

Summary of Three Studies in Other States of the Percent of Commercial Property Tax Passed on to Consumers or Renters

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1. Wisconsin

The Wisconsin Tax Incidence Study is available at <http://www.revenue.wi.gov/ra/txinc04a.pdf>. The study measures the long run tax incidence after businesses and landlords have had the opportunity to pass on property taxes by changing prices or rents (page 1). This study presents three sets of assumptions that they call the “regressive variant,” the “progressive variant,” and the “plausible variant.” They present these three variants instead of single estimates to “capture the full range of shifting possibilities” (page 2). They explain how these three alternative sets of assumptions apply to property taxes paid by businesses (page 26):

“For commercial and manufacturing property, the analysis employs variants that reflect the debate between the “traditional view” and “new view” of the property tax. The traditional view argues that property tax is fully shifted to consumers or workers. The mechanism of the shift is similar to that described for the corporate tax, namely that capital will migrate from high-tax locations to lower tax jurisdictions until the local after-tax return to capital equals the national average. This is captured in the regressive variant.

“The progressive variant assumes that business owners bear the full property tax burden on business property.

“The plausible variant captures the “new view” of business property taxes that argues that capital cannot completely escape taxation since practically all locations have some form of property tax. As a result, the owner bears the share of the tax that represents the national average property tax rate. Taxes that exceed the national average are shifted to either consumers or workers. Thus, the plausible variant assumes that the property tax on business properties is borne by business owners, consumers, and workers.

“In the case of rental property (rental residential and apartments), the plausible variant employs more of the traditional view of property taxes. For these taxes, it is assumed that 35% of the tax of occupied rental housing is borne by the landlord, while 65% is borne by the renter. The shifting assumptions for these taxes rest on the following: 1) little corporate ownership is assumed for these properties; 2) the demand for rental property is not perfectly inelastic, i.e., there is some intra-local mobility of renters; and 3) the supply of rental property is not perfectly elastic, i.e., there is some immobility of capital invested in rental property.

“Landlords bear the tax burden on unoccupied rental housing under all variants. The regressive variant assumes that landlords are able to pass all of the property taxes on occupied rental housing on to tenants in the form of higher rents. The

progressive variant assumes the opposite, that landlords are unable to shift any of the property tax on to tenants and thus bear the entire property tax burden.”

Based on these assumptions, the study reports that between 0% to 100% of property taxes on commercial rental property (called Commercial Rental in the study) are passed on to renters. They assume 100% is passed on under the regressive variant, 0% is passed on under the progressive variant, and 65% under the plausible variant. The study reports 0% to 80% of property taxes on commercial businesses are passed on to consumers.. They assume these commercial businesses pass on 80% under the regressive variant, 0% under the progressive variant, and 0% under the plausible variant. The full details of their assumptions for these pass through rates are summarized in Table 1 at the end of this memo. The table shows the wide range of pass through rates for different types of property.

2. Minnesota

The “2007 Minnesota Tax Incidence Study” is available at http://www.taxes.state.mn.us/legal_policy/other_supporting_content/07_incidence_report.pdf. The report estimates the final tax incidence after businesses have had the opportunity to change prices or rents (page 75). The study lists six principles for estimating the final tax incidence of business taxes (pp. 74-75):

“The following six principles define this study’s approach to estimating the incidence of Minnesota’s existing business taxes:

“1. *Capital moves to where it earns the highest return.* If a tax on capital in a single state (or industry) reduces the after-tax rate of return, investors will move their capital to lower-tax locations (or industries). As production falls, prices will rise or costs (including wages) will fall until the after-tax rate of return is again equal to the after-tax rate of return elsewhere. Only the average tax on all forms of capital in all states — a tax which owners of capital cannot avoid — will be fully borne by capital so long as capital is free to move in search of the highest rate of return.

“2. *Minnesota’s taxes do not occur in isolation.* Every state levies business taxes. The incidence of a tax levied at the same rate in all states differs greatly from the incidence of a tax levied only in Minnesota. For example, a one percent tax levied on business capital in only Minnesota will be largely shifted to consumers and workers; capital is unlikely to bear much of the final burden due to the ease of capital movement. In contrast, if all states impose the identical one percent tax on the value of all business capital, investors cannot escape the tax. Such a “national” tax on capital is much more likely to be borne by capital, reducing the after-tax rate of return on capital throughout the nation. This distinction between a single-state tax and a nation-wide tax is crucial to the results of this study. The incidence of a particular Minnesota tax on business depends on how Minnesota’s tax rate compares to those of other states. If, for example, a particular Minnesota business tax rate is 10 percent above the national average, the incidence of this 10 percent “Minnesota differential” will differ greatly from the incidence of the remainder of the tax.

"3. *Minnesota's tax structure evolved over time.* In describing the incidence of existing business taxes, this study assumes that businesses, consumers, and workers have fully adjusted to tax differences across states.

"4. *Some businesses, depending on their market, can shift Minnesota business taxes forward to consumers in higher prices.* Given time for full adjustment, the ability to shift taxes forward to consumers depends on the nature of the product being sold. Some producers, such as restaurants, compete only with other Minnesota companies; tax increases would affect all restaurants equally, and prices would rise to cover this higher cost. In contrast, a higher Minnesota tax on manufacturers is much harder to shift to consumers because firms compete in a national market. Therefore, Minnesota manufacturers cannot raise prices to cover higher state taxes. In this study, producers of "local market products" are assumed to pass tax differentials on to consumers but producers of "national market products" cannot.

"5. *A tax that reduces the competitiveness of Minnesota businesses will be borne by immobile resources — those either unable or unwilling to leave the state.* If capital is mobile and prices cannot be increased (due to competition), the burden of business taxes will reduce payments to inputs that are geographically tied to the state, including labor and land.

"6. *An increase in taxes reflects an increase in state and local government spending.* This study assumes that workers do not move between Minnesota and other states in response to changes in state taxes, because tax changes are offset by expenditure changes, leaving the net benefits to Minnesota taxpayers unchanged. In other words, labor (along with land) is assumed to be immobile. In contrast, changes in taxes on business income are assumed not to be offset by changes in benefits from government expenditures.

"In summary, these six concepts have guided this study's approach to estimating the incidence of Minnesota's existing business taxes. The study provides an answer to the question: What is the burden of Minnesota taxes on Minnesota residents, in a multistate context where Minnesota's taxes coexist with those of other states, assuming that producers and consumers have fully adjusted to existing tax rate differences?

...

"Several major features of the tax incidence approach used in this study are important to keep in mind. First, this study emphasizes the importance of Minnesota tax rates relative to those in other states. In estimating the incidence of existing business taxes, it is the relative tax rate that matters, not the absolute level of taxes. The incidence of a property tax on manufacturers, for example, depends on how heavily other states tax such property.

"Second, this study emphasizes the difference between the incidence of existing business taxes and the incidence of an incremental increase in those taxes. Much of an existing business tax is matched by taxes in other states. The incidence of an increase in such a tax (unmatched by increases in other states) would be quite different. The tax incidence results in this study measure the distribution of existing taxes, not the distribution of increasing Minnesota taxes relative to other states.

"Third, this study estimates the burden of business taxes after businesses, consumers, and workers have fully adjusted to them in the long run. For

example, relatively high tax rates on capital may reduce wages of Minnesota workers through less capital investment. This long-term perspective is appropriate for estimating the incidence of existing taxes.”

This Minnesota study does not report its explicit numerical assumptions about the “pass-through” percentage for property taxes assessed on businesses. Instead, it reports the “distribution” of the tax incidence. These distributions of the tax incidence only approximate the initial pass through percentage because the final distributions include federal tax deductions that are not part of the pass through percentages. The study does not explicitly report the federal tax deductions assumptions used for their calculations, so we cannot reliably remove the effects of these deductions.

Based on their reported “distributional assumptions,” the Minnesota study finds that consumers within the state eventually bear the burden of about 33% of property taxes on commercial property. Consumers in the state bear 40% of the tax burden for property taxes on commercial rental housing. The remaining tax is borne by businesses. The portion borne by businesses is split between the owners of the business (capital owners) or the employees who work for the business (labor).

These estimates do not include the tax burden passed on to consumers outside Minnesota through higher prices charged to tourists. Based on my rough estimates of the tax burden exported to tourists to Minnesota, the final tax burden of commercial property taxes passed on to all consumers (both inside and outside the state) could be about 37%. The final tax burden of commercial property taxes passed on to consumers inside and outside the state could be about 44%. Table 2 at the end of the report summarizes the tax burdens reported in the study for different types of property and different types of business taxes in Minnesota.

3. Texas

The report “Tax Exemptions and Tax Incidence in Texas in 2003” is available at <http://www.window.state.tx.us/taxinfo/incidence03/03taxincidence.pdf> . This is the most recent version that publishes their underlying assumptions about tax incidence. The two more recent updates of this study in 2005 and 2007 do not explicitly report their assumptions about how much of business taxes are passed on to consumers. The 2007 study is at this link <http://www.window.state.tx.us/taxinfo/incidence07/incidence07.pdf> and the 2005 study is at this link <http://www.window.state.tx.us/taxinfo/incidence05/>

This study is careful to explain they measure the *intermediate-term* pass through rates. A “long term” analysis would include the full general equilibrium effects of consumers reacting to changes in prices and another round of tax shifting. The study explains (page 45 of the 2003 version),

“For the purposes of this study, the relative demographic cohort is the household rather than the individual, and the relative time periods are short-term—for the study of initial distributions or burdens—and intermediate term—for the final incidences. In the intermediate term it is assumed that any tax changes affecting

businesses will be shifted until the final incidence is absorbed by households—whether by consumers, workers, or owners. However, in the case of taxable purchases for household consumption, it is assumed that the household will bear the initial as well as final tax burdens. In contrast, a long-term full equilibrium analysis would allow for backward shifting brought about by consumer reactions to the tax change and then another round of shifting by business until the final incidence was redistributed.”

The study describes the limitations to tax incidence analysis (from pages 43 and 44 of the 2007 version):

“The final incidence of a tax often cannot be directly observed, nor even estimated with absolute objectivity. The subjective selection of economic and behavioral assumptions exerts a heavy influence on the calculated incidence, and myriad assumptions are possible.

...

“The shifting effects will depend on many things, including how producers and consumers respond to price changes and whether a particular market is competitive or monopolistic. In general, most tax burdens are believed to be borne jointly by producers and consumers—raising the price paid by consumers and reducing the revenue received by producers, with the share of the burden depending upon the level of competition and the price elasticity of demand for the item being taxed. The more inelastic the demand, the greater the burden shifted to the consumer (consider the tax on cigarettes). The more elastic the demand, the greater the burden borne by the producer (consider a tax on milk in glass milk bottles but not on milk in paper cartons, each a close substitute for the other in the eyes of most consumers).

“Similarly, when the producer enjoys a near monopoly over the good being taxed (consider a tax on local telephone service), the greater the ability to shift the tax forward onto consumers by raising prices; but when the individual producer has no ability to set prices (consider the world oil market), the less their ability to shift the tax burden.

“Finally, the answer to who bears the tax burden can vary depending upon whether the analysis focuses on the short term or the long term. For example, imposition of an increase in the fee for a liquor license or an annual occupation tax would not be expected to be shifted forward in higher prices in the short term because the fee would be considered part of the firm’s fixed costs, whereas prices are determined by marginal costs (the cost of producing one incremental unit of the item sold). In this instance, the fee would be borne entirely by the producer.

“In the long run, however, when all costs are taken into account, resources would shift and prices would adjust to take the tax into account in determining price, and as such the producer would be able to shift at least a portion of the burden forward onto consumers.

“Recognizing the impracticality of developing an incidence model that satisfies all the demands of pure economic theory, the tables in the following section reflect the necessity of making certain basic assumptions, which are described in the beginning of that section. Perhaps key among these assumptions is that consumers will bear the ultimate burden of any taxes levied directly upon them.

“While the following tables may be of great interest for policy makers, it nevertheless must be recognized that the results depend not upon hard science but upon subjective assumptions—and that the only thing that can be said with certainty is that no one really knows how taxes (particularly those levied on property and business) are shifted.”

This study does not report its explicit numerical assumptions about the “pass-through” percentage for property taxes assessed on businesses. Instead, it reports the “distributional assumptions” about the final distribution of the tax incidence. These “distributions” of the tax incidence only approximate the pass through percentage because the distributions include federal tax deductions that are not part of the pass through percentages. The study does not explicitly report the federal tax deductions assumptions used for their calculations.

Based on the “distributional assumptions,” the study reports that 75% of school property taxes on commercial rental property are passed on to consumers in Texas. They report that 59% of school property taxes on “commercial property” are passed on to local consumers. The remaining tax is borne by businesses. The portion borne by businesses is split between the owners of the business (capital owners) or the employees who work for the business (labor). These estimates do not include the commercial property tax passed on to consumers outside the state in the form of higher prices charged to tourists. I have included a rough estimate of this pass on to tourists based on percentages from the Wisconsin study. This adjustment raises the estimates to about 79% of commercial rental property taxes are borne by consumers either inside or outside the state. Also, about 63% of the tax burden for commercial property is borne by consumers either inside or outside the state. Table 3 at the end of this memo summarizes the tax burden estimates for various types of property and different types of business taxes in Texas.

**Table 1: WISCONSIN
Incidence Assumptions for Property Taxes and Sales Taxes in 2001:
Percent of Property Tax Passed on to each Group for Different Types of Property**

		Residential Property					Commercial Property				
	Group	Variant	Primary Residence	Recreational / Non Filer Residence	Rental (occupied)	Unoccupied	Rental (occupied)	Rental (unoccupied)	Business	Manufacturing	Agriculture
Borne by Business Owner or Employees working at the Business	Owner	Regressive	100%	100%	0%	100%	0%	100%	0%	0%	0%
		Progressive	100%	100%	100%	100%	100%	100%	100%	100%	100%
		Plausible	100%	100%	35%	100%	35%	100%	100%	100%	66%
	Labor	Regressive	0%	0%	0%	0%	0%	0%	20%	60%	0%
		Progressive	0%	0%	0%	0%	0%	0%	0%	0%	0%
		Plausible	0%	0%	0%	0%	0%	0%	0%	0%	0%
Passed on by Business to renters or consumers	Renter*	Regressive	0%	0%	100%	0%	100%	0%	0%	0%	0%
		Progressive	0%	0%	0%	0%	0%	0%	0%	0%	0%
		Plausible	0%	0%	65%	0%	65%	0%	0%	0%	0%
	Consumer*	Regressive	0%	0%	0%	0%	0%	0%	80%	40%	100%
		Progressive	0%	0%	0%	0%	0%	0%	0%	0%	0%
		Plausible	0%	0%	0%	0%	0%	0%	0%	0%	35%
Total for All groups	Regressive		100%	100%	100%	100%	100%	100%	100%	100%	100%
	Progressive		100%	100%	100%	100%	100%	100%	100%	100%	100%
	Plausible		100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: from Table III.6 of Wisconsin Tax Incidence Study, WI Dept of Revenue, December 2004, page 27 and 28

* The Rows for "Renters" and "Consumers" are the percentages passed on to consumers either as renters of property or as consumers of goods and services. The Rows for "Owner" is borne by the business owner and the rows for "Labor" are borne by workers in the business.

**Table 2: MINNESOTA
Distribution of Business Tax Burden by Taxpayer Category (2004)**

		Distribution of Business Tax Burden from Minnesota Study *					Estimated Split of Exported Taxes**		Estimated Total Percent Passed on to Consumers or Businesses both Inside and Outside Minnesota	
Type of Tax	Type of Property	Percent Borne by Minnesota Tax Payers			Exported***	Total	Estimated Percent Exported to Businesses	Estimated Percent Exported to Consumers	ESTIMATED Percent borne by all consumers = percent borne by Minnesota Consumers plus percent exported to consumers.	ESTIMATED Percent borne by businesses = percent borne by labor + percent borne by capital owners + percent exported to business.
		Consumers***	Labor***	Capital***						
Local General Property Tax on Businesses										
	Commercial	33%	0%	17%	50%	100%	46%	4%	37%	63%
	Industrial	6%	0%	7%	87%	100%	NA	NA	NA	NA
	Farm	0%	0%	100%	0%	100%	NA	NA	NA	NA
	Rental Housing	40%	0%	50%	10%	100%	6%	4%	44%	56%
	Utility	53%	4%	2%	41%	100%	NA	NA	NA	NA
	Minerals	0%	0%	11%	89%	100%	NA	NA	NA	NA
Local Sales Taxes Paid by Business		57%	1%	8%	34%	100%	NA	NA	NA	NA
Local Gross Earnings Taxes		53%	4%	2%	41%	100%	NA	NA	NA	NA

* Source: from 2007 Minnesota Tax Incidence Study, Minnesota Dept of Revenue, March, 2007, page 83. Note, these estimates are final distributions of the tax incidence and only approximate the initial pass through percentage. These final distributions include federal tax deductions that are not part of the pass through percentages.

** Estimated Split of Exported Taxes assumes 4% of taxes are exported to consumers and the remaining export taxes are borne by businesses outside the state.

*** Minnesota consumers bear the tax burden either as renters or as consumers of goods and services. Minnesota businesses bear the tax burden either as owners of the capital used in the business or as employees (labor) in the businesses. Exported taxes include taxes exported to businesses that own property in Minnesota but are located outside the state. Exported taxes also include taxes exported to businesses and consumers located outside the state who indirectly pay for Minnesota taxes through higher prices for goods they purchase in Minnesota.

Table 3: TEXAS
School Property Taxes Initially Paid by Business: Distributional Assumptions for Final Incidence

		Distributional Assumptions From Texas Study, Exhibit B*					Estimated Split of Exported Taxes**		Estimated Total Percent Passed on to Consumers or Businesses both Inside and Outside Texas.	
Type of Tax	Type of Property	Percent Borne by Texas Residents			Exported***	Total	Estimated Percent Exported to Businesses	Estimated Percent Exported to Consumers	ESTIMATED Percent borne by all consumers = percent borne by Texas Consumers plus percent exported to consumers.	ESTIMATED Percent borne by businesses = percent borne by labor + percent borne by capital owners + percent exported to business.
		Consumer*** Share	Labor Share***	Capital Share***						
School Property Taxes on Business										
	Rental Property	75%	2%	16%	7%	100%	3%	4%	79%	21%
	Agricultural Property	12%	59%	11%	18%	100%	NA	NA	NA	NA
	Commercial Property	59%	23%	3%	15%	100%	11%	4%	63%	37%
	Industrial Property	28%	43%	2%	27%	100%	NA	NA	NA	NA
	Utility Property	52%	21%	3%	23%	100%	NA	NA	NA	NA
	Mining Property	1%	37%	9%	54%	100%	NA	NA	NA	NA
							NA	NA	NA	NA
	Limited Sales and Use Tax	59%	23%	3%	15%	100%	NA	NA	NA	NA
Franchise Tax (this is a two-part tax on either the company's "net worth" or their "earned surplus")										
	Agricultural Sector	12%	59%	2%	27%	100%	NA	NA	NA	NA
	Mining Sector	1%	37%	4%	59%	100%	NA	NA	NA	NA
	Construction Sector	89%	8%	1%	2%	100%	NA	NA	NA	NA
	Manufacturing Sector	28%	43%	2%	28%	100%	NA	NA	NA	NA
	Utility Sector	52%	21%	2%	25%	100%	NA	NA	NA	NA
	Trade Sector	80%	7%	1%	12%	100%	NA	NA	NA	NA
	Finance sector	42%	16%	3%	40%	100%	NA	NA	NA	NA
	Services Sector	63%	21%	1%	15%	100%	NA	NA	NA	NA

* Source: from Exhibit B in Tax Exemptions and Tax Incidence, Texas Comptroller, January 2003, page 47. Note, these estimates are final distributions of the tax incidence and only approximate the initial pass through percentage because these final distributions include federal tax deductions that are not part of the pass through percentages.

** Estimated Split of Exported Taxes assumes 4% of taxes are exported to consumers and the remaining export taxes are borne by businesses outside the state.

*** Texas consumers bear the tax burden either as renters or as consumers of goods and services. Texas businesses bear the tax burden either as owners of the capital used in the business or as employees (labor) in the businesses. Exported taxes include taxes exported to businesses that own property in Texas but are located outside the state. Exported taxes also include taxes exported to businesses and consumers located outside the state who indirectly pay for Texas taxes through higher prices for goods they purchase in Texas.