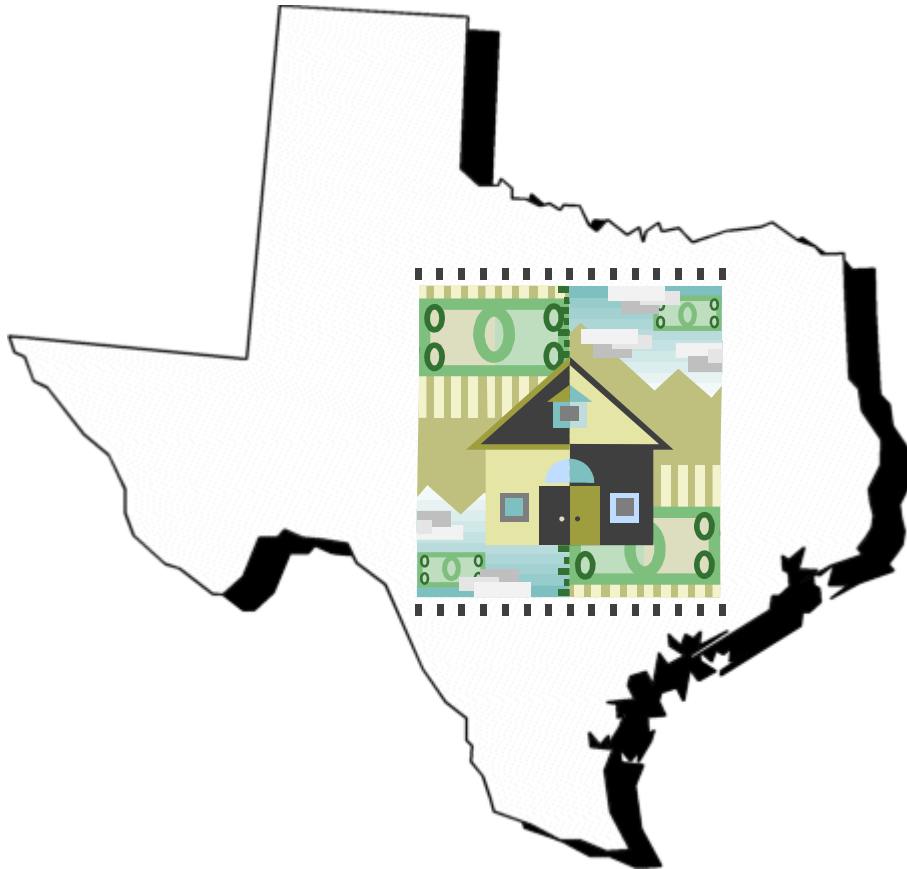


The Impact of Potential Restraints on  
Local Government Activity  
(Appraisal Caps, Expenditure Limits, and  
Revenue Limits) on the Economy of Texas



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**Table of Contents**

<b>Executive Summary</b>	<b>i</b>
<b>Introduction</b>	<b>1</b>
<b>The Perryman Group’s Perspective</b>	<b>4</b>
<b>Local Tax Characteristics and Background</b>	<b>5</b>
<b>Problems with Appraisal Caps and Revenue or Expenditures Limitations</b>	<b>9</b>
<b>Problems Common to Appraisal Caps, Revenue Limits, and     Expenditure Limits</b>	<b>9</b>
<b>Appraisal Caps</b>	<b>15</b>
<b>Revenue or Expenditure Limitations</b>	<b>20</b>
<b>Synopsis</b>	<b>22</b>
<b>Methodology for Assessing the Economic Impact of Limitations on Local Government Revenues and Expenditures</b>	<b>24</b>
<b>Impact Assessment Results</b>	<b>26</b>
<b>Appraisal Caps</b>	<b>26</b>
<b>Expenditure Caps</b>	<b>31</b>
<b>Revenue Limitations</b>	<b>33</b>
<b>Conclusion</b>	<b>42</b>
<b>APPENDICES</b>	<b>44</b>
<b>Appendix A: Methodology</b>	<b>45</b>
<b>Appendix B: Detailed Sectoral Results</b>	<b>54</b>
<b>Appraisal Cap Scenarios—Tables 1-4</b>	<b>55</b>
<b>Expenditure Cap Scenarios—Tables 5-6</b>	<b>60</b>
<b>Revenue Cap Scenarios—Tables 7-14</b>	<b>63</b>

# The Impact of Potential Restraints on Local Government Activity (Appraisal Caps, Expenditure Limits, and Revenue Limits) on the Economy of Texas

## *Executive Summary*

The process of finding alternative mechanisms to fund public education and provide reductions in school property taxes is a dominant topic in the 2005 Session of the Texas Legislature. Texas is currently facing a near crisis situation in the area of financing the state's education infrastructure. Not only is the current tax system failing to provide adequate resources, it is also falling under increasing public and legal scrutiny as to its fairness and legality. At the same time, there is growing awareness that the property tax burden on individuals and businesses within the state is becoming excessive, and there have been numerous calls for reductions in property taxes.

In particular, the property tax and the current Texas franchise tax combine to place a particularly disproportionate burden on capital intensive firms, thus constraining our capacity for economic development. While some proposed alternatives (such as certain forms of a broad-based, low-rate business tax to replace a percentage of the school property tax) could improve the fairness and responsiveness of the Texas tax structure, other options have the potential to make a difficult situation even worse.



One set of proposals that has surfaced in Texas and elsewhere is an effort to severely limit the capacity of all local governmental units to raise additional revenues or expend additional dollars. All of these proposals stand to restrict the ability of local governments to provide necessary services or adjust to changing conditions.

The fundamental issue is how to allocate the tax burden among various groups such that it is equitable, efficient, and minimally detrimental to the economy. If taxes result in a disincentive for businesses to invest, expand, and create jobs, all Texans lose. If individuals alter their behavior patterns due to tax considerations, there can also be negative consequences for the economy. If improper constraints result in a secular decline in public services and resources, then the state will surrender the competitive edge that it presently enjoys in attracting and retaining business enterprises.

The Perryman Group (TPG) was recently asked to analyze limitations on local government activity and their effects on the economy in Texas. This report summarizes findings from this endeavor.

### ***Local Tax Characteristics and Background***

Property tax relief has become a major goal among many Texas legislators and other public officials, business and community leaders, and citizens across the state. The reasons for support may vary, but one point of agreement is that local governments are



heavily dependant on property tax receipts for their ongoing operations.

More than 80% of all tax receipts to local governments stem from property taxation. For school districts, the proportion is even higher. Thus, any highly restrictive cap on property tax appraisals or revenues, no matter how it is structured, can severely hamper the activity of local governments to meet legitimate (and often legally mandated) needs.

Property taxes have certainly risen over the past decade. Focusing only on this upward pattern, however, ignores the issues of the cost of providing local services given increasing costs of most services and growing populations. Any initiative aimed at changing the property tax parameters must incorporate provisions to assure that the capacity of local governments to fulfill their proper role in society and the economy is not impaired.

### ***Problems with Appraisal Caps and Revenue or Expenditure Limitations***

Although appraisal caps and revenue or spending limitations may have the appearance on the surface of valid methods for reducing the property tax burden, in reality, they involve many undesirable characteristics. Evidence from areas with severe restraints in place demonstrates that they lead to fiscal problems, arbitrary inequities, and detriments to economic progress.

By restricting the capacity of local governments to provide services, appraisal caps, revenue limits, and expenditure limits lead to a **reduction in the quality of life and economic performance of**



the state. If infrastructure investments are delayed, for example, productivity suffers. If school districts are unable to raise funds to meet their needs, educational quality declines. In addition, local governments are forced to operate in a less efficient manner if they are compelled to deal with perpetual fiscal crises.

The end result is a deviation from the optimal growth pattern for local areas and, hence, the economy as a whole. Some of the major channels through which these effects are manifested include the following.

- ✓ *Limitations on appraisals and revenue limitations restrict the flexibility of local governments to respond to changing needs, emergency situations, and State and federal mandates.* Texas cities and counties vary markedly in their characteristics, their needs, and their capacity to generate tax revenue under various structures. A limit on the flexibility of local governments to change tax rates in response to needs specific to their areas will clearly inhibit their capacity to respond to the requirements and priorities of their residents.
  
- ✓ *Appraisal caps and revenue limitations bear no relation to the legitimate demand for costs of public services provided by local governments.* Revenue limitations do not account for demographic shifts, industrial development, and other factors that legitimately impact the demand for public services. In particular, they constrain the capacity of high-growth regions to meet public service and expanded infrastructure needs.



- ✓ *Appraisal caps and revenue and expenditure limitations adversely impact bond ratings, thus limiting the ability to meet vital infrastructure needs and raising the cost structure of local governments.* Bond ratings agencies analyze outstanding debt and the capacity to raise additional funds in assigning ratings. To the extent that local governments fail to measure up as well along these parameters, bond ratings will be affected, thus restricting the ability to use such debt vehicles and increasing their costs.
  
- ✓ *Appraisal caps and revenue or spending limitations create a ratcheting down of revenue generating capacity in times of weak economic growth and declines in property values.* Poor economic performance can cause local government revenue to fall; property values are particularly prone to cycles, both in the general economy and in the real estate market. When revenue or appraised values drop, the new, lower level becomes the base from which future expansion is calculated. A tax structure that resets the base at the trough of every cycle will inevitably fail to adequately provide for local needs over an extended time horizon.
  
- ✓ *Empirical studies indicate that property values are depressed by appraisal caps and revenue/expenditure limitations.* One component of property values is related to the provision of local services. In school districts perceived to be excellent, for example, there is a positive effect on property values. In cities and counties which provide excellent services, from water supplies to law enforcement to roads, property values are higher than in areas without these



attributes. Appraisal caps and other restrictions on the ability to provide needed services depress property values.

In addition to these problems, which are common to all types of restrictions, **appraisal caps also raise specific concerns** in other areas. Currently, the annual amount by which appraised values for residences can rise is limited to 10%. This limitation is already leading to billions of dollars in value loss and reductions in available revenues.

- ✓ *Limitations on appraisals distort market outcomes and create systematic inequities among taxpayers.* Valuation change limitations of the magnitude currently under consideration have the effect of arbitrarily redistributing the tax burden. The timing of the purchase of a real estate asset can be the driving factor in the total tax bill rather than the underlying value of the property.
- ✓ *Appraisal caps tend to be regressive.* Appraisal caps lead to greater reductions in fiscal resources (1) the more rapidly property values are rising and (2) the higher priced the properties are. The result is that those in disadvantaged neighborhoods and income groups subsidize those who are more fortunate.
- ✓ *Appraisal caps discourage real estate market activity and new home purchases.* Caps on assessed values also introduce a disincentive to buy and sell property if a sale/purchase results in a significantly higher tax appraisal. Homeowners who remain in their homes could enjoy tax bills far lower than market levels; caps could keep appraised



values far below market values. There would, thus, be an incentive to remain in their current homes to maintain the favorable tax status. The real estate market would therefore be harmed. Analogously, appraisal caps discourage migration to the state by prospective homeowners.

- ✓ *Appraisal caps systematically provide incentives to use economic development resources inefficiently and limit long-term growth.* Past incentives for major corporate locations have been based on the assumption of rising property values. As changes in the tax structure affect these parameters, the implications for local governments can be substantial. In fact, local governments will have an incentive to use economic development revenues to attract retail establishments which contribute sales taxes to local coffers rather than manufacturers with highly constrained assessed property values. The result would be a shift toward lower value-added and less export-oriented enterprises, thus reducing long-term economic expansion.
  
- ✓ *Appraisal caps penalize business startups.* In an appreciating market, valuation change limitations benefit existing property owners at the expense of new buyers. For example, a business owner who had owned a location for many years might be paying taxes far below a competitor who recently purchased. This reduces the capacity of new owners to compete effectively, with corresponding detrimental effects on consumers.
  
- ✓ *Appraisal caps arbitrarily create disparities among categories of property.* If appraisal caps apply only to



residential homesteads (as in the current 10% cap), a portion of the property tax burden shifts to other types of real property which are not subject to the cap. On the other hand, appraisal caps applied to all real property would shift relative costs to homeowners in the case of economic recovery or growth, when commercial property values could be expected to rise at rates significantly higher than a 3% limit.

In addition to the problems outlined above, **revenue or expenditure limitations create further difficulties.**

- ✓ *The Consumer Price Index, which is often used as part of a formula for determining expenditure limits, is based on purchases by typical individuals and, thus, is not a reliable indicator of the cost of government services.* The Consumer Price Index (CPI) is a measure of price changes which relies on a “market basket” of goods such as food, clothing, and other goods and services purchased by typical consumers. The purchasing patterns of local governments vary greatly from the market basket incorporated in the CPI, which is determined based on typical spending by an individual or household. In a similar manner, population changes are often not clearly correlated with expenditure or revenue requirements.
  
- ✓ *Revenue or expenditure limitations typically result in substantial increases in State funding of local services.* Because of its heavy reliance on local governments and property taxes, Texas is more vulnerable than other states to dislocations from appraisal caps or spending/revenue



limitations. In other states implementing such constraints, state aid is far greater than it is in Texas. Revenue limitations have caused major dislocations in areas across the nation.

**In summary, appraisal caps and other limits have created substantial problems in providing adequate revenues in states where they have been implemented, resulting in major disparities among taxpayers, increases in other taxes, and significant increases in State transfers to local governments.** They have also distorted economic behavior and limited growth potential.

## **Impact Assessment Results**

TPG developed alternative scenarios regarding the ultimate level of appraisal caps and expenditure or revenue limitations that might be implemented. These scenarios are based on specific legislative proposals and other parameters which are frequently discussed within the policy process. Reduced quality of local services results in foregone productivity in all aspects of the business complex. In addition, these losses compound over time.

### *Appraisal Caps*

In order to assess the potential impact of implementing more restrictive appraisal caps, two scenarios were developed. In the first case, it is assumed that the appraised value of property remaining with the same owner can rise by no more than 3% and



that the long-term increase in baseline values occur at a constant rate. In the second, the appraised value change is again capped at 3% with baseline increases reflecting a typical cyclical growth pattern which includes reductions in Years 2 and 7, but overall expansion over ten years at the same rate as the constant growth framework.

<b>Net Estimated Losses in Texas Business Activity Due to Appraisal Caps</b>				
	<b>Scenario 1: 3% Appraisal Cap and Constant Growth in Baseline Values</b>		<b>Scenario 2: 3% Appraisal Cap and Typical Cyclical Growth in Baseline Values</b>	
	<b>Year 10 After Implementation (annual impact)</b>	<b>Cumulative Over First 10 Years</b>	<b>Year 10 After Implementation (annual impact)</b>	<b>Cumulative Over First 10 Years</b>
Total Expenditures	<b>-\$4.343 billion</b>	<b>-\$20.979 billion</b>	<b>-\$5.134 billion</b>	<b>-\$22.594 billion</b>
Gross Product	<b>-\$2.071 billion</b>	<b>-\$10.003 billion</b>	<b>-\$2.448 billion</b>	<b>-\$10.774 billion</b>
Personal Income	<b>-\$1.349 billion</b>	<b>-\$6.515 billion</b>	<b>-\$1.594 billion</b>	<b>-\$7.017 billion</b>
Employment	<b>-32,175 Permanent Jobs</b>	<b>155,426 Person-Years</b>	<b>-38,037 Permanent Jobs</b>	<b>-167,396 Person-Years</b>

The higher levels of decrease in business activity in the second case also illustrate the ratcheting effect of cyclical patterns. It should be further noted that (1) all of these adverse consequences accumulate and increase over time and that (2) further declines are

likely as the state's competitiveness in attracting new industry will be eroded by the lack of adequate support services.

*Expenditure Caps*

<b>Net Estimated Losses in Texas Business Activity Due to Expenditure Caps</b>		
	<b>Cap Equal to the Annual Growth Rate in Population and the CPI</b>	
	<b>Year 10 After Implementation (annual impact)</b>	<b>Cumulative Over First 10 Years</b>
Total Expenditures	<b>-\$20.727 billion</b>	<b>-\$102.139 billion</b>
Gross Product	<b>-\$9.883 billion</b>	<b>-\$48.704 billion</b>
Personal Income	<b>-\$6.437 billion</b>	<b>-\$31.719 billion</b>
Employment	<b>-153,559 Permanent Jobs</b>	<b>-756,723 Person-Years</b>

Note that these values are much larger than those in other scenarios as expenditure limits apply to the entire budget of a local government and not merely the portion derived from property taxes.

*Revenue Limitations*

Curtailing the ability of local governments to generate needed funds and otherwise respond to evolving conditions could be expected to

bring economic harms. Without sufficient revenues, the quality of local government services would decline, leading to lost productivity throughout the economy. Although not implicitly quantified, they could also ultimately result in a decline in competitiveness for new locations, expansions, and relocations of highly desirable enterprises with significant need for governmental services.

<b>Net Estimated Losses in Texas Business Activity Due to Local Property Tax Revenue Limitations</b>				
	<b>Scenario 1: 3% Cap on Growth in Local Property Tax Revenue and Constant Growth in Baseline Revenues</b>		<b>Scenario 1: 3% Cap on Growth in Local Property Tax Revenue and Typical Cyclical Growth in Baseline Revenues</b>	
	<b>Year 10 After Implementation (annual impact)</b>	<b>Cumulative Over First 10 Years</b>	<b>Year 10 After Implementation (annual impact)</b>	<b>Cumulative Over First 10 Years</b>
Total Expenditures	<b>-\$10.783 billion</b>	<b>-\$54.592 billion</b>	<b>-\$11.613 billion</b>	<b>-\$58.796 billion</b>
Gross Product	<b>-\$5.142 billion</b>	<b>-\$26.032 billion</b>	<b>-\$5.538 billion</b>	<b>-\$28.036 billion</b>
Personal Income	<b>-\$3.349 billion</b>	<b>-\$16.953 billion</b>	<b>-\$3.607 billion</b>	<b>-\$18.259 billion</b>
Employment	<b>-79,889 Permanent Jobs</b>	<b>-404,460 Person-Years</b>	<b>-86,041 Permanent Jobs</b>	<b>-435,607 Person-Years</b>

The following scenarios are included because they reflect one of the proposals that has been widely discussed during the current school finance debate.



**Net Estimated Losses in Texas Business Activity Due to  
Local Property Tax and School District Tax Revenue  
Limitations**

	<b>Scenario 3: 6% Cap on School District Property Tax Revenues and 3% Cap on Other Local Property Tax Revenues and Constant Growth in Baseline Values</b>	<b>Scenario 3: 6% Cap on School District Property Tax Revenues and 3% Cap on Other Local Property Tax Revenues and Typical Cyclical Growth in Baseline Values</b>		
	<b>Year 10 After Implementation (annual impact)</b>	<b>Cumulative Over First 10 Years</b>	<b>Year 10 After Implementation (annual impact)</b>	<b>Cumulative Over First 10 Years</b>
Total Expenditures	-\$7.211 billion	-\$35.950 billion	-\$7.766 billion	-\$38.719 billion
Gross Product	-\$3.438 billion	-\$17.143 billion	-\$3.703 billion	-\$18.463 billion
Personal Income	-\$2.239 billion	-\$11.164 billion	-\$2.412 billion	-\$12.024 billion
Employment	-53,422 Permanent Jobs	-266,348 Person-Years	-57,536 Permanent Jobs	-286,859 Person-Years

Clearly, revenue limitations stand to significantly dampen economic performance; these effects would compound and grow markedly in the future.

**Conclusion**

There is no doubt that the current Texas tax structure, particularly the high degree of local government reliance on property taxes, is

in need of reform. It is not keeping pace with the need for funds and it is dampening economic performance. However, it is crucial that any changes implemented represent real improvement, rather than illusory gains at the cost of future well-being.

While property tax rate reductions and corresponding shifts to a more equitable and efficient funding mechanism for public schools will notably improve the fiscal structure of the state, such initiatives must be accomplished without introducing further, and particularly more serious, problems. There are proposals surfacing which represent notable mechanisms for improving the tax system in the state. These efforts should not be accompanied, however, by the introduction of the additional and compounding problems associated with severely reducing local government resources and flexibility.

In summary, artificial limits on the flexibility of local governments to provide for the legitimate and expanding requirements of their citizens are contrary to basic economic principles of optimality, can generate substantial inequities, and needlessly reduce the capacity of local governments to function effectively and efficiently.



# The Impact of Potential Restraints on Local Government Activity (Appraisal Caps, Expenditure Limits, and Revenue Limits) on the Economy of Texas

## Introduction

The process of finding alternative mechanisms to fund public education and provide reductions in school property taxes is a dominant topic in the 2005 Session of the Texas Legislature. Texas is currently facing a near crisis situation in the area of financing the state's education infrastructure. Not only is the current tax system failing to provide adequate resources, it is also falling under increasing public and legal scrutiny as to its fairness and legality. Given ongoing fiscal difficulties and a growing school-age population, a workable solution has become a top legislative priority.

At the same time, there is growing awareness that the property tax burden on individuals and businesses within the state is becoming excessive, and there have been numerous calls for reductions in property taxes. The relatively high rates, which stem largely from the fact that Texas uses this levy for a larger percentage of its State and local funding than most other areas, are detrimental to businesses and homeowners alike. In particular, the property tax and the current Texas franchise tax combine to place a particularly disproportionate burden on capital-intensive firms, thus constraining the state's capacity for economic development. While some proposed alternatives (such as certain forms of a broad-based, low-



rate business tax to replace a percentage of the school property tax) could improve the fairness and responsiveness of the Texas tax structure, other options have the potential to make a difficult situation even worse.

One set of proposals that has surfaced in Texas and elsewhere is an effort to severely limit the capacity of all local governmental units to raise additional revenues or expend additional dollars. One variation involves limiting annual increases in property tax revenues to some arbitrary level well below projected amounts required to provide needed public services. As an example, one measure recently proposed that school district levies be limited to 6%, with those of other governmental entities (cities, counties, and special districts) being capped at 3%. Another approach is to cap appraisal increases (on either residential or all real property) to some fixed percentage. A recently filed bill proposes to limit the annual rise in all real property assessments (unless ownership changes) to 3%. One other strategy that is often discussed is to put a ceiling on overall local spending increases, with the most common barometer being the rates of growth in population and the Consumer Price Index (CPI).

All of these proposals stand to restrict the capacity of local governments to provide necessary services or adjust to changing conditions. They also introduce notable arbitrariness and other inequities and dislocations into the tax system. They make no meaningful allowances for the extreme differences in industrial structure, demographics, and other factors affecting fiscal requirements across a vast and highly diverse geography. Moreover, they directly contribute to inefficient private-sector behavior and resulting economic losses. In short, limitations on



local government flexibility stand to do far more harm than any perceived benefits they may offer.

Services provided by local governments are integral to quality of life. The need for adequate police and fire protection, for example, is obvious. Similarly, the need for a quality system of public education is beyond question. Local infrastructure supports all facets of corporate and household activity. However, such services entail a price, and tax receipts are necessary to enable these functions. While efforts to achieve efficiency in the provision of public programs are beneficial and indeed essential, arbitrary limits with no integral link to underlying fiscal requirements can generate severe and irreversible declines in economic potential.

The fundamental issue thus becomes how to allocate the tax burden among various groups such that it is equitable, efficient, and minimally detrimental to the economy. If taxes result in a disincentive for businesses to invest, expand, and create jobs, all Texans lose. If individuals alter their behavior patterns due to tax considerations, there can also be negative consequences for the economy. If improper constraints result in a secular decline in public services and resources, then the state will surrender the competitive edge that it presently enjoys in attracting and retaining business enterprises.

The Perryman Group (TPG) was recently asked to analyze limitations on local government activity and their effects on the economy of Texas. This report summarizes findings from this endeavor.



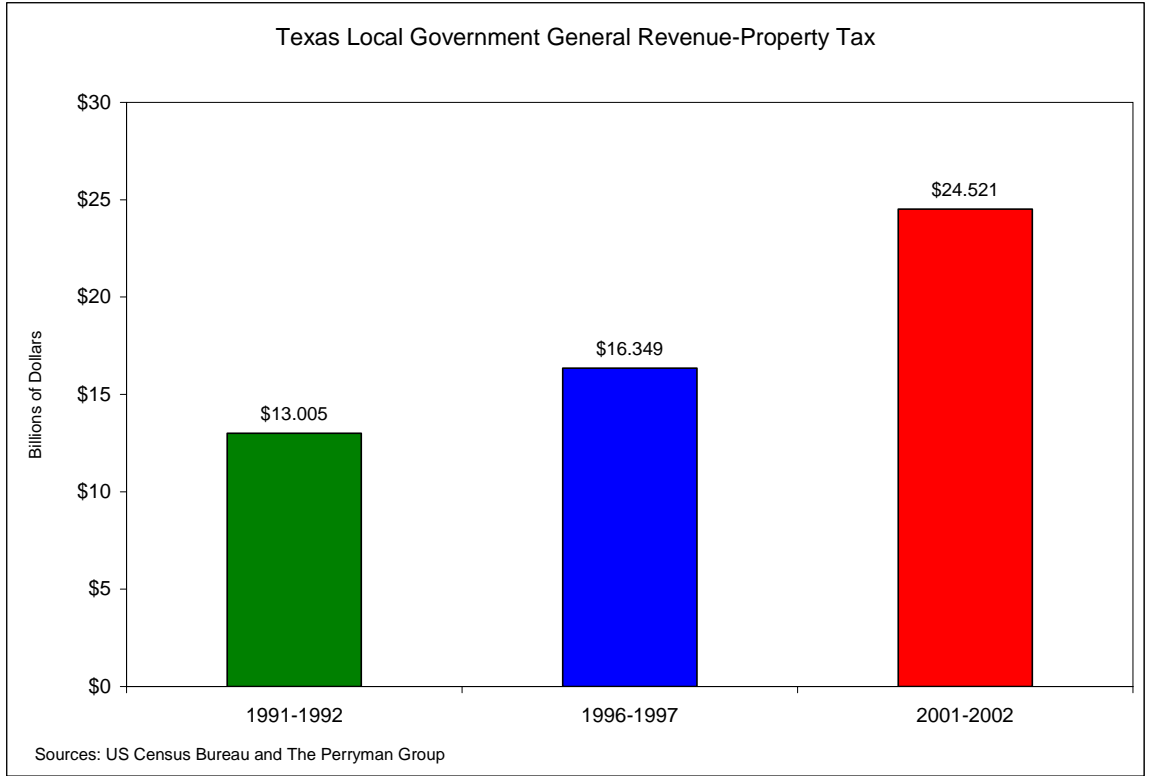
## The Perryman Group's Perspective

TPG is an economic research and analysis firm based in Waco, Texas. The firm has more than 20 years of experience in assessing the economic impact of corporate expansions, regulatory changes, real estate developments, and myriad other types of events affecting business activity. TPG has conducted hundreds of impact analyses for the US and Texas economies as well as all Texas metro areas. Impact studies have been performed for hundreds of clients including many of the largest corporations in the world, governmental entities at all levels, educational institutions, major healthcare systems, utilities, and economic development organizations. In particular, TPG has extensive experience in analyzing all aspects of State and local revenues and other fiscal issues in Texas, has developed numerous models for this purpose, has conducted dozens of studies on local public-sector activity, and frequently advises leaders at all levels of government on taxation matters.

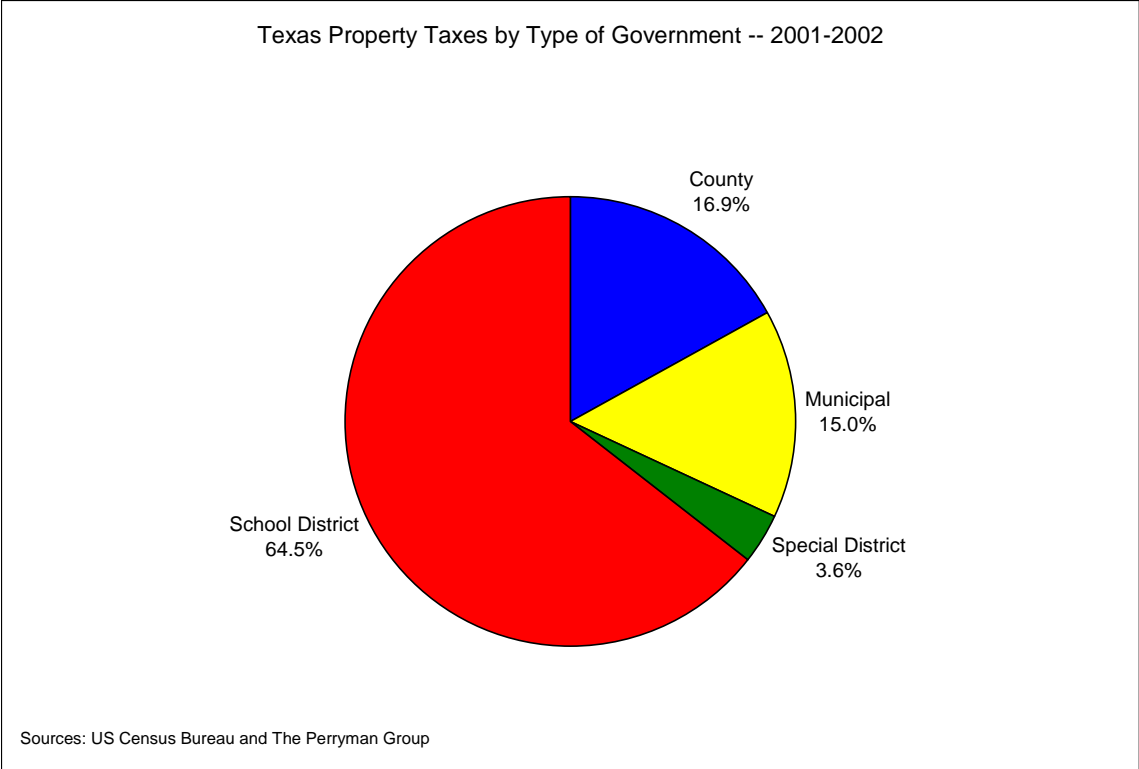
## Local Tax Characteristics and Background

Property tax relief has become a major goal among many Texas legislators and other public officials, business and community leaders, and citizens across the state. The reasons for support may vary, but one point of agreement is that local governments are heavily dependant on property tax receipts for their ongoing operations. As illustrated in the accompanying graph, property taxes have increased substantially over the past decade. While the best available complete data ends in 2002, the trend has continued to the present. One of the primary reasons for this phenomenon is the fact that the State's share of public school funding declined dramatically after the "Robin Hood" mechanism was put in place. Moreover, this approach initially began during the real estate debacle of the early 1990s when property values and, thus, property tax receipts, were severely lagging fiscal requirements both for public schools and other governmental entities. The result was substantial increases in rates and a general consensus that reductions should occur.

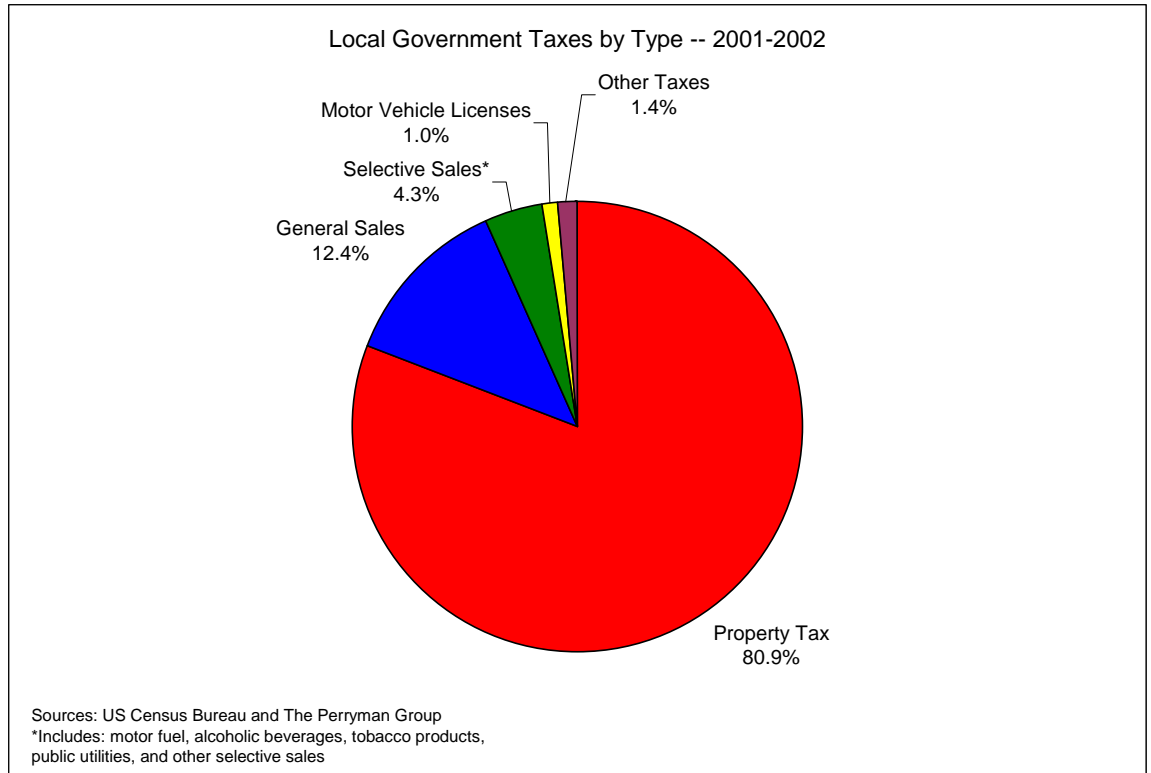




Not surprisingly, a substantial majority flows to school districts. Counties represent almost 17% of collections, while municipalities collect 15%.



Local governments are extremely reliant on property taxes to fund their operations. More than 80% of all tax receipts to local governments stem from the property taxation. For school districts, the proportion is even higher. Thus, any highly restrictive cap on property tax appraisals or revenues, no matter how it is structured, can severely hamper the activity of local governments to meet legitimate (and often legally mandated) needs.



Property taxes have certainly risen over the past decade. Focusing only on this upward pattern, however, ignores the issues of the cost of providing local services given increasing costs of most services and growing populations. Any initiative aimed at changing the property tax parameters must incorporate provisions to assure that the capacity of local governments to fulfill their proper role in society and the economy is not impaired. In the following section, the problems with some of the proposed changes to the property tax structure are highlighted.

## **Problems with Appraisal Caps and Revenue or Expenditure Limitations**

Although appraisal caps and revenue or spending limitations may have the appearance on the surface of valid methods for reducing the property tax burden, in reality, they involve many undesirable characteristics. Evidence from areas with severe restraints in place demonstrates that they lead to fiscal problems, arbitrary inequities, and detriments to economic progress. California's Proposition 13, which more than a quarter-century ago became the catalyst for much of the ongoing discussion of tax limits on a national basis, has resulted in massive shifts to State funding through other means and an ongoing fiscal crisis that is proving quite difficult to resolve. Massachusetts has also experienced difficulties, including loss of property values in restricted jurisdictions.

Because all of these mechanisms involve limiting the fiscal capabilities of local governments, they tend to cause many of the same types of adverse outcomes; some of these common elements are discussed in the following section. More specific characteristics of each of the individual categories (appraisal caps, expenditure caps, and revenue caps) are examined in subsequent sections.

### **Problems Common to Appraisal Caps, Revenue Limits, and Expenditure Limits**

By restricting the capacity of local governments to provide services, appraisal caps, revenue limits, and expenditure limits lead to a reduction in the quality of life and economic performance of the state. If infrastructure investments are delayed, for example,



productivity suffers. If school districts are unable to raise funds to meet their needs, educational quality declines. In addition, local governments are forced to operate in a less efficient manner if they are compelled to deal with perpetual fiscal crises.

The end result is a deviation from the optimal growth pattern for local areas and, hence, the economy as a whole. Some of the major channels through which these effects are manifested are presently reviewed.

*Limitations on appraisals and revenue limitations restrict the flexibility of local governments to respond to changing needs, emergency situations, and State and federal mandates.*

Texas cities and counties vary markedly in their characteristics, their needs, and their capacity to generate tax revenue under various structures. Removing local control of tax decisions or imposing the same rigid limits on every local taxing authority across the state can lead to a spectrum of problems. Some cities may have large populations but little commercial activity, as is the case in many “bedroom communities” proximate to larger cities. These communities often have rapidly rising needs for public services, particularly in periods of sustained growth and expansion. Local areas vary greatly in the pattern of property values, with some still recovering from the recent economic downturn and others continuing to see healthy residential construction thanks to low mortgage interest rates and other conditions.

Local governments face many required programs and State and federal mandates in areas ranging from public welfare to personnel.



While State or federal funding is available for some of these, others are either unfunded or undersupported. Counties, for example, face specific requirements as to incarcerating prisoners, meeting ratios of jail staff to prisoners, and training for officers and others. Hospital districts are faced with rapidly escalating costs for the medically indigent. Cities and school districts face mandates in myriad areas as well. Recent efforts to reduce the federal deficit, while not yet definitive, have generally focused on domestic items that are likely to shift additional burdens to local governments. Similarly, unforeseen events, whether natural disasters of a localized nature or national phenomenon such as the added security outlays required since the September 11, 2001 terrorist attacks, cannot be adequately addressed in a highly restrictive environment. A limit on the flexibility of local governments to change tax rates in response to needs specific to their areas will clearly inhibit their capacity to respond to the requirements and priorities of their residents.

*Appraisal caps and revenue limitations bear no relation to the legitimate demand for costs of public services provided by local governments.*

Revenue limitations do not account for demographic shifts, industrial development, and other factors that legitimately impact the demand for public services. In particular, they constrain the capacity of high growth regions to meet public service and expanded infrastructure needs. Even if indexed to population growth, they may poorly reflect the investment required to accommodate rapid growth. Moreover, commercial and industrial development may involve little change in population, but substantial growth in services or infrastructure demand.



Patterns in the demand for services of local governments are rarely smooth and continuous, but rather prone to spikes, such as when overcrowding necessitates an investment in a new correctional facility or traffic reaches a critical point on a municipal or county roadway and expansion is needed. At other times, however, needs may be growing more slowly. Historically, tax rate and spending growth has not been steady; instead, it has reflected changes in underlying demand. In addition, local residents have had a voice in the taxes paid, whether directly through rollbacks and other existing limits or through elections of local officials who reflect voter preferences and priorities.

Costs of local governments have skyrocketed in some areas. Analysis by Travis County, for example, indicates that from 1994 to 2003, costs for county-provided emergency medical services grew by 586%, juvenile medical services grew by 428%, employee health insurance expanded by 262%, and indigent attorney fees were up 115%. Over the same period, a CPI-population growth formula would have allowed for only 59% growth in overall spending, while any type of revenue or appraisal cap would have potentially been even more restrictive. Absent an infusion of State funds as has occurred in areas with tougher limitations, this situation would have resulted in massive cutbacks in other programs.

*Appraisal caps and revenue and expenditure limitations adversely impact bond ratings, thus limiting the ability to meet vital infrastructure needs and raising the cost structure of local governments.*

As local government financial flexibility is constrained, there will likely be additional need for debt financing. Currently, debt is typically utilized for specific projects such as water treatment systems and other infrastructure improvements with long-term returns to the community. However, without adequate funds available for operations and maintenance, reliance on debt is likely to increase. Interest payments on this incremental debt will further compound the problem of fiscal constraints.

Moreover, bond ratings agencies analyze outstanding debt and the capacity to raise additional funds in assigning ratings to municipalities, counties, and special districts (the Permanent School Fund supports many types of debt for public education). To the extent that local governments fail to measure up as well along these parameters, bond ratings will be affected. A decline in bond ratings increases difficulty in selling bonds in the market, thus restricting the ability to use such debt vehicles. Furthermore, lower bond ratings entail higher interest rates, compounding the problem of rising debt and interest payments. Over the long term, increasing (and more expensive) debt levels can contribute to fiscal crises.

*Appraisal caps and revenue or spending limitations create a ratcheting down of revenue generating capacity in times of weak economic growth and declines in property values.*

Poor economic performance can cause local government revenue to fall; property values are particularly prone to cycles, both in the general economy and in the real estate market. When revenue or appraised values drop, the new, lower level becomes the base from which future expansion is calculated.

The past few years provide an illustration of how this ratcheting down can work. Over the 2001-2002 period, Texas experienced a period of weak economic performance and falling property values in many areas. In particular, local areas reliant on technology-oriented industries saw rapidly shrinking employment and falling home values as certain types of companies struggled with the “dot-com” bust, the fallout from corporate scandals, the uncertainty following September 11, and numerous other issues. Since that time, most of these areas have regained at least some of the lost ground. Industry-specific crises, coupled with a national downturn, caused significant difficulties, but it was not sufficient to derail the broader-based recovery that soon occurred. During the down years for property values, tax receipts were correspondingly lower than they would have been. Under an appraisal cap or revenue/expense limitation structure, these down years would form the basis of revenue growth in the future regardless of how rapidly the economy recovered.

Cyclical variation is a fact of economic life. Real estate cycles are even more common. A tax structure that resets the base at the

trough of every cycle will inevitably fail to adequately provide for local needs over an extended time horizon.

*Empirical studies indicate that property values are depressed by appraisal caps and revenue/expenditure limitations.*

One component of property values is related to the provision of local services. In school districts perceived to be excellent, for example, there is a positive effect on property values. In cities and counties which provide excellent services, from water supplies to law enforcement to roads, property values are higher than in areas without these attributes.

Appraisal caps and other restrictions on the ability to provide needed services depress property values. A study of a revenue cap in Massachusetts found that property values were depressed as a result. In New Jersey, a positive relationship between school expenditures and house values has been documented. With revenue or appraisal caps, the spending capacity of public entities is arbitrarily constrained.

## **Appraisal Caps**

In addition to these problems, common to all types of restrictions, appraisal caps also raise specific concerns in other areas. Currently, the annual amount by which appraised values for residences can rise is limited to 10%. This limitation is already leading to billions of dollars in value loss and reductions in available revenues.



Various proposals are surfacing to significantly reduce the amount by which appraised values can rise. One such measure, House Bill 359 (HB359), would limit the maximum average annual increase in the appraised value of real property to 3%. By including all real property (rather than just residential homesteads), this bill would apply caps to other categories of real property such as commercial and industrial enterprises. The ultimate effect of an appraised value constraint depends on the pattern in market values, the timing of implementation, and other conditions; two scenarios are offered subsequently in this report to illustrate the likely range of potential outcomes. However, several conclusions can be drawn from economic theory and empirical evidence from other areas.

*Limitations on appraisals distort market outcomes and create systematic inequities among taxpayers.*

Valuation change limitations of the magnitude currently under consideration have the effect of arbitrarily redistributing the tax burden. The timing of the purchase of a real estate asset can be the driving factor in the total tax bill rather than the underlying value of the property. Identical properties can have vastly different tax levies depending on the dates they were bought and sold.

In California, where appraisal caps have been in place for decades, there are drastic differences in appraised values and, thus, tax bills. For residences, it is not uncommon for homeowners who have been in the same house for many years to have dramatically lower tax bills than those making recent purchases of virtually identical properties. The situation is even more distorted for commercial



properties, where the tax rates per square foot can range from \$0.05 per square foot for properties that were in place when the caps were implemented to up to \$5.00 per square foot for comparable and nearby facilities. Such inequities lead to arbitrary competitive advantages for older businesses and unfair shifting of tax burdens to those recently purchasing homes or commercial properties.

*Appraisal caps tend to be regressive.*

Appraisal caps lead to greater reductions in fiscal resources (1) the more rapidly property values are rising and (2) the higher priced the properties are. A 1998 study indicates that in Florida (where there is a 3% cap on appraisal growth), 43% of the tax savings went to just 16% of homeowners. In fact, their program, which was originally known as “Save Our Homes,” is now often referred to as “Save Our Mansions.” A recent study by the Dallas Central Appraisal District found that the neighborhoods benefiting from the current 10% cap were among the wealthiest in the area. This phenomenon occurs because of the tendency of lower-valued homes to appreciate less than those which are more desirable. The result is that those in disadvantaged neighborhoods and income groups subsidize those who are more fortunate. Existing changes in the income distribution of property tax burdens over time, as well as observed patterns with existing constraints, confirm this tendency in Texas as well.

*Appraisal caps discourage real estate market activity and new home purchases.*

Caps on assessed values also introduce a disincentive to buy and sell property if a sale/purchase results in a significantly higher tax appraisal. Homeowners who remain in their homes could enjoy tax bills far lower than market levels; caps could keep appraised values far below market values. There would, thus, be an incentive to remain in their current homes to maintain the favorable tax status. The real estate market would therefore be harmed. Analogously, appraisal caps discourage migration to the state by prospective homeowners.

*Appraisal caps systematically provide incentives to use economic development resources inefficiently and limit long-term growth.*

In addition, past incentives for major corporate locations have been based on the assumption of rising property values. As changes in the tax structure affect these parameters, the implications for local governments can be substantial. In fact, local governments will have an incentive to use economic development revenues to attract retail establishments which contribute sales taxes to local coffers rather than manufacturers with highly constrained assessed property values. The result would be a shift toward lower value-added and less export-oriented enterprises, thus reducing long-term economic expansion.

*Appraisal caps penalize business startups.*

In an appreciating market, valuation change limitations benefit existing property owners at the expense of new buyers. For example, a business owner who had owned a location for many years might be paying taxes far below a competitor who recently purchased. This reduces the capacity of new owners to compete effectively, with corresponding detrimental effects for consumers.

*Appraisal caps arbitrarily create disparities among categories of property.*

If appraisal caps apply only to residential homesteads (as in the current 10% cap), a portion of the property tax burden shifts to other types of real property which are not subject to the cap. On the other hand, appraisal caps applied to all real property would shift relative costs to homeowners in the case of economic recovery or growth, when commercial property values could be expected to rise at rates significantly higher than a 3% limit. In fact, business property typically is more volatile in nature than residential property, with the result being that caps on all real property systematically transfer obligations from businesses to households. As an example, the Dallas County Appraisal District recently compiled data by property class over the past ten years. Had a 3% appraisal cap been in place during that time, the increase in the typical homeowner's tax bill would have exceeded that of a typical commercial facility of comparable value by about 37.4%, although market appreciation in the two properties would be virtually identical. Statewide data over a more limited time horizon reveals a similar pattern would likely occur.

## Revenue or Expenditure Limitations

In addition to the problems outlined above, revenue or expenditure limitations create further difficulties.

*The Consumer Price Index, which is often used as part of a formula for determining expenditure limits, is based on purchases by typical individuals and, thus, is not a reliable indicator of the cost of government services.*

The Consumer Price Index (CPI) is a measure of price changes which relies on a “market basket” of goods such as food, clothing, and other goods and services purchased by typical consumers. The CPI reflects some changes in the cost of local government services because (1) counties, municipalities, and schools do purchase some of the goods incorporated in the CPI (although typically in vastly different proportions than a household purchase) and (2) certain wages, contracts, and mandates may be linked to changes in the CPI. However, the CPI is a far from perfect indicator of changes in the underlying costs of local services.

The purchasing patterns of local governments vary greatly from the market basket incorporated in the CPI, which is determined based on typical spending by an individual or household. *American City & County* developed the Municipal Cost Index (MCI) in an attempt to more accurately reflect changes in the cost of goods and services more relevant to providing local services. Over the past two years, the rate of increases in the costs of local government services has been approximately twice that of overall inflation. Given the amount of the outlays in healthcare, other services, and



construction, it is unlikely that this pattern will materially change in the foreseeable future.

In a similar manner, population changes are often not clearly correlated with expenditure or revenue requirements. For example, many rural areas face declining populations yet must still maintain basic operations and infrastructure. Moreover, demographic shifts toward older and more ethnically diverse populations can result in a higher level of per capita need for public services over time.

*Revenue or expenditure limitations typically result in substantial increases in State funding of local services.*

Because of its heavy reliance on local governments and property taxes, Texas is more vulnerable than other states to dislocations from appraisal caps or spending/revenue limitations. In other states implementing such constraints, state aid is far greater than it is in Texas. For example, in Colorado, state aid is approximately \$50 per person; in Massachusetts, it is some \$178 per capita. Other states offer varying amounts of assistance to local areas. In Texas, however, State aid is only about \$3 per person, with no sharing of resources from the general fund.

Revenue limitations have caused major dislocations in areas across the nation. The situation in Texas is likely to be far more acute unless there is a massive allocation of State aid to compensate for the inevitable shortfalls. Other than the ongoing efforts to shift more of the funding of public education to the State level, no such mechanism appears to be anticipated. In fact, during the 2003 legislative session, many of the steps taken to address a



substantial budget deficit had the practical effect of increasing local fiscal burdens.

## Synopsis

Appraisal caps and other limits have created substantial problems in providing adequate revenues in states where they have been implemented, resulting in major disparities among taxpayers, increases in other taxes, and significant increases in State transfers to local governments. They have also distorted economic behavior and limited growth potential.

Additionally, the State portion of funding for public services has increased markedly in areas with severe constraints. In Colorado, for example, the State share of funding for education has increased by some 40% over the past decades as tax bills have limited the capacity of school districts to generate revenue. However, Texas has proposed no such compensating funding for municipalities, counties, and special taxing districts. In fact, although they are often linked in discussions and even proposed legislation, there is no inherent connection between the funding structure of these entities and the desirability of lowering property taxes through alternative funding sources for public education.

In summary, severe and artificial restrictions on the flexibility of local governments to respond to legitimate needs are at odds with the most basic concepts of economics and create numerous practical problems. Moreover, if public services are not provided in an effective manner, private-sector efficiency is lost and long-term economic growth prospects are compromised. In the remainder of



this report, the consequences of various limitations for overall business activity are illustrated and quantified.

## **Methodology for Assessing the Economic Impact of Limitations on Local Government Revenues and Expenditures**

The basic modeling technique employed in assessing the economic impact of this initiative is known as dynamic input-output analysis. This methodology essentially uses extensive survey data, industry information, and a variety of corroborative source materials to create a matrix describing the various goods and services (known as resources or inputs) required to produce one unit (a dollar's worth) of output for a given sector. Once the base information is compiled, it can be mathematically simulated to generate evaluations of the magnitude of successive rounds of activity involved in the overall production process.

There are two essential steps in conducting an input-output analysis once the system is operational. The first major endeavor is to accurately define the levels of direct activity to be evaluated. In the present instance, this process involves the creation of a number of illustrative scenarios relating to appraisal caps, expenditure limitations, and revenue caps. Those computations are quite complex, as they involve defining proper distributions of values, accounting for other components of the current framework, property turnover rates, and numerous other elements, as well as defining baseline patterns for comparative purposes. The methodology for these computations is discussed in more detail in Appendix A. For each case, the impacts quantified are limited to the losses stemming from private-sector inefficiencies from the lack of public resources. All results are calculated over the period from 2006 (the first fiscal year that any such program would be



implemented) through 2016. Both tenth year and cumulative findings are offered.

Once the direct input values were determined, the present study was conducted within the context of the US Multi-Regional Impact Assessment System (USMRIAS) which was developed and is maintained by The Perryman Group. This model has been used in hundreds of diverse applications across the country and has an excellent reputation for accuracy and credibility. In addition, the model has been in operation and continually updated for over two decades. The systems used in the current simulations reflect the unique industrial structure of the Texas economy.

For a more detailed explanation of the methods and terms used in this study, see Appendix A.

## Impact Assessment Results

TPG developed alternative scenarios regarding the ultimate level of appraisal caps and expenditure or revenue limitations that might be implemented. These scenarios are based on specific legislative proposals and other parameters which are frequently discussed within the policy process. Reduced quality of local services results in foregone productivity in all aspects of the business complex. In addition, these losses compound over time. The key findings from this analysis are summarized below.

### Appraisal Caps

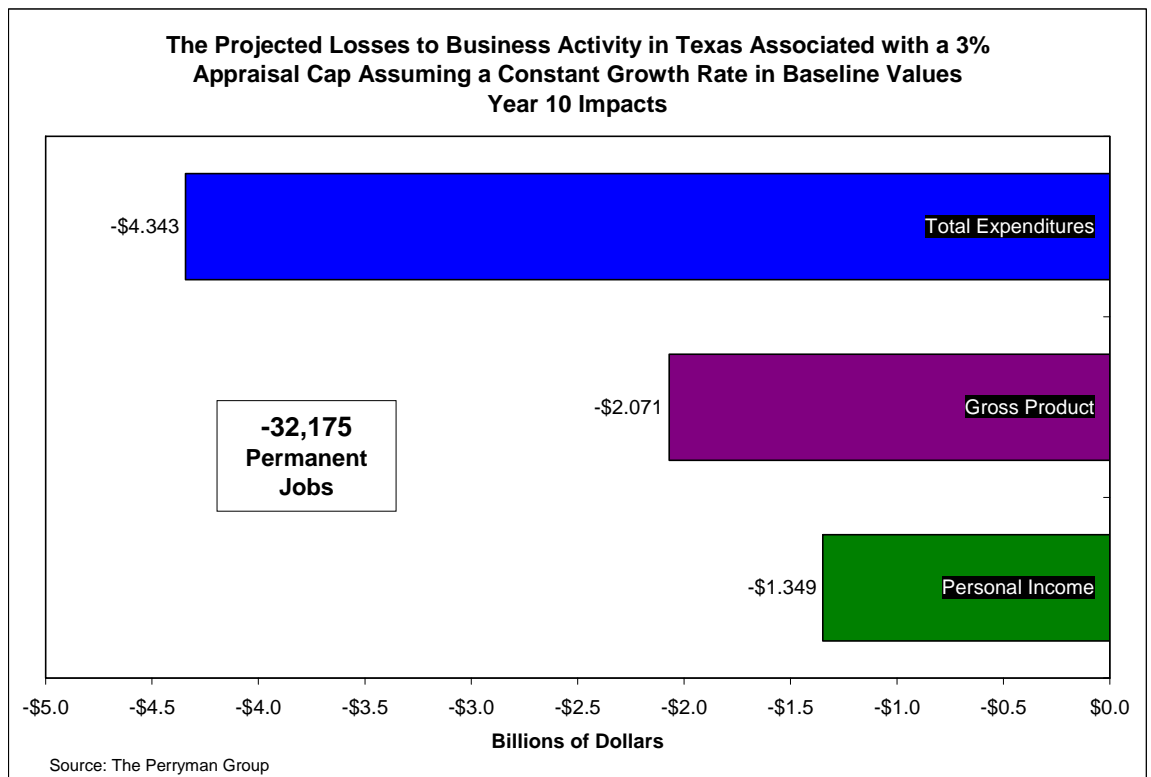
In order to assess the potential impact of implementing more restrictive appraisal caps, two scenarios were developed. In the first case, it is assumed that the appraised value of property remaining with the same owner can rise by no more than 3% and that the long-term increase in baseline values occur at a constant rate. In the second, the appraised value change is again capped at 3% with baseline increases reflecting a typical cyclical growth pattern which includes reductions in Years 2 and 7, but overall expansion over ten years at the same rate as the constant growth framework.



*Scenario 1: 3% Appraisal Cap and Constant Growth Rate in Baseline Values*

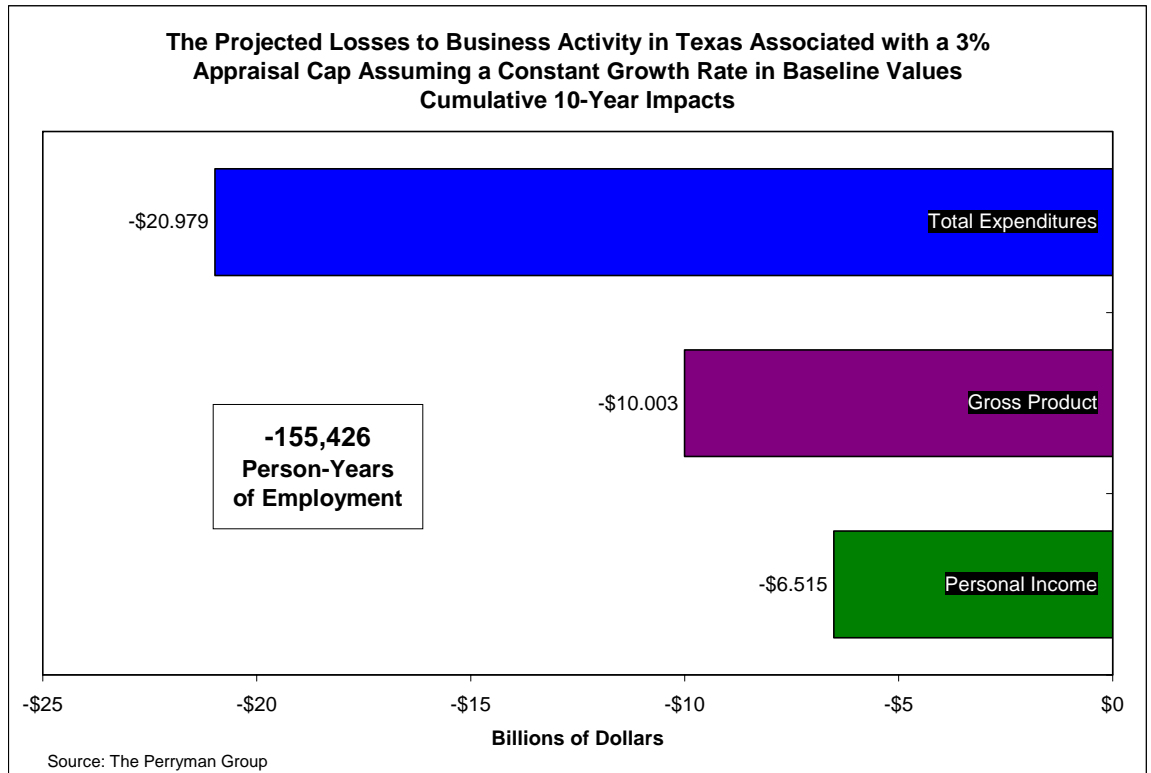
With a 3% appraisal cap and constant growth rate in baseline values, reductions in business activity in the state in the tenth year after implementation are estimated to include

- ✓ -\$4.343 billion in annual Total Expenditures;
- ✓ -\$2.071 billion in annual Gross Product;
- ✓ -\$1.349 billion in annual Personal Income; and
- ✓ -32,175 Permanent Jobs.



Note that all dollar values are given in fiscal-year 2006 dollars, the first year in which any reform would likely be implemented. Over the first 10 years, the cumulative effect of a 3% appraisal cap (and constant growth in baseline values) would be

- ✓ -\$20.979 billion in annual Total Expenditures;
- ✓ -\$10.003 billion in annual Gross Product;
- ✓ -\$6.515 billion in annual Personal Income; and
- ✓ -155,426 Person-Years of Employment.

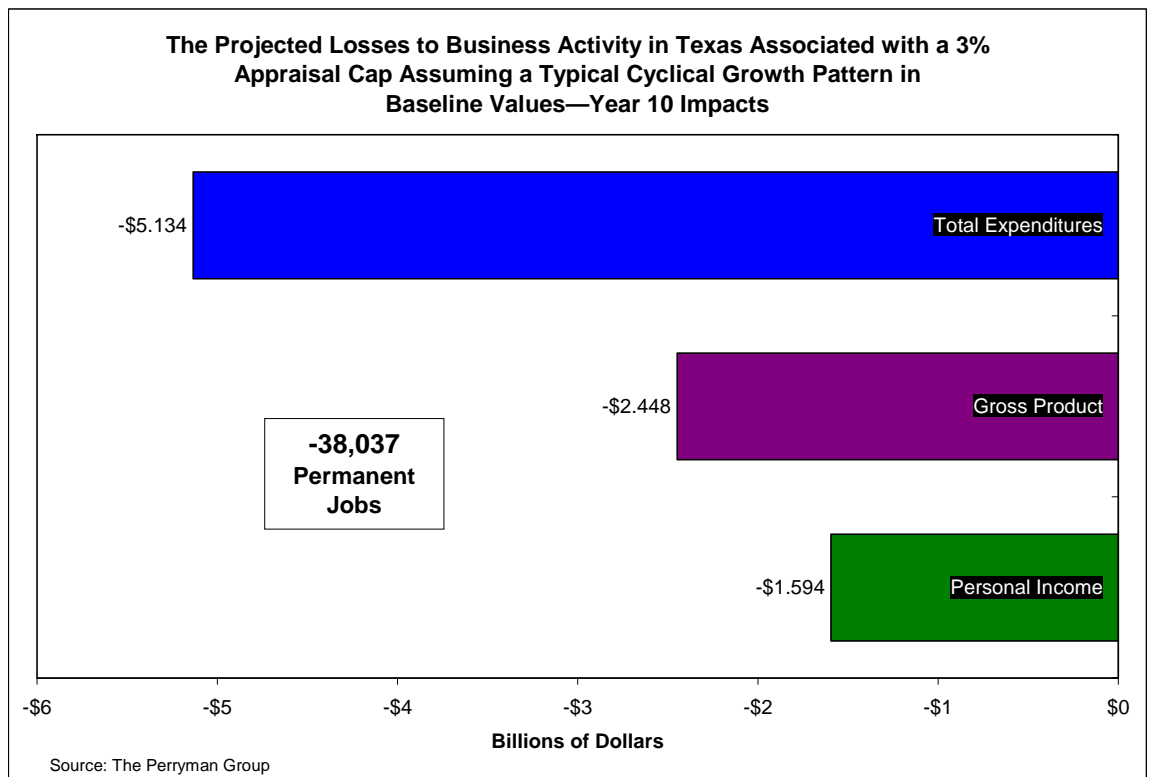


For detailed sectoral results, see Tables 1 and 2 in Appendix B.

*Scenario 2: 3% Appraisal Cap and Typical Cyclical Growth Pattern in  
Baseline Values*

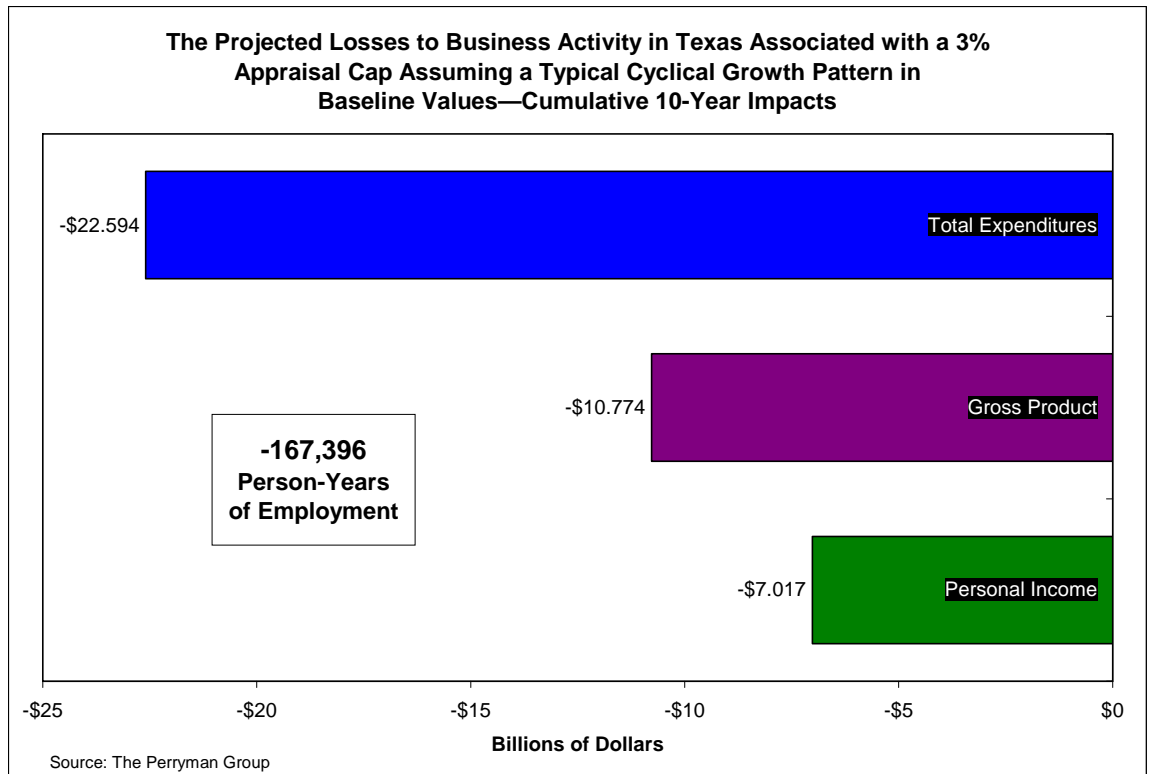
With a 3% limit on the amount by which appraised values are allowed to increase and typical cyclical growth patterns, the harms to the state in Year 10 total

- ✓ -\$5.134 billion in annual Total Expenditures;
- ✓ -\$2.448 billion in annual Gross Product;
- ✓ -\$1.594 billion in annual Personal Income; and
- ✓ -38,037 Permanent Jobs.



Over the first 10 years, the cumulative effect of a 3% appraisal cap (and typical cyclical growth patterns in baseline values) would be

- ✓ -\$22.594 billion in annual Total Expenditures;
- ✓ -\$10.774 billion in annual Gross Product;
- ✓ -\$7.017 billion in annual Personal Income; and
- ✓ -167,396 Person-Years of Employment.

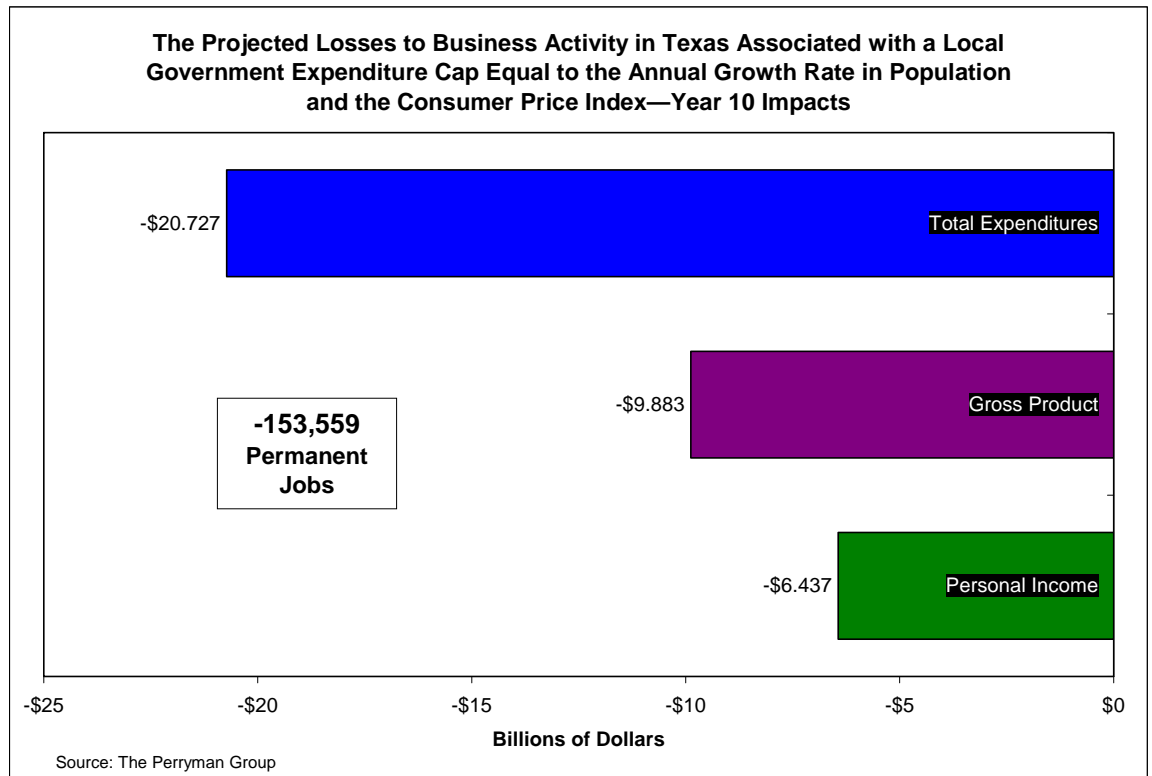


For detailed sectoral results, see Tables 3 and 4 in Appendix B. These results indicate that the losses to the state are quite substantial as a result of the losses of private-sector efficiency. The higher levels of decrease in business activity in the second case also illustrate the ratcheting effect of cyclical patterns. It should be further noted that (1) all of these adverse consequences accumulate and increase over time and that (2) further declines are likely as the state's competitiveness in attracting new industry will be eroded by the lack of adequate support services.

## Expenditure Caps

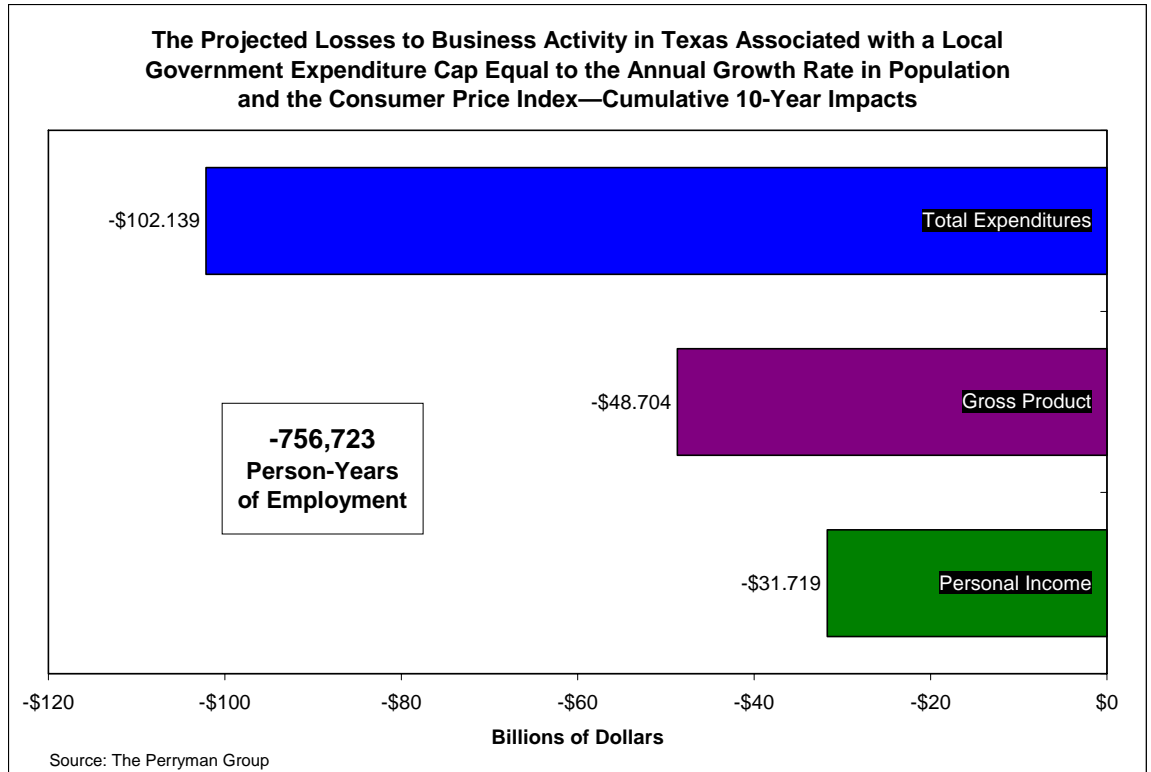
With a cap on increases in local government expenditures equal to the annual growth rate in population and the CPI, reductions in business activity in the state are estimated to include (in Year 10)

- ✓ -\$20.727 billion in annual Total Expenditures;
- ✓ -\$9.883 billion in annual Gross Product;
- ✓ -\$6.437 billion in annual Personal Income; and
- ✓ -153,559 Permanent Jobs.



Over the first 10 years, the cumulative effect of increases in local government expenditures equal to the annual growth rate in population and the CPI would be

- ✓ -\$102.139 billion in Total Expenditures;
- ✓ -\$48.704 billion in Gross Product;
- ✓ -\$31.719 billion in Personal Income; and
- ✓ -756,723 Person-Years of Employment.



For detailed sectoral results, see Tables 5 and 6 in Appendix B. Note that these values are much larger than those in other scenarios as expenditure limits apply to the entire budget of a local government and not merely the portion derived from property taxes.

## Revenue Limitations

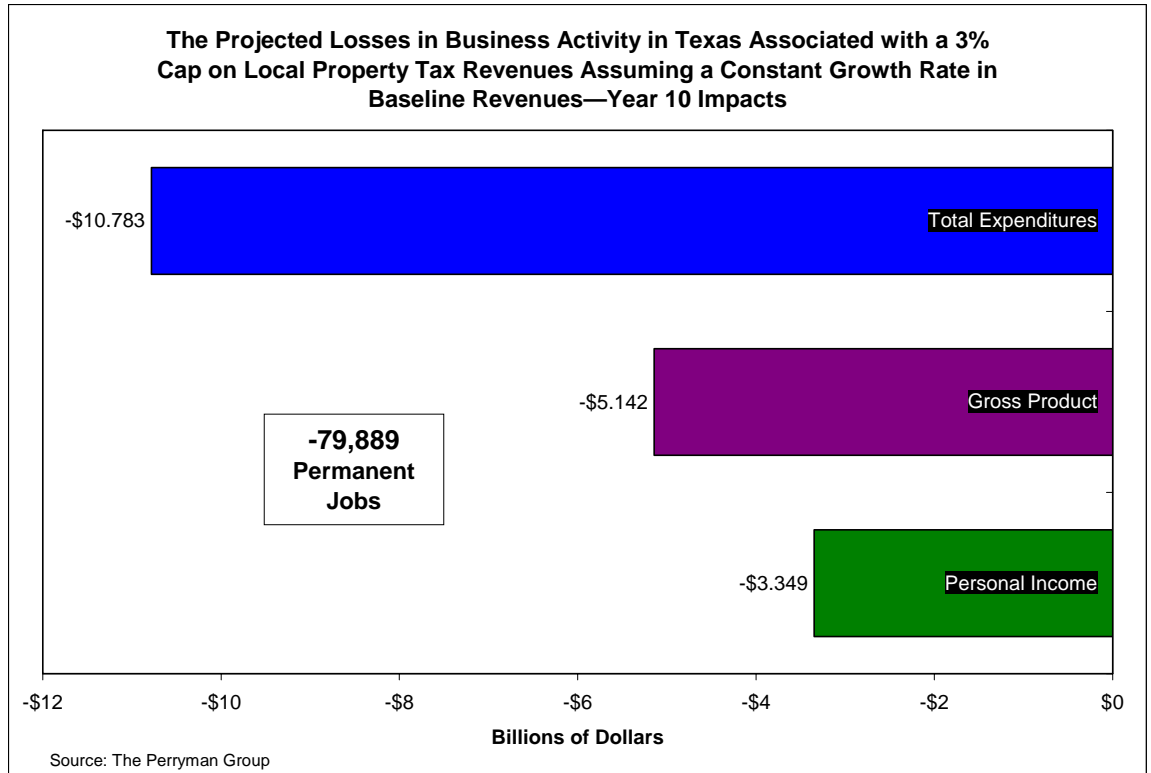
Revenue limitations also have the potential to lead to substantial losses in business activity in Texas. In particular, any such arbitrary limits would have little or no relation to changes in the underlying need for local public outlays.

Curtailing the ability of local governments to generate needed funds and otherwise respond to evolving conditions could be expected to bring economic harms. Without sufficient revenues, the quality of local government services would decline, leading to lost productivity throughout the economy. Although not implicitly quantified, they could also ultimately result in a decline in competitiveness for new locations, expansions, and relocations of highly desirable enterprises with significant need for governmental services.

### *Scenario 1: 3% Cap on Growth in Local Property Tax Revenues and Constant Growth in Baseline Revenues*

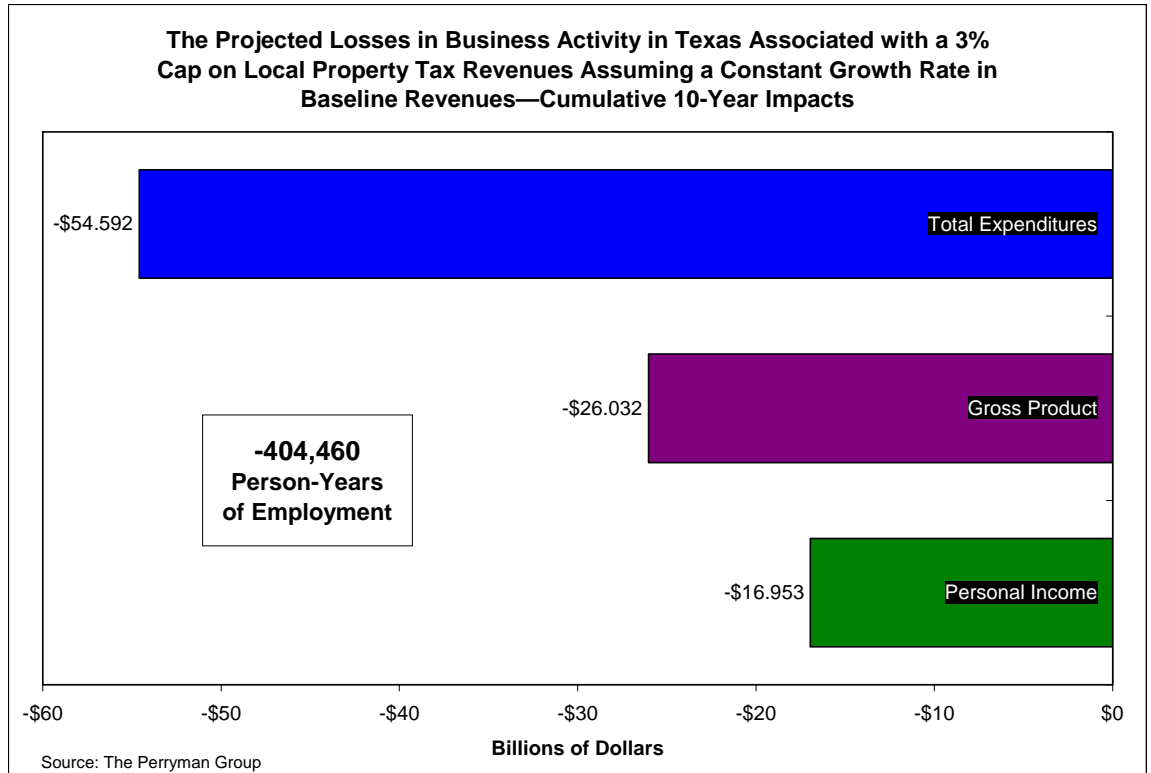
With a 3% revenue limitation and constant growth rate in baseline revenues, losses in business activity during Year 10 are projected to be

- ✓ -\$10.783 billion in annual Total Expenditures;
- ✓ -\$5.142 billion in annual Gross Product;
- ✓ -\$3.349 billion in annual Personal Income; and
- ✓ -79,889 Permanent Jobs.



Over the first 10 years, the cumulative effect of a 3% cap on local property tax revenues (relative to constant growth in baseline revenues) would be

- ✓ -\$54.592 billion in Total Expenditures;
- ✓ -\$26.032 billion in Gross Product;
- ✓ -\$16.953 billion in Personal Income; and
- ✓ -404,460 Person-Years of Employment.

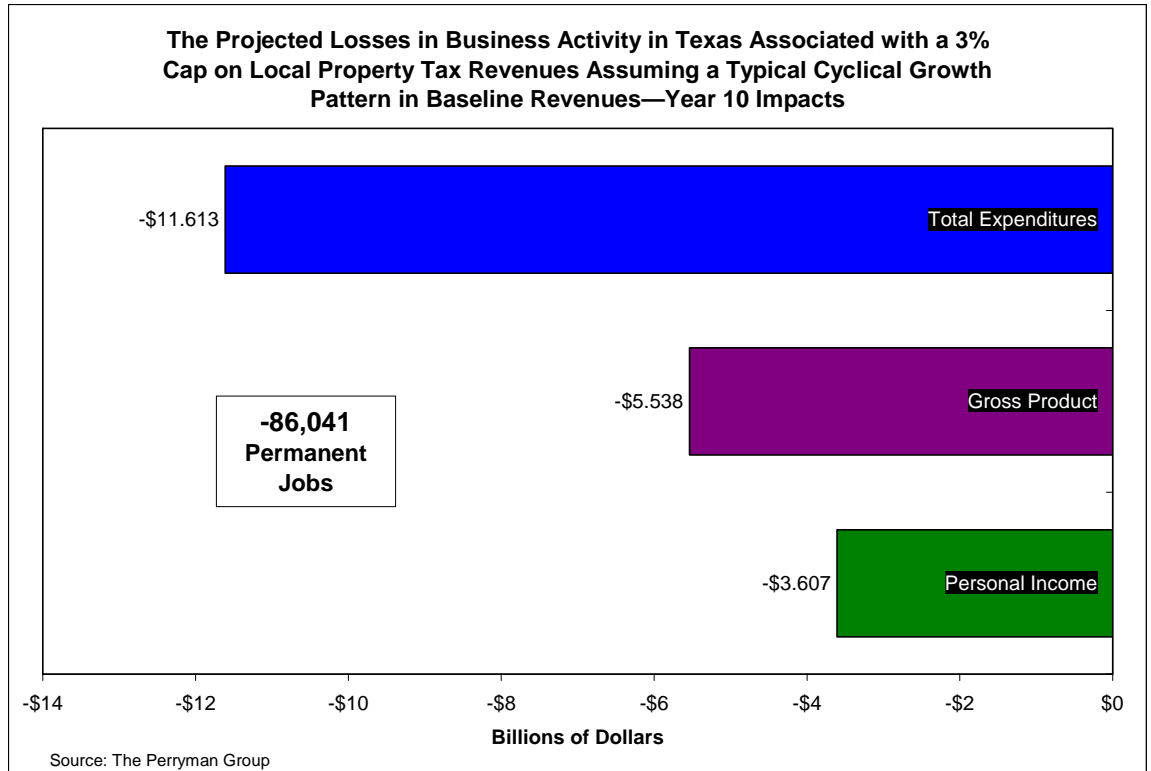


For detailed sectoral results, see Tables 7 and 8 in Appendix B.

*Scenario 2: 3% Cap on Growth in Local Property Revenues and a Typical Cyclical Growth Pattern in Baseline Revenues*

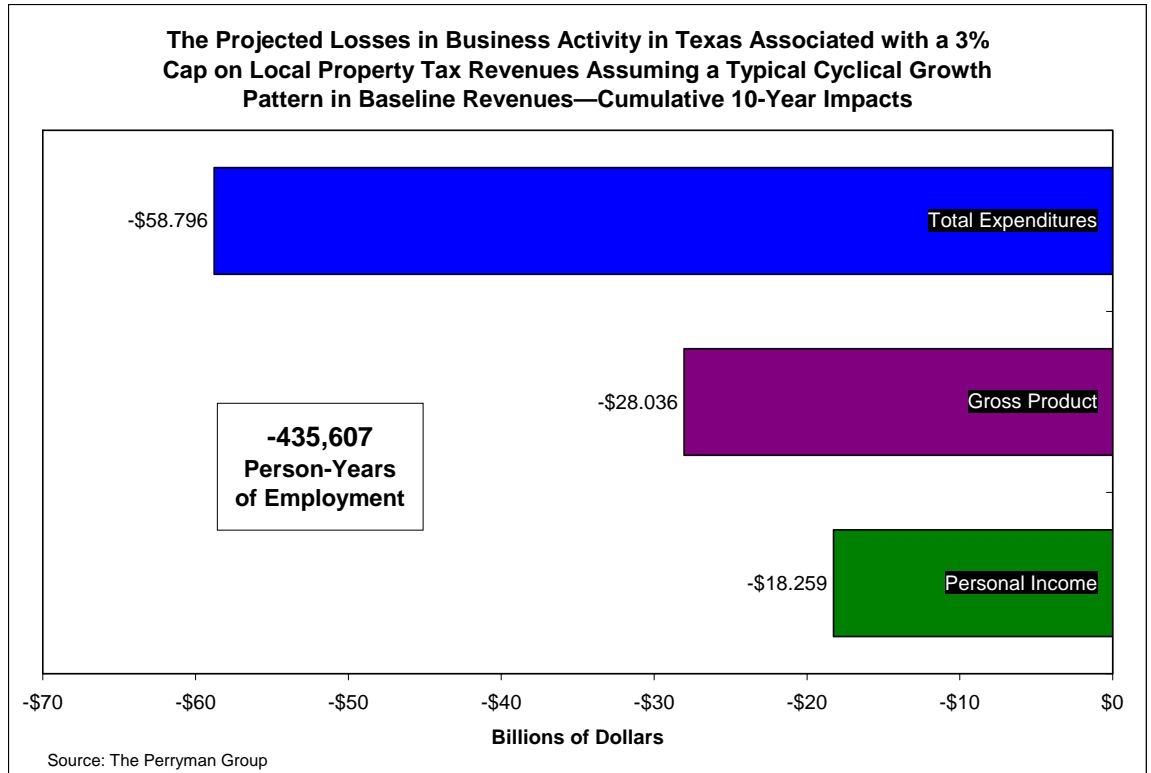
With 3% revenue limitations and a cyclical growth pattern, losses to the state rise for the tenth year (2016) to

- ✓ -\$11.613 billion in annual Total Expenditures;
- ✓ -\$5.538 billion in annual Gross Product;
- ✓ -\$3.607 billion in annual Personal Income; and
- ✓ -86,041 Permanent Jobs.



Over the first 10 years, the cumulative effect of a 3% cap on growth in local property revenues (and a typical cyclical growth pattern) would be

- ✓ -\$58.796 billion in Total Expenditures;
- ✓ -\$28.036 billion in Gross Product;
- ✓ -\$18.259 billion in Personal Income; and
- ✓ -435,607 Person-Years of Employment.

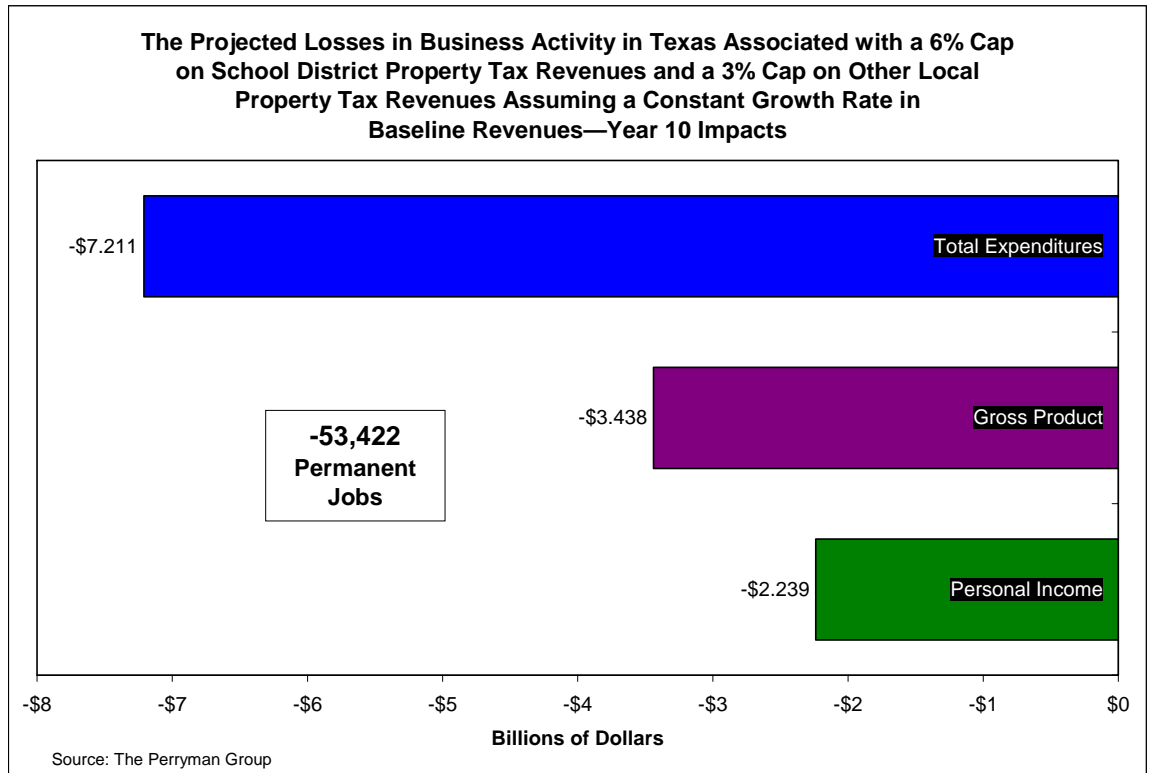


For detailed sectoral results, see Tables 9 and 10 in Appendix B. As with appraisal caps, these results illustrate the ratcheting effect that can occur in a “real world” environment.

*Scenario 3: 6% Cap on School District Property Tax Revenues and a 3% Cap on Other Local Property Tax Revenues and Constant Growth Rate in Baseline Revenues*

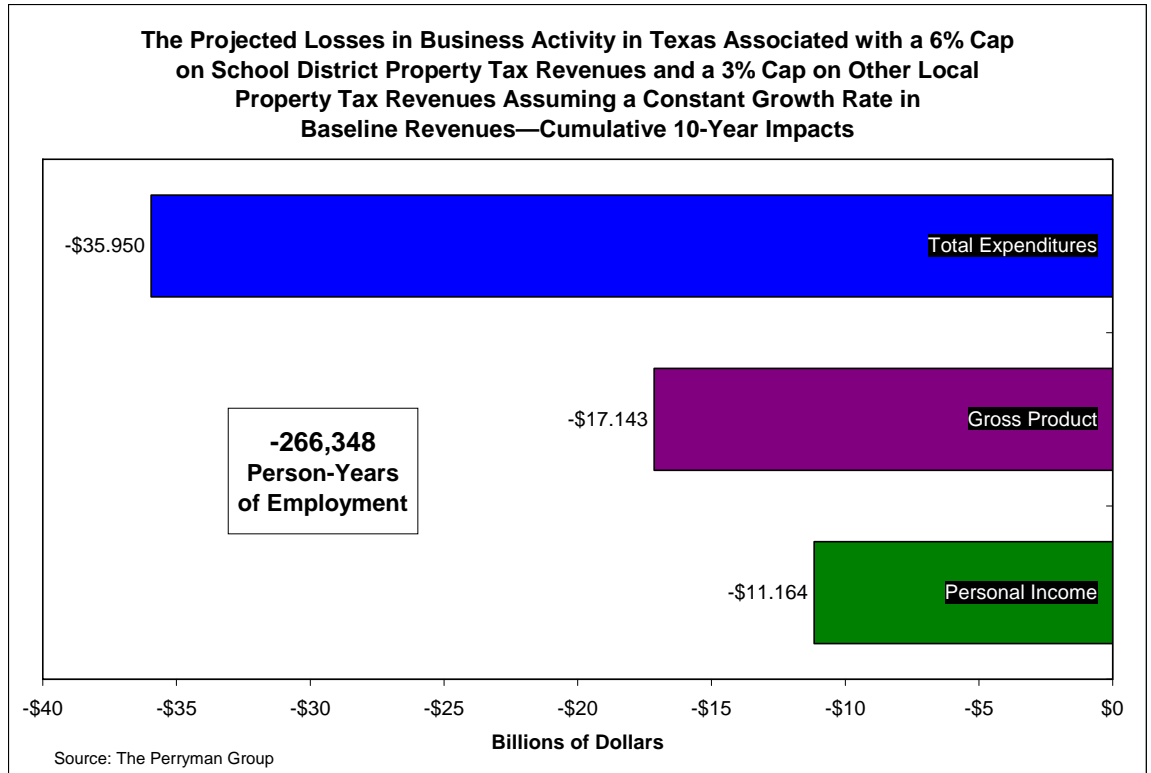
This scenario and the following one (with variable growth in baseline revenues) are included because they reflect proposals that have been widely discussed during the current school finance debate. With a 6% cap on school district property tax revenues and a 3% cap on other local property tax revenues and constant growth rate in alternative (baseline) revenues, losses to the state in Year 10 are found to be

- ✓ -\$7.211 billion in annual Total Expenditures;
- ✓ -\$3.438 billion in annual Gross Product;
- ✓ -\$2.239 billion in annual Personal Income; and
- ✓ -53,422 Permanent Jobs.



Over the first 10 years, the cumulative effect of a 6% cap on school district property tax revenues and a 3% cap on other local property tax revenues (and constant growth in baseline revenues) would be

- ✓ -\$35.950 billion in Total Expenditures;
- ✓ -\$17.143 billion in Gross Product;
- ✓ -\$11.164 billion in Personal Income; and
- ✓ -266,348 Person-Years of Employment.

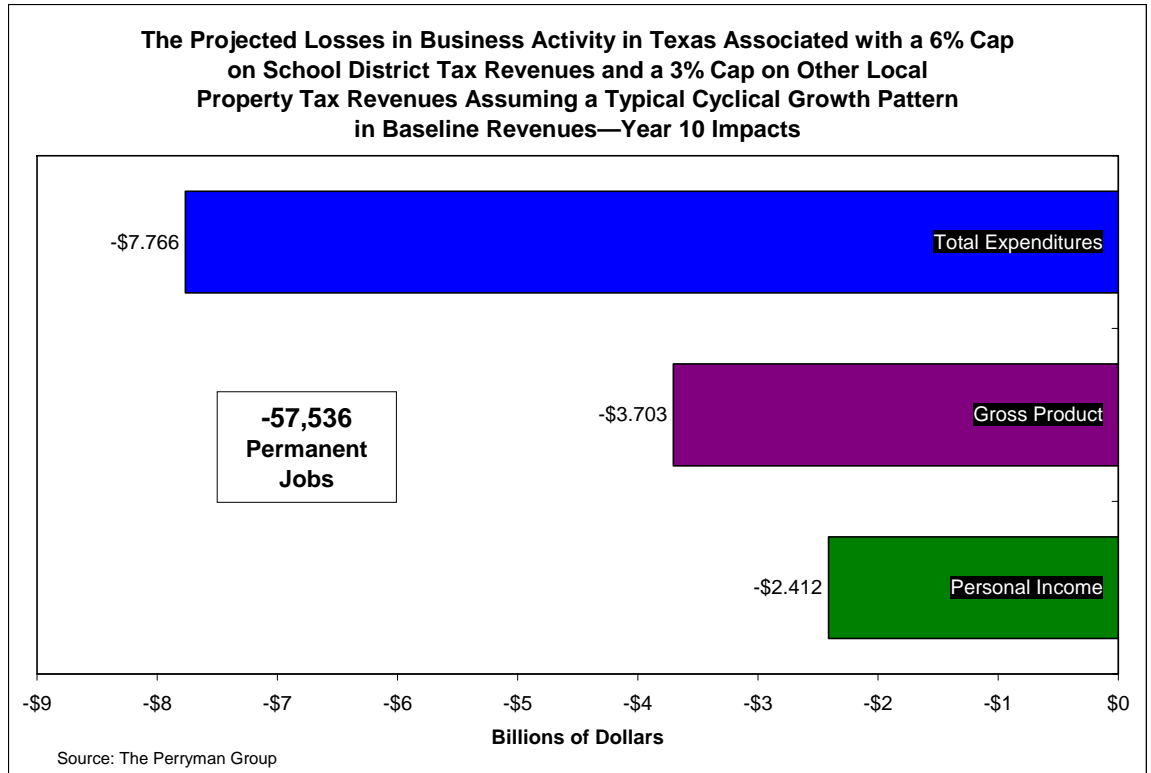


For detailed sectoral results, see Tables 11 and 12 in Appendix B.

*Scenario 4: 6% Cap on School District Property Tax Revenues and a 3% Cap on Other Local Property Tax Revenues and Typical Cyclical Growth Pattern in Baseline Revenues*

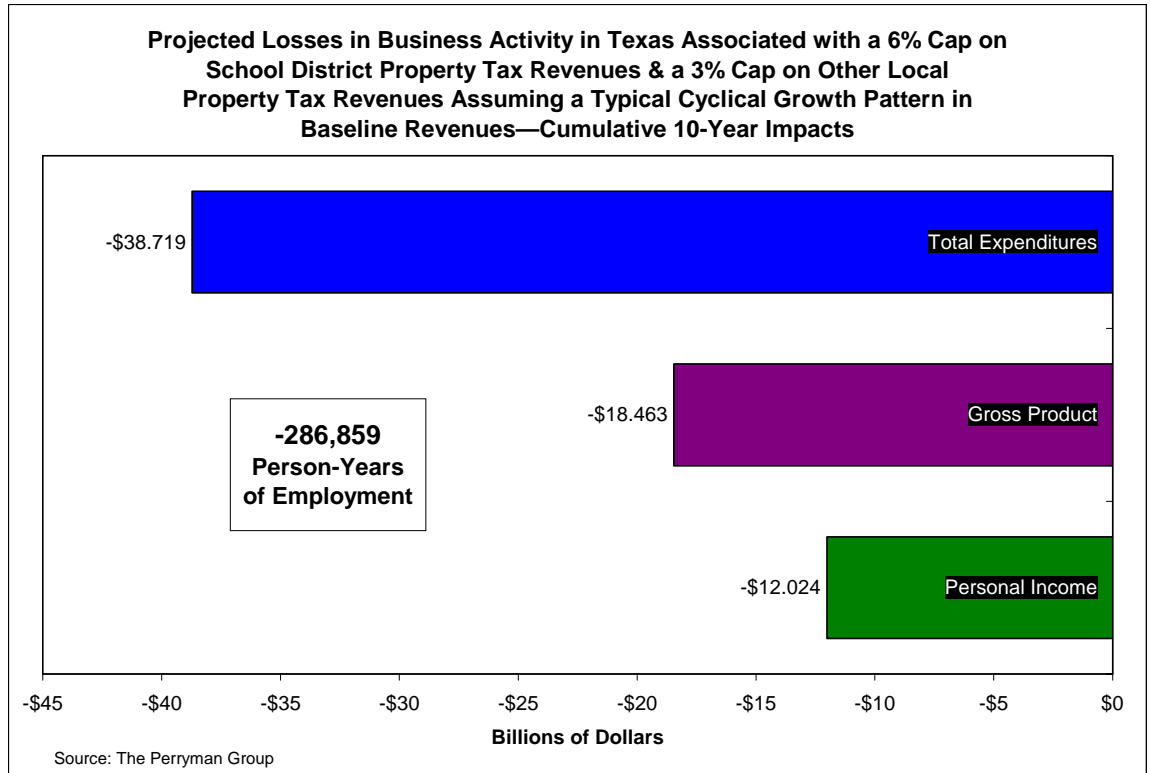
With a 6% cap on school district property tax revenues and a 3% cap on other local property tax revenues (and typical cyclical growth pattern), losses to the state in Year 10 rise to

- ✓ -\$7.766 billion in annual Total Expenditures;
- ✓ -\$3.703 billion in annual Gross Product;
- ✓ -\$2.412 billion in annual Personal Income; and
- ✓ -57,536 Permanent Jobs.



Over the first 10 years, the cumulative effect of a 6% cap on school district property tax revenues and a 3% cap on other local property tax revenues (and typical cyclical growth pattern) would be

- ✓ -\$38.719 billion in Total Expenditures;
- ✓ -\$18.463 billion in Gross Product;
- ✓ -\$12.024 billion in Personal Income; and
- ✓ -286,859 Person-Years of Employment.



For detailed sectoral results, see Tables 13 and 14 in Appendix B.

Clearly, revenue limitations stand to significantly dampen economic performance; these effects would compound and grow markedly in the future.

## Conclusion

There is no doubt that the current Texas tax structure, particularly the high degree of local government reliance on property taxes, is in need of reform. It is not keeping pace with the need for funds and it is dampening economic performance. However, it is crucial that any changes implemented represent real improvement, rather than illusory gains at the cost of future well-being.

While property tax rate reductions and corresponding shifts to a more equitable and efficient funding mechanism for public schools will notably improve the fiscal structure of the state, such initiatives must be accomplished without introducing further, and particularly more serious, problems. There are numerous issues associated with appraisal caps (as indicated by the ongoing fiscal crisis in California). Similarly, revenue limitations can so inhibit the ability of local governments to meet the needs of residents that they lead to decreasing quality of life and a decline in economic competitiveness. As noted herein, they also reduce the efficiency of the private sector, thus leading to billions of dollars in foregone spending, output, and income in Texas each year, and the loss of tens of thousands of permanent jobs.

There are proposals surfacing which represent notable mechanisms for improving the tax system in the state. These efforts should not be accompanied, however, by the introduction of the additional and compounding problems associated with severely reducing local government resources and flexibility.



In summary, artificial limits on the flexibility of local governments to provide for the legitimate and expanding requirements of their citizens are contrary to basic economic principles of optimality, can generate substantial inequities, and needlessly reduce the capacity of local governments to function effectively and efficiently.

Respectfully submitted,

A handwritten signature in black ink that reads "M. Ray Perryman". The signature is written in a cursive style with a large, prominent initial "M".

The Perryman Group

M. Ray Perryman, PhD, President



# APPENDICES

# APPENDIX A

## Methodology

## Methodology

The basic modeling technique employed in assessing the economic effects of the proposed appraised value caps and revenue limitations is known as dynamic input-output analysis. This methodology essentially uses extensive survey data, industry information, and a variety of corroborative source materials to create a matrix describing the various goods and services (known as resources or inputs) required to produce one unit (a dollar's worth) of output for a given sector. Once the base information is compiled, it can be mathematically simulated to generate evaluations of the magnitude of successive rounds of activity involved in the overall production process.

There are two essential steps in conducting an input-output analysis once the system is operational. The first major endeavor is to accurately define the levels of direct activity to be evaluated. The second step is the simulation of the input-output system to measure overall economic effects. In the present instance, the process of determining appropriate patterns of direct consequences is quite complex. Initially, it is necessary to define the total levels of local government property tax revenues, appraised values for real property, and expenditures. Available information was compiled for school districts, municipalities, counties, and special districts. In many cases, this information was available from public sources or compilations such as the County Information Project of the Texas Association of Counties. In other instances, estimates were derived using standard and widely accepted multiple regression modeling techniques. This approach produced highly reliable results and exhibited excellent statistical properties. The final historical series were then used in a predictive context to define the "baseline" projections (assuming no constraints beyond current law) of future property tax revenues and fiscal outlays. These forecasts are determined over the period from the present



through 2016, with the analytical horizon being defined as 2006 (the first fiscal year in which any restrictions would occur) through 2016. This ten-year period provides sufficient time to observe the cumulative effects of various forms of caps and their implications for businesses activity.

Once these values are calculated, it is necessary to define alternative scenarios with which to make comparisons. With regard to appraisal caps, this process must account for the facts that (1) some properties will tend to increase less than the cap even in a rapidly growing market and (2) properties that are sold and reassessed at current values. Thus, a distribution of values must be estimated. This task was accomplished using an algorithm which determined a maximum likelihood pattern based on knowledge obtained from data on the effects of existing caps at various levels, the income distribution of property tax incidence, and selected specific data from individual jurisdictions. Once defined, this distribution can be used to adjust revenue growth under caps to accommodate assets with lower rates of appreciation. Using available information on average holding periods and turnover, it is also possible to examine the effects of reappraisals. This methodology provides the basis for determining the revenues generated under caps and thus, the shortfall in value and revenue relative to the baseline case. Two scenarios are analyzed with regard to appraisal caps. Initially, a 3% cap assuming a constant baseline rate of growth is examined. The second case uses the same ten-year expansion in values, but achieves it in a cyclical manner which includes two years of negative growth. This pattern is indicative of observed historical patterns and serves to illustrate the adverse ratcheting effect that occurs during economic slowdowns.

With regard to expenditure caps, the computation process is more straightforward. Projected baseline outlays are compared to a situation in which spending is restricted to the growth in population and the Consumer



Price Index. The projected values for these economic aggregates are derived from the US and Texas Econometric Models maintained by TPG. The growth pattern is adjusted for those entities with normal spending growth below the constraint.

The property tax revenue caps are also relatively amenable to computation, although minor adjustments for permitted increases and those areas that grow by less than the cap must be incorporated. As with the other forms of restriction, these adjustments may be estimated from a standard distribution analysis. In the area of revenue caps, four scenarios are examined. In the first case, a 3% cap is imposed on all governmental entities and compared to a baseline characterized by constant revenue growth. A second case also uses the 3% cap but imposes a cyclical pattern on the baseline revenue. This approach again illustrates the ratcheting effect which limits flexibility in responsiveness to public resource needs. The third scenario uses a 6% cap for school districts and 3% for other entities, with a constant growth rate in baseline revenues. The final evaluation uses the same caps, but imposes a cyclical pattern on baseline revenues. Proposals of this nature, with a somewhat higher cap for school districts, have been included in the legislative debate over property tax and school finance reform.

Once the scenarios are defined, the final step in the process of determining direct impacts is to translate the lost revenues into an appropriate measure of economic harm. Because the uncollected taxes remain in the private sector and are largely used for consumption and investment activity, they are not a net withdrawal from business activity. It has been widely demonstrated, however, that overall economic efficiency across a broad spectrum of industrial sectors is stimulated by governmental services and infrastructure outlays. In effect, there is a cumulative rate of return to governmental activity stemming from the



spillover benefits of public goods. As an example of this phenomenon, communities that saw reduced revenue potential from the Massachusetts initiative have seen declining property values relative to those that did not. While this finding from empirical studies does not begin to fully capture all of the channels of impact, it is illustrative of the types of consequences that occur. TPG used standard national models which have quantified this phenomenon and extensively localized them to the specific industrial composition of Texas.

Once the direct input values were determined, the present study was conducted within the context of the US Multi-Regional Impact Assessment System (USMRIAS) which was developed and is maintained by The Perryman Group. This model has been used in hundreds of diverse applications across the country and has an excellent reputation for accuracy and credibility. In addition, the model has been in operation and continually updated for over two decades. The systems used in the current simulations reflect the unique industrial structure of Texas.

The USMRIAS is somewhat similar in format to the Input-Output Model of the United States and the Regional Input-Output Modeling System, both of which are maintained by the US Department of Commerce. The model developed by TPG, however, incorporates several important enhancements and refinements. Specifically, the expanded system includes (1) comprehensive 500-sector coverage for any county, multi-county, or urban region; (2) calculation of both total expenditures and value-added by industry and region; (3) direct estimation of expenditures for multiple basic input choices (expenditures, output, income, or employment); (4) extensive parameter localization; (5) price adjustments for real and nominal assessments by sectors and areas; (6) measurement of the induced impacts associated with payrolls and consumer spending; (7) embedded modules to estimate multi-sectoral direct spending effects;



(8) estimation of retail spending activity by consumers; and (9) comprehensive linkage and integration capabilities with a wide variety of econometric, real estate, occupational, and fiscal impact models. The models used for the present investigation have been thoroughly tested for reasonableness and historical reliability.

As noted earlier, the impact assessment (input-output) process essentially estimates the amounts of all types of goods and services required to produce one unit (a dollar's worth) of a specific type of output. For purposes of illustrating the nature of the system, it is useful to think of inputs and outputs in dollar (rather than physical) terms. As an example, the construction of a new building will require specific dollar amounts of lumber, glass, concrete, hand tools, architectural services, interior design services, paint, plumbing, and numerous other elements. Each of these suppliers must, in turn, purchase additional dollar amounts of inputs. This process continues through multiple rounds of production, thus generating subsequent increments to business activity. The initial process of building the facility is known as the *direct effect*. The ensuing transactions in the output chain constitute the *indirect effect*.

Another pattern that arises in response to any direct economic activity comes from the payroll dollars received by employees at each stage of the production cycle. As workers are compensated, they use some of their income for taxes, savings, and purchases from external markets. A substantial portion, however, is spent locally on food, clothing, healthcare services, utilities, housing, recreation, and other items. Typical purchasing patterns in the relevant areas are obtained from the *ACCRA Cost of Living Index*, a privately compiled inter-regional measure which has been widely used for several decades, and the *Consumer Expenditure Survey* of the US Department of Labor. These initial outlays by area residents generate further secondary activity as local providers acquire inputs to meet this



consumer demand. These consumer spending impacts are known as the *induced effect*. The USMRIAS is designed to provide realistic, yet conservative, estimates of these phenomena.

Sources for information used in this process include the Bureau of the Census, the Bureau of Labor Statistics, the Regional Economic Information System of the US Department of Commerce, and other public and private sources. The pricing data are compiled from the US Department of Labor and the US Department of Commerce. The verification and testing procedures make use of extensive public and private sources. Note that all monetary values, unless otherwise noted, are given in fiscal-year 2006 dollars, the first year in which any reform would likely be implemented.

The USMRIAS generates estimates of the effect on several measures of business activity. The most comprehensive measure of economic activity used in this study is **Total Expenditures**. This measure incorporates every dollar that changes hands in any transaction. For example, suppose a farmer sells wheat to a miller for \$0.50; the miller then sells flour to a baker for \$0.75; the baker, in turn, sells bread to a customer for \$1.25. The Total Expenditures recorded in this instance would be \$2.50, that is,  $\$0.50 + \$0.75 + \$1.25$ . This measure is quite broad, but is useful in that (1) it reflects the overall interplay of all industries in the economy, and (2) some key fiscal variables such as sales taxes are linked to aggregate spending.

A second measure of business activity frequently employed in this analysis is that of **Gross Product**. This indicator represents the regional equivalent of Gross Domestic Product, the most commonly reported statistic regarding national economic performance. In other words, the Gross Product of, say, Amarillo is the amount of US output that is



produced in that area. It is defined as the value of all final goods produced in a given region for a specific period of time. Stated differently, it captures the amount of value-added (gross area product) over intermediate goods and services at each stage of the production process, that is, it eliminates the double counting in the Total Expenditures concept. Using the example above, the Gross Product is \$1.25 (the value of the bread) rather than \$2.50. Alternatively, it may be viewed as the sum of the value-added by the farmer, \$0.50; the miller, \$0.25 ( $\$0.75 - \$0.50$ ); and the baker, \$0.50 ( $\$1.25 - \$0.75$ ). The total value-added is, therefore, \$1.25, which is equivalent to the final value of the bread. In many industries, the primary component of value-added is the wage and salary payments to employees.

The third gauge of economic activity used in this evaluation is **Personal Income**. As the name implies, Personal Income is simply the income received by individuals, whether in the form of wages, salaries, interest, dividends, proprietors' profits, or other sources. It may thus be viewed as the segment of overall impacts which flows directly to the citizenry.

The fourth measure, **Retail Sales**, represents the component of Total Expenditures which occurs in retail outlets (general merchandise stores, automobile dealers and service stations, building materials stores, food stores, drugstores, restaurants, and so forth). Retail Sales is a commonly used measure of consumer activity.

The final aggregate used is **Permanent Jobs**. This measure reveals the full-time equivalent jobs generated by an activity, excluding those which are temporary in nature. It should be noted that, unlike the dollar values described above, Permanent Jobs is a "stock" rather than a "flow." In other words, if an area produces \$1 million in output in 1999 and \$1 million in 2000, it is appropriate to say that \$2 million was achieved in the 1999-



2000 period. If the same area has 100 people working in 1999 and 100 in 2000, it only has 100 Permanent Jobs.

# **APPENDIX B**

## **Detailed Sectoral Results**

# Appraisal Cap Scenarios

## Tables 1 - 4

**Table 1**  
**The Projected Losses to Business Activity in Texas Associated with a 3% Appraisal Cap Assuming a Constant Growth Rate in Baseline Values Year 10 Impacts**  
**Detailed Sectoral Results**

Sector	Total Expenditures	Gross Product	Personal Income	Employment (Permanent Jobs)
Agriculture, Forestry and Fisheries	(\$184,159,170)	(\$59,876,695)	(\$36,260,899)	-2,097
Metal Mining	\$0	\$0	\$0	0
Coal Mining	\$0	\$0	\$0	0
Crude Petroleum and Natural Gas	(\$201,133,716)	(\$44,122,854)	(\$19,779,532)	-133
Nonmetallic Mineral Mining	\$0	\$0	\$0	0
Construction	(\$494,983,282)	(\$220,816,678)	(\$173,705,940)	-3,331
Food and Kindred Products	(\$222,141,643)	(\$47,540,232)	(\$24,140,800)	-614
Tobacco Manufactures	(\$5,018)	(\$415)	(\$835)	0
Textile Mill products	(\$3,027,043)	(\$725,965)	(\$611,312)	-19
Apparel and Other Textile Products	(\$29,813,279)	(\$14,694,281)	(\$7,862,771)	-275
Lumber and Wood Products	(\$17,641,015)	(\$6,882,311)	(\$4,262,852)	-128
Furniture and Fixtures	(\$42,317)	(\$13,256)	(\$11,477)	0
Paper and Allied Products	(\$19,128,972)	(\$6,726,315)	(\$3,783,485)	-68
Printing and Publishing	(\$27,372,396)	(\$15,062,909)	(\$8,782,712)	-122
Chemicals and Allied Products	(\$59,395,296)	(\$12,046,237)	(\$9,225,582)	-88
Petroleum Refining	(\$171,584,347)	(\$31,050,357)	(\$5,949,074)	-25
Rubber and Plastic Products	(\$23,632,535)	(\$5,925,977)	(\$4,124,698)	-80
Leather and Leather Products	(\$81,696)	(\$35,036)	(\$21,846)	-1
Stone, Clay and Glass Products	(\$15,304,324)	(\$7,002,296)	(\$4,060,015)	-77
Primary Metals	(\$73,114,182)	(\$19,115,046)	(\$16,232,247)	-382
Fabricated Metal Products	(\$46,491,036)	(\$19,306,289)	(\$12,543,419)	-256
Machinery, Except Electrical	(\$82,710,433)	(\$29,146,315)	(\$24,120,401)	-370
Electrical Machinery	(\$73,342,677)	(\$32,389,091)	(\$24,851,501)	-285
Motor Vehicles	(\$20,678,186)	(\$6,032,413)	(\$3,571,300)	-42
Other Transportation Equipment	(\$72,717,788)	(\$35,277,289)	(\$23,002,127)	-424
Instruments	(\$434,252)	(\$159,127)	(\$144,668)	-3
Miscellaneous Manufacturing	(\$442,333)	(\$86,397)	(\$105,338)	-1
Transportation and Warehousing	(\$224,186,813)	(\$115,907,258)	(\$79,963,546)	-1,477
Communication	(\$55,901,762)	(\$34,991,862)	(\$16,531,478)	-257
Electric Utilities	(\$58,605,027)	(\$10,914,736)	(\$5,345,910)	-27
Gas Utilities	(\$44,436,317)	(\$5,655,816)	(\$2,770,152)	-14
Trade	(\$989,873,414)	(\$691,184,041)	(\$417,169,392)	-13,084
Finance, Insurance, and Real Estate	(\$415,791,801)	(\$163,466,397)	(\$59,347,453)	-706
Other Services	(\$714,637,179)	(\$434,674,452)	(\$360,372,034)	-7,790
<b>TOTAL</b>	<b>(\$4,342,809,246)</b>	<b>(\$2,070,828,341)</b>	<b>(\$1,348,654,795)</b>	<b>-32,175</b>

SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group



**Table 2**  
**The Projected Losses to Business Activity in Texas Associated with a 3% Appraisal Cap Assuming a Constant Growth Rate in Baseline Values**  
**Cumulative 10-Year Impacts**  
**Detailed Sectoral Results**

Sector	Total Expenditures	Gross Product	Personal Income	Employment (Person-Years)
Agriculture, Forestry and Fisheries	(\$889,610,576)	(\$289,244,031)	(\$175,164,123)	-10,132
Metal Mining	\$0	\$0	\$0	0
Coal Mining	\$0	\$0	\$0	0
Crude Petroleum and Natural Gas	(\$971,608,857)	(\$213,142,561)	(\$95,548,218)	-640
Nonmetallic Mineral Mining	\$0	\$0	\$0	0
Construction	(\$2,391,096,581)	(\$1,066,690,579)	(\$839,114,562)	-16,090
Food and Kindred Products	(\$1,073,091,035)	(\$229,650,758)	(\$116,616,028)	-2,966
Tobacco Manufactures	(\$24,240)	(\$2,003)	(\$4,032)	0
Textile Mill products	(\$14,622,618)	(\$3,506,893)	(\$2,953,040)	-90
Apparel and Other Textile Products	(\$144,017,851)	(\$70,983,096)	(\$37,982,384)	-1,330
Lumber and Wood Products	(\$85,217,768)	(\$33,246,114)	(\$20,592,394)	-616
Furniture and Fixtures	(\$204,420)	(\$64,035)	(\$55,440)	-2
Paper and Allied Products	(\$92,405,585)	(\$32,492,552)	(\$18,276,733)	-327
Printing and Publishing	(\$132,226,774)	(\$72,763,814)	(\$42,426,307)	-591
Chemicals and Allied Products	(\$286,918,559)	(\$58,191,291)	(\$44,565,663)	-423
Petroleum Refining	(\$828,865,862)	(\$149,993,759)	(\$28,737,964)	-119
Rubber and Plastic Products	(\$114,160,772)	(\$28,626,386)	(\$19,925,020)	-387
Leather and Leather Products	(\$394,647)	(\$169,246)	(\$105,530)	-4
Stone, Clay and Glass Products	(\$73,930,008)	(\$33,825,720)	(\$19,612,556)	-373
Primary Metals	(\$353,189,850)	(\$92,338,311)	(\$78,412,486)	-1,844
Fabricated Metal Products	(\$224,582,450)	(\$93,262,143)	(\$60,593,010)	-1,238
Machinery, Except Electrical	(\$399,546,085)	(\$140,795,976)	(\$116,517,486)	-1,788
Electrical Machinery	(\$354,293,630)	(\$156,460,728)	(\$120,049,184)	-1,376
Motor Vehicles	(\$99,889,314)	(\$29,140,543)	(\$17,251,738)	-202
Other Transportation Equipment	(\$351,275,004)	(\$170,412,632)	(\$111,115,483)	-2,050
Instruments	(\$2,097,723)	(\$768,686)	(\$698,841)	-15
Miscellaneous Manufacturing	(\$2,136,760)	(\$417,353)	(\$508,852)	-5
Transportation and Warehousing	(\$1,082,970,559)	(\$559,908,705)	(\$386,276,806)	-7,135
Communication	(\$270,042,477)	(\$169,033,835)	(\$79,857,973)	-1,239
Electric Utilities	(\$283,101,034)	(\$52,725,391)	(\$25,824,281)	-129
Gas Utilities	(\$214,656,794)	(\$27,321,329)	(\$13,381,668)	-68
Trade	(\$4,781,743,191)	(\$3,338,875,997)	(\$2,015,204,037)	-63,205
Finance, Insurance, and Real Estate	(\$2,008,549,361)	(\$789,650,800)	(\$286,687,445)	-3,409
Other Services	(\$3,452,170,160)	(\$2,099,765,050)	(\$1,740,835,235)	-37,632
<b>TOTAL</b>	<b>(\$20,978,640,546)</b>	<b>(\$10,003,470,317)</b>	<b>(\$6,514,894,521)</b>	<b>-155,426</b>

SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group



**Table 3**  
**The Projected Losses to Business Activity in Texas Associated with a 3% Appraisal Cap Assuming a Typical Cyclical Growth Pattern in Baseline Values—Year 10 Impacts**  
**Detailed Sectoral Results**

Sector	Total Expenditures	Gross Product	Personal Income	Employment (Permanent Jobs)
Agriculture, Forestry and Fisheries	(\$217,712,178)	(\$70,785,971)	(\$42,867,479)	-2,480
Metal Mining	\$0	\$0	\$0	0
Coal Mining	\$0	\$0	\$0	0
Crude Petroleum and Natural Gas	(\$237,779,413)	(\$52,161,848)	(\$23,383,277)	-157
Nonmetallic Mineral Mining	\$0	\$0	\$0	0
Construction	(\$585,167,104)	(\$261,048,526)	(\$205,354,414)	-3,938
Food and Kindred Products	(\$262,614,893)	(\$56,201,857)	(\$28,539,150)	-726
Tobacco Manufactures	(\$5,932)	(\$490)	(\$987)	0
Textile Mill products	(\$3,578,557)	(\$858,233)	(\$722,690)	-22
Apparel and Other Textile Products	(\$35,245,130)	(\$17,371,516)	(\$9,295,334)	-325
Lumber and Wood Products	(\$20,855,132)	(\$8,136,238)	(\$5,039,525)	-151
Furniture and Fixtures	(\$50,027)	(\$15,671)	(\$13,568)	0
Paper and Allied Products	(\$22,614,189)	(\$7,951,821)	(\$4,472,819)	-80
Printing and Publishing	(\$32,359,529)	(\$17,807,307)	(\$10,382,884)	-145
Chemicals and Allied Products	(\$70,216,864)	(\$14,241,009)	(\$10,906,444)	-104
Petroleum Refining	(\$202,846,276)	(\$36,707,599)	(\$7,032,970)	-29
Rubber and Plastic Products	(\$27,938,281)	(\$7,005,664)	(\$4,876,200)	-95
Leather and Leather Products	(\$96,581)	(\$41,419)	(\$25,826)	-1
Stone, Clay and Glass Products	(\$18,092,707)	(\$8,278,084)	(\$4,799,732)	-91
Primary Metals	(\$86,435,271)	(\$22,597,725)	(\$19,189,692)	-451
Fabricated Metal Products	(\$54,961,503)	(\$22,823,812)	(\$14,828,776)	-303
Machinery, Except Electrical	(\$97,779,917)	(\$34,456,648)	(\$28,515,034)	-438
Electrical Machinery	(\$86,705,397)	(\$38,290,244)	(\$29,379,338)	-337
Motor Vehicles	(\$24,445,663)	(\$7,131,492)	(\$4,221,975)	-50
Other Transportation Equipment	(\$85,966,656)	(\$41,704,659)	(\$27,193,015)	-502
Instruments	(\$513,371)	(\$188,119)	(\$171,026)	-4
Miscellaneous Manufacturing	(\$522,924)	(\$102,138)	(\$124,530)	-1
Transportation and Warehousing	(\$265,032,684)	(\$137,025,061)	(\$94,532,560)	-1,746
Communication	(\$66,086,822)	(\$41,367,229)	(\$19,543,442)	-303
Electric Utilities	(\$69,282,610)	(\$12,903,353)	(\$6,319,912)	-32
Gas Utilities	(\$52,532,422)	(\$6,686,281)	(\$3,274,862)	-17
Trade	(\$1,170,224,088)	(\$817,114,797)	(\$493,175,859)	-15,468
Finance, Insurance, and Real Estate	(\$491,547,277)	(\$193,249,271)	(\$70,160,304)	-834
Other Services	(\$844,840,995)	(\$513,870,265)	(\$426,030,266)	-9,210
<b>TOTAL</b>	<b>(\$5,134,050,389)</b>	<b>(\$2,448,124,347)</b>	<b>(\$1,594,373,891)</b>	<b>-38,037</b>

SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group



**Table 4**  
**The Projected Losses to Business Activity in Texas Associated with a 3% Appraisal Cap Assuming a Typical Cyclical Growth Pattern in Baseline Values—Cumulative 10-Year Impacts**  
**Detailed Sectoral Results**

Sector	Total Expenditures	Gross Product	Personal Income	Employment (Person-Years)
Agriculture, Forestry and Fisheries	(\$958,120,209)	(\$311,518,949)	(\$188,653,654)	-10,913
Metal Mining	\$0	\$0	\$0	0
Coal Mining	\$0	\$0	\$0	0
Crude Petroleum and Natural Gas	(\$1,046,433,245)	(\$229,556,843)	(\$102,906,464)	-690
Nonmetallic Mineral Mining	\$0	\$0	\$0	0
Construction	(\$2,575,236,873)	(\$1,148,837,288)	(\$903,735,457)	-17,329
Food and Kindred Products	(\$1,155,730,648)	(\$247,336,349)	(\$125,596,723)	-3,195
Tobacco Manufactures	(\$26,106)	(\$2,157)	(\$4,342)	0
Textile Mill products	(\$15,748,717)	(\$3,776,962)	(\$3,180,456)	-97
Apparel and Other Textile Products	(\$155,108,783)	(\$76,449,562)	(\$40,907,438)	-1,432
Lumber and Wood Products	(\$91,780,457)	(\$35,806,424)	(\$22,178,231)	-664
Furniture and Fixtures	(\$220,162)	(\$68,966)	(\$59,710)	-2
Paper and Allied Products	(\$99,521,815)	(\$34,994,829)	(\$19,684,239)	-352
Printing and Publishing	(\$142,409,666)	(\$78,367,414)	(\$45,693,592)	-636
Chemicals and Allied Products	(\$309,014,391)	(\$62,672,649)	(\$47,997,701)	-456
Petroleum Refining	(\$892,697,496)	(\$161,544,901)	(\$30,951,097)	-129
Rubber and Plastic Products	(\$122,952,386)	(\$30,830,927)	(\$21,459,462)	-416
Leather and Leather Products	(\$425,039)	(\$182,279)	(\$113,657)	-4
Stone, Clay and Glass Products	(\$79,623,418)	(\$36,430,666)	(\$21,122,934)	-402
Primary Metals	(\$380,389,288)	(\$99,449,359)	(\$84,451,096)	-1,986
Fabricated Metal Products	(\$241,877,727)	(\$100,444,337)	(\$65,259,327)	-1,333
Machinery, Except Electrical	(\$430,315,454)	(\$151,638,789)	(\$125,490,593)	-1,926
Electrical Machinery	(\$381,578,071)	(\$168,509,896)	(\$129,294,270)	-1,481
Motor Vehicles	(\$107,581,871)	(\$31,384,680)	(\$18,580,309)	-218
Other Transportation Equipment	(\$378,326,977)	(\$183,536,248)	(\$119,672,577)	-2,208
Instruments	(\$2,259,270)	(\$827,884)	(\$752,660)	-16
Miscellaneous Manufacturing	(\$2,301,314)	(\$449,493)	(\$548,039)	-6
Transportation and Warehousing	(\$1,166,371,002)	(\$603,027,730)	(\$416,024,297)	-7,684
Communication	(\$290,838,667)	(\$182,051,268)	(\$86,007,900)	-1,335
Electric Utilities	(\$304,902,875)	(\$56,785,816)	(\$27,813,030)	-139
Gas Utilities	(\$231,187,689)	(\$29,425,367)	(\$14,412,201)	-74
Trade	(\$5,149,989,122)	(\$3,596,005,552)	(\$2,170,396,539)	-68,073
Finance, Insurance, and Real Estate	(\$2,163,229,380)	(\$850,462,450)	(\$308,765,478)	-3,672
Other Services	(\$3,718,024,591)	(\$2,261,469,664)	(\$1,874,898,372)	-40,530
<b>TOTAL</b>	<b>(\$22,594,222,712)</b>	<b>(\$10,773,845,700)</b>	<b>(\$7,016,611,845)</b>	<b>-167,396</b>

SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group



# **Expenditure Cap Scenarios**

## **Tables 5 - 6**

**Table 5**  
**The Projected Losses to Business Activity in Texas Associated with a Local Government Expenditure Cap Equal to the Annual Growth Rate in Population and the Consumer Price Index—Year 10 Impacts**  
**Detailed Sectoral Results**

Sector	Total Expenditures	Gross Product	Personal Income	Employment (Permanent Jobs)
Agriculture, Forestry and Fisheries	(\$878,922,655)	(\$285,769,008)	(\$173,059,673)	-10,011
Metal Mining	\$0	\$0	\$0	0
Coal Mining	\$0	\$0	\$0	0
Crude Petroleum and Natural Gas	(\$959,935,796)	(\$210,581,833)	(\$94,400,287)	-633
Nonmetallic Mineral Mining	\$0	\$0	\$0	0
Construction	(\$2,362,369,572)	(\$1,053,875,192)	(\$829,033,308)	-15,896
Food and Kindred Products	(\$1,060,198,751)	(\$226,891,697)	(\$115,214,985)	-2,931
Tobacco Manufactures	(\$23,949)	(\$1,979)	(\$3,983)	0
Textile Mill products	(\$14,446,939)	(\$3,464,761)	(\$2,917,562)	-89
Apparel and Other Textile Products	(\$142,287,598)	(\$70,130,294)	(\$37,526,058)	-1,314
Lumber and Wood Products	(\$84,193,948)	(\$32,846,689)	(\$20,344,993)	-609
Furniture and Fixtures	(\$201,964)	(\$63,265)	(\$54,774)	-2
Paper and Allied Products	(\$91,295,410)	(\$32,102,181)	(\$18,057,153)	-323
Printing and Publishing	(\$130,638,181)	(\$71,889,618)	(\$41,916,591)	-584
Chemicals and Allied Products	(\$283,471,475)	(\$57,492,171)	(\$44,030,244)	-418
Petroleum Refining	(\$818,907,738)	(\$148,191,711)	(\$28,392,701)	-118
Rubber and Plastic Products	(\$112,789,227)	(\$28,282,464)	(\$19,685,638)	-382
Leather and Leather Products	(\$389,905)	(\$167,212)	(\$104,262)	-4
Stone, Clay and Glass Products	(\$73,041,801)	(\$33,419,333)	(\$19,376,927)	-369
Primary Metals	(\$348,946,572)	(\$91,228,944)	(\$77,470,426)	-1,822
Fabricated Metal Products	(\$221,884,282)	(\$92,141,677)	(\$59,865,036)	-1,223
Machinery, Except Electrical	(\$394,745,876)	(\$139,104,431)	(\$115,117,627)	-1,767
Electrical Machinery	(\$350,037,091)	(\$154,580,984)	(\$118,606,895)	-1,359
Motor Vehicles	(\$98,689,228)	(\$28,790,444)	(\$17,044,473)	-200
Other Transportation Equipment	(\$347,054,731)	(\$168,365,268)	(\$109,780,524)	-2,025
Instruments	(\$2,072,521)	(\$759,451)	(\$690,445)	-15
Miscellaneous Manufacturing	(\$2,111,089)	(\$412,339)	(\$502,739)	-5
Transportation and Warehousing	(\$1,069,959,581)	(\$553,181,874)	(\$381,636,016)	-7,049
Communication	(\$266,798,144)	(\$167,003,036)	(\$78,898,546)	-1,224
Electric Utilities	(\$279,699,814)	(\$52,091,940)	(\$25,514,024)	-127
Gas Utilities	(\$212,077,874)	(\$26,993,086)	(\$13,220,899)	-68
Trade	(\$4,724,294,579)	(\$3,298,762,217)	(\$1,990,993,060)	-62,446
Finance, Insurance, and Real Estate	(\$1,984,418,334)	(\$780,163,811)	(\$283,243,137)	-3,368
Other Services	(\$3,410,695,247)	(\$2,074,538,143)	(\$1,719,920,568)	-37,180
<b>TOTAL</b>	<b>(\$20,726,599,870)</b>	<b>(\$9,883,287,057)</b>	<b>(\$6,436,623,557)</b>	<b>-153,559</b>

SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group



**Table 6**  
**The Projected Losses to Business Activity in Texas Associated with a Local Government Expenditure Cap Equal to the Annual Growth Rate in Population and the Consumer Price Index—Cumulative 10-Year Impacts**  
**Detailed Sectoral Results**

Sector	Total Expenditures	Gross Product	Personal Income	Employment (Person-Years)
Agriculture, Forestry and Fisheries	(\$4,331,240,207)	(\$1,408,240,204)	(\$852,820,225)	-49,331
Metal Mining	\$0	\$0	\$0	0
Coal Mining	\$0	\$0	\$0	0
Crude Petroleum and Natural Gas	(\$4,730,464,614)	(\$1,037,725,559)	(\$465,194,880)	-3,117
Nonmetallic Mineral Mining	\$0	\$0	\$0	0
Construction	(\$11,641,513,641)	(\$5,193,388,268)	(\$4,085,390,653)	-78,335
Food and Kindred Products	(\$5,224,550,117)	(\$1,118,098,887)	(\$567,767,565)	-14,442
Tobacco Manufactures	(\$118,016)	(\$9,753)	(\$19,630)	0
Textile Mill products	(\$71,193,026)	(\$17,073,985)	(\$14,377,445)	-440
Apparel and Other Textile Products	(\$701,178,612)	(\$345,594,858)	(\$184,924,543)	-6,475
Lumber and Wood Products	(\$414,899,093)	(\$161,865,099)	(\$100,258,029)	-3,000
Furniture and Fixtures	(\$995,258)	(\$311,765)	(\$269,922)	-8
Paper and Allied Products	(\$449,894,367)	(\$158,196,237)	(\$88,983,789)	-1,593
Printing and Publishing	(\$643,771,485)	(\$354,264,624)	(\$206,560,637)	-2,876
Chemicals and Allied Products	(\$1,396,918,196)	(\$283,315,492)	(\$216,976,503)	-2,060
Petroleum Refining	(\$4,035,492,884)	(\$730,273,469)	(\$139,916,303)	-581
Rubber and Plastic Products	(\$555,813,678)	(\$139,373,067)	(\$97,008,792)	-1,882
Leather and Leather Products	(\$1,921,414)	(\$824,005)	(\$513,792)	-17
Stone, Clay and Glass Products	(\$359,942,465)	(\$164,687,025)	(\$95,487,499)	-1,817
Primary Metals	(\$1,719,572,723)	(\$449,566,829)	(\$381,766,273)	-8,977
Fabricated Metal Products	(\$1,093,422,859)	(\$454,064,683)	(\$295,008,724)	-6,028
Machinery, Except Electrical	(\$1,945,266,970)	(\$685,492,292)	(\$567,287,795)	-8,706
Electrical Machinery	(\$1,724,946,687)	(\$761,759,150)	(\$584,482,546)	-6,697
Motor Vehicles	(\$486,330,339)	(\$141,876,340)	(\$83,993,407)	-986
Other Transportation Equipment	(\$1,710,249,924)	(\$829,686,680)	(\$540,987,104)	-9,981
Instruments	(\$10,213,168)	(\$3,742,498)	(\$3,402,443)	-74
Miscellaneous Manufacturing	(\$10,403,227)	(\$2,031,962)	(\$2,477,444)	-26
Transportation and Warehousing	(\$5,272,650,480)	(\$2,726,023,231)	(\$1,880,662,933)	-34,737
Communication	(\$1,314,753,741)	(\$822,973,742)	(\$388,803,900)	-6,033
Electric Utilities	(\$1,378,331,842)	(\$256,703,707)	(\$125,730,478)	-627
Gas Utilities	(\$1,045,097,894)	(\$133,019,146)	(\$65,151,225)	-333
Trade	(\$23,280,836,511)	(\$16,255,960,036)	(\$9,811,408,488)	-307,728
Finance, Insurance, and Real Estate	(\$9,779,008,916)	(\$3,844,566,810)	(\$1,395,792,972)	-16,598
Other Services	(\$16,807,554,462)	(\$10,223,110,042)	(\$8,475,591,198)	-183,220
<b>TOTAL</b>	<b>(\$102,138,546,815)</b>	<b>(\$48,703,819,443)</b>	<b>(\$31,719,017,138)</b>	<b>-756,723</b>

SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group



# Revenue Cap Scenarios

## Tables 7 - 14

**Table 7**  
**The Projected Losses in Business Activity in Texas Associated with a 3% Cap on Local Property Tax Revenues Assuming a Constant Growth Rate in Baseline Revenues—Year 10 Impacts**  
**Detailed Sectoral Results**

Sector	Total Expenditures	Gross Product	Personal Income	Employment (Permanent Jobs)
Agriculture, Forestry and Fisheries	(\$457,256,399)	(\$148,670,315)	(\$90,033,682)	-5,208
Metal Mining	\$0	\$0	\$0	0
Coal Mining	\$0	\$0	\$0	0
Crude Petroleum and Natural Gas	(\$499,403,199)	(\$109,554,453)	(\$49,111,415)	-329
Nonmetallic Mineral Mining	\$0	\$0	\$0	0
Construction	(\$1,229,014,405)	(\$548,274,837)	(\$431,301,643)	-8,270
Food and Kindred Products	(\$551,564,646)	(\$118,039,602)	(\$59,940,188)	-1,525
Tobacco Manufactures	(\$12,459)	(\$1,030)	(\$2,072)	0
Textile Mill products	(\$7,515,969)	(\$1,802,530)	(\$1,517,851)	-46
Apparel and Other Textile Products	(\$74,024,619)	(\$36,485,037)	(\$19,522,799)	-684
Lumber and Wood Products	(\$43,801,603)	(\$17,088,374)	(\$10,584,411)	-317
Furniture and Fixtures	(\$105,071)	(\$32,914)	(\$28,496)	-1
Paper and Allied Products	(\$47,496,114)	(\$16,701,046)	(\$9,394,170)	-168
Printing and Publishing	(\$67,964,051)	(\$37,400,319)	(\$21,806,958)	-304
Chemicals and Allied Products	(\$147,475,031)	(\$29,910,099)	(\$22,906,579)	-217
Petroleum Refining	(\$426,033,851)	(\$77,096,213)	(\$14,771,202)	-61
Rubber and Plastic Products	(\$58,678,196)	(\$14,713,852)	(\$10,241,383)	-199
Leather and Leather Products	(\$202,847)	(\$86,992)	(\$54,242)	-2
Stone, Clay and Glass Products	(\$37,999,738)	(\$17,386,290)	(\$10,080,778)	-192
Primary Metals	(\$181,538,218)	(\$47,461,535)	(\$40,303,715)	-948
Fabricated Metal Products	(\$115,434,512)	(\$47,936,381)	(\$31,144,573)	-636
Machinery, Except Electrical	(\$205,365,144)	(\$72,368,588)	(\$59,889,538)	-919
Electrical Machinery	(\$182,105,557)	(\$80,420,210)	(\$61,704,817)	-707
Motor Vehicles	(\$51,342,721)	(\$14,978,127)	(\$8,867,327)	-104
Other Transportation Equipment	(\$180,553,995)	(\$87,591,435)	(\$57,112,929)	-1,054
Instruments	(\$1,078,222)	(\$395,102)	(\$359,202)	-8
Miscellaneous Manufacturing	(\$1,098,286)	(\$214,518)	(\$261,548)	-3
Transportation and Warehousing	(\$556,642,683)	(\$287,790,911)	(\$198,544,786)	-3,667
Communication	(\$138,800,790)	(\$86,882,738)	(\$41,046,689)	-637
Electric Utilities	(\$145,512,838)	(\$27,100,647)	(\$13,273,581)	-66
Gas Utilities	(\$110,332,763)	(\$14,043,058)	(\$6,878,126)	-35
Trade	(\$2,457,797,526)	(\$1,716,169,363)	(\$1,035,807,089)	-32,487
Finance, Insurance, and Real Estate	(\$1,032,386,611)	(\$405,877,460)	(\$147,356,239)	-1,752
Other Services	(\$1,774,402,125)	(\$1,079,271,123)	(\$894,782,585)	-19,343
<b>TOTAL</b>	<b>(\$10,782,940,189)</b>	<b>(\$5,141,745,094)</b>	<b>(\$3,348,630,613)</b>	<b>-79,889</b>

SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group



**Table 8**  
**The Projected Losses in Business Activity in Texas Associated with a 3% Cap on Local Property Tax Revenues Assuming a Constant Growth Rate in Baseline Revenues—Cumulative 10-Year Impacts**  
**Detailed Sectoral Results**

Sector	Total Expenditures	Gross Product	Personal Income	Employment (Person-Years)
Agriculture, Forestry and Fisheries	(\$2,314,996,970)	(\$752,687,833)	(\$455,822,384)	-26,367
Metal Mining	\$0	\$0	\$0	0
Coal Mining	\$0	\$0	\$0	0
Crude Petroleum and Natural Gas	(\$2,528,377,722)	(\$554,652,111)	(\$248,641,194)	-1,666
Nonmetallic Mineral Mining	\$0	\$0	\$0	0
Construction	(\$6,222,252,176)	(\$2,775,804,972)	(\$2,183,593,274)	-41,869
Food and Kindred Products	(\$2,792,460,614)	(\$597,610,710)	(\$303,465,089)	-7,719
Tobacco Manufactures	(\$63,078)	(\$5,213)	(\$10,492)	0
Textile Mill products	(\$38,051,836)	(\$9,125,844)	(\$7,684,575)	-235
Apparel and Other Textile Products	(\$374,771,725)	(\$184,716,388)	(\$98,839,994)	-3,461
Lumber and Wood Products	(\$221,758,688)	(\$86,514,992)	(\$53,586,738)	-1,603
Furniture and Fixtures	(\$531,954)	(\$166,635)	(\$144,270)	-4
Paper and Allied Products	(\$240,463,250)	(\$84,554,029)	(\$47,560,789)	-851
Printing and Publishing	(\$344,088,290)	(\$189,350,276)	(\$110,404,232)	-1,537
Chemicals and Allied Products	(\$746,636,353)	(\$151,428,800)	(\$115,971,390)	-1,101
Petroleum Refining	(\$2,156,923,503)	(\$390,322,584)	(\$74,783,619)	-311
Rubber and Plastic Products	(\$297,075,876)	(\$74,493,266)	(\$51,850,059)	-1,006
Leather and Leather Products	(\$1,026,973)	(\$440,421)	(\$274,616)	-9
Stone, Clay and Glass Products	(\$192,385,016)	(\$88,023,279)	(\$51,036,946)	-971
Primary Metals	(\$919,091,404)	(\$240,288,185)	(\$204,049,585)	-4,798
Fabricated Metal Products	(\$584,421,663)	(\$242,692,235)	(\$157,678,695)	-3,222
Machinery, Except Electrical	(\$1,039,722,325)	(\$366,387,571)	(\$303,208,657)	-4,653
Electrical Machinery	(\$921,963,725)	(\$407,151,310)	(\$312,399,049)	-3,579
Motor Vehicles	(\$259,937,849)	(\$75,831,236)	(\$44,893,488)	-527
Other Transportation Equipment	(\$914,108,477)	(\$443,457,776)	(\$289,151,247)	-5,335
Instruments	(\$5,458,818)	(\$2,000,321)	(\$1,818,566)	-40
Miscellaneous Manufacturing	(\$5,560,403)	(\$1,086,060)	(\$1,324,165)	-14
Transportation and Warehousing	(\$2,818,169,693)	(\$1,457,027,368)	(\$1,005,192,227)	-18,566
Communication	(\$702,720,417)	(\$439,869,789)	(\$207,811,114)	-3,225
Electric Utilities	(\$736,702,165)	(\$137,205,113)	(\$67,201,463)	-335
Gas Utilities	(\$558,592,537)	(\$71,097,170)	(\$34,822,564)	-178
Trade	(\$12,443,333,410)	(\$8,688,619,523)	(\$5,244,082,487)	-164,477
Finance, Insurance, and Real Estate	(\$5,226,765,297)	(\$2,054,875,761)	(\$746,034,933)	-8,871
Other Services	(\$8,983,440,259)	(\$5,464,132,128)	(\$4,530,103,851)	-97,929
<b>TOTAL</b>	<b>(\$54,591,852,464)</b>	<b>(\$26,031,618,898)</b>	<b>(\$16,953,441,750)</b>	<b>-404,460</b>

SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group



**Table 9**  
**The Projected Losses in Business Activity in Texas Associated with a 3% Cap on Local Property Tax Revenues Assuming a Typical Cyclical Growth Pattern in Baseline Revenues—Year 10 Impacts**  
**Detailed Sectoral Results**

Sector	Total Expenditures	Gross Product	Personal Income	Employment (Permanent Jobs)
Agriculture, Forestry and Fisheries	(\$492,470,086)	(\$160,119,536)	(\$96,967,249)	-5,609
Metal Mining	\$0	\$0	\$0	0
Coal Mining	\$0	\$0	\$0	0
Crude Petroleum and Natural Gas	(\$537,862,645)	(\$117,991,331)	(\$52,893,525)	-354
Nonmetallic Mineral Mining	\$0	\$0	\$0	0
Construction	(\$1,323,661,803)	(\$590,497,928)	(\$464,516,533)	-8,907
Food and Kindred Products	(\$594,041,088)	(\$127,129,928)	(\$64,556,231)	-1,642
Tobacco Manufactures	(\$13,419)	(\$1,109)	(\$2,232)	0
Textile Mill products	(\$8,094,780)	(\$1,941,344)	(\$1,634,742)	-50
Apparel and Other Textile Products	(\$79,725,315)	(\$39,294,780)	(\$21,026,265)	-736
Lumber and Wood Products	(\$47,174,800)	(\$18,404,363)	(\$11,399,525)	-341
Furniture and Fixtures	(\$113,163)	(\$35,448)	(\$30,691)	-1
Paper and Allied Products	(\$51,153,828)	(\$17,987,207)	(\$10,117,623)	-181
Printing and Publishing	(\$73,198,018)	(\$40,280,548)	(\$23,486,330)	-327
Chemicals and Allied Products	(\$158,832,203)	(\$32,213,500)	(\$24,670,633)	-234
Petroleum Refining	(\$458,843,064)	(\$83,033,455)	(\$15,908,745)	-66
Rubber and Plastic Products	(\$63,197,051)	(\$15,846,978)	(\$11,030,081)	-214
Leather and Leather Products	(\$218,468)	(\$93,691)	(\$58,419)	-2
Stone, Clay and Glass Products	(\$40,926,129)	(\$18,725,222)	(\$10,857,107)	-207
Primary Metals	(\$195,518,624)	(\$51,116,587)	(\$43,407,537)	-1,021
Fabricated Metal Products	(\$124,324,217)	(\$51,628,001)	(\$33,543,042)	-685
Machinery, Except Electrical	(\$221,180,481)	(\$77,941,751)	(\$64,501,680)	-990
Electrical Machinery	(\$196,129,654)	(\$86,613,435)	(\$66,456,755)	-761
Motor Vehicles	(\$55,296,666)	(\$16,131,604)	(\$9,550,207)	-112
Other Transportation Equipment	(\$194,458,605)	(\$94,336,922)	(\$61,511,242)	-1,135
Instruments	(\$1,161,256)	(\$425,529)	(\$386,864)	-8
Miscellaneous Manufacturing	(\$1,182,866)	(\$231,038)	(\$281,690)	-3
Transportation and Warehousing	(\$599,510,189)	(\$309,953,923)	(\$213,834,881)	-3,950
Communication	(\$149,489,951)	(\$93,573,649)	(\$44,207,728)	-686
Electric Utilities	(\$156,718,900)	(\$29,187,690)	(\$14,295,790)	-71
Gas Utilities	(\$118,829,579)	(\$15,124,525)	(\$7,407,816)	-38
Trade	(\$2,647,074,512)	(\$1,848,332,961)	(\$1,115,575,436)	-34,989
Finance, Insurance, and Real Estate	(\$1,111,891,544)	(\$437,134,413)	(\$158,704,263)	-1,887
Other Services	(\$1,911,050,275)	(\$1,162,386,670)	(\$963,690,520)	-20,832
<b>TOTAL</b>	<b>(\$11,613,343,180)</b>	<b>(\$5,537,715,065)</b>	<b>(\$3,606,511,379)</b>	<b>-86,041</b>

SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group



**Table 10**  
**The Projected Losses in Business Activity in Texas Associated with a 3% Cap on Local Property Tax Revenues Assuming a Typical Cyclical Growth Pattern in Baseline Revenues—Cumulative 10-Year Impacts**  
**Detailed Sectoral Results**

Sector	Total Expenditures	Gross Product	Personal Income	Employment (Person-Years)
Agriculture, Forestry and Fisheries	(\$2,493,276,768)	(\$810,652,935)	(\$490,925,636)	-28,397
Metal Mining	\$0	\$0	\$0	0
Coal Mining	\$0	\$0	\$0	0
Crude Petroleum and Natural Gas	(\$2,723,090,146)	(\$597,366,321)	(\$267,789,254)	-1,794
Nonmetallic Mineral Mining	\$0	\$0	\$0	0
Construction	(\$6,701,432,875)	(\$2,989,571,970)	(\$2,351,753,567)	-45,094
Food and Kindred Products	(\$3,007,510,277)	(\$643,633,197)	(\$326,835,182)	-8,313
Tobacco Manufactures	(\$67,936)	(\$5,614)	(\$11,300)	0
Textile Mill products	(\$40,982,238)	(\$9,828,633)	(\$8,276,371)	-253
Apparel and Other Textile Products	(\$403,633,200)	(\$198,941,548)	(\$106,451,742)	-3,727
Lumber and Wood Products	(\$238,836,504)	(\$93,177,582)	(\$57,713,496)	-1,727
Furniture and Fixtures	(\$572,920)	(\$179,467)	(\$155,380)	-4
Paper and Allied Products	(\$258,981,520)	(\$91,065,603)	(\$51,223,484)	-917
Printing and Publishing	(\$370,586,809)	(\$203,932,295)	(\$118,906,552)	-1,656
Chemicals and Allied Products	(\$804,135,425)	(\$163,090,455)	(\$124,902,441)	-1,186
Petroleum Refining	(\$2,323,029,935)	(\$420,381,643)	(\$80,542,766)	-334
Rubber and Plastic Products	(\$319,953,931)	(\$80,230,053)	(\$55,843,074)	-1,083
Leather and Leather Products	(\$1,106,061)	(\$474,338)	(\$295,764)	-10
Stone, Clay and Glass Products	(\$207,200,742)	(\$94,802,023)	(\$54,967,343)	-1,046
Primary Metals	(\$989,871,380)	(\$258,792,973)	(\$219,763,609)	-5,167
Fabricated Metal Products	(\$629,428,450)	(\$261,382,161)	(\$169,821,659)	-3,470
Machinery, Except Electrical	(\$1,119,792,187)	(\$394,603,375)	(\$326,559,002)	-5,011
Electrical Machinery	(\$992,964,901)	(\$438,506,363)	(\$336,457,154)	-3,855
Motor Vehicles	(\$279,955,874)	(\$81,671,061)	(\$48,350,772)	-567
Other Transportation Equipment	(\$984,504,714)	(\$477,608,820)	(\$311,419,019)	-5,746
Instruments	(\$5,879,206)	(\$2,154,367)	(\$1,958,615)	-43
Miscellaneous Manufacturing	(\$5,988,614)	(\$1,169,698)	(\$1,426,140)	-15
Transportation and Warehousing	(\$3,035,199,232)	(\$1,569,234,230)	(\$1,082,602,898)	-19,996
Communication	(\$756,837,488)	(\$473,744,520)	(\$223,814,816)	-3,473
Electric Utilities	(\$793,436,198)	(\$147,771,391)	(\$72,376,702)	-361
Gas Utilities	(\$601,610,203)	(\$76,572,420)	(\$37,504,277)	-191
Trade	(\$13,401,604,633)	(\$9,357,737,177)	(\$5,647,933,544)	-177,143
Finance, Insurance, and Real Estate	(\$5,629,282,742)	(\$2,213,123,414)	(\$803,487,690)	-9,555
Other Services	(\$9,675,262,298)	(\$5,884,929,386)	(\$4,878,970,832)	-105,471
<b>TOTAL</b>	<b>(\$58,796,015,409)</b>	<b>(\$28,036,335,035)</b>	<b>(\$18,259,040,084)</b>	<b>-435,607</b>

SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group



**Table 11**  
**The Projected Losses in Business Activity in Texas Associated with a 6% Cap on School District Property Tax Revenues and a 3% Cap on Other Local Property Tax Revenues Assuming a Constant Growth Rate in Baseline Revenues—Year 10 Impacts**  
**Detailed Sectoral Results**

Sector	Total Expenditures	Gross Product	Personal Income	Employment (Permanent Jobs)
Agriculture, Forestry and Fisheries	(\$305,769,325)	(\$99,416,480)	(\$60,205,911)	-3,483
Metal Mining	\$0	\$0	\$0	0
Coal Mining	\$0	\$0	\$0	0
Crude Petroleum and Natural Gas	(\$333,953,072)	(\$73,259,535)	(\$32,841,015)	-220
Nonmetallic Mineral Mining	\$0	\$0	\$0	0
Construction	(\$821,847,230)	(\$366,633,746)	(\$288,413,268)	-5,530
Food and Kindred Products	(\$368,833,656)	(\$78,933,591)	(\$40,082,262)	-1,020
Tobacco Manufactures	(\$8,331)	(\$689)	(\$1,386)	0
Textile Mill products	(\$5,025,961)	(\$1,205,359)	(\$1,014,994)	-31
Apparel and Other Textile Products	(\$49,500,582)	(\$24,397,702)	(\$13,054,980)	-457
Lumber and Wood Products	(\$29,290,321)	(\$11,427,069)	(\$7,077,841)	-212
Furniture and Fixtures	(\$70,261)	(\$22,009)	(\$19,055)	-1
Paper and Allied Products	(\$31,760,856)	(\$11,168,061)	(\$6,281,922)	-112
Printing and Publishing	(\$45,447,854)	(\$25,009,755)	(\$14,582,407)	-203
Chemicals and Allied Products	(\$98,617,189)	(\$20,001,012)	(\$15,317,728)	-145
Petroleum Refining	(\$284,890,672)	(\$51,554,570)	(\$9,877,567)	-41
Rubber and Plastic Products	(\$39,238,362)	(\$9,839,216)	(\$6,848,457)	-133
Leather and Leather Products	(\$135,645)	(\$58,172)	(\$36,272)	-1
Stone, Clay and Glass Products	(\$25,410,589)	(\$11,626,287)	(\$6,741,060)	-128
Primary Metals	(\$121,395,389)	(\$31,737,733)	(\$26,951,268)	-634
Fabricated Metal Products	(\$77,191,556)	(\$32,055,265)	(\$20,826,510)	-426
Machinery, Except Electrical	(\$137,328,557)	(\$48,393,186)	(\$40,048,392)	-615
Electrical Machinery	(\$121,774,771)	(\$53,777,341)	(\$41,262,277)	-473
Motor Vehicles	(\$34,333,099)	(\$10,015,938)	(\$5,929,620)	-70
Other Transportation Equipment	(\$120,737,234)	(\$58,572,770)	(\$38,191,662)	-705
Instruments	(\$721,011)	(\$264,206)	(\$240,200)	-5
Miscellaneous Manufacturing	(\$734,429)	(\$143,449)	(\$174,898)	-2
Transportation and Warehousing	(\$372,229,361)	(\$192,447,023)	(\$132,767,754)	-2,452
Communication	(\$92,816,686)	(\$58,098,862)	(\$27,448,098)	-426
Electric Utilities	(\$97,305,062)	(\$18,122,320)	(\$8,876,101)	-44
Gas Utilities	(\$73,779,994)	(\$9,390,653)	(\$4,599,432)	-23
Trade	(\$1,643,539,799)	(\$1,147,609,850)	(\$692,648,665)	-21,724
Finance, Insurance, and Real Estate	(\$690,361,377)	(\$271,412,007)	(\$98,537,752)	-1,172
Other Services	(\$1,186,550,349)	(\$721,713,252)	(\$598,344,971)	-12,935
<b>TOTAL</b>	<b>(\$7,210,598,580)</b>	<b>(\$3,438,307,106)</b>	<b>(\$2,239,243,724)</b>	<b>-53,422</b>

SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group



**Table 12**  
**The Projected Losses in Business Activity in Texas Associated with a 6% Cap on School District Property Tax Revenues and a 3% Cap on Other Local Property Tax Revenues Assuming a Constant Growth Rate in Baseline Revenues—Cumulative 10-Year Impacts**  
**Detailed Sectoral Results**

Sector	Total Expenditures	Gross Product	Personal Income	Employment (Person-Years)
Agriculture, Forestry and Fisheries	(\$1,524,489,060)	(\$495,665,602)	(\$300,171,554)	-17,363
Metal Mining	\$0	\$0	\$0	0
Coal Mining	\$0	\$0	\$0	0
Crude Petroleum and Natural Gas	(\$1,665,006,143)	(\$365,253,642)	(\$163,737,052)	-1,097
Nonmetallic Mineral Mining	\$0	\$0	\$0	0
Construction	(\$4,097,523,882)	(\$1,827,943,780)	(\$1,437,956,118)	-27,572
Food and Kindred Products	(\$1,838,911,978)	(\$393,543,059)	(\$199,840,092)	-5,083
Tobacco Manufactures	(\$41,539)	(\$3,433)	(\$6,909)	0
Textile Mill products	(\$25,058,178)	(\$6,009,619)	(\$5,060,504)	-155
Apparel and Other Textile Products	(\$246,797,470)	(\$121,640,813)	(\$65,088,850)	-2,279
Lumber and Wood Products	(\$146,034,184)	(\$56,972,498)	(\$35,288,338)	-1,056
Furniture and Fixtures	(\$350,306)	(\$109,734)	(\$95,006)	-3
Paper and Allied Products	(\$158,351,652)	(\$55,681,149)	(\$31,320,085)	-561
Printing and Publishing	(\$226,591,586)	(\$124,692,355)	(\$72,704,218)	-1,012
Chemicals and Allied Products	(\$491,680,536)	(\$99,720,022)	(\$76,370,344)	-725
Petroleum Refining	(\$1,420,393,342)	(\$257,038,137)	(\$49,247,066)	-205
Rubber and Plastic Products	(\$195,632,620)	(\$49,055,861)	(\$34,144,687)	-662
Leather and Leather Products	(\$676,290)	(\$290,029)	(\$180,842)	-6
Stone, Clay and Glass Products	(\$126,690,814)	(\$57,965,746)	(\$33,609,230)	-640
Primary Metals	(\$605,246,922)	(\$158,236,366)	(\$134,372,253)	-3,160
Fabricated Metal Products	(\$384,857,710)	(\$159,819,499)	(\$103,835,749)	-2,122
Machinery, Except Electrical	(\$684,685,696)	(\$241,276,274)	(\$199,671,225)	-3,064
Electrical Machinery	(\$607,138,424)	(\$268,120,315)	(\$205,723,350)	-2,357
Motor Vehicles	(\$171,176,210)	(\$49,936,951)	(\$29,563,595)	-347
Other Transportation Equipment	(\$601,965,528)	(\$292,029,120)	(\$190,414,034)	-3,513
Instruments	(\$3,594,782)	(\$1,317,266)	(\$1,197,575)	-26
Miscellaneous Manufacturing	(\$3,661,678)	(\$715,200)	(\$871,999)	-9
Transportation and Warehousing	(\$1,855,842,112)	(\$959,492,523)	(\$661,946,678)	-12,226
Communication	(\$462,760,687)	(\$289,666,332)	(\$136,849,324)	-2,124
Electric Utilities	(\$485,138,601)	(\$90,353,334)	(\$44,254,008)	-221
Gas Utilities	(\$367,848,521)	(\$46,819,438)	(\$22,931,614)	-117
Trade	(\$8,194,276,667)	(\$5,721,694,491)	(\$3,453,372,288)	-108,313
Finance, Insurance, and Real Estate	(\$3,441,968,442)	(\$1,353,192,102)	(\$491,284,485)	-5,842
Other Services	(\$5,915,842,040)	(\$3,598,281,017)	(\$2,983,197,754)	-64,489
<b>TOTAL</b>	<b>(\$35,950,233,598)</b>	<b>(\$17,142,535,710)</b>	<b>(\$11,164,306,828)</b>	<b>-266,348</b>

SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group



**Table 13**  
**The Projected Losses in Business Activity in Texas Associated with a 6%  
 Cap on School District Tax Revenues and a 3% Cap on Other Local  
 Property Tax Revenues Assuming a Typical Cyclical Growth Pattern  
 in Baseline Revenues—Year 10 Impacts**  
**Detailed Sectoral Results**

Sector	Total Expenditures	Gross Product	Personal Income	Employment (Permanent Jobs)
Agriculture, Forestry and Fisheries	(\$329,316,869)	(\$107,072,624)	(\$64,842,418)	-3,751
Metal Mining	\$0	\$0	\$0	0
Coal Mining	\$0	\$0	\$0	0
Crude Petroleum and Natural Gas	(\$359,671,069)	(\$78,901,311)	(\$35,370,128)	-237
Nonmetallic Mineral Mining	\$0	\$0	\$0	0
Construction	(\$885,138,353)	(\$394,868,509)	(\$310,624,208)	-5,956
Food and Kindred Products	(\$397,237,836)	(\$85,012,331)	(\$43,169,030)	-1,098
Tobacco Manufactures	(\$8,973)	(\$742)	(\$1,493)	0
Textile Mill products	(\$5,413,014)	(\$1,298,185)	(\$1,093,159)	-33
Apparel and Other Textile Products	(\$53,312,662)	(\$26,276,588)	(\$14,060,354)	-492
Lumber and Wood Products	(\$31,545,992)	(\$12,307,077)	(\$7,622,911)	-228
Furniture and Fixtures	(\$75,672)	(\$23,704)	(\$20,523)	-1
Paper and Allied Products	(\$34,206,785)	(\$12,028,123)	(\$6,765,698)	-121
Printing and Publishing	(\$48,947,830)	(\$26,935,776)	(\$15,705,410)	-219
Chemicals and Allied Products	(\$106,211,779)	(\$21,541,306)	(\$16,497,359)	-157
Petroleum Refining	(\$306,830,335)	(\$55,524,829)	(\$10,638,246)	-44
Rubber and Plastic Products	(\$42,260,141)	(\$10,596,942)	(\$7,375,862)	-143
Leather and Leather Products	(\$146,091)	(\$62,651)	(\$39,065)	-1
Stone, Clay and Glass Products	(\$27,367,479)	(\$12,521,637)	(\$7,260,194)	-138
Primary Metals	(\$130,744,147)	(\$34,181,882)	(\$29,026,807)	-683
Fabricated Metal Products	(\$83,136,140)	(\$34,523,867)	(\$22,430,377)	-458
Machinery, Except Electrical	(\$147,904,341)	(\$52,119,985)	(\$43,132,551)	-662
Electrical Machinery	(\$131,152,745)	(\$57,918,778)	(\$44,439,919)	-509
Motor Vehicles	(\$36,977,119)	(\$10,787,273)	(\$6,386,265)	-75
Other Transportation Equipment	(\$130,035,307)	(\$63,083,506)	(\$41,132,833)	-759
Instruments	(\$776,537)	(\$284,553)	(\$258,698)	-6
Miscellaneous Manufacturing	(\$790,988)	(\$154,496)	(\$188,367)	-2
Transportation and Warehousing	(\$400,895,047)	(\$207,267,524)	(\$142,992,307)	-2,641
Communication	(\$99,964,575)	(\$62,573,102)	(\$29,561,898)	-459
Electric Utilities	(\$104,798,604)	(\$19,517,934)	(\$9,559,656)	-48
Gas Utilities	(\$79,461,852)	(\$10,113,835)	(\$4,953,638)	-25
Trade	(\$1,770,110,135)	(\$1,235,988,217)	(\$745,990,102)	-23,397
Finance, Insurance, and Real Estate	(\$743,526,668)	(\$292,313,666)	(\$106,126,225)	-1,262
Other Services	(\$1,277,927,556)	(\$777,292,976)	(\$644,424,004)	-13,931
<b>TOTAL</b>	<b>(\$7,765,892,640)</b>	<b>(\$3,703,093,932)</b>	<b>(\$2,411,689,704)</b>	<b>-57,536</b>

SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group



**Table 14**  
**The Projected Losses in Business Activity in Texas Associated with a 6% Cap on School District Property Tax Revenues and a 3% Cap on Other Local Property Tax Revenues Assuming a Typical Cyclical Growth Pattern in Baseline Revenues—Cumulative 10-Year Impacts**  
**Detailed Sectoral Results**

Sector	Total Expenditures	Gross Product	Personal Income	Employment (Person-Years)
Agriculture, Forestry and Fisheries	(\$1,641,891,202)	(\$533,837,213)	(\$323,288,009)	-18,700
Metal Mining	\$0	\$0	\$0	0
Coal Mining	\$0	\$0	\$0	0
Crude Petroleum and Natural Gas	(\$1,793,229,620)	(\$393,382,122)	(\$176,346,576)	-1,182
Nonmetallic Mineral Mining	\$0	\$0	\$0	0
Construction	(\$4,413,077,527)	(\$1,968,715,217)	(\$1,548,694,288)	-29,695
Food and Kindred Products	(\$1,980,528,085)	(\$423,850,130)	(\$215,229,940)	-5,475
Tobacco Manufactures	(\$44,738)	(\$3,697)	(\$7,441)	0
Textile Mill products	(\$26,987,929)	(\$6,472,425)	(\$5,450,217)	-167
Apparel and Other Textile Products	(\$265,803,543)	(\$131,008,471)	(\$70,101,395)	-2,454
Lumber and Wood Products	(\$157,280,395)	(\$61,359,996)	(\$38,005,922)	-1,137
Furniture and Fixtures	(\$377,283)	(\$118,184)	(\$102,322)	-3
Paper and Allied Products	(\$170,546,441)	(\$59,969,200)	(\$33,732,071)	-604
Printing and Publishing	(\$244,041,588)	(\$134,295,015)	(\$78,303,229)	-1,090
Chemicals and Allied Products	(\$529,545,254)	(\$107,399,542)	(\$82,251,687)	-781
Petroleum Refining	(\$1,529,778,988)	(\$276,832,853)	(\$53,039,623)	-220
Rubber and Plastic Products	(\$210,698,448)	(\$52,833,692)	(\$36,774,198)	-713
Leather and Leather Products	(\$728,372)	(\$312,365)	(\$194,769)	-7
Stone, Clay and Glass Products	(\$136,447,377)	(\$62,429,735)	(\$36,197,504)	-689
Primary Metals	(\$651,857,480)	(\$170,422,278)	(\$144,720,370)	-3,403
Fabricated Metal Products	(\$414,495,915)	(\$172,127,329)	(\$111,832,225)	-2,285
Machinery, Except Electrical	(\$737,413,898)	(\$259,857,156)	(\$215,048,068)	-3,300
Electrical Machinery	(\$653,894,648)	(\$288,768,479)	(\$221,566,273)	-2,539
Motor Vehicles	(\$184,358,629)	(\$53,782,636)	(\$31,840,311)	-374
Other Transportation Equipment	(\$648,323,383)	(\$314,518,520)	(\$205,077,974)	-3,784
Instruments	(\$3,871,619)	(\$1,418,710)	(\$1,289,802)	-28
Miscellaneous Manufacturing	(\$3,943,666)	(\$770,278)	(\$939,152)	-10
Transportation and Warehousing	(\$1,998,762,022)	(\$1,033,383,822)	(\$712,923,730)	-13,168
Communication	(\$498,398,264)	(\$311,973,772)	(\$147,388,201)	-2,287
Electric Utilities	(\$522,499,519)	(\$97,311,518)	(\$47,662,045)	-238
Gas Utilities	(\$396,176,835)	(\$50,425,041)	(\$24,697,596)	-126
Trade	(\$8,825,324,575)	(\$6,162,326,836)	(\$3,719,319,295)	-116,654
Finance, Insurance, and Real Estate	(\$3,707,037,231)	(\$1,457,402,526)	(\$529,118,703)	-6,292
Other Services	(\$6,371,425,845)	(\$3,875,387,564)	(\$3,212,936,239)	-69,455
<b>TOTAL</b>	<b>(\$38,718,790,317)</b>	<b>(\$18,462,696,322)</b>	<b>(\$12,024,079,174)</b>	<b>-286,859</b>

SOURCE: US Multi-Regional Impact Assessment System, The Perryman Group

