# WHO REALLY BEARS THE BURDEN OF A STATE-LEVEL BUSINESS TAX INCREASE?*

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STATE AND LOCAL GOVERNMENTS ARE TACKLING budget deficits of a magnitude that has not been experienced since World War II. Tax increases will play an important role in addressing their fiscal challenges. A key focal point of the tax policy debate will be the balance of tax increases between households and businesses. While the debate will be framed in terms of the increases in legal liabilities imposed on businesses, the more important policy questions are who ultimately bears the burden of business tax increases and what are their economic effects.

Business taxes are ultimately distributed to households after market prices and outputs adjust to the taxes. This study analyzes the economic incidence of state business tax increases after changes in behavior of workers, investors, and consumers shift the initial legal liabilities to households that bear the final tax burdens in lower real disposable incomes. The study provides state-by-state estimates of the economic incidence of a 10 percent increase in state business taxes in each state, holding taxes in all other states constant. The study estimates the amount and share of a state business tax increase borne by in-state residents through higher prices and lower incomes, along with the amount and share exported to out-of-state residents.

Knowing the economic incidence of business tax changes is important for several reasons. First, the final distribution of business tax increases among in-state consumers, workers, and capital owners will determine the progressivity of business tax increases. This is critical information to know in evaluating the equity or fairness of a state's tax policies. Second, from a longer-run perspective, changes in business taxes affect a state's competitiveness with other states, which in turn affects the level of capital investment, jobs, productivity and real income in a state.

The tax incidence estimates in this study provide state legislators with valuable new information needed to understand and debate the effects of business tax changes on both business competitiveness and the real income or standard of living of their residents.

This study extends the analysis of Cline et al. (2010) by examining the effect of a single state increasing its state taxes only, while all other states hold their taxes constant. More detail of the methodology, data, and an analysis of the economic incidence of existing and incremental state and local taxes can be found in the initial analysis.

## BACKGROUND AND UNIQUE FEATURES OF THE STUDY

Businesses paid almost half a trillion dollars of state and local taxes on their income, capital, and intermediate inputs in 2005 (Cline, Neubig, and Phillips, 2006). Determining the amount of taxes remitted by businesses is a necessary first step in the analysis of the economic effects of taxes on business and on a state's economy. The Ernst & Young 50-State Total State and Local Business Taxes (2006) study, done in conjunction with the Council on State Taxation, was an important first step in analyzing state business taxes. But ultimately consumers, workers, and/or capital owners bear the burden of taxes remitted by business through changes in product and factor prices and levels of outputs and inputs.

This study takes the important next step in analyzing the economic impacts of changes in state and local business taxes by systematically estimating the state-by-state economic incidence of increases in state taxes imposed on business. The study provides a systematic approach to analyze state-by-state business tax changes using a comprehensive tax incidence framework. The study builds on two important prior studies. First, an important advance in analysis of the incidence of state and local taxes is the biennial tax incidence study produced by the Minnesota Department of Revenue (1993).[1] The Minnesota incidence study developed a methodology to distribute state and

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local business tax liabilities between nonresidents and Minnesota resident investors, consumers, workers, and land owners. Second, the EY/COST 50-state total state and local business tax study provides the empirical starting point for analyzing all taxes affecting business across all 50 states.

This study adds a number of unique elements to the combination of the Minnesota incidence analysis and the EY/COST 50-state empirical analysis. These unique elements include analysis of the combined impact of all major state and local business taxes; analysis done on an industry-by-industry basis; analysis of the business markets, whether local or national/global; analysis of origin- and destination-based taxes; and analysis distinguishing between mobile and immobile capital and labor. Additional explanation of why these are important to tax incidence analysis can be found in Cline et al. (2010).

The first step in determining tax incidence is to estimate the amount of taxes considered to be the legal liabilities of business by state and by tax type. These taxes include business property taxes, sales and excise taxes paid by businesses on their purchases, gross receipts taxes, corporate income and franchise taxes, business and corporate license taxes, unemployment payroll taxes, the individual income taxes paid by owners of noncorporate (pass-through) businesses, and other state and local taxes that are the statutory liability of business taxpayers.

Figure 1a illustrates the composition of total state and local business taxes in FY2005. Property taxes on business property were $183 billion in fiscal year 2005, accounting for 37 percent of total state and local business taxes ($497 billion). Sales tax on business inputs and capital equipment totaled $112 billion, more than 22 percent of total business taxes. Corporate income taxes, the focus of most of the analysis-to-date of the incidence of business taxes, only accounts for 8 percent of the total. This study incorporates the entire system of state and local business taxes shown in Figure 1a, but analyzes the incremental effect of a change in only state-level business taxes, shown in Figure 1b.

Property and sales taxes paid by business are the largest state and local business taxes faced by businesses nationwide. It is important to note, however, that the composition of business taxes varies significantly by state. State and local business property taxes range from 13 percent of total state and local business taxes in Delaware to 58 percent in Maine, but as shown in Table 1 at the state level only business property taxes range from zero in a number of states to 40 percent in Vermont of total state revenue. Corporate income taxes range from zero in several states to 33 percent in Alaska of total state revenue.

Origin-based taxes can put in-state producers at a competitive disadvantage compared to producers in lower taxed states. Assuming that a firm is operating in a relatively high origin-based business tax state, the prices the firm charges to both in-state and out-of-state customers would be higher than prices charged by out-of-state firms. This would tend to reduce the market share of in-state firms.

To improve the tax competitiveness of their state and local tax systems, a number of states are shifting their tax system balance toward destination-based taxes. Examples include the 20 states that have adopted single sales factor apportionment formulas for the corporate income tax; state exemptions for business inputs from the sales tax; and Ohio, Texas, and Michigan that have adopted destination-based, modified gross receipts taxes.

Table 2 presents estimates of the split of state business taxes between origin- and destination-based taxes. For the United States as a whole, 75 percent of state business taxes can be classified as origin-based taxes. This information will be helpful in interpreting the tax incidence results presented in later sections. It should be noted, however, that the economic incidence of business taxes, whether origin or destination, depends on the level of a state's taxes relative to those in other states and the markets in which in-state business taxpayers operate (local vs. national or international markets).

## THE ECONOMIC INCIDENCE OF SINGLE STATE BUSINESS TAX INCREASES

The economic incidence analysis presents the effect of one state increasing its business taxes by 10 percent. For each of the 50 states, business tax increases were simulated in a single state holding business taxes constant in every other state. The incidence of incremental taxes can differ significantly from the incidence of total existing taxes, as shown in Cline et al. (2010). In an incremental incidence analysis, mobile capital is able to avoid most of the higher level of state business taxes by moving to lower tax states, and thus a greater share of the incremental tax burden is shifted to in-state consumers of local goods, workers and immobile capital.[2]

*Figure 1A:* **Composition of Total State and Local Business Taxes, FY 2005 ($billions)**

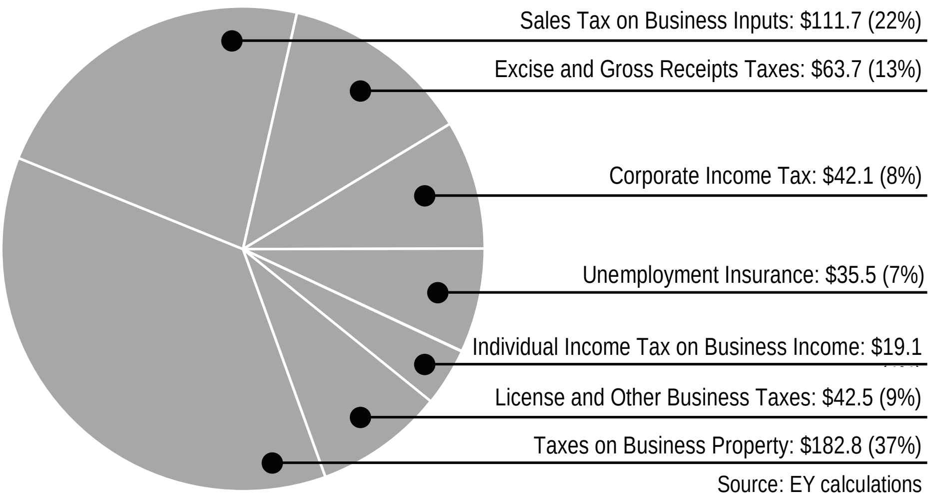


*Figure 1B:* **Composition of Total State Business Taxes, FY 2005 ($billions)**

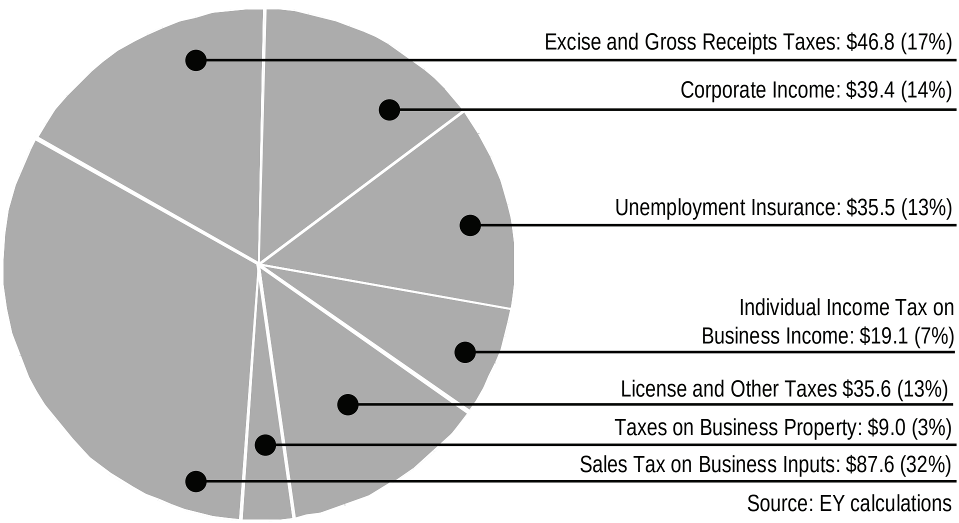

*Table 1*
**Composition of Business Taxes by State, FY2005**

| | *Property Tax* | *Sales Tax* | *Excise and Gross Receipts* | *Corporate Income* | *Unemployment Insurance Tax* | *Individual Income Tax on Pass-Thru Business Income* | *Licenses and Other Taxes* | *Total Business Taxes* |
|---|---|---|---|---|---|---|---|---|
| Alabama | 5.1% | 21.0% | 36.1% | 11.3% | 9.1% | 4.9% | 12.5% | 100.0% |
| Alaska | 2.4% | 0.0% | 4.2% | 32.9% | 8.1% | 0.0% | 52.4% | 100.0% |
| Arizona | 8.0% | 48.5% | 13.5% | 16.1% | 5.7% | 4.7% | 3.5% | 100.0% |
| Arkansas | 19.7% | 33.5% | 12.6% | 10.1% | 12.0% | 7.6% | 4.5% | 100.0% |
| California | 5.3% | 27.6% | 12.5% | 21.1% | 12.7% | 9.8% | 10.9% | 100.0% |
| Colorado | 0.0% | 34.2% | 14.1% | 11.0% | 16.5% | 15.5% | 8.8% | 100.0% |
| Connecticut | 0.0% | 38.6% | 16.8% | 13.7% | 15.4% | 11.1% | 4.5% | 100.0% |
| Delaware | 0.0% | 0.0% | 11.8% | 15.6% | 4.9% | 4.0% | 63.6% | 100.0% |
| Florida | 0.9% | 43.1% | 29.6% | 11.3% | 7.4% | 0.0% | 7.7% | 100.0% |
| Georgia | 1.2% | 43.1% | 11.2% | 12.1% | 13.9% | 11.8% | 6.8% | 100.0% |
| Hawaii | 0.0% | 48.0% | 22.5% | 9.9% | 9.3% | 6.0% | 4.3% | 100.0% |
| Idaho | 0.0% | 35.1% | 14.9% | 12.4% | 13.9% | 10.8% | 12.9% | 100.0% |
| Illinois | 0.4% | 23.2% | 23.6% | 19.0% | 18.8% | 4.6% | 10.4% | 100.0% |
| Indiana | 0.2% | 41.2% | 12.4% | 21.1% | 14.5% | 7.6% | 2.9% | 100.0% |
| Iowa | 0.0% | 32.8% | 16.1% | 10.5% | 15.5% | 9.8% | 15.3% | 100.0% |
| Kansas | 2.8% | 41.2% | 12.9% | 8.8% | 15.6% | 7.6% | 11.1% | 100.0% |
| Kentucky | 7.3% | 31.9% | 15.3% | 12.6% | 9.4% | 7.2% | 16.3% | 100.0% |
| Louisiana | 1.0% | 38.2% | 16.0% | 9.2% | 4.4% | 5.4% | 25.7% | 100.0% |
| Maine | 4.5% | 35.7% | 17.6% | 14.1% | 9.6% | 9.8% | 8.8% | 100.0% |
| Maryland | 10.3% | 22.6% | 21.5% | 17.0% | 10.7% | 10.1% | 8.0% | 100.0% |
| Massachusetts | 0.0% | 23.7% | 11.2% | 22.9% | 26.0% | 10.6% | 5.7% | 100.0% |
| Michigan | 14.2% | 27.8% | 6.1% | 18.5% | 17.0% | 4.8% | 11.6% | 100.0% |
| Minnesota | 9.9% | 29.2% | 18.0% | 15.0% | 13.3% | 6.1% | 8.5% | 100.0% |
| Mississippi | 2.1% | 44.9% | 15.4% | 17.2% | 6.9% | 4.5% | 9.1% | 100.0% |
| Missouri | 0.7% | 40.2% | 17.9% | 7.8% | 13.6% | 9.0% | 11.0% | 100.0% |
| Montana | 18.1% | 0.0% | 25.5% | 14.2% | 10.9% | 11.2% | 20.1% | 100.0% |
| Nebraska | 0.2% | 49.2% | 10.4% | 13.5% | 9.1% | 10.0% | 7.6% | 100.0% |
| Nevada | 6.0% | 43.2% | 14.1% | 0.0% | 11.9% | 0.0% | 24.8% | 100.0% |
| New Hampshire | 16.4% | 0.0% | 26.9% | 35.2% | 6.9% | 0.4% | 14.3% | 100.0% |
| New Jersey | 0.0% | 25.2% | 17.5% | 24.8% | 16.5% | 6.3% | 9.7% | 100.0% |
| New Mexico | 1.8% | 37.0% | 10.5% | 9.0% | 3.6% | 3.4% | 34.8% | 100.0% |
| New York | 0.0% | 32.3% | 14.8% | 18.0% | 14.6% | 17.5% | 2.9% | 100.0% |
| North Carolina | 0.0% | 25.5% | 22.2% | 18.2% | 15.9% | 8.2% | 9.9% | 100.0% |
| North Dakota | 0.2% | 18.1% | 18.9% | 9.9% | 7.6% | 4.0% | 41.4% | 100.0% |
| Ohio | 0.4% | 34.5% | 15.9% | 11.0% | 10.2% | 7.5% | 20.5% | 100.0% |
| Oklahoma | 0.0% | 28.5% | 11.3% | 6.3% | 9.5% | 10.8% | 33.5% | 100.0% |
| Oregon | 1.2% | 0.0% | 10.1% | 17.8% | 37.6% | 18.6% | 14.8% | 100.0% |
| Pennsylvania | 0.2% | 24.0% | 19.8% | 13.7% | 20.0% | 6.2% | 16.1% | 100.0% |
| Rhode Island | 0.2% | 37.5% | 23.2% | 10.9% | 17.3% | 6.1% | 5.0% | 100.0% |
| South Carolina | 0.4% | 41.5% | 16.8% | 10.6% | 12.3% | 7.4% | 11.0% | 100.0% |
| South Dakota | 0.0% | 52.3% | 21.1% | 7.9% | 2.9% | 0.0% | 15.9% | 100.0% |
| Tennessee | 0.0% | 41.8% | 14.1% | 15.9% | 9.3% | 0.3% | 18.6% | 100.0% |
| Texas | 0.0% | 41.7% | 22.6% | 0.0% | 8.3% | 0.0% | 27.3% | 100.0% |
| Utah | 0.0% | 37.3% | 18.5% | 12.3% | 12.3% | 10.8% | 8.8% | 100.0% |
| Vermont | 39.5% | 15.4% | 20.4% | 8.6% | 6.6% | 4.9% | 4.6% | 100.0% |
| Virginia | 0.4% | 25.5% | 27.0% | 13.8% | 12.0% | 11.2% | 10.2% | 100.0% |
| Washington | 8.2% | 56.1% | 13.9% | 0.0% | 16.5% | 0.0% | 5.3% | 100.0% |
| West Virginia | 0.2% | 17.5% | 32.7% | 16.0% | 7.9% | 4.4% | 21.3% | 100.0% |
| Wisconsin | 2.0% | 32.3% | 15.9% | 17.6% | 13.0% | 7.0% | 12.2% | 100.0% |
| Wyoming | 10.6% | 20.7% | 3.5% | 0.0% | 2.5% | 0.0% | 62.8% | 100.0% |
| Dist. of Columbia | 37.3% | 14.9% | 14.2% | 9.5% | 5.6% | 8.4% | 10.0% | 100.0% |
| United States | 3.3% | 32.1% | 17.1% | 14.4% | 13.0% | 7.0% | 13.0% | 100.0% |

*Table 2*
**Origin and Destination State Business Tax Shares by State, FY2005**

| *State* | *Origin* | *Destination* |
|---|---|---|
| Alabama | 74.8% | 25.2% |
| Alaska | 73.6% | 26.4% |
| Arizona | 77.3% | 22.7% |
| Arkansas | 81.1% | 18.9% |
| California | 73.8% | 26.2% |
| Colorado | 74.7% | 25.3% |
| Connecticut | 75.4% | 24.6% |
| Delaware | 50.6% | 49.4% |
| Florida | 82.5% | 17.5% |
| Georgia | 77.6% | 22.4% |
| Hawaii | 78.6% | 21.4% |
| Idaho | 75.8% | 24.2% |
| Illinois | 73.6% | 26.4% |
| Indiana | 72.0% | 28.0% |
| Iowa | 73.4% | 26.6% |
| Kansas | 79.0% | 21.0% |
| Kentucky | 72.9% | 27.1% |
| Louisiana | 75.3% | 24.7% |
| Maine | 73.0% | 27.0% |
| Maryland | 67.9% | 32.1% |
| Massachusetts | 62.7% | 37.3% |
| Michigan | 79.8% | 20.2% |
| Minnesota | 71.6% | 28.4% |
| Mississippi | 74.6% | 25.4% |
| Missouri | 73.3% | 26.7% |
| Montana | 68.4% | 31.6% |
| Nebraska | 81.2% | 18.8% |
| Nevada | 85.4% | 14.6% |
| New Hampshire | 58.8% | 41.2% |
| New Jersey | 69.6% | 30.4% |
| New Mexico | 86.2% | 13.8% |
| New York | 69.8% | 30.2% |
| North Carolina | 63.4% | 36.6% |
| North Dakota | 81.4% | 18.6% |
| Ohio | 73.6% | 26.4% |
| Oklahoma | 83.9% | 16.1% |
| Oregon | 59.9% | 40.1% |
| Pennsylvania | 71.8% | 28.2% |
| Rhode Island | 76.3% | 23.7% |
| South Carolina | 76.6% | 23.4% |
| South Dakota | 78.3% | 21.7% |
| Tennessee | 70.0% | 30.0% |
| Texas | 78.1% | 21.9% |
| Utah | 73.6% | 26.4% |
| Vermont | 77.3% | 22.7% |
| Virginia | 64.5% | 35.5% |
| Washington | 91.3% | 8.7% |
| West Virginia | 70.1% | 29.9% |
| Wisconsin | 78.3% | 21.7% |
| Wyoming | 97.2% | 2.8% |
| Dist. of Columbia | 87.2% | 12.8% |
| **United States** | **74.9%** | **25.1%** |

Table 3 presents the shares of the 10 percent state business tax increases (holding business taxes in all other states constant) borne by in-state residents and exported to other states. The analysis shows that 29 percent of an incremental state business tax increase is borne by in-state labor in the form of lower wages. Capital bears 29 percent of an incremental state business tax increase: 1 percent by in-state capital owners and 28 percent by out-of-state capital owners. The remaining 42 percent of an incremental state business tax increase is shifted to consumers in the form of higher prices: (47 percent to in-state consumers and 8 percent to non-resident consumers). The next-to-last column shows that, from the perspective of a state's residents, on average, 24 percent of an incremental business tax burden is exported to residents of other states, primarily through lower returns to capital owned by nonresidents.

Table 3 shows in the second and third columns that the largest share of the business tax increase is borne by residents through higher prices (42 percent of the tax increase) or lower payments to labor (29 percent of the tax increase). In other words, 71 percent of the business tax increase is borne by state residents. In sharp contrast, only 1 percent of the business increase is borne by in-state owners of capital, on average, if a single state increases its business taxes while other states' business taxes remain unchanged.

Key findings from the analysis include:

- The ultimate burden of state business taxes ("economic incidence") falls on households in their role of consumers, workers, and capital owners. The ultimate burden of state business taxes depends on the specific business taxes, the specific industries in a state, and the overall business taxes on an industry in a state relative to the national average.
- The economic incidence of state business taxes falls more heavily on capital owners when analyzing existing taxes, compared to analyzing incremental tax policy changes. Capital owners bear an estimated 47 percent of existing state *and* local business taxes, but would only bear 17 percent of an incremental state and local business tax increase in a single state. This study finds that capital owners bear 29 percent of incremental state-only business tax increases, on average.

*Table 3*
**Economic Incidence of Single State Business Tax Increases**

| | *Shifted to Resident Labor and Consumers* | | | | | |
|---|---|---|---|---|---|---|
| *Business Taxes* | *Shifted Forward in Prices* | *Shifted Back to Labor* | *Total Shifted to Labor & Prices* | *Shifted Back to Resident Capital* | *Exported to Non-residents* | *Total Marginal Tax* |
| Alabama | 42% | 31% | 74% | 0% | 26% | 100% |
| Alaska | 16% | 15% | 32% | 0% | 68% | 100% |
| Arizona | 48% | 26% | 74% | 1% | 25% | 100% |
| Arkansas | 47% | 30% | 76% | 0% | 24% | 100% |
| California | 42% | 34% | 76% | 3% | 20% | 100% |
| Colorado | 52% | 27% | 79% | 1% | 21% | 100% |
| Delaware | 48% | 25% | 72% | 0% | 27% | 100% |
| Connecticut | 20% | 30% | 50% | 0% | 50% | 100% |
| Florida | 56% | 25% | 80% | 2% | 18% | 100% |
| Georgia | 49% | 29% | 78% | 1% | 22% | 100% |
| Hawaii | 63% | 26% | 88% | 0% | 12% | 100% |
| Idaho | 44% | 27% | 71% | 0% | 29% | 100% |
| Illinois | 45% | 24% | 68% | 1% | 31% | 100% |
| Indiana | 43% | 31% | 74% | 0% | 25% | 100% |
| Iowa | 44% | 24% | 68% | 0% | 32% | 100% |
| Kansas | 46% | 27% | 73% | 0% | 26% | 100% |
| Kentucky | 37% | 33% | 70% | 0% | 30% | 100% |
| Louisiana | 24% | 25% | 49% | 0% | 52% | 100% |
| Maine | 56% | 26% | 82% | 0% | 18% | 100% |
| Maryland | 56% | 22% | 79% | 0% | 21% | 100% |
| Massachusetts | 44% | 27% | 71% | 0% | 29% | 100% |
| Michigan | 44% | 24% | 69% | 0% | 31% | 100% |
| Minnesota | 49% | 25% | 74% | 0% | 26% | 100% |
| Mississippi | 46% | 29% | 75% | 0% | 25% | 100% |
| Missouri | 50% | 28% | 77% | 0% | 22% | 100% |
| Montana | 26% | 25% | 51% | 0% | 48% | 100% |
| Nebraska | 44% | 30% | 74% | 0% | 26% | 100% |
| Nevada | 56% | 24% | 79% | 0% | 21% | 100% |
| New Hampshire | 43% | 26% | 69% | 0% | 31% | 100% |
| New Jersey | 49% | 29% | 78% | 1% | 22% | 100% |
| New Mexico | 24% | 19% | 42% | 1% | 57% | 100% |
| New York | 39% | 33% | 72% | 2% | 26% | 100% |
| North Carolina | 40% | 31% | 72% | 1% | 28% | 100% |
| North Dakota | 25% | 25% | 50% | 0% | 50% | 100% |
| Ohio | 46% | 30% | 76% | 1% | 23% | 100% |
| Oklahoma | 30% | 24% | 54% | 1% | 45% | 100% |
| Oregon | 37% | 19% | 56% | 0% | 44% | 100% |
| Pennsylvania | 44% | 29% | 73% | 1% | 26% | 100% |
| Rhode Island | 50% | 30% | 80% | 0% | 20% | 100% |
| South Carolina | 52% | 27% | 79% | 0% | 21% | 100% |
| South Dakota | 38% | 31% | 69% | 0% | 31% | 100% |
| Tennessee | 50% | 31% | 81% | 0% | 19% | 100% |
| Texas | 30% | 27% | 58% | 3% | 39% | 100% |
| Utah | 45% | 27% | 72% | 0% | 28% | 100% |
| Vermont | 54% | 24% | 78% | 0% | 22% | 100% |
| Virginia | 50% | 25% | 75% | 1% | 24% | 100% |
| Washington | 51% | 32% | 83% | 1% | 16% | 100% |
| West Virginia | 33% | 30% | 63% | 0% | 37% | 100% |
| Wisconsin | 45% | 32% | 76% | 0% | 23% | 100% |
| Wyoming | 7% | 23% | 30% | 0% | 70% | 100% |
| District of Columbia | 55% | 25% | 80% | 0% | 20% | 100% |
| United States | 42% | 29% | 71% | 1% | 28% | 100% |

- Capital owners' share of state business tax increases ranges from a high of two-thirds in states with substantial reliance on oil, gas, coal, and mining to a low of 12 percent in Hawaii. Capital owners' share of one state's business tax increase is relatively low because mobile capital can move between states to avoid above-average tax liabilities. This metric, capital owners' share of a state business tax increase, is an important measure of the relative competitiveness of a state's business tax system. But it is quite sensitive to a state's industry composition.
- Resident consumers' and workers' share of a state's business tax increase ranges from 30 percent in Wyoming to 88 percent in Hawaii. The finding that a state business tax increase would reduce the real disposable income of the state's residents (through lower wages, lower capital returns and higher consumer prices) by 72 percent on average is consistent with new research on the economic incidence of national corporate income taxes in an increasingly global economy.
- On average, 28 percent of a state business tax increase is "exported" to nonresidents. A portion of a state business tax increase would be shifted to nonresident consumers in higher prices for goods sold in national markets and to nonresident capital owners in the form of reduced profits. In both cases, the higher prices and reduced profits have economic effects that result in less investment and employment in the state.
- Because such a large portion of the business tax increase will be borne by in-state residents in most states, legislators should evaluate business tax increases in the same way that increases in personal income taxes and sales and excise tax increases are evaluated. The converse is also true. Legislators should consider the positive impact that reductions in relative business taxes can have in terms of higher payments to in-state labor and lower prices for their constituents' goods and services.

The results of this study indicate that taxes imposed initially on business are primarily borne by residents in higher prices or reduced wages and jobs, with only a modest share exported to taxpayers in other states (other than in extractive states) or shifted to capital owners. This result reflects the growing reality of increased business tax competitiveness and capital mobility both nationally and internationally.

## Notes

[1] This study was the first incidence study to develop detailed, industry-by-industry estimates of the shifting of business taxes based on the economic characteristics of an industry and the relationship between state-local and national business tax rates. A more recent study was released in 2009 (Minnesota Department of Revenue, 2009).

[2] A single state incremental analysis would theoretically include an offset for the deductibility of state taxes on federal income taxes paid, thereby increasing the degree of tax exporting. This adjustment is not included in these estimates. This offset is normally excluded from an average analysis as explained in Cline et al. (2010).

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