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An Economic Analysis Of Property Tax Relief Funded By A Sales Tax Increase

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ABOUT THE TEXAS PUBLIC POLICY FOUNDATION

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The Foundation's mission is to improve Texas government by generating academically sound research and data on state issues, and by recommending the findings to opinion leaders, policy makers, the media and general public. The work of the Foundation is conducted by academics across Texas and the nation, and is funded by hundreds of individuals, corporations and charitable institutions.

EXECUTIVE SUMMARY

A number of tax structure modification alternatives are under consideration by policymakers in Texas. One reform alternative is to fund a property tax reduction with an increase in the sales tax. The size of the property tax reduction being discussed is about 50% of the current levy for school maintenance and operations, or $8.5 billion in 2005. This paper examines the economic effects of this tax policy change, identifying how tax burdens change and the policy's strengths and weaknesses. The tax change is reviewed from the perspective of several recognized characteristics of good tax policy. Five alternative formulations (scenarios) of the tax shift are analyzed according to various sales tax rate and sales tax base-broadening alternatives.

Economic Effects on the Texas Economy: The analysis of the economic effects of an $8.5 billion tax shift from property taxes to sales taxes indicates that it would produce a modest negative effect on jobs and personal income in Texas but increase the state's gross regional product. The declines in employment and personal incomes are the combined effects of a shift in economic stimulus to capital-intensive industries while diminishing the stimulus in labor-intensive industries, combined with the effects of the loss of federal deductibility against the federal income tax. The increase in gross regional product is primarily due to the net stimulus of the capital-intensive industries. About 2/3 of the negative effects are due to the loss of federal deductibility.

Strengths and Weaknesses of the Policy Shift: On efficiency and equity grounds a reduction in the property tax should receive high marks. It would achieve the desirable objective of improving economic inefficiency while replacing the "Robin Hood" transfer device. Taken alone, a significant property tax reduction would improve the equity of taxation both at the business level and as measured by the economic incidence on Texas residents.

The substitution of the sales tax for a major reduction in the property tax, however, should at best get mixed reviews. Depending on the alternative being analyzed, several problems can result from increasing sales taxes. If the rate is increased too much tax avoidance in the form of cross-border and internet trading will occur. Adding to already-existing taxation of business inputs will further distort already distorted business decisions. Other alternatives would involve taxing food and medicine as well as health services (a political though not economic issue) and, if not structured carefully, will result in double taxation of consumer goods.

A scaled down tax shift of $5.6 billion, allowing the increased sales tax to apply only to consumer items, would result in positive impacts on employment, personal incomes and state gross regional product except for the effects of lost deductibility against the federal income tax.

A sales tax increase applied only to consumer items should get high marks as good tax policy because the tax is visible, uniformly applied, a stable revenue source, relatively easy to administer (the system is already in place) and avoids the economic distortions of many tax alternatives. Applying a sales tax increase to business inputs would add to existing economic distortions and should be avoided.

ABOUT THE AUTHOR

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INTRODUCTION

The Texas legislature is currently grappling with the problem of restructuring the state's tax system. The interest in tax reform is driven by rapid increases in school property taxes, a desire to end the "Robin Hood" school funding redistribution system and associated interests in providing an adequate, stable funding source for public schools.

One tax reform alternative would be to reduce property taxes by replacing them with additional sales tax revenues. With a sufficient property tax reduction, this would shift a significant portion of the state and local tax for public school support to state government and simultaneously allow the "Robin Hood" system to be abandoned. This paper examines the effects of exchanging sales taxes for property taxes to determine how the tax burden on Texas residents might change and to determine the effects on the state's economy.

Four revenue-neutral alternatives are analyzed whereby an increase in sales tax revenues is matched by an equal $8.5 billion decrease in school property taxes. These are: 1) increase the rate on the current base of taxable sales; 2) broaden the sales tax base to include more final consumption items; 3) combine a rate increase with a broadened base; and 4) reduce the sales tax rate by broadening the tax to all sales. Finally, the economic effects of Senate Bill 2 as passed by the Texas Senate during the 78th Legislature are examined.

THE ECONOMICS OF TAX POLICY

To understand an analysis of the economics of any tax policy one must first recognize some basic economic principles as well as some critical characteristics of the Texas economy. In addition, the economics literature provides critical tax policy assessment criteria with which a reader should be familiar. It is also extremely useful to have an econometric model of the Texas economy to aid in understanding and measuring the primary economic consequences of a change in tax policy.[1]

Economic Analysis Principles

Texas is an "open economy." That is, there are no significant trade barriers with other states or, for the most part, with foreign countries. Therefore, the dynamics of trade with the rest of the United States and with foreign countries, and the mobility of capital and labor across state boundaries must be incorporated into an analysis of state tax policy.

Capital and labor are mobile. If government taxes capital, other things equal, investors will avoid moving capital into the state; if government taxes labor, other things equal, labor *may* very well flee the state; if government taxes land, it cannot move out of state. That is, among the principal inputs to production – land, labor and capital – capital, in terms of new investment, is very mobile, labor is less mobile than capital, and land is fixed, or immobile. If taxed more heavily, capital and labor will likely move to other locations and/or other enterprises. This distortionary effect is avoided by taxing consumption rather than production.

As a general rule, the more taxation falls on consumption, equitably distributed, rather than production, the more efficient the tax system. That is, focusing taxation on consumption minimizes economic distortions.

Some firms or industries compete in national and increasingly international markets. These sectors are known as "trade industries." Other firms and industries that compete only locally are known as non-trade industries. For example, Compaq Computer Corporation (in the manufacturing sector) competes nationally and internationally. Walmart (retail trade) competes only locally. Firms that compete nationally and internationally are concentrated in manufacturing, mining and agriculture and, to a lesser extent, in transportation, communications and utilities as well as finance, insurance and real estate. Retail and wholesale trade, services and government primarily serve local markets.

The behavior of the trade industries in response to tax policy may be fundamentally different from that of firms serving only local markets. Retail firms serving only local markets will more likely pass on a tax in the form of higher product prices than would a trade firm competing in the national market. In response to higher labor taxes, for example, a trade firm would be more likely to decrease labor inputs (jobs and wages) by substituting capital for labor.

The structure of a national or regional economy consists of base or trade industries that are the building blocks of economic growth and stability. The other sectors primarily support the economic activity that results from the base industries. Therefore, economic growth is heavily determined by base industry growth, which is influenced by tax policy.

Taxes make it less likely that the economically efficient mix of land, labor and capital will be achieved, and so they affect economic growth. Unequal consumption taxation distorts consumer choices. Reduced productivity of the state's factors of production and distorted consumer choices reduce incomes and economic growth.

As a practical matter, there is no perfectly efficient tax system – all tax systems have some degree of economic distortion. Therefore, analysts of tax policy changes are always in a position of evaluating the degree of economic distortion rather than whether or not it occurs.

Economic Distortions from Property and Sales Taxes

Property taxes encourage investment in labor-intensive enterprises rather than capital-intensive ones, affecting the balance of investment and production among industries. Within firms, the property tax discourages labor-saving capital investments. When matched with the franchise tax, a tax on capital income, the combination tilts the balance of investment significantly toward labor-intensive industries. The interregional outcome is to discourage an economically efficient Texas share of capital-intensive industries.[2]

At the consumer level the property tax's distortion is concentrated in the housing market. Housing is a major component of household consumption expenditures. Property tax rates that are out of line with competing places to live and work distort consumer choice in both the amount and location of housing purchased.

The sales tax can be an ideal tax from an economic efficiency point of view. Applied equally across all consumer goods and services, and not to production inputs, the sales tax avoids most economic distortion. However, the Texas sales tax significantly distorts the economy. Some 46.8% of the sales tax burden falls directly on business inputs. Since this added tax cost is passed on in the price of final products, and these are often also sales taxed, the sales tax in Texas builds on itself. This is known as a "cascading" effect. That is, consumers buying a sales taxed item often are paying tax on a tax.

Various products, depending on whether or to what degree their inputs are taxed, may face effectively very different tax burdens. The result is to distort the economically efficient production and consumption of Texas goods and services. For example, if all inputs in the production of a consumer item are taxed at 6.25% and inputs are 50% of the total costs of getting the product to market and the item is then taxed at the retail level at 6.25%, the total tax burden on the product would be (6.25% plus 0.5 X 6.25% = 9.375%) or a tax fifty percent higher than the tax on a good taxed only at retail.

At the consumer level the Texas sales tax presents a different set of distortion problems. Many goods are exempt from the sales tax for a variety of reasons. This unequal taxation of consumer products distorts the economically efficient mix of consumption.[3]

Assessment Criteria: The Definition of a Good Tax Policy

Although specific lists of criteria to define good tax policy will differ among experts the essential ideas are the same. A good tax policy should respect goals of economic efficiency, equity, simplicity, stability and, at the state level, federal deductibility.[4]

Economic efficiency, as discussed, dictates that economic distortions be minimized. Equity is very subjective and may be measured a number of ways. The goal is to have the system perceived as fairly sharing the tax burden. Simplicity is the goal of keeping collection and administration costs and tax avoidance to a minimum. The goal of stability is to have a tax system that avoids large fluctuations in revenues. The last criterion, deductibility, concerns federal policy regarding which state and local taxes are deductible from the federal income tax. Ideally, we would like to have state taxes that are efficient and federally deductible in order to keep Texans' money in the state instead of in federal coffers.

Another goal some might recommend is that the revenues should keep pace with the growth of public service functions supported by the tax system. This is not listed here as a criterion, however, since it assumes public services growth is not a choice, but a "need" that has to be met. A more reasonable test of adequacy of funding might be whether or not a tax policy produces revenue growth commensurate with economic growth.

A complicating factor is the tax policy of other governments. Since many levels of government (federal, state and local) set tax policy, the rules vary widely among taxing entities. In fact, tax policy is often used as a policy tool for economic development and other purposes. As a result, firms and individuals can locate businesses and residences so as to avoid taxation. An important example for Texas policymakers is the so-called "Delaware Sub" effect whereby corporations' subsidiaries are organized as partnerships to do business in a number of states, but where the corporate partner lacks "nexus" (physical presence) in Texas, avoiding the Texas franchise tax. Individuals and firms also purchase goods and services from sellers in other jurisdictions in order to avoid taxes, such as with cross-border and internet purchases. A given tax policy might either improve or worsen these distortions.

The REMI Modeling System

The REMI model (hereafter REMI) is a 53-sector model of the Texas economy (see sectors in Appendix A) integrated within in a similar model of the U.S. economy. Trade by Texas firms and consumers with the rest of the U.S. and world economies is accounted for in the model through representation of supply and demand conditions and trade patterns in each sector, as well as a representation of trade among industries within the Texas economy. The modeling system includes a representation of labor, energy and capital markets and incorporates both consumer and business responses to price changes. The model is dynamic, allowing policy evaluations to be examined as played out over a period of future years. REMI is of a class of models that integrate input-output, computable general equilibrium, econometric, and economic geography methodologies.[5] In order to model tax policy changes, REMI requires the user to define the initial tax incidence and select the most appropriate way to introduce the change into the model.

METHODOLOGY

To assess the economic implications of a change in tax policy using the REMI model the analyst must first identify the expected direct effects relative to the current system and then fully estimate the economic effects. A policy change is assumed to initially take effect in 2005. The primary economic outputs for measuring the tax effects include employment, personal income, gross regional product and the value of production by major industry class. The principal **direct** effects of substituting sales taxes for school property taxes are as follows:

- the property tax reduction reduces individuals' cost of housing and businesses' capital (structures and inventories) costs;
- the sales tax increase results in higher taxes paid by individuals for taxable consumer goods; and
- the imposition of the sales tax increase will directly effect businesses through the cost of intermediate goods included in the set of taxable items.[6]

The expected results of substituting sales taxes for school property taxes are as follows:

- various sectors will change the mix of inputs in response to price changes;
- generally, a net tax increase in a sector will reduce the sector's output and a net tax decrease will increase the sector's output;
- residential consumers' demand for housing will increase due to lower property taxes while sales tax increases will decrease demand for consumer goods;
- a switch from property to sales taxes will stimulate growth in capital intensive industries and decrease growth of labor intensive industries;
- output changes are influenced indirectly by trade among various sectors;
- as a result of decreased capital costs, exporting capital-intensive industries in Texas will see their competitive position improve compared to the rest of the U.S. and foreign trade countries; and
- increased production by Texas export-based industries will stimulate production and employment in the other sectors of the state's economy.

THE ESTIMATE OF ECONOMIC GROWTH EFFECTS

The sales tax applies to the sale of all tangible personal property except for a statutory list of exempt items and certain excluded sellers and purchasers.[†] For perspective, the fiscal year 2002 sales tax collection was $14.5 billion. If all excluded and exempt items were included in the base, the collections would increase by $24.1 billion. More sales are now excluded or exempt than are taxed.

Scenario 1: Increase the Sales Tax Rate on the Current Base

Reducing property taxes by $8.5 billion and increasing the sales tax rate on the current base would result in two fundamental changes. First, early in the tax shift's period of implementation, there would be a $781 million shift away from the business sector to individuals. The other fundamental change would be a redistribution of the tax burden among industry classes.

The reason for the shift in tax burden is the distribution of taxable property on the one hand and the purchase patterns of sales taxed items on the other. The across-the-board reduction in property taxes of $.75/$100 valuation would be split with:

- 44% to individuals (households); and
- 56% to businesses.

The sales tax increase, implemented as a 4.42 point increase in the tax rate (from 6.25% to 10.67%) applied to the current taxable base, would be split:

- 53.2% to individuals; and
- 46.8% to businesses.[7]

[†] See Appendix C for a list of exempt and excluded sales.

The net initial tax burden change for home owners/individuals and businesses is summarized as follows in billions of dollars:

	Property Tax	Sales Tax	Total Tax	FIT Deduction*
• Individuals	-$3.741	$4.522	$0.781	-$0.524
• Business	-$4.759	$3.978	-$0.781	-$0.227
	-$8.500	$8.500	$0.000	-$0.751

* FIT = Federal Income Tax

Initially the net tax change would be revenue neutral. Reducing the property tax by $8.5 billion, however, would result in a loss of $751 million in federal income tax deductibility. Approximately 14% of the $3.741 billion property tax reduction for individuals would be lost due the reduced federal income tax deduction for homeowners, which initially amounts to $524 million.[8] With a net reduction in Texas business taxation of $781 million there will also be a reduction in federal income tax deductions amounting to $227 million.[9]

Table 1. Direct Tax Impact of a $0.75 Property Tax Cut and a 4.42% Sales Tax Increase[1] (in Millions of Dollars)

Industry	Property Tax Relief [2]	4.42% Sales Tax Increase[3]	Net Overall Tax Impact
Individuals	(3,741)	4,523	781
Agriculture	(117)	25	(92)
Mining	(148)	266	118
Construction	(202)	363	161
Manufacturing	(921)	1,044	123
TCU [4]	(1,124)	587	(537)
Wholesale	(196)	211	15
Retail	(247)	265	19
F.I.R.E.[5]	(1,473)	646	(827)
Services	(331)	570	238
Totals	(8,500)	8,500	0

[1] A reduction of $0.75/$100 valuation in the local school property tax for M&O amounts to $8.5 billion of tax reduction in 2005. A 4.42% sales tax increase would generate a like amount making the tax change revenue neutral.

[2] The distribution of the property tax among industry Standard Industry Classes is based on the Comptroller's projection of initial incidence of the the school property tax and the sales tax for year 2004 (including the vehicle sales tax). See Texas Comptroller, *Tax Exemptions & Tax Incidence* , January 2003 http://www.window.state.tx.us/taxinfo/incidence/limit.html.

[3] Includes a comparable 4.42% increase in the motor vehicle tax.

[4] TCU = transportation, communications and utilities.

[5] F.I.R.E. = finance, insurance and real estate.

There would be a modest shift in the industry tax burden away from agriculture, TCU (transportation, communications and utilities) and F.I.R.E. (finance, insurance and real estate) and toward services, wholesale trade, retail trade, and to a small extent, construction and manufacturing. The last column of Table 1 shows the net change in

initial tax burden for major industry classes and the net shift from business to individuals. The net increase in initial tax burden on individuals is equal to the net decrease in the aggregate of businesses.

The analysis presented here compares the economic growth projections from increasing the sales tax to offset an $8.5 billion property tax decrease to growth projections under the current system. The summary measures of economic consequences include employment (jobs), personal income and gross regional product (GRP – total state yearly output). Other aspects of the economic consequences are discussed below including the change in the value of production of major industries and the resulting change in the relative tax burden among industries.

The long term total effects of Scenario 1 would be as follows:

- a loss of 45,550 jobs (1/3 of one percent of employment);
- a loss of $2.567 billion in personal income (1/3 of one percent of income); and
- a gain of $805 million in GRP (gross regional product).

The negative employment and income effect is not reflective of the GRP effect because the impact of this tax policy would stimulate economic growth in capital-intensive industries while diminishing the growth in labor-intensive industries. Since GRP per employee is greater in the capital-intensive industries, GRP growth is positive throughout the projected period. The capital-intensive industries on balance will provide relatively more GRP growth and less job growth. There would be more high paying jobs in capital intensive industries and fewer in low paying jobs in labor intensive industries with an overall job reduction, resulting in a decline in total personal income.

A significant part of the net negative effects of Scenario 1 is from the loss of federal income tax deductions. As noted above, the result is that $751 million that would have stayed in Texans' pockets is lost to the federal government, with an uncertain amount of it coming back to Texans through federal programs.

Scenario 2: Broaden the Sales Tax Base to Consumer Items

In this scenario, property taxes are reduced by $8.5 billion and the sales tax is broadened to include, to the extent possible, only consumer goods now exempt or excluded that are not used in production. Appendix C contains the detailed list of items included in this scenario.

Reducing property taxes by $8.5 billion and broadening the sales tax base in this scenario would result in two fundamental changes. First, there is a $3.733 billion tax shift away from the business sector to individuals. Second, Scenario 2 would significantly reduce the taxation of capital and increase the taxation of consumer items. The across-the-board reduction in property taxes of $.75/$100 valuation would be split with:

- 44% to individuals (households); and
- 56% to businesses.

On the other hand the sales tax increase implemented by broadening the tax base at the current tax rate of 6.25% would be split:

- 87.9% to individuals; and
- 12.1% to businesses.

The net initial tax burden change for home owners/individuals and businesses is summarized as follows in billions of dollars:

	Property Tax	Sales Tax	Total Tax	FIT Deduction
• Individuals	-$3.741	$7.474	$3.732	-$0.524
• Business	-$4.759	$1.026	-$3.732	-$1.087
	-$8.500	$8.500	$0.000	-$1.611

* FIT = Federal Income Tax

Initially, the net tax change would be revenue neutral as in Scenario 1. Also like Scenario 1, reducing the property tax by $8.5 billion would result in a loss of federal income tax

Table 2. Direct Tax Impact of a $0.75 Property Tax Cut and a Broadened Sales Tax Base[1] (in Millions of Dollars)

Industry	Property Tax Relief [2]	Sales Tax Increase[3]	Net Overall Tax Impact
Individuals	(3,741)	7,474	3,733
Agriculture	(117)	4	(113)
Mining	(148)	9	(139)
Construction	(202)	47	(155)
Manufacturing	(921)	76	(845)
TCU [4]	(1,124)	74	(1,050)
Wholesale	(196)	26	(170)
Retail	(247)	41	(206)
F.I.R.E.[5]	(1,473)	659	(813)
Services	(331)	90	(241)
Totals	(8,500)	8,500	0

[1] The tax change is revenue neutral from a $0.75/$100 valuation cut in the local school property tax for maintenance and operation (M&O) in 2005 and an off-setting increase of $8.5 billion by broadening the sales tax base.

[2] The distribution of the property tax among industry Standard Industry Classes is based on the Comptroller's projection of initial incidence of the the school property tax and the sales tax for year 2004 (including the vehicle sales tax). See Texas Comptroller, *Tax Exemptions & Tax Incidence* , January 2003 http://www.window.state.tx.us/taxinfo/incidence/limit.html.

[3] Includes a detailed list of items now exempt or excluded from taxation (see Appendix C).

[4] TCU = transportation, communications and utilities.

[5] F.I.R.E. = finance, insurance and real estate.

deductibility. Scenario 2, though, would result in a loss of $1.611 billion of federal income tax deductibility, a much larger loss than with the 4.42% sales tax rate increase in Scenario 1 ($751 million). By concentrating the changed tax burden on individuals (usually the most efficient tax policy) the biased federal policy of disallowing the sales tax deduction has an important influence on the final economic impact of this scenario.

Under Scenario 2 some products that are used in the production of other goods would be taxed (gaining $1.026 billion in revenue). Many goods with sales taxed inputs are, in turn, taxed, resulting in some "cascading" effects. However, this effect is minimized compared to the option of raising the $8.5 billion by increasing the tax rate to 10.67% as in Scenario 1. The initial burden of this revenue-neutral tax plan is shown in Table 2 (previous page).

All of the nine classes of industry would receive a net tax decrease with the largest declines in manufacturing, TCU and F.I.R.E. Note also in Table 2 a modest redistribution of the tax burden among industry classes, mostly because of the unequal burden of the property tax since some industries are more capital intensive than others. There will be a modest shift in the industry tax burden away from agriculture, TCU and manufacturing toward F.I.R.E., services, wholesale trade, retail trade, mining and construction.

The long term total effects of Scenario 2 would be as follows:

- a loss of 77,470 jobs (0.56 percent of employment);
- a loss of $6.659 billion in personal income (0.79 percent of income); and
- a gain of $836 million in GRP (gross regional product).

Note that, as in Scenario 1, the negative employment and income effect is not reflective of the GRP effect. The negative employment effects of the tax policy change in labor-intensive industries (especially services and retail trade) outweigh the positive employment effects in the manufacturing, construction and F.I.R.E. sectors. The opposite is true with respect to GRP.

The broadening of the sales tax illustrated here has a particular set of impacts because it affects each taxed industry/product uniquely. Each alternative way of broadening the sales tax base will have a different impact on the economy. A more likely alternative to the two cases examined here would be a combination of an across-the-board rate increase and a more modest broadening of the base.

A significant part of the net negative effects of the tax shift is due to a loss of federal income tax deductions. The shift of tax burden from business to individuals combined with the shift from property to sales taxes would result in a $1.611 billion loss of state tax deductibility against the federal individual and corporate income tax.

The importance of federal deductibility of business expenses and homeowner deductions is illustrated by modeling Scenario 2 with equal marginal federal deductibility of the sales tax. With these conditions met, the long term effects of Scenario 2 would be:

- a loss of 25,000 jobs;

- a loss of $2.1 billion in personal income; and
- a gain of $3.5 billion in gross regional product.

Scenario 3: Increase the Sales Tax Rate and Expand the Base

Another alternative is to increase the sales tax rate less than in Scenario 1 and expand the base to a lesser extent than in Scenario 2. Scenario 3 would avoid placing a sales tax on products/services taxed by other law that were included in Scenario 2, especially the $3 billion double taxation of the insurance industry (see Appendix C). The result is a 2.26% rate increase and a $5.455 billion increase through a selected broadening of the base. The broadening of the base is the same as Scenario 2 but with the elimination of the sales tax of insurance, the services of which are already taxed variously at rates from 1.6% of premiums for property and casualty insurance to 4.85% for surplus lines.

The net initial tax burden change for home owners/individuals and businesses is summarized as follows in billions of dollars:

	Property Tax	Sales Tax	Total Tax	FIT Deduction
• Individuals	-$3.741	$6.810	$3.069	-$0.524
• Business	-$4.759	$1.690	-$3.069	-$0.893
	-$8.500	$8.500	$0.000	-$1.417

*FIT = Federal Income Tax

The total initial tax change is revenue neutral while reducing the property tax by $8.5 billion but there is a loss of $1.417 billion of federal income tax deductibility, a larger loss than in the Scenario 1 ($751 million deduction loss), but smaller than in Scenario 2 ($1.611 billion deduction loss). By concentrating the tax burden on individuals (usually the most efficient tax policy) the biased federal policy of disallowing the sales tax deduction has an important influence on the final economic impact of shifting away from property taxes to sales taxes.

Like Scenarios 1 and 2, Scenario 3 would tax some products that are used in the production of other goods (gaining $1.690 billion in revenue), many of which are in turn taxed, resulting in additional “cascading” effects. However, this effect is less than that in Scenario 1. The initial burden of this revenue-neutral tax plan is shown in Table 3 (next page).

Table 3. Direct Tax Impact of a $0.75 Property Tax Cut, Broadened Sales Tax Base ($5.455 Billion) and Raised Rate (2.26%) [1] (in Millions of Dollars)

Industry	Property Tax Relief [2]	Sales Tax Increase[3]	Net Overall Tax Impact
Individuals	(3,741)	6,809	3,068
Agriculture	(117)	11	(106)
Mining	(148)	98	(50)
Construction	(202)	145	(58)
Manufacturing	(921)	412	(509)
TCU [4]	(1,124)	250	(873)
Wholesale	(196)	92	(104)
Retail	(247)	116	(131)
F.I.R.E.[5]	(1,473)	311	(1,161)
Services	(331)	256	(75)
Totals	(8,500)	8,500	0

[1] The tax change is revenue neutral from a $0.75/$100 valuation cut in the local school property tax for maintenance and operation (M&O) in 2005 and an off-setting increase of $8.5 billion by broadening the sales tax base and increasing the rate.

[2] The distribution of the property tax among industry Standard Industry Classes is based on the Comptroller's projection of initial incidence of the the school property tax and the sales tax for year 2004 (including the vehicle sales tax). See Texas Comptroller, *Tax Exemptions & Tax Incidence* , January 2003 http://www.window.state.tx.us/taxinfo/incidence/limit.html.

[3] Includes a detailed list of items now exempt or excluded from taxation (see Appendix C).

[4] TCU = transportation, communications and utilities.

[5] F.I.R.E. = finance, insurance and real estate.

All of the nine classes of industry would receive a net tax decrease with the largest declines in manufacturing, TCU and F.I.R.E. In the aggregate, Scenario 3 would shift $3.068 billion of initial tax burden from industry to individuals (see the last column of Table 3).

The long term total effects of Scenario 3 would be as follows:

- a loss of 54,310 jobs (0.40 percent of employment);
- a loss of $4.948 billion in personal income (0.59 percent of income); and
- a gain of $1.732 billion in GRP (gross regional product).

As in Scenarios 1 and 2, the negative employment and income effect is not reflective of the positive GRP effect. A significant part of the net negative effects of Scenario 3, once again, is due to a loss of federal income tax deductions. There will be a loss of federal tax deductions amounting to $1.417 billion.

The negative employment effects in labor-intensive industries (especially services and retail trade) still outweigh the positive employment effects in the manufacturing, construction and F.I.R.E. sectors. But the opposite is true for GRP which shows a greater positive effect compared to Scenarios 1 and 2.

Scenario 4: Expand the Sales Tax Base to All Sales

A fourth option for replacing the $8.5 billion of property taxes with a sales tax is to tax all sales. This would allow the sales tax rate to be reduced to a relatively small 4.15% rate and still add the $8.5 billion to the current sales tax collection. Such a change in the tax base would result in a significant modification of the distribution of the tax burden among industries. In addition, the change would be almost neutral between business taxation and taxation on individuals. The change in initial tax burden is shown in Table 4.

Table 4. Direct Tax Impact of a $0.75 Property Tax Cut and a Broadened Sales Tax Base to All Sales[1] (in Millions of Dollars)

Industry	Property Tax Relief [2]	Sales Tax Increase[3]	Net Overall Tax Impact
Individuals	(3,741)	3,541	(201)
Agriculture	(117)	100	(18)
Mining	(148)	156	9
Construction	(202)	214	12
Manufacturing	(921)	2,709	1,788
TCU [4]	(1,124)	570	(553)
Wholesale	(196)	197	1
Retail	(247)	248	2
F.I.R.E.[5]	(1,473)	403	(1,070)
Services	(331)	362	31
Totals	(8,500)	8,500	(0)

[1] The tax change is revenue neutral from a $0.75/$100 valuation cut in the local school property tax for maintenance and operation (M&O) in 2005 and an off-setting increase of $8.5 billion by broadening the sales tax base.

[2] The distribution of the property tax among industry Standard Industry Classes is based on the Comptroller's projection of initial incidence of the the school property tax and the sales tax for year 2004 (including the vehicle sales tax). See Texas Comptroller, *Tax Exemptions & Tax Incidence* , January 2003 http://www.window.state.tx.us/taxinfo/incidence/limit.html.

[3] Includes a detailed list of items now exempt or excluded from taxation (see Appendix C).

[4] TCU = transportation, communications and utilities.

[5] F.I.R.E. = finance, insurance and real estate.

The net change in initial tax burden would fall disproportionately on the manufacturing sector. Under current law materials used in manufacturing are exempt, and if taxed at the current 6.25% would amount to a $7.9 billion additional tax burden. Transportation, communications and utilities (TCU) and finance, insurance and real estate (F.I.R.E.) would receive significant decreases in tax burden. Other sectors, including individuals, would largely be unaffected.

The net initial tax burden change for homeowners/individuals and businesses is summarized as follows in billions of dollars:

	Property Tax	Sales Tax	Total Tax	FIT Deduction
• Individuals	-$3.741	$3.541	-$0.201	-$0.524
• Business	-$4.759	$4.959	$0.201	$0.058
	-$8.500	$8.500	$0.000	-$0.465

The total initial tax change is revenue neutral but there is a loss of $465 billion of federal income tax deductibility, a smaller loss than in the other sales tax scenarios reviewed above. The concentration of the tax burden on manufacturing, however, would have a considerable negative impact on jobs, personal income and GRP.

The long term total effects of Scenario 4 would be as follows:

- a loss of 78,180 jobs (0.57 percent of employment);
- a loss of $4.330 billion in personal income (0.52 percent of income); and
- a *loss* of $2.375 billion in GRP (gross regional product).

This case differs from Scenarios 1, 2 and 3 in that the negative employment and income effect is reflective of the negative effect on GRP. Once again, a significant part of the net negative effects of the Scenario 4 is due to a loss of federal income tax deductions. There will be a loss of federal tax deduction amounting to $465 million.

Senate Bill 2 Economic Effects

The Texas Senate passed an education reform bill (SB 2, 78th Regular Session of the Texas Legislature) that included proposed finance reform provisions much like that of Scenario 2, with certain exceptions. SB 2 would have exempted medical service and medications and limited the taxation of Food Stamp items to 60% of value. A representation of this plan is examined here. The initial burden of SB 2 is summarized in Table 5. Compared with Scenario 2, SB 2 would shift a smaller burden to individuals and place a larger share of the tax burden on services, construction, manufacturing and TCU.

The net initial tax burden change for home owners/individuals and businesses is summarized as follows in billions of dollars:

	Property Tax	Sales Tax	Total Tax	FIT Deduction
• Individuals	-$3.741	$6.366	$2.625	-$0.524
• Business	-$4.759	$2.134	-$2.625	-$0.821
	-$8.500	$8.500	$0.000	-$1.345

* FIT = Federal Income Tax

Table 5. Direct Tax Impact of a $0.75 Property Tax Cut and a Broadened Sales Tax Base: SB 2 [1] (in Millions of Dollars)

Industry	Property Tax Relief [2]	Sales Tax Increase[3]	Net Overall Tax Impact
Individuals	(3,741)	6,367	2,626
Agriculture	(117)	7	(110)
Mining	(148)	43	(105)
Construction	(202)	226	24
Manufacturing	(921)	198	(723)
TCU [4]	(1,124)	180	(944)
Wholesale	(196)	92	(104)
Retail	(247)	94	(153)
F.I.R.E.[5]	(1,473)	842	(631)
Services	(331)	450	119
Totals	(8,500)	8,500	0

[1] The tax change is revenue neutral from a $0.75/$100 valuation cut in the local school property tax for maintenance and operation (M&O) in 2005 and an off-setting increase of $8.5 billion by broadening the sales tax base, but excluding medical services and exempting 40% of purchases by Lone Star Card recipients.

[2] The distribution of the property tax among industry Standard Industry Classes is based on the Comptroller's projection of initial incidence of the the school property tax and the sales tax for year 2004 (including the vehicle sales tax). See Texas Comptroller, *Tax Exemptions & Tax Incidence* , January 2003 http://www.window.state.tx.us/taxinfo/incidence/limit.html.

[3] Includes a detailed list of items now exempt or excluded from taxation (see Appendix C).

[4] TCU = transportation, communications and utilities.

[5] F.I.R.E. = finance, insurance and real estate.

The total initial tax change is revenue neutral but there is a loss of $1.345 billion of federal income tax deductibility. By concentrating the changed tax burden on individuals (usually the most efficient tax policy) the biased federal policy of disallowing the sales tax deduction has an important influence on the final economic impact of this scenario.

The long term total effects of SB 2 would be as follows:

- a loss of 65,940 jobs (0.48 percent of employment);
- a loss of $5.161 billion in personal income (0.61 percent of income); and
- a gain of $642 million in GRP (gross regional product).

As in Scenarios 1, 2, and 3 the negative employment and income effect is not reflective of the positive GRP effect. A significant part of the net negative effects of SB 2 is due to a loss of federal income tax deductions.

A Better Version of the Tax Shift Plan

A scaled-down version of the tax shift could be designed to avoid most of the negative employment and personal income effects quantified in the scenarios above. A more modest property tax reduction of $5.6 billion would allow the application of the off-

setting sales tax increase almost exclusively to consumer items, avoiding most double taxation. In such a case, if deductibility were not an issue, employment would increase by 12 thousand jobs and total personal income would remain essentially unchanged. Gross regional product would increase some $3.7 billion. Only the retail trade industry would experience negative effects on output growth.

Summary of the Economic Growth Effects of the Four Tax Shift Scenarios

The several scenarios in which a substantial property tax decrease would be offset by some type of increase in sales taxes would all produce negative impacts on jobs and personal income in Texas, although the size of these impacts are quite modest. Job losses on the order of 45 to 78 thousand are modest impacts. For perspective, the job market in Texas grows over the long term by about 20 thousand jobs per month, so the job impacts predicted above amount to between two and four months of job growth.

All of the scenarios would also result in decreased personal incomes on the order of $2.5 to $6.7 billion. These magnitudes are 0.3% to 0.8% of personal income. The declines in per capita (i.e., per person) incomes would amount to approximately $17 to $20 per year.

All but one of the scenarios would result in positive GRP growth. The first three scenarios (increasing the tax rate, increasing the tax base and a combination of rate increase and broadening of the base) would result in GRP increases from $805 million to $1.732 billion per year. The fourth scenario taxing all sales and reducing the tax rate would result in a decrease in GRP of $2.375 billion. As in the case of jobs and incomes, these GRP estimates are small percentage changes ranging from +0.07% to –0.22%.

A scaled back property tax reduction focusing the sales tax increase on only consumer items not already taxed would improve the economic outcomes. Except for the problem of deductibility, such a modified plan would yield positive employment and GRP effects.

Limitations of Models

The models used to measure the economic impacts of tax policy changes have limitations. For example, a positive effect not measured that would result from lowering the property tax by the magnitudes envisioned here is to decrease current economic inefficiencies resulting from unequal tax rates among Texas school districts. Such inequalities influence location decisions that would be partially eliminated by such a policy change. Other effects not measured that would increase the negative effects of shifting out of property taxation into more sales taxation include the extra incentive from increasing the sales tax for consumers to trade across borders and over the internet.

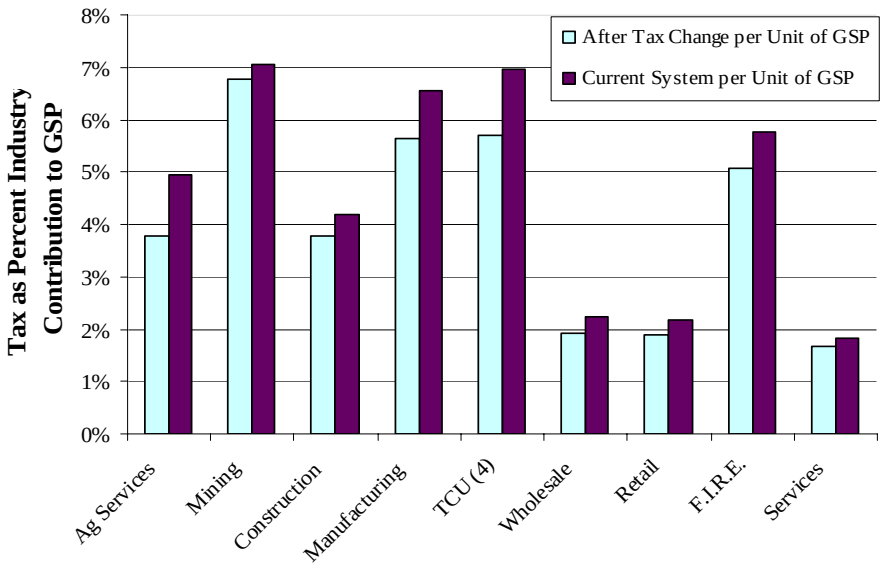
Sometimes, different models can yield significantly different results. The Texas Public Policy Foundation contracted for the development of a Computable General Equilibrium model (CGE) of the Texas economy designed especially for analyses of tax policy alternatives.[10] It was developed by the Beacon Hill Institute at Suffolk University in Boston, Massachusetts. It, too, is a multi-sector, dynamic model. When it was used to compare the four scenarios above, the results were generally similar to the results of the REMI model with the exception of Scenario 4. Where the REMI results would seem to

rate Scenario 4 least favorably, the Beacon Hill model would seem to rate it most favorably.

EQUITY OF SUBSTITUTING SALES TAXES FOR PROPERTY TAXES FOR BUSINESS

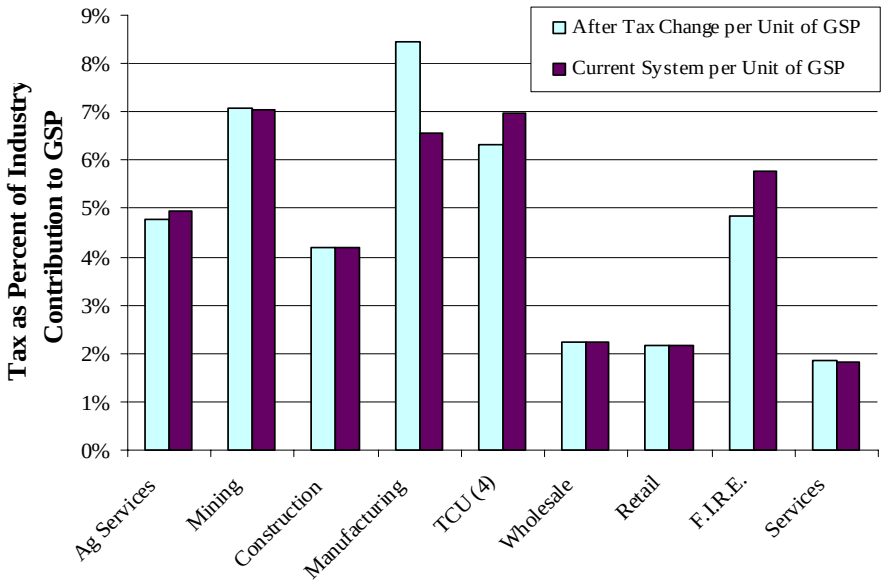
A principal of taxation is that a tax system ought to be equitable. A reasonable interpretation of this principal is that to the extent that business is taxed, the burden ought to be proportional to the economic contribution of the business. A direct measure of the equity of substituting sales taxes for property taxes is to compare the share of taxes paid by an industry to its contribution to gross state product. Figure 1 shows the percentage of the output of the major economic sectors that goes for taxes under Scenario 2 (broadening the base alternative) and the current system. Taxes included are the franchise, oil and gas, utility, insurance, sales and school property taxes. The tax shift would reduce the initial tax burden from 4.4% of gross state product to 3.9% and modestly improve the relative burden among industries.

Figure 1. Change in the Initial Tax Burden Among Industries in Texas: Broadening the Sales Tax Base (Scenario 2)



Scenario 4 (including all sales and lowering the tax rate) would produce the opposite result. This alternative would leave the overall business tax burden relative to GSP unchanged at 4.4% but make the distribution of the burden more unfair. Figure 2 shows that the high burden on manufacturing would be increased.

Figure 2. Change in the Initial Tax Burden Among Industries in Texas: Taxing All Sales (Scenario 4)



ECONOMIC INCIDENCE OF THE TAX SHIFT

The relative burden of taxation is known as tax incidence. This measure is an estimate of the final burden of direct taxation and price (including wage) adjustments, after accounting for marginal income tax rates and percentages of the taxes that are paid by out of state purchasers. The most common tax incidence measure is the ratio of the taxes incidence to current income. There are two arguably better measures that are more difficult to estimate. One is to relate tax incidence to life-time earnings and the other is to relate incidence to current consumption.[11]

The methodology used to estimate the tax incidence is to rely on the distribution of taxation by income class from estimates of tax incidence produced by the Comptroller's Office for 2004. The Comptroller's estimates are reported for each major tax now in place. The changes in taxation represented in the incidence analysis are those from Scenario 1 (see Table 1). All major taxes are included in the tax incidence analysis, including the sales tax, oil and gas, utility, insurance, franchise, and the school property tax.

Reducing the property tax by half and replacing the revenue with sales tax has only minimal effects on tax burden distribution, since both types of tax are about equally regressive. Second, the tax burden on families at the lower end of the income spectrum (up to $11,172) will see an overall decrease of 0.28% in their tax burden as a percent of income. The highest income group (at or above $124,699) will experience a decrease as well, amounting to –0.20%.

For both income groups the small percent decreases in tax burden would occur because they have a larger incidence for property taxes than for sales taxes. The high-income group pays 20.8% of the current school property tax but only 15% of the sales tax. The low-income group pays 3.3% of the property tax (reflected primarily in rent payments) but 3.1% of the sales tax. Therefore, a substitution of sales taxes for property taxes favors these two groups. The income groups with the largest increases in relative tax burden are those in the mid-range of $27,000 to $55,000.

Table 6 summarizes the incidence effects for all income groups. The overall tax burden is estimated to decline by $187.9 million because the sales tax is more likely to be exported than is the property tax. The overall decrease in total burden is small because the tax change proposal is designed to be revenue neutral.

Table 6. Year 2004 Tax Incidence for Major Texas Taxes: Distribution of Major State Taxes Plus the Effects of Substituting Sales Taxes for Property Taxes (Scenario 1)*

Family Income	Tax Distribution by Income Level			Change in Tax Liability ($Millions)**	Change in Percent of Income to Taxes
	Current Tax Structure	Scenario 1	Difference		
ALL FAMILIES	(1)	(2)	(2) - (1)		
less than $11,172	4.46%	4.43%	-0.03%	-18.2	-0.28%
$11,172 to 19,484	5.13%	5.19%	0.06%	7.8	0.04%
$19,484 to 27,309	5.75%	5.80%	0.05%	3.3	0.01%
$27,309 to 35,197	7.01%	7.29%	0.29%	68.6	0.17%
$35,197 to 44,068	7.83%	8.17%	0.34%	82.9	0.16%
$44,068 to 55,518	9.00%	9.32%	0.31%	72.3	0.11%
$55,518 to 70,248	10.28%	10.57%	0.29%	63.4	0.08%
$70,248 to 90,149	12.27%	12.40%	0.13%	14.7	0.02%
$90,149 to 124,699	15.69%	15.81%	0.13%	6.3	0.01%
$124,699 and over	22.59%	21.02%	-1.57%	-489.1	-0.20%
TOTAL	100.00%	100.00%	0.00%	-187.9	-0.03%

* Includes state sales tax, oil and gas production taxes, utility tax, insurance tax, franchise tax and the local school property tax.

** The total reduction in tax burden represents the net change in exported taxes due to the tax shift.

Sources and assumptions: The distributions of tax incidence among income classes for existing taxes are based on the Comptroller's estimates for year 2004, available on the Comptroller's web page. The distribution for the marginal change is assumed to be the same as the average under current law.

CONCLUSIONS

Substituting sales taxes for property taxes would achieve the desirable objective of allowing a major reduction in property taxes while providing a means of abandoning the "Robin Hood" device. The property tax is economically inefficient, causing a number of economic distortions. For example, the size of a business' property tax burden is unrelated to the economic contribution of the enterprise, exemptions for non-profit groups encourage economic activity to be organized as non-profit in order to avoid taxation and the rates of taxation vary among school districts on the same type of business activity in Texas. High taxation of capital assets distorts the choice of enterprise and/or location of businesses and individuals. The final economic incidence of the property tax is also regressive. The aggregate level of property taxation from the combined set of taxing jurisdictions in Texas is among the highest in the nation. On efficiency and equity grounds a reduction in the property tax should receive high marks.

The substitution of the sales tax for a major reduction in the property tax, however, should, at best, get mixed reviews. The simplest sales tax revision that could accomplish the goal of replacing the lost property tax revenue is to raise the rate on the existing tax base. The required rate increase, however, would yield a 10.67% rate, a 71% increase in the current rate and a level that would greatly encourage cross-border and internet purchasing. Most importantly, 46.8% of the increased sales tax would fall on business purchases, aggravating the already existing cascading of business input taxation in Texas. This cascading effect could be significantly reduced, however, by broadening the base of the sales tax to consumer items only, rather than increasing the tax rate, but to do so would require taxing food and medical services and products, and/or taxing products and services already heavily taxed by other law. While including food and medical products and services would improve the efficiency of the tax system, the double taxation of other consumer products would create inefficiencies because of the influence on consumption decisions.

Perhaps the most important practical difficulty with substituting sales taxes for property taxes is the loss of deductibility since sales taxes are not deductible against the federal income tax as are property taxes. This deductibility loss alone would cause a decline in employment and personal incomes for the Texas economy. The problem would be magnified by increasing the sales tax through broadening the base and thus shifting taxation from business inputs to consumer items.

The analysis of the economic effects of substituting sales taxes for a major reduction in property taxes for the Texas economy yields a single major conclusion: doing so would produce a modestly negative effect on jobs and personal income while increasing the value of goods and services produced. Employment would fall (modestly, in percentage terms) in the long term by 46 to 77 thousand jobs. Personal income would decline by $2.6 to $6.7 billion. Gross Regional Product, though, would increase $805 to $1.732 billion, although the option of placing the sales tax on all sales in order to reduce the rate would produce a negative effect of about $2.375 billion on GRP. The declines in employment and personal incomes are the combined effects of a shift in economic stimulus to capital-

intensive industries while diminishing the stimulus in the labor-intensive industries, combined with the effects of the loss of federal deductibility against the federal income tax. About 2/3 of the negative effects are due to the loss of federal deductibility.

The cascading effects of an increase in the sales tax rate could be significantly reduced, by broadening the base of the sales tax to only consumer items, rather than increasing the rate, but to do so with the size of the current proposal would require taxing food and medical services and products, and/or taxing products and services already heavily taxed by other law. While including food and medical products and services would improve the efficiency of the tax system, the double taxation of other consumer products would create inefficiencies because of the influence on consumption decisions. A more modest tax shift proposal with a smaller property tax reduction would avoid this problem allowing the taxation of only consumer items now exempt to fund the loss of property taxes.

The alternative of avoiding a high rate of 10.67% by broadening the base to all sales (allowing a reduction of the rate to 4.15%) does not appear to be a good idea. Such an alternative would significantly increase the tax on business inputs, especially in the manufacturing sector, thus exaggerating the cascading problem and resulting in larger negative impacts on the economy than other sales tax alternatives considered here.

The best overall approach to shifting from property taxes to sales taxes seems to be a reduction of the scale of the property tax cut. A smaller property tax reduction would allow a more selective expansion of the sales tax base to include only consumer items now exempt but not taxed by other law. A sales tax increase applied only to consumer items should get high marks as good tax policy because the tax would be visible, uniformly applied, a stable revenue source, relatively easy to administer (the system is already in place) and avoid the economic distortions of many tax alternatives. Designed in this fashion the only significant disadvantage would be the loss of deductibility against the federal income tax. Applying a sales tax increase to business inputs, however, would add to existing economic distortions and should be avoided.

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Appendix A: REMI Model Industry Detail

Sector No.	1987 SIC	
1	24	Lumber
2	25	Furniture
3	32	Stone, Clay, and Glass
4	33	Primary Metals
5	34	Fabricated Metals
6	35	Machinery and Computers
7	36	Electrical Equipment
8	371	Motor Vehicles
9	372-379	Rest of Transportation Equipment
10	38	Instruments
11	39	Miscellaneous Manufacturing
12	20	Food
13	21	Tobacco
14	22	Textiles
15	23	Apparel
16	26	Paper
17	27	Printing
18	28	Chemicals
19	29	Petroleum Products
20	30	Rubber
21	31	Leather
22	10	Mining
23	15-17	Construction
24	40	Railroad
25	42	Trucking
26	41	Local and Interurban Transportation
27	45	Air Transportation
28	44,46,47	Other Transportation
29	48	Communication
30	49	Public Utilities
31	60	Banking
32	63,64	Insurance
33	61,62,67	Credit and Finance
34	65	Real Estate
35	58	Eating and Drinking
36	52-57,59	Rest of Retail
37	50,51	Wholesale
38	70	Hotels
39	72,76	Personal Services and Repair
40	88	Private Household
41	75	Auto Repair and Service
42	73	Miscellaneous Business Services
43	79	Amusement and Recreation
44	78	Motion Pictures
45	80	Medical
46	81,87,89	Miscellaneous Professional Services
47	82	Education
48	83,84,86	Non-profit Organizations
49	07,08,09	Agriculture, Forestry, and Fishery Services
50		Farm
51		State & Local Gov
52		Federal Civilian
53		Federal Military

Appendix B: 2001 Trade Shares in the REMI Model: State of Texas

		Demand Source			
SIC	Sector	State of Texas	Rest of Nation	Rest of World	Demand
24	Lumber	29.62%	56.81%	13.56%	100.00%
25	Furniture	23.37%	55.52%	21.11%	100.00%
32	Stone, Clay, and Glass	52.93%	33.34%	13.73%	100.00%
33	Primary Metals	38.12%	42.95%	18.93%	100.00%
34	Fabricated Metals	61.86%	27.38%	10.76%	100.00%
35	Machinery and Computers	33.97%	33.23%	32.80%	100.00%
36	Electrical Equipment	39.72%	28.70%	31.58%	100.00%
371	Motor Vehicles	10.32%	57.69%	31.99%	100.00%
372-379	Rest of Transportation Equipment	29.47%	50.22%	20.31%	100.00%
38	Instruments	20.99%	50.82%	28.19%	100.00%
39	Miscellaneous Manufacturing	29.64%	21.41%	48.95%	100.00%
20	Food	40.86%	51.47%	7.67%	100.00%
21	Tobacco	4.76%	90.92%	4.32%	100.00%
22	Textiles	5.42%	72.73%	21.86%	100.00%
23	Apparel	23.92%	21.57%	54.51%	100.00%
26	Paper	50.11%	37.76%	12.13%	100.00%
27	Printing	66.98%	30.42%	2.60%	100.00%
28	Chemicals	56.58%	23.67%	19.76%	100.00%
29	Petroleum Products	59.84%	19.15%	21.01%	100.00%
30	Rubber	51.52%	32.78%	15.70%	100.00%
31	Leather	20.49%	11.80%	67.71%	100.00%
10	Mining	41.07%	27.68%	31.26%	100.00%
15-17	Construction	98.71%	1.28%	0.00%	100.00%
40	Railroad	54.64%	44.12%	1.24%	100.00%
42	Trucking	66.92%	31.74%	1.35%	100.00%
41	Local and Interurban Transportatio	44.83%	55.17%	0.00%	100.00%
45	Air Transportation	63.27%	19.01%	17.73%	100.00%
44,46,47	Other Transportation	51.36%	46.80%	1.84%	100.00%
48	Communication	77.06%	19.92%	3.01%	100.00%
49	Public Utilities	91.15%	8.07%	0.78%	100.00%
60	Banking	88.41%	11.13%	0.46%	100.00%
63,64	Insurance	70.98%	27.77%	1.25%	100.00%
61,62,67	Credit and Finance	88.85%	9.44%	1.71%	100.00%
65	Real Estate	89.47%	10.52%	0.00%	100.00%
58	Eating and Drinking	98.39%	1.54%	0.06%	100.00%
52-57,59	Rest of Retail	94.93%	4.47%	0.60%	100.00%
50,51	Wholesale	90.12%	8.34%	1.54%	100.00%
70	Hotels	40.73%	59.13%	0.14%	100.00%
72,76	Personal Services and Repair	98.50%	1.48%	0.02%	100.00%
88	Private Household	99.96%	0.04%	0.00%	100.00%
75	Auto Repair and Service	98.53%	1.44%	0.03%	100.00%
73	Miscellaneous Business Services	91.24%	8.24%	0.51%	100.00%
79	Amusement and Recreation	73.28%	26.41%	0.30%	100.00%
78	Motion Pictures	71.74%	26.19%	2.07%	100.00%
80	Medical	88.74%	11.25%	0.01%	100.00%
81,87,89	Miscellaneous Professional Svcs.	84.88%	13.59%	1.53%	100.00%
82	Education	61.87%	37.82%	0.31%	100.00%
83,84,86	Non-profit Organizations	80.19%	19.80%	0.01%	100.00%
07,08,09	Agriculture, Forestry, Fishery Svcs.	80.02%	9.88%	10.10%	100.00%

Appendix C. Options for replacing $8.5 Billion of Property Tax

Exemptions & Exclusions 2005 (Comptroller's July 15, 2003 Letter): In $ Millions	Rate	Resulting new annual revenue	Options for Expanding the Base: Expand Base Emphasizing Consumption	Rate Increase: 6.31% Rate Increase: Current Base
Total New Revenue		24,107.1	8,497.5	8,500.0
Existing Base	1.00%	1,923		8,500.0
Sales Tax Exemptions				
Items tax by other law				
Motor veh	6.25%	2,401.3		
Motor fuels	6.25%	1,302.8		
Mixed drinks	6.25%	183.2		
Aviation fuel	6.25%	80.6		
Oil well serv	6.25%	10.9		
Ins premiums	6.25%	3,043.0	3,043.0	
Sales to gov	6.25%	212.3		
Religious, edu/public service				
Sales to nonprofits	6.25%	18.7		
One day sales	6.25%	4.3		
Property used for improv of exempt realty	6.25%	15.7		
Nonprofit of rel periodicals & writings	6.25%	6.1		
Health care supplies				
Prescrip medicine & devices	6.25%	256.9	256.9	
Over-the-counter drugs	6.25%	170.7	170.7	
Food				
Food for home cons	6.25%	1,327.2	1,327.2	
School lunches & certain food sales	6.25%	40.7	40.7	
Food stamp purchases	6.25%	133.5	133.5	
Water	6.25%	245.4	245.4	
Agricultural items				
Agricultural feed, seed, chemicals & supplies	6.25%	251.2		
Livestock for food	6.25%	12.8		
Ag machinery & equip	6.25%	59.7		
Hourses, mules & work animals	6.25%	5.0		
Commerical fishing ice	6.25%	0.1		
Timber operations (equip)	6.25%	10.6		
Gas & electricity				
Manuf	6.25%	292.3		
Residential	6.25%	566.2	566.2	
Agricultural	6.25%	12.3		
Manufacturing				
Materials used in manu	6.25%	7,896.7		
Manufacturing mach & equip	6.25%	514.8		
Packaging & wrapping supplies	6.25%	115.3	115.3	
Newspapers				
Newspapers	6.25%	21.2	21.2	
Newspaper inserts	6.25%	28.4	28.4	
Magazine subscriptions	6.25%	8.6	8.6	
Containers	6.25%	87.7	87.7	
Mineral exploration				
Certain drilling equip	6.25%	29.8		
Internet access	6.25%	19.6	19.6	
Clothing & footware holiday	6.25%	37.8	37.8	
Aircraft				
Repair equip for aircraft	6.25%	18.6		
Certain ships	6.25%	37.9		
Boats & motors	6.25%	44.9	44.9	
Rolling stock				
Railroad fuel & supplies	6.25%	7.3		
Railroad stock & locomotives	6.25%	2.4		
Coin-operated services	6.25%	40.3	40.3	
Agribusiness (ag containers)	6.25%	0.5		
Data processing & info Services (partial)	6.25%	21.0		
Water-related exemptions	6.25%	5.0	5.0	

Appendix C. Options for replacing $8.5 Billion of Property Tax (Conti)

Exemptions & Exclusions 2005 (Comptroller's July 15, 2003 Letter): In $ Millions			Options for Expanding the Base	Rate Increase
	Rate	Resulting new annual revenue	Expand Base Emphasizing Consumption	6.31% Rate Increase: Current Base
Services excluded from Sales Tax				
New residential const	6.25%	262.5	262.5	
New nonresident constr	6.25%	158.4		
Residential repair & remodeling	6.25%	78.3	78.3	
Personal services				
Barber & beauty services	6.25%	61.3	61.3	
Funeral	6.25%	51.5	51.5	
Child day care	6.25%	161.4	161.4	
Misc personal serv	6.25%	17.5	17.5	
Business & prof services				
Physicans services	6.25%	576.5	576.5	
Dental services	6.25%	223.8	223.8	
Other health care	6.25%	372.9	372.9	
Legal services	6.25%	411.5		
Accounting serv	6.25%	200.0		
Architectural serv	6.25%	291.3		
Management consult	6.25%	103.4		
Contract computer prog	6.25%	106.3		
R&D lab services	6.25%	43.7		
Econ & socilogical research	6.25%	18.3		
Testing labs	6.25%	43.6		
Advertising media	6.25%	174.3		
Employment agency services	6.25%	30.3		
Temp labor supply	6.25%	52.9		
Financial services brokerage	6.25%	134.0	134.0	
Other financial	6.25%	96.5		
Real estate brokerage & agency	6.25%	184.4		
Freight hauling	6.25%	237.1		
Other transportation (except scheduled passeng	6.25%	15.6		
Veterinary services	6.25%	33.1		
Other services				
Automotive maintenance & repair	6.25%	261.5	261.5	
Car washes	6.25%	22.5	22.5	
Travel arrangement	6.25%	21.4	21.4	
Private vocational edu	6.25%	27.4	27.4	
Other edu services	6.25%	25.6	25.6	
Interior design	6.25%	7.0	7.0	

Appendix D
Summary Analysis Results: Four Scenarios

Scenario 1: Increase the Sales Tax Rate on the Current Base

Appendix Table 1
Economic Growth Effects of a $8.5 Billion Property Tax Reduction and 4.42% Sales Tax Increase

Source of Economic Change	First Year			Ten Years		
	GRP ($ 1996) (mil $)	PI ($ 1996) (mil $)	Employ-ment No. Jobs	GRP ($ 1996) (mil $)	PI ($ 1996) (mil $)	Employ-ment No. Jobs
$4.523 Billion Residential Sales Tax Increase	-6,263	-8,057	-114,100	-8,249	-11,790	-123,300
$3.741 Billion Residential Property Tax Decrease & $524 Million FIT Loss	3,989	4,719	45,920	6,007	7,726	58,520
Total Residential/Individual Impact	-2,322	-3,417	-69,070	-2,316	-4,203	-65,830
$3.977 Billion Business Sales Tax Increase	-4,019	-3,693	-64,860	-8,997	-7,127	-106,100
$4.759 Billion Property Tax Decrease	8,371	6,342	129,100	12,220	8,840	127,000
Total Business Impact	4,269	2,582	62,940	3,120	1,637	20,180
Total Business & Residential/Individual	1,907	-866	-6,867	805	-2,567	-45,550
Percent Change	0.235%	-0.139%	-0.055%	0.074%	-0.305%	-0.331%

Notes: PI = personal income, GRP = gross regional product. The total line is not exactly the sum of the three components. Interaction between the separable effects of the plan somewhat magnify the total effects.

Scenario 2: Broadening the Sales Tax Base

Appendix Table 2
Economic Growth Effects of a $8.5 Billion Property Tax Reduction and Broadened Sales Tax Base

Source of Economic Change	First Year			Ten Years		
	GRP ($ 1996) (mil $)	PI ($ 1996) (mil $)	Employ-ment No. Jobs	GRP ($ 1996) (mil $)	PI ($ 1996) (mil $)	Employ-ment No. Jobs
$7.474 Billion Residential Sales Tax Increase	-10,580	-13,180	-193,500	-13,970	-20,220	-217,200
$3.741 Billion Residential Property Tax Reduction & $524 Million FIT Loss	3,989	4,719	45,920	6,007	7,726	58,520
Total Residential/Individual Impact	-6,688	-8,606	-149,100	-8,118	-12,750	-160,600
$1.026 Billion Business Sales Tax Increase	-1,238	-1,142	-20,970	-3,134	-2,609	-42,450
$4.759 Billion Prop Tax Decrease	8,371	6,342	129,100	12,220	8,840	127,000
Total Business Impact	7,110	5,182	107,800	9,029	6,190	84,000
Total Business & Residential/Individual	277	-3,550	-43,890	836	-6,659	-77,470
Percent Change	0.034%	-0.568%	-0.351%	0.077%	-0.792%	-0.563%

Notes: PI = personal income, GRP = gross regional product. The total line is not exactly the sum of the three components. Interaction between the separable effects of the plan somewhat magnify the total effects.

Scenario 3: Increase the Sales Tax Rate and Expand the Base

Appendix Table 3
Economic Growth Effects of a $8.5 Billion Property Tax Reduction and Broadened Sales Tax Base by $5.455 Billion and Increasing the Rate by 2.26%

Source of Economic Change	First Year			Ten Years		
	GRP ($ 1996)	PI ($ 1996)	Employ-ment	GRP ($ 1996)	PI ($ 1996)	Employ-ment
	(mil $)	(mil $)	No. Jobs	(mil $)	(mil $)	No. Jobs
Total Business & Residential/Individual	1,016	-2,628	-27,660	1,732	-4,948	-54,310
Percent Change	0.125%	-0.421%	-0.221%	0.159%	-0.589%	-0.395%

Notes: PI = personal income, GRP = gross regional product. The total line is not exactly the sum of the three components. Interaction between the separable effects of the plan somewhat magnify the total effects.

Scenario 4: Expand the Sales Tax Base to All Sales

Appendix Table 4
Economic Growth Effects of a $8.5 Billion Property Tax Reduction and All Sales Taxed

Source of Economic Change	First Year			Ten Years		
	GRP ($ 1996)	PI ($ 1996)	Employ-ment	GRP ($ 1996)	PI ($ 1996)	Employ-ment
	(mil $)	(mil $)	No. Jobs	(mil $)	(mil $)	No. Jobs
Total Business & Residential/Individual	1,160	-835	-13,080	-2,375	-4,330	-78,180
Percent Change	0.143%	-0.134%	-0.105%	-0.218%	-0.515%	-0.569%

Notes: PI = personal income, GRP = gross regional product. The total line is not exactly the sum of the three components. Interaction between the separable effects of the plan somewhat magnify the total effects.

Senate Bill 2

Appendix Table 5
Economic Growth Effects of a $8.5 Billion Property Tax Reduction and Broadened Sales Tax Base

Source of Economic Change	First Year			Ten Years		
	GRP ($ 1996)	PI ($ 1996)	Employ-ment	GRP ($ 1996)	PI ($ 1996)	Employ-ment
	(mil $)	(mil $)	No. Jobs	(mil $)	(mil $)	No. Jobs
Total Business & Residential/Individual	718	-2,619	-32,010	642	-5,161	-65,940
Percent Change	0.089%	-0.419%	-0.256%	0.059%	-0.614%	-0.479%

Notes: PI = personal income, GRP = gross regional product. The total line is not exactly the sum of the three components. Interaction between the separable effects of the plan somewhat magnify the total effects.

ENDNOTES

[1] The primary economic evaluation tool used in the analysis is the Texas version of Regional Economic Models (REMI) modeling system (REMI v. 5.5) produced and used under license agreement from Regional Economic Models, Inc., Amherst, MA. The current Texas CGE model of the Texas economy made available by the Texas Public Policy Foundation was also used to check compatibility of results.

[2] For a recent discussion of this topic, see Taylor, Lori L. "Undue Taxes and Unintended Consequences," in Chris Patterson (ed), *Putting the Sides Together: Twelve Perspectives on Texas Public School Finance*, Texas Public Policy Foundation.

[3] For a detailed discussion of the economic distortion effects of various tax forms, see Zodrow, George R., *An Economic Evaluation Of Alternative Sources Of Tax Revenue For The State Of Texas*,, March 2004.

[4] For a thorough discussion of the criteria for evaluating tax policy see Zodrow, George R., *An Economic Evaluation Of Alternative Sources Of Tax Revenue For The State Of Texas*, , The Joint Committee on Public School Finance, March 2004 and The State of Texas Select Committee on Tax Equity (January 1989), Rethinking Texas Taxes, Volume 1, Findings and Recommendations, Final Report of the Select Committee on Tax Equity.

[5] The structure of the model is described in REMI Policy Insight: Model Documentation. Version 5.3, Regional Economic Models, Inc., Amherst, MA, August 2002.

[6] The tax shift scenarios were analyzed by introducing the tax policy change in the model beginning in 2005 in four parts: (1) as a decrease in the cost of housing estimated to be the after-federal income tax value of the property tax reduction on the housing sector; (2) as a reduction of the cost of capital for the property tax reduction in the business sector; (3) as reduced dollars of consumer expenditures for sales taxed consumer items; and (4) as increased costs of production for sector industries that purchase inputs subject to the sales tax. The reduced property taxes by homeowners are decreased by 14 percent to account for the proportion of Texas property tax that homeowners itemizing deductions earn on their federal income tax returns (see note 9). The reduced property taxes by homeowners are decreased by a 14% marginal federal tax rate since less than one-half of Texas homeowners itemize deductions on their federal income tax returns, therefore a change in property taxes for taxpayers in the 28% tax bracket, will on average, only amount to a 14% effect on aggregate deductibility for homeowners. The production cost changes are estimated as the after-federal tax value (at an average 29.1% marginal federal tax rate) of the aggregate of the two tax changes. In order to represent the tax policy change as a revenue neutral change, the model changes were introduced as revenue-neutral for each future year by making the change one that is relative to the base REMI forecast by sector for the simulation period; that is, the representation is a tax change that is revenue-neutral "going in" for the entire simulation period. The economic effects of the change therefore, represent economic gains or losses relative to fixed dollar tax changes to the base forecast over time.

[7] The Comptroller's Office estimates that a 1% increase in the sales tax rate above the current 6.25% rate will yield only 70% of the rate increase times the value of the current base. That is, the marginal collection rate is only 70%. Since the Comptroller's Office estimate is based on a 1.0% increase above the current level of 6.25%, an increase large enough to raise $8.5 billion will likely have even a smaller collection efficiency.

[8] According to the Texas Comptroller's Office 64.5% of Texas households are homeowners, the average marginal tax rate for households filing is 26.5% and about 80% of homeowner's property tax winds up being deductible for those who file and itemize; thus the loss of deductions against the federal income tax from $1.00 of property tax reduction is approximately 14 cents (.645 X .265 X .80 = .14). Source: Tamara Plaut, Senior Economist, Texas Comptroller of Public Accounts, phone conversation, March 31, 2004, Austin, Texas.

[9] The marginal tax rate for business is estimated to be 29.1%. Source: Graham, John "Proxies for the Corporate Marginal Tax Rate," Journal of Financial Economics, 1996.

[10] For a full explanation of the model, see Beacon Hill Institute, *Texas STAMP: A Sophisticated Tax Model for Texas*, Texas Public Policy Foundation, March 2004, http://www.texaspolicy.com/pdf/2004-03-10-stamp.pdf.

[11] For a thorough treatment of the topic see Don Fullerton and Diane Lim Rogers, Who Bears the Lifetime Tax Burden?, The Brookings Institution, Washington, D.C., 1993.

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