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Methodology and assumptions

The following describes the methodology and assumptions used to estimate illustrative business tax liabilities under current District tax law and under the proposed business activities tax.

Illustrative businesses

Illustrative business examples were created by obtaining basic income statement and balance sheet information for different types of businesses. This information was generally derived from publicly available sources, e.g., 10-K reports or annual statements. The illustrative businesses are intended to represent some of the types of businesses operating in the District. Specifically, the following examples of illustrative businesses were created for the purpose of this analysis:

- grocery store (a national grocery chain with stores in the District);
- high-technology firm (an information technology or research and development firm);
- hotel (a national hotel chain with a hotel in the District);
- printing company (a small, independent printing establishment);
- small professional services firm (a small law, accounting, or consulting firm);
- large professional services firm (a large law, accounting, or consulting firm);
- real estate investment trust;
- small restaurant (a single establishment restaurant);
- large restaurant (a national restaurant chain with a restaurant in the District); and
- trade association (a trade/professional association or public interest group).

Generally, several individual company income and balance sheet figures were blended to create an illustrative business. For example, to create an illustrative high-
technology firm, actual income statement and balance sheet information obtained for a number of high-tech firms were averaged. In some instances, data were obtained for businesses located outside the District. Consequently, none of the illustrative business examples disclose information for an actual District business.

Calculation of tax liability under current law

The income statement and balance sheet figures for each illustrative business were used to estimate business tax liabilities under current District tax law and under the proposed business activities tax. The estimation of the illustrative current tax liability includes only those taxes that the proposed business activities tax is intended to replace — the corporate income tax, the unincorporated business tax, the tangible personal property tax, and the business and professional licensing fee. Other taxes paid by businesses in the District, such as sales and use taxes and real property taxes, are not included in the analysis.

Income tax

A business corporate income tax or unincorporated business tax liability was estimated by multiplying the District's corporate or unincorporated business tax rate, times an apportionment factor, times the business's income statement net income.

The apportionment factor was estimated as the average of three factors — the illustrative business's percentage of sales within the District, its percentage of property within the District, and its percentage of payroll within the District. The data sources from which each illustrative business's income statement and balance sheet figures were derived did not provide information on a firm's sales, property, and payroll within the District. Consequently, it was necessary to make assumptions about these percentages.

The following describes the assumptions that were made:

**Grocery store.** We assumed that this grocery store is part of a national chain. However, no information was available on the proportion of sales, property or payroll in the District. Since the District's population is approximately 0.2 percent of the total U.S. population, but per capita personal income is higher than the U.S. average, we assumed that all three factors were 0.4 percent.

**High-technology firm.** The firms used to form the illustrative example had an average payroll in the state in which they operated of 45 percent. We assumed that, had these firms been based in the District, this percentage would be the same. We further assumed that the illustrative firm's sales and property in the District were also 45 percent. Thus, the average apportionment factor used to estimate the illustrative high-tech firm's income tax liability was 45 percent.
Hotel. The hotels used to form the illustrative example had an average of 1 percent of their property in the District and 7 percent of their payroll. Since we did not have information on the percentage of their sales in the District, we assumed that sales would be somewhere between property and payroll. Consequently, we assumed that 5 percent of this nationwide hotel firm's sales took place in the District. Thus, the average apportionment factor used to estimate the illustrative hotel's income tax liability was 4.3 percent.

Printing firm. The printing firm used to form the illustrative example was a local firm but not a District-based firm. Since it is a small operation, we assumed all of its sales, property and payroll were within the District.

Small professional services firm. The small professional services firm used as the illustrative example was assumed to be such a small operation that all of its sales, property and payroll were within the District.

Large professional services firm. In the case of the large professional services firm, we also assumed that all of its sales, property and payroll were within the District.

Real estate investment trust. The real estate investment trust used to form the illustrative example had an average of 21 percent of its property and 68 percent of its payroll in the jurisdiction in which it operated. Since we did not have information on the percentage of sales, we assumed that sales would be roughly between the property and payroll levels. Consequently, we assumed that 50 percent of sales took place in the District. Thus, the average apportionment factor used to estimate the real estate investment trust's income tax liability was 46.3 percent.

Small restaurant. We assumed that all of its sales, property, and payroll were within the District.

Large restaurant. The national chains used to develop the illustrative restaurant example had, on average, 3 percent of their payroll in the District. We assumed that 3 percent of its sales, property, and payroll were within the District.

Trade association. We assumed that all of its sales, property, and payroll were within the District.

**Tangible personal property tax**
The calculation of the tangible personal property tax was based on the value of the illustrative firm's equipment and furniture. The tax on personal property is calculated by multiplying the District's personal property tax rate times the depreciated value of the tangible personal property. Since balance sheet data on the value of tangible personal property did not provide a detailed breakdown as to when that personal property had been placed in service, we assumed that part of the property was put in service during the current year and the rest was put in place over a number of
earlier years. To estimate the depreciated value of the property, we applied a 90 percent assessment ratio to the current year property and a 60 percent assessment ratio to the remainder of the property.

**Business and Professional Licensing Fee**

The business and professional licensing fee applies to specific types of professional employees. A fee of $250 per employee is assessed. The income statement and balance sheet data did not provide information on the number of such employees. We assumed that the only illustrative businesses that had employees subject to the professional licensing fee were the professional service firms. We assumed that the small professional service firm had two such employees and the large professional service firm had 200 employees subject to this fee.

**Calculation of Business Activities Tax Liability**

The proposed business activities tax also was estimated based on the illustrative business's income statement and balance sheet information. The tax base for the business activities tax was estimated by adding the illustrative business's payroll, interest payments, and profits and then multiplying this total by an apportionment factor. Interest payments were assumed to equal 8 percent of the business's debt, except in the case of the large professional services firm example, for which the income statement data provided an interest payment amount. The illustrative business's profits were assumed to equal its net income. The apportionment factor was assumed to equal the apportionment factor used to apportion income to the District under the current law income tax. A business activities tax rate of 1.5 percent was used to estimate the business activities tax.

**Comparison of Tax Liabilities**

Figure II-1 presents the results of the calculations described above. In addition to showing the tax liabilities estimated under current law and under the business activities tax, the table shows, for current law and the business activities tax, tax liability as a percentage of the business activity occurring in the District.
### Examples of an Illustrative Business’s Tax Liability
#### Under Current Law vs. Business Activities Tax

($ thousands, except where noted)

<table>
<thead>
<tr>
<th>Type of Business</th>
<th>Corporate Income Tax</th>
<th>Tangible Personal</th>
<th>Professional License Fee</th>
<th>Total</th>
<th>Business Activities Tax</th>
<th>Current Law Tax</th>
<th>Business Activities Tax</th>
<th>Percent Change in Tax Liability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grocery store</td>
<td>$222</td>
<td>$240</td>
<td>$0</td>
<td>$462</td>
<td>$253</td>
<td>2.7%</td>
<td>1.5%</td>
<td>-$209 ($45%)</td>
</tr>
<tr>
<td>High-tech firm</td>
<td>46</td>
<td>342</td>
<td>0</td>
<td>388</td>
<td>1,017</td>
<td>0.6%</td>
<td>1.5%</td>
<td>629 ($162%)</td>
</tr>
<tr>
<td>Hotel</td>
<td>1,664</td>
<td>264</td>
<td>0</td>
<td>1,928</td>
<td>2,711</td>
<td>1.1%</td>
<td>1.5%</td>
<td>783 ($41%)</td>
</tr>
<tr>
<td>Printing firm</td>
<td>0</td>
<td>7</td>
<td>0</td>
<td>8</td>
<td>2</td>
<td>5.7%</td>
<td>1.5%</td>
<td>-6 ($74%)</td>
</tr>
<tr>
<td>Small professional services firm</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>0.5%</td>
<td>1.5%</td>
<td>2 ($196%)</td>
</tr>
<tr>
<td>Large professional services firm</td>
<td>0</td>
<td>69</td>
<td>50</td>
<td>119</td>
<td>868</td>
<td>0.2%</td>
<td>1.5%</td>
<td>749 (631%)</td>
</tr>
<tr>
<td>Real estate</td>
<td>Investment trust</td>
<td>2,149</td>
<td>0</td>
<td>0</td>
<td>2,149</td>
<td>4.2%</td>
<td>1.5%</td>
<td>-1,388 ($65%)</td>
</tr>
<tr>
<td>Small restaurant</td>
<td>49</td>
<td>0</td>
<td>0</td>
<td>49</td>
<td>25</td>
<td>2.9%</td>
<td>1.5%</td>
<td>-24 ($49%)</td>
</tr>
<tr>
<td>Large restaurant</td>
<td>62</td>
<td>173</td>
<td>0</td>
<td>235</td>
<td>196</td>
<td>1.8%</td>
<td>1.5%</td>
<td>-39 ($17%)</td>
</tr>
<tr>
<td>Trade association</td>
<td>0</td>
<td>65</td>
<td>0</td>
<td>65</td>
<td>145</td>
<td>0.7%</td>
<td>1.5%</td>
<td>79 ($122%)</td>
</tr>
<tr>
<td><strong>All examples</strong></td>
<td><strong>$4,193</strong></td>
<td><strong>$1,161</strong></td>
<td><strong>$51</strong></td>
<td><strong>$5,405</strong></td>
<td><strong>$5,982</strong></td>
<td><strong>1.4%</strong></td>
<td><strong>1.5%</strong></td>
<td><strong>$577</strong> (11%)</td>
</tr>
<tr>
<td>With tax increases</td>
<td>1,710</td>
<td>741</td>
<td>51</td>
<td>2,501</td>
<td>4,743</td>
<td>0.8%</td>
<td>1.5%</td>
<td>2,242 (90%)</td>
</tr>
<tr>
<td>With tax decreases</td>
<td>2,483</td>
<td>420</td>
<td>0</td>
<td>2,904</td>
<td>1,239</td>
<td>3.5%</td>
<td>1.5%</td>
<td>-1,665 ($57%)</td>
</tr>
</tbody>
</table>

*The current law tax figures include only those taxes that would be replaced by the business activities tax: corporate income tax, unincorporated business tax, tangible personal property tax, and the business and professional licensing tax.

**Tax liability under current law and under the business activities tax is divided by the base of the business activities tax.

Source: Coopers & Lybrand L.L.P.