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The Economic Incidence of Additional State Business Taxes

by Robert Cline, Andrew Phillips, Joo Mi Kim, and Tom Neubig

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Executive Summary

State and local governments are tackling budget deficits of a magnitude that has not been experienced since World War II. Tax increases, both permanent and temporary, will play an important role in addressing their fiscal challenges. A 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 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.

This study provides state-by-state estimates of the economic incidence of a 10 percent increase in business taxes in each state, holding taxes in all other states constant. Combining detailed state-by-state information on total state and local taxes that are the legal liability of business with an economic incidence model that reflects each state's economy, this study estimates the amount and share of the 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. That 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 final distribution of business tax increases among in-state consumers, workers, and capital owners will determine the progressivity of business tax increases.

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. The results are summarized in several metrics: the share of a state's business tax increase that falls on capital and the share of state's business tax increase that falls on the state's residents in their role as consumers, workers, or capital owners, plus the share that falls on nonresidents. The analysis examines the final distribution of a 10 percent increase in all business taxes by each of the 50 states, holding taxes in other states unchanged, based on the 2005 level and composition of state business taxes.

Below are some of the critical findings from the analysis:

- The ultimate burden of state business taxes (economic incidence) falls on households in

their role of consumers, workers, and capital owners. That burden depends on the specific business taxes, the specific industries in a state, and the overall business taxes on an industry in a state compared with the national average.

- The economic incidence of state business taxes falls more heavily on capital owners when analyzing existing taxes, compared with analyzing incremental tax policy changes. Capital owners bear an estimated 47 percent of existing state business taxes, but would bear only 17 of an incremental (10 percent) business tax increase by a single state.
- Capital owners' share of business tax increases ranges from a high of over 60 percent in states with substantial reliance on oil, gas, coal, and mining to a low of 9 percent in Hawaii. That 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 sensitive to the state's industry composition.
- 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. Thus, the analysis finds, on average, 75 percent of a state's unilateral business tax increase would be borne by its households through higher consumer prices or lower wages.
- Resident consumers' and workers' shares of a state's business tax increase ranges from 37 percent in Wyoming to 86 percent in Hawaii. The finding that a state business tax increase would reduce the real disposable income of the state's residents by 75 percent on average is consistent with new research on the economic incidence of national corporate income taxes in an increasingly global economy.
- On average, 24 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 manner 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. That result reflects the growing reality of increased business tax competitiveness and capital mobility both nationally and internationally.

I. Introduction

Businesses paid almost half a trillion dollars of state and local taxes on their income, capital, and intermediate inputs in 2005.[1] 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 (E&Y) "50-State Total State and Local Business Taxes" study, done in conjunction with the Council On State Taxation, was an important first step in analyzing state business taxes. But consumers, workers, and capital owners ultimately 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 effects of changes in state and local business taxes by estimating the state-by-state economic incidence of increases in taxes imposed on business. The analysis assumes a uniform 10 percent increase in a state's business taxes.

This study answers the question: How are business tax increases distributed to consumers, investors, and workers in a state? Answering that question requires an economic incidence analysis of state and local business taxes. The results of this analysis are presented for each state. The distribution of a state's business tax increase is presented for in-state consumers, in-state workers, in-state capital owners, and nonresident households.

State and local governments operate in an open economy within the United States and, increasingly, globally. Increased competition has increased pressure on U.S. companies to review their state and local tax costs compared with the services provided directly to business in different jurisdictions.[2] State and local governments compete to attract economic

[1]Robert Cline, Tom Neubig, and Andrew Phillips, "Total State and Local Business Taxes: Nationally 1980-2005, by State 2002-2005, and by Industry 2005," *State Tax Notes*, May 1, 2006, p. 373, *Doc 2006-6874*, or *2006 STT 83-1*.

[2]*See* a measure of business taxes compared with business's "benefits from government services" in the 2008 E&Y/COST 50-state study.

development for their citizens by courting companies considering new capital investments in plant and equipment and expanded employment.[3] Many studies have attempted to rank the relative tax climate of different states using alternative approaches. This study provides new measures for ranking states in terms of economic effects of states' business tax increases. The measures include state business taxes on capital, in addition to measures of the economic incidence of state business taxes on in-state consumers, workers, and capital owners, plus nonresident households.

This study presents new economic incidence analysis that measures the burden of a marginal change in a state's business taxation on capital invested in a state and on the real income of residents of a state.[4] The analysis provides important new information for the tax policy debate over changes in state and local business taxes. This information moves the debate beyond the question: Are businesses paying their fair share of taxes? to this broader and more important tax policy question: How are state residents affected in the long run by increases or decreases in business taxes? It is this second question that focuses on the effect of business tax changes on the welfare of state residents and allows legislators to compare the effects of changes in business and household taxes on their resident households.

How are state residents affected in the long run by increases or decreases in business taxes?

The report is divided into six additional sections. Part II identifies the unique features of this economic incidence analysis and the framework used to think about the incidence of state and local business taxes. Part III summarizes the literature on state and local business taxes and tax incidence and relates this report's approach to previous studies. Part IV discusses the data sources used in the analysis and critical issues in estimating state business tax incidence. Part V describes the method used to estimate the incidence of changes in state and local business taxes. Part VI presents the results of the economic incidence analysis for all existing state and local business taxes and an incremental tax policy change in which a single state increases all its business taxes by 10 percent. The section also discusses the estimated effect of a state business tax increase on capital invested in the state, as well as on its residents in the form of lower wages and higher prices of goods and services. The final section concludes with some tax policy implications of the findings.

II. Unique Features of the Study

This study's analysis of the state-by-state economic incidence of business tax increases is an important extension of the state tax policy economics literature. This is not an easy assignment. It involves identifying the initial legal tax liability by industry for all business taxes and tracking the liability through all the resulting changes in economic behavior that produces changes in input and output prices, the final determinant of "who bears the tax burden." As noted by Charles E. McLure Jr.: "Assessing who bears the ultimate burden of taxes that initially hit business is much trickier than most think, and that includes most economists."[5] This 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.[6] The Minnesota incidence study developed a method to distribute state and local business tax liabilities between nonresidents and Minnesota resident investors, consumers, workers, and landowners. Second, the E&Y/COST 50-state total state and local business tax study provides the empirical starting point for analyzing all taxes affecting business across the 50 states.

This study adds a number of unique elements to the combination of the Minnesota incidence analysis and the E&Y/COST 50-state empirical analysis. Those unique elements include:

[3]*See* E&Y, *2008 U.S. Investment Monitor*, for estimates of the distribution by state of new capital investment and associated jobs.

[4]The economic incidence analysis estimates the distribution of the additional business taxes generated by a 10 percent increase in business taxes. The analysis does not include an estimate of the "deadweight loss" in consumer and producer surplus caused by the distorting effects of state and local business taxes.

[5]Charles E. McLure Jr., "How — and How Not — to Tax Business," *State Tax Notes,* Apr. 4, 2005, p. 29, *Doc 2005-5167* or *2005 STT 63-3*.

[6]Minnesota Department of Revenue, *1993 Minnesota Tax Incidence Study* (Nov. 1993). 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. The overall structure of the Minnesota study, however, built on that developed in the "Wisconsin Tax Burden Study" (December 1979), prepared by the Wisconsin DOR. The Wisconsin study was the first published state incidence study to link computer files for income taxpayers, homestead property tax credits, and Medicaid program payments.

- *Analyzes all major state and local business taxes.* This study includes more than just corporate income taxes. It takes a comprehensive view of business taxation, including property taxes, sales and use taxes on business purchases, income and franchise taxes, and selected excise taxes.[7] The study provides a uniform method of measuring the economic incidence of total business taxes for each state by treating all business taxes as a cost of production. That provides a mechanism of aggregating the effect of taxes on capital (property taxes and corporate income taxes, for example) and on intermediate inputs, such as sales taxes on business input purchases and unemployment taxes on wages.
- *Incidence analysis is done on an industry-by-industry basis.* The method used in the incidence analysis recognizes that the economic impact of business taxes is determined by *relative taxes*, not the absolute amount of business taxes. What matters in determining the final incidence of state and local business taxes is a state's effective business tax rate compared with tax rates on similar activities in other states. Because state and local taxes vary significantly by industry, the incidence analysis is done industry-by-industry for each state.
- *Incidence of business taxes depends on the business' market: local vs. national/global.* A crucial factor in determining how business taxes are distributed among in-state consumers, investors, workers, and nonresidents is the market setting in which businesses operate. If a business sells goods and services in local markets, business taxes are likely to be passed along through higher prices with little effect on incomes of investors and employees. In contrast, if businesses sell in national or international markets where they have little influence over prices, labor and nonmobile capital are more likely to bear comparatively high business taxes through lower-factor incomes.

  This study distinguishes between goods and services that are traded in competitive national, regional, or international markets (tradable or exportable) and goods and services that are traded in local markets (nontradable or local). The distinction recognizes that price changes are integral to the adjustment process that determines the economic incidence of state and local business taxes. For example, sales taxes paid on business input purchases may have economic effects that are similar to those of gross receipts taxes imposed on business entities if they are both passed on through higher prices charged by the business.
- *Tax distribution differs by type of tax.* Different business taxes have unique incidence effects since they are not uniform across industries and because origin and destination taxes have different incidence effects. For example, origin taxes (such as local property taxes) imposed on businesses will affect companies' location decisions for headquarters and other facilities. Destination taxes (sales and use taxes, for example) are unlikely to affect the location decision of companies if all taxpayers are subject to the same level of taxes and the taxes can be passed along in higher prices to consumers. The distinction between origin and destination taxes is addressed in this study through the different incidence assumptions for local and national markets.
- *Analysis distinguishes between mobile and immobile capital and labor*. Fundamentally, the final distribution of state and local business tax burdens depends on the degree to which productive inputs, capital, and labor are mobile or immobile across states. The analysis recognizes that distinction. The degree of mobility in part depends on the time horizon used in the incidence analysis. For example, machinery and equipment investments are assumed to be mobile over the time period most policymakers are considering, while buildings, land, and labor are relatively immobile. That distinction is important in analyzing the expected incidence of business taxes when a state increases business taxes relative to the level of business taxes in other states.
- *Analysis compares states in terms of effects of marginal tax changes, not just current tax levels.* There is an important and substantial difference between the distribution of a state's current level of business taxes and the distribution of an increase in a state's business taxes, assuming no change in business taxes in other states. Determining the incidence of current taxes can be thought of as an exercise that assumes that all states imposed their current business tax systems simultaneously and that firms and households have had time to fully adjust to differences in business taxes across states. However, the incidence of tax increases in a single state can be quite different, with more of the increase borne by relatively immobile inputs (labor and land) and less of the tax increase exported outside of the state. This analysis focuses on the marginal incidence of state business taxes.

[7]Unemployment insurance taxes and personal income taxes imposed on business income are not included in this incidence analysis. Insurance premium and utility gross receipts taxes resulting from sales to households are considered household taxes in this analysis.

III. Previous Studies of State and Local Business Taxes

State and local business taxes have always been identified as important issues for state and local business competitiveness. With increased national and global competition, more companies are viewing state and local business taxes as a significant cost that they have to weigh when determining their investment and employment location decisions. Several studies have ranked states by various measures of business taxation, including ratios of taxes to different measures of economic activity, effective tax rates on representative taxpayers, and statutory tax features.

Aggregate tax ratios. The simplest approach to ranking states is by ratios of taxes to an aggregate measure of state economic activities and factors, such as personal income. For example, studies have ranked states in terms of corporate income or property taxes as a percentage of state personal income. Important limitations in this approach include a focus on only a limited number of business taxes and the use of economic measures that do not reflect tax bases. Also, ratios of corporate income or property taxes to state personal income measures average historical tax rates on prior investments, rather than an effective tax rate on the return to prospective investments or new economic activity.

Representative firm approach. Robert Tannenwald evaluated the business tax climates of 22 states using a representative firm approach.[8] The representative firm approach calculates after-tax rates of returns on a new (marginal) facility when located in different states. The analysis assumes that a firm's pretax rate of return, asset mix, capital-to-labor ratio, and nontax costs are identical at all sites. The analysis takes into account state corporate income taxes, property taxes, sales taxes and unemployment insurance taxes. Tannenwald uses a five-industry average for the interstate comparison, based on five manufacturing industries with a significant presence in Massachusetts.

While the representative firm modeling approach focuses on the effect of state and local business taxes on the after-tax rate of return on new, marginal investments in a state, the results are sensitive to the particular industries and parameters chosen for the representative firm, and they may not capture all the elements of different state tax systems. By selecting manufacturing industries as the only ones included in the index, Tannenwald's analysis focuses on potentially mobile capital; however, the results cannot be extrapolated beyond some manufacturing industries to provide a statewide estimate of the effect of all state and local business taxes.

Tax rankings based on statutory tax features. Previous business competitiveness studies have used statutory corporate tax rates and other tax features to rank states. That approach involves somewhat arbitrary weighting of tax features, as well as limits on the types of business taxes included. Interstate comparisons of statutory corporate income tax rates don't account for most taxes businesses pay, since state corporate income taxes are less than 10 percent of total state and local business taxes.[9] Statutory tax rates also don't reflect differences in the definition of taxable profits or the importance of business tax credits.

As an example of that approach, the state business tax rankings published by the Tax Foundation develop tax indexes based primarily on a number of business tax characteristics, such as statutory tax rates. The weighting of the index components is somewhat arbitrary and is heavily weighted to states without an income or sales tax. That approach does not take account of the relative importance of various types of business taxes in the total taxes paid by business. For instance, the property tax, which is the largest state and local business tax, is given a relatively low weight in the index, although it accounts for over one-third of state and local business taxes.[10]

Economic incidence analysis. An important advance in analysis of the incidence of state and local taxes is the method used in the biennial tax incidence study produced by the Minnesota DOR. The Minnesota incidence study developed a method to distribute state and local business tax liabilities between nonresidents and Minnesota resident investors, consumers, workers, and landowners. The method used in this study follows the general method used by the DOR to estimate the incidence of Minnesota's state and local business taxes.

Although the Minnesota method has been used to estimate the incidence of state taxes in several other states, it has not been applied uniformly across all 50 states.[11] The Minnesota method that has been used in recent studies focuses on existing business taxes with limited analysis of the incidence of changes in business taxes. The marginal incidence analysis presented in recent Minnesota studies finds that a change in only one state's taxes would result

[8]Robert Tannenwald, "State Business Tax Climate: How Should It Be Measured and How Important Is It?" *New England Economic Review* (Jan./Feb. 1996).

[9]E&Y/COST, *supra* note 2.

[10]*See, for example*, Kail M. Padgitt, "2010 State Business Tax Climate Index," Tax Foundation Background Paper No. 59, Sept. 2009.

[11]A more recent study prepared by the Wisconsin DOR, "Wisconsin Tax Incidence Study" (December 2004), incorporated the Minnesota method in determining the "plausible" business tax shifting assumptions.

in more business taxes being shifted to in-state consumers and workers than found in the analysis of existing Minnesota business taxes.

George Zodrow has analyzed the incidence effects of the property tax, comparing the three alternative views of its incidence.[12] Zodrow's "new view" of the property tax treats the average national property tax rate as a tax on capital, with differences from the national average as excise tax or subsidy effects borne by local landowners, local labor, and consumers of locally produced goods. The new view approach is consistent with the Minnesota incidence analysis, and similar to the analysis in this study, except this analysis's perspective is business taxes on production versus the traditional perspective of business taxes on capital.

Total state and local business taxes. E&Y for the past nine years has studied total state and local business taxes in conjunction with COST. The study has identified taxes that are the liabilities of business, which is a starting point for this business tax incidence analysis.[13] The study does not include retail sales taxes, but does include sales and use tax falling on business capital and intermediate inputs. An estimated 43 percent of total state and local sales taxes fall on business purchases of capital and intermediate inputs.[14] The study also includes unique estimates of total business property taxes.[15]

The academic incidence literature has focused on federal or state corporate income taxes and property taxes. With the continued increased use of more heavily weighted sales apportionment formulas, the state corporate income tax is increasingly moving toward a destination-based tax, without location distortion effects. Also, three states — Ohio, Texas, and Michigan — have replaced their existing business taxes with an alternative form of business taxation that is not based on net income.

This study estimates the economic incidence of all state and local business taxes, not just the corporate income tax. The method used in this study provides a way of aggregating across different business taxes to determine overall effective business tax rates that affect business investment decisions. The after-tax return from a business expansion will be affected by the level of all state and local business taxes that change as a result of the expansion. Thus, businesses will consider all business taxes when choosing among states on where to make an investment. In addition, because capital is not used in isolation, taxes on labor inputs and other intermediate production are considered in businesses' location decisions of their entire operations, including capital investment.

Multijurisdictional economic incidence analyses. An increasing number of studies examining the economic incidence of corporate income taxes in an international setting find that the corporate income tax in a single country is borne more by labor than capital.[16] That result occurs when capital is mobile among countries and prices are determined internationally. In this case, above-average corporate income taxes cannot be passed back to capital because capital can escape the tax by moving to other countries, and the tax cannot be passed along in higher prices because prices are set in international markets. As a result, the tax is shifted backward to relatively fixed labor, which is less mobile among countries, and fixed land. As pointed out in a Congressional Budget Office staff analysis, countries may be reducing their corporate tax rates as capital mobility across countries has increased, and a greater share of the corporate tax burden is shifted to domestic labor.[17]

Two recent analyses by Felix and Carroll report similar findings from the perspective of state corporate income taxes.[18] The two authors find that increased capital mobility is shifting the incidence or economic burden of state corporate income taxes from capital to consumers and labor. That conclusion was based on regression equations designed to measure the relationship between individual wage rates for a sample of workers and differences in corporate tax rates over time and across states. The results suggest that the negative impact of corporate

[12]George Zodrow, "The Property Tax as a Capital Tax: A Room With Three Views," *National Tax Journal*, vol. 54, no. 1, Mar. 2001.

[13]Cline, Neubig, and Phillips, *supra* note 1. The latest version of the 50-state business tax study for fiscal 2008 was published in January 2009. The data from the earlier study are used in the incidence analysis reported in this report.

[14]Robert Cline, John Mikesell, Tom Neubig, and Andrew Phillips, "Sales Taxation of Business Inputs: Existing Tax Distortions and the Consequences of Extending the Sales Tax to Business Services," *State Tax Notes*, Feb. 14, 2005, p. 457, *Doc 2005-1861*, or *2005 STT 29-1*.

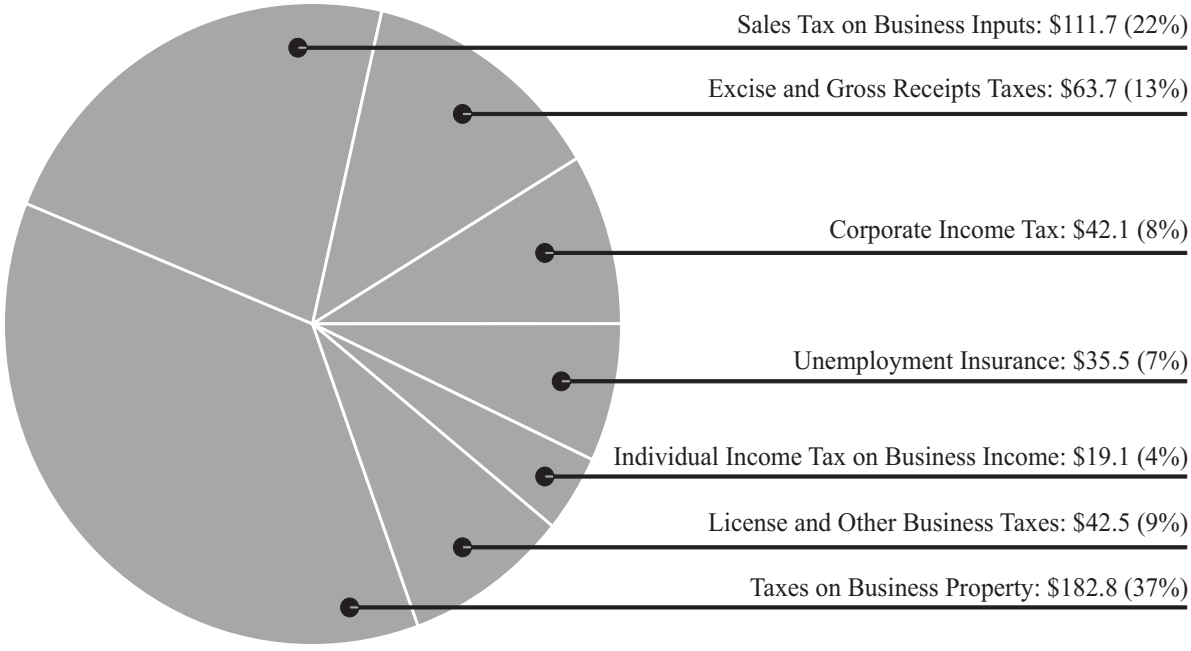
[15]Joo Mi Kim, Andrew Phillips, and Robert Cline, "Property Taxes on Business Capital: A Large and Growing Share of State and Local Business Taxes," *State Tax Notes*, Mar. 27, 2006, p. 949, *Doc 2006-4325*, or *2006 STT 58-2*.

[16]Robert Carroll, "Corporate Taxes and Wages: Evidence from the 50 States," Tax Foundation Working Paper No. 8, August 2009, provides a good summary of these studies. *See, e.g.*, William G. Randolph, "International Burdens of the Corporate Income Tax," Congressional Budget Office, Working Paper Series, August 2006. Based on a general equilibrium model of international taxation using parameters assumed reasonable for the United States, Randolph finds that labor bears 74 percent of the corporate income tax when the effect of taxes on both labor income and prices of products are considered.

[17]Randolph, *supra* note 16, pp. 41-42.

[18]R. Alison Felix, Federal Reserve Bank of Kansas City, *Economic Review*, Second Quarter 2009, pp. 77-102. Robert Carroll, *supra* note 16.

Figure 1.
Composition of Total State and Local Business Taxes, Fiscal 2005
($ billions)



Source: Ernst & Young.

tax rates on wages has been increasing over time, possibly because of increasing mobility of capital investments.

The international and U.S. state econometric studies have focused only on the corporate income tax, rather than total business taxes. In the United States, state and local corporate income taxes account for less than 10 percent of total state and local business taxes. The state tax measure used is either the top statutory corporate income tax rate or the ratio of corporate income taxes to personal income. The correlation between total business taxes as a percent of private-sector gross state product and the statutory corporate tax rate is -0.2. The correlation between the effective total business state tax rate and the ratio of state corporate income taxes to personal income is only 0.25. Thus, the econometric analyses to date exclude some important business tax variables.

This study's method of estimating the incidence of state and local business taxes is consistent with this newer perspective on the distribution of corporate income taxes in the economic setting of open-border state and national economies. Capital is assumed to be quite mobile among states, while labor is relatively immobile over the intermediate time horizon used in this study to evaluate the effect of business tax increases on a state's competitiveness and household distribution of the tax changes.

IV. State and Local Business Taxes: Background Information

The analysis of the burden of state and local taxes depends on several factors specific to each state's economy and tax system. This section presents estimates of the state and local taxes legally imposed on business. For each major state and local tax, we estimate the percentage legally imposed on business. For example, all of the corporate income tax is assigned to business, but only the sales taxes paid on business purchases are assigned to business. The sum of the state and local taxes for which businesses are legally liable is the amount that will be shifted through higher prices to consumers or lower payments to factors of production. This section presents the underlying data used in determining the amount of business taxes included in this study and discusses critical issues that arise in determining economic incidence of business taxes.

Total State and Local Business Taxes for Which Business Is Legally Liable

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.

Those 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 (passthrough) businesses, and other state and local taxes that are the statutory liability of business taxpayers.

Figure 1 (previous page) illustrates the composition of total state and local business taxes in fiscal 2005. Property taxes on business property were $183 billion in fiscal 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, account for only 8 percent of the total. This study looks at the entire system of state and local business taxes shown in Figure 1.

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. As shown in Table 1, business property taxes range from 13 percent of total state and local business taxes in Delaware to 58 percent in Maine. Shares for corporate income taxes range from zero in several states to 23 percent in Alaska.

Origin Versus Destination Business Taxes

From a business tax competitiveness perspective, it is important to think about business taxes in terms of origin- and destination-based taxes. Origin-based taxes are those imposed where a firm's production activities occur, primarily where a firm's payroll and property — value added components — are located. That is a production-state concept. The clearest example is the business property tax imposed on real and personal property located in a state. A destination-based tax is one imposed where a good or service is consumed or used, a market-state concept. State retail sales taxes on final consumers are destination-based taxes.

Table 2 (p. 114) provides a comparison of origin- and destination-based business taxes. The property tax is the most significant example of the origin-based tax. Note that depending on the apportionment formula, the corporate income tax may have both origin and destination characteristics. Payroll and property factors are origin-based concepts, and the sales factor is a destination-based concept. States using a single sales factor for apportioning business income are basically using the destination-based tax approach. But the destination component of the apportionment formula creates another complication. For business-to-business sales, the portion of the corporate tax related to business purchases (if passed along in higher prices to business purchasers) may act like a sales tax on business purchases and put in-state firms at a competitive disadvantage.

Origin-based taxes can put in-state producers at a competitive disadvantage compared with 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 of imports from out-of-state firms. That would tend to reduce the market share of in-state firms.

Origin-based taxes can put in-state producers at a competitive disadvantage compared with producers in lower-taxed states.

To improve the tax competitiveness of their state and local tax systems, many 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; many states that exempt certain business inputs from the sales tax; and Ohio, Texas, and Michigan, which have adopted destination-based, modified gross receipts taxes.

Table 3 (p. 115) presents estimates of the split of state and local business taxes between origin- and destination-based taxes. For the nation as a whole, 88 percent of state and local business taxes can be classified as origin-based taxes. That 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 based or destination based, 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 versus national or international markets).

Local Versus National Market Goods and Services Sectors

A firm's ability to pass state and local taxes forward through higher prices to purchasers depends primarily on the particular market for their goods and services. A firm selling into a local (in-state) market where all sellers pay the same tax is assumed to pass taxes on in higher prices. In contrast, a firm selling in national or international markets generally has to accept market prices as fixed. In this case a firm would not be able to pass relatively higher business taxes to in-state or out-of-state customers through higher prices. The major exception to that assumption is the case in which in-state firms in an industry have a national market share large enough to enable them to set market prices.

Table 1.
Composition of Business Taxes by State, Fiscal 2005

State	Property Tax	Sales Tax on Business Inputs	Excise and Gross Receipts Tax	Corporate Income Tax	Unemployment Insurance Tax	Individual Income Tax (on Pass-Through Business Income)	Licenses and Other Taxes	Total Business Taxes
Alabama	24.4%	22.6%	25.9%	7.5%	6.1%	3.3%	10.2%	100.0%
Alaska	29.5%	0.0%	4.3%	23.2%	5.7%	0.0%	37.3%	100.0%
Arizona	39.8%	34.4%	9.7%	8.2%	2.9%	2.4%	2.7%	100.0%
Arkansas	29.9%	31.9%	12.6%	7.5%	8.9%	5.7%	3.5%	100.0%
California	27.5%	23.9%	13.3%	13.1%	7.9%	6.1%	8.2%	100.0%
Colorado	37.9%	31.3%	8.8%	4.4%	6.6%	6.3%	4.7%	100.0%
Connecticut	36.7%	24.3%	10.6%	8.6%	9.7%	7.0%	3.2%	100.0%
Delaware	12.8%	0.0%	10.4%	13.5%	4.2%	3.5%	55.7%	100.0%
Florida	36.3%	24.1%	24.8%	6.1%	4.0%	0.0%	4.7%	100.0%
Georgia	37.9%	31.4%	9.7%	5.5%	6.3%	5.4%	3.8%	100.0%
Hawaii	26.7%	32.3%	19.9%	6.6%	6.3%	4.1%	4.0%	100.0%
Idaho	41.5%	19.9%	9.5%	7.1%	7.9%	6.2%	7.9%	100.0%
Illinois	39.4%	14.0%	18.3%	9.9%	9.8%	2.4%	6.1%	100.0%
Indiana	57.1%	17.2%	6.0%	8.8%	6.1%	3.2%	1.6%	100.0%
Iowa	55.0%	16.0%	8.2%	4.2%	6.2%	3.9%	6.4%	100.0%
Kansas	44.9%	25.0%	9.6%	4.1%	7.3%	3.6%	5.5%	100.0%
Kentucky	26.2%	23.3%	15.8%	9.2%	6.9%	5.3%	13.2%	100.0%
Louisiana	23.5%	43.0%	10.9%	4.6%	2.2%	2.7%	13.2%	100.0%
Maine	57.5%	15.7%	7.9%	6.2%	4.2%	4.3%	4.3%	100.0%
Maryland	39.5%	13.0%	15.3%	9.7%	6.1%	5.8%	10.6%	100.0%
Massachusetts	44.2%	12.9%	7.0%	12.4%	14.2%	5.7%	3.5%	100.0%
Michigan	45.1%	17.1%	4.8%	11.4%	10.4%	3.0%	8.3%	100.0%
Minnesota	41.2%	18.7%	12.6%	9.5%	8.4%	3.8%	5.8%	100.0%
Mississippi	40.6%	26.2%	10.7%	10.0%	4.0%	2.7%	5.8%	100.0%
Missouri	32.4%	29.3%	15.0%	3.8%	6.6%	4.4%	8.5%	100.0%
Montana	53.9%	0.0%	14.4%	7.9%	6.1%	6.2%	11.5%	100.0%
Nebraska	42.9%	27.5%	8.6%	6.4%	4.3%	4.7%	5.8%	100.0%
Nevada	31.2%	27.9%	16.3%	0.0%	7.2%	0.0%	17.4%	100.0%
New Hampshire	54.5%	0.0%	14.5%	19.0%	3.7%	0.2%	8.1%	100.0%
New Jersey	39.8%	15.1%	10.6%	14.9%	9.9%	3.7%	6.0%	100.0%
New Mexico	15.8%	36.3%	9.9%	6.6%	2.6%	2.5%	26.1%	100.0%
New York	38.8%	23.8%	8.7%	12.5%	5.9%	7.0%	3.3%	100.0%
North Carolina	29.6%	21.3%	15.0%	11.6%	10.1%	5.3%	7.2%	100.0%
North Dakota	35.8%	13.4%	12.3%	6.0%	4.6%	2.5%	25.4%	100.0%
Ohio	37.8%	22.5%	9.2%	7.8%	5.6%	4.1%	12.9%	100.0%
Oklahoma	21.3%	30.8%	9.4%	4.0%	6.0%	6.9%	21.6%	100.0%
Oregon	42.0%	0.0%	10.0%	8.5%	18.0%	8.9%	12.6%	100.0%
Pennsylvania	31.0%	15.8%	13.4%	8.9%	12.8%	4.0%	14.1%	100.0%
Rhode Island	45.4%	20.3%	12.7%	5.9%	9.4%	3.3%	3.0%	100.0%
South Carolina	49.6%	19.5%	10.6%	4.8%	5.6%	3.4%	6.6%	100.0%
South Dakota	45.4%	31.2%	10.1%	3.7%	1.4%	0.0%	8.2%	100.0%
Tennessee	32.4%	30.5%	9.9%	9.4%	5.5%	0.2%	12.1%	100.0%
Texas	45.0%	24.5%	13.5%	0.0%	3.9%	0.0%	13.1%	100.0%
Utah	31.8%	27.6%	15.1%	6.9%	6.9%	6.1%	5.7%	100.0%
Vermont	53.7%	11.7%	15.7%	6.5%	5.0%	3.7%	3.6%	100.0%
Virginia	37.4%	13.7%	20.7%	6.0%	5.2%	4.8%	12.3%	100.0%
Washington	23.6%	45.4%	15.1%	0.0%	11.3%	0.0%	4.6%	100.0%
West Virginia	32.8%	11.3%	22.9%	10.3%	5.1%	2.9%	14.6%	100.0%
Wisconsin	45.4%	18.5%	8.9%	9.4%	7.0%	3.8%	7.0%	100.0%
Wyoming	33.3%	18.5%	3.2%	0.0%	1.7%	0.0%	43.4%	100.0%
District of Columbia	37.3%	14.9%	14.2%	9.5%	5.6%	8.4%	10.0%	100.0%
United States	**36.7%**	**22.5%**	**12.8%**	**8.5%**	**7.1%**	**3.8%**	**8.5%**	**100.0%**

Table 2.
Origin Versus Destination Business Taxes

Tax Concept and Examples	Description	Type of Sales Affected		
		Local Markets	***Imports***	***Exports***
Origin Taxes				
Property tax	imposed on in-state producers	burdened by tax	not taxed	burdened by tax
Corporate income tax[a]	apportioned by payroll or property	burdened by tax	not taxed	burdened by tax
Utility gross receipts tax	imposed on in-state producers	burdened by tax	not taxed[b]	burdened by tax
Sales tax on business inputs	sales/use taxes paid by business purchasers become origin taxes	burdened by tax	not taxed	burdened by tax
Destination Taxes				
General gross receipts[c]	imposed on in-state sales	burdened by tax	burdened by tax[e]	not taxed
Corporate income tax[a]	income apportioned by sales	burdened by tax	burdened by tax[e]	not taxed
Energy taxes (kWh)	imposed on in-state use	burdened by tax	burdened by tax	not taxed
Insurance premiums tax	imposed on in-state sales	burdened by tax	burdened by tax[d]	not taxed[d]

Notes:
[a]Corporate income tax attributable to a payroll or property factor is considered an origin-based tax; tax attributed to the sales factor is considered a destination-based tax.
[b]Some states tax imports of electricity.
[c]Examples include Ohio's commercial activities tax and Washington's business and occupation tax.
[d]For imports, the tax rate is the out-of-state rate if higher than the in-state rate (origin treatment).
[e]General gross receipts and corporate income taxes impose burdens on imports if a firm has physical presence or a state asserts economic nexus

The incidence analysis uses the distinction between local and national markets for a firm's output in determining the extent to which state and local taxes are passed along in higher prices. Table 4 (p. 116) provides estimates of the overall split for total business taxes in each state. On average, 62 percent of goods and services are exchanged in local markets, ranging from 54 percent to 77 percent. Variations in the local and national market split by industry are included in the incidence model.

Mobile Versus Immobile Factors of Production

A final important economic distinction in the incidence analysis is the difference between mobile and immobile factors of production. Taxes that cannot be shifted forward to customers in higher prices will be shifted backward in lower payments to factors of production, including labor, capital, and land. However, if capital is mobile among states, tax changes in a single state cannot be pushed back to capital in lower returns after capital has time to adjust. Capital subject to above-average taxes would move to other states until after-tax rates of return to capital are equal in all states. That behavioral response allows capital to escape any above-average state and local tax burden.

In contrast, relatively immobile factors cannot move to a different state, so they will bear more of the business tax burden in lower payments to factors. This analysis assumes that labor, land, and buildings are immobile over the intermediate time period used to model the effect of a single state's increase in business taxes, holding taxes in other states constant.

An important case of factor immobility is natural resources, such as minerals, oil and gas, and timber. If those natural resources are priced in globally competitive markets at world prices, then a state tax on them, such as a severance tax, would fall on the current owners of land and natural resources. The incidence model recognizes differences in the mobility of capital in response to an increase in state and local business taxes. For example, this analysis assumes that machinery and equipment are mobile. However, buildings are immobile over the time horizon for the analysis.

V. Method for Estimating the Economic Incidence of Business Taxes

This analysis follows the general approach of the path-breaking Minnesota incidence study, while extending the analysis to all 50 states and making some refinements.

Existing Taxes Versus Incremental Tax Changes

There are two distinct analyses for estimating the economic incidence of state and local business taxes. The first analysis answers the question: Who bears the burden of existing state and local business taxes? That approach assumes that markets have adjusted to the current system of state and local taxes in each state. The analysis compares effective

Table 3.
Origin and Destination Business Tax Shares by State, Fiscal 2005

State	Origin	Destination	State	Origin	Destination
Alabama	85.4%	14.6%	Nebraska	92.3%	7.7%
Alaska	82.1%	17.9%	Nevada	92.2%	7.8%
Arizona	89.8%	10.2%	New Hampshire	79.7%	20.3%
Arkansas	86.0%	14.0%	New Jersey	85.1%	14.9%
California	86.4%	13.6%	New Mexico	89.5%	10.5%
Colorado	91.9%	8.1%	New York	87.1%	12.9%
Connecticut	87.5%	12.5%	North Carolina	81.5%	18.5%
Delaware	61.4%	38.6%	North Dakota	90.3%	9.7%
Florida	89.8%	10.2%	Ohio	89.4%	10.6%
Georgia	89.9%	10.1%	Oklahoma	91.4%	8.6%
Hawaii	87.9%	12.1%	Oregon	88.3%	11.7%
Idaho	86.6%	13.4%	Pennsylvania	85.2%	14.8%
Illinois	89.6%	10.4%	Rhode Island	86.8%	13.2%
Indiana	90.4%	9.6%	South Carolina	90.8%	9.2%
Iowa	92.3%	7.7%	South Dakota	91.9%	8.1%
Kansas	91.0%	9.0%	Tennessee	84.6%	15.4%
Kentucky	80.1%	19.9%	Texas	91.0%	9.0%
Louisiana	92.0%	8.0%	Utah	86.3%	13.7%
Maine	90.9%	9.1%	Vermont	87.2%	12.8%
Maryland	84.6%	15.4%	Virginia	85.8%	14.2%
Massachusetts	84.6%	15.4%	Washington	94.8%	5.2%
Michigan	87.0%	13.0%	West Virginia	80.1%	19.9%
Minnesota	85.0%	15.0%	Wisconsin	89.9%	10.1%
Mississippi	88.1%	11.9%	Wyoming	98.8%	1.2%
Missouri	90.5%	9.5%	District of Columbia	84.8%	15.2%
Montana	87.1%	12.9%	**United States**	**88.0%**	**12.0%**

business tax rates, by industry, in a particular state to average national effective tax rates on capital and on specific industries. It can be characterized as an "average" incidence analysis of existing business taxes.

The second analysis addresses a different question: Who bears the burden of an increase in a single state's business taxes, holding taxes constant in all other states? That approach can be characterized as incremental or marginal incidence analysis that focuses on the incidence of a change in business taxes in a single state compared with the unchanged taxes in all other states. An incremental tax change analysis is most relevant to estimating the competitive effects and economic incidence of legislative proposals to change one state's business taxes.

It should be noted that the economic incidence of state and local business taxes can differ significantly between the existing taxes and incremental tax analyses.[19] A state-by-state comparison of the existing tax and incremental tax incidence results is included below.

The following discussion highlights important issues that apply to both the existing tax and incremental tax incidence approaches.

Aggregating Across Different Tax Types

The tax incidence analysis compares either a state's effective tax rates under the current system

[19]The most recent Minnesota Tax Incidence Study (Minnesota DOR, "2009 Minnesota Tax Incidence Study," Mar. 2009, Chapter 4) compares the incidence of business taxes under both the existing tax and incremental tax incidence approaches. The study finds that, compared with the average incidence, the marginal incidence falls less on nonresidents and owners of capital and more on Minnesota consumers and labor.

Table 4.
Economic Activity in Local and National Market Goods and Services Sectors, by State

State	Local Market	National Market	State	Local Market	National Market
Alabama	61.6%	38.4%	Nebraska	62.6%	37.4%
Alaska	53.9%	46.1%	Nevada	71.8%	28.2%
Arizona	65.6%	34.4%	New Hampshire	65.4%	34.6%
Arkansas	60.6%	39.4%	New Jersey	64.4%	35.6%
California	64.2%	35.8%	New Mexico	60.3%	39.7%
Colorado	67.1%	32.9%	New York	60.1%	39.9%
Connecticut	56.7%	43.3%	North Carolina	53.9%	46.1%
Delaware	41.9%	58.1%	North Dakota	66.8%	33.2%
Florida	71.6%	28.4%	Ohio	57.6%	42.4%
Georgia	63.3%	36.7%	Oklahoma	61.5%	38.5%
Hawaii	77.3%	22.7%	Oregon	59.2%	40.8%
Idaho	65.0%	35.0%	Pennsylvania	61.7%	38.3%
Illinois	61.1%	38.9%	Rhode Island	61.9%	38.1%
Indiana	53.7%	46.3%	South Carolina	64.7%	35.3%
Iowa	56.4%	43.6%	South Dakota	58.9%	41.1%
Kansas	62.3%	37.7%	Tennessee	61.2%	38.8%
Kentucky	58.6%	41.4%	Texas	58.4%	41.6%
Louisiana	55.7%	44.3%	Utah	61.0%	39.0%
Maine	68.6%	31.4%	Vermont	68.2%	31.8%
Maryland	71.2%	28.8%	Virginia	63.8%	36.2%
Massachusetts	62.1%	37.9%	Washington	65.2%	34.8%
Michigan	59.2%	40.8%	West Virginia	65.4%	34.6%
Minnesota	59.1%	40.9%	Wisconsin	59.2%	40.8%
Mississippi	64.1%	35.9%	Wyoming	58.2%	41.8%
Missouri	60.7%	39.3%	Dist. of Columbia	71.5%	28.5%
Montana	72.6%	27.4%	**United States**	**62.0%**	**38.0%**

or a state's tax rates after an incremental change in a single state's taxes. The incremental tax approach used in this study compares effective tax rates after a 10 percent increase in a single state's business taxes. The same percentage increase is applied to each business tax for each state.

To aggregate the diverse set of state and local business taxes, the analysis calculates effective business tax rates (ETRs) for each industry in a state. The numerator of the ETR is the sum of all state and local business taxes that are the legal liability of the business taxpayers divided by private-sector state gross domestic product (value added) for each industry. The use of GDP as the measure of the tax base in the denominator allows for an aggregation across different tax types.

This approach considers all state and local business taxes as equivalent in terms of increasing the costs of production of goods and services, regardless of whether the initial liabilities are imposed on capital (property taxes or corporate income taxes), intermediate inputs (sales taxes on business purchases), or output (gross receipts or gross margins). However, there is a significant difference in the composition of total state and local business taxes across industries that are captured in the incidence model. This approach makes it possible to treat taxes that have very different tax bases — corporate income, property, and sales, for example — within the same incidence framework.

Apportioned corporate income taxes fall on companies based on their share of national sales, property, and in-state payroll. The three-factor apportionment formulas used by many states attribute income to the state based on the degree to which the company's economic activity (measured by payroll and property) and market (measured by sales) is in the state. The incidence analysis examines the weights used in each state's corporate income tax apportionment formula and attributes 100 percent of the payroll and property factors to in-state economic activity and a fraction of the sales factor to in-state economic activity. The portion of the sales factor assumed to result from in-state economic activity varies by industry based on the degree to which the industry is selling in local or national

markets, with local market industries having a larger share of their sales in a state resulting from economic activity in the state.

The incidence analysis provides a broader perspective on the classification of business taxes. It is only after the final incidence is determined that business taxes can be characterized as taxes borne by capital, labor, or consumers. For example, while the corporate income tax is described as a tax on capital (because an increase in capital investment will increase statutory business taxes), the incidence analysis shows that it is in fact a tax that falls on labor, capital, and consumption. The behavioral adjustments to an increase in corporate income taxes can shift a portion of the tax to labor and consumers. Only the nonshifted portion should be characterized as a tax on capital.[20]

This analysis aggregates all state and local business taxes into a single state business effective tax rate for each industry, as a percent of private-sector value added in the industry, relative to other states' business taxes, before doing the economic shifting process. In contrast, the Minnesota incidence method calculates the effective tax rate for each individual tax (corporate, property, and so forth), relative to other states' similar taxes.

Shifting Process

The economic incidence of business taxes depends primarily on the average tax rate a state imposes on each industry measured compared with average tax rates on those industries for all states combined. In other words, it is a state's relative tax burden that determines the final distribution of business tax liabilities.

The relative tax burden is calculated in this study using three different tax rates: the U.S. average tax rate on production for all state and local business taxes, the U.S. average rate for all business taxes imposed on each industry, and the average tax rate a state imposes on each industry — the state industry tax rate.[21] The model includes 16 different industry sectors. Each tax rate is calculated as business taxes divided by private-sector gross state product. Conceptually, for a single state and industry, the state industry tax rate can be decomposed into three tax rates or differentials.

State ETR for industry$_i$ = U.S. average tax rate on production

+ U.S. industry differential tax rate for industry$_i$

(U.S. average industry$_i$ rate minus U.S. average rate)

+ state tax rate differential for industry$_i$

(state ETR for industry$_i$ minus U.S. average industry$_i$ rate)

The study's shifting assumptions can be expressed in terms of these tax rates.

Assuming that the total supply of labor and capital in the United States are fixed,[22] both capital and labor are mobile across states in the long run, and that markets have had enough time to adjust to state and local business tax systems, the U.S. average tax rate on production is assumed to be borne by capital and labor in proportion to their shares of national GDP (value added). Because capital and labor in each state cannot escape the average level of business taxes by moving to a different state, they bear the burden of the U.S. average tax rate on factors of production.

The U.S. industry differential tax rate is borne by all consumers of the industry's output through higher (or lower) output prices. If some industries nationally face above-average state and local tax rates, capital and labor would move from high- to low-tax industries until they earn the same after-tax rate of return. The average U.S. industry tax differential, relative to the U.S. average tax rate on production, would result in higher prices in the high-tax industries and lower prices in the low-tax industries. As a result, U.S. industry state tax differentials would be passed along to U.S. consumers in either higher or lower prices. In effect, the U.S. average industry tax rate differential (compared with the U.S. average tax rate on production) operates as a uniform sales tax or subsidy passed through in prices to all purchasers.

The third tax rate component is the state industry differential — the difference between a state's ETR on an industry and the U.S. average tax rate for the industry. If that component is positive, it will be borne by either local consumers if firms in an industry sell their products and services in local markets, or by immobile local inputs such as labor and land. It is assumed that the portion falling on immobile inputs is distributed in proportion to the shares of values added for each immobile factor.

Summarizing the Results

The results of the incidence calculations can be summarized in several different ways to understand how business tax increases affect a state's relative business tax burdens and the standard of living of its citizens. Two sets of results are presented in the

[20]The aggregation of all business taxes before doing the economic shifting process is a significant difference from the Minnesota incidence method, which distributes individual taxes and then aggregates the incidence effects.

[21]This method closely follows that used and detailed in "2009 Minnesota Tax Incidence Study," *supra* note 19

[22]Because some capital and labor is mobile between the United States and other locations, some of the average tax rate on production would fall more heavily on less mobile capital and labor, as well as U.S. consumers.

Table 5.
Economic Incidence of Existing State and Local Business Taxes

	Shifted to Resident Labor and Consumers					
Business Taxes	***Shifted Forward in Prices***	***Shifted Back to Labor***	***Total Shifted to Labor and Prices***	**Shifted Back to Resident Capital**	**Exported to Nonresidents**	**Total Business Taxes**
Alabama	-13%	60%	47%	1%	52%	100%
Alaska	1%	25%	26%	0%	73%	100%
Arizona	4%	53%	57%	1%	42%	100%
Arkansas	-8%	57%	50%	0%	50%	100%
California	-1%	53%	52%	10%	38%	100%
Colorado	-14%	59%	45%	1%	54%	100%
Connecticut	-4%	57%	54%	1%	45%	100%
Delaware	-10%	62%	51%	0%	48%	100%
Florida	12%	49%	62%	6%	33%	100%
Georgia	-10%	58%	48%	2%	50%	100%
Hawaii	7%	50%	58%	0%	42%	100%
Idaho	-12%	56%	44%	0%	56%	100%
Illinois	5%	51%	56%	3%	41%	100%
Indiana	2%	57%	59%	1%	40%	100%
Iowa	-2%	49%	47%	1%	53%	100%
Kansas	7%	49%	56%	1%	43%	100%
Kentucky	-9%	58%	50%	1%	50%	100%
Louisiana	-6%	41%	35%	0%	65%	100%
Maine	19%	44%	63%	0%	37%	100%
Maryland	-9%	59%	50%	2%	48%	100%
Massachusetts	-5%	61%	56%	2%	42%	100%
Michigan	-4%	61%	57%	2%	40%	100%
Minnesota	5%	52%	57%	1%	41%	100%
Mississippi	8%	50%	58%	0%	42%	100%
Missouri	-16%	68%	51%	1%	47%	100%
Montana	-7%	45%	37%	0%	63%	100%
Nebraska	7%	50%	57%	0%	43%	100%
Nevada	5%	54%	59%	1%	40%	100%
New Hampshire	9%	50%	59%	0%	40%	100%
New Jersey	2%	50%	52%	3%	45%	100%
New Mexico	-6%	39%	33%	0%	66%	100%
New York	10%	50%	60%	5%	35%	100%
North Carolina	-18%	62%	45%	2%	53%	100%
North Dakota	2%	39%	41%	0%	59%	100%
Ohio	-3%	60%	57%	2%	41%	100%
Oklahoma	-7%	44%	37%	1%	62%	100%
Oregon	-37%	72%	35%	1%	64%	100%
Pennsylvania	-1%	56%	55%	3%	42%	100%
Rhode Island	13%	49%	62%	0%	38%	100%
South Carolina	-2%	56%	54%	1%	45%	100%
South Dakota	4%	49%	53%	0%	47%	100%
Tennessee	3%	60%	63%	1%	36%	100%
Texas	2%	45%	47%	4%	49%	100%
Utah	-17%	65%	48%	0%	51%	100%
Vermont	17%	45%	63%	0%	37%	100%
Virginia	-19%	64%	45%	2%	52%	100%
Washington	2%	52%	54%	2%	45%	100%
West Virginia	2%	47%	48%	0%	51%	100%
Wisconsin	1%	54%	55%	1%	43%	100%
Wyoming	-1%	25%	24%	0%	75%	100%
District of Columbia	13%	63%	76%	0%	23%	100%
United States	**0%**	**53%**	**53%**	**3%**	**44%**	**100%**

Table 6.
Economic Incidence of State and Local Business Tax Increases

	Shifted to Resident Labor and Consumers					
Business Taxes	***Shifted Forward in Prices***	***Shifted Back to Labor***	***Total Shifted to Labor and Prices***	**Shifted Back to Resident Capital**	**Exported to Nonresidents**	**Total Incremental Tax Increase**
Alabama	46%	30%	75%	0%	24%	100%
Alaska	22%	15%	37%	0%	63%	100%
Arizona	54%	24%	78%	1%	22%	100%
Arkansas	46%	29%	76%	0%	24%	100%
California	45%	33%	78%	4%	18%	100%
Colorado	54%	26%	80%	1%	19%	100%
Delaware	49%	30%	79%	0%	21%	100%
Connecticut	29%	28%	57%	0%	43%	100%
Florida	55%	26%	80%	3%	17%	100%
Georgia	51%	28%	79%	1%	20%	100%
Hawaii	65%	21%	86%	0%	14%	100%
Idaho	45%	27%	72%	0%	28%	100%
Illinois	52%	24%	76%	1%	23%	100%
Indiana	45%	33%	78%	1%	22%	100%
Iowa	45%	26%	71%	0%	29%	100%
Kansas	48%	27%	75%	0%	24%	100%
Kentucky	39%	32%	71%	0%	28%	100%
Louisiana	26%	24%	50%	0%	50%	100%
Maine	60%	23%	83%	0%	17%	100%
Maryland	57%	21%	78%	1%	21%	100%
Massachusetts	54%	26%	80%	1%	19%	100%
Michigan	49%	28%	77%	1%	22%	100%
Minnesota	51%	25%	76%	1%	23%	100%
Mississippi	45%	30%	75%	0%	25%	100%
Missouri	49%	31%	79%	1%	20%	100%
Montana	36%	25%	61%	0%	39%	100%
Nebraska	49%	27%	76%	0%	24%	100%
Nevada	58%	23%	80%	0%	19%	100%
New Hampshire	53%	24%	77%	0%	23%	100%
New Jersey	57%	26%	82%	1%	17%	100%
New Mexico	28%	18%	46%	0%	53%	100%
New York	48%	29%	77%	2%	21%	100%
North Carolina	42%	31%	73%	1%	26%	100%
North Dakota	33%	25%	58%	0%	42%	100%
Ohio	49%	30%	78%	1%	20%	100%
Oklahoma	35%	25%	60%	1%	39%	100%
Oregon	45%	28%	72%	0%	27%	100%
Pennsylvania	49%	28%	78%	1%	21%	100%
Rhode Island	57%	24%	80%	0%	20%	100%
South Carolina	49%	29%	78%	0%	21%	100%
South Dakota	39%	25%	65%	0%	35%	100%
Tennessee	53%	30%	83%	0%	17%	100%
Texas	35%	28%	63%	3%	34%	100%
Utah	45%	29%	74%	0%	26%	100%
Vermont	56%	21%	77%	0%	23%	100%
Virginia	50%	25%	75%	1%	24%	100%
Washington	52%	29%	81%	1%	18%	100%
West Virginia	34%	31%	65%	0%	35%	100%
Wisconsin	50%	30%	80%	1%	19%	100%
Wyoming	15%	22%	37%	0%	63%	100%
District of Columbia	66%	18%	84%	0%	16%	100%
United States	**47%**	**28%**	**75%**	**1%**	**24%**	**100%**

next section. The first set of incidence estimates looks at the incidence of existing business taxes; the second set looks at the incidence of an incremental 10 percent increase in business taxes. Several different measures of effects are presented for each set of incidence estimates.

VI. The Economic Incidence of State and Local Business Taxes

The analysis first presents the economic incidence of all existing state and local business taxes across the 50 states. This approach assumes that markets have adjusted to the current system of state and local taxes in each state. This approach is important to understanding the distributional burden of total state and local business taxes. Many tax policy decisions are not fundamental tax restructurings of existing taxes, but rather are incremental tax changes. The economic incidence analysis also 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 all other states.

Incidence of Existing Taxes

Table 5 (p. 118) presents the distribution of total existing state and local business taxes for each of the 50 states across both residents and nonresidents. Residents can bear the burden of business taxes in their role as consumers in the form of higher prices of goods and services, in the role as workers in the form of lower wages and compensation, and in their role as capital owners and investors in the form of lower rates of return from their investments. Our analysis estimates that on average, labor bears 53 percent of existing state and local business taxes, while capital bears 47 percent of existing state and local business taxes: 3 percent borne by in-state owners of capital and 44 percent borne by nonresident owners of capital.[23]

While the state business tax burden on labor is assumed to fall exclusively on resident workers, the state business tax burden on capital is borne principally by residents of other states. The residents of any state "own" only a relatively small share of the capital invested in the state; therefore, their own state's business tax burden on capital is mainly exported to nonresidents. A state's residents do bear the burden of other states' business taxes, which are exported to them. It is also important to note that higher taxes on capital invested in the state, whether owned by residents or nonresidents, does affect the amount of capital investments located in the state, which affects the wages, productivity, and income of the state's workers.

Table 5 shows the effect of state business taxes on consumer prices for all existing taxes because of the differential taxation of industries. Industry tax differentials are assumed to be passed forward in prices to consumers, but they offset each other in the aggregate for all existing business taxes. That differs from the incidence of incremental business tax increases, which we turn to next.

Incidence of Incremental Tax Increase

Table 6 (previous page) presents the shares of 10 percent state and local 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 28 percent of an incremental state business tax increase is borne by in-state labor in the form of lower wages. Capital bears 17 percent of an incremental state business tax increase: 1 percent by in-state capital owners and 16 percent by out-of-state capital owners. The remaining 55 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 nonresident 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.

The difference in the incidence of existing state and local business taxes (Table 5) from an incremental change in business taxes (Table 6) reflects the mobility of capital across open borders and the change by one state relative to all other states. In the incremental incidence analysis, mobile capital can 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.

The two different approaches to incidence analysis, existing taxes versus incremental taxes, present a likely range of the incidence effects of state business taxes. The 17 percent share on capital from the incremental analysis may be low, given that more than one state are likely to increase or decrease taxes over time. The 47 percent share of existing state business taxes borne by capital may be high,

[23]The incidence analysis in this paper does not include any estimates of the exporting of business taxes through the deductibility of state and local business taxes on federal corporate and personal income tax returns. It could be argued that federal deductibility does not significantly affect the incidence analysis for existing taxes because the overall reduction in federal tax collections would be offset by higher federal tax rates. On average, there would be no net change in federal taxes. In theory, federal deductibility should be considered in the incremental analysis of the incidence of increases in a single state's business taxes, assuming no change in the taxes in other states. That would be the case if there is no offsetting change in federal tax rates in response to a business tax increase in a single state.

since this analysis assumes that total capital in the United States is fixed. With increasing globalization and mobility of capital, higher state business taxes can affect the total amount of capital investment in the United States, thereby decreasing the amount of the state tax burden borne by capital.

More importantly, Table 6 shows in the second and third columns that the largest share of the business tax increase is borne by residents through higher prices (47 percent of the tax increase) or lower payments to labor (28 percent of the tax increase). In other words, 75 percent of the business tax increase is borne by state residents. In sharp contrast, only 1 percent on average of the business increase is borne by in-state owners of capital, if a single state increases its business taxes while other states' business taxes remain unchanged.

The Share of State and Local Business Tax Increases Borne by Capital

The results of the incremental incidence analysis can be summarized in several ways to provide greater insight into the expected economic and distributional effects of business tax changes. One additional way to rank states is by the share of incremental taxes borne by capital (owners of machinery and equipment, buildings, and land). As noted, the tax on capital is borne by both in-state capital owners and out-of-state capital owners. The higher capital's share, the greater the potential long-run reduction in the level of capital invested in a state. A reduction in capital investment would reduce the number of jobs, productivity of labor, and the level of future wages in a state.

In constructing the share of the tax increase borne by capital, all of the tax increase that is borne by capital invested in a state is included because the focus is on the potential, long-run reduction in the level of capital investment used within a state. In the long-run, mobile capital will leave the state to avoid the resulting lower after-tax return. Mobile capital will continue to leave the state until output prices increase or noncapital input prices fall enough to fully pay for the increase in taxes on mobile capital. That adjustment process will reduce the real incomes of in-state residents through higher prices, lower incomes, and reduced productivity. Although the portion of the tax increase that falls on land could be considered a tax on fixed capital, that portion will reduce the net income received by landowners.

Table 7A (next page) ranks states in terms of the share of the simulated state and local business tax increase that falls on capital invested in the state, regardless of the state of residence of capital owners. The higher the capital share, the greater the potential negative impact on a state's economy. Table 7B (next page) presents the results alphabetically by state. It is evident that the states with the highest capital share are those with extractive industries for coal, oil, natural gas, and minerals, since business tax increases in those states fall mostly on land and natural resources through reduced net income payments.

While states may be less concerned with the portion of the tax burden falling on land and natural resources because the taxes may represent reductions in monopoly rents paid to landowners and natural resource owners, in the long run that impact may affect the competitiveness of their extractive industries.

Table 8 (p. 123) illustrates the difference between the results of the incidence analysis of incremental taxes and the incidence analysis of existing taxes. As discussed earlier, the incidence analysis of existing taxes determines how the total level of state and local business taxes are distributed to consumers and factors of production assuming that markets have fully adjusted to the level of business taxes in every state. The first column in Table 8 shows the share of all state and local business taxes that are imposed on all forms of capital, machinery and equipment, buildings, and land. Nationally, 47 percent of total existing state and local business taxes are borne by capital.

The second column in Table 8 repeats the share of incremental taxes on capital (from Table 7A), from a single state increasing its business taxes. Because the state's incremental tax increase occurs holding business tax unchanged in all other states, the single state's tax increase raises its taxes relative to other states. In that situation, little of the increase can be passed along to mobile capital or to higher prices in national markets. As a result, the tax is passed backed to labor employed in the state. (That broader perspective on the full incidence effects will be discussed in the next section.) On average, the capital share percentage of existing taxes is 47 percent, while the capital share percentage of one state's tax increase is 17 percent.

The Distribution of State and Local Business Tax Burdens on State Residents

A second additional approach to ranking the states is the percentage of a 10 percent state and local business tax increase that is borne by a state's residents in the form of higher prices for goods and services or lower wages. Rankings by that measure are presented in tables 9A and 9B.

Table 9A (p. 124) ranks states in terms of the shares of business tax increases in each state that are borne by residents through higher prices and lower wages. Table 9A shows that this combined share ranges from a high of 86 percent to a low of 37 percent, with a U.S. average of 75 percent. Note that the combined share is generally lowest for the states with significant extraction industries because they can export larger shares to nonresidents through

Table 7A.
Ranking of States by Share of Tax Increase on Capital Owners

State	Total Capital Share	
	Percent	Relative to U.S.
Wyoming	61.1%	351%
Alaska	54.8%	315%
New Mexico	47.4%	272%
Louisiana	41.8%	240%
North Dakota	37.3%	214%
Oklahoma	36.2%	208%
Montana	34.6%	199%
South Dakota	28.5%	164%
Texas	26.0%	149%
Delaware	25.4%	146%
West Virginia	23.4%	134%
Iowa	22.8%	131%
Idaho	22.7%	130%
Kansas	21.8%	125%
Mississippi	21.2%	121%
Utah	19.5%	112%
Alabama	19.0%	109%
Arizona	17.5%	100%
Arkansas	17.4%	100%
Nebraska	17.2%	99%
Indiana	16.9%	97%
Virginia	16.8%	97%
Oregon	16.6%	95%
Kentucky	16.5%	95%
North Carolina	16.4%	94%
Colorado	16.2%	93%
South Carolina	16.1%	92%
Vermont	16.1%	92%
Ohio	15.7%	90%
Washington	15.6%	90%
California	15.6%	90%
Nevada	15.5%	89%
Florida	15.0%	86%
Missouri	14.6%	84%
Wisconsin	14.2%	81%
Georgia	14.1%	81%
Illinois	14.1%	81%
Pennsylvania	14.0%	80%
Maine	13.9%	80%
Rhode Island	13.7%	79%
New York	13.3%	76%
Maryland	13.3%	76%
Minnesota	12.8%	74%
Connecticut	12.8%	74%
New Hampshire	12.4%	71%
Michigan	12.1%	69%
District of Columbia	11.1%	64%
Massachusetts	10.8%	62%
New Jersey	10.7%	61%
Tennessee	10.0%	57%
Hawaii	8.6%	49%
U.S. Average	**17.4%**	**100%**

Table 7B.
Share of Tax Increase on Capital by State

State	Total Capital Share	
	Percent	Relative to U.S.
Alabama	19.0%	109%
Alaska	54.8%	315%
Arizona	17.5%	100%
Arkansas	17.4%	100%
California	15.6%	90%
Colorado	16.2%	93%
Delaware	25.4%	146%
Connecticut	12.8%	74%
Florida	15.0%	86%
Georgia	14.1%	81%
Hawaii	8.6%	49%
Idaho	22.7%	130%
Illinois	14.1%	81%
Indiana	16.9%	97%
Iowa	22.8%	131%
Kansas	21.8%	125%
Kentucky	16.5%	95%
Louisiana	41.8%	240%
Maine	13.9%	80%
Maryland	13.3%	76%
Massachusetts	10.8%	62%
Michigan	12.1%	69%
Minnesota	12.8%	74%
Mississippi	21.2%	121%
Missouri	14.6%	84%
Montana	34.6%	199%
Nebraska	17.2%	99%
Nevada	15.5%	89%
New Hampshire	12.4%	71%
New Jersey	10.7%	61%
New Mexico	47.4%	272%
New York	13.3%	76%
North Carolina	16.4%	94%
North Dakota	37.3%	214%
Ohio	15.7%	90%
Oklahoma	36.2%	208%
Oregon	16.6%	95%
Pennsylvania	14.0%	80%
Rhode Island	13.7%	79%
South Carolina	16.1%	92%
South Dakota	28.5%	164%
Tennessee	10.0%	57%
Texas	26.0%	149%
Utah	19.5%	112%
Vermont	16.1%	92%
Virginia	16.8%	97%
Washington	15.6%	90%
West Virginia	23.4%	134%
Wisconsin	14.2%	81%
Wyoming	61.1%	351%
District of Columbia	11.1%	64%
U.S. Average	**17.4%**	**100%**

Table 8.
Capital Owners' Share of Total and Marginal Taxes

State	Capital Share of Current Taxes	Capital Share of Marginal Taxes
Alabama	48.8%	19.0%
Alaska	43.2%	54.8%
Arizona	45.4%	17.5%
Arkansas	40.2%	17.4%
California	47.8%	15.6%
Colorado	51.5%	16.2%
Delaware	53.6%	25.4%
Connecticut	54.6%	12.8%
Florida	41.2%	15.0%
Georgia	52.3%	14.1%
Hawaii	44.4%	8.6%
Idaho	49.4%	22.7%
Illinois	47.4%	14.1%
Indiana	44.0%	16.9%
Iowa	41.3%	22.8%
Kansas	40.3%	21.8%
Kentucky	47.1%	16.5%
Louisiana	45.2%	41.8%
Maine	38.9%	13.9%
Maryland	55.1%	13.3%
Massachusetts	57.7%	10.8%
Michigan	52.2%	12.1%
Minnesota	46.5%	12.8%
Mississippi	35.3%	21.2%
Missouri	53.8%	14.6%
Montana	47.5%	34.6%
Nebraska	31.3%	17.2%
Nevada	46.5%	15.5%
New Hampshire	43.4%	12.4%
New Jersey	51.4%	10.7%
New Mexico	48.6%	47.4%
New York	44.8%	13.3%
North Carolina	56.5%	16.4%
North Dakota	48.6%	37.3%
Ohio	49.3%	15.7%
Oklahoma	41.8%	36.2%
Oregon	67.3%	16.6%
Pennsylvania	48.4%	14.0%
Rhode Island	44.0%	13.7%
South Carolina	46.8%	16.1%
South Dakota	35.3%	28.5%
Tennessee	45.0%	10.0%
Texas	41.0%	26.0%
Utah	53.4%	19.5%
Vermont	39.7%	16.1%
Virginia	60.4%	16.8%
Washington	46.4%	15.6%
West Virginia	38.6%	23.4%
Wisconsin	46.2%	14.2%
Wyoming	48.9%	61.1%
District of Columbia	51.0%	11.1%
U.S. Average	**47.0%**	**17.4%**

lower investment returns to nonresident capital owners. For most states, the share of the business tax increase borne by residents exceeds 70 percent. Table 9B (next page) presents the resident share by state alphabetically.

An important insight from this analysis is that the portion of the business tax increase that is not exported will be borne almost exclusively by residents through reductions in their real incomes through a combination of higher prices and lower wages. The distribution of a tax decrease would be symmetrical. In other words, a 10 percent decrease in a state's business taxes would increase the real incomes of residents through increases in payments to labor and lower prices for goods and services.

In debating state and local business tax increases, legislators should consider that less than 25 percent of the increase, on average, will be exported to nonresidents.

The policy implication of these results is clear: In debating state and local business tax increases, legislators should consider that less than 25 percent of the increase, on average, will be exported to nonresidents, assuming no change in taxes in other states; the remaining 75 percent is an indirect tax increase on resident households.

Table 10 (p. 125) compares the ranking of states based on the share of business taxes borne by in-state residents through higher prices, lower wages, and lower returns to capital for the existing tax and incremental tax analyses.

IX. Conclusion

This study analyzes the economic incidence of state business taxes, particularly the incidence of a single state's business tax increase. The distributional burden of an additional state business tax is different than the incidence of existing business taxes.

State business tax increases in one state, holding taxes unchanged in other states will increase taxes on capital invested in the state. In responding to these higher taxes, less capital will be invested in the state and workers will have fewer jobs, lower productivity, and lower real incomes. On average, capital's share of a single state's business tax increase is estimated to be only 17 percent, since much of capital is mobile across states. That is significantly lower than the estimated 47 percent of existing business taxes borne by capital owners.

The largest share of a state's business tax increase — on average 76 percent — will be borne by the state's residents in the form of lower wages,

Table 9A.
Ranking of States by Resident Burden from Tax Increase

State	Labor + Consumers Shares	
	Percent	Relative to U.S.
Hawaii	86%	115%
District of Columbia	84%	112%
Maine	83%	111%
Tennessee	83%	111%
New Jersey	82%	110%
Washington	81%	108%
Nevada	80%	107%
Rhode Island	80%	107%
Florida	80%	107%
Colorado	80%	107%
Massachusetts	80%	107%
Wisconsin	80%	107%
Missouri	79%	106%
Georgia	79%	105%
Connecticut	79%	105%
Ohio	78%	105%
South Carolina	78%	105%
Maryland	78%	104%
California	78%	104%
Pennsylvania	78%	104%
Arizona	78%	104%
Indiana	78%	104%
New York	77%	103%
New Hampshire	77%	103%
Vermont	77%	103%
Michigan	77%	103%
Minnesota	76%	102%
Nebraska	76%	101%
Illinois	76%	101%
Arkansas	76%	101%
Alabama	75%	100%
Kansas	75%	100%
Mississippi	75%	100%
Virginia	75%	100%
Utah	74%	99%
North Carolina	73%	97%
Oregon	72%	97%
Idaho	72%	96%
Kentucky	71%	95%
Iowa	71%	95%
West Virginia	65%	87%
South Dakota	65%	86%
Texas	63%	84%
Montana	61%	81%
Oklahoma	60%	80%
North Dakota	58%	78%
Delaware	57%	76%
Louisiana	50%	67%
New Mexico	46%	62%
Alaska	37%	49%
Wyoming	37%	49%
U.S. Average	**75%**	**100%**

Table 9B.
Resident Burden from Tax Increase by State

State	Labor + Consumers Shares	
	Percent	Relative to U.S.
Alabama	75%	100%
Alaska	37%	49%
Arizona	78%	104%
Arkansas	76%	101%
California	78%	104%
Colorado	80%	107%
Delaware	57%	76%
Connecticut	79%	105%
Florida	80%	107%
Georgia	79%	105%
Hawaii	86%	115%
Idaho	72%	96%
Illinois	76%	101%
Indiana	78%	104%
Iowa	71%	95%
Kansas	75%	100%
Kentucky	71%	95%
Louisiana	50%	67%
Maine	83%	111%
Maryland	78%	104%
Massachusetts	80%	107%
Michigan	77%	103%
Minnesota	76%	102%
Mississippi	75%	100%
Missouri	79%	106%
Montana	61%	81%
Nebraska	76%	101%
Nevada	80%	107%
New Hampshire	77%	103%
New Jersey	82%	110%
New Mexico	46%	62%
New York	77%	103%
North Carolina	73%	97%
North Dakota	58%	78%
Ohio	78%	105%
Oklahoma	60%	80%
Oregon	72%	97%
Pennsylvania	78%	104%
Rhode Island	80%	107%
South Carolina	78%	105%
South Dakota	65%	86%
Tennessee	83%	111%
Texas	63%	84%
Utah	74%	99%
Vermont	77%	103%
Virginia	75%	100%
Washington	81%	108%
West Virginia	65%	87%
Wisconsin	80%	107%
Wyoming	37%	49%
District of Columbia	84%	112%
U.S. Average	**75%**	**100%**

Table 10.
State's Resident Share of Current and Incremental Taxes

Business Taxes	Resident Share of Incremental Taxes	Resident Share of Current Taxes
Alabama	76%	48%
Alaska	37%	27%
Arizona	78%	58%
Arkansas	76%	50%
California	82%	62%
Colorado	81%	46%
Delaware	79%	55%
Connecticut	57%	52%
Florida	83%	67%
Georgia	80%	50%
Hawaii	86%	58%
Idaho	72%	44%
Illinois	77%	59%
Indiana	78%	60%
Iowa	71%	47%
Kansas	76%	57%
Kentucky	72%	50%
Louisiana	50%	35%
Maine	83%	63%
Maryland	79%	52%
Massachusetts	81%	58%
Michigan	78%	60%
Minnesota	77%	59%
Mississippi	75%	58%
Missouri	80%	53%
Montana	61%	37%
Nebraska	76%	57%
Nevada	81%	60%
New Hampshire	77%	60%
New Jersey	83%	55%
New Mexico	47%	34%
New York	79%	65%
North Carolina	74%	47%
North Dakota	58%	41%
Ohio	80%	59%
Oklahoma	61%	38%
Oregon	73%	36%
Pennsylvania	79%	58%
Rhode Island	80%	62%
South Carolina	79%	55%
South Dakota	65%	53%
Tennessee	83%	64%
Texas	66%	51%
Utah	74%	49%
Vermont	77%	63%
Virginia	76%	48%
Washington	82%	55%
West Virginia	65%	49%
Wisconsin	81%	57%
Wyoming	37%	25%
District of Columbia	84%	77%
United States	**76%**	**56%**

lower returns to capital, and higher prices paid for goods and services. Because such a large portion of a state's business tax increase will be borne by in-state residents, 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 incomes to labor and lower prices for local goods and services.

These 50-state tax incidence results are consistent with the findings of recent empirical estimation studies of the incidence of national and state corporate income tax increases in an open-border, mobile capital setting. While this study extends the analysis to all business taxes, not just state corporate income taxes, the results are consistent with the findings that in open-border economies, resident workers are expected to bear the largest share of a relative increase in business taxes.

This initial economic incidence analysis of 50 state business tax systems extends the analysis from a few individual states to all 50 states in a comprehensive framework, including all business taxes. The analysis is based on an empirical foundation of the 50 states' total business taxes, in combination with assumptions about the mobility of capital and labor, and the markets in which different industries compete. These initial results, while sensitive to numerous assumptions, provide new empirical evidence on the 50-state economic incidence of state and local business taxes, particularly the economic incidence of one state increasing its business taxes.

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