CAN GEORGIA ADOPT A GENERAL CONSUMPTION TAX?

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I. Introduction

Many economists advocate replacing the current federal tax system with a proportional tax on consumption, because they believe that ‘fundamental’ tax reform of this type would have a salutary effect on real wages and economic growth in the long run.¹ Reasoning by analogy, it is tempting to conclude that the state of Georgia would enjoy similar gains from fundamental reform of the state tax system. However, matters may not be that simple.

We conclude below that there are a number of advantages to a general consumption tax (GCT). The potential revenue yield of a GCT is likely to be more stable over time than Georgia’s current tax system, and a GCT is likely to increase investment, real wages, and economic growth in the long run. Depending on the manner in which a GCT is implemented, it could mitigate some of the existing concerns with tax cascading and horizontal equity that are associated with the current state retail sales tax (RST). Furthermore, a GCT would cover more services than the current RST. Since services are a growing share of private consumption, a GCT is likely to increase the revenue yield for a given tax rate, improve economic efficiency, and improve the equity of the tax system, relative to the current state RST.

A GCT has some limitations. First, none of the proposals described below for implementing a GCT address the issues of collecting tax on e-commerce and mail order purchases originating outside the state. Second, a major concern, expressed by many of its opponents, about relying on a GCT as the exclusive source of state revenue is the belief that consumption taxes are regressive. However, such concerns can be addressed by refunding all or some of the tax collected from low-income households through properly designed expenditure programs. Furthermore, as we show below, a GCT levies tax on ‘old’ capital and the excess return to capital, which is likely to make the tax more progressive than it may seem at first blush. Leaving

¹ The main features of the federal tax system are an income tax; a payroll tax; a set of special excise taxes on tobacco products, transportations fuels, and so on; custom duties; and other revenues, i.e., Federal Reserve Bank earnings, user fees, and so on. At the federal level, the U.S. has a classical income tax, meaning that capital income, at least a large portion of it, is taxed twice. It is taxed once when it is earned as profit under the corporate income tax, and it is taxed again under the personal income tax when the corporation distributes the income to its shareholders. The double taxation of capital income raises the after-tax cost of capital in the United States which has a negative effect on long-run economic growth.
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aside issues of political economy, the main obstacle to adopting a state GCT appears to be administration issues, namely the tax treatment of interstate trade.

The purpose of this report is twofold: 1) to examine the implications to Georgia's economy of undertaking fundamental tax reform; 2) to explore the feasibility of replacing Georgia’s current tax system with a general consumption tax. The remainder of this report is organized as follows. In the following section, we describe a fundamental distinction between an ideal consumption tax and an ideal income tax. The third section evaluates a GCT in terms of its revenue yield, economic efficiency, equity, and compliance costs. We then describe some administrative issues associated with levying a GCT in a single state without a complementary federal GCT. The final section concludes.
II. What Distinguishes a Consumption Tax from an Income Tax?

To understand why the GCT is believed to be better than a comprehensive income tax (CIT), it is necessary to understand the differences in the bases of the two taxes. Thus, we proceed below to describe a fundamental difference between the base of a consumption tax and an income tax. We begin by defining the ideal tax base of an income tax, or what economists often call Haig-Simons income (henceforth HS income). We then derive the definition for the base of an ideal consumption tax. These two definitions allow us to draw a clear distinction between an ideal consumption tax and an ideal income tax and to explain the implications for economic efficiency, economic growth, and equity.

According to Robert M. Haig (1921) and Herbert Simons (1938), the best measure of a person’s ability-to-pay tax is his/her purchasing power. This led them to propose that the ideal base of an income tax be defined as the increase in purchasing power during the year. Using standard national income and accounting terminology, HS income is equal to consumption plus the change in net worth. Consumption is the additional purchasing power actually utilized during a given period. Obviously, net worth can either increase or decrease. An increase in net worth is the additional potential purchasing power that has been deferred for future consumption; while a decrease in net worth is the past savings that have been used to finance consumption. The change in net worth is the change in the amount of investments one has.

With this definition in mind, the distinction between an ideal income tax and an ideal consumption tax is clear. The tax base of a consumption tax consists exclusively of consumption. In contrast to an ideal income tax, the change in net worth is excluded from the consumption tax base. As we will discuss below, this implies that a fundamental difference between an ideal income tax and an ideal consumption tax is the way the two taxes treat capital income. An income tax levies

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2 This discussion of Haig-Simons income closely follows that of Richard W. Tresch (2002, pages 338-39).

3 In a closed economy—an economy without international trade—savings is equal to investment, where investment here refers to purchases of plant and equipment. Consequently, taxing (exempting) savings is equivalent to taxing (exempting) investment.
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tax on capital income; a consumption tax does not. Consequently, an income tax reduces the after-tax rate of return to savings and investment, and, as a result, there will be less savings and investment. In the long-run, this reduces real wages and economic growth relative to that which would prevail, all other things held constant, with a consumption tax.\(^4\)

In contrast, a consumption tax does not distort savings and investment decisions in an economy. This basic result leads many to conclude that a broad based consumption tax is superior to a broad based income tax, particularly in terms of economic efficiency. However, others maintain that a progressive income tax is superior to a proportional tax on consumption in terms of interpersonal equity. Despite the objections of many of its critics, a proportional consumption tax may not be regressive and, indeed, may actually be a fairly progressive tax. We take up the efficiency and equity of a consumption tax in greater detail below.

A simple numerical example may help make the distinction between the base of an ideal income tax and that of a consumption tax more concrete. In addition, we introduce three important concepts that will be useful in framing the subsequent discussion of the most common way that countries around the world implement a GCT, namely a credit-invoice, value added tax (henceforth simply VAT).

Table 1 illustrates a simple economy.\(^5\) There are three goods in this simple economy, namely ore, steel, and cars. For purposes of this example, ore is used to make steel; steel is used to make cars; and cars are used in the production of both ore and steel. In this example, ore and steel are intermediate goods. Cars play two roles in this economy; they are capital goods used to produce ore and steel, and they are final consumption goods.\(^6\)

\(^4\) In a closed economy—one without international trade—savings (S) equals investment (I). In an open economy—one with international trade—investment (I) equals savings (S) plus net capital inflow from abroad. As discussed in greater detail below, net capital inflow and the balance of trade (exports minus imports) are the opposite sides of the same coin.

\(^5\) This example does not account for international trade or government. It could easily be modified to account for these two sectors, but doing so would needlessly complicate the example without shedding much additional light on the key concepts that concern us here.

\(^6\) Capital goods are manufactured goods that are used to produce other goods but are not incorporated or consumed in production goods. Economists distinguish between intermediate goods and factors of productions, such as land, labor, and capital.
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**TABLE 1. A SIMPLE 3 GOOD ECONOMY**

<table>
<thead>
<tr>
<th></th>
<th>Ga Ore, Inc.</th>
<th>Ga Steel, Inc.</th>
<th>Ga Car, Inc.</th>
<th>Total Factor Payments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value of Sales</td>
<td>$5,200</td>
<td>$10,000</td>
<td>$21,500 $c</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(ore)</td>
<td>(steel)</td>
<td>(car)</td>
<td></td>
</tr>
<tr>
<td>Cost of Intermediate Goods:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Raw Materials</td>
<td>1,000</td>
<td>5,200</td>
<td>9,000</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(iron ore)</td>
<td>(steel)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital Purchases</td>
<td>1,000</td>
<td>1,000</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(2 cars)</td>
<td>(2 cars)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Factor Payments:</td>
<td>4,200</td>
<td>4,800</td>
<td>12,500</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>$21,500 $d</td>
<td></td>
</tr>
<tr>
<td>Wages</td>
<td>2,000</td>
<td>3,700</td>
<td>10,000</td>
<td></td>
</tr>
<tr>
<td>Interest Payments</td>
<td>1,000</td>
<td>600</td>
<td>1,000</td>
<td></td>
</tr>
<tr>
<td>Rent</td>
<td>200</td>
<td>300</td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>Profit</td>
<td>1,000</td>
<td>200</td>
<td>1,000</td>
<td></td>
</tr>
<tr>
<td>Total Expenditure, by Firm</td>
<td>5,200</td>
<td>10,000</td>
<td>21,500</td>
<td></td>
</tr>
<tr>
<td>Value Added per Firm $^{b}$</td>
<td>4,200</td>
<td>4,800</td>
<td>12,500</td>
<td>$21,500 $e</td>
</tr>
</tbody>
</table>

$^{a}$ This example is adapted from one appearing in Paul Krugman and Robin Wells (2006, page 564).

$^{b}$ Value added per firm = values of sales – cost of intermediate goods.

$^{c}$ The value of GSP, using the spending method.

$^{d}$ The value of GSP, using the income method or the sum of factor payments.

$^{e}$ The value of GSP, using the production method or the sum of value added.

We proceed below by defining gross state product (GSP) and use this definition to distinguish between the base of an ideal income tax and that of a consumption tax.

Generally speaking, GSP is the market value of all final goods produced in a state during a given period of time. There are three equivalent ways to measure GSP. We illustrate these three methods using the simple economy illustrated in Table 1. According to the expenditure method, GSP is equal to the market value of all cars, whether they are sold for final consumption (C) or investment (I), thus, in Table 1, GSP = C + I = $19,500 + $2,000 = $21,500. Turning to the production method, GSP equals the sum of value added by all the firms in an economy, where a firm’s value added is equal to the difference between the value of goods sold by a given firm and the cost of the intermediate goods used by that firm to produce its final output. For example, the value of goods sold by Georgia Ore, Inc. is $5,200 and the cost of the intermediate goods used to produce their final output is $1,000; thus, the value added by this firm is the difference between these two figures or $4,200. The value added by each firm in our simple economy is reported in the bottom row of Table 1. The
sum of value added for these firms is equal to GSP, or $21,500. Finally, according to the income method, GSP equals the sum of total factor payments (that is, payments to capital owners and workers), where total factors payments are reported in the rightmost column of Table 1, and the sum of total factor payments also equals $21,500, as expected.

Now, we use these three accounting concepts to provide a deeper understanding of the two tax bases that concern us here, namely an income tax and a consumption tax.

In the simple economy illustrated in Table 1, the sum of factor payments is the base of an ideal income tax. Turning to the consumption tax, there are three equivalent ways of measuring the consumption tax base, which we illustrate with the numbers in Table 1 and the three methods of measuring GSP defined above. Beginning with the expenditure method, \( GSP = C + I \), and with a little algebra, we see that \( C = GSP - I = 19,500 \), where final consumption (C) is the base of an ideal consumption tax. Using the production method, the consumption tax base can also be obtained by subtracting investment from the sum of value added. Finally, recalling that savings (S) equals investment (I) in a closed economy and using the income method, the consumption tax base also equals the sum of total factor payments less savings (S). These three equivalent ways of obtaining the tax base of a consumption tax are worth remembering because they will be used below to illustrate alternative ways that broad based consumption taxes are implemented in actual practice.

In summary, a fundamental distinction between the base of an ideal income tax and that of an ideal consumption tax is the tax treatment of capital income. An income tax levies tax on capital income thus lowering the after-tax rate of return to savings and investment. An ideal consumption tax does not levy tax on capital income; therefore, an ideal consumption tax does not distort savings and investment decisions in an economy.

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7 In practice, there would be an adjustment for depreciation of capital. If the depreciation allowances are equal to the cost of capital in present value terms, then an income tax is equivalent to a consumption tax in present value terms. For simplicity, we do not incorporate depreciation allowances into our example. In addition, there are no capital gains in this example. In practice, however, the tax base of an income tax would levy tax on realized capital gains.
The definitions provided above are for ideal income and consumption taxes. It is worth pointing that when comparing ideals, we are likely comparing an income tax that Georgia does not have with a consumption tax that will never be enacted, at least in its ideal form. Actual tax legislation inevitably reflects compromises with the taxes described above. Therefore, the incentives created by an ideal income tax and an ideal consumption tax may not accurately reflect the incentives created by those actually enacted into law. For example, the U.S. federal income tax already provides “consumption tax treatment” for many forms of savings through the tax preferences for retirement savings, such as individual retirement accounts, 401k’s, and so on. Nevertheless, these definitions are useful for getting a general sense of the incentives created by these two important taxes.
III. Economic Implications of Levying a State GCT

Economists typically evaluate taxes according to the following five criteria: revenue yield, economic efficiency, equity, administrative feasibility, and compliance costs. In this section, we evaluate a GCT in terms of the first four criteria, namely revenue yield, economic efficiency, equity, and compliance costs. In the next section, we describe the administrative feasibility of implementing a GCT in a single state without a complementary consumption tax at the federal level.

Revenue Yield

Final consumption makes up more than 60 percent of GSP. Therefore, a GCT can raise substantial amounts of revenue by applying a relatively modest tax rate to this large tax base. The revenue yield of a GCT, relative to that of many other taxes, is further demonstrated by the fact that a broad based consumption tax of one type or another is a major source of revenue in such diverse countries as the member countries of the European Union and many developing countries. For reasons discussed in the following section, however, GCTs are not generally regarded to be good taxes for subnational governments, at least not without a complementary national tax.

A GCT also has a well-earned reputation for being a rather stable source of revenue, meaning that its revenue yield is less sensitive to the business cycle than a broad based income tax. While income expands and contracts as the economy expands and contracts, consumption tends to be relatively stable throughout the business cycle. Having a stable source of revenue over time is an important consideration for state governments in the United States because they generally operate under a balanced budget constraint. Of course the revenue yield and revenue stability of any tax, including a GCT, depends fundamentally on the details of the actual tax enacted into law. Often governments provide for exemptions and special tax treatments that may compromise the revenue yield and revenue stability of a GCT. For example, excluding necessities, like food and medicine, from the tax, perhaps out of concern for low income households, reduces the revenue yield and revenue stability of a GCT.
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Efficiency

There is a considerable body of research attempting to quantify the economic efficiency of a consumption tax relative to an income tax.\(^8\) Economic efficiency refers to the distortions in economic decisions that are caused by such policies as taxes. The research generally involves simulations of the economy rather than measurement of actual outcomes. Much of this research focuses on the economic effects on the national economy of the federal government substituting a consumption tax for an income tax. For example, David Altig et al. (1999) estimate that replacing the current federal tax system with a broad based consumption tax would eventually increase long-run national output by over 9 percent, which is substantial.\(^9\)

However, the effect of fundamental tax reform by a state, like Georgia, on its economy is likely to be considerably less than the estimated effects of federal tax reform for the following reasons. The tax burden on capital income imposed by the federal income tax system is substantially larger than the tax burden imposed on capital income by Georgia’s income tax system. More specifically, the top federal corporate income tax (CIT) rate is 35 percent in 2010; whereas, the CIT rate for Georgia is 6 percent. In addition, corporations can deduct state taxes from federal taxable income, making Georgia’s effective CIT rate equal to approximately 3.9 percent.

A complete analysis of the difference between the tax burdens imposed on capital income by the federal tax system versus Georgia’s tax system would require considerable effort and is beyond the scope of this report. Just taking into account the difference in the top federal and state CIT rates and the federal deductibility of state taxes shows that the federal government imposes a tax burden on capital income

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\(^9\) The federal income tax system is extremely complicated. Accordingly, Altig et al. (2001) use a highly stylized income tax—a progressive tax on wages and a proportion tax on capital income—for purposes of their benchmark or counterfactual simulations. However, the federal income tax also gives consumption tax treatment to retirement savings in the form of Individual Retirement Accounts, 401k’s, and so on, which lowers the after-tax cost of capital. In other words, the federal income tax is not a pure income tax nor is it a pure consumption tax; it is a hybrid tax, combining features of both, making it very difficult to estimate the effect of the federal income tax on the after-tax rate of return to capital.
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that is almost 9 times that imposed by the state of Georgia. If for no other reason, this difference means that the effect of federal tax reform would have a substantially greater effect on the national economy than tax reform by a single state would have on that state’s economy.

Second, the economic assumptions that are appropriate for simulating the U.S. economy are not appropriate for simulating the economy of a relatively small state economy, like Georgia’s. For these reasons, one cannot gauge the effect of substituting a consumption tax for an income tax on a state’s economy by simply using estimates for the effect of federal tax reform on the U.S. economy. Economic models of the U.S. economy typically treat it as a closed economy or a large open economy. A closed economy is one which has no trade with other economies. A large economy simply means that action in that economy will affect prices in other economies. However, Georgia’s economy should be modeled like a small open economy with a fixed exchange rate. By a fixed exchange rate we mean that one dollar in Georgia can always be traded for one dollar in Alabama; whereas, the number of Euros one can get for one dollar varies with the exchange rate.

Replacing Georgia’s current tax system with a broad based consumption tax would increase the after-tax rate of return to capital within the state. Depending on how responsive residents of Georgia are to changes in the after-tax rate of return to capital, they would increase their savings and investment in Georgia, as well as other places if the returns are not taxed by those states. Furthermore, Georgia would enjoy a capital inflow from the “rest of the U.S.” seeking the greater after-tax rates of return available in Georgia. This capital inflow would increase the aggregate pool of savings available for investment in Georgia’s economy.

In the case of a small open economy with a flexible exchange rate, the capital inflow causes the exchange rate to appreciate which, in turn, decreases net exports and increases net capital inflows from other economies. In the case of a small open

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10 In comparing simulation results for a closed economy with those for a the large, open economy, Altig et al. (2001, p. 22) write, “In treating the economy as closed, we may have overstated the depressing impact of additional capital accumulation on the rate of return and, hence, understated the potential welfare and output gains from tax reform, a conclusion consistent with the open-economy simulations of Alan J. Auerbach (1996).” In other words, the depressing impact of additional accumulation may be attenuated by the capital inflows from abroad that would occur in a large, open economy model.
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economy with a fixed exchange rate, like the state of Georgia, however, there is a large pool of dollar dominated savings that could flow into Georgia in pursuit of the greater after-tax rates of return to capital available there as a result of adopting a consumption tax.

Relative to the economic effects of federal tax reform, there are two opposing forces in the case of state tax reform. On the one hand, the federal tax burden on capital income is substantially larger than the tax burden imposed by a state. Consequently, tax reform at the federal level would have a much larger impact on the national economy, all else held constant, than a similar state tax reform would have on a state economy. On the other hand, Georgia’s economy is like a small open economy with a fixed exchange rate; whereas, the U.S. economy is like a large open economy with a flexible exchange rate. This difference in modeling assumptions means that state tax reform would have a larger economic impact on the state economy, all else held constant, than federal tax reform would have on the national economy. On net, the effect of the relative size of the tax burdens on capital income is likely to be substantially larger than the effect of the difference in being an open economy with a fixed exchange rate rather than a large economy with a flexible exchange rate.

In short, exempting capital income from taxation, as under a consumption tax, would have a positive effect on the after-tax rate of return to capital, lead to increases in the aggregate stock of capital, increase real wages, and increase the long-run growth rate of the state economy. However, the economic impact on the state economy is likely to be substantially less than the 9-10 percent estimates of tax reform at the federal level.

Equity

At first blush, a proportional tax on consumption appears to be more regressive than a graduated income tax. Generally speaking, low income households spend a larger fraction of their income on consumption than high income households. As a result, low income households pay more tax as a portion of their income under a proportional tax on consumption than do high income households. For reasons
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discussed below, this intuition overstates the distributional impact of a consumption tax.

To fully understand the distributional impact of a consumption tax, it is necessary to recognize that deducting capital purchases from taxable income, or expensing of capital purchases, is equivalent to exempting capital income (interest, rent, and profit in our hypothetical economy) from tax. This equivalence may strike some as puzzling. After all, total factor income or value added includes income from capital. Therefore, the tax base of a credit-invoice VAT includes capital income. That being the case, how do we conclude that expensing capital purchases is equivalent to exempting capital income from tax?

This equivalence assumes that the market price of a capital good is equal to the present discounted value of the future stream of income from the capital good. Given this assumption, it follows that expensing expenditures on capital for tax purposes, as under a consumption tax, is equivalent to exempting capital income from income tax \textit{in present value terms}.

Suppose, however, the assumption that the market price of capital is equal to the present discounted value of its stream of future earnings does not hold in practice. In that case, the market price of a capital good is either greater than or less than the present discounted value of its future stream of earnings. Successful businessmen and women cannot pay more for a capital good than the present value of its anticipated future stream of earnings. If they did so, they wouldn’t survive in business for very long. So, from a long run perspective such a condition should not exist.

Now, let us consider the other case. Suppose a capital good’s rate of return is greater than the average market rate of return on capital, or there is a super normal rate of return to capital. This occurs when the market price of a capital good is less than the present discounted value of its future stream of earnings. In this case, expensing capital purchases allows firms to avoid paying tax on the normal return to capital, but the return in excess of the normal rate of return is fully taxed. Since high income households are likely to be the principle recipients of any excess returns to capital, this feature of a consumption tax makes it more progressive than it would appear at first blush.
A second feature of the consumption tax base can also be illustrated with the numbers in Table 1. Suppose that the four cars purchased as capital goods were not put into service in the current tax year. Since the capital goods were purchased in the current tax year, firms are permitted to expense them in the current period under a consumption tax. However, these cars do not generate any additional sales or value added in the current tax year, because they were not put into service during this period. Therefore, the factor incomes from capital reported in Table 1, namely the interest payments, rent, and profit, must be attributable to purchases of capital goods in previous years. Consequently, factor income from installed or “old” capital at the time a GCT goes into effect is included in the tax base of a consumption tax. High income households are likely to be the primary owners of old capital, making a consumption tax more progressive (or less regressive) than otherwise.

In short, a proportional tax on consumption is equivalent to a proportional tax on payroll plus a tax on old capital plus a tax on any excess returns to capital. Another way of saying essentially the same thing is to recognize that a proportional tax on consumption is equivalent to a proportion tax on wages and on business cash flow. As a result, a proportional tax on consumption has some progressive features.

Compliance Costs

To pay their tax liabilities, taxpayers must familiarize themselves with the relevant tax laws; maintain the necessary records; obtain and complete the necessary tax forms; and pay the tax to the government. This costly effort is referred to as the compliance costs of a tax. Replacing Georgia’s current tax system with a consumption tax is likely to reduce compliance costs to individuals because they would no longer be responsible for paying the tax, and a consumption tax would have little or no effect on the current compliance costs on businesses relative to the current system.

Having addressed the likely impact of tax reform on the Georgia economy, we turn now to some of the administration challenges that would result if a single state were to adopt a GCT.
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IV. Administration of a General Consumption Tax

Since over 125 countries around the world have adopted some form of a credit-invoice value added tax (VAT), it seems natural to focus our discussion on this version of a GCT.\(^{11}\) Briefly, a VAT is a multistage sales tax in which tax is withheld at every stage of production.\(^{12}\) Each firm applies the VAT rate to its taxable sales, and the firm gets a credit for any tax paid on inputs in previous stages of production. In addition, firms receive a credit for capital purchases.

We can use our simple 3 good economy to illustrate the calculation of each firm’s tax base, using the credit-invoice method. These calculations are summarized in Table 2. For illustrative purposes, we assume a VAT rate of 10 percent.

Naturally, we begin with the first stage of production. Applying the credit-invoice method, Ga Ore, Inc. pays a tax on the firm’s value of sales of $5,200. Multiplying the firm’s taxable sales by the tax rate, this firm’s output tax is $520, which is recorded in row 2 of Table 2. Since this is the first stage of production, Ga Ore, Inc. does not have any credits for taxes paid on its inputs in the previous stages of production. However, it receives a credit of $100 for the tax paid on its capital purchase from Ga Car, Inc. Thus, as shown in the bottom row of Table 2, the firm’s tax liability due is equal to its output tax less the credit for tax paid on its capital purchases, or $420. This is the firm’s tax liability that it should pay to the tax authority. Of course the firm could understate its tax liability by understating its output tax or exaggerating its credits for capital purchases.

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\(^{11}\) See, for example, Ebrill et al. (2001) for a detailed discussion of the history of the adoption around the world.

\(^{12}\) Unless otherwise noted, we are referring throughout the remainder of this report to a consumption-type VAT.
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**Table 2. Illustrating the Credit Invoice Method**

<table>
<thead>
<tr>
<th></th>
<th>Ga Ore, Inc.</th>
<th>Ga Steel, Inc.</th>
<th>Ga Car, Inc.</th>
<th>Total Tax Liability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value of Sales</td>
<td>$5,200</td>
<td>$10,000</td>
<td>$21,500</td>
<td></td>
</tr>
<tr>
<td>Output Tax</td>
<td>520</td>
<td>1,000</td>
<td>2,150</td>
<td></td>
</tr>
<tr>
<td>Less Credit for Input Tax Paid</td>
<td>0</td>
<td>420</td>
<td>900</td>
<td></td>
</tr>
<tr>
<td>Less Credit for Tax Paid on Capital Purchases</td>
<td>100</td>
<td>100</td>
<td>200</td>
<td></td>
</tr>
<tr>
<td>Tax liability due</td>
<td>420</td>
<td>480</td>
<td>1,050</td>
<td>$1,950</td>
</tr>
</tbody>
</table>

Turning to the second stage of production, Ga Steel, Inc.’s value of sales is equal to $10,000. Multiplying the firm’s value of sales by the tax rate, the firm’s output tax is $1,000. The firm’s tax liability ($520) is equal to the firm’s output tax ($1,000) less the credit for tax paid on its inputs ($420) and the credit for tax paid on its capital purchases ($100). Finally, the value of Ga Car, Inc.’s sales is $21,500. Multiplying this figure by the tax rate, we obtain the firm’s output tax of $2,150. This firm has total tax credits of $1,100 from previous stages of production. By subtracting the sum of its tax credits ($1,100) from its output tax ($2,150), we obtain the firm’s tax liability of $1,050.

The total tax liability due to the government under this tax system is equal to the sum of each firm’s tax liability, or $1,950. Of course, we could easily obtain this figure by simply multiplying the value of final consumption ($19,500) by the tax rate, as in the manner of a final retail sales tax (RST). This method also yields total tax of $1,950. In other words, the tax liability of a RST that applies only to final consumption and not inputs nor capital purchases is the same as the tax liability obtained using the credit-invoice method of levying a consumption tax.

The credit-invoice method of levying a consumption tax has several advantages over a RST. First, the credit-invoice method is less vulnerable to tax evasion than the RST. The credit-income method is a multistage tax; whereas, the RST is a single stage tax. If a retail outlet fails to pay tax under a RST, the whole value added chain escapes the tax. In contrast, if a firm evades the VAT under the credit-invoice method, the value added by that firm may escape taxation, but the whole value added chain subsequent to that firm does not escape taxation. And, if the firm does not pay the VAT, there is no credit allowed for the firm that purchases the
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inputs. Second, the credit-invoice method VAT is less vulnerable to tax cascading than the RST. Tax cascading refers to a case where the sales tax is imposed on purchases of business inputs by a firm and then imposed again on the sales of that firm. Thus, the price of this firm’s goods includes any sales tax paid on business inputs. When these goods are eventually sold by a retail firm, sales tax is applied again and as a result there is tax cascading. The credit-invoice method avoids tax cascading because it allows firms to receive a credit for taxes paid on business inputs. However, tax cascading can occur under the credit-invoice method if the value-added tax chain is broken. Finally, the multistage nature of the credit-invoice tax makes it less costly for the tax authority to administer than a single stage RST. Although there are more firms to monitor under a multistage tax than a single stage tax, most of the value added is created at the initial stages of production by a few large firms. Thus, the tax administration can focus most of its enforcement effort on a few large firms and collect most of the tax, rather than having to spread its enforcement effort over many small retail outlets to collect the tax.

Feasibility of Using the Credit-Invoice Method to Levy a State GCT

Despite the advantages of the credit-invoice method of levying a VAT, there are some practical administration issues with this method. First, there are a set of issues that are peculiar to any consumption tax, namely the appropriate tax treatment of housing, education, and medical services. Second, there are a set of issues that are peculiar to the credit-invoice method, whether it is levied at the national or sub-national level, namely the appropriate tax treatment of financial services and of the non-profit, public, and charitable (NPC) sectors. For the sake of the interested reader, these two sets of issues are discussed in an appendix to this report. Finally, there are a set of issues that are peculiar to the credit-invoice method when it is used to levy a GCT at the sub-national level. Since we are primarily concerned in this report with the feasibility and implications of levying a GCT at the state level, we focus on the issues that are peculiar to using the credit-invoice method to levy a state GCT.\textsuperscript{13} We proceed below by discussing these issues in turn.

\textsuperscript{13} The other two sets of issues are widely known and discussed. For a good discussion of these issues, see for example, Ebrill et al. (2001).
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*Interstate Trade*

The usual practice with a national, credit-invoice VAT is to levy what is called a destination-based VAT as opposed to an origin-based VAT. (In simple terms, a destination-based VAT is imposed where the product or service is used, while an origin-based VAT is imposed where the product or service is produced.) In the case of a destination-based VAT, the tax is levied on imports, and firms receive a refund of any tax paid on inputs used to produce exports. And, vice versa in the case of an origin-based VAT, that is, the tax is levied on exports, and imports are not subject to the VAT.

There are two reasons to prefer a destination-based VAT to an origin-based one. If the sales tax is meant to be a benefits tax, then the sales tax should be destination-based. Secondly, an origin-based sales tax would penalize exports and give an advantage to imported goods on the domestic market. Therefore, economists recommend a destination-based VAT in order to create a level playing field on both foreign and domestic markets for the goods and services produced by an economy.

In the case of a national VAT, sales tax is applied on imports at a relatively small number of ports of entry by the customs service, and refunds of sales tax on exports are also paid by the customs service. There are issues with refund fraud with national VATs. Furthermore, we should not minimize the challenges of administering and enforcing the VAT on international trade in countries with porous borders and many border crossings by rail and road. However, these problems pale in comparison with the difficulties of administering and enforcing a credit-invoice VAT on interstate trade among states in which only one sub-national government, presumably Georgia, levies a destination-based, credit-invoice VAT. Economists have offered solutions for the challenges posed by interstate trade, namely the central VAT (CVAT) and viably-integrated VAT (VIVAT). However, these solutions require that the other sub-national governments in the federation as well as the federal government itself also levy a destination-based, credit-invoice VAT. Since these conditions do not apply to the current proposal of just Georgia adopting a VAT, the CVAT and VIVAT strategies do not offer viable solutions in the current context. Therefore, it does not seem worthwhile to describe these strategies here.
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**Federal Deductibility**

When people pay their federal personal income tax they are allowed to deduct either their state sales tax or their state income tax from their federal taxable income, assuming they itemize deductions. Likewise, firms are able to deduct sub-national taxes from their federal taxable income. If Georgia substituted a consumption-type VAT, which is an entity based tax, for the current RST, then these taxes would be treated like business taxes, and they would be deductible. This would be an advantage for the Georgia taxpayer, as the federal government would be implicitly subsidizing the Georgia taxpayer.

**The Local Options Sales Tax**

In the case of a credit-invoice VAT, the local option sales tax could be levied as an add-on tax by retailers located in the jurisdictions electing to levy a local option sales tax. Thus, the local option sales tax does not appear to present insurmountable difficulties.

**The Wallace Proposal**

Sally Wallace (2010) evaluates the potential of converting Georgia’s income tax system into a flat rate GCT. Rather than using the credit-invoice method, she proposes a proportional tax on wages and on business cash flow. In economic terms, her proposed method and a credit-invoice VAT are equivalent means of levying a tax on final consumption. However, the administration of these two versions of a consumption tax is very different. Briefly, she shows that implementing this version of a GCT involves, among other things, integrating the personal income tax (PIT) and the corporate income tax (CIT), allowing the expensing of capital purchases, bringing tax exempt fringe benefits and pension income into the tax base, and harmonizing CIT and PIT tax rates.\(^{14}\)

Setting aside questions involving the political economy of this proposed reform, it does appear to be technically feasible. However, she concludes that the

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\(^{14}\) In converting the current state income tax into a consumption-based tax, she eliminates the mortgage interest deduction. However, she does not propose taxing imputed rental income from owner-occupied housing. In principle, a GCT taxes ALL final consumption of goods and services, including the (imputed) value of the flow of services from owner occupied housing.
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potential benefits of a state consumption tax are probably relatively small. More specifically, she writes, “… the net change in the return to capital in Georgia from a consumption tax is debatable” [Sally Wallace (2010), page 170]. However, this last statement, which is certainly true as far as it goes, is not based on the results of economic simulations or careful empirical analysis, which, to be fair, was beyond the scope of her study. I make this point, not to be critical of her proposal or conclusions, but merely to point out that more study is required before anyone can confidently draw conclusions about the likely magnitude of the economic impact of state tax reform on the Georgia economy.

In some ways, the Wallace proposal is a less radical way to implement a GCT in Georgia, because it basically modifies existing taxes; whereas, implementing a credit-invoice VAT in the state of Georgia would place considerable burdens on firms operating in Georgia and on the tax administration to adapt to a completely new tax regime. Furthermore, the Wallace proposal would probably broaden the tax base relative to a credit-invoice GCT. A credit-invoice GCT effectively exempts goods and services provided by the government from taxation. In addition, privately provided health care and education are likely to be exempt from a VAT. However, the Wallace proposal would exempt the government and non-profit sectors, including health care and education, from the business cash flow tax, but her proposal would levy taxes on the wages and salary of government and non-profit employees, including those employed in the health care and education sectors.

Clearly, there are some advantages to the Wallace proposal, but there are drawbacks as well. First and perhaps foremost, it is an origin-based tax, meaning that goods and services produced in Georgia but sold outside of Georgia will suffer a cost disadvantage with respect to goods and services produced elsewhere because goods and services produced in Georgia will include the additional cost of paying this tax. Furthermore, goods and services produced outside of Georgia but sold in Georgia will enjoy a cost advantage because the value added to goods and services produced outside of Georgia would not be subject to Georgia’s tax on wages and on business cash flow. In short, Georgia’s producers would be disadvantaged by an origin-based tax within the state and outside the state. Another disadvantage of the Wallace proposal is that there is very little experience with such taxes to draw upon for
lessons learned; whereas, there is a vast amount of international experience with a credit-invoice VAT.
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V. Conclusion

As discussed above, a general consumption tax (GCT) offers a number of advantages relative to Georgia’s current tax system. The potential revenue yield is likely to be more stable over the business cycle, and there are likely to be economic efficiency gains, as well. Depending on the manner in which a GCT is implemented, it could mitigate some of the concerns with tax cascading and horizontal equity associated with the current state sales tax. Furthermore, a GCT would likely cover more services than the current sales tax. Since services are growing as a share of private consumption, a GCT would likely increase the revenue yield, economic efficiency, and equity of the state tax system relative to the current state sales tax. The main obstacle to adopting a state GCT appears to be administration issues, namely the tax treatment of interstate trade.
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References


Appendix

Financial Services

There is no problem taxing financial services, including insurance, when there is an explicit price for such services. However, many financial services are bundled with other services and given to customers for free. Checking accounts are just one such example. Without a market price for such services, it is not clear what tax to levy on bundled services. The most important issue is the market value of intermediation services. The difference between the lending rate and borrowing rates of financial institutions over states the value of intermediation services because this difference also includes, among other things, a risk premium. Taxing the risk premium would distort financial markets.

Some economists contend that individuals do not really derive pleasure or utility from consuming financial services. In this view, financial services, including insurance, should not be included in the tax base of a GCT. However, this line of reasoning may apply to many other personal services, as well. Do people derive pleasure or utility from consuming legal services when they get a divorce or from consuming accounting services when they pay tax? If not, then from this perspective, they should not pay sales tax on such services. Trying to distinguish between personal services from which consumers derive pleasure and those that do not, could give rise to all kinds of arbitrary tax treatments depending on the lobbying efforts of influential service industries.

Real Estate

The imputed rent of owner occupied housing should be included in the tax base of a GCT, since essentially an owner is renting his home to himself. A GCT would only apply to new owner-occupied housing construction; the existing stock of owner occupied housing would not be subject to the GCT. The tax advantage enjoyed by the existing stock of owner occupied housing would be capitalized into the value of these properties. In principle, there is no technical issue with applying the credit-invoice method to new commercial or residential housing construction, the problem of levying a tax on new housing construction is likely to be a political one.
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Government Purchases

Since taxing government purchases does not result in net tax revenue to the government under a credit-invoice VAT, many assume that government purchases should be exempt from the VAT. However, exempting government purchases gives rise to perverse incentives and unnecessarily complicates the enforcement of a credit-invoice VAT. If government purchases are exempt, then this creates an incentive for government agencies to in-source services rather than outsourcing them even though the private sector may produce these services at lower cost absent the tax. For example, if government purchases are exempt from tax, then the government would not pay tax on the labor component of automobile repair services. The government presumably would still pay tax on parts. Consequently, the government could save money by employing mechanics and purchasing parts free of sales tax. Exempting government purchases also creates an opportunity for firms to under report taxable sales by overstating their sales to government, which unnecessarily complicates VAT enforcement. For these two reasons, economists typically recommend making government purchases fully taxable under a credit-invoice VAT.

Purchases by Non-Profits

Like government purchases, non-profits should be fully taxable. In contrast to taxing government purchases, however, taxing non-profit purchases will increase the revenue yield of a GCT. Including non-profits in the GCT net also avoids creating perverse incentives, such as favoring in-sourcing to out-sourcing and limit opportunities for tax evasion by exaggerating sales to non-profits. Furthermore, subjecting non-profits to the tax limits the opportunity to misuse tax exempt status to gain a competitive advantage in markets populated by private businesses that are subject to sales tax. For example, health clubs operated by non-profits, like the YMCA, would have an advantage in the market place over those operated by private firms, like L.A. Fitness.

Medical and Educational Services

In principle, medical and educational services should be taxable under a GCT to avoid changing relative prices and to ease administration of the tax. Exempting
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medical and educational services creates holes in the sales tax net which create opportunities for tax evasion. Many will raise concerns about the equity of taxing these services.
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