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Taxation of Online Sales: Competing With the Streamlined Sales Tax Project

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Executive Summary

Under current law, as enunciated in the 1992 Supreme Court decision in *Quill Corp. v. North Dakota*, out-of-state vendors, whether mail order, telephone or Internet, cannot be required to collect and remit taxes unless the seller has "nexus"—i.e., a physical presence—in the purchaser's state. Such a requirement, the Court reasoned, would constitute an undue burden on interstate commerce. With the growth of e-commerce, however, state governments have become increasingly concerned about the potential loss of sales and use tax remissions on remote purchases by their residents.

To address this concern, many states with sales taxes have joined the Streamlined Sales Tax Project (SSTP), which has as its objective the simplification and harmonization of relevant tax code provisions in order to convince federal authorities that interstate sales tax collection, even by vendors without nexus, is not an undue burden on interstate commerce. This effort has produced a multi-state tax compact called the Streamlined Sales and Use Tax Agreement (SSUTA). As of September 2004, 20 of the 42 states participating in the project, and the District of Columbia, had passed legislation adopting the SSUTA, and many others had legislation under consideration.

If the SSUTA is ratified by a sufficient number of states and endorsed by federal legislation, it will override the *Quill* decision and permit the states to impose sales tax collection responsibilities on out-of-state vendors. The Streamlined Sales and Use Tax Act, introduced by Representative Ernest Istook, provides that once 10 states including at least 20 percent of the U.S. population are complying with the terms of the SSUTA, any member state may require sellers to collect and remit sales

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and use taxes on remote sales.[1] This legislation also contains a small business exemption applicable to firms with less than $5 million in annual sales.

The Istook bill would require sellers to collect and remit taxes on sales to SSUTA states, whether or not the seller is located in a member state. This would have serious consequences, because not all states perceive the agreement to be in their interest. States that don't have a sales tax—Alaska, Delaware, Montana, New Hampshire and Oregon—clearly have no incentive to join. Other states that do have sales taxes may be concerned about the loss of local autonomy that membership in the compact entails. In fact, three states that do have sales taxes—Colorado, Idaho, and New Mexico—have thus far chosen not to participate in the SSTP process.

The analysis we present in this paper indicates that at least some states would not find it in their interest to participate in the SSTP, assuming participation is voluntary. States that choose not to join may enjoy a potentially significant competitive advantage vis-à-vis the SSUTA states in attracting Internet and other remote retailers because they will be able to sell tax-free. The new businesses attracted through a favorable tax policy will stimulate economic activity, job growth, incomes and tax revenues in the non-SSUTA states. In this paper, we make a preliminary attempt to quantify as many of these effects as possible, given current data availability. Our results suggest that the potential beneficial effects of "opting out" are substantial.

The potential costs and benefits of opting out vary from state to state, with low-sales-tax states having relatively little to lose, and potentially a lot to gain, from declining to join the SSTP. Similarly, states that are disproportionately exporters of goods to other states would forego less tax revenues from opting out. States that are disproportionately importers would lose more.

Our findings include the following:

- Of the $1.15 trillion in remote sales (based on 2001 data), only $123 billion would potentially be affected by adoption of the SSUTA. The remaining remote sales are either exempt from sales taxes or already taxed.

- Assuming participation is voluntary, about 24 percent of the $123 billion in potentially affected sales—$29 billion—will shift to states that do not adopt the SSUTA. At a minimum, the five states that do not have a sales tax will constitute a "tax-free zone." If there is a small-business exemption, the exempt businesses will also be part of the tax-free zone.

- The maximum increase in total sales tax revenue—assuming that all states with sales taxes adopt the SSUTA—is $4.8 billion. (Once multiplier effects due

[1] See H.R. 3184 and the identical senate bill, S. 1736.

to the loss of business in the SSUTA states are taken into account, the tax revenue increase will be considerably smaller.)

Our paper includes estimates of the effect of SSUTA implementation on output, earnings and employment—incorporating multiplier effects—in the *non-participating states that would comprise the tax-free zone*:

- Once the multiplier effects on other state businesses are fully factored in, the $29 billion in SSUTA-shifted sales could produce an aggregate economic benefit of $80 billion in sales, $25 billion in earnings and more than 500,000 jobs to the (non-participating) states that capture the remote wholesalers and retailers making these sales.

We illustrate the costs and benefits of opting out—in terms of economic activity and jobs as well as to the state treasury—with sample calculations for two states, Virginia and Colorado. Both states are technology leaders interested in attracting online businesses that may be quite sensitive to tax considerations—even if they are selling goods that currently are tax-exempt, such as software and other types of electronic content. These businesses will know that, if they locate in a SSUTA state, they run a relatively greater risk of losing that tax-exempt status.

- Virginia would forego an estimated $97 million in revenues from the application of sales taxes to the remote purchases of its residents if it decided not to become part of SSUTA. Offsetting this, Virginia would avoid the adverse impact of losing remote sales by Virginia businesses. Incorporating multiplier effects, these losses would be considerable: almost $2.4 billion in sales for Virginia businesses, $1.9 billion in personal income, 14,888 jobs and about $102 million in sales and income tax revenues. Thus, even before considering the new businesses that would be attracted to Virginia, a decision not to join SSTP would result in net gains to the state treasury.

- More importantly, however, if Virginia opted out, it would be part of the tax-free zone and would gain a portion of the sales that are shifted from the SSTP participants. If Virginia were to capture only one percent of the sales shifted from the SSUTA states, it would gain $857 million in output, $698 million in wages and salaries and 5,383 new jobs. Virginia's state treasury would also benefit from the new business generated from the shifted sales—each percent of shifted sales produces $37 million in new revenues for the state.

- If Colorado adopts the SSUTA, the Colorado treasury will enjoy increased receipts of $53 million. On the other hand, Colorado businesses will initially lose $274 million in sales shifted to the tax-free zone. With multiplier effects, this will cost Colorado $1.54 billion in lost economic activity, $1.27 billion in lost wages and salaries, 9,655 jobs and $60 million in lost sales and income tax revenue—more than the $53 million in increased sales-tax receipts directly attributable to SSTP participation.

- Again, most importantly, Colorado would lose the opportunity to attract a share of the new business by being part of the tax-free zone. The numbers here are similar to those for Virginia. If Colorado were to gain only one percent of the new business shifted from the SSTP states, it would gain $875 million in new economic activity, $719 million in incomes and 5,486 jobs. The tax revenues associated with this new economic activity would be $34 million.

Because the benefits of the SSUTA to the participating states decline as additional states opt out, some of its proponents have proposed that states—even if they choose to opt out—still be required to collect taxes for SSTP members.

Requiring businesses in non-participating states to collect sales taxes would be potentially quite burdensome. Businesses in zero-sales-tax states would be required to purchase and use tax-collection software, where none was needed before. Businesses in sales-tax states might well have to use two different software systems—one for their own state and one for the SSUTA states.

This would be tantamount to a requirement to adopt the SSUTA. If states are required to bear all the costs of SSTP membership, regardless of whether they join, and deprived of the benefits of opting out—i.e., the ability to attract new businesses—they will likely choose to join so they can at least get some benefits. If such a requirement were to extend to the tax-free states (which it presumably would), it might even induce them to enact sales taxes, because the benefits of being a tax-free state would be greatly diminished.

Such a requirement would seriously erode the benefits of tax competition that are an important part of our federal system. Currently, states are able to compete for businesses in a variety of ways, including through their tax codes. This acts as an important check on the tendency state governments might have to institute tax regimes that discourage economic activity. Eliminating this restraint would be detrimental not just to any subset of states, but to the economic health of the nation.

Introduction

Under current law, as enunciated in the 1992 Supreme Court decision in Quill Corp. v. North Dakota, out-of-state vendors, whether mail order, telephone or Internet, cannot be required to collect and remit taxes unless the seller has "nexus"—i.e., a physical presence—in the purchaser's state. Such a requirement, the Court reasoned, would constitute an undue burden on interstate commerce. Many state officials believe that their inability to tax remote sales is costing them substantial revenues. They believe this problem will only get worse in the future as Internet sales continue to grow.

Concern about potential erosion of the sales tax base is not misplaced—general sales and use taxes account for the second largest category of state government revenues after individual income taxes. Sales and use taxes totaled about $258 billion—46 percent of all state tax receipts—in 2001, the baseline year for our analysis. (See Table 1).[2]

In an effort to address this issue, many states are participating in the Streamlined Sales Tax Project (SSTP), which is an effort to coordinate and harmonize the various state tax codes to facilitate sales tax collection on remote sales and convince federal authorities that collecting sales tax on interstate sales is not an undue burden on interstate commerce. This effort has produced a multi-state tax compact called the Streamlined Sales and Use Tax Agreement (SSUTA). As of April 2004, 20 of the 42 states participating in the project, and the District of Columbia, had passed legislation adopting the SSUTA (with notable substantive variations), and many more states had legislation under consideration.

If the SSUTA is ratified by a sufficient number of states and endorsed by federal legislation, it would override the Quill decision and permit the states to require out-of-state vendors to collect sales tax on remote sales. The Streamlined Sales and Use Tax Act, introduced by Representative Ernest Istook, provides that once 10 states including at least 20 percent of the U.S. population are complying with the terms of the SSUTA, any member state may require sellers to collect and remit sales and use taxes on remote sales.[3] This legislation also contains a small business exemption applicable to firms with less than $5 million in annual sales.

The Istook bill would require sellers to collect and remit taxes on sales to SSUTA states, whether or not the seller is located in a member state. This would have serious consequences, because not all states perceive the agreement to be in their interest. States that don't have a sales tax—Alaska, Delaware, Montana, New Hampshire and Oregon—clearly have no incentive to join. Other states that do have sales taxes may be concerned about the loss of local autonomy that membership in

[2] All tables are at the end of this report.
[3] See H.R. 3184 and the identical senate bill, S. 1736.

the compact entails. In fact, three states that do have sales taxes—Colorado, Idaho, and New Mexico—have thus far chosen not to participate in the SSTP process.

Several authors have written on the general issue of taxing remote sales and the SSUTA, but these studies contain little empirical analysis of the effects of the SSUTA, particularly on states that may not want to participate.[4] This study is an attempt to start to remedy that gap by analyzing the benefits and costs to a state of SSUTP membership, assuming that—if and when the SSUTA is implemented—membership remains voluntary.

The analysis we present below indicates that at least some states would not find it in their interest to participate in a voluntary SSUTA. States that choose not to join may enjoy a potentially significant competitive advantage vis-à-vis the SSUTA states in attracting Internet and other remote retailers, because they will be able to sell tax-free. These new businesses will stimulate economic activity, job growth, incomes and tax revenues in the non-SSUTA states. In this paper, we make a preliminary attempt to quantify as many of these effects as possible, given current data availability. Our results suggest that the potential benefits of "opting out" are substantial. In fact, the size and nature of these benefits are large enough to provide inducements for several states to threaten the viability of the SSUTA compact.

We illustrate these results with two case studies—Virginia and Colorado—states for which technology is an increasingly important part of the state economy.[5] For both of these states, the costs of adopting SSUTA to the state economy outweigh any benefits that might accrue in terms of increased sales-tax receipts. In fact, opting out of SSUTA will attract a significant amount of economic activity to each state that would otherwise locate elsewhere. This activity generates new jobs, increased incomes and increased tax revenues that are larger than sales-tax revenues foregone by opting out of the SSUTA.

2001 Baseline Estimate of Remote Sales

There are three distinct streams of remote sales potentially subject to sales and use taxation: electronic commerce, divided into the business-to-business (B2B) and business-to-consumer (B2C) sectors, and more traditional "offline" remote sellers such as mail order and direct marketing firms. At the time this research was conducted, the most recent e-commerce data available were for 2001, and we have adopted that year as the baseline for the estimates presented in this paper.

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[4] See, for example, Greve (2003) and Thierer and de Rugy (2003). The research of Bruce and Fox (2001) is usually cited as the basis for projecting large losses from the inability to tax remote sales. Much smaller estimates of these potential losses are presented in Cline and Neubig (1999) and more recently in Johnson (2003). A new study by Bruce and Fox (2004) states that their original estimates were overstated.

[5] Several studies, including those by DeVol & Koepp (2003), AeA (2003), and Atkinson (2002), have placed both states at the top of the list in terms of a variety of high-tech indicators.

The 2001 Census data provide direct estimates of B2B and B2C. (See Table 2).[6] B2B e-commerce sales (in manufacturing and wholesaling combined) are estimated at $995 billion for 2001. Manufacturing accounts for 72 percent of this total. The Census estimate of B2C e-commerce is much smaller ($71 billion in 2001) and is nearly evenly divided between retail sales and services (most notably, travel and data processing).

Estimates of offline sales by remote sellers are not reported directly. However, the 2001 Census provides estimates for the "non-store retailer" sector, most of which consists of firms in direct sales, mail order and electronic shopping (i.e., "pure play" Internet retailers). About $25.7 billion in 2001 sales by these firms is classified as e-commerce. The remaining $83.6 billion in sales by the non-store retailer sector represents "offline" remote sales.

Adding the three components—B2B, B2C and offline remote sales—yields a total of $1.15 trillion in remote sales. For our analysis we assume that residents of all states are equally likely to make online and offline remote purchases, so each state's share of remote purchases is proportional to its share of GDP. (See Table 3). In fact, some states may be disproportionately exporters or importers of goods and services. We discuss below how this might modify our results.

Remote Sales Potentially Affected by the SSUTA

Only a relatively small proportion of the $1.15 trillion in remote sales would be affected by the adoption of SSUTA, because much of the current stream of electronic B2B and B2C sales is exempt from taxation, while sales and use taxes are already collected on a significant share of the residual B2B commerce.[7]

We estimate that only $123 billion (11 percent of the $1.15 trillion total) of remote sales in 2001 would potentially be affected by adoption of the SSUTA. (See Table 4). More than half of these sales are made by *offline* remote sellers, notwithstanding the current focus on the tax consequences of e-commerce. As is explained below, this estimate is based on relatively conservative assumptions. In all likelihood, the proportion of sales exempt from sales taxation would be higher than we assume here, and the impact on state finances of the current regime would be smaller than our estimates suggest.

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[6] The 2001 Census for the first time provides data on the "non-store retailer" sector, including direct marketing firms, mail order houses and "pure play" Internet retailers.

[7] A number of studies have investigated current and potential taxability of the B2B and B2C e-commerce streams. See the quantitative studies cited in footnote 4, as well as more policy-oriented papers such as Greve (2003), Jossi (2003), and Wiseman (2000).

B2B

Almost all e-commerce (an estimated 95 percent in 2001) in the manufacturing sector is conducted via EDI networks.[8] Several researchers have indicated that most, if not all, of this stream is already tax-compliant.[9] Of the remainder, much is exempt from sales tax (i.e., because the purchases are for use as inputs to manufacturing or for re-sale) or already subject to sales and use tax remissions. We have therefore not included any sales tax losses from manufacturing B2B sales, since it is unlikely that any appreciable volume of goods in this sector would be newly subject to sales and use taxation under the SSUTA.

Nearly as high a share (86.3 percent in 2001) of wholesale B2B sales is conducted via EDI networks. We assume for our analysis that no taxes are currently collected on the entire 13.7 percent of wholesale B2B sales that are transacted over the Internet, and that taxes would be collected on this entire volume of sales under the SSUTA. This is a "conservative" assumption in that it maximizes the projected revenue benefits associated with the SSUTA. Nonetheless, even under these assumptions, we estimate that only about $36 billion—about 4 percent—of the $995 billion in overall B2B e-commerce would potentially be affected by the SSUTA.

B2C

The Census estimates of B2C consist of retail sales (some of which are potentially subject to tax) and services, including travel arrangements and data processing, that are typically outside the scope of sales and use taxation. Moreover, there are several factors that limit the extent to which even the retail portion of the stream is taxable. First, some sales (about $9 billion, or 26 percent of the $34 billion total in 2001) are made by store-based retailers who have nexus in most, if not all, of the states in which they sell online.[10] This includes large discount merchandisers such as Walmart and Target, which already collect sales taxes. Second, several categories of products sold on the Internet are not subject to sales and use taxes, including motor vehicles, groceries, prescription and non-prescription drugs, and in many states, apparel. Collectively, these tax-exempt categories of goods account for between 10 and 20 percent of all retail B2C, depending on whether apparel is included in the tax-exempt sector.[11]

Given these assumptions, we estimate that about 30 percent of the $72 billion of 2001 B2C expenditures—or about $21 billion—would potentially be affected by the SSUTA.

[8] U.S. Department of Commerce, E-stats, "E-Commerce 2001 Highlights" (2003).
[9] See, for example, Cline and Neubig (1999) and Johnson (2003).
[10] U.S. Department of Commerce, E-Stats, "E-Commerce 2001 Highlights" (2003).
[11] Based on authors' review of B2C sales data compiled for Eisenach, Lenard, and McGonegal (2001).

Offline Remote Sales

While taxing Internet sales will have relatively little impact on state and local government finances, it is important to keep in mind that remote sales are not restricted to the Internet. In fact, as we show below, the potentially taxable volume of "offline" interstate sales will remain larger than that from B2C well into the future. Because this sector would also be affected by the SSUTA, computing foregone revenues using only forecasts of e-commerce volumes understates the baseline level of remote sales that would be affected by broad-based taxation of out-of-state purchases.[12]

As with online sales, a significant portion of offline remote sales (particularly apparel) will remain tax-exempt under the SSUTA. We have assumed for our analysis that 20 percent of offline remote sales is accounted for by categories of goods that would not be affected by adoption of the SSUTA. In contrast to our estimates of the share of B2C sales by retailers with nexus, mail order and direct sales firms typically have a much smaller "footprint" than major retailers—and thus fewer states where residents' purchases are subject to sales tax. Consequently, the share of offline remote sales currently subject to sales and use taxation is much smaller than for online retailers, and we have assumed that it is zero to provide a conservative estimate of the amount of e-commerce that would not be affected by the SSUTA. Finally, some of the remaining remote sales are made to residents of the five zero-sales-tax states. These states collectively account for about 2.6 percent of combined state GSP in 2001; we have further reduced our estimates of potentially affected purchases by this percentage.

Collectively, these assumptions imply that 78 percent of offline remote sales—about $65 billion in 2001—are potentially affected by the SSUTA. Thus, e-commerce accounts for less than half of all remote sales potentially affected by the SSUTA.

We assume that these potentially affected remote sales are distributed among the states according to their shares of GDP, as shown in Table 5.[13] For this analysis, we did not take into account interstate differences in the taxability of goods such as apparel. In practice, states with larger effective sales tax bases would lose somewhat more in shifted sales than these estimates imply, while those with relatively restricted sales tax bases (particularly those that exclude apparel purchases) would lose somewhat less than the estimates shown here. We do not expect these effects to be quantitatively large, however.

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[12] It is important to note that a significant share of the projected growth in e-commerce is projected to come at the expense of offline remote sales channels. Thus projections of future increases in online sales cannot be used to estimate the overall growth in remote sales (both online and offline) that would be potentially subject to sales and use taxation.

[13] As Table 5 shows, states without sales taxes would have no potentially affected purchases.

The Tax Sensitivity of Internet Shoppers

The price sensitivity of Internet shoppers has been well established, and both the aggregate amount and geographic distribution of remote sales will be affected by the addition of sales taxes to interstate purchases that currently are exempt. Recent studies have confirmed that added costs, such as shipping charges (which are typically higher for remote sales than for in-state purchases) and sales taxes, significantly influence online buying decisions.[14] These shifted purchases have the potential to reduce the amount of increased sales tax collections from adopting the SSUTA.

Research conducted by Austan Goolsbee using panel data from the late 1990's demonstrated that these shifts are potentially large.[15] Moreover, the most tax-sensitive buyers in his studies—Internet users who have been online for more than two years—account for an increasingly large proportion of Internet buyers. By 2004 the proportion of relatively inexperienced Internet users has dropped to the point where they have a minimal impact on the overall estimates of sales affected by the SSUTA.

In addition, Goolsbee demonstrated that Internet sales tax differentials may induce potentially significant "spillover effects", in the form of shifts in the purchasing patterns for goods unaffected by sales taxation. Once consumers have established a relationship with a specific Internet retailer or offline remote seller, they may not renew the search process to locate additional sellers for purchases of goods and services that are not affected by the SSUTA.

Goolsbee's estimates of the impact of sales taxes on Internet buying are summarized in Table 6. The top line of the table shows Goolsbee's (2000a) initial (and frequently cited) estimates that 24 percent of Internet buyers and 30 percent of online purchases would be shifted in response to the imposition of sales taxes. These estimates of price sensitivity are from a study of purchasing intentions in the late 1990s, before the majority of Americans were Internet users and before the majority of Internet users had begun to make online purchases.[16]

Because Internet buying has become much more prevalent, some adjustments to these initial estimates are required to account for the increasingly higher proportion of consumers who buy online. Most critically, the estimated elasticity of online buying with respect to tax-related changes in price dropped from 2.4 to 1.2 in Goolsbee's follow-up study. While the measured shift in purchasing behavior was consistent with that found in the initial research, the percentage changes are reduced by about half because the baseline level of online purchasing had doubled from the level in the

[14] See, for example, the survey of Internet shoppers conducted by NetIQ (2004).
[15] The major findings are reported in Goolsbee (2000a), Goolsbee (2000b), and Goolsbee and Zittrain (1999).
[16] It should be noted that the degree of reported price sensitivity in Goolsbee's research is consistent with research on cross-border sales tax differentials. See, for example, Fleenor (1998).

previous study. By itself, this suggests that the number of online buyers and the share of online purchases shifted by adoption of the SSUTA could be as low as 12 and 15 percent, respectively.

However, the discussion above highlights the role of two other factors that would increase the magnitude of online and other remote sales that are potentially affected by the SSUTA. In his second study, Goolsbee found that experienced Internet users (those online for more than two years) were about 80 percent more likely than the average Internet buyer to be affected by changes in the tax price. Obviously, this effect has become increasingly relevant as the online retailing market has grown. Incorporating this "generational" effect increases the estimated shift in remote retail sales to 24.3 percent of the current baseline level. (See Table 6). This is the number we use for our analysis below.

Finally, Goolsbee also showed that Internet sales tax differentials may also induce potentially significant "spillover effects", in the form of shifts in the purchasing patterns for goods unaffected by sales taxation. The impact of sales tax rates on purchase decisions was estimated to be nearly half as great for tax-exempt items as for those on which sales taxes would be due. However, because they are likely to apply only in the B2C sector and be quantitatively small, we have omitted any estimates of spillover effects from our analysis.

While Goolsbee's research is now several years old, his estimates have been corroborated by at least one recent study. Jupiter Research found that nine percent of those who were aware of the possibility of avoiding sales taxes online "always" looked to avoid the tax, while another 30 percent of those "sometimes" did so. While only 46 percent of those surveyed were aware that sales taxes could be avoided by searching among multiple retailers online, this proportion can reasonably be expected to increase dramatically if the SSUTA is adopted.[17]

Sales Shifts and Revenue Gains from SSUTA

If the SSUTA enjoyed universal participation, then its geographic impact would be clear: interstate purchases would become more expensive relative to instate purchases, and consumers would shift some purchases to both offline and online sources in their home states. In terms of direct sales tax revenue, states would be indifferent to the extent of this shifting, because they would receive remissions on sales from both instate and remote retailers. The extent of the shifting would depend on how consumers valued non-tax attributes of the various alternatives, such as the convenience of Internet shopping and the shipping costs associated with remote purchases.

In the real world, however, things are changed dramatically by the existence of a tax-free zone consisting of the five states that do not currently impose sales taxes and any other states that decide not to join the SSTP. At a minimum, the five states

[17] Jupiter Research (2003).

without a sales tax—Alaska, Delaware, Montana, New Hampshire and Oregon—will not join the SSTP, assuming participation is voluntary. These states will provide online and other remote retailers with the ability to continue offering tax-free shopping options to out-of-state purchasers. Some of the zero-sales-tax states are particularly well situated to benefit from non-participation in the SSTP. For example, Oregon stands to benefit from its proximity to (and hence, relatively lower shipping costs for) California consumers. Similarly, New Hampshire is well situated to provide low-cost shipping to states in New England, while Delaware would enjoy a cost advantage for serving the Mid-Atlantic region.

In addition, if SSUTA-enabling legislation exempts small businesses—e.g., businesses with sales of less than $5 million—from the obligation to collect sales taxes under SSTP, these businesses (which could account for a substantial amount of sales activity) would also be part of the tax-free zone. Our analysis below focuses on shifts to states that do not participate in SSTP, but the existence of exempt small businesses in participating states will diminish further any possible benefits that states can expect from SSTP membership.

State sales tax rates vary considerably, from a high of 7 percent in Mississippi, Rhode Island, and Tennessee to a low of 2.9 percent in Colorado.[18] In order to estimate the revenue impact of SSUTA, we first estimate the effect of SSUTA on remote purchases by residents of each state. For simplicity we assume that the shift in purchases affects each state s at the rate:

$$R_s = R * (t_s)/(t_{avg}),$$

where R is equal to the percentage change in remote purchases that can be expected from imposition of the U.S. average state sales tax rate of approximately 5.4 percent.[19] If a state has the national average tax rate of 5.4 percent, then 24.3 percent of its potentially affected purchases (from Table 6) would shift to non-SSUTA states—states that have no sales tax plus any other states that choose not to join the SSTP. This figure is higher or lower according to whether its tax rate is higher or lower than average. For example, Alabama, which has a sales tax rate of 4 percent, would see about 18 percent (24.3 percent times 0.74) of potentially affected remote purchases by state residents shift to non-SSUTA states.

As a baseline, we estimate the benefits to SSTP membership under the assumption that all the sales-tax states do become part of the agreement. These estimates are shown in Table 7. We estimate that about $29 billion in baseline 2001

[18] Sales taxes are also imposed and collected at the local level by several thousand jurisdictions, typically at a rate well below that of the state levy (with the notable exceptions of Alaska and Colorado). These local sales taxes were not included in our analysis.

[19] We have not incorporated the effects of local sales taxes into these estimates. While they are significant revenue sources in a few localities, there are no data available to estimate the *intrastate* online consumption shifts that may be induced by local sales taxes. In any event, the aggregate effect is small; local sales tax rates average just one percent for the U.S. as a whole.

remote sales will shift to the zero-sales-tax states. The shifts are largest for states such as California and Texas, which have both large state economies and relatively high sales tax rates. California residents alone are projected to shift more than $4 billion in remote purchases to non-SSUTA states. However, our analysis shows that the shift in remote sales is potentially significant even for relatively small states. For example, by continuing its membership in the SSTP, Virginia residents would shift about $520 million in remote wholesale and retail purchases to tax-free states.

Nationally, we estimate that the net revenue gain to SSUTA members (in terms of capturing previously foregone sales taxes) could be as high as $4.8 billion in 2001. (See Table 8). This represents about 2.7 percent of the total amount of sales and general excise taxes collected by states during this baseline year. It should be noted, however, that only $2.3 billion of this amount is attributable to online purchases, with the remainder coming from taxes on other remote sales.

The $4.8 billion revenue gain estimate does not take into account the multiplier effects that would occur due to the loss of sales by businesses in the SSUTA states. The multiplier is a standard concept in economic analysis. As each additional dollar of final demand works its way through the economy, it has a multiplicative effect on output, earnings and employment. Thus, a demand shift from the SSUTA states to the non-SSUTA states would produce a negative multiplier effect in the SSUTA states, which would have a further negative effect on output, earnings and employment in those states. This would ultimately translate into lower tax revenues. Thus, $4.8 billion is an overestimate of the revenue gains due to SSTP. In the next section we analyze the total effects—including multiplier effects—in the non-SSUTA states.

The Effect of SSUTA on Non-Participating States

The estimates of shifted sales in Table 7 represent the "direct output effect" of SSUTA adoption both for participating and non-participating states. However, (as just indicated) the *final impact* of these shifts on output, earnings, and employment—incorporating multiplier effects—is of most interest to the states contemplating SSUTA participation.

We have estimated these effects for a tax-free zone consisting of the five zero-sales-tax states using multipliers from the Regional Impact Modeling System (RIMS II) data available from the Bureau of Economic Analysis of the Department of Commerce. The results are shown in Table 9.

RIMS II provides separate impact multipliers for the retail and wholesale sectors for each of the 50 states. For our estimates we have assumed that all of the shifted B2C and offline remote sales can be characterized as changes in retail spending, while those for B2B are more appropriately treated at the wholesale level.[20]

[20] More precise estimates of the impact could be obtained by developing an econometric model to project the extent and time-profile of geographic changes in Internet retailer locations is beyond the scope of our analysis. Fortunately, the estimated losses in sales tax revenues are small enough, and

For this analysis, we have developed estimates of the economic significance of the aggregate amount of shifted sales using the average of the state-specific multipliers for the five states that do not currently have state sales taxes. These multipliers indicate that each $1,000,000 in initial purchases in the wholesale sector leads to additional output of $1.72 million, additional earnings of nearly $500,000, and 15 newly created jobs *in addition to the earnings and jobs directly created by the initial purchases*. The output effect is similar in the retail sector—each initial $1,000,000 in retail sales is estimated to generate about $550,000 in earnings and 26 new jobs, again *in addition to the earnings and jobs created by the initial purchases*.[21]

This analysis shows that the economic impact of sales that would shift in response to the SSUTA is substantial. (See Table 9). The $29 billion in shifted sales directly translates into $9.4 billion in earnings and more than 200,000 new jobs.[22] Once the multiplier effects on other state businesses are fully factored in, SSUTA-shifted sales could produce an aggregate economic benefit of $80 billion in sales, $25 billion in earnings, and more than 530,000 jobs to the states that capture the remote wholesalers and retailers making these sales.

Obviously, there are a number of factors that determine the location decisions of firms. Fixed costs, local area connections, and moving expenses may all limit the number of business whose locations would be potentially affected by the SSUTA. Relocation and start-up choices depend on tax and regulatory policy, levels of workforce education and compensation, executive residential preferences and other variables that influence the business environment.[23] However, recent research confirms that two factors particularly relevant to remote sales operations—sales taxation and shipping costs—have a statistically measurable effect on the geographic profile of Internet retailer locations.[24] The estimates presented in Table 9 show that the economic benefits from attracting retailers that account for even a very small percentage of remote sales are potentially significant.

The Decision to Participate

Because the potential benefits of non-participation are large, we believe other states—in addition to those that don't have a sales tax—will find it in their interest to opt out of the SSUTA if they are permitted to do so. In making this decision, state officials need to consider several potential costs and benefits, including the following:

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the likely magnitudes of benefits from shifted purchases are sufficiently large enough, to make this effort unnecessary.

[21] Because remote sellers do not have to operate "bricks and mortar" locations, they can be expected to require fewer employees than conventional wholesalers and retailers. In the absence of estimates of the output, earnings, and job creation effects specifically associated with non-store retailers, we have assumed that job creation will be half that of the estimated impact from the RIMS II model multipliers.

[22] Note that the $29 billion of shifted sales represents only 3 percent of remote sales from Table 2.

[23] See for example Bartik (1985) and Carlton (1983).

[24] See the dissertation of Minchul Kim (2003).

- the amount of tax revenues member states could expect to gain from remote purchases by residents;
- the amount of economic activity that might be "in play"—i.e., subject to potentially moving to non-compact states;
- the effects of these shifts on economic activity and employment in the non-SSUTA states, using multipliers from the Department of Commerce's RIMS (Regional Input-Output Modeling System);
- the amount of Internet and other remote sales that would have to shift to non-SSUTA states in order for those states to benefit in terms of economic activity and tax revenues; and,
- an assessment of whether it would be reasonable to expect that amount of business to shift to non-compact states.

Estimating the direct effect of opting out of the SSUTA on state sales tax collections is straightforward. Each non-participating state stands to lose receipts on remote purchases by its resident businesses and households.

State losses vary not only in proportion to the size of the state economy, but also in proportion to the state sales tax rates. Foregone tax revenues from opting out would be proportionally greater for relatively high tax states—including California, Texas, and New York—and smaller for states such as Virginia and Colorado that have lower-than-average state sales tax rates (see Table 8). For example, we estimate that the 2001 baseline loss for Virginia would be around $97 million, which represents just over 2 percent of general sales tax receipts for the year.[25] Similarly, Colorado would lose $53 million—also about 2 percent of its general sales tax receipts.

Other things being equal, states that are disproportionately importers of goods from other states would forego more tax revenues from opting out. States that are disproportionately exporters would lose less.

Finally, we have to trace the impact of any projected business relocations on state revenues. While business relocations and new start-ups provide a variety of fiscal benefits to a region, they vary in their magnitude, predictability, and ease of measurement. For these reasons we focus on the largest and most predictable revenue sources—individual income and sales taxes.[26] These two sources account for an average of 83 percent of all state revenues.[27]

There are a number of large-scale models that can be used to trace the effect of policy changes on state income and sales receipts. For simplicity, however, we have assumed that the additional economic activity from new Internet retailing will

[25] In fact, the estimated sales tax loss from opting out of the SSUTA represents no more than five percent of total indirect tax receipts for all but one state (Massachusetts) that currently imposes a sales tax.
[26] This is equivalent to assuming that relocating retailers and new start-ups will not be profitable (or will receive tax abatements) during the first few years of business.
[27] U.S. Census Bureau (2003).

contribute to state coffers at the same rate as existing economic activity. Using this assumption, we compute the fiscal benefits to a non-SSUTA participant from capturing each percent of the total shifted sales projected. These benefits, in the form of increased sales and individual income tax collections, are offset by the projected loss of revenues on remote purchases by state residents.

We illustrate the costs and benefits of opting out—in terms of economic activity and jobs as well as to the state treasury—with sample calculations for two states, Virginia and Colorado. Both states are technology leaders interested in attracting online businesses may be quite sensitive to tax considerations—even if they are selling goods that currently are tax-exempt, such as software and other types of electronic content. These businesses would know that, if they are located in a SSUTA state, they run a relatively greater risk of losing that tax-exempt status.

The Benefits and Costs of Opting Out of SSTP: Virginia

Virginia is currently a participant in SSTP meetings, but still is contemplating whether to adopt the Streamlined Sales and Use Tax Agreement (SSUTA), which represents the next step toward full membership. Table 10 shows the benefits and costs for Virginia of opting out of the SSTP:

- The major cost of non-participation for Virginia is the loss of an estimated $97 million in revenues from the application of sales taxes to the remote purchases of its citizens. This represents only about 2 percent of the state's general sales tax receipts. (Of course, this benefit to the state treasury is also a cost to Virginia consumers. Whether the Virginia taxpayer is better off on net depends on how the money is spent.)

  There are two major categories of benefits:

- If Virginia opts out of SSUTA, it avoids the adverse impact of losing remote sales by Virginia businesses. For Virginia, the initial shift of sales to the tax-free zone attributable to SSUTA is $520 million. Incorporating multiplier effects, this would result in a loss of almost $2.4 billion in sales by Virginia businesses, $1.9 billion in personal income and 14,888 jobs. (See Table 10). This loss in economic activity would result in a loss of about $102 million in sales and income tax revenues. Thus, even before considering the new businesses that would be attracted to Virginia, joining SSTP would result in net losses to the state treasury.

- As we have discussed, however, states that opt out of SSTP will become part of a tax-free zone and will attract new business at the expense of the SSTP members. If Virginia opts out, it will be part of the tax-free zone and will gain a portion of the sales that are shifted from the SSTP participants. Table 10 shows the effect if Virginia captures 1-3 percent of the shifted sales. Each one percent of shifted sales would add $857 million in output, $698 million in wages

and salaries and 5,383 new jobs. Virginia's state treasury would also benefit from the new business generated from the shifted sales. As Table 10 shows, each percent of shifted sales also produces $37 million in new revenues for the state.

The Benefits and Costs of SSTP Membership: Colorado

Colorado is currently not a member and, as Table 11 shows, has relatively little to gain and much to lose by participating in SSTP. The benefit-cost analysis of a decision to participate in SSTP is the inverse of the analysis of opting out. For Colorado, the numbers are as follows:

- If Colorado participates, the Colorado treasury will enjoy increased receipts of $53 million (recall that Colorado has the lowest sales tax rate—2.9 percent—of states that have a sales tax). (Again, these increased receipts would be paid by Colorado consumers and businesses, so they may not constitute a net benefit.)

This benefit is offset by the following costs:

- Colorado businesses will initially lose $274 million in sales shifted to the tax-free zone. With multiplier effects, this will cost Colorado $1.54 billion in lost economic activity, $1.27 billion in lost wages and salaries and 9,655 jobs. The lost tax revenue associated with this economic activity—$60 million in sales and income taxes—is more than the $53 million in increased sales-tax receipts directly attributable to SSTP participation.

- Finally, and most importantly, Colorado will lose the opportunity to attract a share of the new business by being part of the tax-free zone. The numbers here are similar to those for Virginia. If Colorado were to gain only 1 percent of the new business shifted from the SSTP states, it would gain $875 million in new economic activity, $719 million in incomes and 5,486 jobs. The tax revenues associated with this new economic activity would be $34 million.

Looking Forward: Estimates for the Next Five Years (2004 through 2008)

Previous studies and policy papers expressing concern about the inability to tax remote online sales often highlighted the explosive growth forecast for e-commerce. During the late 1990's annual growth rates of more than 30 percent were forecast for both B2C and B2B sales, and some studies did not account for the portion of those new sales that were to be realized at the expense of traditional remote sellers.

E-commerce growth forecasts have moderated substantially as the Internet has matured, and the projected annual growth rates from 2004 forward by two leading market research firms—Forrester and Jupiter—have converged at 19 and 17 percent,

respectively.[28] Using the Jupiter forecasts, which provide different projected growth rates for different categories of goods, we have developed state-specific estimates of online sales from 2004 through 2008 for both B2C and B2B. We have assumed that offline remote sales grow at a much slower rate, reflecting the continuing shift in the mix of retailers in the remote sales sector. (See Table A-1).

However, while the amount of remote commerce potentially subject to shifting and the amount of lost sales tax receipts are both projected to grow over time, the calculus facing states contemplating a decision to opt out of the SSUTA does not. The lost sales taxes from SSUTA state remissions will grow, but so will the benefits of attracting a given percentage of the retailers and online technology companies who capture sales shifted by the change in remote sales tax policy (See Table A-2).

SSUTA and the Benefits of Tax Competition

The potential revenue benefits of adopting the SSUTA are largest for the states with the highest sales tax rates. For low-tax-rate states, our analysis shows that there are substantial economic benefits associated with opting out of the SSUTA. At a minimum, the SSUTA offers nothing to the five states that don't have a sales tax.

Other things being equal, states that are net exporters of goods and services have less to gain and more to lose from SSUTA. This should be a consideration for states like Colorado and Virginia that may want to develop high-tech sectors that export to the rest of the country.

Even if all the states that have a sales tax were to join the SSTP and adopt the SSUTA, the five tax-free states would remain a tax-free haven that would attract out-of-state customers. These states would attract both online and offline remote retailers from the SSUTA states because of their ability to offer tax-free shopping to out-of-state customers. The amount of business attracted would be significant, because the economic evidence suggests that consumers are quite sensitive to tax differences.

In order to avoid losing businesses to the non-SSUTA states—initially, the tax-free states—other states would have an incentive to opt out and thereby become part of the tax-free zone. As indicated, the incentive to do this would be strongest for the low-tax-rate states.

Obviously, the benefits of SSUTA to the member states decline as more states opt out. For this reason, some proponents of SSUTA have suggested requiring states, even if they opt out, to collect taxes for the SSUTA members. Under the Istook bill—the bill currently under consideration in Congress that would endorse the SSUTA—states could require remote sellers to collect and remit sales taxes for sales to member states. So, for example, a seller in Virginia would be required to collect taxes on the software it sold to Texas residents, and remit those taxes to

[28] See Forrester Research (2003) and Jupiter Research (2003).

Texas—even if Virginia had opted out of SSUTA and therefore was not receiving taxes on the Texas computers sold to Virginia residents.

Requiring businesses in non-participating states to collect sales taxes would be potentially quite burdensome. Businesses in zero-sales-tax states would be required to purchase and use tax-collection software, where none was needed before. Businesses in sales-tax states might well have to use two different software systems—one for their own state and one for the SSUTA states.

A requirement to perform the collection function would virtually be tantamount to a requirement to join the SSTP and adopt the SSUTA. States would be required to bear all the costs of membership, while they would be deprived of the benefits of opting out—i.e., the ability to attract new businesses.[29] Under these circumstances, states would likely choose to join so they could receive at least some benefits. If the requirement extended to the tax-free states, which it presumably would, it might even induce them to enact sales taxes, because the benefits of being a tax-free state would be greatly diminished.

More generally, such a requirement would seriously erode the benefits of tax competition that are an important part of our federal system. Currently, states are able to compete for businesses in a variety of ways, including through their tax codes. This acts as an important check on the tendency state governments might have to institute tax regimes that discourage economic activity. Eliminating this restraint would be detrimental not just to any subset of states, but to the economic health of the nation.

[29] The costs to businesses in non-member states might actually be greater than if their states became members. Sellers might find themselves collecting and remitting sales taxes under two distinct systems, perhaps requiring two separate software packages.

Table 1

Sources of State Government Revenue

($million)

	Personal Income	Total State Receipts	Percent of Personal Income	State Tax Receipts			
				General Sales/Gross Receipts	Selective Sales/ Excise	All Sales Tax Receipts	Share of Total
Alabama	105,796	6,748	6.4%	1,713	1,585	3,298	48.9%
Alaska	18,773	1,429	7.6%	0	135	135	9.4%
Arizona	130,982	8,360	6.4%	3,825	1,039	4,864	58.2%
Arkansas	59,205	4,987	8.4%	1,810	661	2,471	49.6%
California	1,099,375	90,454	8.2%	24,298	6,452	30,750	34.0%
Colorado	**142,752**	**7,567**	**5.3%**	**1,970**	**917**	**2,887**	**38.2%**
Connecticut	141,151	9,896	7.0%	3,159	1,396	4,555	46.0%
Delaware	24,767	2,106	8.5%	0	295	295	14.0%
Florida	454,106	24,939	5.5%	14,716	4,288	19,004	76.2%
Georgia	232,179	14,369	6.2%	4,907	1,132	6,039	42.0%
Hawaii	34,308	3,508	10.2%	1,640	558	2,198	62.7%
Idaho	31,314	2,558	8.2%	782	310	1,092	42.7%
Illinois	401,030	23,150	5.8%	6,320	4,635	10,955	47.3%
Indiana	165,815	10,116	6.1%	3,606	1,425	5,031	49.7%
Iowa	77,790	5,159	6.6%	1,756	754	2,510	48.6%
Kansas	74,124	4,987	6.7%	1,745	582	2,327	46.7%
Kentucky	98,125	7,851	8.0%	2,259	1,353	3,612	46.0%
Louisiana	103,824	7,197	6.9%	2,400	1,704	4,104	57.0%
Maine	32,793	2,669	8.1%	818	359	1,177	44.1%
Maryland	180,353	10,786	6.0%	2,647	1,945	4,592	42.6%
Massachusetts	241,318	17,225	7.1%	3,756	1,504	5,260	30.5%
Michigan	293,744	22,264	7.6%	7,723	2,160	9,882	44.4%
Minnesota	158,817	13,535	8.5%	3,771	2,092	5,863	43.3%
Mississippi	59,881	4,749	7.9%	2,326	812	3,137	66.1%
Missouri	153,830	8,837	5.7%	2,805	1,220	4,025	45.5%
Montana	20,678	1,496	7.2%	0	352	352	23.6%
Nebraska	47,534	3,037	6.4%	1,032	415	1,447	47.7%
Nevada	59,948	3,832	6.4%	2,049	1,238	3,287	85.8%

Table 1 (con't.)

Sources of State Government Revenue

($million)

	Personal Income	Total State Receipts	Percent of Personal Income	State Tax Receipts: General Sales/Gross Receipts	State Tax Receipts: Selective Sales/ Excise	State Tax Receipts: All Sales Tax Receipts	State Tax Receipts: Share of Total
New Hampshire	42,986	1,756	4.1%	0	574	574	32.7%
New Jersey	317,346	19,253	6.1%	5,759	2,748	8,506	44.2%
New Mexico	39,772	4,002	10.1%	1,620	463	2,083	52.1%
New York	664,927	44,858	6.7%	8,779	4,315	13,094	29.2%
North Carolina	218,537	15,600	7.1%	3,456	2,759	6,215	39.8%
North Dakota	16,027	1,164	7.3%	340	281	621	53.3%
Ohio	320,377	19,618	6.1%	6,288	2,678	8,966	45.7%
Oklahoma	83,035	6,342	7.6%	1,536	737	2,272	35.8%
Oregon	95,406	5,893	6.2%	0	668	668	11.3%
Pennsylvania	364,953	22,572	6.2%	7,238	3,428	10,666	47.3%
Rhode Island	30,728	2,247	7.3%	696	423	1,119	49.8%
South Carolina	97,659	6,415	6.6%	2,500	775	3,275	51.1%
South Dakota	19,509	977	5.0%	515	242	757	77.4%
Tennessee	150,344	8,043	5.3%	4,704	1,358	6,062	75.4%
Texas	587,228	29,423	5.0%	14,708	8,597	23,304	79.2%
Utah	52,622	4,073	7.7%	1,480	500	1,980	48.6%
Vermont	16,691	1,553	9.3%	214	315	529	34.1%
Virginia	**222,498**	**13,085**	**5.9%**	**2,643**	**1,933**	**4,576**	**35.0%**
Washington	186,863	12,679	6.8%	8,067	1,989	10,056	79.3%
West Virginia	39,506	3,423	8.7%	928	911	1,839	53.7%
Wisconsin	152,953	11,768	7.7%	3,610	1,599	5,209	44.3%
Wyoming	13,717	1,124	8.2%	406	88	494	44.0%
U.S. Total	**8,377,996**	**559,679**	**6.7%**	**179,319**	**78,699**	**258,018**	**46.1%**

Source: Bureau of Economic Analysis, "State Government Tax Collections: 2001"

Table 2

Baseline Estimates of Remote Sales, 2001

($million)

Sector	Value of Shipments, Sales or Revenue			% Distribution of E-Commerce
	Total	Remote	% of Total	
Business-to-Business (B2B)	***6,676,712***	***995,400***	***14.9%***	***93.3%***
Manufacturing	3,971,500	725,149	18.3%	68.0%
Wholesale	2,705,212	270,251	10.0%	25.3%
Business-to-Consumer (B2C)	***7,901,156***	***71,643***	***0.9%***	***6.7%***
Retail	3,141,400	34,382	1.1%	3.2%
Selected Services	4,759,756	37,261	0.8%	3.5%
Total Online Sales		**1,067,043**		
Offline Remote Sales		***83,558***		
Electronic Shopping/Mail-Order Sales		109,238		
less e-commerce counted above		-25,680		
TOTAL REMOTE SALES		**1,150,601**		

Source: U.S. Census Bureau, E-Stats, "E-commerce 2001 Highlights", May 19, 2003

Table 3

Online and Offline Remote Purchases by State, 2001

($milllion)

State	Gross State Product	Share of U.S. Total	Estimated Remote Purchases			
			B2B	B2C	Offline	Total
Alabama	121,490	1.2%	11,929	859	1,001	13,789
Alaska	28,581	0.3%	2,806	202	236	3,244
Arizona	160,687	1.6%	15,778	1,136	1,324	18,238
Arkansas	67,913	0.7%	6,669	480	560	7,709
California	1,359,265	13.4%	133,470	9,606	11,204	154,280
Colorado	**173,772**	**1.7%**	**17,063**	**1,228**	**1,432**	**19,723**
Connecticut	166,165	1.6%	16,316	1,174	1,370	18,860
Delaware	40,509	0.4%	3,978	286	334	4,598
District of Columbia	64,459	0.6%	6,329	456	531	7,316
Florida	491,488	4.8%	48,261	3,474	4,051	55,786
Georgia	299,874	3.0%	29,445	2,119	2,472	34,036
Hawaii	43,710	0.4%	4,292	309	360	4,961
Idaho	36,905	0.4%	3,624	261	304	4,189
Illinois	475,541	4.7%	46,695	3,361	3,920	53,976
Indiana	189,919	1.9%	18,649	1,342	1,565	21,556
Iowa	90,942	0.9%	8,930	643	750	10,323
Kansas	87,196	0.9%	8,562	616	719	9,897
Kentucky	120,266	1.2%	11,809	850	991	13,650
Louisiana	148,697	1.5%	14,601	1,051	1,226	16,878
Maine	37,449	0.4%	3,677	265	309	4,251
Maryland	195,007	1.9%	19,148	1,378	1,607	22,133
Massachusetts	287,802	2.8%	28,260	2,034	2,372	32,666
Michigan	320,470	3.2%	31,468	2,265	2,642	36,375
Minnesota	188,050	1.9%	18,465	1,329	1,550	21,344
Mississippi	67,125	0.7%	6,591	474	553	7,618
Missouri	181,493	1.8%	17,821	1,283	1,496	20,600
Montana	22,635	0.2%	2,223	160	187	2,570
Nebraska	56,967	0.6%	5,594	403	470	6,467

Table 3 (con't.)

Online and Offline Remote Purchases by State, 2001

($milllion)

State	Gross State Product	Share of U.S. Total	Estimated Remote Purchases			
			B2B	B2C	Offline	Total
Nevada	79,220	0.8%	7,779	560	653	8,992
New Hampshire	47,183	0.5%	4,633	333	389	5,355
New Jersey	365,388	3.6%	35,878	2,582	3,012	41,472
New Mexico	55,426	0.5%	5,442	392	457	6,291
New York	826,488	8.2%	81,155	5,841	6,813	93,809
North Carolina	275,615	2.7%	27,063	1,948	2,272	31,283
North Dakota	19,005	0.2%	1,866	134	157	2,157
Ohio	373,708	3.7%	36,695	2,641	3,080	42,416
Oklahoma	93,855	0.9%	9,216	663	774	10,653
Oregon	120,055	1.2%	11,789	848	990	13,627
Pennsylvania	408,373	4.0%	40,099	2,886	3,366	46,351
Rhode Island	36,939	0.4%	3,627	261	304	4,192
South Carolina	115,204	1.1%	11,312	814	950	13,076
South Dakota	24,251	0.2%	2,381	171	200	2,752
Tennessee	182,515	1.8%	17,922	1,290	1,504	20,716
Texas	763,874	7.5%	75,007	5,399	6,296	86,702
Utah	70,409	0.7%	6,914	498	580	7,992
Vermont	19,149	0.2%	1,880	135	158	2,173
Virginia	**273,070**	**2.7%**	**26,814**	**1,930**	**2,251**	**30,995**
Washington	222,950	2.2%	21,892	1,576	1,838	25,306
West Virginia	42,368	0.4%	4,160	299	349	4,808
Wisconsin	177,354	1.7%	17,415	1,253	1,462	20,130
Wyoming	20,418	0.2%	2,005	144	168	2,317
U.S. Total	**10,137,194**	**100.0%**	**995,400**	**71,643**	**83,558**	**1,150,601**

Source: Bureau of Economic Analysis (GSP), authors' calculations

Table 4

Shares of Remote Purchases Potentially Affected by SSUTA

($million)

Sector	Total Remote Purchases	% Exempt from Tax[1]	% with Tax Already Paid	% from Zero-Sales Tax States	Potentially Affected Purchases
Business-to-Business (B2B)	**995,400**	**0.0%**	**96.3%**	**0.1%**	**36,041**
Manufacturing	***725,149***	***0.0%***	***100.0%***	***0.0%***	***0***
EDI	688,892	0.0%	100.0%	0.0%	0
Internet	36,257	0.0%	100.0%	0.0%	0
Wholesale	***270,251***	***0.0%***	***86.3%***	***0.4%***	***36,041***
EDI	233,248	0.0%	100.0%	0.0%	0
Internet	37,003	0.0%	0.0%	2.6%	36,041
Business-to-Consumer (B2C)	**71,643**	**61.6%**	**9.6%**	**1.2%**	**21,432**
Retail	34,382	20.0%	20.0%	2.6%	21,432
Services	37,261	100.0%			0
Offline Remote Purchases	**83,558**	**20.0%**	**0.0%**	**2.6%**	**65,108**
TOTAL PURCHASES	**1,150,601**				**122,581**
Percent of All Remote Purchases Potentially Affected By SSUTA					**10.7%**

Sources: U.S. Census Bureau, "E-commerce 2001 Highlights", May 19, 2003; Johnson (2003), authors.

Percent of Purchases from Zero-Sales Tax States **2.6%**

[1] We recognize that a large share of B2B is tax exempt. The estimates of that share don't affect our analysis, because (with the exception of Internet wholesale B2B) we assume 100% of taxable B2B is already tax compliant.

Table 5

Resident Remote Purchases Potentially Affected by SSUTA, 2001

($million)

State	SSTP Participant?	SSUTA-Affected Remote Purchases B2B	B2C	Offline	Total
Alabama	Yes	432	257	780	1,469
Alaska	No State Tax	0	0	0	0
Arizona	Yes	571	340	1,032	1,943
Arkansas	Yes	241	144	436	821
California	Yes	4,833	2,874	8,730	16,437
Colorado	**No**	**618**	**367**	**1,116**	**2,101**
Connecticut	Yes	591	351	1,067	2,009
Delaware	No State Tax	0	0	0	0
District of Columbia	Yes	229	136	414	779
Florida	Yes	1,747	1,039	3,157	5,943
Georgia	Yes	1,066	634	1,926	3,626
Hawaii	Yes	155	92	281	529
Idaho	No	131	78	237	446
Illinois	Yes	1,691	1,005	3,054	5,750
Indiana	Yes	675	402	1,220	2,297
Iowa	Yes	323	192	584	1,100
Kansas	Yes	310	184	560	1,054
Kentucky	Yes	428	254	772	1,454
Louisiana	Yes	529	314	955	1,798
Maine	Yes	133	79	241	453
Maryland	Yes	693	412	1,252	2,358
Massachusetts	Yes	1,023	608	1,848	3,480
Michigan	Yes	1,139	678	2,058	3,875
Minnesota	Yes	669	398	1,208	2,274
Mississippi	Yes	239	142	431	812
Missouri	Yes	645	384	1,166	2,195
Montana	No State Tax	0	0	0	0
Nebraska	Yes	203	120	366	689

Table 5 (con't.)

Resident Remote Purchases Potentially Affected by SSUTA, 2001

($million)

State	SSTP Participant?	SSUTA-Affected Remote Purchases			
		B2B	B2C	Offline	Total
Nevada	Yes	282	167	509	958
New Hampshire	No State Tax	0	0	0	0
New Jersey	Yes	1,299	773	2,347	4,418
New Mexico	No	197	117	356	670
New York	Yes	2,938	1,747	5,308	9,994
North Carolina	Yes	980	583	1,770	3,333
North Dakota	Yes	68	40	122	230
Ohio	Yes	1,329	790	2,400	4,519
Oklahoma	Yes	334	198	603	1,135
Oregon	No State Tax	0	0	0	0
Pennsylvania	Yes	1,452	863	2,623	4,938
Rhode Island	Yes	131	78	237	447
South Carolina	Yes	410	244	740	1,393
South Dakota	Yes	86	51	156	293
Tennessee	Yes	649	386	1,172	2,207
Texas	Yes	2,716	1,615	4,906	9,237
Utah	Yes	250	149	452	851
Vermont	Yes	68	40	123	232
Virginia	**Yes**	**971**	**577**	**1,754**	**3,302**
Washington	Yes	793	471	1,432	2,696
West Virginia	Yes	151	90	272	512
Wisconsin	Yes	631	375	1,139	2,145
Wyoming	Yes	73	43	131	247
U.S. Total		**35,120**	**20,885**	**63,445**	**119,450**

Source: Authors' calculations

Note: U.S. totals do not match Table 3 because some purchases are by zero-sales-tax state residents.

Table 6

Percentages of Purchases Shifted in Response to SSUTA

($million)

Estimate	Number of Buyers	Volume of Purchases	Average Estimate
Original Study	24.0%	30.0%	27.0%
Adjusted for Higher Baseline Online Sales	12.0%	15.0%	13.5%
Adjusted for More Internet User Experience	21.6%	27.0%	24.3%
% of Affected Purchases Shifted			**24.3%**

Source: Goolsbee (2000a, 2000b); authors' calculations

Table 7

Potential Shifts in Resident Purchases Induced by SSUTA, 2001

($million)

	State Sales Tax		Components of Estimated Shift in Purchases			
State	Rate (%)	vs. National	B2B	B2C	Offline	Total
Alabama	4.00	0.74	78	46	140	264
Alaska	0.00	0.00	0	0	0	0
Arizona	5.60	1.04	144	86	260	490
Arkansas	5.13	0.95	56	33	101	189
California	6.00	1.11	1,305	776	2,357	4,438
Colorado	**2.90**	**0.54**	**81**	**48**	**146**	**274**
Connecticut	6.00	1.11	160	95	288	543
Delaware	0.00	0.00	0	0	0	0
District of Columbia	5.75	1.06	59	35	107	202
Florida	6.00	1.11	472	281	852	1,605
Georgia	4.00	0.74	192	114	347	653
Hawaii	4.00	0.74	28	17	51	95
Idaho	5.00	0.93	30	18	53	100
Illinois	6.25	1.16	476	283	859	1,617
Indiana	6.00	1.11	182	108	329	620
Iowa	5.00	0.93	73	43	131	247
Kansas	5.30	0.98	74	44	134	251
Kentucky	6.00	1.11	115	69	209	393
Louisiana	4.00	0.74	95	57	172	324
Maine	5.00	0.93	30	18	54	102
Maryland	5.00	0.93	156	93	282	531
Massachusetts	5.00	0.93	230	137	416	783
Michigan	6.00	1.11	308	183	556	1,046
Minnesota	6.50	1.20	196	116	353	665
Mississippi	7.00	1.30	75	45	136	256
Missouri	4.23	0.78	123	73	222	417
Montana	0.00	0.00	0	0	0	0
Nebraska	5.50	1.02	50	30	91	170

Table 7 (con't)

Potential Shifts in Resident Purchases Induced by SSUTA, 2001

($million)

	State Sales Tax		Components of Estimated Shift in Purchases			
State	Rate (%)	vs. National	B2B	B2C	Offline	Total
Nevada	6.50	1.20	82	49	149	280
New Hampshire	0.00	0.00	0	0	0	0
New Jersey	6.00	1.11	351	209	634	1,193
New Mexico	5.00	0.93	44	26	80	151
New York	4.00	0.74	529	315	955	1,799
North Carolina	4.50	0.83	198	118	358	675
North Dakota	5.00	0.93	15	9	27	52
Ohio	5.00	0.93	299	178	540	1,017
Oklahoma	4.50	0.83	68	40	122	230
Oregon	0.00	0.00	0	0	0	0
Pennsylvania	6.00	1.11	392	233	708	1,333
Rhode Island	7.00	1.30	41	25	75	141
South Carolina	5.00	0.93	92	55	166	313
South Dakota	4.00	0.74	16	9	28	53
Tennessee	7.00	1.30	204	122	369	695
Texas	6.25	1.16	764	454	1,380	2,598
Utah	4.75	0.88	54	32	97	182
Vermont	5.00	0.93	15	9	28	52
Virginia	**3.50**	**0.65**	**153**	**91**	**276**	**520**
Washington	6.50	1.20	232	138	419	789
West Virginia	6.00	1.11	41	24	73	138
Wisconsin	5.00	0.93	142	84	256	483
Wyoming	4.00	0.74	13	8	24	44
U.S. Total	**5.40**	**1.00**	**8,530**	**5,073**	**15,410**	**29,013**

Source: Federation of Tax Administrators; authors' calculations

Percent of Affected Sales Shifted 24.3%

Table 8

Calculation of Net Revenue Gains from the SSUTA

($million)

State	SSUTA-Affected Purchases			State Sales Tax Rate	State Sales Tax Receipts		
	Total	Shifted*	Remaining		Total Affected Purchases	Loss from Shifting	Net Gain from SSUTA
Alabama	1,469	264	1,205	4.00	59	11	48
Alaska	0	0	0	0.00	0	0	0
Arizona	1,943	490	1,453	5.60	109	27	81
Arkansas	821	189	632	5.13	42	10	32
California	16,437	4,438	11,999	6.00	986	266	720
Colorado	**2,101**	**274**	**1,827**	**2.90**	**61**	**8**	**53**
Connecticut	2,009	543	1,467	6.00	121	33	88
Delaware	0	0	0	0.00	0	0	0
District of Columbia	779	202	578	5.75	45	12	33
Florida	5,943	1,605	4,339	6.00	357	96	260
Georgia	3,626	653	2,973	4.00	145	26	119
Hawaii	529	95	433	4.00	21	4	17
Idaho	446	100	346	5.00	22	5	17
Illinois	5,750	1,617	4,133	6.25	359	101	258
Indiana	2,297	620	1,676	6.00	138	37	101
Iowa	1,100	247	852	5.00	55	12	43
Kansas	1,054	251	803	5.30	56	13	43
Kentucky	1,454	393	1,062	6.00	87	24	64
Louisiana	1,798	324	1,474	4.00	72	13	59
Maine	453	102	351	5.00	23	5	18
Maryland	2,358	531	1,827	5.00	118	27	91
Massachusetts	3,480	783	2,697	5.00	174	39	135
Michigan	3,875	1,046	2,829	6.00	233	63	170
Minnesota	2,274	665	1,609	6.50	148	43	105
Mississippi	812	256	556	7.00	57	18	39
Missouri	2,195	417	1,777	4.23	93	18	75
Montana	0	0	0	0.00	0	0	0

Table 8 (con't.)

Calculation of Net Revenue Gains from the SSUTA

($million)

State	SSUTA-Affected Purchases			State Sales Tax Rate	State Sales Tax Receipts		
	Total	Shifted*	Remaining		Total Affected Purchases	Loss from Shifting	Net Gain from SSUTA
Nebraska	689	170	518	5.50	38	9	29
Nevada	958	280	678	6.50	62	18	44
New Hampshire	0	0	0	0.00	0	0	0
New Jersey	4,418	1,193	3,225	6.00	265	72	194
New Mexico	670	151	519	5.00	34	8	26
New York	9,994	1,799	8,195	4.00	400	72	328
North Carolina	3,333	675	2,658	4.50	150	30	120
North Dakota	230	52	178	5.00	11	3	9
Ohio	4,519	1,017	3,502	5.00	226	51	175
Oklahoma	1,135	230	905	4.50	51	10	41
Oregon	0	0	0	0.00	0	0	0
Pennsylvania	4,938	1,333	3,605	6.00	296	80	216
Rhode Island	447	141	306	7.00	31	10	21
South Carolina	1,393	313	1,080	5.00	70	16	54
South Dakota	293	53	240	4.00	12	2	10
Tennessee	2,207	695	1,512	7.00	154	49	106
Texas	9,237	2,598	6,639	6.25	577	162	415
Utah	851	182	669	4.75	40	9	32
Vermont	232	52	179	5.00	12	3	9
Virginia	**3,302**	**520**	**2,782**	**3.50**	**116**	**18**	**97**
Washington	2,696	789	1,907	6.50	175	51	124
West Virginia	512	138	374	6.00	31	8	22
Wisconsin	2,145	483	1,662	5.00	107	24	83
Wyoming	247	44	202	4.00	10	2	8
U.S. Total	**119,450**	**29,013**	**90,437**	**5.40**	**6,447**	**1,616**	**4,831**

Source: Authors' calculations

Share of all state sales tax collections = **2.7%**

Table 9

Aggregate Economic Impact of SSUTA-Shifted Purchases

($million, except for # of jobs)

	B2B	B2C	Offline	Total
Direct Shift to non-SSUTA States				
Output	8,530	5,073	15,410	29,013
Earnings	2,492	1,717	5,216	9,425
# of Jobs	30,275	44,389	134,848	209,512
Multiplier Effect from Initial Shift				
Output	14,631	9,092	27,620	51,342
Earnings	4,186	2,791	8,477	15,454
# of Jobs	63,115	65,455	198,844	327,413
Aggregate Economic Impact				
Output	23,161	14,164	43,030	80,355
Earnings	6,677	4,508	13,694	24,879
# of Jobs	93,390	109,843	333,692	536,925

Source: BEA RIMS II multipliers (average for zero-sales-tax states), author's calculations

Table 10

Benefits and Costs of Virginia Opting out of the SSUTA

($ million, except for # of jobs)

	Economic Impact:			Increased Receipts from:		
	Output	Personal Income	# of Jobs	Sales/ Excise Taxes	Personal Income Taxes	Sales + Income Taxes
Benefit: *Avoid Adverse Impact of Losing Remote Sales by Virginia Businesses*						
	2,369	1,931	14,888	40	63	102
Benefit: *Depends on % of Total Shifted Purchases Captured by Virginia*						
1%	857	698	5,383	14	23	37
2%	1,713	1,396	10,766	29	45	74
3%	2,570	2,094	16,150	43	68	111
Cost: *Foregone Sales Tax Remissions from SSUTA States*						
				-97	0	-97

Net Benefit from Opting Out: **Positive even if Virginia businesses do not capture any shifted purchases**

Table 11
Benefits and Costs of Colorado Adopting the SSUTA
($ million, except for # of jobs)

	Economic Impact:			Increased Receipts from:		
	Output	Personal Income	# of Jobs	Sales/ Excise Taxes	Personal Income Taxes	Sales + Income Taxes
Benefit: *Sales Tax Remissions on Unshifted Purchases*				53	0	53
Cost: *Impact of Remote Sales Lost by Colorado Businesses*	1,540	1,265	9,655	-26	-35	-60
Cost: *Loss of Potential Benefits from Purchases Shifted from Other SSUTA States*						
1%	875	719	5,486	-15	-20	-34
2%	1,750	1,438	10,971	-29	-39	-68
3%	2,625	2,157	16,457	-44	-59	-102

Net Benefit from Adoption: **Negative even if CO businesses do not attract any shifted purchases**

Table A-1

Online and Offline Remote Purchases by State, 2004-2008

($million)

	Estimated Remote Purchases. 2004-2008			
State	B2B	B2C	Offline	Total
Alabama	100,465	5,365	8,153	113,983
Alaska	23,632	1,262	1,922	26,816
Arizona	132,881	7,095	10,784	150,760
Arkansas	56,166	2,998	4,561	63,725
California	1,124,071	59,996	91,258	1,275,326
Colorado	**143,703**	**7,670**	**11,664**	**163,036**
Connecticut	137,412	7,332	11,159	155,904
Delaware	33,502	1,786	2,721	38,009
District of Columbia	53,302	2,848	4,325	60,475
Florida	406,449	21,698	32,995	461,143
Georgia	247,983	13,235	20,135	281,353
Hawaii	36,147	1,930	2,932	41,009
Idaho	30,521	1,630	2,476	34,627
Illinois	393,261	20,992	31,929	446,182
Indiana	157,060	8,382	12,747	178,189
Iowa	75,208	4,016	6,109	85,332
Kansas	72,108	3,847	5,857	81,812
Kentucky	99,454	5,309	8,072	112,835
Louisiana	122,968	6,564	9,986	139,519
Maine	30,967	1,655	2,517	35,139
Maryland	161,263	8,607	13,089	182,958
Massachusetts	238,003	12,704	19,320	270,027
Michigan	265,020	14,147	21,520	300,687
Minnesota	155,510	8,301	12,625	176,436
Mississippi	55,509	2,960	4,504	62,974
Missouri	150,087	8,013	12,185	170,285
Montana	18,722	999	1,523	21,245
Nebraska	47,112	2,517	3,828	53,457

Table A-1 (con't.)

Online and Offline Remote Purchases by State, 2004-2008

($million)

	Estimated Remote Purchases. 2004-2008			
State	B2B	B2C	Offline	Total
Nevada	65,514	3,498	5,319	74,330
New Hampshire	39,019	2,080	3,169	44,267
New Jersey	302,161	16,126	24,533	342,821
New Mexico	45,832	2,448	3,722	52,003
New York	683,480	36,481	55,493	775,454
North Carolina	227,922	12,167	18,506	258,594
North Dakota	15,715	837	1,279	17,831
Ohio	309,042	16,495	25,087	350,624
Oklahoma	77,616	4,141	6,305	88,062
Oregon	99,286	5,296	8,064	112,646
Pennsylvania	337,710	18,025	27,416	383,152
Rhode Island	30,546	1,630	2,476	34,652
South Carolina	95,269	5,084	7,738	108,091
South Dakota	20,053	1,068	1,629	22,750
Tennessee	150,937	8,057	12,250	171,244
Texas	631,702	33,721	51,281	716,704
Utah	58,229	3,110	4,724	66,063
Vermont	15,833	843	1,287	17,964
Virginia	**225,825**	**12,054**	**18,335**	**256,214**
Washington	184,372	9,843	14,971	209,186
West Virginia	35,035	1,867	2,843	39,745
Wisconsin	146,667	7,826	11,909	166,402
Wyoming	16,886	899	1,368	19,154
U.S. Total	**8,383,137**	**447,456**	**680,600**	**9,511,193**
% of 2001 Purchases	**842%**	**625%**	**815%**	**827%**

Source: Department of Commerce forecasts, authors' calculations

Table A-2

Calculation of Lost Sales Tax Revenues from Opting Out of SSUTA, 2004-2008

($million)

State	SSUTA-Affected Purchases			State Sales Tax Rate	State Sales Tax Receipts		
	Total	Shifted*	Remaining		Total Affected Purchases	Loss from Shifting	Net Gain from SSTP
Alabama	12,144	2,186	9,958	4.00	486	87	398
Alaska	0	0	0	0.00	0	0	0
Arizona	16,062	4,048	12,014	5.60	899	227	673
Arkansas	6,788	1,566	5,223	5.13	348	80	268
California	135,869	36,685	99,185	6.00	8,152	2,201	5,951
Colorado	**17,370**	**2,267**	**15,103**	**2.90**	**504**	**66**	**438**
Connecticut	16,610	4,485	12,125	6.00	997	269	728
Delaware	0	0	0	0.00	0	0	0
District of Columbia	6,443	1,667	4,776	5.75	370	96	275
Florida	49,128	13,265	35,863	6.00	2,948	796	2,152
Georgia	29,975	5,395	24,579	4.00	1,199	216	983
Hawaii	4,369	786	3,583	4.00	175	31	143
Idaho	3,689	830	2,859	5.00	184	41	143
Illinois	47,534	13,369	34,165	6.25	2,971	836	2,135
Indiana	18,984	5,126	13,858	6.00	1,139	308	831
Iowa	9,090	2,045	7,045	5.00	455	102	352
Kansas	8,716	2,079	6,637	5.30	462	110	352
Kentucky	12,021	3,246	8,776	6.00	721	195	527
Louisiana	14,863	2,675	12,188	4.00	595	107	488
Maine	3,743	842	2,901	5.00	187	42	145
Maryland	19,492	4,386	15,107	5.00	975	219	755
Massachusetts	28,768	6,473	22,295	5.00	1,438	324	1,115
Michigan	32,033	8,649	23,384	6.00	1,922	519	1,403
Minnesota	18,797	5,498	13,299	6.50	1,222	357	864
Mississippi	6,710	2,114	4,596	7.00	470	148	322
Missouri	18,142	3,449	14,692	4.23	766	146	621
Montana	0	0	0	0.00	0	0	0
Nebraska	5,694	1,409	4,285	5.50	313	78	236

Table A-2 (con't.)

Calculation of Lost Sales Tax Revenues from Opting Out of SSUTA, 2004-2008

($million)

State	SSUTA-Affected Purchases			State Sales Tax Rate	State Sales Tax Receipts		
	Total	Shifted*	Remaining		Total Affected Purchases	Loss from Shifting	Net Gain from SSTP
Nevada	7,919	2,316	5,602	6.50	515	151	364
New Hampshire	0	0	0	0.00	0	0	0
New Jersey	36,523	9,861	26,662	6.00	2,191	592	1,600
New Mexico	5,540	1,247	4,294	5.00	277	62	215
New York	82,614	14,871	67,743	4.00	3,305	595	2,710
North Carolina	27,550	5,579	21,971	4.50	1,240	251	989
North Dakota	1,900	427	1,472	5.00	95	21	74
Ohio	37,355	8,405	28,950	5.00	1,868	420	1,448
Oklahoma	9,382	1,900	7,482	4.50	422	85	337
Oregon	0	0	0	0.00	0	0	0
Pennsylvania	40,820	11,021	29,799	6.00	2,449	661	1,788
Rhode Island	3,692	1,163	2,529	7.00	258	81	177
South Carolina	11,516	2,591	8,925	5.00	576	130	446
South Dakota	2,424	436	1,988	4.00	97	17	80
Tennessee	18,244	5,747	12,497	7.00	1,277	402	875
Texas	76,355	21,475	54,880	6.25	4,772	1,342	3,430
Utah	7,038	1,504	5,533	4.75	334	71	263
Vermont	1,914	431	1,483	5.00	96	22	74
Virginia	**27,295**	**4,299**	**22,996**	**3.50**	**955**	**150**	**805**
Washington	22,286	6,519	15,767	6.50	1,449	424	1,025
West Virginia	4,235	1,143	3,092	6.00	254	69	185
Wisconsin	17,728	3,989	13,739	5.00	886	199	687
Wyoming	2,041	367	1,674	4.00	82	15	67
U.S. Total	**987,406**	**239,830**	**747,576**	**5.40**	**53,296**	**13,362**	**39,933**

Source: Authors' calucations

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