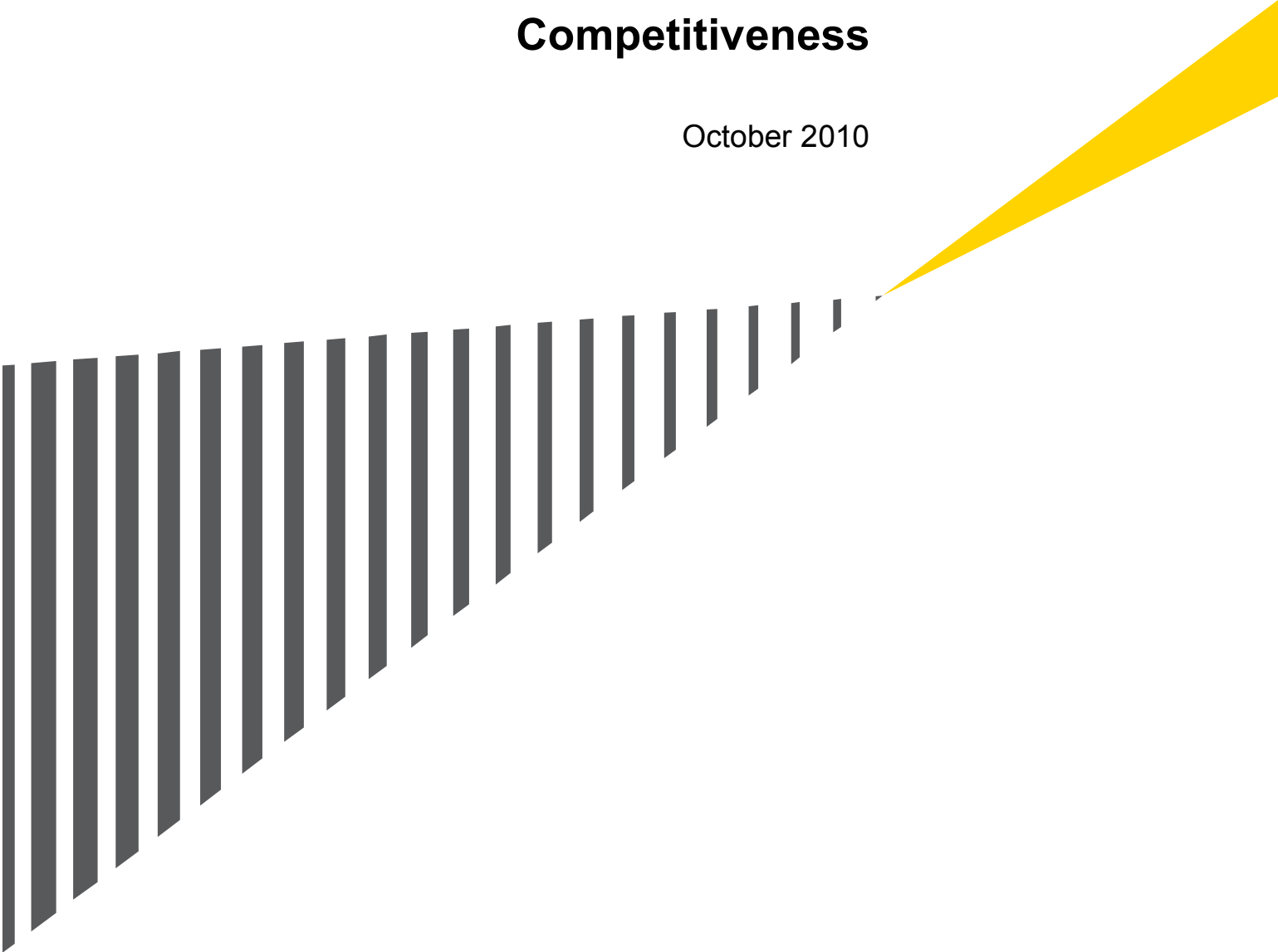


Analysis of Maryland's Business Tax Competitiveness

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Analysis of Maryland's Business Tax Competitiveness

EXECUTIVE SUMMARY

This report has been prepared by Ernst & Young LLP (E&Y) for the Maryland Chamber of Commerce and its partners and supporters to examine how Maryland compares to three other competitor states, North Carolina, Pennsylvania, and Virginia, in terms of state and local business tax competitiveness. The analysis estimates the business taxes related to an investment in a new or expanded facility of three representative firms: a financial services corporation, a biotech manufacturing corporation, and a professional services pass-through entity.

This study measures the state and local business tax competitiveness, including corporate income and franchise taxes, sales taxes on business inputs, property taxes and individual income taxes for pass-through entities. The study includes a description of the methodology used to model the representative firms and calculate state and local tax burdens. Also included are summaries of the key current-law tax parameters used in the analysis.

Key Findings

Table ES-1 summarizes the key findings of the study. The business tax competitiveness indexes in the table are measured relative to the lowest tax location (assigned an index number equal to 1.00). For example, an index number of 1.50 indicates that taxes are 50% higher than the lowest tax location.

Business Tax Competitiveness

- Maryland's business taxes are particularly high for professional services that are pass-through entities, exceeding the lowest tax location (Pennsylvania) by 68%.
- Business taxes for financial services in Maryland are 55% higher than in Pennsylvania.
- Maryland's business taxes for biotech manufacturing are 19% higher than in Virginia, the lowest cost state.

**Table ES-1. Summary of Additional Business Taxes,
Indexed to Lowest-Tax State**

State	Financial Services	Biotech Manufacturing	Professional Services
Maryland	1.55	1.19	1.68
North Carolina	1.30	1.71	1.55
Pennsylvania	1.00	1.98	1.00
Virginia	1.38	1.00	1.55

Analysis of Maryland's Business Competitiveness

Overview

The analysis in this report provides information on state and local business tax competitiveness in Maryland compared to North Carolina, Pennsylvania, and Virginia for three representative industries: financial services, biotech manufacturing, and professional services. The comparison states and industries were selected by the Maryland Chamber of Commerce.

This report presents estimates of effective business tax rates (ETRs). ETRs are calculated as the percentage reduction in the before-tax rate of return on each investment. In other words, the ETRs measure what percentage of before-tax income is accounted for by the state and local business taxes included in this study. The tax estimates are derived from E&Y's business competitiveness model (BCM) that calculates state and local business tax burdens imposed on new capital investments by the representative firms in each state. The methodology used to estimate the ETRs is also described in this section.

The analysis calculates the burden of major state and local business taxes over the assumed 30-year life span of an investment. While the financial profile of each investment varies by industry, the same profile for a specific industry is used in each state. This approach provides a systematic way of estimating the level and composition of state and local taxes imposed in each location.

Business Tax Competitiveness

This section of the report presents estimates of the state and local business taxes that would be paid on an investment in a new or expanded facility in each of the four states for representative firms in three industries. The representative industries are financial services, biotech manufacturing, and professional services. (See Appendix B for a more detailed description of the industries.)

Methodology of Tax Modeling

The E&Y business competitiveness model (BCM) is used to estimate the effective state and local tax rates imposed on the tax bases generated by a new or expanded investment in each state. The following is a brief overview of the steps used in developing the BCM and estimating the taxes paid on the expansions (additional details are provided in Appendix C).

- Financial profiles are developed for each expansion using balance sheet and income statement information for specific-size firms in each industry from federal tax return information reported by the IRS in *Statistics of Income's Corporate Tax Reports*. The financial information includes sales, other income sources, investments in real and personal property, net equity, and detailed information on cost of goods sold and other operating expenses. The firm financial profiles are used in the BCM to estimate the tax bases for the expansion of the representative firms in each industry. The biotech manufacturing and financial services expansions are modeled as a \$35 million

investment; the professional services expansion is modeled as a \$5 million investment.¹

- The current-law statutory tax components, including tax rates and tax base calculations, for each of the major state and local business taxes in each state are programmed into the model. State and local taxes included in this report are: corporate income taxes (individual income taxes for pass-through entities), corporate franchise taxes, sales and use taxes on business input purchases, gross receipts taxes and property taxes.² The BCM calculations include depreciation allowances and apportionment formulas for each corporate expansion.
- The BCM calculates the annual state and local taxes paid as a result of the expansion over a 30-year period. This multi-year perspective recognizes differences in the timing of tax provisions, such as depreciation allowances and scheduled changes in tax rates and other tax features.
- The tax results for each industry are summarized as effective tax rates (ETRs) by tax type and location. ETRs are calculated as the percentage reduction in the before-tax rate of return on each investment. The ETRs show the percentage of before-tax profits paid in state and local business taxes. For example, an ETR of 5.0% indicates that state and local taxes reduce the before-tax return on the investment by 5.0%.
- It should be noted that the reported ETRs are measured before statutory credits, such as R&D, job creation and investment credits. Although tax credits can be an important consideration in the expected tax burden of a specific business, preliminary analysis of the impact of credits on the ETRs showed that the statutory credits reduced the overall effective tax rates close to proportionally in the four comparison states. The result is that the relative business tax burdens and rankings among the states do not change when credits are included in the analysis. To simplify the presentation, ETRs were calculated before statutory credits.

The following section describes the key state and local business tax system parameters used in the BCM.

¹ The expansion investment amount is based on information on new capital investment in the U.S. by industry reported in Ernst & Young's recent study, *2010 U.S. Investment Monitor*, that looked at the size of over 4,600 announced business investments in the last two years. The average reported capital investment size for financial services and biotech manufacturing for mid-size investments ranged from \$30 to \$35 million. An investment of \$5 million for professional services is approximately the median investment for this industry.

² Sales and use taxes collected from customers by the representative firm are not included as business taxes.

Comparison of Tax Features

The following tables provide a summary of the significant tax features underlying the business tax burden estimates. Differences in the statutory provisions of the state and local taxes in each state determine a state's business tax competitiveness.

Income and Franchise Taxes

Table 1 compares the top marginal corporate income tax rates in the four selected states of interest. The corporate rate is applied to the financial services and biotech industries. The table also shows corporate income tax apportionment formulas that are used to apportion nation-wide taxable income to each state. When estimating state corporate tax of a multistate firm, the amount of nation-wide income apportioned to a state is determined by the apportionment formula based on payroll, property and/or sales. The traditional apportionment formula equally weights the three factors to determine a state's share of US-wide taxable income. More recently, a number of states (including the four comparison states) have adopted apportionment formulas that apply a weight of 50 percent or more to the sales factor for most industries.

Pennsylvania has the highest statutory corporate income tax rate at 9.99%. Pennsylvania's corporate income apportionment formula subjects a significantly lower percentage of income to this high rate due to the heavy weight on the sales factor.³ Maryland has the highest statutory rate at 8.25% in 2010 of the three states that apportion using a 50% weight on sales (double-weighted apportionment formula).

For the representative biotech manufacturing firm, the model applies a heavy-weighted sales apportionment formula that is specific for particular industries such as manufacturing in Maryland and in Virginia. Manufacturing companies are required to use a single-sales factor formula in Maryland and may elect to do so in Virginia beginning in July 2011.

Table 1. Statutory Corporate Income and Franchise Tax Features

State	2010 Top Corporate Tax Rate	Income Apportionment ¹	2010 Franchise Tax Rate
Maryland	8.25%	Double-weighted sales	N/A
North Carolina	7.11%	Double-weighted sales	0.150%
Pennsylvania ²	9.99%	Heavy-weighted sales	0.289%
Virginia	6.00%	Double-weighted sales	N/A

Source: CCH, Checkpoint RIA

¹ After 2008, Pennsylvania uses a three-factor formula 83-8.5-8.5 (sales, property, payroll). After 2009, Pennsylvania uses a three factor formula 90-5-5 (sales, property, payroll). Manufacturers must use a single sales factor in Maryland. Manufacturers may elect to apportion using a phased-in, single-sales factor in Virginia for tax years beginning in July 2011 with full phase-in by July 2014.

² After 2011, the franchise tax rate in Pennsylvania falls to 0.189%.

³ As explained in Appendix C, the BCM models the representative firms in the financial services and biotech manufacturing industries as multistate operations. Based on selected state data on corporate income taxes paid by multistate taxpayers, it is assumed that 5% of the sales and 100% of the payroll and property of the expansion are in state for these two industries. For the professional services expansion, it is assumed that 100% of sales, payroll and property are in state.

Sales and Use Tax

Table 2 below compares the effective state and local sales tax rates in the comparison. Using the U.S. Census, *Business Expense Survey* and estimates of the sales tax treatment of business expenditures in each state, the BCM captures the potential differences in the taxability of capital expenditures and operating inputs, which varies by industry and by state.

The combined sales tax rate shown in Table 2 is the total effective state and local sales tax rate for each of the four comparison states. The state rate is simply the state statutory rate. The state-wide local effective sales tax rate incorporates the sales taxes for all localities in each state. The state-wide local tax rate is calculated using the ratio of local sales tax collections to state sales tax collections as reported in the U.S. Census, *State and Local Government Finances*. This method captures the variation in local sales tax rates and bases among local jurisdictions. For example, Virginia imposes a 4.0% state sales tax rate with a statutory local general sales tax rate of 1.0%. However, the local sales tax base actually includes more components than the state base, and the local tax rate exceeds 25% of the state rate for certain sales, including food and telecommunication services. The resulting effective local sales tax rate in Virginia (1.2%) picks up these differences in rates and bases.

Table 2. Effective State and Local Sales Tax Rate, 2010

State	State Statutory Sales Tax Rate	State-wide Local Effective Sales Tax Rate¹	Combined Effective Sales Tax Rate
Maryland	6.00%	0.00%	6.00%
North Carolina ²	5.75%	2.10%	7.85%
Pennsylvania	6.00%	0.10%	6.10%
Virginia	4.00%	1.20%	5.20%

Source: Census, *FTA Taxation of Services Survey*; CCH, E&Y calculations.

¹ Local taxes are estimated using total state-wide local sales tax collections relative to total state sales tax collections as reported by the Census' *State and Local Government Finances*.

² For tax years beginning in September 2009 until July 2011, North Carolina imposes an increase in the state sales tax to 5.75%.

Real and Personal Property Taxes

Table 3 compares the property tax rates imposed on businesses in each of the comparison states for real property, machinery and equipment, and other tangible personal property for commercial and industrial property. The rates are based on the Minnesota Taxpayer's Association's (MTA) *50-State Property Tax Comparison Study, Payable Year 2009*. The widely-respected report is produced cooperatively with the National Taxpayer's Conference and provides the most comprehensive and detailed state-by-state comparison of business property tax rates currently available. For the BCM, the cities used for comparison are: Baltimore City, Charlotte, Philadelphia and Richmond.

In estimating the property taxes on new investments in the business competitiveness analysis, E&Y uses effective tax rates. The effective property tax rate equals the statutory property tax rate multiplied by the assessment ratio and the sales ratio, where available. Pennsylvania does not impose a personal property tax. Maryland exempts manufacturing machinery from personal

property tax on machinery and equipment, and Virginia imposes a reduced effective rate of 1.40% on machinery and equipment.

Table 3. Effective Property Tax Rates

State	Commercial			Industrial		
	Real Property	Machinery/ Equipment	All Other TPP	Real Property	Machinery/ Equipment	All Other TPP
Baltimore, MD	2.02%	5.67%	5.67%	2.02%	0.00%	5.67%
Charlotte, NC	1.08%	1.30%	1.30%	1.08%	1.30%	1.30%
Philadelphia, PA	4.16%	Exempt	Exempt	4.16%	Exempt	Exempt
Richmond, VA	1.07%	2.59%	2.59%	1.07%	1.40%	2.59%

Source: City treasury and assessors; Minnesota Taxpayer Association's 50-state Property Tax Comparison Study, Payable Year 2009.

Individual Income Tax Imposed on Business Income of Pass-Through Entities

The representative professional services firm is modeled as a pass-through entity taxpayer. Examples of pass-through entities include S corporations, limited liability companies (LLCs), and partnerships. The income of a pass-through business is subject to the individual income tax which is paid by the shareholders of the pass-through entity. The statutory tax rates shown in Table 4 are those that are assumed to apply to the taxable income on the pass-through professional services entity. In estimating the individual income taxes associated with the expansion in each state, it is assumed that the professional services firm operates wholly within the state and that the shareholders are all residents of the state.

For Maryland, the state level tax rate utilized in the model is 5.0%, on the assumption that the taxable income applied to the pass-through professional service shareholder is between \$200,000 - \$350,000 for singles and married individuals filing jointly. This income level is assumed to be representative of the taxable incomes of shareholders of the professional services firm. For North Carolina and Virginia, the tax rates that apply to the same range of income are the highest marginal tax rates. Pennsylvania imposes a flat tax rate on all individuals. Also, North Carolina imposes a temporary 3% surcharge for the tax years of 2009 and 2010 that is included in the rates.

The local (e.g., county and city) individual income tax rates shown represent statewide averages calculated in the modeling by using total state-wide local individual income tax collections divided by total state individual income tax collections, as reported by the U.S. Census, *State and Local Government Finances*. This ratio is multiplied by the state tax rate to derive the effective local tax rate.

As shown in Table 4, Maryland and North Carolina have relatively high combined state and local income tax rates at 8.04% and 7.98%, compared to Pennsylvania (4.16%) and Virginia (5.75%).

Table 4. Individual Income Tax Rates As Applied to Pass-Through Entity

State	State Individual Income Tax Rate	Average Local Individual Income Tax Rate	Combined Individual Income Tax Rate
Maryland	5.00%	3.04%	8.04%
North Carolina	7.98%	0.00%	7.98%
Pennsylvania	3.07%	1.09%	4.16%
Virginia	5.75%	0.00%	5.75%

Source: CCH, Checkpoint RIA, Census, E&Y Calculations

The relatively high combined individual income tax rates shown in Table 4 reflect the progressivity in Maryland and North Carolina's personal income tax systems. Table 5 below presents the effective individual income tax rates by state for a broader range of incomes from the Institute on Taxation and Economic Policy, *Who Pays? A Distributional Analysis of the Tax Systems in All 50 states*, November 2009. The table shows estimated individual income tax burdens (in terms of total aggregate tax amounts) by household income percentiles⁴:

- With the exception of the first quintile, Maryland's effective individual income tax rates exceed the simple average in each group for the comparison states.
- In terms of progressivity, Maryland has the largest difference between the effective tax rates in higher percentiles (80th to 95th percentiles) and in the first quintile of households, with North Carolina the second most progressive.

Table 5. State and Local Individual Income Taxes, Effective Tax Rates by Household Income Percentiles

	80-100%							Difference ¹
	0-20%	20-40%	40-60%	60-80%	80-95%	95-99%	99-100%	
Maryland	1.0%	3.3%	4.4%	4.7%	5.2%	5.7%	5.8%	4.2%
North Carolina	0.9	2.4	3.3	4.0	4.7	5.1	5.6	3.8
Virginia	1.0	2.5	3.3	3.6	3.9	4.1	4.0	2.9
Pennsylvania	1.6	2.6	2.9	3.1	3.1	2.9	2.5	1.5
Simple average	1.1%	2.7%	3.5%	3.9%	4.1%	4.5%	4.5%	3.1%

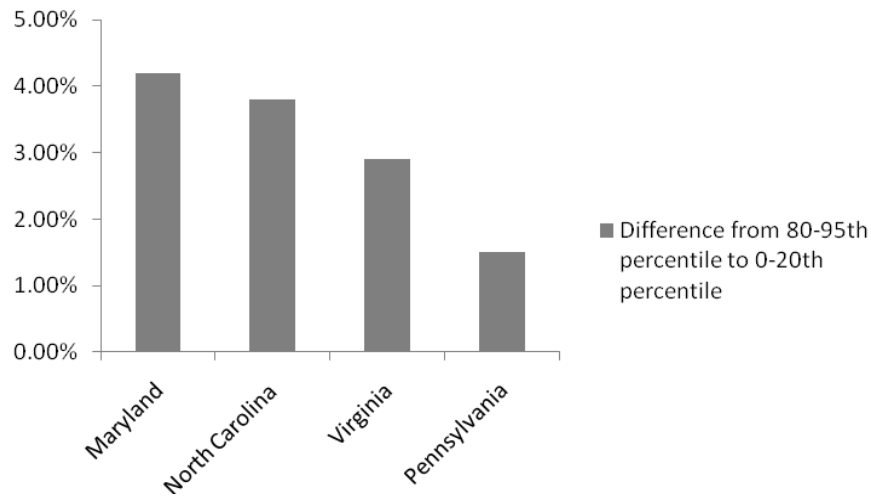
Source: Institute on Taxation and Economic Policy, *Who Pays? A Distributional Analysis of the Tax Systems in All 50 States*, November 2009.

¹ This column refers to the difference between the effective tax rate in the 80th-95th percentiles and 0-20th percentiles.

⁴ Institute on Taxation & Economic Policy, *Who Pays? A Distributional Analysis of the Tax Systems in All 50 states*, 3rd Edition, November 2009.

Figure 1 shows the difference in effective tax rates for taxpayers in the higher income range compared to the lowest 20% of households.

Figure 1. Progressivity of Individual Income Taxes by State



Source: Institute on Taxation and Economic Policy, *Who Pays? A Distributional Analysis of the Tax Systems in All 50 states*, November 2009. (Data from Table 5.)

Other Taxes

The other major tax included in the analysis is Virginia's professional and occupational license tax (BPOL). The BPOL is a local business tax that significantly impacts multistate tax comparisons that include Virginia. The BPOL is levied on a taxpayer's gross receipts at rates that vary by industry, but are generally under 1%. The BPOL adds substantially to Virginia's overall ETRs for the financial and professional services industries.

Results: Business Tax Comparison

Table 6 presents estimates of the state and local tax burdens paid by representative businesses expanding in Maryland, North Carolina, Pennsylvania and Virginia. ETRs vary by industry due to differences in the financial characteristics of the firms that determine tax bases and by state due to differences in tax provisions that determine tax liabilities.

- Maryland has the highest effective tax rates for the representative financial services firm and the professional services firm. Maryland's ETRs are 6.05% for financial services and 9.2% for professional services. In other words, Maryland's state and local taxes reduce the before-tax profits of the representative professional services firm by 9.2%.
- Pennsylvania imposes the heaviest tax for the biotech manufacturing firm; Maryland is ranked 3rd.

Table 6. Summary of Effective Business Tax Rates

State	Financial Services		Biotech Manufacturing		Professional Services	
	ETR	Rank	ETR	Rank	ETR	Rank
Maryland	6.05%	1	8.87%	3	9.20%	1
North Carolina	5.11%	3	12.68%	2	8.90%	2
Pennsylvania	4.04%	4	14.69%	1	5.79%	4
Virginia	5.41%	2	7.46%	4	8.25%	3
Four-State Average	5.15%		10.93%		8.03%	

Table 7 shows the total state and local taxes for each representative firm relative to the state with the lowest tax burden in each industry. For example, Maryland's 1.55 index for the representative financial services firm is calculated as Maryland's total state and local tax burden (\$2.477 million) divided by the lowest state's (Pennsylvania) total state and local tax burden (\$1.596 million), as shown in Appendix Table A-1.

Table 7. Total Additional State and Local Taxes, Indexed to Lowest Tax Cost State

State	Financial Services	Biotech Manufacturing	Professional Services
Maryland	1.55	1.19	1.68
North Carolina	1.30	1.71	1.55
Pennsylvania	1.00	1.98	1.00
Virginia	1.38	1.00	1.55

Table 8 compares the ETRs by industry and state for each of the major state and local tax types. The total state and local taxes ETRs indicate the combined burden of state and local business taxes in each location. In addition, the ETR information in Table 8, by tax type and level of government, show the relative size of the different types of business tax burdens for each industry. The results show that:

- Income taxes account for a much larger share of business taxes for financial services and professional services than for biotech manufacturing.
- For biotech manufacturing, property taxes account for the largest share of their total state and local taxes. The property tax calculations include taxes on real property, machinery and equipment (if taxable), and other tangible personal property, such as office furniture and computers.

Table 8. Summary of Effective Business Tax Rates, by Tax Type and State

State	Financial Services		Biotech Manufacturing		Professional Services	
	ETR	Rank	ETR	Rank	ETR	Rank
A. Total State and Local Taxes						
Maryland	6.05%	1	8.87%	3	9.20%	1
North Carolina	5.11%	3	12.68%	2	8.90%	2
Pennsylvania	4.04%	4	14.69%	1	5.79%	4
Virginia	5.41%	2	7.46%	4	8.25%	3
B. State and Local Sales Tax						
Maryland	1.03%	1	0.62%	3	1.79%	2
North Carolina	0.89%	2	1.39%	1	1.95%	1
Pennsylvania	0.85%	3	0.45%	4	1.63%	3
Virginia	0.61%	4	0.90%	2	1.12%	4
C. State and Local Corporate Income / Individual Income Tax (for pass-through entities)						
Maryland	3.79%	1	0.45%	4	6.69%	1
North Carolina	3.18%	2	3.96%	1	6.64%	2
Pennsylvania	1.26%	4	1.57%	2	3.46%	4
Virginia	2.75%	3	0.65%	3	4.79%	3
D. Franchise Tax						
Maryland	0.00%	3	0.00%	3	0.00%	3
North Carolina	0.61%	2	2.27%	2	0.06%	2
Pennsylvania	0.86%	1	2.99%	1	0.10%	1
Virginia	0.00%	3	0.00%	3	0.00%	3
E. Property Tax						
Maryland	1.24%	1	7.81%	2	0.72%	1
North Carolina	0.44%	4	5.06%	3	0.25%	4
Pennsylvania	1.08%	2	9.67%	1	0.59%	2
Virginia	0.60%	3	5.91%	4	0.35%	3
F. Other Local Tax						
Virginia BPOL	1.44%		0.00%		1.99%	

Note: The financial services and biotech manufacturing firms are subject to the corporate income tax, while the professional services firm is subject to the individual income tax through shareholders.

Appendix A
Detailed Tables:
Additional Tax by Industry

The following tables present dollar estimates of the *additional* state and local taxes that are generated by the expansion in each state. There are two tables for each industry. The first table presents the sum of the present discounted values of annual taxes over the 30-year period. A discount rate of 5% is used in calculating the present discounted values.

The second table for each industry presents the sum of the annual additional taxes over the 30-year period without discounting.

Note that the dollar amounts of taxes for each industry are those associated only with the new investment (\$35 million in additional assets for financial services and biotech manufacturing and \$5 million for professional services) in each state. The state and local tax amounts do not include taxes for pre-expansion activities in each location.

**Table A-1. Additional Tax for Financial Services,
30-Year Present Discounted Values**

	Maryland	North Carolina	Pennsylvania	Virginia
State and Local Taxes				
State Taxes	\$1,763,000	\$1,811,000	\$1,162,000	\$1,342,000
Local Taxes	\$715,000	\$257,000	\$434,000	\$867,000
Total State and Local Taxes	\$2,477,000	\$2,068,000	\$1,596,000	\$2,209,000
Rank	1	3	4	2

**Table A-2. Undiscounted Additional Tax for Financial Services,
30-Year Investment**

	Maryland	North Carolina	Pennsylvania	Virginia
State and Local Taxes				
State Taxes	\$4,249,000	\$4,312,000	\$2,700,000	\$3,231,000
Local Taxes	\$1,629,000	\$579,000	\$990,000	\$1,973,000
Total State and Local Taxes	\$5,878,000	\$4,892,000	\$3,690,000	\$5,204,000
Rank	1	3	4	2

**Table A-3. Additional Tax for Biotech Manufacturing,
30-Year Present Discounted Values**

	Maryland	North Carolina	Pennsylvania	Virginia
State and Local Taxes				
State Taxes	\$136,000	\$1,061,000	\$732,000	\$193,000
Local Taxes	\$1,150,000	\$787,000	\$1,398,000	\$885,000
Total State and Local Taxes	\$1,286,000	\$1,848,000	\$2,131,000	\$1,079,000
Rank	3	2	1	4

Table A-4. Undiscounted Additional Tax for Biotech Manufacturing, 30-Year Investment

Biotech Manufacturing	Maryland	North Carolina	Pennsylvania	Virginia
State and Local Taxes				
State Taxes	\$337,000	\$2,690,000	\$1,763,000	\$400,000
Local Taxes	\$2,621,000	\$1,784,000	\$3,187,000	\$2,013,000
Total State and Local Taxes	\$2,958,000	\$4,474,000	\$4,950,000	\$2,413,000
Rank	3	2	1	4

**Table A-5. Additional Tax for Professional Services,
30-Year Present Discounted Values**

	Maryland	North Carolina	Pennsylvania	Virginia
State and Local Taxes				
State Taxes	3,397,000	5,375,000	2,569,000	3,874,000
Local Taxes	2,815,000	341,000	1,119,000	1,826,000
Total State and Local Taxes	6,212,000	5,716,000	3,688,000	5,700,000
Rank	1	2	4	3

Table A-6. Undiscounted Additional Tax for Professional Services, 30-Year Investment

	Maryland	North Carolina	Pennsylvania	Virginia
State and Local Taxes				
State Taxes	7,729,000	12,228,000	5,838,000	8,825,000
Local Taxes	6,417,000	767,000	2,550,000	4,158,000
Total State and Local Taxes	14,146,000	12,996,000	8,388,000	12,983,000
Rank	1	2	4	3

Appendix B

Industries Used in the Business Tax Competitiveness Analysis

The business competitiveness analysis estimates the state and local effective tax rates paid on new investments or expansions in selected states by representative firms in the following three industries selected by the Maryland Chamber of Commerce. The industry descriptions are from the North American Industry Classification System (NAICS). The net income and balance sheet information for the representative firm in each industry comes from the IRS Statistics of Income, Corporation Tax Reports.

Financial Services

The financial services industry representative firm is based on IRS data for the Securities and Commodity Contracts Intermediation and Brokerage industry (5231). Firms in this industry are primarily engaged in putting capital at risk in the process of underwriting securities issues or in making markets for securities and commodities; and those acting as agents and/or brokers between buyers and sellers of securities and commodities, usually charging a commission.

Biotech Manufacturing

The financial data for this representative firm is based on the IRS information reported for the Pharmaceutical and Medicine Manufacturing industry (32541). Firms in this group of industries are primarily engaged in one of the following: (1) manufacturing biological and medicinal products; (2) processing (i.e., grading, grinding, and milling) botanical drugs and herbs; (3) isolating active medicinal principals from botanical drugs and herbs; and (4) manufacturing pharmaceutical products intended for internal and external consumption in such forms as ampoules, tablets, capsules, vials, ointments, powders, solutions, and suspensions.

Professional Services

The financial data for this firm is based on IRS information for the Legal Services NAICS industry (5411).

Appendix C

Tax Modeling Assumptions

The following are key assumptions used to model the state and local taxes paid on the business expansion in each state.

Corporate Income Tax

The pass-through entity is assumed to operate 100% in-state so that 100% of the firm's income is attributable to the state. The C corporation firms are assumed to be multi-state firms with 5% of their sales and 100% of their payroll and property in the state.

Sales Tax

To estimate the total effective state and local sales tax rates in each of the four states, the BCM estimates the state sales tax rate using the state statutory rate and the effective local sales tax rate using state-wide local tax collections to account for the potential variation in local rates within each state. The state-wide local tax rate is calculated using the ratio of local sales tax collections to state sales tax collections as reported in the U.S. Census, *State and Local Government Finances*. This method captures the variation in local sales tax rates and bases among local jurisdictions.

Property Tax

The estimated effective property tax rates are modeled in this analysis using effective commercial and industrial rates for real property, machinery and equipment, and other tangible personal property for each of the four states. The effective tax rates are from the Minnesota Taxpayer Association's *50-State Property Tax Comparison Study, Payable Year 2009* (<http://www.mntax.org/research/property.php>). The MTA study measures the effective property tax rate by multiplying the statutory tax rate for each class of business property by the assessment ratio and by the sales ratio for each location. The property tax information is verified with local property tax offices in each jurisdiction.

The *50-State Property Tax Comparison Study* compares each state using the property tax system in the largest city in each state. In this comparative analysis, E&Y uses the largest city as published by MTA for three states: Baltimore, Maryland, Charlotte, North Carolina, and Philadelphia, Pennsylvania. In Virginia, E&Y selected Richmond as the comparable location rather than Virginia Beach, the largest geographic city in Virginia. E&Y calculated the effective tax rates for the Richmond, Virginia location.