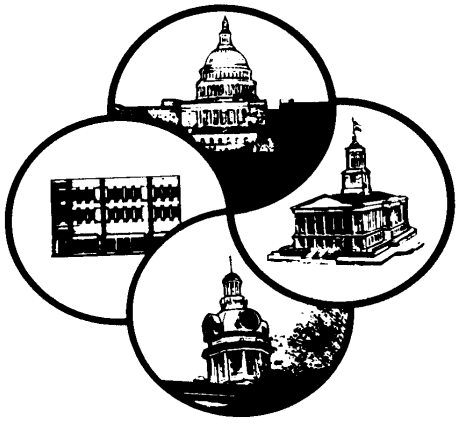
staff information report

The Local Government Finance Series
Volume I

The Local Property Tax in Tennessee

The Tennessee Advisory Commission on Intergovernmental Relations



February 2002

The Local Government Finance Series, Volume I
The Local Property Tax in Tennessee

Prepared by:

Harry A. Green, Ph.D.
Executive Director

Stan Chervin, Ph.D.
Consultant
(Principal Author)

Cliff Lippard
Director of Fiscal Affairs
(Project Management and Design and Principal Editor)

Other TACIR Staff Contributors

Linda Joseph
Publications Assistant

ACKNOWLEDGEMENTS

The staff of the TACIR wish to acknowledge the assistance of Mr. Ed Young, consultant, and Ms. Kim Robertson, former TACIR publication assistant, which greatly contributed to the completion of this report.

FOREWORD

During 1999, 2000, and 2001, extensive debate occurred in Tennessee regarding state government finances. While the state had been reasonably successful in financing its activities during most of the 1990s (with the help of a state sales tax increase in 1992), growth in state revenues slowed, requiring skillful but temporary budgetary maneuvers to balance expenditures against revenues. Despite the sometimes intense debate over solutions to the state budgetary problem, and both legislative and gubernatorial attempts at tax reform, the fiscal problem remains unresolved.

Since most of the debate centered on state government finances, local government finance problems were somewhat overlooked, despite serious financial pressures facing many county and municipal governments. The fiscal problems experienced by local governments generally paralleled those of the state, dressed in slightly different clothing. While the state was experiencing structural problems associated with its sales and business tax collections, local governments were facing like problems with their local option sales tax and property tax.

The Tennessee Advisory Commission on Intergovernmental Relations addressed the challenges facing the state revenue system in early 1999 in its report titled *Financing Tennessee Government in the 21st Century.* The primary emphasis of that report was on state government revenue problems. Since the release of that report, members of the Commission have expressed interest in additional information that focuses specifically on local government finance. In response to that interest, the TACIR research team began a local government finance project in April 2000. The purpose of that project was to produce a series of reports, each highlighting a separate component of local government finance. The following report on the local property tax represents the first completed element of that project. Additional reports are planned on the local option sales tax, other local option taxes, intergovernmental aid to local governments, educational finance, and local government borrowing.

TABLE OF CONTENTS

KEY POINTS

Until 1963, the property tax was the only significant source of local government revenue.

The property tax has been and continues to be the number one revenue source used to finance local governments in Tennessee.

Despite several shortcomings, the property tax is likely to increase in importance in local government finance.

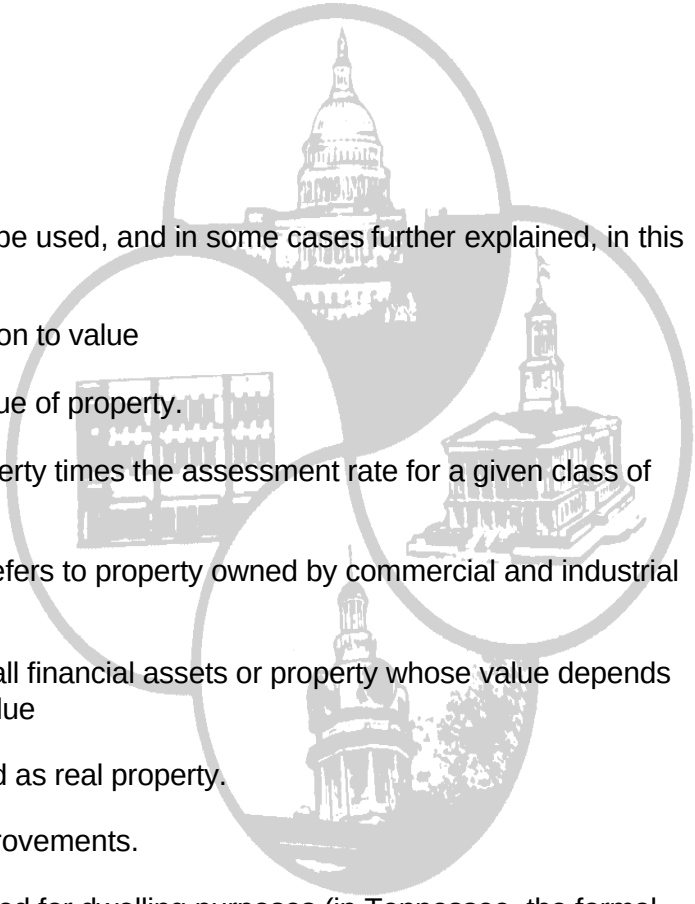
While the local option sales tax took some pressure off property tax rates between the late 1960s and early 1980s, the property tax is again becoming the tax of last resort, especially in areas where local option sales tax rates are approaching their statutory maximum.

Local property tax bases (per capita) vary extensively from county to county, creating a very uneven playing field for financing local government services.

While the property tax produces fairly predictable and stable revenue flows over time, it fails to grow at a rate adequate to finance long-run local government expenditures requirements.

As a result of constitutionally allowed property classification and preferential assessments, statutory exemptions and special evaluations, and administrative difficulties innate in property valuations, the tax fails to provide taxpayer equity across all properties.

KEY TERMS



The following are some key terms that will be used, and in some cases further explained, in this report.

Ad Valorem. Based on value or in proportion to value

Appraisal. An evaluation of the market value of property.

Assessment. The appraised value of property times the assessment rate for a given class of property.

Commercial (and Industrial) **Property**. Refers to property owned by commercial and industrial businesses

Intangible Property. Refers generally to all financial assets or property whose value depends on something other than its own intrinsic value

Personal Property. Property not classified as real property.

Real Property. Land, structures, and improvements.

Residential Property. All real property used for dwelling purposes (in Tennessee, the formal legal definition does not include most rental property which is considered commercial).

Tangible Property. Personal property excluding intangible personal property; includes most goods that are capable of manual or physical possession and whose value is intrinsic to the article itself.

Utility Property. All property belonging to businesses classified as utilities.

EXECUTIVE SUMMARY

Introduction

The property tax has been and continues to be the number one revenue source used to finance local government activity in Tennessee. Despite several shortcomings that are examined in this report, the property tax is likely to increase in importance. Property taxes generated almost $3 billion for counties, municipalities, and special school districts in Tennessee during 1999. This is more than twice the amount raised from local option sales taxes, making it the single largest generator of own-source revenue for Tennessee local governments. In fiscal year 1996-97, property taxes accounted for over 58 percent of local tax collections in Tennessee and 73 percent of local tax collections in the United States.

As the most important source of local government own-source revenue, the property tax dominates most discussions of local government finance. Therefore, to understand Tennessee local government finance issues requires a reasonably broad appreciation of many of the elements of the property tax, as it exists in Tennessee.

The purpose of the following report is to provide such information in a manner useful to the general public, local government officials, and those specializing in the field of local government finance. As such, the report includes material on the property tax of general interest to all readers as well as more detailed statistical and analytical material of interest to a more limited readership.

The format of this report is as follows

- History of the tax- As one of Tennessee's oldest taxes, many of the property tax's current characteristics can be better understood by reviewing the constitutional, legislative, economic, and administrative changes that impacted the tax over time. Since the property tax is the most important local tax, it dominates the local government tax structure. Its history will aid in understanding how the local tax structure itself developed over time (page 12).

- Utilization and Limitations- This section describes how property tax rates are set and limitations that affect the application of the tax (page 21).

- Elasticity- Elasticity refers to a tax's growth trend over time relative to the growth trend in personal income. If the growth in revenue from a tax, without any tax rate changes, exceeds the growth in personal income, the tax is characterized as elastic. If it grows slower than personal income, it is characterized as inelastic. See page 22 for the detailed analysis on elasticity.

- Stability/Volatility- This characteristic of a tax is concerned with its behavior over the course of a business cycle. Different taxes react differently during business cycles. Since most local government programs are not easily adjusted downward during recessions (especially education expenditures), revenue stability is a desirable characteristic. The stability/volatility issue is analyzed beginning on page 27.

- Equity- The fairness of the property tax is addressed from several directions. To what extent do taxpayers in the same tax jurisdiction with property of equal value pay the same tax, a form of horizontal equity? To what extent do taxpayers, or households, with the same income level pay the same tax? How do property tax burdens vary by household income? All of these questions are addressed in the report, beginning on page 33.

- Tax Base Disparities- How viable is the property tax as a source of revenue to the many individual counties and municipalities in the state? The distribution of the tax base across the state is analyzed beginning on page 44.

- Outlook- What is the outlook for the local property tax in the 21st century? What new challenges will it face and what are the likely outcomes? This final evaluation of the tax is taken up beginning on page 51.

Summary of Major Findings

- Changes in the structure of the property tax over time have led to a gradual shift in the distribution of the tax burden. The burden on residential property has increased while that on utility and farm property has fallen.

- Elasticity- Local property tax collections have proven to be an inelastic source of revenue. The inelasticity in tax collections is the result of both inelastic tax bases in most counties and, for those counties that do have an elastic tax base, Tennessee's "truth in taxation" statutes. The procedures established in the "truth in taxation" statutes impose political pressures on local government officials to rollback tax rates following property reappraisals.

- Stability/Volatility- The data available on county property tax assessments, constrained by the infrequent nature of reappraisal cycles and appraisal ratio studies, showed more instability than the local sales tax base over the period studied (1986-99). So while property tax collections are generally predictable and stable over the business cycle, local property tax bases (assessments) in many counties, based on available measures of assessments, fare poorly in standard statistical measures of stability.

- Equity- Various equity issues are addressed in the report. Findings on issues that could be reasonably analyzed were as follows:

    1. Appraisal ratio studies show acceptable levels of uniformity within counties, meaning that like-valued properties are facing similar tax levels;
    2. For various reasons, households with similar incomes face widely varying property tax liabilities;
    3. Analysis of data from various sources supports the conclusion that the property tax is proportional over a wide range of incomes, but regressive at low income levels; and
    4. There is some evidence that the property tax in Tennessee results in lower effective property tax rates for very expensive homes relative to lower-priced homes.

- Disparities-The property tax base is very unevenly distributed across counties, varying from a low of $6,262 per capita in Lake County to a high of $26,384 in Sevier County in 1999. As the primary source of local revenue, such tax base disparities create serious potential expenditure disparities, even after adjusting for the equalizing effects of state aid for local education. An unevenly distributed local sales tax base further compounds the problem.

  Further, there are extensive variations in effective tax rates across the state. The lowest effective tax rate in 2000 occurred in Sevier County, with a rate of only .3113 percent. This was only 20 percent of the effective tax rate in Memphis with the maximum rate in 2000 of 1.5991 percent. For those readers who prefer dollar comparisons, the numbers are just as dramatic: for tax year 2000, a $100,000 residence in Memphis faced a $1,599 tax bill while a $100,000 residence in Sevier County faced only a $311 tax bill.

- Outlook- Despite all its shortcomings, in the absence of significant new state intergovernmental aid or increased home rule taxing authority, the property tax is likely to increase in importance in local government finance. The increased importance will occur despite serious challenges facing property taxation in the future from the following sources:

  1. Increased competition in the telecommunications industry will continue to erode away the business sector's share of the property tax base.
  2. The continuing shift in economic activity away from traditional manufacturing activity and its associated investments in machinery and equipment toward technology and service driven activities with emphasis on intangibles and human capital will work against the property tax base.
  3. A larger older population, coupled with growing property tax burdens can be expected to result in increased calls for property tax relief.
  4. An increase in the elderly population will result in lower housing needs, since the elderly traditionally demand less housing than other groups. If demand declines, housing prices can be expected to grow at slower rates in the future.
  5. Exemptions and preferential assessment rules already cost Tennessee local governments over $60 million in lost revenues.
  6. The increased state role in local government educational finance may reduce the willingness of local residents to support higher property taxes in the future.
  7. Inelastic tax bases and the statutory restrictions imposed on local property tax rate increases following reappraisals, the truth-in-taxation statutes, will continue to constrain the "elasticity" of the local property tax and lead to creative but limited forms of new local revenue, such as impact fees.

PURPOSE

The material that follows is intended to familiarize the reader with some background material on the local property tax, including an extensive section on the history of the tax, provide new statistical information based on recent Tennessee local property tax data, and provide some analytical material designed to provide the reader with an in-depth understanding of various formal characteristics of the tax, such as elasticity, stability, and equity.

These somewhat technical sections are included to assist readers in understanding the sometimes arcane terminology and analysis frequently used by tax specialists and academics in discussions on taxes. Frequently the "academic" terminology has a simpler and more familiar "street" meaning for those engaged in the day-to-day operations of local governments. Familiarization with the formal characteristics of the property tax will enable readers to better evaluate the property tax in relation to other local taxes and to appraise its likely role in local government finance in the 21st Century.

BACKGROUND

Property taxes generated almost $3 billion for counties, municipalities, and special school districts in Tennessee during 1999.[1] This is over twice the amount raised from local option sales taxes, making the property tax the single largest generator of own-source revenue for local governments. In fiscal year 1996-97, property taxes accounted for over 58 percent of all local tax collections in Tennessee (see Table 1) and over 73 percent in the United States.[2] The property tax has been and continues to be the number one revenue source used to finance local government activity.[3]

Despite its continued importance as a source of local government revenue, almost as important in Tennessee in fiscal year 1997 as in fiscal year 1986, nation-wide, the property tax is the least-liked tax in surveys of voters.[4] As noted by Hal Hovey in a May 1996 article on property taxes, "…against this formidable array (of those in opposition to the property tax) stand the leaders and members of "Citizens To Increase Reliance on Property Taxes," with a membership of zero."[5] Thus the property tax continues to represent a paradox, hated by most but used by all.

---

[1] Estimated from 1999 Tax Aggregate data supplied by the State Board of Equalization. Note that according to the Tennessee Municipal League, 86 municipalities did not levy a property tax in 2000.

[2] Based on data from the 1997 Census of Governments (U. S. Department of Commerce, 2000).

[3] While property taxes were an important source of revenue to state governments through the early 20th century, only 12 states raised more than 1% of their tax collections from this source in 1998. Nationwide (1998), only 2.2% of total state tax collections came from property taxes.

[4] National Conference of State Legislatures (1997), p.11.

[5] Hovey (1996), p. 6.

Table 1. Tennessee Local Government Tax Collections for Selected Years (Collections in Millions)

Local Tax	Amount 1996-97	% of Total	Amount 1985-86	% of Total	Amount 1974-75	% of Total
Property Tax	$ 2,333.4	58.2%	$ 1,130.1	59.5%	$ 489.1	66.5%
Sales Tax	1,188.5	29.6%	565.1	29.8%	164.9	22.4%
Other Taxes	487.9	12.2%	204.0	10.7%	81.2	11.0%
Total taxes	$ 4,009.8	100.0%	$ 1,899.2	100.0%	$ 735.2	100.0%

Source: 1996-97 data from Table 23, U. S. Department of Commerce (December 2000), older data from annual ACIR publication "Significant Features of Fiscal Federalism (various years). 1985-86 figures calculated from percent data from Table 65 of FY86 ACIR report.

The property tax remains a major source of local revenue in Tennessee since there are few substitutes. In Tennessee, the only significant replacement or supplement for current and future property tax revenue is additional state intergovernmental revenue. As pointed out in the report on the local option sales tax, forthcoming in this series, several local governments have maximized their local sales tax rate (maximum of 2.75 percent) and many have limited flexibility remaining. While increases in state intergovernmental revenue (primarily in support of K-12 education) and some increased home rule taxing authority have lessened local government dependence on the property tax over the last half of the 20th Century, that trend is likely to end unless additional home rule taxing authority is forthcoming (such as a local payroll tax), or the state increases financial aid to local governments.

HISTORY

Property and poll taxes were imposed at some point in time in all the original colonies.[6] Property taxes themselves have roots back to ancient times when all value was believed to flow from the land and its produce. As the original colonies evolved into states, their new constitutions contained language that authorized various forms of taxation. Frequently elements of one state's constitution formed the basis for constitutions of states that entered the union at later dates.

The original basis of property taxes varied by state. In some states the tax on land was based on value, in others it was based on the quality of the land with higher quality land bearing a higher tax, and in yet other states the tax was merely set at a specific amount, such as $1 per 100 acres of land, regardless of quality or value.[7] In some states property taxes were imposed on real property only, in others on improvements only, in others on both real property and improvements, as well as on various categories of personal property.

In North Carolina, land was taxed uniformly according to the number of acres, while town lots were taxed based on value. Since North Carolina established some presence in East Tennessee (Tennessee Territory) as early as 1777 along lines following the county governmental form in North Carolina, it is not surprising that Tennessee's first Constitution included language relating to property taxation and government organization that mirrored much of what was found in North Carolina's Constitution.

As time progressed and populations grew, dissatisfaction grew with property tax systems that were based on specific taxes, regardless of land value. As the country and Tennessee grew, land values became more noticeably variable. While specific property taxes were generally acceptable when taxes were low and there was little variation in the value of land, such taxes came under close scrutiny and criticism as tax levels slowly increased and land values widened. The growing pressure for improved equity eventually gave rise to calls for changes that would result in tax burdens more closely based on ability to pay, or in the case of property taxes, more closely aligned with the value of property.

Many states modified their constitutions during the 19th century in response to the economic, social and demographic changes occurring: increases in types and variety of assets, growing populations, an increase in the number of cities and towns, and the creation of new governmental responsibilities. During this period of constitutional tweaking, many states, including Tennessee, amended the taxing sections of their constitutions to insure that property taxes be based on valuations of property (in Tennessee, "according to value"), not mere quantity of property. This change to taxation based on value is known as the uniformity clause. It is found in the 2nd and 3rd Constitutions. It provided that all property was to be valued on the same basis for property tax purposes. In other words, all property, regardless of type (farm land, residential property, commercial property, or intangible property, was to be valued on a consistent basis.

---

[6] Ely (1888), p. 109.

[7] The Tennessee Constitution of 1796 stated, "All lands are liable to be taxed, and they shall be taxed uniformly, so that no 100 acres shall be taxed higher than another, except town lots." See Ely, p. 117. Such a tax per unit is known as an "in rem" tax.

In order to make the property tax fairer, most states tried to extend the tax to all property, including personal and intangible property. However attempts to apply the property tax to personal and intangible property were generally unsuccessful. Tennessee's third Constitution reflects some of the frustration with the continued failure of voluntary compliance with intangible property taxation. The third Constitution contained language in its taxing section (Article 2, Section 28) that allowed for the taxation of dividends and interest income in lieu of ad valorem taxes on the intangibles that generated these forms of income.

Dissatisfaction with the uniformity clause of the state Constitution continued to grow over time. Inequities with the system and its administration led to efforts in many states during the early twentieth century to modify state constitutions to allow for classification of property.[8] In Tennessee, as early as 1915, the Rye Committee (Committee to Investigate Assessment and Taxation) recognized the difficulty of achieving fundamental reform in the property tax area without amending the constitution to allow for property valuations on other than a uniform basis. Especially troubling was the Constitutional requirement that real and personal property be valued alike (in a uniform way). This requirement resulted in growing inequities, especially problems associated with administration of the property tax on intangible personal property.[9]

Several attempts to amend the Constitution occurred during the 1920s, to no avail. In 1922, voters rejected an attempt to amend the uniformity clause in the Constitution and again in 1926 on a vote to hold a constitutional convention that would be restricted to the subject of uniformity. Another tax commission created in 1928 to look at many of the same problems investigated by the Rye Committee again recommended amending the constitution to allow for property classification. A resolution calling for a referendum on the issue of amending the Constitution was approved in 1929. However, a similar and necessary resolution in 1931 was not introduced. This issue was to remain unresolved until 1972.

Dissatisfaction with the uniformity requirements was not unique to Tennessee. It reflected resentment with elements of the property tax being experienced in most states. The historical record shows that "classification of real property began in Minnesota in 1913, spread to Montana in 1917, and then to West Virginia in 1932. Between 1932 and 1968, no other states adopted comprehensive real property classifications."[10]

Since 1968, a majority of states have installed some form of property classification. The major force behind such adoptions was somewhat self-serving. As expressed by Bowman, "…de jure classification was adopted simply to codify, as nearly as possible, the pattern of de facto classification that had emerged over a number of years. The codifications were prompted by judicial orders, actual or feared, to enforce the uniformity standards that traditionally had been part of the legal framework of the tax."[11]

In 1965 in Tennessee, two railroads brought suit, one in state court, another in federal court, arguing that they were discriminated against by virtue of their property being assessed at higher rates than locally assessed property although the Constitution mandated uniform valuation. The

[8] For a full discussion of early uniformity and property classification problems, see Comptroller of the Treasury (1966), Chapter VI, pp. 60-77.

[9] This part of the problem was partly resolved in 1929 with the passage of the Hall Income Tax (Chapter 86 and Chapter 116 or 1929). Intangibles that produced income subject to the Hall Income Tax were exempt from property taxes.

[10] Bowman (1997), section on classification.

[11] Bowman (1997), section on classification

Public Service Commission centrally assessed the railroads. The railroads' successful litigation against unequal assessment rates eventually threatened local governments with either substantial property tax losses, or the necessity of increasing taxes on other forms of property that were generally under-assessed relative to railroad and utility property. The successful litigation by railroads and utilities gradually created a movement for fundamental change.[12]

In reaction to the successful litigation by the railroads, Governor Frank Clement called a special session in 1966 to deal with the problem. In addition to specific legislation designed to deal with some of the immediate problems raised by the litigation, a tax study commission was created to study the various problems surrounding the property tax system and to report back and make appropriate recommendations.

The commission issued two reports, the final report being issued in March 1968. The final report included many recommendations for modernizing property tax administration:

- improved training and pay for those involved in the assessment process,
- increased equalization of assessments,
- more frequent reappraisals, and
- increased state involvement in the assessment process.

In a 1968 referendum, voters authorized the calling of a constitutional convention in 1971 to consider revising Article 2, Section 28 of the State Constitution to allow for a property classification system. The legislation that authorized the referendum was initiated by rural and farm interests and was clearly intended to shift property tax burdens from themselves onto others, primarily utilities, other businesses, and urban homeowners.

The farm-rural strategy was somewhat blunted by municipal government officials during the actual Constitutional Convention in 1971. The municipal group managed to threaten the likely outcome of the eventual public vote on the platform emerging from the convention and forced a compromise onto the farm-rural block. The compromise involved treating residential and farm real property in an equal manner (25 percent assessment ratio), lowering somewhat the assessment ratio that would apply to commercial and industrial real property (40 percent), imposing a 30 percent assessment ratio on commercial and industrial personal property, and a 55 percent assessment ratio on all utility property.

The Constitutional Convention of 1971 allowed voters to vote for an amendment (Question Three) to the State Constitution authorizing a property classification system. The constitutional amendment was voted on and passed in August 1972 and became effective on January 1, 1973. The change also set in motion a slow process of improvement in property tax administration, assessment, and periodic reappraisal that continues today.

In 1976, again with major support from the agriculture lobby, legislation was passed that altered the method used to value certain agriculture, forest, and open space land. The "Greenbelt Law" provided that under certain circumstances, and subject to certain limitations, such land would be valued on the basis of its use rather on the basis of its market value. This law, along with later amendments to it, had the predictable consequence of causing a slow and steady decrease in assessments in counties with relatively large farm, forest, and open land holdings.

[12] For a detailed discussion and analysis of utility valuation, see Green (1983).

However it should be pointed out that Tennessee was not unique in providing preferential treatment for agricultural land holdings; as of "December 31, 1988, all fifty states had laws on preferential assessment of farmland."[13] By 1999, "Greenbelt Assessments" accounted for over 60 percent of all agriculture assessments in the state. A similar law affecting certain residential homeowners was passed in 1989 but had a far smaller impact on assessments.[14] By 1999, "Greenbelt Assessments" accounted for over 60 percent of all agriculture assessments in the state.[15]

Continued dissatisfaction by certain utility companies with assessment practices in evaluating tangible personal property continued into the 1990s. Utilities complained that their personal property assessments were substantially higher in many counties than the personal property assessments of local businesses, even after adjusting for legal assessment ratio differences. In some counties, local officials did not even actively pursue local business personal property. The courts generally sustained such claims of underassessment by local officials of local business personal property. A significant result of this successful litigation has mandated statewide reductions in certain utility personal property assessments. These reductions, designed to equalize valuations of utility personal property with general business personal property, continue into the 21st Century.

[13] See Aiken (1989).

[14] For some critical observations on such tax expenditures (exemptions), see Youngman (2000), p.432.

[15] A similar, but much more restrictive law affecting certain residential homeowners was passed in 1987 (P. C. #430). For some critical observations on such tax expenditures (exemptions), see Youngman (2000), p. 432.

Table 2. Significant Dates and Events Affecting the Property Tax

Year	Reference	Description of Change
1796 and after	1st Constitution	State and local governments with statutory approval levied property taxes that represented the major revenue source for both. Initially such taxes were specific taxes that "ignored improvements, locations and value."[16] The state property tax in 1833 was 18.75 cents per 100 acres. Remained most important state revenue source through early 20th Century.
1834-35	2nd Constitution Proposed & Ratified in 1835	Replaced specific taxes on property with a general ad valorem tax established "according to value."[17]
1870	3rd Constitution	Included language that clearly stated that property must be taxed according to its value. Section 29 gave General Assembly power to authorize local taxes similar to those levied by State. Taxing section also amended to allow legislature to tax dividend and interest income not taxed ad valorem.
1875-77	P.C. # 78 of 1875	Created a state-level process for valuating railroad property and in 1877 added telegraph companies. Changes were made that produced the broad outline of "unit" rule taxation for public utilities and railroads.[18]
1895	P.C. # 120	Represented a major step in the development but not actual implementation of comprehensive property tax reform. Included in the act was language that required frequent reappraisal of property.
1895-99	Statutory Authority and in 1899, P. C. # 435	General Assembly created the State Board of Equalization. The Board initially reviewed assessments of Railroad Commission.[19] It consisted of the Secretary of State, State Treasurer, and State Comptroller.
1915	S.J.R. #27	Rye Committee created to investigate and make recommendations relative to property taxation and assessment.
1920-47	Levy of New State Tax Sources	State revenue system slowly diversified as new taxes were imposed on gasoline, corporate profits, tobacco products, certain forms of income, beer, alcoholic beverages, and finally retail sales.

[16] Thorogood (1949), p. 2.
[17] Ibid., p. 4.
[18] Ibid., p. 40.
[19] Ibid., p. 79.

Table 2. Significant Dates and Events Affecting the Property Tax (continued)

Year	Reference	Description of Change
1926		Gasoline tax revenues exceeded state property tax revenue for first time.
1931	P.C. #26, 1929 Special Session	State general fund property tax of 12 cents per $100 abolished. State educational tax rate continued.
1949	P.C. # 90	Repeal of the remaining State Property Tax (5 cents per $100).[20]
1965	Southern Railroad and L & N Litigation	Railroads successfully litigated over their higher assessment rates versus other forms of locally assessed property.
1966	P.C. # 4, Public Acts 1965, Extraordinary Session, 1966	Tax Study Commission Appointed. It issued reports in 1967 and in 1968. It recommended major overhaul of property tax administration, training, pay, and recommended (again) an amendment to the state constitution that would allow a property classification system.
1968	Call for Limited Constitutional Convention	Convention to consider changes to the State Constitution. Included in the allowable subjects to be considered by the limited constitutional convention was a property classification system.
1971-72	Limited Constitutional Convention	Allowed voters in August 1972, to vote by referendum for an amendment (Question Three) to the State Constitution authorizing a property classification system. Question Three was approved and became law in January 1973.
1976	P.C. # 782	Known as the "Greenbelt Law" or the "Agricultural, Forest and Open Space Act of 1976." This change reduced taxes on certain types of land by allowing them to be evaluated based on "use" value rather than market value. Applied to agricultural, forest, and open space land holdings.
1976	U.S. Public Law 94-210 Railroad Revitalization and Regulatory Reform Act ("4R" ACT)	Prohibited state and local ad valorem taxes on railroads to be assessed at a higher rate than imposed on industrial and commercial property, in contradiction to Tennessee's Constitution that provided for a higher assessment rate for utility property (55 percent). The federal law was upheld and resulted in significant reductions in property taxes on railroads.

[20] The state corporate franchise tax law has as a minimum measure of the tax base, the value of property owned or used in the state. Some argue that for some corporations, this amounts to a state property tax.

Table 2. Significant Dates and Events Affecting the Property Tax (continued)

Year	Reference	Description of Change
1979	P.C. #253 of 1979	Mandates "truth in taxation" by requiring all local governments, subsequent to a property reappraisal cycle, to publish a "certified tax rate" before formally voting on new property tax rates. The certified rate is that tax rate that if applied to the new value of assessed property, based on new appraisals, would raise the same amount in taxes as was raised in previous years.
1980	Motor Carrier Regulatory Improvement Act (Federal), Public Law 96-296	Provided the motor carrier industry the same protection as the 4R Act provided to railroads. As a result, assessments on this industry were reduced over time.
1983	P.C. # 227	As a result of a U.S. Supreme Court decision that found that the bank intangible tax was unconstitutional, the law was repealed and the local revenue replaced from distributions from the corporate excise tax.
1987	P.C. #430 Known as "Homebelt Law"	This change affects long time residents of residential property that would otherwise face large increases in assessments as a result of zoning changes from residential to commercial.
1989	New state law	Change in procedure used to evaluate industrial and commercial property. New method required value be based on acquisition cost less straight line depreciation. Previously the methods used to evaluate commercial and industrial personalty varied substantially from county to county.
1989	P.C. #312	As a part of reform in the method used to tax telecommunications services, the gross receipts tax on telecommunications businesses was repealed, the sales tax was imposed on telecommunication services, and certain competitive telecommunications property became subject to standard (lower) commercial and industrial property assessment rates.
1989-Current	Litigation By Airlines and Railroads and Utilities	Successful litigation by several large airlines railroad companies, and later utilities that alleged that their statewide centrally-assessed personalty was over assessed relative to locally assessed business personalty. 1996 settlement resulted in 15 percent cut in taxes on personalty. Cut also extended to Bellsouth and some other utilities.

Historical Trends

Given the history of the property tax in Tennessee, it should come as no surprise that the burden of the local property tax has shifted over time. Following passage of "Question Three" that authorized a property classification system in Tennessee, there was an obvious initial redistribution of the property tax burden away from residential and farm property and onto commercial, industrial, and utility property. This logically had to follow from the relatively higher assessment ratios imposed on such properties.[21]

The shifting of tax burdens among classes of properties did not end with "Question Three." Since 1973, the distribution of property tax burdens has continue to evolve, partially in directions that reflect the historical developments spelled out in the previous section. As a result of a combination of statutory changes and successful litigation by large Tennessee business taxpayers (primarily transportation and telecommunications businesses), the relative burden, since 1973, has increased on residential property and decreased on business, utility, and farm properties.[22]

Figure 1 shows a gradual increase in the residential share of total property assessments over the period 1973-1999.[23] During this period, the residential share of total assessments increased from 35.2 percent to 48.6 percent, while the shares for industrial and commercial, farm, and utility decreased from 43.1 percent, 9.4 percent, and 12.2 percent, respectively to 39.3 percent, 6.6 percent, and 5.6 percent. As a result of this gradual but consistent shift, residential property assessments in 1999 represented 38 percent more of total statewide assessments than they did in 1973.[24]

---

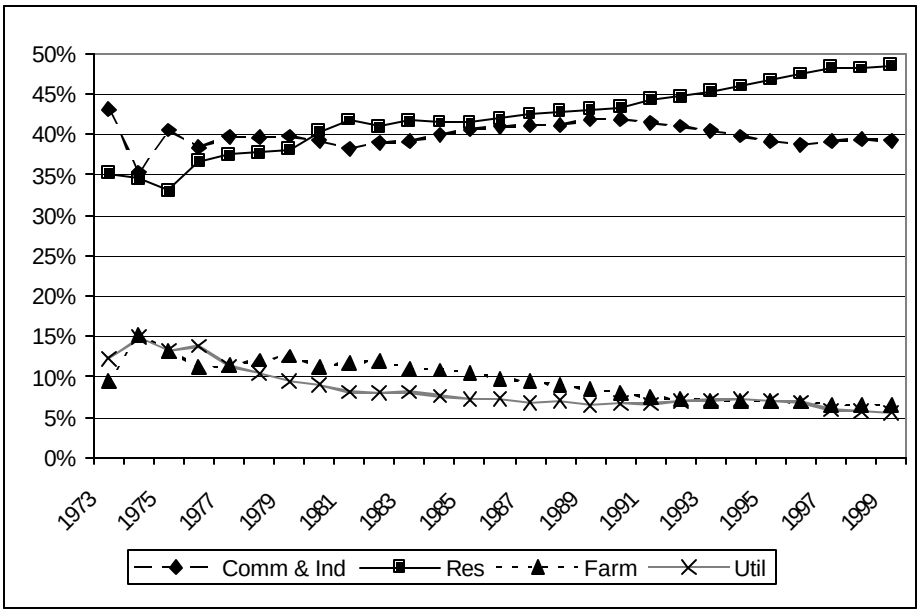
[21] However it should also be noted that assessment practices in many counties favored residential and farm property even though uniformity in assessments was legally required (by constitutional language before 1972).

[22] The data in Figure 1 refer to statewide trends. Individual counties may have had different experience over this time period.

[23] Intangible property assessments have been excluded from this analysis. Most of the amount reported as intangible assessments prior to 1981 (in "Tax Aggregate Reports") included a computation equivalent figure for a special excise tax paid by banks. Such computations were discontinued with the 1981 ***Tax Aggregate Report***. Intangible assessments beginning in 1981 are insignificant. See State Board of Equalization "***Tax Aggregate Reports***" for 1980 and 1981. Figure 1 data for 1973-75 based only on counties reporting assessments for all classes of property.

[24] Part of the increase reflects relatively higher rates of inflation for residential property. See Green (1982), p. 7-8.

Figure 1. Distribution of Assessments



Source: State Board of Equalization, "Tax Aggregate Report," various years.

UTILIZATION AND LIMITATIONS

The local county legislative body or the county commission sets the county property tax rate. The process proceeds by resolution of the local governing body and requires no referendum. The tax applies to real and tangible property, but not generally to other forms of wealth or assets, most of which have grown at a faster pace than tangible wealth over the last ten years.

Tennessee is currently one of 17 states that impose no restrictions on local government property tax rates. However, except for Tennessee and Georgia, all other southeast states impose some form of restriction, either tax rate limits, revenue rollback requirements, or assessment limits.[25] In Tennessee, many municipalities had limits imposed on property tax rates until 1972. Such limits were imposed in the private acts that authorized municipal property tax rates and by "statutory mayor/alderman charters drafted over 100 years ago."[26] These rate limitations ended with the passage in 1972 of "Question Three" which amended the State Constitution (Article II, Section 28) and allowed a property classification system.

The 1972 amendment provided for the classification of property into three classes: real, tangible personal, and intangible personal. The amendment also subdivided the first two classes of property into subclasses: commercial and industrial, residential and farm, and utility. These class and subclasses are assessed at the following rates:

	Property Subclassification		
Class	**Real**	**Tangible**	**Intangible**
Industrial & Commercial	40%	30%	5%
Farm & Residential	25%	5%	5%
Utility	55%	55%	5%

[25] National Conference of State Legislatures (1997), pp. 12-13.
[26] Bingham (1986), p. 113.

ELASTICITY

One of the basic characteristics of a tax is its growth trend over time relative to the growth trend in personal income. If the growth in revenue from a tax without any tax rate changes exceeds the growth in personal income, the tax is characterized as elastic. If it grows slower than personal income, it is characterized as inelastic. When local government officials express concern and disappointment when revenues do not keep pace with growing expenditure demands, they are, often without realizing it, dealing with what is clinically a revenue elasticity problem. The elasticity of major local taxes is therefore extremely important since the failure of a major tax to automatically generate sufficient revenue growth will ultimately require reductions in the real level of services, or tax rate increases, or some combination of the two.

This section of the report is, with a few minor exceptions, the same as previously reported in a report on state-shared taxes (Green et al. 2000, see pages 36-40). The major difference relates to the use of more recent data to estimate tax elasticities.

The purpose of the original study on the elasticity of the property tax was to provide information on the viability and characteristics of a state property tax, which does not currently exist. The results of that study estimated the income elasticity (tax elasticity) of the property tax base in Tennessee (total local property assessments) at 1.08.[27] This measure implies that over the long run, a statewide local property tax base would grow faster than Tennessee personal income. Therefore a state property tax such as a fixed $1 per $100 of assessed value[28] would generate a flow of revenue to the state that would grow slightly faster than personal income.

The elasticity measure calculated for a statewide property tax base, recalculated at 1.12 using data for 1986 through 1998, is not an appropriate measure of the elasticity of each county's property tax base or of each county's property tax. This follows for two reasons:[29]

1. Property values (and ultimately assessments) and personal income grow at different rates in different counties. Some grow more slowly than the statewide average, some at the same rate, and some at rates higher than the statewide average. These differences result in different property tax base elasticities. An evaluation of the tax elasticity of each county's property tax base using a comparable period of time to that used in calculating the elasticity of a state property tax base shows that 16 counties have estimated elasticities below .75, 34 have elasticities greater than .75 but less than 1 (unity), 19 have elasticities greater than 1 but less than 1.25, and 26 have elasticities greater than 1.25.[30] Table 3 shows the resulting elasticities for each county. They are based on

[27] The estimate was based on data for 1986-1997. See ***Income Elasticity of Tennessee's Tax System***, Tennessee Advisory Commission on Intergovernmental Relations (July 1999), p. 9.

[28] Local tax rates are not fixed and are frequently rolled back after reappraisals. The estimated elasticity figure of 1.12 assumes no roll back of a state tax through reappraisal cycles.

[29] It is extremely important to distinguish among (1) statewide total local property assessments, (2) individual county assessments, and (3) individual and state-wide county property tax collections.

[30] County personal income data was obtained from the Bureau of Economic Analysis at website http://www.bea.doc.gov/bea/regional/reis/cal_3.htm, revised data June 15, 2000. Assessment data is from various issues of *Tax Aggregate Report of Tennessee*, a publication of the State Board of Equalization. For the regression procedure used, see TACIR (July 1999), p. 4.

regressions that use local assessments and local personal income. Interested readers are invited to scan Appendix A for the detailed regression results.[31] It should be noted that use of an alternative measure of each county's local property tax base, one that utilizes sales ratio study information, results in generally lower elasticity estimates. See Appendix B for details.

Table 3. Tennessee County Property Tax Elasticity Coefficients, 1986-1998

County	Elasticity Coefficient	County	Elasticity Coefficient	County	Elasticity Coefficient
Anderson	1.331	Hamilton	1.074	Morgan	0.747
Bedford	1.334	Hancock	1.163	Obion	0.978
Benton	0.749	Hardeman	0.972	Overton	0.976
Bledsoe	0.464	Hardin	0.742	Perry	1.241
Blount	1.353	Hawkins	1.348	Pickett	0.931
Bradley	0.683	Haywood	0.898	Polk	0.801
Campbell	0.965	Henderson	1.086	Putnam	1.322
Cannon	0.889	Henry	0.652	Rhea	1.475
Carroll	0.917	Hickman	0.598	Roane	1.149
Carter	1.108	Houston	1.353	Robertson	1.244
Cheatham	1.450	Humphreys	0.992	Rutherford	0.924
Chester	0.787	Jackson	0.807	Scott	0.876
Claiborne	0.861	Jefferson	1.167	Sequatchie	0.570
Clay	0.825	Johnson	0.895	Sevier	1.715
Cocke	0.783	Knox	0.978	Shelby	1.373
Coffee	1.075	Lake	0.401	Smith	1.230
Crockett	0.576	Lauderdale	1.118	Stewart	1.251
Cumberland	1.687	Lawrence	0.858	Sullivan	0.897
Davidson	0.901	Lewis	1.528	Sumner	1.379
Decatur	0.921	Lincoln	1.269	Tipton	1.171
DeKalb	1.564	Loudon	1.095	Trousdale	0.887
Dickson	1.547	McMinn	0.921	Unicoi	1.521
Dyer	1.605	McNairy	0.756	Union	1.078
Fayette	1.035	Macon	0.686	Van Buren	0.571
Fentress	0.563	Madison	0.959	Warren	0.992
Franklin	1.266	Marion	0.908	Washington	1.153
Gibson	1.027	Marshall	1.436	Wayne	0.594
Giles	0.990	Maury	0.814	Weakley	1.295
Grainger	0.520	Meigs	1.552	White	1.146
Greene	0.959	Monroe	1.597	Williamson	1.472
Grundy	0.803	Montgomery	1.619	Wilson	1.221
Hamblen	0.824	Moore	0.737		

[31] The regression results are somewhat distorted because of varying reappraisal cycles and dates among the counties. Reappraisals occur every 4-6 years, with more frequent reappraisals occurring in large counties (by population). The data used to measure total county assessments is therefore less than ideal because of its failure, on an annual basis, to properly reflect the growing nominal value of property.

2. In contrast to most state and local taxes that have fixed tax rates but growing tax bases,[32] local property tax rates are generally, not always, **reduced** following reappraisals of property. Property tax rate reductions following reappraisals are not required by state statutes. However, state statutes do require that following a general reappraisal of property, local officials must determine a new certified tax rate that when applied against total local assessments that are based on the new appraised property values, will provide the same tax revenue as during the previous year.[33] This certified tax rate cannot be increased until the local government publicly advertises its intent to exceed the certified tax rate. This statutorily required process is popularly known as "truth in taxation."[34]

As a result of the truth in taxation requirement, retaining the pre-reappraisal tax rate after a reappraisal is politically difficult and therefore historically infrequent. While tax rates in years after reappraisal programs tend to drift back up as local governments attempt to tap more of the growth in the tax base that was denied to them during the years between reappraisals, the process of catch-up is never complete. The result is that the local property tax system is somewhat hamstrung in its ability to deliver revenue growth equal to the underlying growth in property values.

Some recent data supports this assertion. Table 4 shows before and after property tax rates following recent reappraisals in Tennessee's four largest metropolitan counties:. Shelby County, the Metropolitan Government of Nashville Davidson County, Hamilton County, and Knox County. With the exception of Shelby County, the reappraisals all resulted in lower property tax rates after reappraisal than before.

Table 4. Results of Recent Reappraisals

County	Reappraisal Year	Tax Rate In Year Prior To Reappraisal	Certified Rate After Reappraisal	Tax Rate Actually Levied
Davidson/Nashville	1997	$4.50	$3.58	$4.12
Hamilton	1997	$3.22	$2.93	$2.93
Knox	1997	$3.16	$2.77	$2.77
Shelby	1998	$3.16	$2.82	$3.54

Source: Tennessee Comptroller of the Treasury

The Metropolitan Government of Nashville Davidson County completed a reappraisal program in 1996. The tax rate in the year prior to reappraisal was $4.50 per $100. The certified tax rate after reappraisal was only $3.58. Since the Metropolitan Government needed more funds than

[32] From a combination of inflation and real growth.
[33] T.C.A. 67-5-Part 17. The process excludes the value of new construction, improvements and deletions.
[34] P. C. #253 of 1979.

would otherwise have been generated by the after-reappraisal certified tax rate and their now larger tax base, the local government council voted to raise the tax rate above the certified rate to $4.12 per $100. However, this rate was still less than the tax rate in the previous year. In fact, the tax rate for recent fiscal year 1998-99 ($4.24) was less than the rate ten years earlier. In fiscal year 1989-90 the tax rate was $4.81.

The result of the statutory requirement mandating the calculation of a certified tax rate and its publication following reappraisal and the infrequency of reappraisals leaves most local governments without a means to fully utilize the underlying elasticity of the property tax base itself. Therefore the elasticity of most local property taxes is effectively less than the elasticity of the underlying local property tax base.

Two additional pieces of information are offered in support of this argument. Table 5 presents data showing that the average[35] nominal property tax rate in Tennessee over the period 1986-1995 actually declined. Therefore the growth of property tax revenue and the income elasticity of property taxes failed to keep up with the corresponding values for the property tax base (total assessments).

Table 5. Local Property Tax Statistics

Year	Total Assessments	Total Local Property Taxes	Average Nominal Tax Rate Per $100
1986	$28,732,578,324	$1,125,415,000	$3.92
1987	$31,134,356,650	$1,199,640,000	$3.85
1988	$32,505,221,504	$1,319,588,000	$4.06
1989	$36,466,514,084	$1,457,942,000	$4.00
1990	$38,312,173,230	$1,548,196,000	$4.04
1991	$43,109,173,565	$1,631,126,000	$3.78
1992	$44,671,882,962	$1,743,162,000	$3.90
1993	$49,593,317,405	$1,857,901,000	$3.75
1994	$51,685,778,729	$1,933,185,000	$3.74
1995	$53,915,043,325	$1,987,360,000	$3.69

Source: Tennessee Comptroller of the Treasury

As a final evaluation of the growth limitations built-into the local property tax as distinct from the local property tax base, a regression was run to estimate the income elasticity of total local property tax revenue, using data unadjusted for tax rate changes.[36] Using unadjusted data for the period 1986 through 1995, a period during which a minority of individual county and city property tax rates rose despite the restrictions imposed by the reappraisal process, the estimated income elasticity for total local property taxes[37] was only .97.

[35] Not true for each and every county.
[36] This would normally result in an upward bias of the estimated elasticity.
[37] Property tax data from ***County and Municipal Finances***, an annual publication of the State Comptroller's Office.

While the Tennessee property tax system might be subject to less direct limitation compared to many other states, it is subject to several restrictions, statutory and political, that severely limit its usefulness as a viable source of revenue for funding the growing needs of local government.

STABILITY / VOLATILITY

While the long-run income elasticity of a tax is a critical concern to local tax officials, so is an appreciation of a tax's short-run behavior over the business cycle. A tax that moves in the opposite direction to the business cycle or with less variability than the overall economy can provide a degree of revenue stability and enable local government to avoid spending cuts during the worse possible time, a recession.

In contrast, a tax that mirrors changes in economic activity but with more volatility can make an already bad situation worse. In the absence of a significant rainy day fund (also known as a revenue fluctuation reserve fund, a luxury found in few state budgets and still fewer local government budgets), a volatile tax whose behavior otherwise follows but in a magnified manner the general direction of an economic slowdown can place a local government budget under great short-run stress.

In general, taxes that have positive elasticities possess the unfortunate short-run characteristic of high volatility, relative to economic activity in general and other, less volatile taxes. One good feature of a tax is offset by one bad feature.[38] Balancing these two characteristics off against one-another is fiscally and politically challenging. While some might prefer a local tax structure that produces more than enough revenue growth to cover growing expenditure needs, the ultimate price to pay will be the real possibility of a fiscal crisis during a recession.

Analyzing the stability/volatility issue of the property tax is difficult because the tax base, composed of taxable assessments, is artificially constrained over time. Once reappraisals do occur, official property values jump and reflect the cumulative effect of annual property appreciation that had been occurring over several years.[39] Such official "jumps" in values will, by themselves, make official annual measures of assessments more volatile than the underlying but generally unmeasured annual property values. Because of this problem, the stability/volatility behavior of the property tax was evaluated using two different measures of assessments:

(1) annual assessments, and
(2) adjusted annual assessments.[40]

The volatility of both the adjusted and unadjusted property tax base is measured using trend variability, a statistical measure of the volatility or variability of a tax base over the business cycle. The procedure followed was to first estimate for each county the average annual growth of property tax assessments, measured using both adjusted and unadjusted assessments. This was accomplished by regressing the natural log of the tax base on a linear time trend. The

[38] Some of course would say that an inelastic tax is not necessarily bad; it forces officials to publicly increase tax rates, generally only with the approval of the electorate.
[39] Of course, the opposite could also occur, and a reappraisal could show a decline in property values if general property values had been declining since the last reappraisal.
[40] Adjusted by dividing reported assessments by appraisal ratios provided by the Division of Property Assessments, Office of the State Comptroller.

volatility of the estimated annual growth for each county was then evaluated using the standard deviation of calculated residuals.[41]

Results

The results are posted in Table 6. Table 6 also includes measures of the volatility of the local option sales tax and county personal income. These are baselines against which to interpret estimates of the volatility of local property tax bases. It must also be noted that in a certain sense, and despite the implications of the data in Table 6, property taxes represent the most predictable source of revenue to local governments. No other tax base has the advantage of being known in advance. This cannot be said for any other major source of local government revenue.[42]

The results can be interpreted as explained in the following example for Davidson County. In Davidson County, personal income grew at a trend rate of 6.5 percent over the period investigated.[43] However the actual growth of personal income in each year varied from this trend growth figure. A measure of the amount of variability, or volatility, that occurred is provided by the trend variability figure calculated and shown in Table 6, namely 1.1 percent. The trend variability values for Davidson County's local sales tax base and adjusted assessments are 3.7 percent and 7.8 percent respectively. Therefore, the data show that the Davidson County local sales tax base exhibited more volatility over the period studied than personal income; and that Davidson County adjusted assessments exhibited more volatility than the local sales tax base.

As expected, the volatility of adjusted assessments was generally lower than for unadjusted assessments (higher percentage values reflect higher volatility). The measure of volatility for adjusted assessments was lower in 80 out of 95 counties. However, adjusted assessments still showed more volatility than local sales tax bases. Only 18 out of 95 counties had lower volatility measures for adjusted assessments than for their local sales tax base. This result requires further discussion.

While assessments were adjusted using appraisal-sale ratio studies, it must be pointed out that such studies are not completed each year for each county. During the period analyzed, ratio studies in some counties were completed every two years, while in others only every 4 years.[44] The result is that the data was not adjusted annually for the underlying changes in property values that were actually occurring each year. The adjusted data, as a result, still exhibits some uneven annual jumps over the period studied. This probably explains why the results displayed in Table 6 show adjusted property tax assessments more volatile than the local sales tax base tax in most counties. However, it should also be noted that even with fully adjusted annual measures of county assessments, if they were available, the property tax base in some counties might still be more volatile than the sales tax base. County level property values can frequently experience rapid appreciation during periods of general economic calm, reflecting the results of a combination of fast population growth or commercial activity and property speculation.

---

[41] See Dye, 1991.
[42] For similar conclusion, see Tannenwald (2001).
[43] The trend or average growth rate itself is not reported in Table 6, only the trend variability.
[44] Currently, appraisal ratio studies are conducted in each county at least every two years.

Final Note: Because of the "truth in taxation" statutes that affect property tax administration in Tennessee, both the discussion on the tax's elasticity and volatility are partly academic. They are academic because the underlying annual market value of property in each county is not actually subject to taxation; only the official assessment.

Table 6. Volatility of the Local Property Tax Base, Sales Tax Base and Personal Income By County (Based on Data for 1986-1999)

County	Local Sales Tax Base	Personal Income	Unadjusted Assessments	Adjusted Assessments
Anderson	5.9%	2.8%	6.9%	6.3%
Bedford	4.0%	1.8%	13.0%	6.3%
Benton	4.2%	2.4%	6.4%	6.4%
Bledsoe	8.8%	1.1%	11.2%	10.9%
Blount	1.0%	1.6%	14.6%	4.2%
Bradley	5.7%	1.4%	6.3%	3.7%
Campbell	3.7%	0.5%	7.4%	5.2%
Cannon	3.7%	1.3%	6.4%	8.5%
Carroll	4.1%	2.4%	5.6%	4.9%
Carter	3.0%	2.1%	10.0%	5.0%
Cheatham	2.9%	1.7%	13.0%	6.8%
Chester	7.0%	2.1%	5.4%	4.0%
Claiborne	4.8%	1.7%	6.7%	5.4%
Clay	3.7%	4.7%	6.1%	6.6%
Cocke	1.7%	2.8%	6.2%	6.7%
Coffee	2.1%	1.0%	4.3%	3.7%
Crockett	3.8%	2.2%	5.5%	4.4%
Cumberland	2.0%	1.2%	22.1%	7.3%
Davidson	3.7%	1.1%	7.4%	7.8%
Decatur	2.6%	0.8%	5.6%	4.9%
DeKalb	9.7%	2.0%	7.6%	4.8%
Dickson	4.3%	1.1%	14.5%	6.1%
Dyer	3.2%	2.8%	16.4%	4.4%
Fayette	9.1%	1.3%	5.1%	8.1%
Fentress	3.7%	2.8%	6.3%	4.5%
Franklin	4.1%	1.6%	5.6%	5.2%
Gibson	2.3%	1.5%	6.2%	5.4%
Giles	3.9%	1.7%	9.8%	5.5%
Grainger	8.1%	2.4%	9.7%	7.2%
Greene	2.5%	1.2%	8.9%	7.5%
Grundy	10.7%	1.1%	5.7%	5.3%
Hamblen	4.2%	2.1%	4.6%	4.6%
Hamilton	2.6%	1.5%	8.3%	3.9%
Hancock	5.2%	2.8%	6.9%	11.1%
Hardeman	3.2%	2.4%	5.0%	4.2%
Hardin	2.5%	1.1%	10.8%	4.2%
Hawkins	4.2%	2.8%	8.9%	5.4%
Haywood	2.6%	1.5%	5.3%	6.4%
Henderson	5.1%	1.3%	6.9%	6.8%
Henry	3.6%	1.0%	8.0%	6.9%

Table 6. Volatility of the Local Property Tax Base, Sales Tax Base and Personal Income By County (Based on Data for 1986-1999) (continued)

County	Local Sales Tax Base	Personal Income	Unadjusted Assessments	Adjusted Assessments
Hickman	5.2%	1.6%	8.8%	8.5%
Houston	4.9%	2.4%	7.9%	7.7%
Humphreys	3.2%	1.6%	6.3%	3.9%
Jackson	4.3%	1.7%	7.1%	5.3%
Jefferson	4.9%	1.8%	6.6%	6.0%
Johnson	5.5%	3.0%	8.0%	9.5%
Knox	5.7%	1.4%	5.3%	2.6%
Lake	8.2%	3.7%	6.0%	5.3%
Lauderdale	4.3%	1.3%	8.2%	7.7%
Lawrence	3.5%	2.7%	7.6%	5.0%
Lewis	1.9%	4.2%	17.5%	4.1%
Lincoln	3.1%	2.7%	16.8%	3.9%
Loudon	1.7%	1.4%	5.1%	3.3%
McMinn	2.0%	1.6%	7.7%	4.8%
McNairy	5.3%	0.6%	5.1%	3.1%
Macon	3.2%	3.1%	6.0%	2.4%
Madison	3.5%	1.0%	6.3%	3.6%
Marion	3.4%	0.6%	11.1%	7.5%
Marshall	9.0%	3.2%	10.4%	5.3%
Maury	6.3%	3.4%	10.7%	8.4%
Meigs	11.4%	2.3%	15.4%	7.1%
Monroe	3.8%	2.1%	14.3%	5.0%
Montgomery	3.1%	1.7%	12.7%	3.9%
Moore	3.1%	1.6%	4.2%	4.1%
Morgan	10.1%	4.8%	5.5%	4.6%
Obion	3.1%	1.5%	6.0%	8.2%
Overton	1.6%	2.0%	9.5%	7.1%
Perry	5.4%	1.3%	13.4%	7.3%
Pickett	6.7%	4.9%	7.6%	9.3%
Polk	11.8%	2.2%	11.0%	8.5%
Putnam	3.6%	1.9%	13.7%	4.4%
Rhea	2.3%	1.4%	8.3%	5.7%
Roane	6.0%	2.6%	7.9%	4.7%
Robertson	3.1%	1.7%	8.2%	8.4%
Rutherford	4.6%	1.6%	6.2%	5.2%
Scott	2.8%	1.9%	5.7%	5.7%
Sequatchie	2.7%	1.2%	8.6%	6.2%
Sevier	3.6%	1.6%	22.8%	8.6%
Shelby	3.1%	1.4%	13.6%	6.7%
Smith	4.6%	0.8%	11.3%	10.8%
Stewart	5.3%	2.2%	7.5%	4.3%

Table 6. Volatility of the Local Property Tax Base, Sales Tax Base and Personal Income By County (Based on Data for 1986-1999) (continued)

County	Local Sales Tax Base	Personal Income	Unadjusted Assessments	Adjusted Assessments
Sullivan	2.6%	1.8%	5.0%	2.8%
Sumner	7.7%	0.9%	17.5%	6.4%
Tipton	2.7%	1.1%	4.9%	4.4%
Trousdale	3.3%	0.9%	7.9%	7.0%
Unicoi	2.6%	2.8%	7.6%	5.9%
Union	4.5%	1.6%	5.8%	6.0%
Van Buren	11.0%	1.2%	8.2%	11.6%
Warren	1.8%	1.4%	7.3%	6.6%
Washington	3.2%	1.3%	8.5%	5.1%
Wayne	4.4%	3.2%	5.6%	5.0%
Weakley	3.4%	1.5%	8.7%	3.5%
White	3.4%	1.4%	8.0%	7.5%
Williamson	8.4%	1.0%	22.6%	9.2%
Wilson	9.1%	0.8%	7.6%	8.7%
Statewide Total	**2.9%**	**1.3%**	**2.5%**	**4.0%**

Sources: TACIR and TN Comptroller of the Treasury.

EQUITY

The traditional economist method of gauging or measuring the equity of a tax on households is to analyze tax burdens by income level.[45] Those specializing in property tax administration have developed additional unique measures of equity. These additional measures of equity will be noted in the discussion that follows. To distinguish these unique equity measures from their more traditional cousins, they will be identified as assessment horizontal equity and assessment vertical equity.

The material that follows refers primarily to equity issues involving property tax burdens on homeowners. This limitation follows from the difficulties involved in tracing the incidence of property tax liabilities imposed on both residential rental property and general business property. Such liabilities logically must be shifted either forward onto consumers (and renters) or backward onto owners and workers. Tracing such amounts by household income level requires multiple assumptions that make the process problematic.[46]

One school of tax incidence argues that since the distribution of ownership of overall property resources is skewed to upper income groups, such groups ultimately shoulder most of the property tax burden. Therefore the property tax is progressive in its incidence.[47] This argument hinges on the assumption that owners of such property are unable to shift property taxes on their property wealth onto others. While the distribution of property taxes on business property is an important concern, this report will only allude to its existence and leave the resolution of the incidence of such taxes to another day.[48]

Horizontal Equity

Horizontal equity is traditionally concerned with the distribution of a tax among households that are similar in their ability to pay, generally, but not always, as measured by household income. The principal of horizontal equity holds that households with similar taxpaying ability should face similar tax burdens.[49] Examples of horizontal equity issues would include: other things being equal (family size, wealth, etc), households with similar consumption patterns should face the same sales tax burden; households with the same income should pay the same amount of income tax; households with equally-valued homes should pay the same property tax if within the same taxing jurisdiction.

---

[45] See an earlier TACIR analysis by Green (1982b), pp. 46-49.

[46] For an example of a simple set of assumptions used in tracing the incidence of property taxes, see Ettlinger (1996), Appendix V, pp.5-6.

[47] Known as the "new" view of the incidence of the property tax. For a more detailed discussion, see Green (1982), pp. 84-87.

[48] The incidence of business property taxes remains unsettled. See Bahl (1996), Chapter 7.

[49] Some exceptions to this general rule include tobacco taxes, as well as taxes on alcohol and beer. Consumption of these products imposes social or external costs on society and government has a recognized role to curtail their use through market intervention (excise taxes that raise prices and reduce consumption). In this situation, one desired objective (horizontal equity) conflicts with another government objective, adjusting for externalities.

Evaluating the horizontal equity of the property tax can be approached from three different directions. The tax can be evaluated based on

(1) the degree to which properties with equal or similar market values have equal or similar property tax liabilities (assessment horizontal equity),
(2) the degree to which households with similar income face similar property taxes, and
(3) the degree to which households with similar wealth face similar property taxes. Since the most accessible information available on these issues relates to the assessment horizontal equity issue, it is addressed first.

Horizontal Equity-Results of Appraisal Ratio Studies[50]

Appraisal ratio studies are conducted in most states as part of an overall program to insure fair and uniform property tax administration. In Tennessee, appraisal ratio studies are conducted in each county at least every two years.[51] The data from these studies are used to evaluate the overall reliability and fairness of the property assessment and appraisal process in each county.

County appraisal ratio studies are based on information gleaned from sales of property during a given period of time. Each sale provides information with which to calculate the ratio of the property's appraised value to its sales price. Such ratios are generally less than one as a result of market values rising over time relative to a property's appraised value, unless property is reappraised very frequently.

In a perfect world, all homes in a given tax jurisdiction with the same market value should have the same assessed value and incur the same property tax liability (equal treatment of equals).[52] In such a perfect world, all calculated appraisal-sale ratios should be approximately the same, and any statistical measure of variation in appraisal-sale ratios should be zero (or near zero).

The most common measure of such dispersion (variation) in appraisal studies is the coefficient of dispersion (COD).[53] The COD is a measure of the relative equality or inequality of appraisals or assessments in a given taxing jurisdiction. The lower the coefficient of dispersion, the higher the degree of horizontal equality and fairness in appraisals and assessments. CODs of 20 or less are considered acceptable.[54]

---

[50] Also knows as sales ratio studies, and disparity studies. An appraisal-sales ratio is calculated by dividing the appraised value of a property by its market price. A disparity ratio is measured by dividing the market price of a property by its appraised value.

[51] By the Division of Property Assessments under the direction of the State Board of Equalization. For a description of the ratio study program in Tennessee, see Comptroller of the Treasury (1981).

[52] An opinion not shared by the U. S. Supreme Court that upheld California's Proposition 13 assessment scheme that provides for the priority of acquisition value over market value. See Sexton, p. 100.

[53] Other measures include the coefficient of variation, the standard deviation, the average absolute deviation, and the price-related differential (which is used later in the discussion on the vertical equity of the property tax).

[54] For a more detailed discussion of the COD and other statistics used in property tax administration, see Green (1982b) pp. 47-49, Utah State Tax Commission (1996), and Gloudemans.

Table 7. Appraisal Ratio Statistics for Selected Counties, 1999 Data

County	# Of Observations	Median Ratio	COD
Carroll	221	0.8975	9.48
Claiborne	192	0.9000	15.91
Cumberland	841	0.9083	15.14
Davidson	10365	0.9113	10.94
Decatur	114	0.8988	18.26
Fayette	356	0.8535	14.17
Franklin	380	0.8960	9.27
Hamilton	4969	0.8964	15.39
Hancock	30	0.9523	15.17
Knox	5808	0.9332	9.91
Loudon	582	0.8932	14.46
Marshall	432	0.9414	12.56
Monroe	311	0.9275	15.08
Montgomery	2842	0.9590	8.40
Obion	317	0.9150	14.43
Perry	81	1.0014	15.32
Robertson	836	0.9368	9.55
Sullivan	1928	0.9126	12.23
Unicoi	167	0.9011	11.28
Union	125	0.8986	12.97
Van Buren	27	0.8500	16.51

Source: TN Comptroller of the Treasury.
COD= coefficient of dispersion.

For tax year 1999, the Division of Property Assessments completed 27 appraisal ratio studies. Twenty-one of the studies were for counties that had last been reappraised in 1997. Selected results of the appraisal ratio studies for these 21 counties are reproduced in Table 7. Data in the table reflects statistics for improved residential property sales only.[55]

The results imply that horizontal equity is within generally acceptable limits in most of the counties included in the table. The CODs in most urban counties were 15 or less. None of the 21 counties had a COD over 20. So while total uniformity is an attractive goal in property tax administration, the results of the 1999 appraisal ratio studies reflect acceptable levels of uniformity in each of the 21 counties.[56]

[55] The appraisal ratio studies provide statistical information on all types of county real estate activity; total sales, residential only, farm only, commercial and industrial only, improved and unimproved property.
[56] Data from appraisal ratio studies completed in 2000 show similar results. Current results show definite improvement over results found in older studies. See Green (1982), p. 48.

Horizontal Equity-Income and Wealth Based Evaluations

If the proper basis for evaluating horizontal equity is income, then horizontal equity requires that households with similar income pay similar property taxes. If the proper measure of ability to pay is wealth, then horizontal equity requires that households with similar wealth pay similar property taxes. Since households within the same taxing jurisdiction with similar incomes or similar wealth do not necessarily pay similar property taxes, the property tax fails on this count.

Similar households, within the same taxing jurisdiction and with similar current income, face different property tax liabilities for various reasons: some will be living in homes that have not been recently reappraised and are under appraised relative to similar housing with official appraisals more closely approximating their true market value; some households with similar income will have less expensive or more expensive housing preferences.

Since the property tax is not imposed on all forms of wealth, property tax liabilities will vary based on the distribution of a household's wealth holdings. While households with similar income may have similar levels of wealth, the relative importance of home ownership in asset holdings of families can vary. In fact, since residential property has declined over time[57] as a share of total households assets, the impact of property taxes on one form of wealth only results in several distortions and a failure to achieve either horizontal equity or vertical equity.

Vertical Equity

Vertical equity is concerned with the distribution of a tax burden among households with different incomes or different abilities to pay. A tax that imposes rising relative household tax burdens as income rises would be classified as progressive. A regressive distribution implies the opposite. A proportional tax implies that a tax or group of taxes represents a fixed proportion of income, regardless of its level.

Controversy continues to surround the question of the distribution of property tax burdens among households, by income level. One of the least liked aspects of the property tax is its disregard of a taxpayer's ability to pay. While the distribution, for the most part, appears proportional to income, the impact on some households can be harsh and clearly unfair. Inflationary increases in property values can result in substantial property tax liabilities for certain low to moderate-income homeowners, especially those on fixed income. In recognition of this potentially "offensive" result or situation, most states provide some type of property tax relief program.

In some states, the relief is granted through a refundable tax credit program that is part of a state's income tax. In others, stand alone circuit breaker programs have been developed. The programs are designed to offset the somewhat regressive and sometimes oppressive or almost confiscatory impact of property taxes on low to low-moderate income households.

[57] Kennickell (January 2000). See Table 7 on p. 15. Primary residential property declined as a share of total family assets between 1989 and 1998 from 31.9% to 28%.

The Tennessee program is somewhat modest. It provides a limited amount of relief to certain low-income and disabled taxpayers.[58] In 1999, the program provided relief to taxpayers with income from all sources of less than $11,360. The relief granted equaled the local property tax imposed on the first $18,000 of property value ($4,500 of assessed value). The total program amounted to only $9.5 million in 1999. So to a small degree, this program blunts part of the burden of the property tax on certain low-income taxpayers.

Various data exists to measure the impact of property taxes by income. Three different sources are used in this report. While reflecting some differences, especially at low-income levels, the data appear to support the proposition, that the property tax is nearly proportional over a wide range of incomes.[59] All three use a measure of current income as a basis for calculating relative tax burdens.

District of Columbia Tax Burden Study

The District of Columbia publishes an annual report that estimates tax burdens in the District of Columbia and in the largest city in each state.[60] The estimates are for a hypothetical family of four at each of five different income levels.[61] Estimated property tax burdens for a family of four living in Memphis Tennessee at each of five different income levels are shown in Figure 2. While the relative tax burdens are not the same, they are fairly similar and can reasonably be described as having a tax incidence that is roughly proportional over the range of incomes included in Figure 2.

Internal Revenue Service Data

The Internal Revenue Service provides somewhat detailed income and tax information by state.[62] The data includes itemized deductions by income level for seven income brackets, by type of itemized deduction, including taxes paid. The data does not provide a detailed breakdown on taxes paid (income taxes, real estate taxes, personal property taxes, or other, as listed on Schedule A of form 1040).

Based on prior detailed analysis of federal income tax returns filed by Tennesseans, real estate taxes represent about 70-75 percent of taxes that Tennesseans who itemize report on Schedule A (Form 1040).63 Using this information to estimate property tax burdens does involve a little stretch, but should provide only a slightly inflated measure of tax burdens over most of the income scale. The income measure used in Figure 2 is federal adjusted gross income.

---

[58] The Tennessee program is administered by the Division of Property Assessments (an agency in the State Comptroller's Office). The average benefit for elderly and disabled persons in 199 was $140. See Division of Property Assessment (2000 Annual Report).

[59] A new view of the overall incidence of property taxes (all property taxes including taxes on business) is that they are progressive. See Green (1982), pp. (Zodrow (2000), p.1805.

[60] Government of the District of Columbia (July 2000).

[61] For a full description of the assumptions used, see District of Columbia (2000), Chapter I.

[62] Internal Revenue Service (July 2000).

[63] Chervin (1990), p. A6.

Figure 2. Property Tax Burden For a Family of Four in Memphis as Percent of Income, by Income Group

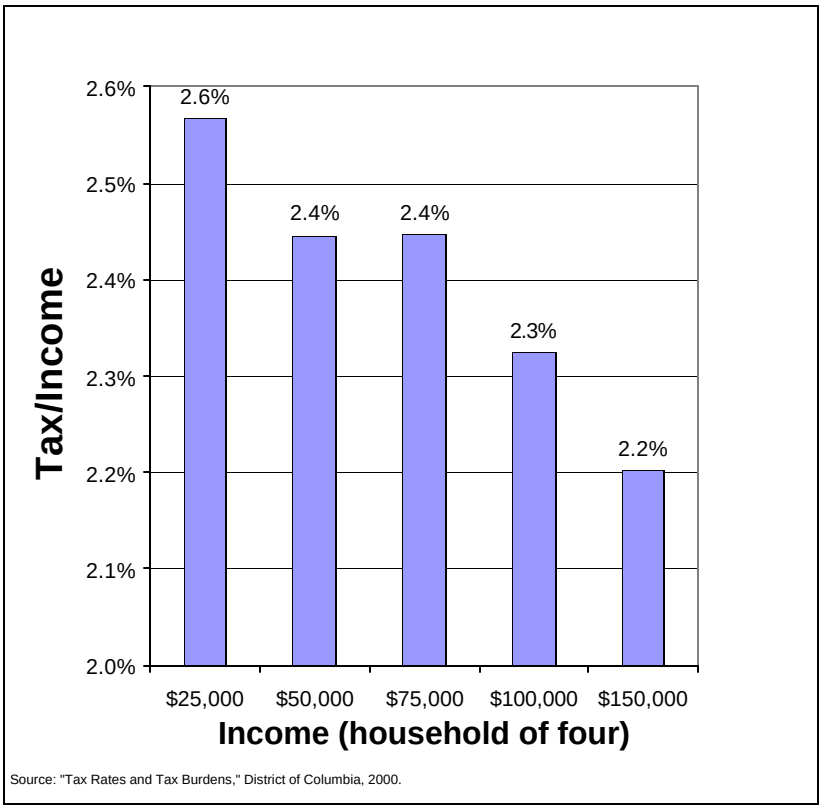
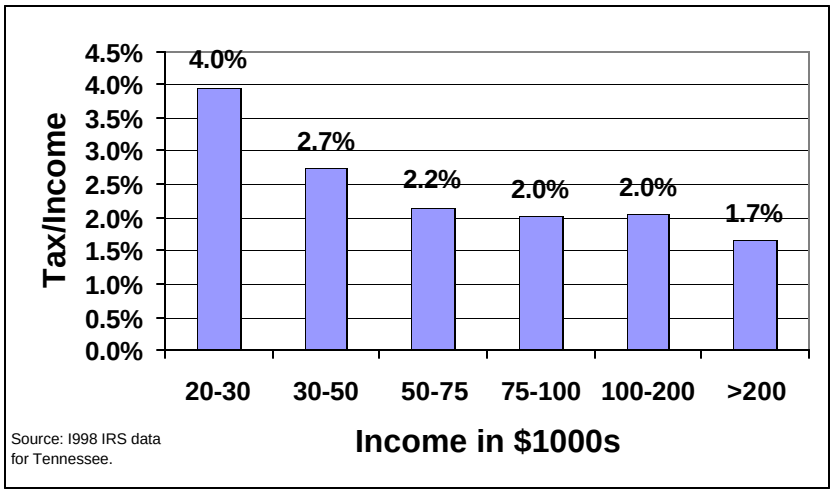


Figure 3 includes six of the seven income brackets included in the Tennessee data reported by the IRS. The lowest income bracket (under $20,000) had the lowest relative number of individuals itemizing their taxes (only 2.7 percent of returns filed with AGI less than $20,000) but a relatively high average amount of itemized taxes ($1,285). Unfortunately, the lowest group includes a disproportionate number of taxpayers who have only temporarily low income (AGI) and some who are far from low income but report, legally, very large single year negative income levels. These types of returns tend to distort statistics for the lowest income bracket. For the income brackets included in Figure 3, while the percentages may be slightly inflated (for reasons already mentioned), the overall distribution of the tax burden over income levels that include a majority of Tennessee households, is proportional.

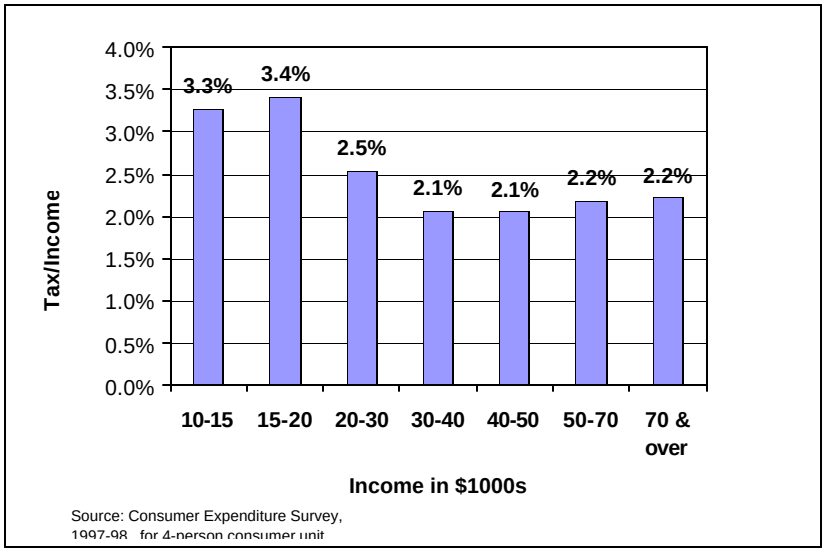
Figure 3. Estimated Property Tax Burdens-Based on IRS Data



Consumer Expenditure Survey Data

The Bureau of Labor Statistics conducts an annual survey of consumer expenditures known as the Consumer Expenditure Survey or C.E.S.[64] The survey consists of both a diary survey (that is maintained by participants in the survey) and an interview survey. The data from both are then integrated and form the basis for the data used in this section. Among the many pieces of expenditure data that are included in the survey are detailed expenditures on household operations and ownership. The data is not Tennessee specific but does provide useful national data for analyzing the incidence of property taxes by income level.

Figure 4 Tax Burdens-CES Data-4 Person Household



[64] Bureau of Labor Statistics (2000).

The distribution of property taxes by income based on the CES data for a household of four[65] is consistent with the distributions shown in both Figure 2 and Figure 3. Over a wide range of incomes, the incidence of the tax is approximately proportional. In the absence of any data that is in contradiction to data used to develop Figures 2-4, it is reasonable to describe the local property tax as proportional over a broad range of incomes, but possibly regressive at both very low income and very high income levels (tax rates fall as income rises).

Assessment Vertical Equity

Assuming that wealth is one measure of ability to pay, and home ownership represents the primary asset of most households, the question arises as to whether lower price homes tend to have lower, equal, or higher appraisal ratios than higher priced homes. A situation in which higher-priced properties have average or median appraisal ratios higher than lower-priced properties would be characterized as progressive. A situation in which lower-priced properties have average or median appraisal ratios higher than higher-priced properties would be characterized as regressive.

A common statistic used to evaluate this type of inquiry on assessment bias is the price-related differential or PRD.[66] A PRD value greater than 1.0 is indicative of a regressive tendency in the appraisal process, a PRD less than 1.0 is indicative of a progressive tendency. A regressive PRD would be considered evidence of an inequity favoring higher priced properties.[67]

Two separate pieces of information from the 1999 appraisal ratio studies completed by the Division of Property Assessment shed light on this inquiry. Data on PRDs by county is available for the same 21 counties analyzed previously. The results of the appraisal ratio studies show PRD values are all generally greater than 1.0. Table 8 shows that only one PRD was under 1.0 (.99 for Unicoi County), six were equal to 1.0, and the balance of PRDs were greater than 1.0. The average for the 21 counties was 1.013. The distribution of PRD values for these counties suggests a somewhat mild degree of regressive bias in the appraised values of properties in these counties.[68] Again, as was true for CODs, current PRD values appear to have improved over time as overall property tax administration has improved.[69]

Data supporting an assessment vertical equity regressive bias is also present in detailed appraisal ratio data for Davidson County. The Division of Property Assessments computed appraisal ratio statistics for Davidson County single-family dwellings for fourteen subgroups of property grouped by selling price. This data provides median appraisal ratios and other statistics for each sub sample.

---

[65] Data for other size households reflects a similar pattern.
[66] For a more detailed discussion of the PRD and other statistics used in property tax administration, see Green (1982b), pp. 47-49, Utah State Tax Commission (1996) and Gloudemans (2000).
[67] The PRD is also referred to as the "index of regressive assessment."
[68] Based on the reasonable assumption that the PRD values computed from the sample of county residential properties that sold during the study period are representative of the whole population of count residential properties.
[69] Green (1982), p. 49.

Table 8. Price-Related Differentials for Selected Counties, 1999 Data

County	# Of Observations	Median Ratio	PRD
Carroll	221	0.8975	1.00
Claiborne	192	0.9000	1.00
Cumberland	841	0.9083	1.01
Davidson	10365	0.9113	1.03
Decatur	114	0.8988	1.05
Fayette	356	0.8535	1.00
Franklin	380	0.8960	1.01
Hamilton	4969	0.8964	1.03
Hancock	30	0.9523	1.02
Knox	5808	0.9332	1.00
Loudon	582	0.8932	1.00
Marshall	432	0.9414	1.01
Monroe	311	0.9275	1.02
Montgomery	2842	0.9590	1.01
Obion	317	0.9150	1.02
Perry	81	1.0014	1.04
Robertson	836	0.9368	1.00
Sullivan	1928	0.9126	1.01
Unicoi	167	0.9011	0.99
Union	125	0.8986	1.01
Van Buren	27	0.8500	1.02

Source: Division of Property Assessments.
PRD=price-related differential

Note: Price Related Differentials are calculated by dividing the average appraisal-sales ratio of a stratum of homes by the value-weighted average (appraisal-sales ratios).

The graph in Figure 5 shows that median appraisal-sales ratios decline as property values rise. The median appraisal ratio starts at 1.22 for single-family dwellings selling for $20-30 thousand, averages about .91 for the range $60-250 thousand, and then falls to .85 for dwellings selling for $250 thousand and over. The degree of regressiveness very likely increases the further out one gets from the original appraisal year. Fortunately, reappraisals are redone every four years in the major urban counties. The extent to which assessment vertical equity problems exist in rural counties 3-5 years after an appraisal is not known.[70]

The assessment horizontal and vertical equity problems associated with the property tax is predictable, given the nature of the property tax and its administration. As stated in a previous evaluation of the property tax in Tennessee, "the fundamental problem with the property tax is that it is impossible to achieve the degree of accuracy in the assessment of all types of property that is consistent with general tax equity. Highly precise estimates of market value are not to be expected because of the characteristics of the many types of properties, the market differences for different properties, the characteristics and diversity of real estate markets, and profitability uncertainty about long-lived assets. The predominant characteristic of any general property tax is imperfect equity and the predominant policy issue is how much imperfection can be permitted."[71]

[70] Some small counties reappraise only once every six years.
[71] Green, (January 1982), p.4

Figure 5. Median Appraisal-Sales Ratios By Selling Price, Davidson County, 1999

Source: Unpublished data from the Division of Property Assessments.

Local Property Tax Administration

Tax equity depends to a large extent on the efficiency of property tax administration. This is as true today as it was a hundred years ago. Concern with the efficient administration of local property taxes helps explain the expanded role given to the State Comptroller's Office over the years to provide state oversight over the property appraisal process and local property tax administration. This concern over continued improvement in the process led to a recent resolution (HJR 575 of 2000) that directed TACIR, with the assistance of the Comptroller's Office, "to conduct a study of the duties and responsibilities of the Office of the Assessor of Property and the resources necessary to the office."[72]

The study, which is in its initial stages, will study various elements of the assessment process including:

- General comparative data on and between local offices of the assessor, including historical comparisons,
- A review of the constitutional and statutory mandates and an assessment of state and local compliance with these standards,
- An examination of recommended operational standards from professional assessor organizations and comparison of Tennessee practices to these recommendations,
- An examination of process and procedural "best practices" currently in use by assessor organizations in North America and which, if any, of these could be replicated by Tennessee agencies,
- A review of assessment related initiatives by other states, including a method of determining the adequacy of staffing local assessor offices and an approach to ensuring adequacy of their budgets, and
- Limited survey results from local assessors indicating perceived current performance, need for and barriers to improvement, required additional resources, recommended legislative and administrative rules reforms, and other issues as identified.

[72] HJR 575 of 2000.

The complete text of the Office of the Assessor Study outline, including scope and background, appears as Appendix C of this report.

TAX BASE DISPARITIES

The distribution of the property tax base is very uneven across the state, by county and by municipality. Obvious reasons for such an unequal distribution include variations across counties in: traditional housing and new development patterns, zoning restrictions, retail trade center locations, industrial plant locations, and utility property location. Evidence showing the extent of the variation in property tax bases across counties is presented in Table 9. Table 9 shows per capita effective property assessments[73] by county for 1999.

Table 9. Per Capita Effective Assessments By County

COUNTY	APPRAISAL RATIO	TOTAL ASSESSMENT	ADJUSTED ASSESSMENT	POPULATION 1-Jul-99	PER CAPITA ADJUSTED ASSESSMENTS
ANDERSON	1.0000	$937,004,449	$937,004,449	71,004	$13,197
BEDFORD	0.9000	$364,840,553	$405,378,392	34,905	$11,614
BENTON	1.0000	$138,132,159	$138,132,159	16,497	$8,373
BLEDSOE	1.0000	$117,143,007	$117,143,007	10,945	$10,703
BLOUNT	1.0000	$1,499,296,061	$1,499,296,061	102,785	$14,587
BRADLEY	1.0000	$1,103,086,478	$1,103,086,478	84,126	$13,112
CAMPBELL	1.0000	$393,774,127	$393,774,127	38,466	$10,237
CANNON	1.0000	$110,783,765	$110,783,765	12,248	$9,045
CARROLL	0.8973	$218,982,158	$244,045,646	29,450	$8,287
CARTER	1.0000	$406,287,615	$406,287,615	53,299	$7,623
CHEATHAM	1.0000	$389,476,533	$389,476,533	36,128	$10,780
CHESTER	1.0000	$114,237,676	$114,237,676	14,859	$7,688
CLAIBORNE	0.9114	$254,124,530	$278,828,758	29,747	$9,373
CLAY	0.7902	$56,291,294	$71,236,768	7,268	$9,801
COCKE	0.7595	$240,507,732	$316,665,875	32,291	$9,807
COFFEE	1.0000	$531,535,854	$531,535,854	46,355	$11,467
CROCKETT	1.0000	$155,875,880	$155,875,880	14,077	$11,073
CUMBERLAND	0.9095	$635,547,069	$698,787,322	45,326	$15,417
DAVIDSON	0.9098	$11,034,561,437	$12,128,557,306	530,050	$22,882
DECATUR	0.9520	$101,603,250	$106,726,103	10,788	$9,893
DEKALB	1.0000	$221,218,931	$221,218,931	16,174	$13,677
DICKSON	1.0000	$552,192,365	$552,192,365	43,017	$12,837
DYER	1.0000	$459,984,994	$459,984,994	36,725	$12,525
FAYETTE	0.8884	$350,412,357	$394,430,839	31,441	$12,545
FENTRESS	1.0000	$127,251,701	$127,251,701	16,357	$7,780
FRANKLIN	0.9000	$414,012,972	$460,014,413	37,826	$12,161
GIBSON	1.0000	$499,282,117	$499,282,117	48,030	$10,395
GILES	1.0000	$338,446,355	$338,446,355	29,036	$11,656
GRAINGER	1.0000	$161,614,172	$161,614,172	20,219	$7,993
GREENE	1.0000	$726,467,319	$726,467,319	60,900	$11,929
GRUNDY	1.0000	$98,871,681	$98,871,681	14,046	$7,039

[73] Assessments are adjusted using appraisal-sale ratios to produce comparable assessment data by county. See Leuthold (1990), page 8-11 for a discussion on the use of this measure.

Table 9. Per Capita Effective Assessments By County (continued)

COUNTY	APPRAISAL RATIO	TOTAL ASSESSMENT	ADJUSTED ASSESSMENT	POPULATION 1-Jul-99	PER CAPITA ADJUSTED ASSESSMENTS
HAMBLEN	0.7936	$692,232,374	$872,268,616	54,201	$16,093
HAMILTON	0.8846	$4,363,712,771	$4,932,978,489	294,720	$16,738
HANCOCK	0.9093	$52,344,297	$57,565,487	6,767	$8,507
HARDEMAN	0.8790	$200,664,539	$228,287,303	24,451	$9,337
HARDIN	1.0000	$335,003,431	$335,003,431	25,247	$13,269
HAWKINS	0.9133	$505,169,065	$553,125,003	50,109	$11,038
HAYWOOD	1.0000	$259,774,401	$259,774,401	19,416	$13,379
HENDERSON	1.0000	$243,836,867	$243,836,867	24,767	$9,845
HENRY	1.0000	$359,297,821	$359,297,821	30,091	$11,940
HICKMAN	1.0000	$194,210,716	$194,210,716	21,283	$9,125
HOUSTON	0.9764	$61,706,505	$63,197,977	7,888	$8,012
HUMPHREYS	1.0000	$265,930,724	$265,930,724	17,192	$15,468
JACKSON	1.0000	$96,957,212	$96,957,212	9,643	$10,055
JEFFERSON	0.8684	$440,482,206	$507,234,231	45,104	$11,246
JOHNSON	1.0000	$129,742,366	$129,742,366	16,736	$7,752
KNOX	0.9315	$5,166,073,420	$5,545,972,539	376,039	$14,748
LAKE	1.0000	$51,727,793	$51,727,793	8,131	$6,362
LAUDERDALE	0.9228	$203,864,102	$220,919,053	24,234	$9,116
LAWRENCE	1.0000	$415,594,814	$415,594,814	39,626	$10,488
LEWIS	1.0000	$105,744,274	$105,744,274	11,127	$9,503
LINCOLN	0.9450	$266,535,912	$282,048,584	29,773	$9,473
LOUDON	0.9412	$629,978,504	$669,335,427	39,892	$16,779
MCMINN	1.0000	$681,252,075	$681,252,075	46,395	$14,684
MCNAIRY	1.0000	$223,945,916	$223,945,916	24,312	$9,211
MACON	0.9500	$146,810,152	$154,537,002	18,542	$8,334
MADISON	1.0000	$1,286,939,904	$1,286,939,904	86,752	$14,835
MARION	1.0000	$306,967,203	$306,967,203	26,907	$11,408
MARSHALL	0.9456	$345,025,393	$364,874,570	26,423	$13,809
MAURY	1.0000	$851,547,263	$851,547,263	70,440	$12,089
MEIGS	1.0000	$96,450,175	$96,450,175	10,134	$9,517
MONROE	0.9361	$404,385,567	$431,989,709	35,576	$12,143
MONTGOMERY	0.9607	$1,354,534,096	$1,409,944,932	129,411	$10,895
MOORE	0.8180	$72,982,766	$89,220,985	5,140	$17,358
MORGAN	1.0000	$121,413,211	$121,413,211	18,689	$6,497
OBION	0.9191	$340,124,574	$370,062,642	32,240	$11,478
OVERTON	1.0000	$171,513,771	$171,513,771	19,654	$8,727
PERRY	0.9499	$82,934,336	$87,308,491	7,560	$11,549
PICKETT	1.0000	$50,387,008	$50,387,008	4,711	$10,696
POLK	1.0000	$149,285,448	$149,285,448	15,094	$9,890
PUTNAM	0.8929	$706,014,613	$790,698,413	59,735	$13,237
RHEA	1.0000	$307,848,663	$307,848,663	28,116	$10,949
ROANE	0.9273	$542,665,319	$585,210,093	50,008	$11,702
ROBERTSON	0.9375	$628,265,972	$670,150,370	54,861	$12,215
RUTHERFORD	1.0000	$2,463,782,340	$2,463,782,340	171,401	$14,374
SCOTT	0.9149	$146,467,479	$160,091,244	20,239	$7,910
SEQUATCHIE	1.0000	$125,326,312	$125,326,312	10,846	$11,555
SEVIER	0.8791	$1,525,776,755	$1,735,612,280	65,783	$26,384
SHELBY	1.0000	$12,804,855,475	$12,804,855,475	873,000	$14,668
SMITH	0.8327	$185,230,865	$222,446,097	16,771	$13,264
STEWART	1.0000	$122,621,226	$122,621,226	11,759	$10,428

Table 9. Per Capita Effective Assessments By County (continued)

COUNTY	APPRAISAL RATIO	TOTAL ASSESSMENT	ADJUSTED ASSESSMENT	POPULATION 1-Jul-99	PER CAPITA ADJUSTED ASSESSMENTS
SULLIVAN	0.9119	$2,075,608,150	$2,276,135,706	150,231	$15,151
SUMNER	1.0000	$1,797,606,904	$1,797,606,904	126,009	$14,266
TIPTON	1.0000	$471,466,873	$471,466,873	48,348	$9,752
TROUSDALE	1.0000	$66,705,040	$66,705,040	6,971	$9,569
UNICOI	0.9037	$161,531,685	$178,744,810	17,310	$10,326
UNION	0.8958	$130,797,237	$146,011,651	16,584	$8,804
VAN BUREN	0.8543	$43,580,242	$51,012,808	5,008	$10,186
WARREN	1.0000	$440,562,801	$440,562,801	36,421	$12,096
WASHINGTON	1.0000	$1,527,754,647	$1,527,754,647	102,814	$14,859
WAYNE	1.0000	$127,705,661	$127,705,661	16,413	$7,781
WEAKLEY	0.9221	$306,295,978	$332,172,192	32,952	$10,080
WHITE	1.0000	$226,445,664	$226,445,664	22,864	$9,904
WILLIAMSON	0.8943	$2,813,723,611	$3,146,286,046	123,793	$25,416
WILSON	1.0000	$1,332,269,433	$1,332,269,433	86,496	$15,403
STATE		$75,560,838,508	$79,534,550,841	5,483,535	$14,504

STATISTICS:	
Count	95
Average	$11,654
Median	$11,038
Maximum	$26,384
Minimum	$6,362
Range	$20,022
Standard Deviation	$3,486
Coefficient of Variation	29.909%

Source: Appraisal ratio and total assessment data from State Board of Equalization (2000). Adjusted assessment equals total assessment divided by appraisal ratio. County population data from U.S. Census website http://www.census.gov/population/estimates/county/co-99-1/99C1_47.txt.

The measure used to gauge the extent of variation in county property tax bases adjusts total local assessments for both population and for differences in the ratio of property appraisals to property values.[74] The resulting calculations provide a measure of the viability or strength of a county's property tax base per resident.[75]

The coefficient of variation[76] for per capita adjusted assessments is 29.9 percent. While showing some clear variation by county, the distribution of per capita assessments is less variable than the distribution of the local option sales tax base, with a coefficient of variation for the per capita sales tax base of 55.8 percent.

[74] As measured by appraisal ratios published by the State Board of Equalization

[75] Similar results would be shown by using assessments per average daily membership data.

[76] The coefficient of variation is a measure of the relative dispersion or spread in measures of a variable around its mean. A variable with no variation in measured values (all are the same) would have a 0% coefficient of variation.

The combination of both an uneven distribution of property assessments and an uneven local option sales tax base calls into question the usefulness of this combination of taxes to finance local government expenditures for many local governments. While the state has assumed an increased financial responsibly for insuring more equalized local spending on primary and secondary education, it is unlikely to extend such support into other areas of local finance. Without an increase in state revenue sharing designed to assist local governments in providing other local services, disparities in the level of local services, other than education, will continue to reflect disparities in the distribution of local tax bases.

The uneven distribution of property across the state is to a large extent, reflected in very uneven property tax burdens across the state. Table D-1 in Appendix D shows effective property tax rates on residential property for all counties, cities, and special school districts for 2000. Effective property tax rates provide a convenient measure of relative property tax burdens on homes with the same market value across all taxing jurisdictions. The measure avoids ambiguities associated with varying statutory assessment ratios, which vary by class of property, and variations in local appraisal practices. An effective property tax rate of 1 percent implies that the property tax on any given residential property is equal to 1 percent of the market value of the property. For example, the property tax on a $100,000 home would be $1,000.

The data in Table D-1 shows extensive variations in effective tax rates. Table D-1 shows that the lowest effective tax rate in 2000 occurred in Sevier County, with a rate of only .3113 percent. This was only 20 percent of the effective tax rate in Memphis with the maximum rate in 2000 of 1.5991 percent. For those readers who prefer dollar comparisons, the numbers are just as dramatic: for tax year 2000, a $100,000 residence in Memphis faced a $1,599 tax bill while a $100,000 residence in Sevier County faced only a $311 tax bill. The data for 2000 show that the mean and median effective tax rates across the state were approximately .77 percent.

OTHER CONSIDERATIONS

Exportability

States, counties, and cities are all aware of the advantages of exporting their taxes outside their geographical boundaries. Examples of states that are successful in exporting a significant portion of their state and local taxes onto outsiders include

- Florida (through an assortment of high taxes on tourists),
- Texas, Wyoming, and Alaska (through excise and severance taxes on exported minerals),
- Nevada, and to a smaller extent, Mississippi and New Jersey (through the use of a medley of taxes and fees on gambling).

Local examples of tax exporting include Gatlinburg and Sevier County who successfully export a large portion of their taxes onto tourists and visitors from other Tennessee communities and from other states. Davidson and Williamson Counties also export a significant portion of their taxes onto visitors through local sales and property taxes that are ultimately paid by nonresidents, especially on taxable activities related to retail trade and amusements.

The main benefit of being able to export a significant portion of local taxes onto "others" is a reduction in the tax price of local services. The lower the tax price of public services to local residents (voters), the greater the quantity of public services demanded and generally supplied. However, a "beggar thy neighbor" approach to local government finance is clearly not a viable option available to most local governments in Tennessee.

Competitiveness

As a result of an escalating level of tax competition between and among states, and between and among local governments, various devices or methods for reducing property tax burdens on business have developed over time. The most familiar economic development methods or incentives used in Tennessee include:

Industrial Development Bond Issues: Over 900 hundred issues[77] have been documented by the Department of Property Assessment. Some of the issues represent major investments in the state such as the Nissan Plant in Smyrna and the Saturn Plant in Spring Hill. What is not clear is the extent to which any agreed upon payments in lieu of taxes made by those benefiting from IDB issues cover the expenses they impose upon local governments, or whether in lieu payments represent more or less than would be due from property tax payments that would have been payable had the property been fully taxable.

Tax Increment Financing (TIFs): An economic development and tax incentive program available in 44 states. TIF arrangements generally involve districts that are depressed or

[77] Some represent multiple issues by the same business in different years.

blighted, have low employment, declining business activity, and generally falling property values; frequently inner city locations. To promote private investment in such locations, local governments invest in improved infrastructure or build or rehabilitate property to make the area more attractive for private investment. The strategy is to produce some initial momentum to encourage new private investment that will eventually improve the economy of the area involved (more job opportunities, higher levels of income, increased business activity, and hopefully rising property values).

Frequently the public spending to upgrade the district or area is funded with general obligation or revenue bonds issued by a tax increment financing authority (TIFA). Following the public and private investment in the district, development occurs, property values rise above their pre-TIF program levels and with them property tax collections. The additional or incremental tax collections resulting from the new economic activity are then used to repay the principle and interest on the bonds. The additional taxes are sometimes delayed by agreements that postpone the levy of taxes on incremental property values until some future date, providing additional incentives to private investment.

Without getting into the many pros and cons of tax increment financing, it must be pointed out that in some cases, development activity would have occurred with or without the added incentives associated with TIFs (improved infrastructure, new construction or rehabilitation or existing property, etc.). Such development may have occurred somewhere else or in the depressed district. In such cases, property values would have risen, somewhere, in the absence of TIFs, and TIF financing and activity is somewhat wasted. The result can be a loss of property taxes that would have been forthcoming in the absence of TIFs.

Enterprise Zones: Enterprise zone legislation was first introduced in Tennessee in 1984.[78] Enterprise zone designations and programs are designed to provide special tax incentives, sometimes both state and local, sometimes local alone, to attract new or expanded business activity to areas or zones that are economically depressed. The incentives generally include reduced levels of taxation designed to increase the profitability of an investment in the depressed area. The current Tennessee enterprise zones program[79] has had few takers in its 17-year history.

Other property tax arrangements (subsidies): There are varied other examples which include Davidson County's special treatment of Opryland which placed Opryland complex outside the higher taxed urban service district and the special "deal" arranged for the Dell Computer Company (a 30-year property tax exemption).

Tax Base Sharing

Recognition of the sometimes wasteful practice of local tax competition in the face of growing needs to finance local infrastructure and services has focused attention on the issue of tax base sharing. Since the level of local services is closely tied to the level of local revenue, local governments are pressed into a competitive mode to attract high tax activities such as retail trade or expensive housing with low associated service costs. Such competition results in

[78] Public Acts of 1984, chapter 993.
[79] T.C.A. 13-28-201 et sec.

inefficient decisions on land use. Severing what has been described as a "pernicious link between local property taxes and local services"[80] requires either substantial increases in state grants to local governments or local tax base sharing arrangements.

While still in its infancy, in terms of its utilization, tax base sharing has been used in a few notable situations. The most successful example is occurring in a seven county Twin Cities region in Minnesota (in and around St. Paul and Minneapolis).[81] The seven county area contains 187 jurisdictions, all of which share to some extent from a portion of the regional property tax base. The shared property tax pool consists of 40 percent of the growth in the regional property tax base. The taxes collected from this shared growth base are distributed based on a formula that considers each jurisdiction's fiscal ability, thereby partly cutting the close tie between a jurisdiction's level of spending and its immediate tax base.

Another example of regional tax base sharing involves 14-jurisdictions in the Hackensack Meadowlands area of New Jersey. This arrangement insures that all 14 jurisdictions benefit from growth in the Meadowlands area. To a lesser extent, regional tax base sharing has been provided as an option in Texas to help achieve educational finance reform. What should be apparent from these examples is that some form of regional tax base sharing could help resolve some of the tensions that currently exist between many cities and counties that recently culminated in the passage of the Growth Management Act (PC 1101 of 1998).

[80] Taken from material excerpted from "How Smart Growth Can Stop Sprawl," by David Bollier (1998) and made available at website http://www.sprawlwatch.org/taxbase.html.
[81] Program first enacted in 1971.

OUTLOOK AND CONCLUSIONS

The global economy continues to evolve, led by technological changes that are proceeding at what appears to be a lightning pace. Such changes are in stark contrast to the lethargic changes characteristic of most state, local, and national tax systems.[82] In many ways, these tax systems represent an anachronism, as do many of the individual taxes, such as the property tax, on which they are based. While the demand for local government services will likely continue to grow in the future in-step with growth in population and personal income, revenue growth from the property tax will not. Sea changes that will threaten the viability of the 21st century local property tax include:

- Telecommunication Taxation: Tennessee, and local governments in most states, have long overtaxed the telecommunications industry vis-à-vis other types of businesses using a combination of higher relative assessment levels[83] and the "unitary method"[84] of valuation. As a result of (a) increasing competition in both the local and long distance telecommunications markets and (b) heightened oversight by the F.C.C. in insuring a level playing field for all players in a more competitive telecommunications environment, discriminatory (noncompetitive) taxation of the telecommunications industry will slowly end either through litigation, federal mandates, or competitive market pressures.[85] Some states have taken the lead in this area and crafted tax policy changes on the increasingly competitive telecommunications industry while mitigating any negative revenue impact on local government revenue.[86]
- A continuing shift in economic activity (production and employment) away from traditional manufacturing, with its emphasis on investments in machinery and equipment, toward services, with its emphasis on technology and labor (human capital). This shift is accompanied by growth in business intangible assets such as franchises, licenses, and copyrights. As these forms of intangible property continue to grow, they will slowly erode the importance of traditionally taxable tangible personal property or personalty. In 1999, tangible personal property accounted for over 10 percent of total assessments in Tennessee.[87]
- As the population continues to age, demand for housing will decline. The elderly generally demand less housing than other demographic groups. If demand declines, housing prices will likely fall, forcing down assessments and property tax revenue.
- An increasing elderly population coupled with growing property tax burdens may result in increased pressure for property tax relief, either in the form of a homestead exemption,

[82] See article by Neubig (2000).
[83] Telecommunications companies are subject to an assessment level of 55% on both their real and tangible personal property. Other businesses are subject to assessment levels of only 40% on their real property and 30% on their tangible personal property.
[84] The "unitary method" of valuation uses the market value or sales value of a multistate telecommunications business as a starting point for determining value. The result is that a business's intangible assets play a role in determining its property tax base. Most businesses are taxed based on the market value of their real and tangible personal property in Tennessee.
[85] States that do not reduce discriminatory taxation may find relatively lower levels of telecommunication investment are being made in their state, or higher average prices for telecommunication services.
[86] Cline (2000), p. 772.
[87] Commercial and industrial personalty accounted for almost 10% of the total by itself. Utility property, much of which is personalty, easily pushes the figure over 10%.

or a significant increase in the existing property tax relief program. While an amendment to the constitution may be required to provide a homestead exemption or similar type of significant relief, a growing elderly population represents a potentially powerful constituency that would support such changes.

- Exemptions[88] and statutorily required preferential assessments reduce the tax base over time resulting in slower tax base growth and severe inequities among taxpayers. While the "subsidizing" of certain activities is often based on good intentions, such as protecting certain land from the ravages of urban development, it is not clear that such policies actually work as intended. The special use value method used to evaluate certain agricultural, forest, and open space land holdings reduced the total assessed value of property in Tennessee in 1999 by over $2.4 billion. At an average tax rate of $2.50[89] per $100 of assessed value, foregone tax collections amounted to $60 million.
- Increased dependence on state aid to finance K-12 education has partly undermined the close relationship that once existed between property taxation and local education. With an increased state role in financing and oversight of local education, the willingness of local residents to support higher property taxes in the future is not certain. The property tax has never been a popular tax, but the perceived tie between local property tax rates and local spending on schools historically had sufficient appeal to win the day. This may be less true in the future[90] as increased state aid (with strings attached) reduces local autonomy and support for increased local taxes.
- Limitations built-into the existing local property tax systems, especially truth-in-taxation requirements, have resulted in the growth of alternative sources of revenue, generally new fees and charges. These include development fees (or the less innocuous term exactions), impact fees, a recent attempt at authorizing local transfer taxes, and other financing alternatives. Other alternatives, not yet used in Tennessee, but with roots in property taxation, include benefit assessment taxes such as those used in California. These taxes are "in rem" taxes of so many dollars per lot and are usually earmarked for some specific purpose, such as parks, lighting, landscaping, sewerage services, and others that provide benefits to the lot owners.
- Despite all the clouds on the horizon threatening the property tax, it will likely remain the primary revenue source for most local governments. This follows from its absolute size and the absence of any obvious replacement revenue source. Short of an authorization allowing local payroll or income taxes, or a substantial increase in local business taxes (which without tax base sharing is unlikely), there are no practical options to its continued dominance in the local revenue structure.

[88] A recently completed study of exempt properties estimated the total dollar value of exempt properties in Tennessee at between $257,675,526 and $278,603,704. See Olorunniwo.

[89] Based on tax rates in counties in which agricultural assessments represented over 15% of the total county assessment in 1999.

[90] Several researchers have argued that court mandated state equalization aid designed to reduce disparities in local educational spending can reduce the local support of the property tax. See Sheffrin (1990), pp.131-135.

APPENDIX A: County Tax Base Elasticity: Regression Results

Table A-1 shows the regression results of an evaluation of the tax elasticity of each county's property tax base (using a comparable period of time to that used in calculating the elasticity of a state property tax base). It shows that 16 counties have estimated elasticities below .75, 34 have elasticities greater than .75 but less than 1 (unity), 19 have elasticities greater than 1 but less than 1.25, and 26 have elasticities greater than 1.25. The elasticities for each county are based on regressions that use local assessments and local personal income.

Table A-1. County Tax Base Elasticity Regression Statistics

County	Observations	Elasticity Coefficient	Standard Error of Elasticity	R square
Anderson	13	1.331	0.097	0.9453
Bedford	13	1.334	0.161	0.8625
Benton	13	0.749	0.054	0.9462
Bledsoe	13	0.464	0.027	0.9649
Blount	13	1.353	0.174	0.8460
Bradley	13	0.683	0.047	0.9507
Campbell	13	0.965	0.063	0.9549
Cannon	13	0.889	0.088	0.9028
Carroll	13	0.917	0.083	0.9177
Carter	13	1.108	0.153	0.8274
Cheatham	13	1.450	0.151	0.8932
Chester	13	0.787	0.045	0.9659
Claiborne	13	0.861	0.082	0.9089
Clay	13	0.825	0.143	0.7510
Cocke	13	0.783	0.102	0.8430
Coffee	13	1.075	0.073	0.9522
Crockett	13	0.576	0.076	0.8386
Cumberland	13	1.687	0.217	0.8462
Davidson	13	0.901	0.097	0.8876
Decatur	13	0.921	0.082	0.9202
DeKalb	13	1.564	0.110	0.9481
Dickson	13	1.547	0.163	0.8913
Dyer	13	1.605	0.160	0.9019
Fayette	13	1.035	0.051	0.9737
Fentress	13	0.563	0.082	0.8113
Franklin	13	1.266	0.070	0.9676
Gibson	13	1.027	0.101	0.9032
Giles	13	0.990	0.097	0.9049

Table A-1. County Tax Base Elasticity Regression Statistics (continued)

County	Observations	Elasticity Coefficient	Standard Error of Elasticity	R square
Grainger	13	0.520	0.055	0.8900
Greene	13	0.959	0.106	0.8820
Grundy	13	0.803	0.076	0.9092
Hamblen	13	0.824	0.077	0.9113
Hamilton	13	1.074	0.104	0.9057
Hancock	13	1.163	0.094	0.9335
Hardeman	13	0.972	0.079	0.9317
Hardin	13	0.742	0.121	0.7737
Hawkins	13	1.348	0.100	0.9426
Haywood	13	0.898	0.085	0.9111
Henderson	13	1.086	0.062	0.9653
Henry	13	0.652	0.053	0.9329
Hickman	13	0.598	0.063	0.8903
Houston	13	1.353	0.128	0.9108
Humphreys	13	0.992	0.087	0.9229
Jackson	13	0.807	0.067	0.9292
Jefferson	13	1.167	0.069	0.9635
Johnson	13	0.895	0.113	0.8518
Knox	13	0.978	0.084	0.9246
Lake	13	0.401	0.119	0.5103
Lauderdale	13	1.118	0.139	0.8540
Lawrence	13	0.858	0.111	0.8436
Lewis	13	1.528	0.162	0.8903
Lincoln	13	1.269	0.218	0.7544
Loudon	13	1.095	0.061	0.9668
McMinn	13	0.921	0.103	0.8790
McNairy	13	0.756	0.048	0.9578
Macon	13	0.686	0.100	0.8093
Madison	13	0.959	0.067	0.9490
Marion	13	0.908	0.139	0.7960
Marshall	13	1.436	0.099	0.9504
Maury	13	0.814	0.127	0.7887
Meigs	13	1.552	0.198	0.8487
Monroe	13	1.597	0.152	0.9096
Montgomery	13	1.619	0.134	0.9303
Moore	13	0.737	0.063	0.9255
Morgan	13	0.747	0.085	0.8762
Obion	13	0.978	0.127	0.8438
Overton	13	0.976	0.117	0.8625
Perry	13	1.241	0.136	0.8830
Pickett	13	0.931	0.104	0.8788

Table A-1. County Tax Base Elasticity Regression Statistics (continued)

County	Observations	Elasticity Coefficient	Standard Error of Elasticity	R square
Polk	13	0.801	0.124	0.7900
Putnam	13	1.322	0.152	0.8729
Rhea	13	1.475	0.126	0.9255
Roane	13	1.149	0.177	0.7926
Robertson	13	1.244	0.091	0.9440
Rutherford	13	0.924	0.054	0.9638
Scott	13	0.876	0.085	0.9060
Sequatchie	13	0.570	0.059	0.8932
Sevier	13	1.715	0.214	0.8535
Shelby	13	1.373	0.180	0.8405
Smith	13	1.230	0.158	0.8461
Stewart	13	1.251	0.096	0.9394
Sullivan	13	0.897	0.103	0.8740
Sumner	13	1.379	0.203	0.8072
Tipton	13	1.171	0.041	0.9867
Trousdale	13	0.887	0.105	0.8662
Unicoi	13	1.521	0.123	0.9326
Union	13	1.078	0.074	0.9508
Van Buren	13	0.571	0.101	0.7441
Warren	13	0.992	0.087	0.9213
Washington	13	1.153	0.124	0.8868
Wayne	13	0.594	0.074	0.8551
Weakley	13	1.295	0.113	0.9230
White	13	1.146	0.109	0.9093
Williamson	13	1.472	0.199	0.8322
Wilson	13	1.221	0.079	0.9556

Note: All elasticity coefficients are significant at 1 percent significance level.

APPENDIX B: County Tax Base Elasticity: Alternative Estimates

This section considers an alternative measure of the local property tax base and its impact on estimates of county property tax elasticity. The estimated elasticities that are calculated from the alternative measure of the local property tax base are reported and compared to the original elasticity estimates show in Table 3 in the main body of the report.

The prior studies that analyzed the elasticity of state and local property taxes used total county assessments as the measure of the property tax base. It is possible that using this measure of the property tax base may overestimate tax elasticity. This could result from the jumps or spikes that occurred in annual measures of county assessments during the period analyzed (1986-98), especially during the early 1990s. This was a period during which reappraisals mandated by new statutory authority[91] resulted in dramatic increases in appraised values and assessments in many counties.

The alternate measure of assessments is calculated by dividing a county's assessment by a county's appraisal ratio.[92] While no perfect procedure is available for estimating county real property values and assessments each year, assessments adjusted by appraisal ratios should provide a set of observations that behave less erratically than unadjusted assessments and possibly better reflect the underlying annual growth in assessed values over time. It must be stressed that the alternative measure of assessments does not reflect the actual property tax base available for taxing by local authorities, nor if there was a state property tax, by the state. Therefore there remains a certain ambiguity with the elasticity estimates calculated using the alternative measure of assessments. Table B-1 shows both sets of estimates of the property tax elasticities in each county and for the statewide total.

Both sets of estimates (Col. 1 & 3) show that for a majority of counties, the property tax base is inelastic. Using unadjusted assessments, 50 counties had estimated elasticities of less than 1. The comparable number using adjusted assessment data was 71 counties. Elasticity estimates from the regression procedure that used adjusted assessment data show elasticities (column 3) that are generally smaller than those estimated using unadjusted assessment data (column 1). A comparison of the results in Table B-1 for adjusted versus unadjusted data shows lower estimated elasticities for 73 out of 95 counties. The unadjusted data clearly result in higher, sometimes dramatically higher elasticity estimates.[93] A significant result of the analysis using the adjusted

[91] Public Chapter #495 of 1989.
[92] State Board of Equalization, *Tax Aggregate Report*, various issues, Table 1.
[93] The elasticities for each county are based on regressions that use local assessments (adjusted and unadjusted) and local personal income. County personal income data was obtained from the Bureau of Economic Analysis at website http://www.bea.doc.gov/bea/regional/reis/cal_3.htm, revised data June 15, 2000. Assessment and appraisal ratio data (used to calculate adjusted assessments) are from various issues of *Tax Aggregate Report of Tennessee*, a publication of the State Board of Equalization. For the regression procedure used, see TACIR (July 1999), p. 4.

assessment data is that the estimated elasticity of the statewide property tax base is inelastic (.863), rather than slightly elastic (1.12) using unadjusted data.

Table B-1. Alternative County Tax Base Elasticity Regression Statistics

County	Observations	Unadjusted Data Elasticity Coefficient (Col. 1)	Standard Eror (of Elas.) (Col. 2)	Adjusted Data Elasticity Coefficient (Col. 3)	Standard Eror (of Elas.) (Col. 4)
Anderson	13	1.331	0.097	1.366	0.082
Bedford	13	1.334	0.161	1.017	0.081
Benton	13	0.749	0.054	0.657	0.081
Bledsoe	13	0.464	0.027	0.609	0.083
Blount	13	1.353	0.174	1.004	0.063
Bradley	13	0.683	0.047	0.891	0.053
Campbell	13	0.965	0.063	1.000	0.070
Cannon	13	0.889	0.088	0.876	0.115
Carroll	13	0.917	0.083	0.756	0.070
Carter	13	1.108	0.153	0.837	0.102
Cheatham	13	1.450	0.151	1.123	0.064
Chester	13	0.787	0.045	0.828	0.046
Claiborne	13	0.861	0.082	0.703	0.061
Clay	13	0.825	0.143	0.766	0.122
Cocke	13	0.783	0.102	0.817	0.073
Coffee	13	1.075	0.073	1.028	0.065
Crockett	13	0.576	0.076	0.633	0.077
Cumberland	13	1.687	0.217	1.071	0.072
Davidson	13	0.901	0.097	0.646	0.094
Decatur	13	0.921	0.082	0.621	0.054
DeKalb	13	1.564	0.110	1.308	0.082
Dickson	13	1.547	0.163	1.038	0.067
Dyer	13	1.605	0.160	0.886	0.094
Fayette	13	1.035	0.051	0.810	0.076
Fentress	13	0.563	0.082	0.565	0.067
Franklin	13	1.266	0.070	1.017	0.060
Gibson	13	1.027	0.101	0.986	0.101
Giles	13	0.990	0.097	0.725	0.072
Grainger	13	0.520	0.055	0.587	0.040
Greene	13	0.959	0.106	0.954	0.108
Grundy	13	0.803	0.076	0.747	0.071
Hamblen	13	0.824	0.077	0.884	0.061
Hamilton	13	1.074	0.104	0.807	0.038
Hancock	13	1.163	0.094	0.710	0.166
Hardeman	13	0.972	0.079	0.818	0.090
Hardin	13	0.742	0.121	0.706	0.046
Hawkins	13	1.348	0.100	0.796	0.098
Haywood	13	0.898	0.085	0.694	0.116
Henderson	13	1.086	0.062	0.959	0.077
Henry	13	0.652	0.053	0.855	0.094
Hickman	13	0.598	0.063	0.764	0.112
Houston	13	1.353	0.128	0.843	0.127
Humphreys	13	0.992	0.087	0.974	0.055
Jackson	13	0.807	0.067	0.723	0.047
Jefferson	13	1.167	0.069	1.011	0.078
Johnson	13	0.895	0.113	0.482	0.125
Knox	13	0.978	0.084	0.967	0.037
Lake	13	0.401	0.119	0.489	0.126

Table B-1. Alternative County Tax Base Elasticity Regression Statistics (continued)

County	Observations	Unadjusted Data Elasticity Coefficient (Col. 1)	Standard Eror (of Elas.) (Col. 2)	Adjusted Data Elasticity Coefficient (Col. 3)	Standard Eror (of Elas.) (Col. 4)
Lauderdale	13	1.118	0.139	1.102	0.125
Lawrence	13	0.858	0.111	0.902	0.107
Lewis	13	1.528	0.162	0.888	0.082
Lincoln	13	1.269	0.218	0.778	0.070
Loudon	13	1.095	0.061	1.117	0.040
McMinn	13	0.921	0.103	0.999	0.059
McNairy	13	0.756	0.048	0.930	0.047
Macon	13	0.686	0.100	0.773	0.038
Madison	13	0.959	0.067	0.886	0.047
Marion	13	0.908	0.139	0.895	0.104
Marshall	13	1.436	0.099	0.681	0.087
Maury	13	0.814	0.127	0.581	0.105
Meigs	13	1.552	0.198	0.717	0.091
Monroe	13	1.597	0.152	1.211	0.053
Montgomery	13	1.619	0.134	1.210	0.052
Moore	13	0.737	0.063	0.626	0.038
Morgan	13	0.747	0.085	0.592	0.085
Obion	13	0.978	0.127	0.713	0.133
Overton	13	0.976	0.117	0.924	0.096
Perry	13	1.241	0.136	0.563	0.078
Pickett	13	0.931	0.104	0.805	0.142
Polk	13	0.801	0.124	0.764	0.119
Putnam	13	1.322	0.152	1.060	0.069
Rhea	13	1.475	0.126	1.365	0.118
Roane	13	1.149	0.177	1.210	0.126
Robertson	13	1.244	0.091	0.889	0.082
Rutherford	13	0.924	0.054	0.942	0.054
Scott	13	0.876	0.085	0.627	0.092
Sequatchie	13	0.570	0.059	0.705	0.060
Sevier	13	1.715	0.214	1.225	0.091
Shelby	13	1.373	0.180	0.728	0.079
Smith	13	1.230	0.158	0.945	0.125
Stewart	13	1.251	0.096	1.053	0.081
Sullivan	13	0.897	0.103	0.833	0.049
Sumner	13	1.379	0.203	1.016	0.078
Tipton	13	1.171	0.041	0.983	0.058
Trousdale	13	0.887	0.105	0.854	0.101
Unicoi	13	1.521	0.123	0.877	0.086
Union	13	1.078	0.074	0.968	0.064
Van Buren	13	0.571	0.101	0.440	0.126
Warren	13	0.992	0.087	1.036	0.080
Washington	13	1.153	0.124	1.063	0.072
Wayne	13	0.594	0.074	0.524	0.086
Weakley	13	1.295	0.113	0.861	0.071
White	13	1.146	0.109	1.024	0.119
Williamson	13	1.472	0.199	0.927	0.071
Wilson	13	1.221	0.079	1.040	0.091
Statewide Total	13	1.118	0.039	0.863	0.050

APPENDIX C: Office of the Assessor Study

Introduction

With the passage of HJR 575 (Buck), the General Assembly directed that the TACIR, "with the assistance of the Comptroller of the Treasury, is requested to **conduct a study of duties and responsibilities of the Office of the Assessor of Property and the resources necessary to the office."** This document provides a draft outline, timeline and background material for the Commission's review.

Scope of Study

After a review of constitutional and statutory mandates, operational standards from professional assessor organizations, limited confidential interviews, and a review of initiatives from other states, it is suggested that the study combine elements of a performance evaluation and best-practices review. Current performance could be assessed against both existing constitutional mandates and requirements of TCA and could be evaluated as it relates to the most current standards of the International Association of Assessing Officers (IAAO) and other recognized standards that are relevant to the structure of the existing local assessment system. In addition, issues surrounding the method of valuation of different types of property, equalization of assessments, and the appraisal appeal process could be reviewed, as well as state vs. local responsibilities in the process.

Depending on the committee's recommendations, this comparison could be judged to represent the degree to which these agencies' practices and procedures meet current assessment standards established by the industry's leading professional organization. The review of practices and initiatives in other states could also provide a sense of the direction being taken in other states to modernize or otherwise improve the operation of their assessors' offices. Focusing on states that share similar property tax structures and administrative operations with Tennessee would keep the number and types of initiatives manageable and directed. The results of the comparison using these different perspectives and criteria could then form the basis for recommended changes to state and local practice and procedure.

Figure C-1 is a draft outline for the Commission's consideration.

Figure C-1. Draft Outline – Office of the Assessor Study

Introduction
Authorization of study
Goal(s) of study

Background
Constitutional mandates
TCA requirements
Types of property taxed
Real property
Tangible personal property
Intangible personal property
Classification of taxed property.
History of classification
Types of classification
Exemptions from classification
Problems Associated with the Property Tax and Assessment
Roles and Responsibilities

Best practices and Professional Standards of Property Assessment, Benchmarking Study
Professional organizations and their recommendations (i.e., IAAO standards)
International Property Tax Institute (IPTI) study for Tennessee
Other Academic and Professional Studies and Articles

Local Assessor Concerns and Recommendations

Lessons from Other States

Conclusions and Recommendations
Most logical goals of assessor system and organization of assessors' offices
Recommended Improvements

Background

In preparation for the commencement of the Assessor Study, the TACIR staff has reviewed the constitutional mandates and the Tennessee Code Annotated (TCA) requirements relative to the Offices of the Assessor. Additionally, staff has conducted confidential interviews with local and state officials to gain their insight, reviewed the literature regarding best practices and benchmarking of assessor functions, reviewed reform efforts in other states, and considered options for broader changes.

Examination of Constitutional and Statutory Mandates

Constitutional Mandates. Article 2, Section 28 of the Tennessee Constitution provides for a property tax and frames the types of property to be taxed and the assessed rates to which the enumerated property types will be subjected. This clause has been interpreted to mean that all property, as a result of the constitutional convention of 1971, was to be reclassified and appraised at 100 percent of market value. To value public utility and transportation property at full market value and other types of property at less than full value is a violation of the equal protection clause of the 14th amendment. Several entities and procedures have been established to protect against this violation and the ensuing loss of tax revenue that results from utilities seeking protection from property assessments that are found to be inequitable in relation to other properties of similar classification and market value. In cases where this problem has occurred, their tax burden has been reduced, depriving local governments of needed revenue. State and local boards of equalization together with the State's Division of Property Assessment and Division of State Assessed Property ensure that equity in property taxation is maintained through a regimented multi-level appeals process, auditing of local assessments and assessment procedures, and through the valuation and assessment of utility and transportation property by a single state agency (Comptroller's Office).

Article 7, Section 1 of the Tennessee Constitution addresses the election, term in office and election date for county assessors.

Article 7 requirements are simple enough to fulfill, while Article 2 requirements are constantly being tested by different classes of taxpayers, through litigation and appeals to local and the state boards of equalization, claiming that their assessment is neither fair nor equitable by virtue of their appraised as opposed to full market value or in comparison to another property thought to be of equal market value. It is these challenges that the Comptroller's Division of Property Assessment and its many reviews and studies are designed to address. It is in this portion of the review that the structure and implementation of the property tax (together with interpretations resulting from legal challenges and TCA modifications) will be reviewed.

TCA Requirements. As currently written, the Code, under Title 67, Chapter 5, places specific property assessment burdens on both the state and individual county assessors. Assessment rates are specified for different types of property together with the length of time between appraisal and the activities to be accomplished during assessment cycles. Oaths of office for both the assessor and deputy(s) are stated in the Code as well as the number of deputy assessors that can be appointed by the county assessors. The Code also specifies salaries for the assessors based on population of the county. The State is charged with performing

appraisal ratio studies at specified intervals together with other specific oversight and monitoring duties.

Essentially, the TCA has fleshed out the very basic property tax and property assessor framework laid out in the state constitution. DPA monitors local property assessors for compliance with assessment and appraisal procedures and acts as the first line of defense in matters of tax equity. Although a performance review or special audit from the Comptroller's Division of Audit may be preferable as an independent evaluation, a basic review of TCA mandates which fall within DPA's purview and their policies and procedures which address the mandates would provide verification that DPA is meeting all monitoring and review mandates. If those IAAO standards that touch on DPA's responsibilities are met by existing policy and procedure, this would also be an indication that state oversight of local assessors is at least meeting recommended industry and professional standards.

Interviews with Large, Medium and Small Counties

Confidential interviews have been conducted with representatives of the Division of Property Assessment, the Tennessee Association of Assessing Officers, and one assessor each from a large, medium and small county. In addition to gathering general information on the office and introducing this study, the purpose of these initial interviews was to attempt to find common concerns, complaints and any shared views of the strengths and weaknesses of the existing assessment/appraisal system and potential remedies that the assessors might share or that may differentiate the offices.

Although there was no one issue that topped each interviewee's list of those things they would change, the following two items were both addressed:

Staffing and salaries. This appeared to be more of a concern the smaller the county and the shorter the period of time the assessor was in office. However, it also appears that the relationship between the assessor and the county executive or legislature and the financial health of the county are just as important to the assessor's ability to acquire sufficient staffing resources.

The relatively short amount of time between assessments, the distribution of various tax schedules and the mailing out and receipt of forms to businesses. Being able to spread the scheduled activities out over a longer period of time would allow for a less hectic pace of activities for both the assessors' offices and smaller businesses. However, the need to accomplish the activities in time for estimation of revenue collections and county budgets to be formulated was recognized as an impediment to a lengthier schedule. More study into the scheduling of assessment activities still appears to be called for.

Examination of Professional Standards

The International Association of Assessing Officers' (IAAO), "Standards on Assessment Administration", "Standards on Facilities, Computers, Equipment, and Supplies for Assessment Agencies", "Standard on Mass Appraisal of Real Property", and "Assessment Practices Self-Evaluation Guide", provide the bulk of recommended operational guidelines for the administration of local offices of the assessor. In the absence of another authoritative body,

IAAO, and its standards and guides provide the best yardstick against which to compare current state and county practices. The basic practices of local assessors are sufficiently similar to permit construction of a representative county office which could then be compared to specific IAAO standards as a means to judge statewide local compliance with the standards. The roles, responsibilities, practices and procedures of the State Board of Equalization and the Division of Property Assessment (DPA), as the state's assessor oversight agencies, could then be compared to IAAO standards to determine how many of the standards the state met, partially met, or missed entirely. As other authoritative guides are identified, they can be included in the comparison.

Examination of "Best Practices"

The International Property Tax Institute (IPTI) is a non-profit organization of property tax professionals representing governments, taxpayers, academia and taxation and assessment professionals. IPTI's Year 2000 Benchmarking Study is the only known study of its kind to examine participants' assessment practices in relation to similar organizations.

The benchmarking study surveyed the operation and valuation practices of participating assessing agencies in North America with the aim of finding the best practices, processes and opportunities for improvement for these organizations. Although the phase one benchmarking study has concluded, plans for a phase two study are being discussed and should be finalized before the end of the year. In the mean time, a custom study of Tennessee practices and procedures at the state and local level could be arranged at an estimated cost of between $2,700 and $6,000. It would use some data from comparable jurisdictions that took part in the original study (together with available new data) and would attempt to compare practices and procedures at both the state and local levels with similar localities. Based on the comparison of like data judged to indicate the efficiency or quality of particular practices and procedures, best practices for each selected process or procedure could be established. In turn, these best practices could be used to establish improvement goals and objectives at both the state and county level. The scope and depth of the custom study would need to be determined in cooperation with IPTI before a schedule and costs could be established.

If the committee determines this sort of study would be of value, a minimum of eight to nine months lead-time would need to be budgeted. This would allow sixty days to develop a study scope and activity plan with IPTI, a period of six months for IPTI to gather data, conduct interviews and surveys, perform the benchmarking comparisons and draft a report. This option would require delaying the submittal of the report to the full Commission beyond the January date listed in the proposed timeline. A possible alternative might be to attempt to purchase the existing benchmarking study from IPTI, assuming the original participant to the study would agree to release of their specific assessment/appraisal information.

Review of Assessors' Office Initiatives from Other States

A core issue for many local assessors is the adequacy of staffing at their individual offices. Although TCA provides for the number of deputy assessors per parcel of land for each county office, staffing levels for other classes of assessment employees are not provided. A Colorado study, presented to the IAAO Annual conference in September 2000, provides a method to calculate the staffing needs of an office by taking into account each function of the office (generally, appraisal and administrative tasks) together with the amount of each of these

functions accomplished per year. Added to this equation are factors that take into account sick leave, annual leave, training, general unproductive time, etc. The point of this staffing analysis is to examine measurable data from previous years to determine current and near future staffing needs. Although the Colorado study could not be applied directly to Tennessee assessor staffing, because of the difference in functions, record keeping, and amount of state oversight agency (DPA) support, the methodology could help to provide the framework for a Tennessee-specific staffing analysis.

In Florida, every property appraiser must, by June 1 of each year, submit its budget to the state's Department of Revenue. Section 195.087 (1)(a) of the Florida code requires the DOR to review each budget to ensure that "…the budget is neither inadequate nor excessive." It is also given the right, under the Code, to amend or change the budget, while the property appraiser or presiding officer of the county commission is given the right to appeal the decision to a state-level administrative commission. The Colorado staffing analysis structure and state level review of individual appraisers' offices in Florida are the two most far-reaching administrative initiatives found thus far. As other proposed or enacted initiatives, either state specific or professional organization recommended, are found, they will be reviewed and brought to the committee's attention.

Looking at assessment/appraisal systems in another state, Maryland presented a model unique to the U.S. In that state, since 1974, all appraisal and assessment functions are direct activities of their Department of Assessments and Taxation. Although local governments still set tax rates and send out tax billings, the state maintains records including bills of sale. Local governments also operate under a system that must meet requirements similar to the "truth in taxation" legislation in Tennessee. Rather than a "certified" tax rate, Maryland calls the rate that would yield that same revenue as the last three year cycle their "constant yield rate." In order to increase this rate their local jurisdiction must hold hearings and the chief legislative body in that jurisdiction must then pass legislation that raises the existing rate. Additionally, the state captures a portion ($.084 per $100.) of property taxes which go to the state's general fund. One-half of this fund is returned to local governments for specific programs, including educational programs.

Consideration of Alternate Assessor Office Organization

In addition to consideration of a state run assessment/appraisal system like that in Maryland, staff have considered other, alternate assessor selection and organization methods. In addition to expressions of concern from those assessors who were interviewed over removing the assessment/appraisal system from local control, a study that addressed this topic (Strauss and Sullivan) found that the quality of assessments were less likely to be of high quality where assessors were appointed rather than locally elected. The same study also found that state oversight of local assessment through the setting of standards and evaluation of results appeared to improve uniformity of residential assessments. The staff will work with the Study Committee to further explore this option, if desired, and will pursue any other types of broad reform in which they or the full Commission are interested.

APPENDIX D: Effective Property Tax Rates

Table D-1 Effective Property Tax Rates, Tennessee Counties, Municipalities and Special School Districts

COUNTIES AND MUNICIPALITIES (1)	TOTAL NOMINAL TAX RATE PER $100 OF ASSESSED VALUE (2)	APPRAISAL RATIO (3)	EFFECTIVE TAX RATE PER $100 OF ASSESSED VALUE (4)	EFFECTIVE TAX RATE PER $1 OF MARKET VALUE (5)
ANDERSON	$3.32	0.9453	$3.14	0.7846%
CLINTON	$4.20		$3.97	0.9926%
* LAKE CITY	$4.57		$4.32	1.0800%
NORRIS	$5.21		$4.93	1.2313%
* OAK RIDGE	$5.71		$5.40	1.3494%
* OLIVER SPRINGS	$4.57		$4.32	1.0800%
BEDFORD	$3.01	0.7778	$2.34	0.5853%
BELL BUCKLE	$3.35		$2.61	0.6514%
NORMANDY	$3.28		$2.55	0.6378%
SHELBYVILLE	$4.92		$3.83	0.9567%
WARTRACE	$4.26		$3.31	0.8284%
BENTON	$2.82	1.0000	$2.82	0.7050%
BIG SANDY	$3.63		$3.63	0.9075%
CAMDEN	$3.30		$3.30	0.8250%
BLEDSOE	$1.85	1.0000	$1.85	0.4625%
PIKEVILLE	$2.33		$2.33	0.5825%
BLOUNT	$2.36	0.9299	$2.19	0.5486%
ALCOA	$4.76		$4.43	1.1066%
MARYVILLE	$4.69		$4.36	1.0903%
BRADLEY	$2.49	1.0000	$2.49	0.6225%
CHARLESTON	$2.70		$2.70	0.6750%
CLEVELAND	$3.44		$3.44	0.8600%
CAMPBELL	$2.34	1.0000	$2.34	0.5850%
JELLICO	$3.22		$3.22	0.8050%
LaFOLLETTE	$3.21		$3.21	0.8025%
* LAKE CITY	$3.59		$3.59	0.8975%
CANNON	$2.24	0.8031	$1.80	0.4497%
WOODBURY	$3.65		$2.93	0.7328%
CARROLL	$1.10	1.0000	$1.10	NA
BRUCETON	$4.09		$4.09	1.0225%
HGDN SSD	$2.73		$2.73	0.6825%
HOLLOW ROCK	$3.68		$3.68	0.9200%
HR-BR SSD	$2.92		$2.92	0.7300%
HUNTINGDON	$4.07		$4.07	1.0175%
* MCKENZIE	$3.48		$3.48	0.8700%
MCKENZIE SSD	$2.65		$2.65	0.6625%
MCLEMORESVILLE	$3.61		$3.61	0.9025%
SCC SSD	$2.49		$2.49	0.6225%
TREZEVANT	$3.53		$3.53	0.8825%
WCC SSD	$2.84		$2.84	0.7100%

Table D-1 Effective Property Tax Rates, Tennessee Counties, Municipalities and Special School Districts (Continued)

COUNTIES AND MUNICIPALITIES (1)	TOTAL NOMINAL TAX RATE PER $100 OF ASSESSED VALUE (2)	APPRAISAL RATIO (3)	EFFECTIVE TAX RATE PER $100 OF ASSESSED VALUE (4)	EFFECTIVE TAX RATE PER $1 OF MARKET VALUE (5)
CARTER	$2.46	0.8135	$2.00	0.5003%
ELIZABETHTON	$5.07		$4.12	1.0311%
* JOHNSON CITY	$4.76		$3.87	0.9681%
WATAUGA	$2.76		$2.25	0.5613%
CHEATHAM	$3.24	0.8951	$2.90	0.7250%
ASHLAND CITY	$3.83		$3.43	0.8571%
KINGSTON SPRINGS	$3.79		$3.39	0.8481%
CHESTER	$2.37	0.8997	$2.13	0.5331%
HENDERSON	$3.55		$3.19	0.7985%
CLAIBORNE	$2.60	0.9114	$2.37	0.5924%
CUMBERLAND GAP	$2.69		$2.45	0.6132%
CLAY	$2.78	1.0000	$2.78	0.6950%
CELINA	$3.70		$3.70	0.9250%
COCKE	$2.40	1.0000	$2.40	0.6000%
NEWPORT	$4.61		$4.61	1.1525%
COFFEE	$3.00	0.9030	$2.71	0.6773%
IWD PARK	$3.29		$2.97	0.7427%
MANCHESTER	$4.74		$4.28	1.0701%
* TULLAHOMA	$4.79		$4.33	1.0813%
CROCKETT	$2.27	0.9605	$2.18	0.5451%
ALAMO	$3.39		$3.26	0.8140%
BELLS	$3.67		$3.53	0.8813%
FRIENDSHIP	$4.27		$4.10	1.0253%
MAURY CITY	$3.39		$3.26	0.8140%
CUMBERLAND	$1.55	0.9095	$1.41	0.3524%
CROSSVILLE	$2.25		$2.05	0.5116%
DAVIDSON	$3.39	0.9098	$3.08	0.7711%
BELLE MEADE	$3.82		$3.48	0.8689%
* GOODLETTSVILLE	$3.61		$3.28	0.8211%
NASHVILLE	$4.24		$3.86	0.9644%
* RIDGETOP	$4.38		$3.98	0.9962%
DECATUR	$1.65	0.9520	$1.57	0.3927%
DECATURVILLE	$2.95		$2.81	0.7021%
PARSONS	$2.66		$2.53	0.6331%
SCOTTS HILL	$2.01		$1.91	0.4784%
DEKALB	$1.50	1.0000	$1.50	0.3750%
ALEXANDRIA	$2.45		$2.45	0.6125%
LIBERTY	$1.63		$1.63	0.4075%
SMITHVILLE	$2.25		$2.25	0.5625%
DICKSON	$2.81	0.8652	$2.43	0.6078%
BURNS	$3.14		$2.72	0.6792%
CHARLOTTE	$3.01		$2.60	0.6511%
DICKSON	$3.62		$3.13	0.7830%
VANLEER	$2.90		$2.51	0.6273%
WHITE BLUFF	$3.44		$2.98	0.7441%

Table D-1 Effective Property Tax Rates, Tennessee Counties, Municipalities and Special School Districts (Continued)

COUNTIES AND MUNICIPALITIES (1)	TOTAL NOMINAL TAX RATE PER $100 OF ASSESSED VALUE (2)	APPRAISAL RATIO (3)	EFFECTIVE TAX RATE PER $100 OF ASSESSED VALUE (4)	EFFECTIVE TAX RATE PER $1 OF MARKET VALUE (5)
DYER	$2.43	1.0000	$2.43	0.6075%
DYERSBURG	$4.00		$4.00	1.0000%
NEWBERN	$3.67		$3.67	0.9175%
* TRIMBLE	$4.13		$4.13	1.0325%
FAYETTE	$1.85	1.0000	$1.85	0.4613%
GALLAWAY	$2.35		$2.35	0.5863%
* GRAND JUNCTION	$2.47		$2.47	0.6163%
HICKORY WITH	$2.34		$2.34	0.5838%
LaGRANGE	$2.58		$2.58	0.6438%
MOSCOW	$2.44		$2.44	0.6088%
OAKLAND	$2.06		$2.06	0.5138%
PIPERTON	$2.36		$2.36	0.5888%
ROSSVILLE	$2.65		$2.65	0.6613%
SOMERVILLE	$2.24		$2.24	0.5588%
FENTRESS	$2.24	0.8333	$1.87	0.4666%
JAMESTOWN	$2.96		$2.47	0.6166%
FRANKLIN	$2.83	0.9000	$2.55	0.6368%
COWAN	$4.61		$4.15	1.0373%
DECHERD	$3.89		$3.50	0.8753%
ESTILL SPRINGS	$3.55		$3.20	0.7988%
HUNTLAND	$3.81		$3.43	0.8573%
* TULLAHOMA	$4.85		$4.37	1.0913%
WINCHESTER	$3.45		$3.11	0.7763%
GIBSON	$0.79	1.0000	$0.79	NA
BRADFORD	$3.06		$3.06	0.7650%
BRADFORD SSD	$2.19		$2.19	0.5475%
DYER	$3.32		$3.32	0.8300%
GIBSON	$2.88		$2.88	0.7200%
GIBSON CO. SSD	$2.21		$2.21	0.5525%
* HUMBOLDT	$3.79		$3.79	0.9475%
* KENTON	$3.60		$3.60	0.9000%
* KENTON SSD	$2.26		$2.26	0.5650%
MEDINA	$4.06		$4.06	1.0150%
MILAN	$3.20		$3.20	0.8000%
MILAN SSD	$2.30		$2.30	0.5750%
RUTHERFORD	$3.24		$3.24	0.8100%
TRENTON	$3.61		$3.61	0.9025%
TRENTON SSD	$2.18		$2.18	0.5450%
GILES	$3.27	1.0000	$3.27	0.8175%
* ARDMORE	$3.58		$3.58	0.8950%
ELKTON	$3.62		$3.62	0.9050%
LYNNVILLE	$3.98		$3.98	0.9950%
PULASKI	$3.97		$3.97	0.9925%
GRAINGER	$1.95	1.0000	$1.95	0.4875%

Table D-1 Effective Property Tax Rates, Tennessee Counties, Municipalities and Special School Districts (Continued)

COUNTIES AND MUNICIPALITIES (1)	TOTAL NOMINAL TAX RATE PER $100 OF ASSESSED VALUE (2)	APPRAISAL RATIO (3)	EFFECTIVE TAX RATE PER $100 OF ASSESSED VALUE (4)	EFFECTIVE TAX RATE PER $1 OF MARKET VALUE (5)
GREENE	$2.11	0.8681	$1.83	0.4579%
GREENEVILLE	$4.21		$3.65	0.9137%
GRUNDY	$3.54	1.0000	$3.54	0.8850%
TRACY CITY	$4.03		$4.03	1.0075%
HAMBLEN	$2.00	1.0000	$2.00	0.5000%
MORRISTOWN	$2.91		$2.91	0.7275%
* WHITE PINE	$2.82		$2.82	0.7050%
HAMILTON	$3.52	0.8846	$3.11	0.7782%
CHATTANOOGA	$5.83		$5.16	1.2891%
COLLEGEDALE	$4.74		$4.19	1.0478%
EAST RIDGE	$4.72		$4.17	1.0436%
LAKESITE	$3.92		$3.47	0.8665%
LOOKOUT MOUNTAIN	$5.02		$4.44	1.1100%
RED BANK	$4.46		$3.95	0.9866%
RIDGESIDE	$5.45		$4.82	1.2044%
SIGNAL MOUNTAIN	$4.88		$4.32	1.0790%
SODDY DAISY	$4.10		$3.63	0.9076%
WALDEN	$4.23		$3.74	0.9352%
HANCOCK	$2.22	0.9093	$2.02	0.5047%
HARDEMAN	$2.69	0.8024	$2.16	0.5396%
BOLIVAR	$3.69		$2.96	0.7402%
* GRAND JUNCTION	$3.47		$2.78	0.6961%
HICKORY VALLEY	$2.91		$2.33	0.5837%
HORNSBY	$3.05		$2.45	0.6118%
MIDDLETON	$3.41		$2.74	0.6840%
TOONE	$2.91		$2.33	0.5837%
WHITEVILLE	$3.76		$3.02	0.7543%
HARDIN	$1.91	0.8529	$1.63	0.4073%
ADAMSVILLE	$2.86		$2.44	0.6098%
SAVANNAH	$2.78		$2.37	0.5928%
HAWKINS	$3.00	0.8270	$2.48	0.6203%
BULLS GAP	$4.03		$3.33	0.8332%
CHURCH HILL	$4.35		$3.60	0.8994%
* KINGSPORT	$5.64		$4.66	1.1661%
MOUNT CARMEL	$4.58		$3.79	0.9469%
ROGERSVILLE	$4.65		$3.85	0.9614%
SURGOINSVILLE	$3.76		$3.11	0.7774%
HAYWOOD	$2.25	0.9281	$2.09	0.5221%
BROWNSVILLE	$3.50		$3.25	0.8121%
STANTON	$2.96		$2.75	0.6868%
HENDERSON	$1.66	1.0000	$1.66	0.4150%
LEXINGTON	$2.41		$2.41	0.6025%
SARDIS	$2.09		$2.09	0.5225%
SCOTTS HILL	$2.01		$2.01	0.5025%

Table D-1 Effective Property Tax Rates, Tennessee Counties, Municipalities and Special School Districts (Continued)

COUNTIES AND MUNICIPALITIES (1)	TOTAL NOMINAL TAX RATE PER $100 OF ASSESSED VALUE (2)	APPRAISAL RATIO (3)	EFFECTIVE TAX RATE PER $100 OF ASSESSED VALUE (4)	EFFECTIVE TAX RATE PER $1 OF MARKET VALUE (5)
HENRY	$2.28	1.0000	$2.28	0.5700%
PSSD	$2.65		$2.65	0.6625%
COTTAGE GROVE	$2.49		$2.49	0.6225%
HENRY	$2.91		$2.91	0.7275%
* McKENZIE	$3.18		$3.18	0.7950%
PARIS	$3.07		$3.07	0.7675%
PURYEAR	$2.74		$2.74	0.6850%
HICKMAN	$2.55	1.0000	$2.55	0.6375%
CENTERVILLE	$3.27		$3.27	0.8175%
HOUSTON	$3.15	0.9764	$3.08	0.7689%
ERIN	$4.40		$4.30	1.0740%
TENN RIDGE	$4.15		$4.05	1.0130%
HUMPHREYS	$2.32	1.0000	$2.32	0.5800%
McEWEN	$2.87		$2.87	0.7175%
NEW JOHNSONVILLE	$2.88		$2.88	0.7200%
WAVERLY	$3.16		$3.16	0.7900%
JACKSON	$2.74	1.0000	$2.74	0.6850%
GAINESBORO	$3.37		$3.37	0.8425%
JEFFERSON	$1.93	1.0000	$1.93	0.4825%
BANEBERRY	$2.94		$2.94	0.7350%
DANDRIDGE	$2.93		$2.93	0.7325%
JEFFERSON CITY	$2.73		$2.73	0.6825%
* WHITE PINE	$2.84		$2.84	0.7100%
JOHNSON	$3.00	0.8250	$2.48	0.6188%
MOUNTAIN CITY	$4.14		$3.42	0.8539%
KNOX	$3.32	0.9315	$3.09	0.7731%
KNOXVILLE	$6.36		$5.92	1.4811%
LAKE	$2.70	0.9162	$2.47	0.6184%
RIDGELY	$4.16		$3.81	0.9528%
TIPTONVILLE	$4.53		$4.15	1.0376%
LAUDERDALE	$2.55	0.8426	$2.15	0.5372%
GATES	$4.35		$3.67	0.9163%
HALLS	$4.08		$3.44	0.8595%
HENNING	$4.35		$3.67	0.9163%
RIPLEY	$4.23		$3.56	0.8910%
LAWRENCE	$2.63	0.9758	$2.56	0.6404%
* IRON CITY	$3.12		$3.04	0.7599%
LAWRENCEBURG	$3.71		$3.62	0.9038%
LORETTO	$2.86		$2.79	0.6965%
SAINT JOSEPH	$2.83		$2.76	0.6892%
LEWIS	$2.03	0.9571	$1.94	0.4857%
HOHENWALD	$3.24		$3.10	0.7753%
LINCOLN	$2.53	0.7836	$1.98	0.4956%
* ARDMORE	$2.85		$2.23	0.5583%
FAYETTEVILLE	$4.32		$3.39	0.8463%

Table D-1 Effective Property Tax Rates, Tennessee Counties, Municipalities and Special School Districts (Continued)

COUNTIES AND MUNICIPALITIES (1)	TOTAL NOMINAL TAX RATE PER $100 OF ASSESSED VALUE (2)	APPRAISAL RATIO (3)	EFFECTIVE TAX RATE PER $100 OF ASSESSED VALUE (4)	EFFECTIVE TAX RATE PER $1 OF MARKET VALUE (5)
* PETERSBURG	$3.64		$2.85	0.7131%
LOUDON	$2.11	0.9412	$1.99	0.4965%
LENOIR CITY	$3.39		$3.19	0.7977%
LOUDON	$3.11		$2.93	0.7318%
McMINN	$1.98	0.9000	$1.78	0.4455%
ATHENS	$3.43		$3.09	0.7718%
CALHOUN	$2.58		$2.32	0.5805%
ENGLEWOOD	$3.68		$3.31	0.8280%
ETOWAH	$3.67		$3.30	0.8258%
NIOTA	$2.98		$2.68	0.6705%
* SWEETWATER	$2.89		$2.60	0.6503%
McNAIRY	$2.20	1.0000	$2.20	0.5500%
ADAMSVILLE	$3.15		$3.15	0.7875%
BETHEL SPRINGS	$2.81		$2.81	0.7025%
SELMER	$2.92		$2.92	0.7300%
MACON	$2.90	0.8692	$2.52	0.6302%
LaFAYETTE	$3.90		$3.39	0.8475%
RED BOILING SPG	$4.50		$3.91	0.9779%
MADISON	$2.46	1.0000	$2.46	0.6150%
* HUMBOLDT	$5.46		$5.46	1.3650%
JACKSON	$4.44		$4.44	1.1100%
THREE WAY	$3.14		$3.14	0.7850%
MARION	$2.03	0.8679	$1.76	0.4405%
RICHARD CITY SSD	$1.95		$1.69	0.4231%
* CHATTANOOGA	$4.34		$3.77	0.9417%
JASPER	$2.35		$2.04	0.5099%
KIMBALL	$2.14		$1.86	0.4643%
NEW HOPE	$2.20		$1.91	0.4773%
SOUTH PITTSBURG	$2.59		$2.25	0.5620%
WHITWELL	$2.18		$1.89	0.4730%
MARSHALL	$3.14	0.9456	$2.97	0.7423%
CHAPEL HILL	$4.54		$4.29	1.0733%
CORNERSVILLE	$4.11		$3.89	0.9716%
LEWISBURG	$4.65		$4.40	1.0993%
* PETERSBURG	$4.20		$3.97	0.9929%
MAURY	$2.64	0.9163	$2.42	0.6048%
COLUMBIA	$3.53		$3.23	0.8086%
MOUNT PLEASANT	$3.72		$3.41	0.8522%
* SPRING HILL	$2.99		$2.74	0.6849%
MEIGS	$2.35	0.8254	$1.94	0.4849%
DECATUR	$2.91		$2.40	0.6005%
MONROE	$2.26	0.9361	$2.12	0.5289%
MADISONVILLE	$2.63		$2.46	0.6155%
* SWEETWATER	$3.13		$2.93	0.7325%
TELLICO PLAINS	$2.91		$2.72	0.6810%

Table D-1 Effective Property Tax Rates, Tennessee Counties, Municipalities and Special School Districts (Continued)

COUNTIES AND MUNICIPALITIES (1)	TOTAL NOMINAL TAX RATE PER $100 OF ASSESSED VALUE (2)	APPRAISAL RATIO (3)	EFFECTIVE TAX RATE PER $100 OF ASSESSED VALUE (4)	EFFECTIVE TAX RATE PER $1 OF MARKET VALUE (5)
VONORE	$2.77		$2.59	0.6482%
MONTGOMERY	$3.30	0.9347	$3.08	0.7711%
CLARKSVILLE	$5.31		$4.96	1.2408%
MOORE	$2.12	1.0000	$2.12	0.5300%
LYNCHBURG	$2.19		$2.19	0.5475%
MORGAN	$4.21	0.7844	$3.30	0.8256%
OAKDALE	$6.46		$5.07	1.2668%
* OLIVER SPRINGS	$5.46		$4.28	1.0707%
OBION	$2.58	0.9191	$2.37	0.5928%
HORNBEAK	$3.30		$3.03	0.7583%
* KENTON	$3.95		$3.63	0.9076%
* KENTON SSD	$2.63		$2.42	0.6043%
OBION	$3.69		$3.39	0.8479%
RIVES	$4.58		$4.21	1.0524%
SOUTH FULTON	$3.88		$3.57	0.8915%
* TRIMBLE	$4.28		$3.93	0.9834%
TROY	$4.28		$3.93	0.9834%
UNION CITY	$4.12		$3.79	0.9467%
OVERTON	$2.04	0.9154	$1.87	0.4669%
LIVINGSTON	$3.20		$2.93	0.7323%
PERRY	$2.78	0.9457	$2.63	0.6573%
LINDEN	$3.18		$3.01	0.7518%
LOBELVILLE	$3.48		$3.29	0.8228%
PICKETT	$2.53	1.0000	$2.53	0.6325%
BYRDSTOWN	$3.27		$3.27	0.8175%
POLK	$2.58	0.8500	$2.19	0.5483%
BENTON	$3.18		$2.70	0.6758%
COPPERHILL	$3.52		$2.99	0.7480%
DUCKTOWN	$3.23		$2.75	0.6864%
PUTNAM	$2.70	0.8389	$2.26	0.5652%
ALGOOD	$3.60		$3.02	0.7540%
BAXTER	$4.47		$3.75	0.9364%
COOKEVILLE	$3.52		$2.95	0.7372%
MONTEREY	$3.98		$3.33	0.8337%
RHEA	$2.10	1.0000	$2.10	0.5250%
DAYTON	$2.58		$2.58	0.6450%
GRAYSVILLE	$3.02		$3.02	0.7550%
SPRING CITY	$3.14		$3.14	0.7850%
ROANE	$2.63	1.0000	$2.63	0.6575%
HARRIMAN	$3.89		$3.89	0.9725%
KINGSTON	$3.82		$3.82	0.9550%
MIDTOWN	$3.44		$3.44	0.8600%
* OAK RIDGE	$4.68		$4.68	1.1700%
* OLIVER SPRINGS	$3.80		$3.80	0.9500%
ROCKWOOD	$3.40		$3.40	0.8500%

Table D-1 Effective Property Tax Rates, Tennessee Counties, Municipalities and Special School Districts (Continued)

COUNTIES AND MUNICIPALITIES (1)	TOTAL NOMINAL TAX RATE PER $100 OF ASSESSED VALUE (2)	APPRAISAL RATIO (3)	EFFECTIVE TAX RATE PER $100 OF ASSESSED VALUE (4)	EFFECTIVE TAX RATE PER $1 OF MARKET VALUE (5)
ROBERTSON	$2.63	0.9375	$2.47	0.6164%
ADAMS	$3.01		$2.82	0.7055%
CEDAR HILL	$3.00		$2.81	0.7031%
GREENBRIER	$3.68		$3.45	0.8625%
* MILLERSVILLE	$3.28		$3.08	0.7688%
* RIDGETOP	$3.62		$3.39	0.8484%
SPRINGFIELD	$3.77		$3.53	0.8836%
* WHITE HOUSE	$4.03		$3.78	0.9445%
RUTHERFORD	$2.78	0.9264	$2.58	0.6438%
EAGLEVILLE	$3.57		$3.31	0.8268%
LaVERGNE	$3.28		$3.04	0.7596%
MURFREESBORO	$4.68		$4.34	1.0839%
SMYRNA	$3.61		$3.34	0.8361%
SCOTT	$3.40	0.9149	$3.11	0.7777%
HUNTSVILLE	$3.69		$3.38	0.8440%
ONEIDA	$4.40		$4.03	1.0064%
OSSD	$3.78		$3.46	0.8646%
SEQUATCHIE	$2.54	1.0000	$2.54	0.6350%
DUNLAP	$3.43		$3.43	0.8575%
SEVIER	$1.50	0.8300	$1.25	0.3113%
GATLINBURG	$1.71		$1.42	0.3553%
PIGEON FORGE	$1.62		$1.35	0.3370%
PITTMAN CENTER	$1.92		$1.59	0.3984%
SEVIERVILLE	$1.88		$1.56	0.3901%
SHELBY	$3.54	0.9257	$3.28	0.8192%
ARLINGTON	$4.54		$4.20	1.0507%
BARTLETT	$4.83		$4.47	1.1178%
COLLIERVILLE	$5.01		$4.64	1.1594%
GERMANTOWN	$5.01		$4.64	1.1594%
MEMPHIS	$6.91		$6.40	1.5991%
MILLINGTON	$4.46		$4.13	1.0322%
SMITH	$1.89	1.0000	$1.89	0.4725%
CARTHAGE	$3.09		$3.09	0.7725%
GORDONSVILLE	$2.64		$2.64	0.6600%
SOUTH CARTHAGE	$2.61		$2.61	0.6525%
STEWART	$2.49	0.9527	$2.37	0.5931%
CUMBERLAND CITY	$3.35		$3.19	0.7979%
DOVER	$3.24		$3.09	0.7717%
SULLIVAN	$2.63	0.9119	$2.40	0.5996%
BLUFF CITY	$4.18		$3.81	0.9529%
BRISTOL	$5.23		$4.77	1.1923%
* JOHNSON CITY	$4.68		$4.27	1.0669%
* KINGSPORT	$5.02		$4.58	1.1444%
SUMNER	$2.54	0.9209	$2.34	0.5848%
GALLATIN	$3.86		$3.55	0.8887%

Table D-1 Effective Property Tax Rates, Tennessee Counties, Municipalities and Special School Districts (Continued)

COUNTIES AND MUNICIPALITIES (1)	TOTAL NOMINAL TAX RATE PER $100 OF ASSESSED VALUE (2)	APPRAISAL RATIO (3)	EFFECTIVE TAX RATE PER $100 OF ASSESSED VALUE (4)	EFFECTIVE TAX RATE PER $1 OF MARKET VALUE (5)
* GOODLETTSVILLE	$2.76		$2.54	0.6354%
HENDERSONVILLE	$3.10		$2.85	0.7137%
* MILLERSVILLE	$3.19		$2.94	0.7344%
MITCHELLVILLE	$3.36		$3.09	0.7736%
PORTLAND	$3.89		$3.58	0.8956%
WESTMORELAND	$3.73		$3.43	0.8587%
* WHITE HOUSE	$3.94		$3.63	0.9071%
TIPTON	$2.92	1.0000	$2.92	0.7300%
ATOKA	$3.17		$3.17	0.7925%
BRIGHTON	$3.21		$3.21	0.8025%
COVINGTON	$4.27		$4.27	1.0675%
MASON	$3.92		$3.92	0.9800%
MUNFORD	$3.36		$3.36	0.8400%
TROUSDALE	$3.08	0.8500	$2.62	0.6545%
HARTSVILLE	$4.33		$3.68	0.9201%
UNICOI	$2.72	0.9037	$2.46	0.6145%
ERWIN	$3.83		$3.46	0.8653%
UNION	$2.30	0.8958	$2.06	0.5151%
VAN BUREN	$2.19	1.0000	$2.19	0.5475%
WARREN	$2.30	0.9564	$2.20	0.5499%
McMINNVILLE	$3.97		$3.80	0.9492%
MORRISON	$2.43		$2.32	0.5810%
WASHINGTON	$1.93	1.0000	$1.93	0.4825%
* JOHNSON CITY	$3.80		$3.80	0.9500%
JONESBOROUGH	$3.46		$3.46	0.8650%
WAYNE	$2.57	0.9333	$2.40	0.5996%
CLIFTON	$3.63		$3.39	0.8470%
COLLINWOOD	$4.13		$3.85	0.9636%
* IRON CITY	$3.06		$2.86	0.7140%
WAYNESBORO	$3.99		$3.72	0.9310%
WEAKLEY	$2.44	0.9221	$2.25	0.5625%
DRESDEN	$3.66		$3.37	0.8437%
GLEASON	$3.86		$3.56	0.8898%
GREENFIELD	$3.48		$3.21	0.8022%
* McKENZIE	$3.27		$3.02	0.7538%
MARTIN	$3.80		$3.50	0.8760%
SHARON	$4.21		$3.88	0.9705%
WHITE	$2.07	0.9032	$1.87	0.4674%
SPARTA	$3.43		$3.10	0.7745%
WILLIAMSON	$2.96	0.8545	$2.53	0.6323%
9TH SSD	$3.69		$3.15	0.7883%
BRENTWOOD	$3.64		$3.11	0.7776%
FAIRVIEW	$3.82		$3.26	0.8160%
FRANKLIN	$4.24		$3.62	0.9058%
FRANKLN SSD	$3.55		$3.03	0.7584%

Table D-1 Effective Property Tax Rates, Tennessee Counties, Municipalities and Special School Districts (Continued)

	COUNTIES AND MUNICIPALITIES (1)	TOTAL NOMINAL TAX RATE PER $100 OF ASSESSED VALUE (2)	APPRAISAL RATIO (3)	EFFECTIVE TAX RATE PER $100 OF ASSESSED VALUE (4)	EFFECTIVE TAX RATE PER $1 OF MARKET VALUE (5)
	NOLENSVILLE	$2.96		$2.53	0.6323%
*	SPRING HILL	$3.30		$2.82	0.7050%
	THOMPSON STATION	$3.09		$2.64	0.6601%
	WILSON	$2.82	1.0000	$2.82	0.7050%
	LEBANON	$3.69		$3.69	0.9225%
	LEBANON SSD	$3.25		$3.25	0.8125%
	WATERTOWN	$3.78		$3.78	0.9450%

Source: State Board of Equalization, "2000 Tax Aggregate Report." April, 2001.

* Municipalities located in more than one county.

Column 4 equals column 2 times column 3 (county value). Column 5 equals column 4 divided by 400.

NA: Most residents of Carroll and Gibson counties live in a special school district.

APPENDIX E: Bibliography

Advisory Commission on Intergovernmental Relations (ACIR), *Significant Features of Fiscal Federalism*. Annual Publication, Various years. Washington, D.C.

Advisory Commission on Intergovernmental Relations. 1964. *The Problem of Special Districts in American Government*, Report A-22.

Aiken, J. David. 1989. *State Farmland, Preferential Assessment Statutes.* Agricultural Research Division, Institute of Agriculture and Natural Resources, University of Nebraska-Lincoln

Anderson, John E. and Robert W. Wassmer. 2000. "Are Local Economic Development Incentives Effective in an Urban Area?" *State Tax Notes* (February 14): 515-523.

Anderson, John E. and Robert W. Wassmer. 2000. *Bidding for Business, The Efficacy of Local Economic Development Incentives in a Metropolitan Area*. Kalamazoo, Michigan: Upjohn Institute for Employment Research.

Bahl, Roy, editor. 1996. *Taxation and Economic Development: A Blueprint for Tax Reform in Ohio.* Columbia, Ohio: Battelle Press.

Bingham, Herbert J. 1986. *Municipal Politics & Power*. Nashville, Tennessee: Municipal Press.

Bollier, David. 1998. *How Smart Growth Can Stop Sprawl***.** Washington, D.C.: Essential Books.

Bonnett, Thomas W. 1999. *Telewars in the States*. Washington, D.C.: Council of Governors' Policy Advisors.

Bonnett, Thomas W. 1998. *Is the New Global Economy Leaving State-Local Tax Structures Behind?* National League of Cities.

Bonnett, Thomas W. 1998b. *State Role in Regulating Municipal Franchise Fees*. Lexington, Kentucky: Council of State Governments.

Bowman, John H. 1997. *Aspects of the Real Property Tax System of the District of Columbia*. Special Report prepared for the District of Columbia Tax revision Commission, November, 1997 and available at the District of Columbia website at http://www.dcwatch.com/taxrev/taxres13.htm as of July 12, 2000.

Brunori, David, editor. 1998. *The Future of State Taxation.* Washington D.C.: The Urban Institute Press.

Bureau of Labor Statistics. *Consumer Expenditure Survey, 1997-98*. Data available on July 5, 2000 at BLS website http://stats.bls.gov/csxcross.

Chervin, Stanley M. 1990. *Who Will Pay the Tennessee Income Tax? Tax Base Options and Their Impacts*. Nashville, Tennessee: Tennessee Department of Revenue.

Chervin, Stanley M. and Harry A. Green. 1999. *Income Elasticity of Tennessee's Tax System.* Nashville, Tennessee: Tennessee Advisory Commission on Intergovernmental Relations, Staff Report.

Cline, Robert. 2000. "Reducing Out-of-Line Telecommunications Taxes: State Responses to Increased Competition." *State Tax Notes* (September 18): 769-775.

Comptroller of the Treasury. 1966. *Tennessee Property Tax Data: Sections of Earlier Tax Studies Relating to the Property Tax*. Reproduced for the use of 1966 Tax Study Commission.

Comptroller of the Treasury. 1981. "Ratio Study." *Local Government Newsletter* (September).

Division of Property Assessments, Comptroller of the Treasury. 2000. *Real Estate Appraisal Ratio Report, Tax Year 2000*. Nashville, Tennessee.

Division of Property Assessments, Office of the Comptroller. 2000. *2000 Annual Report*. Nashville, Tennessee.

Dye, Richard F. and Therese J. McGuire. 2000. "Property Taxes, Schools, and Sprawl. *State Tax Notes* (May 29): 1899-1908

Ely, Richard T. 1888. *Taxation in American States and Cities*. New York: Hunt and Eaton.

Ettlinger, Michael P., John F. O'Hare, Robert S. McIntyre, Julie King, Neil Mransky, and Elizabeth A. Fray. 1996. *Who Pays? A Distributional Analysis of the Tax Systems of All 50 States*. A publication of the Citizens for Tax Justice (1996) available at website at http://www.ctj.org/html/publist.htm - State and Local Taxes.

Gloudemans, Robert and Richard Almy. *More Defensible Values with Statistics*. Paper at website http://www.spss.com/downloads/papers/pva.html as of 7/17/2000.

Government of the District of Columbia. 2000. *Tax Rates and Tax Burdens In the District of Columbia-A Nationwide Comparison, 1999*. Washington D.C.

Green, Harry A. 1980. *County Public Finance in Tennessee, FY 1970-FY 1976*. Nashville: Comptroller of the Treasury.

Green, Harry A. 1982b. *Local Government Finance in Tennessee.* Nashville: Tennessee Advisory Commission on Intergovernmental Relations.

Green, Harry A. 1983. *Centrally Assessed and Locally Assessed Property: Valuation and Assessment*. Nashville: The Tennessee Advisory Commission on Intergovernmental Relations.

Green, Harry A. and Lynne Holliday. 1996. *Fiscal Capacity for Funding K-12 Education: Fiscal Year 1997.* Nashville: Tennessee Advisory Commission on Intergovernmental Relations, Education Brief No. 4.

Green, Harry A., editor. 1982. *The Challenge of Property Tax Administration in Tennessee*. Nashville, Tennessee: Advisory Commission on Intergovernmental Relations.

Green, Harry A., Stan Chervin, Cliff Lippard, et al. 2000. *State-Shared Taxes in Tennessee*. Nashville: Tennessee Advisory Commission on Intergovernmental Relations.

Hovey, Hal. 1996. *The Property Tax in the 21st Century*. The Finance Project, Washington D.C., May 1996. Located at website http://www.financeproject.org/property.html.

Internal Revenue Service. *Tennessee Income and Tax Data 1998.* File "98tn43tn.xls" downloaded from I.R.S. Website at http://www.irs.ustreas.gov/prod/tax_stats/soi/ind_st.html on 7/6/2000.

Ives, William R. 1983. *A History of State Tax Studies*. An unpublished report submitted to the Special Joint Legislative Task Force on State and Local Tax Structure, Nashville, Tennessee.

Jones, Kelsie. 1999. *The Property Tax in Tennessee*. Unpublished memo on the property tax history dated September 9, 1999.

Kennickell, Arthur B. and Martha Starr-McCluer. 1996. *Household Saving and Portfolio Change: Evidence from the 1983-89 SCF Panel*. Federal Reserve Board of Governors.

Kennickell, Arthur B., Martha Starr-McCluer, and Brian J. Surette. 2000. "Recent Changes in U.S. Family Finances: Results from the 1998 Survey of Consumer Finances." *Federal Reserve Bulletin*, vol. 86 (January): 1-29.

Leuthold, Frank O. 1990. *Changes in Local Taxes for Tennessee Counties*, The University of Tennessee Agricultural Experiment Station, Research Report 90-09 (March).

McAnulty, Tom. 1982. *Local Government Revenue Sources*. The University of Tennessee County Technical Assistance Service.

McGuire, Therese. 2000. "Alternatives to Property Taxation for Local Government." *State Tax Notes* (May 15): 1715-1723.

National Conference of State Legislatures. 1997. *Critical Issues in State-Local Fiscal Policy*. Washington, D.C.

Neubig, Thomas S., and Saatya Poddar. 2000. "Blurred Tax Boundaries: The New Economy's Implications for Tax Policy." *State Tax Notes* (October 9): 965-973.

Olorunniwo, Festus. 2001. *Sampling Project For Tax Exempt Properties*. Report prepared for State Board of Equalization

O'Sullivan, Arthur. 2000. "Limitations on Local Property Taxation: The U.S. Experience." *State Tax Notes* (May 15): 1697-1713.

Palladino, Scott and Stacy Mazer. 2000. *Telecommunications Tax Policies: Implications for the Digital Age*. Washington D.C.: National Governors' Association.

Sexton, Terri A., Steven Sheffrin, and Arthur O'Sullivan. 1999. "Proposition 13: Unintended Effects and Feasible Reforms." *National Tax Journal*, 52 (March): 99-111.

Sheffrin, Stephen M. 1998. "The Future of the Property Tax: A Political Economy Perspective" in *The Future of State Taxation*, David Brunori, editor. Washington D.C.: The Urban Institute Press.

Sims, Carlton. 1932 *County Government in Tennessee.* Dissertation, The University of Chicago.

Special Joint Legislative Task Force on State and Local Tax Structure. 1985. *Final Report.* Nashville, Tennessee.

Special Joint Legislative Task Force on State and Local Tax Structure. 1984. *Interim Report.* Nashville, Tennessee.

State Board of Equalization. 2000. *1999 Tax Aggregate Report of Tennessee*. Nashville. Also historical issues of the Report to 1973.

Tannenwald, Robert. 2001. *Funding Education In New Hampshire: The Adequacy and Stability of Alternative Revenue Sources*. Draft version of this research report was downloaded on 1/06/2001 from website http://www.edufundingcommission.com/research_adequacy.htm.

Tennessee Advisory Commission on Intergovernmental Relations. 1984. *Property Tax Modernization in Tennessee: Recommendations of the Tennessee Advisory Commission on Intergovernmental Relations.* Nashville.

Tennessee Advisory Commission on Intergovernmental Relations. 1982. *Local Government Fiscal Flexibility*. A Staff Report, Nashville.

Tennessee Advisory Commission on Intergovernmental Relations. 1984. *Property Tax Modernization in Tennessee: Recommendations of the Tennessee Advisory Commission on Intergovernmental Relations.* A Position Paper and Policy Statement. Nashville.

Tennessee Advisory Commission on Intergovernmental Relations. 1999. *Financing Government in the 21st Century*. Nashville, Tennessee.

Thorogood, James E. 1949. *A Financial History of Tennessee Since 1870*. Sewanee, Tennessee: University of the South.

U. S. Department of Commerce, U.S. Census Bureau. 2000. *1997 Census of Governments - Volume 4, No. 5, Compendium of Government Finances*. Washington D.C.: December.

U. S. Department of Commerce, U.S. Census Bureau. 2000. *Finances of Municipal and Township Governments, 1997 Census of Governments, Volume 4, Government Finances*. Washington D.C.: August.

U. S. Department of Commerce, U.S. Census Bureau. 2000. *Finances of Special District Governments, 1997 Census of Governments, Volume 4, Government Finances*. Washington D.C.: September.

U. S. Department of Commerce, U.S. Census Bureau. 2000. *Finances of County Governments, 1997 Census of Governments, Volume 4, Government Finances*. Washington D.C. : August.

U.S. Census Bureau. *State and Local Government Finance Estimates, by State:1995-96*. Spreadsheet data available at Census Internet site at http://www.census.gov/govs/www/esti96.html

Utah State Tax Commission. *1996 Assessment/Sales Ratio Study*. Available at the Utah State Tax Commission website at http://www.tax.ex.state.ut.us/property/96fsr61f.htm .

Van Slyke, Dore, Alexandra Tan, and Martin Orland. 1994. *School Finance Litigation: A review of Key Cases*. Prepared for the Finance Project. Washington D.C.

Youngman, Joan M. 2000. "Property Tax Lessons From the Estate Tax Debate." *State Tax Notes* (August 14): 429-434.

Youngman, Joan M. 1999. "Property Taxes in an Age of Globalization." *State Tax Notes* (June 7): 1897-1900.

Zodrow, George R. 1999. *State Sales and Income Taxes*. College Station, Texas: Texas A&M University Press.

Zodrow, George R. 2000. "Reflections on the New View and the Benefit View of the Property Tax." *State Tax Notes* (May 22): 1805-1821.