capital. Thus, immobile capital, such as local businesses can continue to be taxed as the burdens are lowered on more mobile multistate firms. Of course, the problem of identifying mobile capital and limiting tax concessions to these activities may be politically and practically impossible to overcome. Moreover, "local" businesses will tend to be concentrated in the nontradeable service sector where administrative and compliance costs are high, and non-compliance is relatively pervasive.

Those concerned about harmful tax competition focus on the belief that competition leads to inefficiently small government because taxes are set too low on mobile or remote transactions. The fear is a "race to the bottom," where one state's concessions lead others to respond with greater concessions. The result can be harmful to all states because they lose some ability to tax mobile activity. Of course, the conclusion is that some competition is harmful and some is not. One recent U.S. based estimate found that the efficiency costs of tax incentives for capital might be modest once all of the effects are taken into account (Parry, forthcoming). Perhaps the same applies to the sales tax.

Conclusion

The sales tax has been in existence for many decades but still closely resembles the form it took at inception. While the sales tax has proven to be an effective instrument of revenue generation for states and localities in the U.S., significant base erosion, particularly in the last 20 years, has reduced its productivity. This base erosion is indicative of the nature of the sales tax hard-to-tax problem. From a conventional hard-to-tax perspective the major problem confronting the sales tax is non-compliance with the complementary use tax. But there are other problems as well that threaten the productivity of the sales tax. This includes intangible services, technology that enables remote acquisition and digitalization of otherwise tangible products and political pressures to narrow the base in the face of horizontal competition and to meet equity objectives. Globalization gives rise to additional sources of competition and additional pressures on the destination based sales tax, or for that matter any destination-based indirect tax, pressures that are an extension of the existing interstate problem in the U.S.

Ultimately protecting the sales tax will require interjurisdictional agreements that can ensure collection of use tax on remote sales. The SSTP is a step in this direction, also offering the potential for much-needed tax simplification. But this initiative has yet to be implemented and it remains to be seen whether states and businesses will cooperate to the extent desired and needed. Moreover it is incapable of adequately addressing the problem associated with international as opposed to interstate transactions.

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