

Business Taxation, Burden Shifting, and Economic Development

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Abstract: Economic development research has neglected the study of state and local tax incidence. There is no such thing as a neutral business tax. We argue that the architecture and incidence of state business taxes have major theoretical and practical impacts on economic development. For example, they change the terms of a central debate in economic development policy: are customized incentives or low uniform taxes the smartest path to local prosperity. The paper reviews three recent studies of state business taxes with an emphasis on tax shifting. A full appreciation for the incidence of business taxes is still beyond our knowledge base. Hence, the paper concludes with a research agenda designed to explore the relationships between business tax shifting and local economic development.

I. Introduction

Empowerment zones, industrial clusters, business incubators, and amenity spending have all taken center stage in the research on economic development in recent years. But no matter what the effectiveness of these individual, local programs, the fact remains that they are small, and often poorly funded, responses to business decisions and growth patterns set by national and international market trends, federal and state taxes, and a site-location calculus that remains opaque to most economic development planners.

Economic development budgets are only a small fraction of the billions of dollars in business taxes that states collect every year. The fundamental issue here is leverage: Miniscule changes to state tax policy may well have a greater impact on local economic development than even the most effective deployments of targeting policies, empowerment zones, or public-private partnerships. And larger, seemingly technical changes to state tax laws – such as adjustments to the guidelines for apportioning corporate income, or state-level tax cuts that effectively force localities to raise property taxes – are likely to have a significant effect on the desire of firms to locate in specific cities.

And yet for all its obvious impact on employment, the relationship between state-level taxes and local economic development is rarely addressed in our field. To be sure, ample research exists on each subject. Journals like this one constantly bring news and evaluation of new tactics and strategies for improving the economic lot of poor regions and neighborhoods. At the same time, the econometric studies linking lower tax rates and higher employment levels number in the hundreds. However, research linking these two sets of concerns, such as Papke's (1987) study of the decision-making process by which

firms evaluate relocation to cheaper production climates, remains rare and exerts only a small influence on either debate. It would be excessive to label the problem as one of two ships passing in the night, but there is a fundamental lack of communication between these two sets of research. Local economic development officials and policies concern themselves with specific programs, taxes, and employers. Meanwhile, the literature on taxes seeks aggregate statistical relationships between overall business tax levels and overall employment.

The two need not be incompatible. Buried in the econometric research on taxes and jobs are theories, ideas, and fledgling research on the specific impact of tax levels and individual types of taxes on different industries and firms. And implicit in the literature on local economic development is the reality that local programs are responses to the inability of state-level economic development programs to sufficiently assist poor areas and regions.

In this article, we reassert the importance of state tax policy in local economic development. We do so mainly through the concept of tax incidence, which asks the question “who bears the burden of taxation?” The statutory burden of a business tax is seldom the same as the economic burden of that tax. An obvious and familiar example is the sales tax, which is *paid by* merchants but is *paid for* by consumers in the form of higher prices. Quite simply, the tax is shifted from the merchant to the customer.

Although state-level taxes are typically seen as neutral – they are often cited as preferable to local economic development programs because it is believed they induce no market distortions – the concept of tax incidence allows us to see how the same tax falls on different firms in different ways. Service and manufacturing businesses, single-

location and multi-state firms, businesses with few employees, many employees, or minimal land use, will all be impacted in different ways by the unique combinations of corporate income taxes and fees, sales taxes and property taxes found in each state.

In other words, the details of state tax policy play an important role in determining the profitability of specific local industries and firms. Our proposals for research on tax incidence are designed to improve our knowledge of the crucial impact of state finance on local economic development strategies.

The study of tax incidence is also valuable as a *method* for bridging the disconnect between these two schools of research. By understanding the impact of taxation in terms of a business's unique use of land, capital, importing, exporting, and so on, tax incidence replaces research on taxation as a 'one-size-fits-all' category with research addressing the specific business issues of prime importance to local economic development. In short, it brings us closer to pulling these two concepts together, and provides a conceptual structure for relating the complexities of tax policy to the day-to-day efforts of disadvantaged regions to improve their economic stature.

In this paper we argue that economic development researchers and practitioners need to more fully consider the intricacies and implications of tax incidence. Substantial research on these issues is by no means lacking. A quick perusal of the non-academic literature for state taxing agencies turns up numerous articles on tax avoidance (see Shipley et al. 2004), the structure of business taxes (see Cline et al 2004) and even formal economic development programs (see Witter 2004). But we do lack a coherent academic framework for incorporating all these disparate pieces of research into the study of economic development. In section two, we survey the existing literature on local

economic development, taxes and employment, the business response to taxation, and tax incidence. Section three demonstrates the considerable impact of the architecture and incidence of state business taxes on a central policy debate in economic development: whether customized incentives or low uniform taxes are the smartest path to local prosperity. In section four, we review three recent studies of state corporate franchise and income taxes with an emphasis on tax shifting and avoidance across industries. The extent of shifting is highly sensitive to industry and firm specifics, but our knowledge remains limited. In section five, we address these limitations and offer a research agenda designed to explore the wide range of relationships between business tax shifting and local economic development.

II. The State of the Literature

The separation of local economic development from tax policy is embedded within, and entrenched by, the prevailing research topics in the field. The literature on these subjects can be placed into four groups. The first two groups – local economic development initiatives and tax effects on employment – are mainstays of economic development research, and should be readily recognizable to most readers of this article.

The second two groups of research, which are more important to our arguments below, are perhaps less familiar. Group three, research on taxes and the firm, attempts to determine the ways in which individual taxes impact specific firms. This line of research looks something like the bread-and-butter research on taxes and employment, but differs in its focus on individual industries, firms and taxes, rather than on employment and taxes

in the aggregate. This paper is most concerned with the fourth research topic, tax incidence and avoidance. A brief review of these various strands of literature follows.

Most recent economic development research, such as “third-wave” strategies (Bradshaw and Blakely, 1999), Porter’s work on the competitive advantage of inner cities (1995) and clusters (2000), and regional capital (Foster, 2000), focuses on state and local policy responses to poverty and joblessness. Tax policy appears episodically in the bread-and-butter economic development literature, mostly in the form of proposals for tax incentives, tax abatements, and other firm-specific attempts to influence location decisions. But taxes in the broader sense are rarely addressed by this literature. After all, if industry targeting, clusters and regional capital prove to be as effective as their proponents believe, state tax policy really is just a peripheral issue to the more important goings-on of local economic development policy.

Another subset of economic development literature, typically authored by economists, has asked whether taxes matter to local employment. This literature consists of hundreds of studies examining the linkages between changes in business taxes and employment growth. But while methodological thoroughness and sheer volume of these studies is promising, as a whole, they have not appreciably clarified the relationship between taxes and employment. As Lynch (2004), Buss (2001), Wasylenko (1997) and Bartik (1994) have noted in their reviews of the literature these studies consider different sets of taxes (an understandable problem, since there is no catch-all business tax to include as a variable); different levels of policy and geography (i.e., some include Federal taxes, some focus on differences across states, and some on differences across regions); and different outcome variables (employment, employment growth, profit growth, etc.).

More problematic for economic development scholars eager to translate research into policy, these studies typically do not account for differences in the impact of the same tax on different firms and industries. Consider that high property tax rates, for example, will have a more severe impact on a land-intensive warehousing business than on a convenience store. Similarly, high sales taxes will have the largest adverse impact on firms in industries that are unable to pass on the costs of taxation. Policy makers need more information on these and similar issues to fully understand the relationship between taxes and local employment. But the existing research treats taxation as a one-size-fits-all category, a practice that has made it difficult to bridge the conceptual gap between taxation and other economic development issues.

A newer, promising approach to these issues focuses on the ways in which taxes influence the cash flow and profit-making calculus of firms in different industries. Fisher and Peters (1998) model the impact of different combinations of taxes on a set of archetypical firms representing a number of individual production industries. Based on income statements and balance sheets for these representative firms, they find that the same set of tax incentives will be worth substantially varying amounts to different industries. Due to differences in size, labor and factor usage, and spending patterns, equivalent sets of tax incentives are worth substantially different amounts to different types of businesses.

In the Fisher and Peters model, an equally sized incentives package is worth twice as much to a large drug firm than it is to a large plastics firm, more to a small industrial machinery producer than to a large furniture maker and so forth. Why? These firms make money in different ways, using different combinations of land, labor, out-of-state sales,

and equipment acquisition. No tax incentive will offer the same benefit to all firms because each firm relies on taxed activities in a different way. This approach to the issue makes it clear that there can be no such thing as one-size-fits-all taxation.

This paper concerns itself primarily with a fourth school of research, which focuses on the concept of tax incidence. At base, tax incidence amounts to asking the simple question of whether taxes stick where they hit. Are they shifted in the short-run? Are they shifted further in the long-run? The burden of paying corporate income taxes, personal income taxes, property taxes, sales taxes, and others varies by industry and firm type. Some firms find it easy to pass on the cost of sales taxes to consumers; others do not. Businesses that compete solely in local markets are generally able to pass on the cost of income taxes, but those that compete in other tax jurisdictions are likely to absorb much of the cost of taxation.

A series of state sponsored studies has begun to trace the ways in which the concept of tax incidence affects our understanding of who pays taxes and when, exactly, higher tax rates constitute the competitive disadvantage they are implicitly treated as being in econometric studies of taxes and employment. Tax collection authorities in Minnesota (Minnesota Department of Revenue 2003) and Texas (Texas Comptroller of Public Accounts 2003) have issued researched reports that distinguished the impact of business taxes on locally competitive industries from the impact of taxes on nationally competitive industries. Although they are only speculative in nature, these reports represent serious attempts by state governments to identify who actually pays taxes.

Tannenwald (2003) takes this logic further by examining the incidence of other taxes, including corporate income and personal income taxes and by distinguishing between

export-oriented industries, which have difficulty passing on the costs of taxation, and place-bound, or locally competitive businesses, which can generally pass on the cost of taxation without placing themselves at a competitive disadvantage

There are several reasons, then, why studying tax incidence in greater depth promises to yield a better understanding of state tax policy and economic development. Tax incidence represents in many ways an extension of the logic Fisher and Peters use to distinguish the value of different taxes to different firms. While their analysis is concerned primarily with cash flow within the firm, the concept of tax incidence allows researchers to go a step further and ask how, and by which mechanisms, taxation affects the behavior of businesses and consumers. In simpler terms, tax incidence provides an analytical framework for understanding the ways in which every tax plays favorites among businesses and industries. This is of vital importance to economic development. By making distinctions between the impact of the same tax on different industries, the study of tax incidence raises the possibility that changes in the *structure* of taxation (i.e., in the share of total taxes levied on sales, property, corporate income, etc.) may have a more profound impact on the business climate of a state and its metropolitan areas than do changes in the total *amount* of taxation.

III. Tax Incidence and the Debate Over Neutral Business Taxes

Traditional state economic development programs emphasize the assembly of a unique package of subsidies designed to lure an attractive employer. Such approaches have been criticized by many scholars of economic development. Citing the literature on business taxes and employment growth, they have argued that lower overall business tax

rates constitute a wiser economic development strategy (Buss, 1999a). This argument stresses the advantages of “neutral” taxes applied “evenly” to all businesses and firms – thus minimizing marketplace distortions created by tax abatements or subsidies granted on a firm-by-firm basis (Buss, 1999b, Burstein and Rolnick 1995, Netzer 1997, Bartik 2001). Such an approach also limits the errors that inevitably occur when economic development officials try to guess whether firm-specific tax breaks and incentives will actually induce a business to relocate to their jurisdiction (Bartik 2001).

Serious consideration of tax incidence calls into question many of the claims made in support of the low-tax/neutral-tax strategy of economic development. The first lesson of tax incidence is that there are no neutral taxes. No tax will affect every business in the same way. Even seemingly neutral taxes, such as a state-wide corporate income tax have the effect of favoring some industries, firms, and competitive strategies over others.

Before the businesses in a state are made to pay the corporate income tax, there are many factors to consider, all of which impact the statutory incidence of the tax for an individual firm. To begin with, apportionment formulas, which determine the portion of a multi-state firm’s income that is taxable in an individual state, assess a different share of taxable income to firms with varying proportions of in-state sales, labor costs, and real estate costs. In many cases, these formulae reduce the in-state tax burden of firms with substantial out-of-state sales, as those sales increase the size of the denominator in the fraction used to determine tax eligibility (Fisher 1995: 227-228). Consider the case of two firms, A and B, with equivalent sales (\$1 million in a state), but different levels of out-of-state sales – \$5 million for firm A and \$10 million for firm B. Although they do an equal amount of business in the taxing state, firm B will, under most apportionment measures,

have less taxable income in the state. As a result of calculations like these, the portion of income subject to taxation will vary from firm to firm. Another important point is that apportionment often turns out to be a moot issue: As recently as the late 1990s, it has been found that more than sixty percent of all corporations report no federal tax liability (United States General Accounting Office 2004). Because state corporate taxation is based on federal tax liability, this means that more than half of corporations pay no state taxes – an immensely important datum to a debate in which high tax rates are presumed to have a strong influence on business behavior at large.

Furthermore, many businesses incorporate as S-corporations, LLCs and partnerships, which are subject to different, and frequently lower, tax rates than C-Corporations. For another example, consider that larger corporations have in recent years grown adept at transferring ownership of their trademarks and patents to so-called “passive investment companies” located in states with friendly tax codes (Mazerov 2003). This practice allows hundreds of millions of dollars in income to be shielded from taxation in a majority of states (ibid.). We point to these examples of tax avoidance not to single them out, but rather to emphasize the prevalence and evident success of business efforts to avoid the taxes presumed to influence the location decisions of so many firms. Even before considering how these businesses shift the burden of taxation they do pay, it is clear that their nominal tax burdens are often substantially lower and more varied than state tax rates indicate.

Examining the economic incidence of this tax – the degree to which individual firms actually bear the cost of the tax, as opposed to passing on the cost – further complicates the picture. The impact of the tax will vary by industry. As will be discussed in more

detail below, firms in locally oriented industries have more latitude to shift taxes, as they and their competitors face the same set of tax laws. Firms in export-oriented industries compete with businesses in other states – businesses which may face lower corporate income tax rates. Because raising prices may place them at a competitive disadvantage, these are may be more likely to absorb the cost of taxation¹. Other issues, such as market structure, capital intensity and corporate ownership are also likely to influence the degree of tax shifting (see below).

Once the impact of the different incidence of specific taxes is considered, the low-tax position – which holds that tax cuts affect most firms and industries equally – has been stood on its head. Tax incidence shows that cutting a single tax will not produce the same impact on all businesses in the state, or even all firms in an industry. Making economic development policy through the tax code does not produce the same pattern of uneven benefits that subsidies and development incentives do, but it does produce a substantial unevenness of its own. Neither pattern is necessarily to be preferred to the other, but each has profound implications for tax policy and economic development. This important point has gone largely unremarked in the literature.

Accordingly, we must re-examine economic development strategies premised on the notion that equitable, non-discriminatory development can best be achieved by advocating one-size-fits-all tax changes that impact all firms equally. We also must re-evaluate the debate above in light of the knowledge that specific tax changes will benefit some types of industries and firms while hurting others.

¹ It should be noted that some tax analysts have called for the three-part apportionment formulae – sales, labor costs, and real estate costs – most states use to calculate tax-eligible income to be replaced by a sales-only apportionment formula that would eliminate this divergence between local tax burdens and nationwide competitive pressures. See *, *.

Ideally, we would turn to the public finance literature for guidance on the intricacies of tax incidence. But by and large, scholars of public finance confess that empirical knowledge on the subject is scarce. The leading textbooks in the field (Fisher 1995, Rosen 2002) acknowledge that taxes fall differently by industry, but they are unable to specify particular relationships between individual industries and taxes.

Another problem with this literature is of particular concern to the economic development field. The economic models which guide the research on taxation and public finance are based on a hypothetical state of perfect competition between firms, in which industries are inhabited by a large number of firms offering goods with minute differences and competing on the basis of price. In reality, the businesses with which economic development – and particularly economic development involving subsidies and tax abatements – is concerned frequently are oligopolistic firms to which the assumptions of perfect competition do not apply. Automakers, large electronics makers, aerospace manufacturers, and other targets of economic development bidding wars operate in industries dominated by only a handful of firms. On this issue, the public finance literature falls short. As Rosen (2002:268) explains, “Unfortunately, there is no well-developed theory of tax incidence in oligopoly. The reason for this embarrassing fact is simple: Incidence depends primarily on how relative prices change when taxes are imposed, but there is no generally accepted theory of oligopolistic price determination.” If oligopolistic firms operate cartel-like and benefit from reduced production, a tax that puts downward pressure on supply might actually benefit them in the form of an offsetting price-hike.

A detailed discussion of oligopoly is not our primary concern here. Nevertheless, the point is clear: The prevailing literature on taxes and employment is ill-equipped to deal with taxation at the state level, and surprisingly silent on the questions of industry and policy specifics central to serious economic development efforts.

Up to this point, the question in economic development has always been, What do *we* do about taxes? Below, we propose that our field address this question by answering a more basic question that has been overlooked for decades: What do these *firms* do about taxes?

IV. State and Local Tax Primer for Economic Development

More often than not, when a business tax is debated at the state or local level, its opponents will raise the specter of businesses fleeing the jurisdiction in question in response to this increase in taxes. What seems particularly odd about such warnings is that they make virtually no distinction between taxes borne by business owners and those that are in fact shifted to customers or other economic agents.

Surely, it makes a difference who pays the tax in question. In fact, the first rule of public finance is that the statutory incidence of a tax does not necessarily correspond to the economic incidence. The short-run output adjustments and long-run investment impacts of taxes depend crucially on the ability and incentives for business owners to shift taxes. As such, it is important that economic development practitioners and researchers understand the intricate and specific ways in which the burden of paying for taxes is shifted around within the local economy.

The economic incidence of state and local taxes on businesses will vary across types of taxes, market structures, degree of factor mobility, degree of capacity utilization, and the extent to which competing firms are subject to the same tax regime. Below, we examine these questions through the lens of industry – an intuitive category for understanding the production characteristics of different businesses and the external environments in which they operate. Of course, even at this level, firms differ in size, degree of market power and long-term strategic goals. Moreover, the local taxes to which firms are subject – particularly property taxes – vary. We do not pretend to account for all of these issues below. Instead, we seek to demonstrate the large impact that any one of these firm-level specifics can have on the incidence and impact of a tax.

The range of possibilities is truly overwhelming. For most of the relevant issues, public finance economists have yet to work out rigorous theoretical analyses. As a result, we know that a firm’s land-use characteristics, export patterns, or balance of labor versus capital in the production process, impacts that firm’s availability to shift the cost of taxation. But we can only theorize as to how. Doing so is crucial. In our view, these differences are of the essence of local economic development policy. Economic development policies should acknowledge *and indeed exploit* such differences in the business sector. Those who call for an “even-handed” or “neutral” approach in business taxation will no doubt question this approach and criticize the way it seemingly creates market distortions by fine-tuning tax policy to have different impacts in different industries. But if the incidence of business taxes varies considerably across localities, industries and firms in a given state, then “neutrality” can only be achieved by understanding and responding to these differences, just as we propose.

In the section below, we review the growing body of tax-incidence research being conducted by many states. Because this research is in an early state of development and only touches on basic issues in tax incidence, we then offer a primer on the central questions at issue in tax incident research. We do not pretend to answer these questions – if anything, it is our goal to raise many new questions. Instead, we aim to communicate a) the wide range of issues that can impact the incidence of a tax, b) the need for research on tax incidence to situate tax incidence within a realistic and dynamic model of the economy, instead of the simplified economy of textbooks, c) the importance of incorporating macroeconomic ideas, and particularly those of involuntary unemployment and underemployment, into the analysis of who actually pays for taxes and d) the reality that by researching tax incidence, we gain a means of organizing previously piecemeal insights and concerns about taxes and economic development.

Evidence from Three Recent Studies: Tax Incidence Cuts the Tax Burden by More than One Half

As of 2001, nine states had developed tax incidence models to assess the distribution of the tax burden (Mazerov 2002). These models are in early stages of development and do not represent definitive work on tax incidence; they are essentially speculative. Nevertheless, the degree to which these models reduce the estimated corporate tax burden is striking. In a pair of recent studies, for example, the states of Minnesota and Texas projected the cost of franchise taxes was borne principally by consumers and workers, not the businesses who are presumed to be most impacted by higher tax rates. Our own research in Illinois appears to point to many of the same conclusions. Seen from this

perspective, applying a theory of tax incidence to research on state tax collections does not trim a few dollars here and there – it completely overhauls our understanding of the magnitude and distribution of the tax burden.

In this section, we briefly review the findings of the Minnesota and Texas and Illinois studies in order to illustrate the magnitude of the issues at stake. Because these studies are, like others, based on preliminary models of tax incidence in state finance, we also present and discuss a handful of hypothetical scenarios that illustrate the way in which seemingly small assumptions about tax incidence and the way it is modeled result in large-scale transformations in what we understand to be the actual tax burden.

In 2003, the tax revenue divisions of the states of Minnesota and Texas issued reports analyzing the incidence of different business taxes in their respective states. This year a research team at the Center for Urban Economic Development at the University of Illinois at Chicago began conducting a study of the incidence of Illinois business taxes. Such taxes had become a major issue in the debate over the State of Illinois’ budget (see Illinois Chamber of Commerce 2004). Results from this research have not yet been finalized. However, we can say that although the three reports use substantially different methodologies and come to different conclusions on specific estimates of the share of taxation borne by different parties, they concur on one basic finding: In many cases, business taxes are borne primarily by parties other than the business from which the taxes are actually collected. For example, all three studies found that the majority of the commercial-sector corporate tax burden is shifted to consumers (tables 1-2):

Table 1: Distribution of the Corporate Franchise Tax Burden: Minnesota

	Taxes Borne by Minnesota	Taxes
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Industry	Taxpayers			Exported
	Consumer	Labor	Capital	
Commercial	53%	8%	3%	37%
Manufacturing	12%	9%	3%	76%
Public Utility	49%	8%	3%	40%
Mining	2%	17%	0%	81%
All Sectors	42%	8%	3%	47%

Source: Minnesota Department of Revenue (2003). Rows sum to 100%

Table 2: Distribution of the Corporate Franchise Tax Burden: Texas

Industry	Taxes Borne by Texas Taxpayers			Taxes Exported
	Consumer	Labor	Capital	
Commercial				
Construction sector	90%	7%	0%	3%
Trade sector	63%	19%	0%	18%
Finance sector	47%	16%	1%	37%
Service sector	84%	7%	0%	9%
Manufacturing	19%	43%	1%	37%
Public Utility	90%	4%	0%	6%
Mining sector	10%	29%	2%	59%
Agricultural sector	10%	34%	2%	54%

Source: Texas Comptroller of Public Accounts (2003). Rows sum to 100%

Findings like these make it clear that regardless of the caveats we must attach to the fledgling research on tax incidence, we must recognize that the numbers used in most current studies of taxes and employment do not accurately measure the actual tax burden experienced by businesses. This finding is particularly important for our interpretation of the econometric work on tax rates. If these studies do not account for tax incidence, the relationships they model between tax rates do not account for the amount of taxation actually borne – or the change in profit potential seen – by individual firms. If the businesses operating in an industry possess the power to pass on most or all of the costs of taxation, equations linking employment levels in these firms to small changes in the

tax rate cannot measure the direct relationship they claim to analyze. Other mechanisms are clearly at work.

Of course, critiquing current econometric models for their non-consideration of tax incidence is not the same thing as building a viable model of tax incidence capable of replacing or augmenting the current research methods. The Texas and Minnesota studies, compelling though they are, are testament to this. Although they are based on similar methods and theoretical interpretations, and although their authors have in fact communicated and to an extent shared ideas (Texas Comptroller of Public Accounts 2003), they differ substantially in both method and result, above and beyond the differences in the incidence of the tax burden that can reasonably be expected in different states (table 4).

Table 4: Comparison of the Estimated Incidence of the Corporate Franchise Tax on Manufacturing

Share of Taxes Borne by State Residents...							
Consumers		Labor			Capital		
MN	TX	MN	TX	MN	TX		
12%	19%	9%	4%	3%	1%		

Source: Tables 1-2 above.

It is tempting here to delve into a line-by-line comparison of the methods analysts in Texas and Minnesota used to produce these estimates. But using such a detailed comparison to discuss the issues and debates besetting an essentially new strain of research would be fundamentally misleading. The research on state business tax incidence remains in an early state of development. It is still rough, and still confronting

basic questions whose resolution will have far more impact on future estimates of the tax burden than will the technical differences in the studies.

To illustrate the size and the impact of these issues, we outline two basic, but different sets of theoretical assumptions that can be brought to bear on the study of tax incidence. These assumptions are not exhaustive, but rather illustrative of the fundamental changes to the size and distribution of the tax burden that result from drawing a different theoretical picture of the way in which the economy actually operates.

The first set of assumptions is familiar to anyone who has taken a microeconomics course. In this model, markets are intensely competitive and well functioning, there are no transportation costs, and businesses, capital equipment, infrastructure and labor are quite mobile.

The second set of assumptions sketches a theoretical economy that looks more like the one we live in. To begin with, competition between businesses is not perfect and uniform, but is instead shaped by the market-setting power of oligopolistic corporations. We augment this by distinguishing between export-oriented firms that conduct business across state lines and locally oriented service firms. This world is also more like our own in another way: Labor is relatively immobile. Workers are tied to their homes, families and communities, and will not leave them unless necessary. And lest we forget that most state economic development efforts are motivated by a concern to bring good jobs to the state's communities, this second set of assumptions allows for the very real possibility of unemployment. Adding unemployment to the equation changes the outcomes of the dynamic process in which the shifting of the tax burden impacts business earnings and real wages. It illustrates the degree to which adopting a model that faithfully accounts for

the realities of a dynamic labor market changes our understanding of the winners and losers resulting from specific changes to tax policy.

Tax Incidence in a Textbook-Simple Economy: Winners, Losers and Implications

If the economy behaves as economics textbooks predict, who pays for an increase in the state corporate income tax? We ask this question because it poses an uncomplicated backdrop against which to examine the issues and implications of the seemingly unimportant mechanics of measuring tax incidence. Corporations, their workers and their owners have virtually no commitment to place. If a state raises its corporate tax above the national average, corporations, their workers and their owners will be tempted to leave. Land, obviously, is fixed, meaning that the cost of taxation will be shifted to land owners in the form of lower rents and land values. No firm will stay in the state without lower land costs to offset the diminished profits it faces from the increase taxes.

Even in this simplified scenario, tax incidence analysis makes it clear that the impact of a tax increase will not be even across industries and firms. Land-intensive industries such as extraction industries, manufacturing and warehousing will not suffer from a corporate tax increase. Why? When the price of land falls in compensation for the higher tax levels, the cost of business for these land-intensive firms falls in tandem.

On the other hand, industries that use little land (per dollar of profit) will stand at a disadvantage, as they benefit less from the decrease in market rents and land prices. In standard microeconomic theory, then, land-intensive industries will expand in the state, while those using little land will contract. Even under these textbook assumptions,

business taxation has economic development consequences. A seemingly neutral tax has favored the growth of some industries and burdened others.²

Tax Incidence in an Economy with Oligopoly, Export Industries and Immobile Workers

The actual economy in which U.S. firms operate looks little like the simple one sketched out above. In place of perfectly competitive markets, most firms operate in imperfect markets of various types. The large firms cities court through economic development programs generally operate in oligopolistic industries in which a handful of large corporations dominate. In such an economy, large businesses cannot relocate swiftly and costlessly to changes in taxation. At the same time smaller firms servicing local markets have little competition from outside the state—transportation costs money. Most important of all from the vantage point of economic development officials, workers are invested in their communities and only rarely move for the promise of employment elsewhere. Moreover, unskilled workers are particularly vulnerable to unemployment whether cyclical or structural in nature.

How does the theory of tax incidence play out in this more realistic model of our economy?

First, and most obvious, firms competing in locally oriented retail and service sectors will respond primarily by raising prices to cover the costs of taxation. That is, they will shift the incidence of taxation to consumers. This is possible because in local markets, businesses can raise prices without placing themselves at a competitive advantage – their

² Has population in this state gone up or down? The answer depends on whether the more land intensive firms that now dominate the state use more labor per acre than the firms that have fled.

competitors also operate in local markets, and face the same basic costs (Baiman et al 2003). It should also be noted that because consumers are also workers, this response to a tax increase ultimately falls on labor. With goods and services costing more, the real wage of workers in the region has effectively fallen. In this case, a tax increase has not placed locally oriented businesses at a competitive disadvantage compared to other states, but it has had a small downward impact on real wages.

Firms operating in national markets will respond to this tax increase differently. Although they have substantial market power as large, oligopolistic corporations, it is unlikely that they will take advantage of this power to raise national prices. To begin with, the state corporate income tax increase does not necessarily affect competing firms, at least not to the same degree – raising prices to cover the cost of the tax will place that firm at a competitive disadvantage vis a vis firms that do not pay as large an amount of state taxes.

More broadly, many oligopolies place priority on increasing their market share and achieving a broad target rate of profit. A modest corporate income tax increase in a single state is likely to result in an operating-cost increase of 1% or less in that state (Lynch, 2004). With the goal of expanded market share in mind, these firms are likely to accept short-run burdens and absorb the cost of increased taxation, the better to compete nationally for increased sales.³

Like all discussions of tax incidence and business strategy, this discussion could turn to specific questions of factor adjustment, in-and-out migration, and long-term industrial

³ Over the long run, such firms may well explore their options for shifting tax burdens to their workers. At the upper end of the wage ladder, workers are likely to be more mobile. However, unskilled and low-wage workers will be less capable of avoiding the shifted tax burden both because they are more committed to “place” and more vulnerable to unemployment in potential out-of-state destinations.

equilibrium. We again wish to stress that these are all important issues which future work on tax incidence must strive to address. But the crucial point here is the simpler one: that locally and nationally oriented businesses respond to tax increases in fundamentally different ways. This finding highlights a simple distinction researchers can make in future work on taxation and tax incidence. Whatever the nuances of their responses to tax increases, locally and nationally oriented firms operate on separate playing fields in which the available responses, the prevailing time horizons and the relevant competitive pressures all differ. Theoretically and practically speaking, these two types of businesses cannot be deemed to represent a meaningful or coherent business response to taxation. They are separate, and different.

VI. Research Agenda

Making room for the concept of tax incidence in economic development practice requires a substantial expansion of the economic development research program. We simply do not know the answers to many basic questions—questions about how tax shifting works and how it influences business decisions. What follows is the beginning of a relevant research agenda that can help researchers and practitioners more fully understand the place of state taxes in local economic development.

The Impact of zero corporate tax liability on business behavior

Research on the impact of tax rates on employment and economic growth suffers from the simple reality that more than 60% of corporations – i.e., the big employers with which

economic development is concerned – manipulate the tax code so adroitly that they rarely pay income taxes at all (U.S. General Accounting Office 2004). It seems clear that these corporations do not respond in the same way to changes in income taxes as do other firms. An income tax increase is unlikely to diminish their profitability, and a tax cut is unlikely to improve it.

The prevailing scholarship on taxes and employment, which treats the response of every firm to tax cuts as essentially the same, does not account for this fact. The opportunity to improve our knowledge here is substantial. Economic development research will profit if academics ask a few simple questions. Who are these corporations that do not pay corporate income taxes? Are they at the center of economic development policy (such as Boeing, Mercedes, and other large corporations that states and cities repeatedly woo) or are they smaller, lower-wage firms at the margins of the policy discussion? How do these firms with no tax liability respond to changes in taxation? At what level of tax liability does a firm become essentially indifferent to changes in tax rates? These important questions can only be pursued through the concept of tax incidence. Answering them will help practitioners to make distinctions between firms that will and will not be impacted by tax policy and development incentives.

Micro-Data Studies of Employment and Taxation

Most studies of taxation measure the aggregate business response to taxes, most typically by focusing on aggregate changes in employment or profitability as tax rates change. Although this approach is statistically convenient, it obscures firm-specific details of deep importance to economic development. In reality, there is no collective business response to taxation – there are only the responses of individual businesses.

Modeling the business response to tax changes at the firm level substantially changes our understanding of how taxes impact economic development policy.

Our recent research on the business tax burden in Illinois provides a good example. Using data on total tax collections, the Illinois Chamber of Commerce (2004) estimated a direct corporate income tax burden of \$2.45 billion in Illinois for Fiscal Year 2003. Our own estimate, based upon firm-level tax return data, was substantially smaller. Access to actual tax returns allowed us to add several important details to this analysis. The first calculation we made was in no way theoretical: we immediately subtracted the \$600 million in tax refunds paid to corporations during 2003 from the total tax collections. Because the tax returns had information on tax payments by SIC code, we were also able to incorporate tax incidence into our calculations (by assuming that taxes on the in-state portion of a firm's business could be passed on without placing it at a competitive disadvantage). As a result of these considerations, we estimate the total corporate income tax burden in Illinois at approximately \$528 million – less than a quarter of the estimate derived from aggregate tax collection data.

We will make the obvious point first. As Wasylenko (1997) found in his review of the tax literature, basing a tax estimate on micro-data instead of aggregate produces a substantially smaller estimate of the total tax burden. But a less obvious point pertains as well. Fully one quarter of the difference between our estimate of the business tax burden in Illinois and the Chamber of Commerce's estimate comes from our subtraction of income tax refunds from income tax payments. This discrepancy is telling: Micro-data allows researchers to base their findings on a fuller and more accurate representation of actual systems of taxation. Without microdata, there is no reliable way to account for the

tax refunds, apportionment formulae, and industry-by-industry tax shares that are essential to asking sophisticated questions about taxation and tax incidence.

State government, national and international corporations: What's taxable where?

State corporate income tax rates have become less comparable in recent years, as some states have adopted liberalized federal depreciation rules, while others have not (Fisher 1995). Just as important, tax apportionment formulae, which determine the share of a multi-state firm's income that is taxable by a state, differ in their weighting schemes and the way they use sales location to calculate total income (ibid). As a result, the same tax rate means different things in different places, and tax rates are not directly comparable across places, even when they appear similar.

Substantial progress in understanding tax incidence can thus be made by studying the relationship between the intricacies of apportionment, depreciation, and other supporting tax law features and the effective corporate income tax rate. Even a simple typology of apportionment codes would help to advance scholarship on the impact of taxes on specific industries. For example, which industries see lower corporate income taxes as a result of apportionment formulas that liberally account for out of state sales? Which are harmed by apportionment formulas that place high weight on property owned in state? These questions are relatively straightforward: researching them would be both uncomplicated and rewarding.

Put services back in the taxation equation

If we take away from the theory of tax incidence nothing more than the observation that different types of firms and industries respond in unique ways to government policy, we become obligated to parse not just the specifics of taxation, but also focus in greater

detail on the differential impacts of government spending. As is the case with taxes, a single spending program does not spread its benefits around evenly: Some industries profit more than others from transportation spending, or communications infrastructure, or strong spending on workforce development.

By changing the basic tax-incidence question of “Who pays?” to “Who benefits?” researchers have a binding logic with which to produce a more thorough understanding of the impacts of public spending. Future studies could trace the benefits of different types of public spending – education, infrastructure, social welfare – for firms of different sizes, in different industries, and with different propensities to export.

This is an especially timely project. The scholarly indifference to government spending is already lamentable (see Lynch 2004). The emerging literature on public amenities and service-industry business growth (see Florida 2003, Jenkins 2003) makes it clear that public spending plays an important role in creating the high quality-of-life environments (characterized by public support for the arts, for park space and other urban amenities, etc.) that help to attract and retain the high value-added businesses at the center of most economic development agendas.

Define the Tipping Points at Which Firms Actually Change Their Behavior

Our arguments here aim to replace sweeping findings about the general relationship between taxes and employment with a more specific and concrete set of findings about individual taxes, firms, industries and places. Moving from statements about the business response to taxation in the aggregate to the response of individual firms is a fundamental part of this project. Doing so involves a conceptual shift away from defining the average business response to changes in tax policy to the response of individual businesses.

The two work very differently. While employment growth *on the average* might rise and dip slightly with changes in taxation, employment growth *in an individual firm* will change differently: The firm is unlikely to respond dramatically to many successive individual change in taxes, but may move its entire facility or workforce after a series of tax changes has reached a tipping point. The mechanics of these tipping points matter for economic development. If one or two tax changes will not change employment trends, but five or six tax changes will, state officials need to be able to identify where the line is crossed.

Account for the impact of corporate ownership, franchising, and other determinants of cost structure and business strategy.

We have spent much of this paper arguing for the need to separate firms by industry type and industry characteristic when researching tax incidence and economic development. But looking at industry type alone may obscure other readily observable differences between businesses. Similar businesses with different types of ownership seem likely to respond differently to changes in taxation. Compare, for example, two competitors: a locally owned drugstore and the nearby franchise of a national drug chain, such as CVS. The locally owned store is not subject to the franchising rules of its competitor, and has as its primary goal providing a decent, single-site profit for the owner. The chain store, on the other hand, has its responses bound by corporate franchise rules and other considerations, such as nationwide market share, to which the local store is not subject.

It is not difficult, then, to see that the chain store is likely to respond differently to a tax increase. Franchising rules might restrict its ability to raise prices, change product offerings, or pass the costs of taxes on to workers or consumers. And the national chain's

focus on market share might force the franchise to absorb the cost of the tax without raising prices in compensation – in short, it might dictate that the franchise uses the tax increase to intensify cost pressure on its rivals, and not to preserve the previous profit margins. The specifics of these responses are, of course, not certain. We raise this issue not to define the different responses of locally owned and franchise businesses to tax increases, but instead to call attention to the fact that these responses are likely to be a priori different.

Settle the basics: What is the true tax incidence of sales taxes?

Low-end and high-end estimates of business tax burdens concur that businesses rarely bear the entire cost of sales taxes (see Illinois Chamber of Commerce 2004). But beyond this basic consensus, little about the incidence of sales taxes, there is little agreement. In our current study of the tax burden in Illinois, we use an input-output matrix to model both the degree to which businesses can pass on the cost of sales taxes to consumers *and* the degree to which these same businesses bear the cost of sales taxes in their own purchases. Our approach currently stands unchallenged, but it shouldn't be. The sales tax is the easiest tax for which tax incidence can be calculated. Researchers should settle the impact of this tax before others.

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