EXEMPTIONS FROM SALES AND USE TAX: SOLID FUELS USED BY MANUFACTURING FIRMS

Introduction

This report is one of a series of occasional papers from the Fiscal Research Program examining sales tax exemptions (existing and proposed) for the State of Georgia. In a recent Fiscal Research Program report, *the Sales Tax in Georgia: Issues and Options*, Bahl and Hawkins (1997) discuss the major sales tax issues, including tax base issues, facing Georgia policy makers. In a Fiscal Research Policy Brief, *Revenue Losses From Exemptions of Goods From the Georgia Sales Tax*, Walker (1998) provides estimates of the revenue loss from current exemptions from the State sales tax. In this paper we discuss issues surrounding a possible sales tax exemption for solid fuels used in manufacturing industries, and present estimates of the revenue impact from such an exemption.

The general sales tax is a key source of revenue, accounting for 34 percent of total state of Georgia tax revenues; in fiscal year 1997, Georgia collected $3.9 billion from the sales tax. The state sales tax is imposed on all goods sold at retail (i.e., not for re-sale) unless specifically exempt; however, services are exempt unless specifically covered by the sales tax. Goods that are purchased by businesses and are not raw materials used in the production process are also subject to sales taxation.

Nature of Exemption

Purchases of solid fuels used in the manufacturing industry as a source of power and heat are currently subject to Georgia’s sales and use tax. An exemption of these purchases is considered here. This exemption could be accomplished by reclassifying solid fuels used in the production process as a raw material. The category of solid fuels is comprised mainly of coal, coke, certain bio-fuels like wood pellets, wood shavings, sawdust, and garbage-fuels. While nuclear fuels may be considered a solid fuel, current information concerning the use of nuclear energy in Georgia indicates that nuclear power generation occurs only at regulated power generating facilities.

Tax Treatment of Solid Fuels in Other States

Eight states provide a sales tax exemption specifically targeting solid fuels used in the production process (Table 1). In the Southeastern U.S., Alabama, Florida, Virginia, and Kentucky provide sales tax exemptions for solid fuels used in the production process. In addition to manufacturing, Alabama’s exemption includes electric utility companies and transportation companies. Virginia and Kentucky provide broader exemptions that include all fuels used in production, processing, and mining. With the exception of Idaho, each of the eight states that provide exemptions for fuels, solid or otherwise, specifically target the manufacturing industry. Effectively, these exemptions treat fuels as a raw material in the production process.
Issues of Equity, Efficiency and Administration

Although Georgia has a sales tax base that is relatively large when compared with other states, Bahl and Hawkins (1997) suggest that the size of Georgia’s sales tax base is more the result of the relatively heavy taxation of business inputs and not the breadth of the sales tax coverage, and that consideration should be given to reducing the tax coverage of business purchases.

There are three reasons for considering exemption of business purchases from sales taxes. First, exemption of business purchases increases tax equity. Raw materials are exempt from sales tax, whereas other inputs are not. Second, the sales taxes a manufacturer pays on items used in the production process are expected to be reflected in the price of the final manufactured good. Since the final product is also subject to sales tax, the consumer faces double taxation. Third, Georgia manufacturers are placed at a competitive disadvantage with similar manufacturers in states in which there are a broader category of input exemptions.

There are three main arguments against a solid fuel exemption. First, the proposed exemption of solid fuels will have the effect of differentially taxing fuels used for the same purpose. Solid fuels used in manufacturing would be tax exempt whereas other fuel types, such as natural gas and electricity, would not be exempt. Second, other taxes would have to be increased to offset the lost sales tax revenues for the exemption to be revenue neutral. Finally, there will be administrative difficulties of distinguishing between taxable and tax exempt sales of solid fuels. More specifically, there exist the possibility that this reclassification may hinder tax administrators from fully capturing the tax revenues due the State. The administrative costs may be very high for determining how much of the power generated from solid fuels is used in the production of manufactured goods versus used for other activities that are not exempt from sales tax. For example, consider a firm where coal is used by a manufacturing firm to fire boilers that provided steam for power. If the steam were used both to run machinery and heat the facility, the amount of coal used to run the machinery would be exempt under the reclassification, whereas, the coal used to heat the facility would not be exempt. For the State to collect the correct revenues, a distinction would have to be made by the firm as to the specific activities for which the solid fuels were used. A firm’s use of solid fuel for activities in addition to manufacturing would make compliance difficult. The lack of such a distinction would cause the reclassification to favor industries that use solid fuels for activities other than solely for manufacturing. The lack of a distinction would also lower the cost of solid fuels relative to other fuel sources for non-production activities such as the firm’s climate control.

Other Considerations

Under the current state sales tax, fuels used by regulated power facilities are also subject to state sales tax. No exemption is currently granted for fuels, solid or otherwise, used by these facilities. Including these facilities in the exemption would have a significant impact on the revenues lost via the exemption, since the bulk of principal solid fuel, i.e., coal, purchased within the state of Georgia is used by regulated power generators.

The largest identifiable beneficiaries of the proposed exemption in Georgia would be manufacturers who use coal. The exemption would favor the use of coal for use in manufacturing over other fuels that may be cleaner. In light of the current environmental difficulties facing Georgia, and in particular those facing the Atlanta Region, tax policies which favor coal may be viewed as counter to current environmental goals set for the state.

Estimation of Revenue Loss

Data and Assumptions. The estimates of the revenue loss are made assuming all solid fuels used in the manufacturing sector would be exempt since no data were available detailing the different internal uses of solid fuel by manufacturing firms. No data were available for solid bio-fuels, but other evidence suggests that solid bio-fuels are a negligible source of industrial power for the state of Georgia. The amount of coal used in activities other than in industrial and utilities is negligible, and is therefore ignored in the estimation of revenue losses. Additionally, it is assumed that coal and freight are billed separately. Thus, the sales tax loss is calculated only on the price of the coal, not on the combined cost of coal and freight.

Data used in estimation were obtained from the US Department of Energy, Energy Information Administration, and the Bureau of Labor Statistics.

Estimate. We estimate that for 1997, the revenue loss from exempting solid fuel used in manufacturing from sales and use tax would have been $3.0 million (Table 2). This does not include the revenue loss to local governments. Based on historic patterns of growth in the use of coal and in the price of coal, we project that the revenue loss would increase to $3.2 million for the year 2000. Including coal used by electric utilities would increase the revenue loss to $38.1 million for 1997 and $37.2 million for the year 2000 (Table 2).
Bio-fuels are not solely comprised of solid fuels. Alcohol, methanol, and methane are also considered bio-fuels.

Only Edwin Hatch 1, Edwin Hatch 2, Vogtle 1, and Vogtle 2 power generating facilities are listed as operating nuclear generators in Georgia.

References


Energy Information Administration, Quarterly Coal Report April-June 1997, Washington, D.C.


Energy Information Administration, Quarterly Coal Report October-December 1997, Washington, D.C.


ABOUT THE AUTHOR

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### Table 1. Coal/Solid Fuel Exemptions in Other States

<table>
<thead>
<tr>
<th>State</th>
<th>Exemption</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>&quot;Sales of wood residue, coal or coke to manufacturers, electric power companies and transportation companies for use in production of by-products or other products (Sec. 40-23-4(a)(9)).&quot;</td>
</tr>
<tr>
<td>Florida</td>
<td>&quot;Boiler&quot; fuels (Sec. 212.08(7)(b)). &quot;Purchases of...coal, sulfur, wood, and wood residues as combustible fuel in industrial manufacturing, processing, compounding or production, at a fixed Florida location, of tangible personal property for sale.&quot;</td>
</tr>
<tr>
<td>Colorado</td>
<td>&quot;Electricity, coal, gas, fuel oil, steam, nuclear fuel, and coke used for industrial purposes&quot; (Ch. 235, Laws 1995; Sec. 39-26-102(21)).</td>
</tr>
<tr>
<td>Idaho</td>
<td>&quot;Sales or purchases of materials used to produce heat by burning&quot; (Sec.63-3622G.)</td>
</tr>
<tr>
<td>Iowa</td>
<td>&quot;Gross receipts from sales of electricity and fuel used to create heat, power, steam, or to generate electrical current if electricity or fuel are used in processing by a manufacturer&quot; (H.F. 126, Laws 1997; Sec. 422.45)</td>
</tr>
<tr>
<td>Kentucky</td>
<td>&quot;All energy or energy producing fuel used in manufacturing, processing, mining or refining to the extent that the cost of such fuel used exceeds 3% of the cost of production&quot; (Sec. 139.480(3)).</td>
</tr>
<tr>
<td>New York</td>
<td>&quot;Fuel, gas, electricity, and steam used or consumed directly and exclusively in producing tangible personal property for sale (Ch. 60, Sec.1115(c)). ...fuels and utilities used in manufacturing, processing, farming, mining, etc. (Ch. 60, Sec. 1115(a)(12)).&quot;</td>
</tr>
<tr>
<td>Virginia</td>
<td>&quot;...fuel, power, energy, or supplies, used directly processing, manufacturing, refining, mining or conversion of products for sale or resale...&quot; (Sec. 58.1-609.3)</td>
</tr>
</tbody>
</table>


### Table 2. Revenues Lost from the Exemption of Solid Fuel

<table>
<thead>
<tr>
<th></th>
<th>1997</th>
<th>2000(est)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Manufacturing</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Coal Expenditures</td>
<td>$92,200,000</td>
<td>$99,550,000</td>
</tr>
<tr>
<td>by Manufacturing (dollars)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GA Coal Consumption by Manufacturing (short tons)</td>
<td>2,046,000</td>
<td>2,234,280</td>
</tr>
<tr>
<td>Manufacturing Coal Price (delivered price per short ton including freight and insurance)</td>
<td>$45.06</td>
<td>$44.55</td>
</tr>
<tr>
<td>Average Rate per Short Ton for Contract Coal Rail Shipments For South Atlantic States from Central Appalachia States (nominal dollars)</td>
<td>$8.50</td>
<td>$8.96</td>
</tr>
<tr>
<td>Tax Revenue Loss - Manufacturing</td>
<td>$2,992,360</td>
<td>$3,181,234</td>
</tr>
<tr>
<td><strong>Electric Utilities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Coal Expenditures</td>
<td>$1,124,100,000</td>
<td>$1,154,320,000</td>
</tr>
<tr>
<td>by Electric Utilities (dollars)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GA Coal Consumption by Electric Utilities (short tons)</td>
<td>29,112,000</td>
<td>33,787,000</td>
</tr>
<tr>
<td>Electric Utility Coal Price (delivered price per short ton including freight and insurance)</td>
<td>$38.61</td>
<td>$34.16</td>
</tr>
<tr>
<td>Average Rate per Short Ton for Contract Coal Rail Shipments For South Atlantic States from Central Appalachia States (nominal dollars)</td>
<td>$8.50</td>
<td>$8.96</td>
</tr>
<tr>
<td>Tax Revenue Loss - Electric Utilities</td>
<td>$35,065,925</td>
<td>$34,063,539</td>
</tr>
<tr>
<td><strong>Manufacturing and Electric Utilities</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax Revenue Loss - Manufacturing and Electric Utilities</td>
<td>$38,058,280</td>
<td>$37,244,773</td>
</tr>
</tbody>
</table>

*aCoal is the only solid fuel for which data is available. Other solid fuels are believed to be of minor consequence.*

*bEstimates for the year 2000 were made assuming linear growth in coal consumption for both the industrial and electric utilities sectors. The Producer Price Index, published by the Bureau of Labor Statistics, is used to adjust the costs for 1997 and 2000.*

*cIt is assumed that freight charges are billed separately from the coal for both industrial firms and electric utilities.*
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