

SOME LESSONS FROM ANALYSIS OF THE INCIDENCE OF STATE BUSINESS TAXES

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INTRODUCTION

A KEY FOCAL POINT IN TAX POLICY DEBATES AT the state and local level, as well as the national level, is often the balance of tax changes between households and businesses. While the debate is typically 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 ultimately are distributed to households after market prices and outputs adjust to the taxes.

Knowing the economic incidence of business tax changes is important for several reasons. First, the final distribution of business tax increases among resident and nonresident 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.

We have recently extended the Ernst & Young (EY) Council on State Taxation annual report on state and local business taxes (Ernst & Young LLP and Council on State Taxation, 2011) with an analysis of the economic incidence of existing and additional state and local business taxes (Cline et al., 2010; Cline et al., 2010). The study analyzed the economic incidence of business tax increases after changes in behavior of businesses and investors cause the shift of initial legal liabilities from businesses to households who bear the final tax burdens in lower real disposable incomes.

In the course of doing that analysis, there are some lessons learned as well as some future research areas. Some of the key lessons include:

- The burden of existing business taxes can be different than the burden of incremental tax

changes. Often academic incidence studies look at the long-run effects of the existing total tax system, while policy makers are considering incremental changes to the existing tax system.

- Analysis of particular business taxes in isolation may be misleading since companies respond to states' and countries' total tax (and spending) systems.
- Whether business taxes are origin-based or destination-based taxes is an important consideration.
- State tax incidence analyses have previously treated the states as open economies for capital flows but with a closed U.S. economy. Increasingly global competition and global markets will be important to consider in the incidence of state and local business taxes.
- Tax incidence analyses typically have assumed high capital mobility while assuming labor is not mobile. Labor mobility across states and countries, at least within the United States and Europe, is increasing and should be considered.
- Since a high percentage 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. Legislators should consider the positive impact reductions in business taxes can have in terms of higher incomes to their state's workers and in lower prices for local goods and services to their residents.

Our economic incidence analysis treats business taxes as a cost of production, in which all types of business taxes are included. In this paper we present a new analysis showing the incidence effects of an equivalent increase in corporate income taxes, property taxes, and sales taxes on business inputs. Due to industry differences in the initial tax

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liability, we find some differences in the economic incidence of incremental tax changes across these major state business taxes.

PRIOR STATE BUSINESS TAX INCIDENCE ANALYSES AND LESSONS LEARNED

Businesses paid \$619 billion of state and local taxes on their income, capital, and intermediate inputs in 2010 (Cline et al., 2006; Ernst & Young LLP and Council on State Taxation, 2011). 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 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 factory prices and levels of outputs and inputs.

The EY economic incidence analysis, building on prior state business economic incidence modeling by the states of Wisconsin and Minnesota, takes into account the following:

- data on all state and local business taxes,
- industry differences,
- local vs. national market characteristics,
- origin-based vs. destination-based tax characteristics,
- mobile vs. immobile capital and labor, and
- total existing taxes vs. incremental additional taxes.

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.

From a business tax competitiveness perspective, it is important to think about business taxes in terms of *origin* and *destination* taxes. Origin taxes

are those imposed where a firm's production activities occur primarily where a firm's payroll and property – value added components – are located. This 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 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 as is the sales factor apportioned element of state corporate income taxes.

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 of out-of-state firms with lower origin-based business taxes. This would tend to reduce the market share of firms located in high origin-based business tax states.

A firm's ability to pass state and local taxes forward in 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.

Another 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 certain capital is mobile across states and countries, tax changes in a single state cannot be pushed back to mobile capital in lower returns, after capital has had time to adjust. Mobile capital subject to above-average taxes would move to other states until after-tax rates of return to mobile capital are equal in all states. This behavioral response allows mobile capital to escape any above-average state and local tax burden.

In contrast, relatively immobile factors cannot move to a different state and, therefore, will bear more of the business tax burden in lower payments to factors. Our economic incidence analysis assumes that both labor and land are immobile over the intermediate time period used to model the impact 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, natural resources, and labor specialized in 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, but buildings are immobile over the time horizon for the analysis.

There are two distinctly different 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?” This approach assumes that markets have adjusted to the current system of state and local taxes in each state. The analysis is based on a comparison of effective total business tax rates by industry in a particular state relative to the average national effective total business tax rates by industry. 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?” This 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 relative to the

unchanged taxes in all other states. An incremental tax change analysis is most relevant to estimating the competitive impacts and economic incidence of legislative proposals to change one state’s business taxes.

The economic incidence of existing state and local business taxes differs significantly from the economic incidence of incremental tax increases, as shown in table 1.¹ Our analysis estimates that, on average, almost 80 percent of incremental business tax changes will be borne by a state’s residents, compared to 54 percent of existing business taxes.² Much of the incremental business tax increase results in higher prices for state residents, plus a reduction in state wages as mobile capital leaves the state. Over half of existing business taxes is estimated to result in lower wages for in-state workers. Slightly over half of existing and incremental state business taxes are borne by workers.

Because the U.S. average state and local business tax rate is assumed to be a production cost paid by labor and capital factors, none of the U.S. average tax rate is borne by consumers. While deviations from the average tax rate for particular states may result in consumers in certain states bearing the burden of above-average existing taxes and consumers in other states benefiting from below-average taxes, on average, these effects offset each other, so nationally existing state business taxes are not paid by consumers.

The largest share of a state’s business tax increase will be borne by the state’s residents in the form of lower wages, lower returns to capital,

Table 1
Economic Incidence of Total and Incremental State and Local Business Taxes

| | <i>Existing Total Taxes</i> | <i>Incremental Tax Increase</i> |
|---|---------------------------------|-------------------------------------|
| Shifted to Residents | | |
| Shifted Forward to Residents in Higher Prices | 0% | 48% |
| Shifted Back to Residents in Lower Wages | 51% | 29% |
| Shifted Back to Residents in Lower Capital Returns | 3% | 2% |
| Total Borne by Residents | 54% | 79% |
| Exported to Nonresident Owners of Capital | 46% | 21% |
| Total | 100% | 100% |
| Economic Incidence by Workers and Owners of Capital after Allocating Price Effects | | |
| Share Borne by Workers | 51% | 56% |
| Share Borne by Owners of Capital | 49% | 44% |

and higher prices paid for goods and services, on average 79 percent. 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.

Workers and capital owners ultimately bear the burden of taxes passed forward through higher prices in their role as consumers. Based on the share of value added generated by labor and capital, the tax passed forward through higher prices can be reallocated to workers and owners of capital. After this reallocation, workers bear 56 percent of marginal tax increases and capital owners bear 44 percent.

ECONOMIC INCIDENCE EFFECTS OF PARTICULAR STATE AND LOCAL BUSINESS TAX INCREASES

One of the questions we had after completing the initial economic incidence analysis of total business tax increases was the potential differential incidence of particular state and local business tax increases. Our analysis assumes that businesses focus on total state and local business tax costs

rather than particular tax liabilities. A higher-than-average tax could be offset by a lower-than-average other tax, resulting in no overall shifting effects. States generally do not change taxes across the board, but make incremental changes to specific taxes.

Our modeling finds differential economic incidence of particular taxes due to differential industry effects. Industries compete in different markets, so service industries are more likely to be focused on local markets, while tradable goods industries are more likely to have a higher share of national markets. In addition, while sales taxes on business inputs, property taxes and corporate income taxes are all types of capital tax – they fall on different industries in varying degrees.

Further, the analysis of a specific tax increase is done in the context of total business taxes. An increase in the corporate income tax is added to the existing other business taxes, so a higher-than-average business tax state becomes even more above-average after the increase, even if it is below-average in terms of its corporate income tax.

Table 2 compares the distributional effects of specific tax increases to the distributional effects of an across-the-board increase in all state and local business taxes. Over 80 percent of increases in one state's business property tax and sales taxes on business inputs would be borne by that state's

Table 2
Economic Incidence of Incremental State Business Tax Increases by Type of Tax

| | <i>Across-the-board Tax Increase</i> | <i>Property Tax Increase</i> | <i>Sales Tax on Business Input Increase</i> | <i>Corporate Income Tax Increase</i> |
|---|--------------------------------------|------------------------------|---|--------------------------------------|
| Shifted to Residents | | | | |
| Shifted Forward to Residents in Higher Prices | 48% | 52% | 51% | 32% |
| Shifted Back to Residents in Lower Wages | 29% | 26% | 34% | 23% |
| Shifted Back to Residents in Lower Capital Returns | 2% | 2% | 1% | 1% |
| Total Borne by Residents | 79% | 81% | 86% | 56% |
| Exported to Nonresident Owners of Capital | 21% | 19% | 14% | 44% |
| Total | 100% | 100% | 100% | 100% |
| Economic Incidence by Workers and Owners of Capital after Allocating Price Effects | | | | |
| Share Borne by Workers | 56% | 56% | 63% | 41% |
| Share Borne by Owners of Capital | 44% | 44% | 37% | 59% |

residents. The state corporate income tax is more likely to be exported to nonresidents largely due to the state income tax apportionment rules. The sales factor apportionment, with an increasing weight, turns part of the corporate income tax into a destination rather than an origin-based tax.³ Of the 44 percent of the marginal state corporate income tax that is exported, 36 percent is due to the destination sales factor. In contrast, property taxes and sales taxes on business inputs are 100 percent origin-based taxes.

In competitive markets, businesses need to recover all their costs plus provide a competitive return to their capital owners, so an additional dollar of corporate income tax is similar to an additional dollar of property tax or sales tax on business inputs or unemployment compensation taxes. The modeling does not first factor in the economic incidence of particular taxes on, for instance, the local market for low-skilled labor or the local market for land. If above-average property taxes are capitalized in a lower value of land, does that capitalization occur independently of other business taxes or simultaneously with all other business taxes? Similarly, should employer payroll taxes be assumed to fall on workers in the form of lower wages, and thus excluded from business tax economic analysis, or analyzed as part of total business taxes?

SOME FUTURE RESEARCH QUESTIONS

As major tax reforms are considered at the state and federal level, in addition to potential incremental tax changes, economic analyses of who really bears the burden of business taxes will be increasingly important in a highly factor-mobile and global world. In the course of our doing this analysis and other business tax policy analyses, we remain confronted with many unanswered questions. In the hope that other tax policy analysts will build on the existing and prior analyses, we put forward some future areas of research:

- How geographically mobile is labor, and are there different types of labor with greater degrees of mobility? How sensitive are the economic incidence results to labor geographic mobility?
- How important is the distinction between tangible capital and intangible capital? Is

there a distinction between resident and non-resident ownership of tangible and intangible capital?

- How important are the production functions of industries and their relative use of skilled labor, unskilled labor, tangible capital, intangible capital, land/minerals, and government infrastructure?
- When analyzing resident capital owners, how much of their investment has a “home country” bias?
- Should business tax incidence be done separately for specific business taxes (e.g., corporate income tax) before analyzing the effects of total business taxes?
- How do companies distinguish between income taxes, other capital taxes such as property taxes, and noncapital taxes such as employment taxes, in their pricing and investment decisions? Do multistate companies charge price differentials across states due to state business taxes?
- How do business location decisions, and business tax incidence, depend on the benefits to businesses of government expenditures financed by such taxes?
- How quickly do mobile factors adjust to state business tax changes? Are intermediate or long-run estimates appropriate for incremental business tax analyses?

Policy makers are attempting to finance important government services in the most cost effective and equitable way, including the effects on jobs and living standards in their jurisdictions. At the global level, many countries are shifting toward indirect taxes (e.g., consumption and property taxes) while reducing income taxes. At the U.S. federal level, there are proposals to replace the corporate income tax with a subtraction method value-added tax⁴ or increase the share of consumption taxes. At the state level, a number of states are considering lowering or eliminating their corporate income taxes to be replaced with indirect taxes, such as Ohio’s gross receipts tax.

Public finance analysts have a long way to go to answer with confidence the important economic incidence questions. This analysis is a small step, hopefully forward, in a long and exciting journey.

Notes

- ¹ The most recent Minnesota Tax Incidence Study (Minnesota Department of Revenue, 2009: Ch. 4) compares the incidence of business taxes under both the existing tax and incremental tax incidence approaches. The study finds that, compared to the average incidence, the marginal incidence falls less on nonresidents and owners of capital and more on Minnesota consumers and labor.
- ² Table 1 shows the economic incidence of business taxes across all states. In any single state, the incidence may be significantly different due to that state's industry composition and relative tax rates.
- ³ These estimates assume that corporate income tax paid by out-of-state companies due to the destination sales factor does not result in price changes in the market state, and, thus, are fully exported to nonresident owners of capital. To the extent the corporate income tax paid by out-of-state businesses results in price increases on their sales into the market state, the tax would not be exported.
- ⁴ Congressman Paul Ryan (R-WI), chairman of the House Budget Committee, has proposed an 8.5 percent subtraction method value-added tax to replace the federal corporate income tax.

References

- Cline, Robert, 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.
- Cline, Robert, Andrew Phillips, Joo Mi Kim, and Tom Neubig. The Economic Incidence of Additional State Business Taxes: Who Bears the Burden of a State Increasing Its Taxes? A Fifty-State Analysis. *State Tax Notes*, January 11, 2010.
- Cline, Robert, Andrew Phillips, Tom Neubig, and Joo Mi Kim. Who Really Bears the Burden of a State Level Business Tax Increase. *Multistate Tax Commission Review*, XXI (Spring 2010): 4-14.
- Ernst & Young LLP and Council on State Taxation. *Total State and Local Business Taxes: State-by-State Estimates for FY2010*. July 2011.
- Minnesota Department of Revenue Tax Research Division. *2009 Minnesota Tax Incidence Study: An Analysis of Minnesota's Household and Business Taxes*. St. Paul, MN, March 2009.