

TRADING SALES TAXES FOR PROPERTY TAX RELIEF:

A STUDY IN EQUITY AND FISCAL ILLUSION

by

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(Under the Direction of Thomas P. Lauth)

ABSTRACT

This research draws upon several theoretical perspectives on taxation to analyze the effects of using sales taxes to fund homestead exemptions. Using a 2001 telephone survey of county residents and tax digest data, this research seeks to understand how the property tax relief program adopted by DeKalb County, Georgia affects the county's tax distribution and residents' awareness of their tax burdens. Specifically, the research tests for changes in the county's tax distribution with the Kakwani and Suits progressivity measures, finding that the tax relief program results in a more regressive tax system, in the aggregate, than the prior system, *ceteris paribus*. However, the sales tax also lowers the average tax liability of residents, which is likely due to tax exportation. By testing the underlying assumptions of the debt illusion and tax complexity hypotheses from the fiscal illusion literature, the research finds that the public perceives with relative accuracy the property tax shifting that occurs from landlords to tenants, yet does not accurately perceive their households' annual sales tax payments. Even though residents overestimate their household's sales tax liabilities, they strongly prefer sales taxes to property taxes. As local governments search for politically acceptable revenue sources like the sales tax in order to decrease property tax burdens, programs such as the one studied here may be emulated. For this reason, it is important to understand its impact on residents.

INDEX WORDS: DeKalb County, fiscal illusion, homestead exemption, Homestead Option Sales Tax, property tax relief, sales tax

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DEDICATION

For my mother

For Mark

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TABLE OF CONTENTS

	Page
ACKNOWLEDGEMENTS	v
LIST OF TABLES	viii
LIST OF FIGURES	x
CHAPTER	
1 INTRODUCTION	1
Property Tax Relief and HOST	1
Theoretical Foundations and Hypotheses.....	5
Potential Significance.....	10
Data Sources and Methodology	11
Organization	12
2 BACKGROUND: DEKALB COUNTY	14
3 LITERATURE REVIEW AND HYPOTHESES	24
Property Tax Incidence	24
Property Tax Relief	31
Sales Tax Incidence.....	44
Citizen Surveys on Revenue and Expenditure Preferences.....	49
Fiscal Illusion	55
Hypotheses	72
Conclusion.....	84

4	METHODOLOGY	86
	Host Survey	86
	Hypotheses	89
	Conclusion.....	118
5	DATA ANALYSIS: HYPOTHESES 1 AND 2	119
	Hypothesis 1	119
	Hypothesis 2	128
6	DATA ANALYSIS: HYPOTHESES 3 THROUGH 6	147
	Hypothesis 3	148
	Hypothesis 4	161
	Hypothesis 5	164
	Hypothesis 6	174
	Summary of Findings	182
7	CONCLUSION.....	185
	Future Research.....	185
	Policy Implications.....	200
	Theoretical Implications.....	203
	REFERENCES	207
	APPENDICES	217
	A STEINBAUER HOMEOWNER SURVEY	218
	B DEKALB COUNTY TAX AND BUDGET INFORMATION.....	231
	C DEMOGRAPHIC DATA FOR HOST SURVEY RESPONDENTS.....	238

LIST OF TABLES

	Page
Table 3.1: Dekalb County Homestead Exemptions: Qualifications and Benefits	35
Table 4.1: Millage Rates Assessed by the DeKalb County Board of Education	92
Table 4.2: 2001 Income Distribution of Homeowners and Renters	95
Table 4.3: Taxable Spending 2001: Sales Tax Liabilities Under HOST	98
Table 4.4: Comparison of CES Spending Data to HOST Spending Data	101
Table 4.5: Non Taxable Spending 2001: HOST Measures	102
Table 4.6: Taxable Spending 2001: Total Tax Liabilities	111
Table 5.1: DeKalb County Unincorporated Residential Property, 1992-2002	120
Table 5.2: DeKalb County Unincorporated Residential Property Taxes Without HOST, 1992-2002	122
Table 5.3: County Residential Property Tax Payments, 1992-2002 (real dollars)	126
Table 5.4: Total Residential Property Tax Payments, 1992-2002 (real dollars)	127
Table 5.5: HOST Benefits and Property Taxes by Homeowner Income	129
Table 5.6: HOST Benefits to Assessed Value and Gross Income	131
Table 5.7: HOST Benefits and County Tax Burdens by Eight Income Groups, 2001	133
Table 5.8: HOST Benefits and County Tax Burdens by Five Income Groups, 2001	138
Table 5.9: Tax Distribution Indices: With and Without HOST	143
Table 5.10: Tax Payments With and Without HOST for Tenants and Homeowners	144
Table 6.1: Opinions About HOST (homeowners only)	149

Table 6.2: Reasons for Supporting HOST (homeowners only).....	150
Table 6.3: Net Perceived Benefit From HOST (homeowners only).....	151
Table 6.4: Correlations Among HOST Attitudinal Variables (homeowners only)	154
Table 6.5: Opinions About HOST (renters only).....	155
Table 6.6: Opinions on Fairest Tax.....	157
Table 6.7: Responses to Sales Tax Attitudinal Statements.....	158
Table 6.8: Responses to Property Tax Attitudinal Statements	159
Table 6.9: Attitudinal Differences Between Renters and Homeowners	160
Table 6.10: Percent of Property Tax Landlords Pass Forward to Renters.....	162
Table 6.11: Support for Renters Credit (renters only)	163
Table 6.12: Effective Sales Tax Rates by Income, 2001	165
Table 6.13: Respondents' Estimated Effective Sales Tax Rates, 2001	167
Table 6.14: Differences Between CES-Derived and Respondents' Sales Tax Estimates	170
Table 6.15: Correlations Between Respondents' Estimation Error and Selected Demographic Variables	171
Table 6.16: DeKalb County General Purpose and Hospital Budgets and DeKalb County School System Spending, 1992-2002	175
Table 6.17: DeKalb County Operating Budgets, 1992-2001 (per capita, real dollars) ...	179
Table 6.18: DeKalb County and DeKalb County School System, 1992-2001 (per capita, real dollars)	180
Table 7:1 HOST Sales Tax Liabilities, 1999-2001.....	192
Table 7:2 HOST Receipts from Residents and Nonresidents, 1999-2001.....	195

LIST OF FIGURES

	Page
Figure 4.1: Lorenz Curve: Sample of DeKalb County Households, 2001	104
Figure 4.2: HOST Concentration Curve: Sample of DeKalb County Households, 2001	106
Figure 5.1: Residential Property Tax Payments, 1992-2002	123
Figure 5.2: Lorenz Curves: Tax Burden With and Without HOST: Sample of DeKalb County Households, 2001	140
Figure 5.3: Tax Concentration Curves: Tax Burden With and Without HOST: Sample of DeKalb County Households, 2001	142
Figure 6.1: Relationship Between Estimated Sales Taxes With HOST and Estimated Net Benefit from HOST.....	153

CHAPTER 1

INTRODUCTION

During the 1970s and early 1980s, local governments in the United States experienced substantial changes in their property tax programs through the imposition of tax limits such as Proposition 13 and the adoption of state-funded tax relief for the poor and elderly.¹ In the ensuing two decades, states also enacted legislation that expanded funding options for local governments through local-option sales taxes and user charges. The culmination of these actions enabled local governments to reduce their reliance on property taxes. How these tax shifts altered aggregate tax distributions within communities or taxpayers' knowledge of their burdens have not been studied comprehensively. This research examines these critical tax policy concerns through a case study of an urban county in Metropolitan Atlanta.

PROPERTY TAX RELIEF AND HOST

Property tax relief takes five primary forms: state-funded credits and exemptions (e.g., circuit breakers), local exemptions, property classifications, tax deferral programs, and assessment and rate limits. The most widely adopted form of relief is the homestead exemption, with forty states requiring some level of exemption to homeowners (Gold & Liebschutz, 1996). These exemptions likely result in higher overall property tax rates to

¹ California voters approved Proposition 13 in 1978 through referendum. The constitutional amendment limits increases in the assessed value of property to two percent annually. When a property is transferred, it is reassessed at the new market value. In addition, the property tax rate cannot exceed one percent of assessed value.

offset lost residential property tax receipts. With the higher rates, local governments shift property tax burdens to other classes of property such as commercial and industrial.

Theoretically, the most progressive form of tax relief should be a state credit that includes renters. When states began offering circuit breaker programs, researchers were quick to assess their impact and offer recommendations for improving them (e.g., Bendick, 1974; Bowman, 1980; Liner, 1977; Thomassen, 1978). Impact studies did not reveal wholesale success of circuit breakers, instead finding that the programs had not altered income distributions nor changed the public's perceptions of their tax payments (Rubinfeld & Wolkoff, 1983). Recommendations to improve state programs included the need to balance program costs against expanding eligibility and whether to measure financial need based on the annual income or accumulated wealth of the elderly recipients.

The initial effects of the tax revolts like Proposition 13 in California and Proposition 2 ½ in Massachusetts have also been studied at length (e.g., Chernick & Reschovsky, 1982; Thomas, 1978).² Although often not as dramatic as the two aforementioned propositions, thirty states enacted some form of spending and/or taxation limits (TELS) on local governments between 1978 and 1983 (Campbell, 1998). Research on the impact of TELS provides conflicting results, with some studies showing that TELS resulted in less government spending per capita (Shadbegian, 1998) while others found that local governments recovered their lost revenue over time (Galles & Sexton, 1998; Lowery, 1982; Mullins & Joyce, 1996). However, TELS have altered the revenue structures of local governments through greater reliance on fees, user charges,

² Adopted through referendum in 1980, Proposition 2 ½ set an annual ceiling of 2.5 percent for the total local property tax levy in a city or town based on the full cash value of all taxable property.

intergovernmental grants, and sales taxes (Johnston, Pagano, & Russo, 2000; Joyce & Mullins, 1991; Lowery, 1982; Mullins & Joyce, 1996).

Although not always targeted toward property tax relief, states also began granting local governments the authority to impose general sales and use taxes (Due & Mikesell, 1994). By expanding local governments' opportunities for revenue diversification, states sought to alleviate some of the fiscal stress faced by communities. Currently, 35 states authorize local governments to levy a local sales tax (Facer, Hayes, Hudson, & Steinbauer, 2001). Furthermore, these new revenue sources decrease the need to raise property tax rates. For example, the state of Georgia enacted the Local Option Sales Tax (LOST) in 1975, which permitted county governments to assess a one-cent sales tax subject to voter approval (Durning, 1992). As written, the Georgia tax statute intended to serve as property tax relief, although the impact of LOST has been to increase public spending as well (Jung, 2001).

DeKalb County, Georgia voters approved the one-cent Homestead Option Sales Tax (HOST) in March 1997, which dedicated revenues toward residential property tax relief and capital projects. DeKalb County is one of the few counties in the country to implement this form of tax relief program, offering a unique opportunity to study the effects of a direct sales-for-property tax shift. At least eighty percent of HOST revenues must be spent on providing homestead tax exemptions, and a maximum of twenty percent can be spent on capital improvement projects. Homestead exemptions differ from universal tax reductions in that only owner-occupied residences qualify for the relief. The HOST statute prohibits the county from spending HOST receipts on any other government program.

The initial HOST-funded exemptions were given in 1999. To fund capital projects, the statute required a full calendar year of tax collections prior to the first reduction in property taxes. The DeKalb County Commissioners approved a 100 percent homestead exemption for 1999 and continued to do so for 2000 and 2001. Due to revenue shortfalls and increasing program costs, the county only provided an 86.8 percent exemption in 2002. In other words, all county property taxes (except for bonds), regardless of a home's assessed value, were exempted for the first three years of the program.³ In order to fund the high levels of owner-occupied property tax relief, the county elected to finance capital projects at amounts far below the permissible twenty percent. HOST does not provide tax relief for industrial property or commercial property. In sum, a sales tax, which all residents and commercial businesses pay, funds tax reductions for a select group: homeowners.

Because of its relatively recent enactment, HOST has not been thoroughly evaluated to determine its impact on county government or the public. This research project undertakes such an evaluation, examining the tax relief program from several perspectives, including whether owner-occupied property taxes have been reduced with HOST; the program's effect on aggregate tax distribution; public support for HOST; the public's awareness of their tax burdens; and changes in county spending. This research may help government officials, researchers, and the public to analyze not only the success of the HOST tax relief program within DeKalb County but also the program's utility in jurisdictions across the country.

³ Exempt county taxes: general county, hospital, fire, and special unincorporated assessments. Taxes for the county's bonded indebtedness and streetlights are not included in the homestead exemption. School, municipal, and state property taxes are separate taxing authorities and, therefore, are not included in the homestead credit program.

THEORETICAL FOUNDATIONS AND HYPOTHESES

The research questions for this project extend from the substantial work, both theoretical and empirical, previously conducted in the areas of tax incidence, public opinion, and fiscal illusion. Theories of tax incidence have been tested extensively; however, these works were usually confined to one form of taxation rather than assessing the impacts of switching forms of taxation within a jurisdiction. Furthermore, a rich body of research exists on the public's preferences for taxation and service levels, but the surveys have generally avoided questions regarding taxpayer knowledge and tax transparency. The fiscal illusion literature, though prolific, contains mixed results, leading one to question whether its underlying premises or the theory itself are sound.

Consensus exists among economists that consumers bear the burden of the sales tax (Besley & Rosen, 1999; Due & Mikesell, 1994; Poterba, 1993, 1996). Traditionally, sales taxes have been considered regressive (using annual income data) in that lower income persons pay a higher effective tax rate than richer persons because the former group spends a greater portion of their income on goods and saves less than the rich (Pechman & Okner, 1974; Phares, 1980). However, sales tax regressivity is greatly decreased by exempting food purchased for home consumption. In fact, several theorists believe that with this exemption, the sales tax has a proportional burden across all income groups even when measured with annual data (Due & Mikesell, 1994; Phares, 1980; Rosen, 1995).

Research suggests that increases in residential property taxes are fully borne by the property owners (or at least by the owners at the time of the increase) (Aaron, 1975; Ladd, 1973; Pechman & Okner, 1974). For renters, research has found that the burden is

shared with landlords and that the final tax distribution between the two groups is dependent upon the elasticity of demand for rental housing (e.g., Gold 1979; Ihlanfeldt 1979; Roche, 1986). Under the “new” economic view of tax incidence, residential property taxes are considered proportional to lifetime income (Aaron, 1975). However, the tax on low-income persons is an exception. These persons expend a greater proportion of their revenue on housing than middle- and upper-income taxpayers (Gold, 1979). Furthermore, deficient property tax administration and the plight of the poor living in inner cities with few housing choices likely causes much of the tax’s regressivity (Gaffney, 1973). Studies based on lifetime income measures have found that residential property taxes create u-shaped incidence curves, meaning that the poorest and richest households pay the highest effective property tax rates (Fullerton & Rogers, 1993; Phares, 1980). One of the basic criteria in evaluating tax policy is the tax change’s effect on an individual’s ability to pay these new taxes (Mikesell, 1999). To the extent that a tax policy is regressive and therefore distorts vertical equity, the community may question its fairness.

Based on tax incidence theory, HOST appears to reduce vertical equity in two ways. First, renters have lower incomes on average than homeowners, yet they now pay higher taxes through the sales tax and receive no property tax reduction benefits. Although homeowners also pay sales taxes, they experience substantially lower overall tax burdens through the expanded property tax exemptions. Second, income and home value are generally considered to be positively correlated. Since HOST benefits increase with a home’s assessed value, the tax reductions likely result in a less progressive tax structure.

This research will initially test whether HOST has met its programmatic goal of lower property tax payments for homeowners. Then, the research will assess how this tax relief has altered the tax structure for DeKalb County. The study expects to find that HOST-funded property tax relief increases with household income and that the DeKalb County tax system with HOST (sales and property taxes combined) has resulted in a more regressive tax system, *ceteris paribus*.

Through survey data, previous researchers have tried to link the public's attitudes toward taxation and public spending with explanatory variables such as social-economic status and political ideology (e.g., Beck, Rainey, Button, 1992; Nicholls, & Traut, 1987; Citrin, 1979; Courant, Gramlich, & Rubinfeld, 1980; Fowler, 1974; Ladd & Wilson, 1982). Sjoquist (2001) found strong preferences for sales taxes to other forms of taxation in a statewide telephone survey of Georgians, regardless of income, political ideology, or education. Reasons generally suggested for the popularity of the sales tax include its standard legal rate, optional nature, and potential exportability. The *Citizens Guide to the Homestead Option Sales Tax (HOST)* printed by DeKalb County claimed that an estimated forty percent of HOST revenues would come from non-residents. The perception that sales taxes could possibly be passed on to non-residents would make the tax more attractive, particularly against the residential property tax, which is confined to the community. Although these factors are important for determining support for the sales tax, they are likely not as important as self-interest. In the case of HOST, homeowners probably support the program primarily due to their lower property tax payments. In sum, the public's general support for sales taxes combined with self-interest should result in a majority of homeowners supporting the HOST program.

Furthermore, that support will predominantly stem from the perceived benefits homeowners receive.

Although much of the research on citizens' attitudes toward taxation has focused on preferences, a limited amount of research exists on the perceptions of tax burden. For example, Levy (1979) surveyed California residents to learn their reasons for supporting or opposing Proposition 13, and Billings and Folsom (1980) and Greene and Munley (1984) found that residents do not fully perceive non-residential property tax burdens.

In addition to altering tax burdens, HOST may have also decreased residents' awareness of their actual tax payments. According to fiscal illusion theories, taxpayers' perceptions of the cost of government can be obscured by the ways in which governments raise revenue. In other words, more complex tax systems, such as the sales tax, which is collected in relatively small increments throughout the year, may cause taxpayers to underestimate the amount of taxes they actually pay, thereby making them more politically acceptable (Misiolek & Elder, 1988). In contrast, local governments regularly send property tax bills to owners clearly showing tax liability. Researchers have hypothesized that this information differential may be one of the reasons why sales taxes are relatively more popular than property taxes (Wagner, 1976).

Empirical research on fiscal illusion seeks to measure the extent of and causes for its existence. Measures have been specifically developed to test whether revenue complexity has led to higher levels of public spending. Results have been contradictory, with some finding evidence of fiscal illusion (Breenen & Hunter, 1985; Heyndels & Smolders, 1994; Wagner, 1976) and others not finding such evidence (Baker, 1983; Clotfelter, 1976; Dickson & Yu, 2000; Misiolek & Elder, 1988; Turnbull, 1993).

A different form of fiscal illusion occurs with indirect taxation. In this instance, taxpayers underestimate those taxes they do not statutorily pay, such as when landlords shift property tax payments to tenants through higher rent. As with tax complexity, empirical research findings have been mixed in their support for the renter illusion hypothesis. Bergstrom and Goodman (1973), Peterson (1975), and Sjoquist (1981) discovered higher levels of public spending in jurisdictions with greater numbers of residential rental housing units, supporting the fiscal illusion theory. In contrast, Heyndels and Smolders (1994) did not see that phenomenon. Renters likely have an incentive for knowing their property tax burdens as they compare rental costs and location. This motivation to know tenant tax payments does not exist for homeowners. Therefore, tenants are probably more knowledgeable about tax shifting from landlords to tenants, translating into more accurate assessments of tenant tax burden. Since renters are more likely than homeowners to believe they pay property taxes through higher rents, as rational actors, they should also respond more favorably to a renter's tax credit (i.e., tenant property tax relief). However, both groups likely underestimate tenant tax burdens due to fiscal illusion.

Even though prior empirical research cannot serve as a guide on whether DeKalb County has increased spending due to HOST, the theory itself is very clear. Fiscal illusion theory leads to a hypothesis that residents of DeKalb County likely underestimate their sales tax burdens due to the tax system's increased complexity. To the extent that underestimation actually occurs, homeowners are less knowledgeable of their tax burdens under HOST. This lack of knowledge has afforded DeKalb County the opportunity to

significantly increase its spending. The research will test whether the county used this opportunity to increase public spending since the enactment of HOST in 1997.

POTENTIAL SIGNIFICANCE

As one of the few counties in the country to impose a sales tax for the explicit purpose of funding homeowner property tax relief, DeKalb offers a special research opportunity. As yet, no formal studies of HOST have been published, so the questions posed here have not been addressed elsewhere. Without such information, the county, as well as other jurisdictions which might consider emulating it, cannot fully determine what HOST's outcome has been on its residents.

Furthermore, the shift in taxpayer burdens can offer hints to the impacts of similar if less specific or rigid "sales taxes in lieu of property taxes" programs. Little research exists that directly measures the incidence changes associated with property tax relief measures that are paid by consumers. This dearth of research is possibly caused by the difficulty in measuring tax incidence when relief is provided to all property classifications. In particular, the forward and backward tax shifting associated with commercial property can make it extremely difficult to measure the final benefits received by a particular group. Since HOST limits tax relief to homeowners, the benefits do not shift but "stick" with them. Likewise, consumers bear the full costs of the program, enabling a relatively straightforward measurement of tax shifting among groups in DeKalb County, ameliorating a weakness in the tax relief literature.

This study adds to the existing body of knowledge on taxpayer attitudes toward sales and property taxation. As a policy evaluation, it is worth learning about the public's support for the program and whether that support differs between homeowners and

renters. To the extent that support for the program is lacking, county officials may want to consider restructuring the program or altering the benefit distribution between homeowners and capital projects or including renters as beneficiaries. By asking directly residents about their property tax payments, the research integrates public opinion data on taxation with fiscal illusion theory. This research tries to bridge the gap between public opinion data, which has neglected asking what residents know about their taxes, and fiscal illusion theory, which makes assumptions about that knowledge.

The information gained from this case study will provide insights into taxpayers' perceptions and knowledge on a broader scale. As briefly mentioned above, the empirical findings on fiscal illusion have been mixed. These conflicts may stem from faults within the fiscal illusion theory's underlying ideas, such as taxpayers underestimating their burdens. This dissertation adds to the existing body of knowledge by testing for fiscal illusion in DeKalb County, but more importantly, it seeks to determine the accuracy of fiscal illusion's causal assumptions.

DATA SOURCES AND METHODOLOGY

Three primary data sources are required to analyze the HOST program: the DeKalb County Tax Digest, consumer spending data, and a mail survey of county residents. The tax digest is the entire property tax roll for the county and includes information on a property's assessed value, mill rates for the 2001 tax year, and the kinds of exemptions given (local and state). The U.S. Bureau of Labor's *Consumer Expenditure Survey* (CES) database estimates the level of consumer spending based on household size and income. The mail survey is developed specifically for this dissertation. From the survey, the research obtains respondents' attitudes towards

taxation and HOST, knowledge about tax burdens, and demographic data. Respondents' knowledge of their sales tax burdens is compared against those calculated from the CES. These primary data sources are supplemented with aggregate property tax and budgetary data supplied by the county finance office and the DeKalb County school district. Through these various sources of information, the research addresses the research questions discussed above.

These data sources have some limitations. First, it is assumed that respondents answered truthfully and to the best of their knowledge. Second, the research had to limit the total number of survey respondents. The possible benefits of expanding the number of respondents in future research are discussed in the conclusion.

The research integrates several research methods, ranging from measures of association to simple interrupted time series models to aggregate tax progressivity measures. The hypotheses direct the type of methodology necessary to test sufficiently the research questions being asked. The tests and reasons for them are fully explained in the Methodology Chapter.

ORGANIZATION

The following chapter (Chapter Two) provides a brief overview of HOST, its history, and its structure. The chapter also includes information about DeKalb County government and uses U.S. Bureau of the Census data in order to orient the reader to the community being studied. Chapter Three develops the literature briefly introduced above and incorporates reviews on residential property tax incidence, property tax relief, sales tax incidence, attitudes towards taxation, and fiscal illusion. The literature review structures the hypotheses for this research. Focusing on the methodology, Chapter Four

explains the data sources, how the resident mail survey was conducted, and the tests used to answer the research questions, including the dependent and primary independent variables. Chapters Five and Six present the findings and analyses of those tests. As with most research, the results lead to yet more questions and ideas worthy of further discussion. The Conclusion addresses the significance of the findings and possible avenues for further inquiry.

CHAPTER 2

BACKGROUND: DEKALB COUNTY

In order to fully appreciate the policy implications of the Homestead Option Sales Tax, one must first gain a basic understanding of DeKalb County's political, social, and economic environments, as well as the tax's history and the mechanics of the sales tax and property tax relief program. The history of HOST tells a mixed story of pragmatic leaders trying to satisfy multiple needs within the context of an economic recession. Through an understanding of the impetuses and goals of the tax program, one can analyze whether its goals have been met and if alternative objectives and implementation adjustments may be appropriate.

With a population of 665,895, DeKalb County is both economically and racially diverse (U.S. Bureau of the Census, 2000). The county's median household income in 1999 was \$49,117, which was \$6,600 higher than the state average of \$42,433 but essentially the same as the larger Atlanta metropolitan area (\$50,237 in 2000).¹ The county's poverty rate (Census Bureau's 1999 model estimate) of 10.8 percent is slightly higher than the Atlanta area's average of 9.6 percent. The county's relatively high median income may be due to the educational status of its residents. Over 36 percent (36.3 percent) of adults have at least a bachelor's degree compared to 31.5 percent for the Atlanta area. The relatively high income of DeKalb's residents has not translated into higher homeownership, though, which may be partly due to the higher housing costs in the Atlanta metropolitan area. Approximately 58 percent of the households in the county

¹ Atlanta Metropolitan Statistical Area

are owner-occupied. The county has a sizeable minority population: African Americans compose 54.2 percent, Hispanic/Latino persons are 7.9 percent, and white persons of non-Hispanic origins constitute 32.2 percent of the total county population (US Bureau of the Census, 2000).

As the only county in the state with an independently elected Chief Executive Officer (CEO), DeKalb's governance structure is very similar to those found in other states, such as Maryland, rather than the typical Georgian mayor-council model. Elected to a four-year term, the CEO develops the budget (\$430.5 million in FY 2001), has authority over hiring department chiefs, and manages the daily activities of the government.² Serving the legislative function, a seven-member commission approves the budget as well as all major policies.

Another unusual aspect of the county is that the government functions, in many respects, similarly to a city. Although the county lies within the Atlanta metropolitan area, approximately 85 percent of its land (as measured by the tax digest) is unincorporated. In the 1970s, the Georgia General Assembly passed a constitutional provision commonly referred to as Amendment 19 that permitted county governments to provide the same types and levels of services that municipalities provide. DeKalb County has used this authority to offer services typically viewed as municipal, such as water, sewer, and professional fire services. These extra services are paid by property taxes levied through special taxing districts. While all unincorporated residents receive these services, each municipality within the county can choose to either provide its own

² Budget includes seven tax funds: general fund, fire, hospital, debt service, special district - designated services, special tax district-unincorporated, and special recreation district-debt service. The figure does not include enterprise, special revenue, or enterprise funds.

services or utilize the county's resources.³ For example, all municipalities except Atlanta and Decatur make use of the county's fire service.

As a result of bearing nearly the entire cost of services through property taxes, the county collected an average of \$318 per capita in property taxes between 1991 and 1995 (Georgia Department of Community Affairs). As a reference point, the average property tax bill for similarly sized counties in the state was only \$151 per capita during this same period. In addition, property taxes accounted for approximately fifty percent of the county's own-source revenue during these five years (Georgia Department of Community Affairs).

The high property taxes were caused, in part, by the absence of a general local option sales tax. The county had enacted a one-cent sales tax to fund the Metropolitan Atlanta Regional Transit Authority (MARTA), which serves DeKalb and Fulton counties. At least four times during the 1980s and early 1990s, county leaders sought to broaden tax sources and thereby reduce property taxes by placing the one-cent Local Option Sales Tax on the ballot without success. A major reason for the failure of these referenda was that residents feared the sales tax would not go toward reducing property taxes but merely higher levels of government spending (Bell, 2001).

Voters' frustrations with high property taxes were not assuaged by their refusal of a sales tax. By the mid-1990s, voters were also consistently rejecting bond referenda for infrastructure financing, creating a serious under-funding of capital outlays. To solve the dual needs of lower property taxes and increased revenues for capital projects, the County Commission and CEO worked with key state legislators to forge a solution during the fall

³ There are nine incorporated municipalities within DeKalb County: Atlanta (partial), Avondale Estates, Chamblee, Clarkston, Decatur, Doraville, Lithonia, Pine Lake, and Stone Mountain.

of 1996 (Crider, 2002).⁴ Leaders quickly understood that a local sales tax was the only viable option. Since state law limits counties to a maximum sales rate of two percent and DeKalb had already enacted a one percent sales tax to fund MARTA, any sales tax would have to be at a one percent rate (Clements & Weeks, 1997).

The work resulted in the creation of a new, one-cent local option sales tax that legally mandated property tax relief while still providing funds for capital projects. By late January 1997, Governor Zell Miller had signed the authorizing legislation entitled the Homestead Option Sales Tax (HOST). The general sales tax mandated that at least eighty percent of the prior year's revenue collection be spent on funding homestead exemptions and no more than twenty percent go to funding capital outlays (Georgia, 1997).

During this period, Governor Zell Miller proposed and the General Assembly approved elimination of the state's four percent general sales and use tax on food purchased for home consumption. As a new local sales tax, HOST also included this major exemption.

By funding the property tax relief through homestead exemptions, no commercial property would receive property tax relief. Furthermore, the statutory language of HOST does not prohibit property tax rate increases, which could lead to higher property taxes for businesses if county spending is not controlled. Most business owners still supported the tax based on the hope that much needed capital outlays for roads and sidewalks would be forthcoming (Crider, 2002). Funding homestead exemptions rather than general property tax relief was a key distinction from the other local option sales tax available to Georgia counties. Leaders believed the residential relief would be more direct and,

⁴ State Senator Bart Ladd played a critical role in writing the HOST legislation.

therefore, more acceptable to voters. Interestingly, providing some type of property tax for renters was never considered (Crider, 2002).

The county also sought support from cities to help ensure passage of the referendum. However, cities lacked an incentive to provide that support because under the proposed law (and unlike the Local Option Sales Tax) the county was not required to share revenue collections with its cities. In addition, homeowners living in the unincorporated area would receive a substantially greater benefit from HOST than homeowners living in a city (between 1 - 5 miles) because the former group pays higher county property taxes. Recognizing the benefit inequities between unincorporated and incorporated residents, the County Commission and CEO developed a payment plan for the municipalities. Through an intergovernmental agreement with the nine incorporated cities in DeKalb, the county agreed to reimburse cities at an amount equal to the property tax relief municipal residents would have received had they lived in the unincorporated area (DeKalb County, 1997A). The agreement stipulated that the funds would go toward capital projects, which limited the cities' ability to reduce property taxes or increase general operating budgets. The "differential payment equalization," as it was called, would come from the twenty percent optional set aside for capital spending. Support for the agreement was short lived. Disagreements between municipalities and the county over the amounts of differential payments ensued after the first distribution, resulting in the cities of Decatur and Chamblee contesting the legality of the contract. The court found the contract to be illegal, thus relieving the county of any legal obligation to provide funds to the cities (Hill, 2002).

With initial backing from businesses and the cities, the county worked with non-profit groups to obtain voter support for HOST. Promises made by county commissioners varied by area, reflecting the financial interests of their constituencies. In higher income areas, supporters stressed that HOST would fund a 100 percent tax exemption while lower income groups and renters were told the tax would finance much needed sidewalk and street improvements. Furthermore, forty percent of the revenue would come from non-residents, who were either commuters or shoppers to the county (DeKalb County, 1997B).

The county held the election in March 1997, the earliest possible time after the authorizing legislation was signed into law. With 71 percent voting affirmatively for HOST, the electorate demonstrated strong support for the program. Typical for a special election, voter turnout was low, at less than 22 percent of total registered voters. The county began collecting HOST in June 1997.

The commissioners based their promises of tax relief and new capital projects on revenue projections from the Georgia State University Economic Forecasting Center (Cochran, 2002). The center calculated the HOST forecast based on historical MARTA sales tax receipts, which showed enough revenues to fund a 100 percent homestead exemption and still dedicate twenty percent of the collections to capital projects. An audit of the Georgia Department of Revenue in June 1996 revealed serious flaws with its sales tax distribution system; therefore, making the data for the projections unreliable (Cook, 1996). After correcting the state's system for distributing local option sales taxes, MARTA's revenues dropped substantially (Pendered, 1998). As a consequence, HOST receipts were also much lower than originally forecasted. Originally, the county

estimated collecting \$133.5 million between September 1997 and December 1998; actual collections only reached \$109 million, a \$24.5 million shortfall (DeKalb County Finance Office, 2002). Elected officials knew before 1999, when they decided upon the first homestead exemption level, that revenues were insufficient to fund both a 100 percent exemption and still allocate twenty percent of the receipts for capital projects (Crider, 2002).

The County Commission and CEO acquiesced to political pressure and funded the 100 percent exemption in 1999 and continued to do so for 2000 and 2001. Increasing exemption costs siphoned more funds from capital projects. In 1998, in anticipation of HOST, exemptions doubled from 129,739 to 260,968. This number quickly dropped to 128,243 by 1999 because of a comprehensive audit by the Tax Commissioner that caught fraudulent exemption claims. New home building had risen steadily, and by 2001, the number of homestead exemptions reached 137,831. Furthermore, the total assessed value of residential property rose by over one-third between 1997 and 2001 from \$6.7 billion to \$10.8 billion. The average assessed value per property increased approximately \$20,000 from \$42,086 to \$62,144 for that same time period.⁵ In sum, since 1999, the funds necessary to continue funding the 100 percent homestead exemption have increased 31.7 percent (Jones, 2002). By 2001, the homestead exemption program costs exceeded HOST revenues. The county collected \$85.98 million in 2001 from the one-cent tax while the 100 percent homestead exemption cost the county \$89.86 million, which was

⁵ Data came from Office of the Tax Commissioner and are given in nominal dollars. Assessed value equals 40 percent of the market or appraised value of property. Average assessed value equals the assessed value of all residential property divided by number of residential properties.

\$19.74 million over the required exemption level.⁶ The exemption resulted in substantially reduced property taxes for homeowners. For example, owners of a home that was appraised at \$150,000 and located in the unincorporated area saved \$597 on their property tax bill in 2001, or 36.4 percent of the total tax bill.

In determining the amount of the exemption, the county approves its operating and capital projects budgets for the upcoming fiscal year that begins on January 1 and ends December 31. As part of the budget process, the commission estimates the needed property tax rate to balance the budget and forecasts HOST collections, which will be used to fund homestead exemptions. However, the County Commission does not approve the millage rate and homestead exemption levels until the following June, with property tax bills being sent in July. In other words, the county finance office treats HOST revenues as an offset to property tax collections rather than as a determinant for county spending levels.

Residential growth has been coupled with weak sales tax collections from the recession to further the financial strain. Although county operating expenditures have remained relatively stable for the past few years, the cost of the homestead exemption forced the CEO to propose eliminating the 100 percent homestead exemption for the 2002 fiscal year. In a well publicized battle, the CEO attempted to convince the County Commission to approve HOST with the originally intended 80-20 split between property tax relief and capital projects. In June of 2002, the County Commission voted for an exemption of 86.8 percent, leaving no revenues for capital projects yet again.

⁶ The statutorily required set aside for homestead exemptions equals eighty percent of the prior year's revenue collection. For 2001, the county only needed to dedicate \$70.13 million for property tax relief. Collections in 2000 equaled \$87.66 million. $87.66 \times .80 = 70.13$; $89.86 - 70.13 = 19.74$ (DeKalb County Finance Office, 2002)

Although the HOST statute stipulated that prior year collections be directed toward property tax relief, in actuality, the county funded the exemption with current revenues (Cochran, 2002). Therefore, the capital improvement plan (CIP) received a “windfall” gain of eighteen months worth of HOST receipts (June 1997 through December 1998). As stated previously, from June 1997 through December 1998, HOST collections for projects reached \$109 million. In FY 1999, the commission allocated \$12.3 million for capital projects or fifteen percent of collections. For FY 2000, CIP revenues fell to \$8.3 million, and HOST did not fund any capital projects in FY 2001. If the county had fully funded the CIP from 1999 to 2001, it would have received \$42.7 million rather than the \$21 million. The county’s largest project has been the new justice center with a budget of approximately \$45 million, which has received the bulk of the HOST receipts. Other projects in the HOST CIP include fire stations, area parks, and road improvements. For the future, capital project funding remains uncertain. Unless the commission reverses its current position, funding will be insufficient to meet the increasing infrastructure needs. To date, the business community has not aggressively worked to change the HOST revenue distribution, but for how long remains unknown.

When evaluating the success of HOST, the research needs to incorporate several of the issues discussed above. First, homeowners were promised substantial property tax relief. Has this occurred? To the extent it has, public support should be strong, but it is worth knowing the level of public support HOST and its tax relief program continues to sustain. Are citizens satisfied with the amount of tax relief and capital spending approved by the commission? Previous referenda on local sales taxes demonstrated the public’s wariness of increasing county spending with the adoption of a new sales tax.

Has the government expanded its budget with this new revenue opportunity or has the restricted nature of the tax stymied expanded government budgets? If the county has significantly increased public spending since HOST's enactment, the public may become less enamored with county officials.

CHAPTER 3

LITERATURE REVIEW AND HYPOTHESES

The focal point of this research rests on understanding HOST's effect on incidence, both as it actually impacts incomes and as it is perceived by residents of DeKalb County. As HOST is a residential property tax relief program, this review begins with an overview of the theoretical and empirical research conducted on tax burden as it relates to residential property taxes. Given that a sales tax funds this program, a brief summary of the literature on sales tax incidence is also provided.

In order to understand a tax program, it is important to learn not only its distribution effects but also how the public perceives and understands it. To the extent that real and perceived tax prices differ, governments may have opportunities to manipulate the structure of public revenues. This concept is analyzed in the fiscal illusion literature. After these three theoretical areas of tax policy - residential property tax incidence, sales tax incidence, and fiscal illusion - are discussed, the impacts of various property tax programs will be clearer, suggesting hypotheses for this research project.

PROPERTY TAX INCIDENCE

Real property taxes are composed of two parts: taxes on land and taxes on structures.¹ Assuming the supply of land is fixed, land owners bear the entire burden of the tax. To the extent land is not "fixed" in supply, as in fringe areas of suburbs with

¹ In addition to real property, some jurisdictions classify business inventories or personal effects such as motor vehicles as property for taxation purposes.

undeveloped land, the burden can shift between landlords and users of land, depending upon the elasticities of supply and demand. However, most theorists usually assume that land supply is fixed and that taxes on it are capitalized into land values.

Economists disagree about whether owners of capital also bear the full tax burden on structures. The ability of owners to shift taxes onto others leads to differing conclusions about property tax incidence. The ability to shift taxes depends on the availability of capital to develop land, the purpose of the structure (or land use), and the demand for the product created with the capital. There are two dominant views of property tax incidence and a third that combines the other two. For the purposes of this research, only residential property tax incidence will be discussed.

Dating from the beginning of the twentieth century, economists have viewed residential property taxes as an excise tax on housing (Mieszkowski, 1972). Due to inelastic supply, taxes on land were borne by the owner (at least at the time the tax was levied). In contrast, the long-run elasticity of the supply of structures implies that property taxes on such structures are largely shifted forward onto the consumers of housing. As consumers, homeowners bore the entire burden of the taxes on their structures, and as landowners, they bore the entire burden of the tax on land. For commercial housing, landlords were able to pass rental liabilities fully onto tenants through higher rents.

As individuals' incomes increased, their desire for additional housing rose as well; however, the proportion of income spent on housing decreased as yearly income rose. Therefore, the tax for housing was considered regressive to income. Evidence for the traditional view has been derived from cross-sectional data showing household

income expenditure patterns by income brackets where income is defined in terms of current income (Ladd, 1973). Pechman and Okner's (1974) *Who Bears the Tax Burden?* is an often-cited piece of empirical research that supports this view.

The regressivity of the property tax is thought to be intensified by homeowners' mortgage interest deductions from federal income taxes, particularly since the value of the deduction increases with annual income due to the tax's progressive marginal tax rate structure (Chernick, 1992; Netzer, 1973; Phares, 1980). Low-income homeowners do not likely benefit from this deduction because it is often less than the standardized deduction. Furthermore, renters do not receive any federal income tax deductions from property taxes paid through rent. To the extent that renters have, on average, lower incomes than homeowners, the tax deduction increases the regressivity of the property tax.

In the early 1970s, economists began questioning the traditional outlook on property taxation, particularly the assumption that owners could fully shift forward taxes on structures. The ensuing theory was developed in a general equilibrium model about the property tax's effects on the demand for capital and the mobility of capital. Due to the shifts in demand, all owners of capital bear the tax burden on structures and land. If capital ownership increases with income, then the property tax would have proportional to progressive effective tax rates (Aaron, 1975; Gaffney, 1973; Mieszkowski, 1972). Of course, the ability to shift taxes from landlords to users depended upon the mobility of capital.² Economists from this faction agreed with the "traditionalists" that homeowners bear the full burden of their property taxes, but as owners of capital rather than as

² For a full discussion of the "New View" of property taxation, see *Who Pays the Property Tax?* by Henry J. Aaron (1975).

consumers of taxable housing. Additionally, housing costs increase with income, supporting the argument for proportional effective tax rates.

The view toward taxes on rental housing differed from traditional thought, however. If capitalists bear the burden of taxes on structures, rents would not fully include that cost. According to Gaffney (1973), any tax that might be passed forward would only be a minor portion of the total rental payment and thus would not disturb the overall progressive nature of the tax. Gaffney further argued that low-income renters have very low property tax burdens, if any, because slums have low assessment values and, hence, low tax liabilities that can be shifted forward.

“New View” economists strongly opposed using current income to measure effective tax rates for residential property. Since housing decisions are based on long-term income expectations, in their view, current income is an inappropriate incidence measure. Furthermore, incomes temporarily fluctuate and can create misleading results for the ability to pay measure. For example, individuals might be unemployed for a short period and would not alter their housing patterns due to a temporary income disruption.

A more common supporting argument for measuring tax rates with normal income is the bell-shaped income cycle for the majority of households. As noted above, individuals purchase homes based on long-term income expectations. During their early (and lower) income-earning years, housing costs as a percent of current income are likely to be much higher than those projected during peak earning years. The high ratio of housing costs to current income also extends to property tax liabilities. During the peak earning years, housing cost ratios, including taxes, are relatively much lower. After the peak earning years, individuals enter retirement and again experience limited annual

incomes. If housing consumption does not change, the effective tax rates for the elderly appear to be relatively high; however, by this period, the elderly have amassed wealth in their homes and likely elsewhere so that they may be income-poor but wealthy. In sum, much of the evidence suggests that over the life cycle, owner-occupied housing has a proportional effective tax rate across income groups.

Researchers have tested the life cycle hypothesis with two types of models. Ihlanfeldt (1979) developed an elasticity measure for housing value with respect to permanent income for owner-occupied housing and found that property taxes are proportional at the local level. Fullerton and Rogers (1993) updated Pechman and Okner's (1974) comprehensive study of federal, state, and local tax burdens by using lifetime income to measure tax incidence. They found a u-shaped incidence curve with the lowest-income and highest-income households experiencing the highest effective property tax rates. This finding stems in part from the authors' assumptions regarding saving and consumption levels across income groups and tax incidence from both the sources-side and uses-side (i.e., assumptions regarding tax shifting and the reduced rate of return on capital caused by property taxes).

As development of property tax incidence theory advanced, some economists began to distinguish between the national perspective given by the New View and the local policy implications of setting property tax rates (e.g., Netzer, 1973; Pechman, 1985). These economists agreed that, while property taxes might decrease capital's overall rate of return nationally, some shifting of tax burdens from landlords to tenants was likely. Changes in local tax rates would have an extremely limited influence on the

national tax rate; thus, the property tax would be borne by local consumers (tenants) and owners of local property (landlords) (Phares, 1980).

The ability to shift taxes depends upon the elasticity of demand for rental housing and the time frame under consideration. In the short term, the vast majority of economists agree that landlords cannot fully shift property tax increases onto tenants because the landlord is already profit-maximizing (Aaron, 1975; Ladd, 1973; Netzer, 1966). In addition, the fixed supply of units and written contracts preclude sudden changes in rent prices after tax rate increases. Conversely, landlords solely benefit from any property tax reductions coming from government relief programs in the short term as well (Chernick & Reschovsky, 1982).

Elasticity of demand for rental housing depends upon the available alternatives to renters. To the extent that low-income tenants have limited mobility, their demand elasticity will be low, thus enabling landlords to shift property taxes forward (Mieszkowski, 1972). Bradbury and Ladd (1985) supported this view, stating that owners of residential rental property can pass the entire non-land portion of their property taxes to tenants through higher rent because renters have no local, non-taxed housing alternatives. Pechman (1985) also argued that the property tax probably had a u-shaped effective tax curve, due to tax shifting on low-income renters.

In empirical studies, researchers measured the property tax incidence of renters with one of two methods: 1) assigning a percentage of the property tax that the landlord passes forward (e.g., Chernick & Reschovsky, 1982; Fullerton & Rogers, 1993; Phares, 1980; Sacher, 1993), or 2) developing a measure for the elasticity of demand for rental housing within a city (e.g., Schroeder & Sjoquist, 1978). From the elasticity measure, the

researchers calculated a percentage of property taxes that were shifted forward to tenants. The shifting ratios generally ranged from 0.50 to 0.70. Phares (1980) measured local property tax incidence under three separate assumptions: no pass forward (progressive), half the taxes passed forward (benchmark), and all the taxes shifted (regressive). Roche (1986) measured the extent to which landlords shifted property taxes to renters in several metropolitan areas across the country. She found that over the long term, landlords shift 56 percent of their property tax payments onto tenants through higher rent.

As currently administered with unequal tax rates, underassessment, and discriminatory zoning practices, the property tax is very likely regressive. Effective tax rate differences give rise to excise tax effects and the possibility of forward shifting to consumers and backward shifting to labor (Netzer, 1973). Netzer (1966) argued that inner cities, with their lower property values, have lower tax capacities than suburbs. Low tax capacity combined with higher service needs such as maintaining aging infrastructure or providing services for the poor, results in higher effective tax rates for inner city residents. Regressive property tax assessment (assessment ratios decrease as property values increase) has been confirmed through empirical research (e.g., Paglin & Fogarty, 1972; Sirmans, Diskin, & Friday, 1995), although to the extent that assessment practices improve, this form of regressivity will decrease.

Empirical research has confirmed these views, even using permanent income to measure incidence (see discussion of Fullerton & Rogers above). In his study of tax incidence on owner-occupied housing in Atlanta and Philadelphia, Ihlanfeldt (1982) found property taxes to be proportional for middle- and upper-income groups but highly regressive for low-income groups. Low elasticities of housing value with respect to

income caused the regressive burden for the latter group. This finding may differ from Ihlanfeldt's earlier work because the 1979 research did not distinguish homeowners by income class (see p. 28). The results of Edelstein's (1981) research in Philadelphia were similar to Ihlanfeldt's in 1982; he attributed the regressivity to underassessment in wealthier neighborhoods. Phares (1980) found regressive effective tax rates for local property taxes on real property and all property when assuming the benchmark case (half the taxes shifted to consumers and renters) and a u-shaped incidence curve when none of the property taxes were assumed to be shifted forward. In both scenarios, the tax rates fell substantially once incomes increased beyond the poorest 7 - 14 percent of households.

The evolution of theory and analysis appears to demonstrate that the residential property tax may not be as regressive as once understood. Equity problems remain a concern for the lowest income groups, even using permanent income as the basis of measurement. Property tax relief, particularly in Georgia, has not been focused on providing relief based on income, but rather on housing status. As the next section on property tax relief shows, American policymakers have focused their efforts on reducing tax burdens on homeowners, and more specifically, elderly homeowners. A critical question that policymakers have left unanswered in their efforts to provide tax relief is reduction at a cost to whom?

PROPERTY TAX RELIEF

Imposed even during colonial times, the property tax has been a mainstay of governmental revenue and a source of criticism by citizens. The notion that a person's tax bill should reflect his ability to pay dates back to colonial America. Since property

was considered a form of wealth, taxation included a long list of properties, including land, structures, animals, and farming implements. After the American Revolution, universal property taxes emerged in the 1800s and were written into the constitutions of the first expansion states (Fisher, 1990; Fisher, 1996). As the 19th century progressed, however, states slowly eliminated items from the tax base and by 1900, only housing and land remained subject to property taxation in most states (Thomas, 1978).

As early as the 18th century, states and local governments often exempted property used for religious or educational purposes. The first property tax relief efforts for homeowners began prior to the Civil War and were deemed necessary to protect individuals from the deleterious effects of the Industrial Revolution. By 1852, eighteen states had enacted homestead exemption laws and by 1920, forty states had some form of homestead exemption (Fisher, 1990; Goodman, 1993).³

The number of states with some type of homestead exemption has not changed and remains at forty (Gold & Liebschutz, 1996). Twenty-two states limit eligibility to the elderly or disabled, and eight additional states provide benefits to these groups as well as a general exemption. States began funding a supplementary form of property tax relief in the 1970s through income tax rebates commonly referred to as circuit breakers. Currently, 29 states have a circuit breaker program, with most being restricted to the low-income elderly. Through circuit breakers, 23 states provide renters tax relief as well. In fifteen of those states, the renters must be senior citizens (Gold & Liebschutz, 1996). Not as widely used by qualified homeowners as the homestead exemption or the circuit breaker, 22 states offer property tax deferral programs to senior citizens. Although 45

³ Delaware, Maryland, and Rhode Island had yet to pass homestead exemption laws. Connecticut repealed its homestead exemption in 1848 and South Carolina did the same in 1858.

states have sales taxes and 32 states permit counties to impose their own sales taxes, only three states (Georgia, Illinois, and Missouri) grant counties authority to impose a direct “sales tax for property tax relief” (Seiber & Scholar, 2000). Instead of a sales tax, Indiana allows its counties to impose income taxes, with one tax option being specifically for property tax relief (Facer et al., 2001). Even though nearly half of the states have expanded property tax relief coverage through circuit breakers and deferral programs, the homestead exemption continues to be the most popular form of property tax relief.

Property Tax Relief Programs in Georgia

In lieu of instituting a circuit breaker to provide property tax relief, the state of Georgia has opted to grant homestead exemptions. The exemption has taken several forms, including the standard exemption; special exemptions for the elderly, disabled, and veterans; and a state-funded homestead credit. The standard statewide homestead exemption is \$2,000, which is deducted from a home’s assessed value. In Georgia, the assessed value of property equals forty percent of its market value.

The state offers a special homestead exemption that applies to all state and county property taxes for low-income elderly homeowners. To qualify for the additional state exemption, the claimant must be at least 65 years of age and have an annual gross income of less than \$10,000, excluding retirement benefits from pensions, Social Security, and disability (includes spousal income). Qualifying homeowners may claim a \$2,000 exemption above the general homestead exemption for a total of \$4,000. The state offers property tax deferrals for low-income senior citizens as well; however, this program is not used extensively. Additionally, the state offers veterans with a 100 percent, service-

related disability an additional homestead exemption of \$43,000.⁴ Although these are state-mandated exemptions, counties receive neither grants nor reimbursements from the state for the forgone tax revenue.

Changing this practice in April 1999, Governor Roy Barnes signed into law House Bill 553, which initially only funded property tax relief for counties and schools but was extended to cities in 2002. Each year, the General Assembly and the governor determine the grant amount as part of the appropriations process. In its first year, the credit funded additional exemptions at \$2,000 per homestead for 1999 and has since risen to \$8,000 for the 2002 tax year. Governor Barnes' plan was to increase the amount of the "Homeowners Tax Relief Credit" by \$2,000 annually until it reached \$18,000 in 2007. Counties receive grants based upon the number of qualifying homesteads times their assessed millage rate times the credit amount per home. For example, for year 2000 property taxes, DeKalb County had 130,641 qualifying homesteads and a millage rate of .010310.⁵ The state funded a \$4,000 exemption per homestead, resulting in grants equaling \$5,362,289 for the county and \$9,687,599 for the DeKalb school district.⁶ This credit is in addition to the \$2,000 general homestead exemption. Counties cannot direct state credit funds toward any other form of property tax relief, including rental property.

Local governments have the authority to increase the general homestead exemption beyond the state-mandated \$2,000, and several counties throughout Georgia have taken advantage of this option. In DeKalb County, homeowners receive a \$10,000

⁴ O.C.G.A. 48-5-48

⁵ According to Georgia Department of Revenue rule 560-11-2-.57, county millage rate means "the net ad valorem tax millage rate, after deducting applicable rollbacks, levied by a county for county maintenance and operations purposes and applying to a qualified homestead, but shall not include an ad valorem tax millage rate levied for purposes of bonded indebtedness or any ad valorem tax millage rate levied only within a special tax district that does not include the entire county."

⁶ Includes 1999 adjustments (130,641 x .010310 x \$4,000 = \$5,387,635)

homestead exemption on all county and school taxes. The county also expanded qualifications for the elderly homestead exemptions (See Table 3.1). These homestead exemptions are applied to each property prior to calculating the state homestead credit and the HOST exemption.

<p>Table 3.1 DeKalb County Homestead Exemptions: Qualifications and Benefits¹</p>					
Exemption Name	Age Requirement	Disability Requirement	Income Requirements	County Special Districts	School Operations
H1: Basic	N/A	N/A	N/A	\$10,000	\$10,000
H3: School	62	N/A	Adj. gross household income less \$10,000 ²	\$10,000	ALL
H3D: Disability School	N/A	100%	Adj. gross household income less \$10,000 ²	\$10,000	ALL
H4: Elderly School	65	N/A	Adj. gross household income less \$10,000 ²	\$14,000	ALL
H5: Disabled Veterans	N/A	100%	N/A	\$43,000	\$43,000
H6: Elderly DeKalb	65	N/A	GA net income household less \$15,000 ³	\$14,000	\$14,000
H6D: Disability DeKalb	N/A	100%	GA net income household less \$15,000 ³	\$14,000	\$14,000
H7: Partial School	62	N/A	Total gross income of household less \$16,000	\$10,000	\$20,000
H7D: Disability Partial School	N/A	100%	Total gross income of household less \$16,000	\$10,000	\$20,000
H8: Elderly Partial School	65	N/A	Total gross income of household less \$16,000	\$14,000	\$20,000
H9: Age 70 DeKalb Special School	70	N/A	Fed adj. gross income plus bonds less \$60,858	\$10,000	ALL
H10: Disabled Veterans School	65	100%	Adj. gross household income less \$10,000 ²	\$43,000	ALL
H11: Elderly DeKalb Partial School	65	100%	Total gross income of household less \$16,000	\$14,000	\$20,000

1. Taxable assessment is forty percent of fair market value, which is determined by the Tax Assessors Board.

2. Social Security benefits, railroad retirement, and disability benefits are excluded when calculating income.

3. Social Security benefits and most retirement income up to \$34,864 may be excluded when calculating income.

Source: DeKalb County Tax Commissioner, 2001.

The state has established two local-option sales taxes as a means to provide yet another source of property tax relief to Georgia residents. As is the case for all local

option sales taxes in the state, the tax must be approved through referendum and the tax levy is one percent.

The General Assembly enacted the first local option sales tax, commonly referred to as LOST, in 1975. Over time, all but six of the state's 159 counties have chosen to impose this sales tax. The law requires counties to share tax revenues with municipalities using formulas, which are established through legal agreements. The statutory language authorizing LOST states that county and municipal governments should direct the tax toward property tax relief. In an effort to ensure property tax relief, the law requires counties to direct all revenue collected during the second year toward a property tax millage rollback (Durning, 1992). In other words, the tax is meant to confer a dollar-for-dollar property tax relief in the second year of sales tax collections and all subsequent years. This understanding is bolstered by the requirement that counties print the amount of the rollback on homeowners' annual property tax bills. An implicit understanding of LOST is that without this revenue, property taxes would be higher, *ceteris paribus*. Due to less explicit statutory language regarding dollar-for-dollar rollbacks after the second year, one cannot definitively say what property tax collections and local governments' spending levels would have been without LOST. However, research indicates that LOST has resulted in some property tax relief but also in higher spending levels by counties (Jung, 2001). HOST is the second local option sales tax the General Assembly enacted for the express purpose of lowering property taxes.

Research on Property Tax Relief

As the previous discussion on property tax programs demonstrates, property tax relief programs tend to be very stable once enacted. Elected officials appear to make

relatively minor amendments to existing tax relief statutes by adjusting relief levels or qualification requirements rather than overhauling or eliminating programs. Perhaps due to this stability, property tax relief programs of longstanding, such as homestead exemptions, have not received much attention from scholars. Generally, research has focused on relatively new programs and sought to determine their effects on equity, efficiency, and governmental structure.

Steven Gold has written extensively on property tax relief (e.g., 1979 and 1981; Gold & Liebschutz, 1996) and has offered several criteria for evaluating these programs. Gold has classified property tax relief into four categories: state-funded credits and exemptions, local exemptions, property classification, and tax payment deferrals. Gold (1981) listed seven main considerations in comparing policy instruments, including vertical and horizontal equity, impact on local revenues, costs to state governments, accountability, complexity, and local autonomy. He concluded that state credits that included renters were the most progressive, local exemptions resulted in increased tax rates to offset lost revenue, and circuit breakers increased the complexity of the tax system.

Unfortunately, the choice of policy structure, such as homestead exemption or circuit breaker, may not always reflect the reason or justification for the program's implementation. Gold synthesized the main reasons for property tax relief as 1) to meet political demands, 2) to counteract the regressive nature of the property tax (the traditional justification), and 3) to prevent tax-flation from creating excessive tax burdens. This last justification was particularly relevant to Proposition 13 and other tax limits instituted in the late 1970s and early 1980s. However, reasons two and three

denied the basic idea underlying the property tax, which was that payments should directly reflect the value of the property and not the income of its owner (Gold, 1981). The disconnect between what a property tax is and the reasons for alleviating it may be partially responsible for the public's continued distaste for the tax, even though states have implemented multiple relief programs (e.g., Cole & Kinkaid, 2001; Sjoquist, 2001; Weiss, 1990).

One of the few studies on the distributional effects of homestead exemptions was conducted by Schroeder and Sjoquist (1978). Their research examined how an increase in Georgia's constitutional homestead exemption from \$2,000 to \$5,000 would affect homeowners and renters across income groups, *ceteris paribus*. Because total revenue needs remained unchanged in their model, the homeowner property relief would have required local governments in the Atlanta metropolitan area (only area studied) to raise millage rates for all property classes, including rental property. In other words, the tax liability shifted from homeowners to renters. The tax change would result in a more progressive tax structure for homeowners, yet the relative gain from the additional benefit would decrease with income. In contrast, all renters had an increased tax burden from the \$5,000 exemption. In sum, the increased burden was regressive.

During the 1970s and early 1980s, scholars began examining state circuit breaker programs that had been enacted as early as 1964 through the 1970s. The fundamental goal of these state-funded programs was to provide individuals relief in proportion to their excess tax burdens as measured by the ratio of property taxes paid to current income (Bendick, 1974). Many researchers (e.g., Bendick, 1974; Bowman, 1980; Liner, 1977; Thomassen, 1978) evaluated the benefits and problems associated with this form of

property tax relief and recommended changes as well. General topics or concerns included balancing program costs against expanded coverage by raising the income qualification limits of applicants. Twenty-two states included low-income renters, which improved the progressivity of the tax structure but also increased costs (Gold & Liebschutz, 1996).

Circuit breakers that limited benefits to the low-income elderly provided social benefits by not forcing the elderly from their homes; however, some argued that the elderly might be income poor but house wealthy and, therefore, not truly in need of relief (e.g., Gaffney, 1973). A common criticism of these programs was basing benefits on annual rather than lifetime income because the latter is a better reflection of an individual's ability to pay taxes. Gaffney harshly criticized claims that the elderly were being forced from their homes due to high taxation. He was incredulous that adult children (and future beneficiaries of real estate) would refuse to assist their cash poor parents with property tax payments. Recommendations that states use net worth tests rather than annual income to measure need faced multiple obstacles, with the primary one being the difficulty in the tests' administration.

Others tested the circuit breaker to determine whether it had, in fact, reduced the regressivity of the property tax. Rubinfeld and Wolkoff's (1983) general conclusions were that the circuit breaker program in Michigan was not successful. The program did not achieve its equity goal by substantially altering the distribution of income nor its political goal by changing household perceptions of lowered property tax payments. In an examination of tax credits for farmland in Michigan, Anderson (1993) found that the circuit breakers did help preserve farmland from development. However, the credits

were partially capitalized into land values, and program participation rates were lower where potential development was greater. In other words, the circuit breaker was not sufficient to compensate for the value of lost development rights.

In addition to circuit breakers, states have also increased their taxes in order to aid local governments and thereby reduce property taxes. Due to a court ruling on local education funding, New Jersey enacted an income tax in 1976. As a more progressive tax, the income tax significantly redistributed income from wealthier to poorer groups. However, an additional effect has been a considerable subsidy from tenants to homeowners (Bogart, Bradford, & Williams, 1992; Eapen & Eapen, 1982).

Rather than increasing income taxes, other states have opted to raise sales taxes and distribute revenue back to local governments. Thomas Pogue (1983) calculated that each dollar of property tax relief financed by sales taxes (assuming no tax exporting) resulted in an income redistribution of \$0.261 from the seven lower-income classes to the three higher-income classes. Under a wide range of incidence assumptions, Pogue concluded that middle-income families tended to incur revenue losses while upper-and/or lower-income families experienced revenue gains under state-funded tax relief. Gold (1979) addressed sales taxes as a form of property tax relief by reasoning that if the sales tax exempted food and also heavily taxed services, it would either be of modest benefit or produce no significant change for lower-income groups. However, concerns with the sales tax included forecasting uncertainties and revenue shortfalls during economic slowdowns due to the tax's relative elasticity to income.

In some instances, state relief to local governments was insufficient to quell the public's growing discontent with high taxes, and property taxes in particular.

California's Proposition 13 in many ways typifies the public's tax revolt. The pre-Proposition 13 fiscal climate had three primary elements that were critical in the initiative's passage. First, state and local tax burdens were heavy, with property tax levies being one-third higher than the national average (Thomas, 1978). Second, there was a massive shift of property taxes toward homeowners as assessment values of homes rose precipitously. Third, the state budget had a rapidly expanding surplus (Oakland, 1979).

Passed in 1978 by referendum, Proposition 13 had four primary elements. One, the proposition restricted the property tax rate to no more than one percent of assessed value. Two, it set the assessed value for all commercial and residential property to its fair market value in 1975–1976, and as long as the property had not been transferred, limited assessment increases to two percent per year (compounded). Three, Proposition 13 required that property be reassessed to its fair market value (value at sale) once transferred. Finally, the proposition required that new taxes or increases in existing taxes (except property taxes) receive a two-thirds approval of the legislature in the case of state taxes, or of the voters, in the case of local taxes (Oakland, 1979; Thomas, 1978).

The effects of Proposition 13 have been profound. The two most significant changes have been the centralization of public funding such as for education (Oakland, 1979) and increased horizontal inequity among homeowners due to housing reassessments when properties transfer (Chernick & Reschovsky, 1982). The state of California immediately spent its surplus to assist local governments and stave off service reductions; this trend has continued. The law has encouraged homeowner immobility as well by reassessing transferred property to market values. When households do relocate,

owners pay taxes on the updated fair market value of their new property. Although homeowner groups have attempted to invalidate the proposition through legal battles, the courts have upheld Proposition 13, though recognizing the inequality that exists under the law.

To test the income distributional effects of the tax change during the transitional phase, Chernick and Reschovsky (1982) developed a simulation model. Admitting that their model included several assumptions regarding tax incidence on capital, the authors concluded that Proposition 13 resulted in the largest tax reductions (as a percent of income) for both low-income and high-income households, with the smallest reductions going toward the middle class. Ironically, the remaining property tax became more regressive because renters received only a minor benefit from the tax reduction in the short term.

With property tax relief programs showing little change in the 1980s (Bahl, Sjoquist, & Williams, 1990), researchers began testing the impact of state-imposed tax and expenditure limits (TEs). In response to the fiscal crisis (tax-flation) of the 1970s, thirty states enacted fiscal limitation measures between 1978 and 1983, which were in addition to the dozen states that had previously imposed limits (Campbell, 1998). Over time, states have increased the stringency of the controls. Prior to 1970, nearly all of the state-mandated property tax controls were on tax rates; however, between 1970 and 1985, nineteen states imposed an additional property tax levy limit as well, creating a much stricter constraint (Bell, 1990).

The findings on whether TEs have successfully shrunk local government spending and therefore overall tax burdens have been mixed. Galles and Sexton (1998),

Lowery (1982), and Mullins and Joyce (1996) discovered that after a brief lag, local governments recovered lost revenue and TELs had little effect on the overall size of the public sector. In contrast, Shadbegian's (1998) work showed that binding TELs (those that limited rate and overall assessed value increases) did reduce per capita local government expenditures. The different findings may be due to Shadbegian's focus on binding TELs rather than the entire set of laws. In fact, research by Preston and Ichniowski (1991) concurs with both findings: state laws that limited both property tax rates and assessments did produce larger reductions in total municipal revenue growth than cities without these binding limits. However, state rules that only limited growth of municipal property tax revenue were not effective in reducing total spending, since property taxes were supplemented with other own-source revenues such as charges and sales taxes.

These tax limits have resulted in important changes in the revenue structures of local governments. Recognizing that local governments were under severe fiscal constraints without the property tax as a source of revenue, states either expanded the revenue-raising options of local governments or increased aid to them. The former can be seen by the growing number of states that permit counties to impose local sales taxes and the increased utilization of fees and charges by cities and counties (Johnston et al., 2000; Joyce & Mullins, 1991; Mullins & Joyce, 1996). Furthermore, states assumed more responsibility for spending such as education (Lowery, 1982; Mullins & Joyce, 1996). In sum, to the extent that state governments accept revenue raising-responsibilities for local governments and local governments themselves diversify their tax bases, local property taxes burdens are reduced (Bell, 1990).

Property tax relief research follows the major legislative movements of states. Beginning with circuit breakers in the 1970s and continuing through the 20th century with tax and expenditure limits, research in this area has focused on how these programs affect equity and governmental structure. In theory, circuit breakers and income taxes should improve the progressivity of the tax structure; however, empirical studies show mixed results. Researchers agreed that funding tax relief for renters was an important part of increasing the progressivity of the tax structure. Depending upon its structure and a local government's ability to export burdens to other communities, sales taxes may significantly relieve the tax burdens of low-income groups. State legislatures have authorized a broad array of funding options for local governments to offset property tax limits and provide their own form of direct property tax relief. Perhaps due to the recent imposition of these local taxes, research has tended to generalize about proposed impacts and has just recently begun to measure empirically incidence effects in a comprehensive manner.

SALES TAX INCIDENCE

With the increasing use of sales taxes as a form of property tax relief (or reducing reliance on property taxes), some attention should be directed toward understanding the incidence of consumption taxes. General consensus exists among economists that consumers bear the burden of general sales and excise taxes (e.g., Davies, St-Hilaire, & Whalley, 1984; Due & Mikesell, 1994; Fullerton & Rogers, 1993; Pechman, 1985; Phares, 1980; Poterba, 1993).

While empirical work has confirmed that consumers bear the burden of a direct sales tax (Besley & Rosen, 1999; Poterba, 1996), a handful of articles has suggested that

the producers' portion of the general sales tax might not be fully shifted forward, affecting overall incidence. In Ring's (1989) study of consumers' (state residents) and producers' shares of sales tax payments for 45 states, consumers paid between 28 and 89 percent of the total collections (state average equaled 59 percent). The remaining revenues came from tourism (only important in a few states) and businesses. To the extent that businesses are unable to fully shift forward their sales taxes liabilities to consumers through higher prices, owners of capital bear part of the sales tax burden. This assumption decreased the regressivity of the sales tax in two studies on Maryland sales tax incidence by Derrick and Scott (1993, 1998). These authors concluded that the most defensible estimate of the true sales tax burden appeared to be a mix of the pass forward assumption for the direct tax on consumers and a backward shift for taxes on businesses. They also found that the traditional measure for consumer expenditures, the U.S. Bureau of Labor Statistics *Consumer Expenditure Survey*, with its bias introduced by focusing only on direct consumer taxes, is "offset" by the bias introduced in assuming all sales taxes are passed forward. Ultimately, Derrick and Scott argued that the survey resulted in a reasonably accurate measure for sales tax incidence.

Depending upon how income is measured, the sales tax is considered either regressive, proportional, or slightly progressive. Traditionally, incidence studies limited data to annual consumer expenditures and found the tax to be regressive (Davies, 1959; Pechman & Okner, 1974; Pechman, 1985; Phares, 1980; Wong & Michael, 1990). Research methodology using annual data has been very consistent as well. These studies almost always include annual spending data from the CES multiplied by a jurisdiction's tax rate which is divided by the jurisdiction's median household income. Over the last

decade, this research has been criticized for overstating tax burdens by not accounting for fluctuations in household income caused by short-term unemployment, furniture purchases by young people, or spending down of accumulated earnings by the elderly.

To address concerns about regressivity, states have adopted several types of consumer sales tax exemptions. The exemptions usually include goods that are considered “necessities.” The most common exemption is for prescription medicines, which is permitted in 49 states. Over half the states, including Georgia, exempt food purchased for home consumption (Due & Mikesell, 1994). Studies based on annual data have shown that the food exemption results in a substantially less regressive tax burden across income groups because poor spend a relatively larger percent of their income on food (Davies, 1959; Due & Mikesell, 1994; Phares, 1980).

This exemption is not without problems, with the most important issue being the cost to government. A jurisdiction loses approximately 20 - 25 percent of its sales and use tax revenue from the exemption and would require an additional one percent higher tax rate to collect an amount equal to a tax without the exemption (Due & Mikesell, 1994). The exemption distorts horizontal equity by favoring persons who prefer expensive food items. Furthermore, the exemption is difficult to manage administratively, with sellers having difficulty determining which products are and are not exempt.

Some economists claim that the exemptions are unnecessary because a general sales tax is not regressive. As with the property tax, these economists advocate measuring sales tax incidence over an entire life cycle. In general, studies based on

lifetime income measures find the tax to be proportional to mildly progressive (Caspersen & Metcalf, 1994; Davies et al., 1984; Metcalf, 1995).

The type of methodology used does affect outcomes. Studies that use panel data tend to show the sales tax as being slightly more regressive than those based on current consumption, which serves as a proxy for lifetime income. Data for this latter approach come from the CES, as with the analysis using annual data. Life cycle studies are not without their own flaws. First, the models must make several assumptions about family size and consumption patterns, while a few have ignored the issue of inheritance by simply assuming it away (e.g., Metcalf, 1995). Bequests may affect incidence because they represent income not consumed over a life cycle and, hence, are exempt from the sales tax. In an earlier study, Metcalf (1993) did incorporate bequests into his analysis and found that bequests decreased consumption but did not significantly increase the regressivity of a general tax on consumption.

Differing from other life cycle studies, Fullerton and Rogers (1993) found a generally regressive but slightly u-shaped incidence curve for sales and excise taxes. The tax was regressive for the first ten of twelve income groups. The authors believed their findings were due to two main factors: 1) the lifetime poor spend a larger proportion of their income on goods that are taxed at higher rates (i.e., excise taxes such as gasoline, alcohol, and tobacco), and 2) the authors modeled the lifetime poor as having higher consumption-leisure ratios than the lifetime rich.

Unlike residential property taxes, an additional benefit of the sales tax is its possible exportability. To the extent a tax can be shifted to persons living outside a jurisdiction, residents benefit from lower tax burdens or higher service levels. Although

the ability or level of sales tax exportation is less than with typical business taxes such as corporate income taxes and business property taxes, sales tax exportation does occur through tourism, regional shopping centers, and business purchases (Mutti & Morgan, 1983 and 1986; Ring, 1989). In the latter case, businesses shift their sales tax payments onto consumers through higher prices; however, these final consumers might live outside the area where the good was produced (and the sales taxes were paid). Exempting food purchased for home consumption increases the proportion of sales taxes paid by shoppers and businesses and, therefore, also increases the proportion of sales taxes that are exported.

The level or percent of exportation will likely decline over time, at least that was the outcome for the 86 central cities studied by Bradbury and Ladd (1985). The authors attributed this phenomenon to growth of suburban shopping centers. Ironically, states with relatively high tax rates exported more taxes in both absolute and relative terms than low-tax states, although high tax rates can encourage shoppers to buy elsewhere (Mutti & Morgan, 1983 and 1986). Understanding sales tax exportation is important for equity considerations and for understanding a community's fiscal capacity. Phares (1980) believed the federal government needed to update its measure of tax effort to include a jurisdiction's ability to export taxes because those communities with high export ratios have a lower relative tax burden than tax importers.

Intuitively, sales tax rates should be kept in check by competition from neighboring jurisdictions. If a jurisdiction sets its rate at a point that is relatively high, consumers will shop elsewhere and the jurisdiction will lose revenue, not only from potential visitors but from its own residents. For cities, Mikesell found that a one percent

increase in the ratio between a city and the surrounding area will cause a two to eleven percent revenue loss for the city (ACIR, 1974). However, the loss can be eliminated by widening the sales tax area, such as establishing countywide sales taxes. Ladd (1992) confirmed the lack of tax mimicking by county governments over sales taxes, although it was present for local property taxes. Ladd concluded that counties may compete on overall tax burden rather than on sales tax rates. Another reason may be that counties adopt sales taxes based on their comparative advantage for attracting consumers, such as having large shopping malls or convention centers.

In determining whether trading sales taxes for residential property taxes is an “equitable” policy, the first step in the analysis is to determine the respective incidence of each. The next step is to learn the goals and forms of property tax relief programs that exist to have a basis for comparing program costs, administrative expenses, beneficiaries, etc. There are two primary methods for measuring tax incidence for both residential property and sales taxes: with annual income data and lifetime income data. Empirical studies using annual income data have typically shown a regressive effective tax rate for both taxes. In contrast, studies that developed lifetime measures for income tended to find a u-shaped incidence curve that was proportional over most of the income scale for property taxes and a proportional burden across income groups for sales taxes.

CITIZEN SURVEYS ON REVENUE AND EXPENDITURE PREFERENCES

Research has sought to understand not only the actual tax burden on citizens but also their perceived burden. Much of the rich literature that exists on public attitudes toward taxation and public services comes from survey research. The research has sought to learn not only the public’s awareness of taxation and government spending but

also the demographic, economic, and psychological factors that might affect individual attitudes.

Researchers have been surveying public attitudes on taxation for decades. In 1954, Ferber conducted a survey which consisted of visits to residents throughout a city in Illinois in order to learn their knowledge of federal excise tax reductions and any resultant price changes. Although most people were aware of the tax reductions, few people were able to identify specific changes, leading the researcher to conclude that the public's knowledge was neither widespread nor accurate.

In the mid-1970s, one of the largest studies conducted on public attitudes toward local government was headed by Fowler (1974) for the National League of Cities and U.S. Department of Housing and Urban Development (HUD). The research team interviewed 4,300 citizens in ten cities across the United States. Although findings differed considerably among the ten cities, the researchers discovered several common public attitudes. In general, there existed widespread dissatisfaction with local property taxes and a general preference for consumption-based taxes. It was not universally true that citizens thought taxes were too high (forty percent of citizens thought so); however, the manner in which people rated city government was closely tied to their perceptions of whether or not citizens were getting their tax money's worth in services. In other words, there existed a high correlation between effective service provision and the public's overall satisfaction with government. Furthermore, an important factor in a citizen's demand for more services was his or her perception of government efficiency (i.e., they were getting their money's worth). Finally, there was no service area that the public

seemed universally willing to reduce. In many respects, this work represents the findings of later studies.

From the late 1970s until the early 1990s, the US Advisory Commission on Intergovernmental Relations (ACIR) conducted nationwide studies on the public's tax preferences and satisfaction with public service provision. These studies generally concluded that the public believed local governments provided services more efficiently than the state or national governments. Furthermore, the public had the greatest trust in local governments (Cole & Kincaid, 2001). Follow-up research by Cole and Kincaid found that these trends have continued. Finally, the ACIR studies and Cole and Kincaid's work found relatively strong distaste by the public for the local property tax. Only the federal income tax was more disliked, and for several years during the 1970s, the property tax was as unpopular as the income tax. During the three decades ACIR conducted these tax surveys, local property taxes were always less popular than state sales taxes (Cole & Kincaid, 2001; Weiss, 1990).

Using telephone surveys, Citrin (1979), Courant et al. (1980), and Ladd and Wilson (1982) examined public support for tax limits in California, Michigan, and Massachusetts, respectively. In each study, the researchers concluded that the public wanted lower property taxes but essentially the same service levels. The respondents believed service levels could be maintained through efficiency gains. Citrin (1979) and Courant et al. (1980) found that renters did not likely perceive property tax burdens for themselves. With the perceived lower tax price, there also existed an inverse relationship between renter income and a desire for higher government spending. Those who supported tax limits also perceived themselves as gaining significantly through reduced

tax liability. Overall, the findings supported the hypothesis that people vote in their self-interest.

Welch's (1985) study of public attitudes (900 respondents from one Midwestern state) differed from earlier work in that the author required respondents to explicitly choose how spending increases for public services would be funded. The survey included all three levels of government as well. In general, support for expanding public services was high, and most citizens were willing to increase revenues to fund these services or at least reallocate resources from less desired services. Very few respondents believed that greater efficiencies could solely fund higher spending. Perhaps the public learned from the tax revolt during the 1970s that there was no "free lunch."

Using longitudinal survey data on Florida residents (1979–1997), McCabe and Stream (1999) wanted to learn how legislative tax changes affected public opinion and vice versa. In general, the authors found that anti-tax sentiment was overdrawn; however, public satisfaction with sales and property taxes had somewhat decreased in the 1990s from the 1980s. The pattern of public opinion suggested that increasing dissatisfaction with property taxes preceded successful tax reform efforts. The tax reductions had only short-term gains, with the public's distaste for the tax increasing again within a few years. This attitudinal pattern may be due to the visibility of the property tax, although the research did not explicitly attempt to make that connection. Generally, Floridians favored consumption taxes. Even if legislators raised the tax rate, sales tax popularity rebounded within a couple of years. The authors did not research the reasons for these attitudes, but they did suggest that support for sales taxes may stem from the public's appreciation for tax exportation through tourism or because legislators

were reluctant to raise sales tax rates. If this latter argument was correct, then the public should also have supported property taxes once limits were enacted.

In direct contrast to the findings by Welch, a study of three Florida cities by Beck et al. (1987) concluded that 25 percent of the respondents wanted “something for nothing.” The authors reviewed three explanations for the attitudes and voting behavior on taxation and government spending: self-interest, symbolic politics, and demographics. Symbolic politics, or one’s idea about the proper role of government, appeared to be more important than self-interest for determining opinions on public services, perhaps because services were less observable than taxes. In contrast, self-interest was the prime predictor of tax burden attitudes. Finally, demographic characteristics performed poorly in predicting attitudes.

In a statewide telephone survey, Georgia residents were asked their attitudes toward taxation. Like the Floridians in McCabe and Stream’s study and those of ACIR, Georgia residents strongly preferred sales taxes to property taxes (Sjoquist, 2001). Almost 47 percent of the respondents considered the general sales tax to be the fairest tax as opposed to income taxes (20.6 percent), property taxes (12.5 percent), corporate income taxes (10.5 percent), or gasoline excise taxes (9.6 percent). The conclusion from Beck et al. (1987) that demographics were poor predictors for public attitudes towards taxation was validated in Georgia. Public support for the sales tax persisted across income groups, genders, education levels, age groups, urban versus non-urban residents, housing tenure, political parties, and political orientation (liberal, moderate, or conservative). Only when separating respondents by race (black and white) did differences regarding tax preferences emerge. While the majority of whites (55.6

percent) considered the sales tax to be the fairest tax, only 29.1 percent of blacks also thought so. Conversely, 32 percent of blacks believed the income tax to be the fairest tax, and only 14.7 percent of whites concurred.

The majority (56.3 percent) of the respondents believed the taxes the poor pay in Georgia were too high and 35.5 percent thought the taxes paid by the poor were about right. Two-thirds of the respondents supported reducing taxes for one group even though it would increase taxes on others. For those who responded affirmatively to reducing taxes for a particular group, the elderly was the most popular beneficiary (59.3 percent); the poor (53.2 percent), families with children (22.4 percent), and even 22.4 percent of the respondents supported reducing taxes for the rich. However, 34 percent of the respondents that favored tax reductions for the rich also supported lowering taxes for the poor and middle class, representing a belief that taxes were, in general, too high. Renters were more likely than homeowners to support tax reductions for any group. Almost 43 percent of renters supported reducing taxes for renters while less than 25 percent of homeowners thought renters deserved tax reductions.

Questions regarding property taxes resulted in the most polarized responses. On the question of whether property taxes should be based on the purchase price or fair market value of a home, 35 percent strongly agreed that taxes should be based on purchase price (with an additional fifteen percent just agreed) and 25.8 percent strongly disagreed (an additional 8.1 percent just disagreed). Sixteen percent neither agreed nor disagreed. Furthermore, 31.1 percent of the respondents strongly agreed with increasing the state sales tax by three percent in order to eliminate all property taxes (53.4 percent agreed or strongly agreed); however, 30.7 percent strongly disagreed with that idea (39.5

percent disagreed or strongly disagreed). Although these responses represented the opinions of Georgians statewide, they very likely resembled the attitudes of residents in DeKalb County and indicate why voters overwhelmingly supported HOST.

FISCAL ILLUSION

In the preceding discussion on citizens' attitudes toward taxation, little analysis was undertaken to learn the accuracy of public attitudes. Instead, the research mostly focused on learning which factors might predict attitudes toward taxation and public spending. One of the dominant themes of the research was that citizens vote in their own self-interest or view tax policies from a self-interested perspective. With this in mind, an additional question emerges: do citizens have a sufficiently accurate understanding of taxation and of their tax price so that they can vote in their self-interest? A significant branch of tax theory would argue that they do not.

Under fiscal illusion theory, governments systematically manipulate fiscal structures in order to distort the perceived total tax price paid by citizens. If a taxpayer is affected by an illusion, he or she conceptualizes the information incorrectly or has uncertainty about the costs and levels of public services. Based on these subjective interpretations, illusions may be either optimistic or pessimistic, meaning that citizens may assume they pay more or less taxes or receive greater or fewer services than they actually do. Taxpayers continue to maximize their utility based on their perceptions, and because of rationality, their choices are consistent. With consistent choices, theorizing about individual behavior under illusion becomes possible (Buchanan, 1966).

A primary difference between fiscal illusion theory and other theories about taxpayer information is intent. While others scholars, such as Anthony Downs (1957),

examine taxpayer behavior and information, the role of government is relatively benign. In contrast, fiscal illusion portrays government in a Machiavellian sense, tricking the public into supporting a government larger than the taxpayer would choose with full and accurate information.

This Machiavellian reference is important because it relates to the originator of the fiscal illusion, Amilcare Puviani, an Italian scholar who wrote his ideas at the beginning of the twentieth century. Puviani's work was generally ignored until the middle of the century, and the first American to summarize Puviani's work was James Buchanan in 1960. Puviani wrote about a ruling class or elitist model of government. The ruling class needed to establish fiscal structures in order to minimize resistance from subjects. To achieve that goal, the ruling class would develop fiscal illusions so that the dominated would believe their tax burdens were less than the true amount. Furthermore, the ruling class would create illusions so that spending would appear greater than it actually was.

Although Buchanan (1966) agrees that Puviani's hypotheses are too general and do not adequately distinguish between why taxes come about and individuals' responses to taxation, Puviani's hypotheses are very politically provoking and continue to be tested a century later. Furthermore, one sees the enduring or perhaps perceptive nature of these hypotheses if one reflects on the revenue sources that local governments utilize today. Although Puviani wrote about a broad spectrum of tax and government spending policies, the following description focuses on those hypotheses relevant to the Homestead Option Sales Tax and property tax relief program. The descriptions come from a summary by Buchanan published in 1966.

The first hypothesis integrates several components into one general concept: governments will obscure an individual's share of the total cost of government services. If a tax is incorporated into the market cost of private goods, such as through excise taxes, an individual will be less likely to know the amount of tax he or she is paying. For example, people likely incorporate the excise tax on gasoline into the market price for fuel. The governing class will levy those taxes where yield increases with inflation, or in other words, taxes that are relatively elastic to income. Puviani believed the public would be less aware of small payments made over time rather than one lump-sum payment and, therefore, hypothesized that the public would be more willing to repay goods through debt financing. Finally, governments could use income and profits from the public domain to increase public spending, such as charges by public utilities.

Generally referred to as revenue complexity, the second and probably most widely tested premise is that governments create illusions of total tax load through fragmentation of the revenue structure. The ruling class will levy numerous small levies rather than a few significant ones. With this reasoning, governments charge many types of taxes, such as an income tax, sales tax, property tax, charges for services, etc., so that taxpayers cannot readily recall their total liability. Similarly, a single tax, such as a general sales tax, may have the same effect. Consumers pay this tax in relatively minor amounts throughout the year. Although most people are aware of the sales tax rate, few track their total annual liability.

Similar to the two preceding hypotheses, governments levy taxes under situations where the individual cannot really know who incurs the tax's real burden. This hypothesis relates to the ability of agents to shift tax burdens, such as landlords nominally

paying property taxes but shifting that burden onto tenants through higher rents. The corporate income tax is another example of a levy where final payment is not readily known. The shareholders may pay part of the tax through decreased dividends and equity, consumers may also pay the tax through higher prices, or workers may bear the burden in the form of lower wages.

In a democratic state, fiscal illusion lacks motive. As an entity representing the public, government need not obfuscate public revenues and spending. However, public choice theories generate motives for fiscal illusion in a democracy. William Niskanen's budget maximizing bureaucrat and politicians' courtship of special interests for campaign funding establish two powerful reasons why fiscal illusion could occur in a democracy.

Furthermore, Anthony Downs (1957) argues that voters are rationally ignorant of public affairs, which provides government officials the opportunity to implement deceptive fiscal structures. If voters acquire information only when perceiving a direct pecuniary incentive to do so, politicians and bureaucrats would attempt to disguise or hide tax burdens and expenditures. By raising the costs of acquiring information, such as enacting complex budgets and revenue structures, citizens would be discouraged from learning their true tax prices and the size of government. West and Winer (1980) suggest that there is an optimal level of investment by political agents in deluding taxpayers: agents weigh the costs of using direct and indirect taxation against the costs associated with advertising the virtues of public services, etc.

With Puviani and his hypotheses in mind, government institutions require reexamination (Buchanan, 1966). Those policies purporting to benefit the public could also foster illusion. For example, under Adam Smith's maxim of convenience, the

government withholds income taxes from paychecks rather than having individuals pay taxes quarterly. Although withholding is convenient, taxpayers are less likely to be aware of their tax burden because they are not making the payments themselves in large sums. In regard to debt financing, proponents argue that for generational equity, public infrastructure should be paid by all those who use it. While a reasonable justification, taxpayers should also be wary of financing higher and perhaps unnecessary spending through debt.

Ignorance is a necessary but not sufficient condition for fiscal illusion. Rather, ambitious public officials, a public that resists higher tax liabilities, and ignorance must all be present for fiscal illusion to occur. To the extent there is political competition, fiscal illusion could be exposed and, therefore, limited. There must be some limit to the growth of government as well. As taxes become a larger portion of individuals' total spending, they gain an interest in learning about their tax burdens, making taxes harder to hide (Mueller, 1989; Oates, 1988). To maintain long-term fiscal illusions, one must assume that taxpayers do not learn. Therefore, government officials may be able to delude taxpayers in the short term but perhaps not over the long term. Periodic tax revolts indicate some measure of public learning and limit to fiscal illusion. That said, the extent to which governments can create illusions and deceive citizens either in the long or short term, the public interest is served by learning the extent to which illusions exist.

Generally, researchers have focused on the revenue generation side of fiscal illusion. As such, the following description will be limited to possible illusions on the imposition of taxes. Fiscal illusion in a democracy centers on voter ignorance rather than

the citizenry's willingness to pay (voting implies an acceptance of the outcome). The public is fully aware of the charge and approves it, either directly or through an elected representative, and therefore, the tax is not an illusion. The combined impact of multiple charges may affect voter awareness of tax burden, but that is a different argument and one that has been tested extensively.

Five main hypotheses of Puviani's serve as the core of fiscal illusion research: revenue complexity, revenue elasticity, the fly paper effect, debt illusion, and renter illusion. By far, the majority of research has been on testing the revenue complexity hypothesis, beginning with Wagner in 1976. Over the past three decades, studies on fiscal illusion have been prolific and yet, contradictory.

According to Mueller (1989), the primary problems in studying fiscal illusion are learning, first, the sources of revenue that are less visible to citizens, and second, the magnitude of any fiscal illusion caused. These problems must be generally regarded as empirical. To measure what public output would be without fiscal illusion, the empirical tests generally take the form of a regression equation, with the dependent variable being a measure of budget size (either revenues or expenditures). The independent variables typically include explanatory measures such as median income, population, and taste variables (Oates, 1988), and variables for measuring fiscal illusion. The sign and significance of the latter set determines whether fiscal illusion exists for the set of jurisdictions included in the data. The underlying assumption for these tests is that spending equals the preferences of the median voter. The earliest works were limited to testing a single facet of fiscal illusion, but as studies have become more sophisticated, two or three hypotheses were included within the same model.

Two excellent summaries and critiques on the fiscal illusion literature already exist (Dollery & Worthington, 1996; Oates, 1988). To avoid duplicating those works and to focus attention on issues related to the Homestead Option Sale Tax, only research on revenue complexity, tax elasticity, and renter illusion are provided below. When analyzing these empirical studies as a whole, the most striking discovery is the contrariness of the findings even though the works employ very similar methodological techniques and models.

Revenue Complexity

Wagner (1976) was the earliest scholar to test empirically a fiscal illusion hypothesis. Using a sample of fifty cities, the work sought to determine whether municipalities with more complex revenue structures had relatively larger expenditures than those with few revenue sources. The model incorporated several explanatory variables, such as total personal income, population density, salary of city employees, etc. To capture revenue complexity, Wagner used the Herfindahl index, which had been widely used in the industrial organization literature to measure the degree of concentration within an industry (Oates, 1988). The index included four types of public revenue: property taxes, sales taxes, selective excise taxes, and charges. The measure reached unity if a city collected all its revenues from one source while the minimum measure would result if the city collected 25 percent of its total funds from each source. The higher the score, the less complex a city's revenue structure was. Although Wagner found the index variable to be both statistically significant and negative, meaning that complexity did result in higher total spending by cities, the work's lasting influence

stemmed from the model itself. The Herfindahl index became the standard variable for measuring revenue complexity.

Building on Wagner's work, Clotfelter (1976) tried to control for the relative visibility of the revenues used in the Herfindahl index. For example, excise taxes and property taxes are not equally visible to taxpayers, and thus, the distribution between the two might affect a city's ability to obfuscate total revenue collection. Based on state and local higher education funding data from 1970, the Herfindahl index was not significant in this study. In fact, heavier reliance on visible taxes resulted in greater spending, not less, as fiscal illusion theory would predict.

Pommerehne and Schneider (1978) cited three types of information costs influencing fiscal illusion: arrangement (direct or indirect taxes), timing (how often tax was collected), and complexity (number of taxes). Integrating visibility weightings into their Herfindahl index, the authors found the measure negative and significant. Of course, assigning weights is a subjective decision. Their most interesting finding came in comparing cities with direct democracy against those with representative democracy (total of 110 Swiss municipalities). The latter group had higher levels of spending in every category. In sum, governments with the referendum were smaller.

Other research using city data (Breedon & Hunter, 1985; Heyndels & Smolders, 1994; Turnbull, 1993) had conflicting findings. For two research teams (Breedon & Hunter, 1985; Heyndels & Smolders, 1994), the Herfindahl index variables were significant and showed higher spending levels as revenue complexity increased within cities, supporting the fiscal illusion argument. In contrast, Turnbull (1993) found the

revenue complexity variable to be insignificant, concluding that the demand for general municipal expenditures was extremely inelastic.

Research using state data has also yielded a conflicting pattern. Baker's (1983) model revealed fiscal illusion, but for Misiolek and Elder (1988), their Herfindahl index and visibility measures were both insignificant. Misiolek and Elder included a tax exportation variable, which was statistically significant, leading them to conclude that taxpayers may recognize their government's ability to shift burdens to out-of-state residents. Dollery and Worthington (1995) studied seven Australian states with a cross-sectional time series model. The significance of their Herfindahl index depended upon the model's specification. In particular, it mattered whether variables testing for other forms of fiscal illusion were included in the model or not. However, Dollery and Worthington's tax concentration ratio was statistically significant, leading them to conclude that higher percentages of direct taxes resulted in lower state spending. Dickson and Yu (2000) tested data from ten Canadian provinces also using a cross-sectional time series model. Instead of the standard four revenues, Dickson and Yu included the weighted average of nine sources. Overall, the model supported the fiscal illusion hypothesis but also revealed learning by taxpayers, with illusion declining over time.

Revenue Elasticity

Under the revenue elasticity premise, government officials will levy taxes that are relatively elastic to income. This hypothesis assumes that people care about their tax rate, not their tax bill, which may not be rational (Oates, 1988), although for a few revenue sources, such as the general sales tax, the argument does appear to be very

plausible. Researchers generally tried to answer the question, do revenue systems with relatively high income elasticity grow more rapidly (budget-wise) during periods of economic growth than those governments with inelastic tax systems?

Oates (1975) was the first scholar to empirically answer that question. Using data on 33 large cities during 1960-1970, Oates found a partial association with tax elasticity and spending. Like Wagner, Oates developed a measure for fiscal illusion (income elasticity) that has been imitated in later studies. The measure was a ratio equaling one plus the percent of income tax collection to total taxation. Three of the nine studies included here had findings similar to Oates (1975).⁷ Baker's (1983) elasticity variable was only significant when the Herfindahl index variable was also included in the model. Misiolek and Elder (1988) tested whether revenue structures developed due to fiscal illusion or fiscal stress. They concluded that the data showed support for the former rather than the latter hypothesis. Dickson and Yu (2000) used Oates's elasticity ratio in their model and found support for the illusion argument.

The remaining six studies did not find statistically significant relationships between revenue-elastic taxes and greater public spending. In one of the few studies with county data, DiLorenzo's (1982) elasticity measure was significant but in the wrong direction, leading him to conclude that governments keep spending in check due to competition from neighboring jurisdictions. Breeden and Hunter (1985) had findings similar to DiLorenzo, but instead of looking to competition for the explanation, they argued that cities preferred broad-based tax systems composed of taxes on inelastic commodities. Feenberg and Rosen (1987) limited their analysis to income taxes in 49 states (pooled time series 1978–1983) and found that high income elasticity led to tax rate

⁷ Studies mentioned in this report are not inclusive of the total research universe on this topic.

cuts rather than greater government spending. Both Heyndels and Smolders (1994) and Dollery and Worthington (1995) used the Oates elasticity measure in their models. For both studies, the elasticity measure was significant but negative, meaning that with increasing elasticity, the jurisdictions had smaller budgets. Dollery and Worthington suggested that politicians might balance the risks of revenue-elastic taxes (i.e., collections fall when income falls) against opportunities for increased expenditures.

Finally, Marshall (1991) looked at the windfall gains to states caused by the 1986 Tax Reform Act. Unlike other illusion studies, this natural experiment controlled for the possible existence of endogeneity between the dependent variable (government spending) and independent variables (tax structure) since a federal tax law precipitated the state tax changes. The data did not confirm the existence of illusion for perhaps two reasons. First, the public may have been aware of the windfall. Second, state legislators may have been hesitant to increase spending without knowing for certain the windfall's dollar value (Marshall, 1991).

Renter Illusion

Renter illusion is founded upon the notion that persons not directly paying a tax will not be aware of it. In the case of renters, this group is likely unaware of the property taxes they pay in the form of higher rent. Since renters misperceive (underestimate) their tax price for services, they will prefer higher levels of public spending, *ceteris paribus*. Like the studies discussed above, tests for renter illusion have usually taken the form of a regression equation but used the proportion of renters (or owner-occupied housing units) in a jurisdiction as the primary independent variable rather than a revenue complexity measurement. The dependent variable continued to be public expenditures. Unlike

concerns about endogeneity that plague models for revenue complexity and revenue elasticity, the problem with testing for renter illusion was knowing the actual property tax incidence for renters.

As with the research mentioned earlier, the results from studies in this area were also mixed. Bergstrom and Goodman (1973) and Peterson (1975) found that a higher numbers of renters resulted in increased public expenditures. Switching the dependent and independent variables, Sjoquist (1981) assumed that spending was fixed and the tax price was variable for his analysis of 48 cities. He did this to reduce statistical concerns over simultaneity. The fiscal illusion hypothesis was also supported in this study. More renters resulted in higher, per capita property tax collections. To test whether sale tax exportability resulted in lower property taxes, Sjoquist (1981) included an export variable in the model, but it was insignificant. Unlike the other three studies, Heyndels and Smolders (1994) did not find support for renter illusion.

Nelson (1986) examined voter awareness of indirect taxes and whether voters recognized that wealth from the public domain could be used to reduce tax payments. The indirect taxes chosen were general sale taxes and non-residential, non-commercial property taxes, such as utilities. In his study of taxes to finance schools in Los Angeles, Nelson concluded that voters perceived little of the burden imposed from sales or indirect property taxes. Furthermore, the electorate did not recognize that funds from wealth (i.e., interest) could have been used to reduce taxes. The author did concede that the public might recognize the exportability of these indirect taxes, but he doubted that the majority did so.

Rather than create a regression model, Moomau and Morton (1992) analyzed 1982 election results and U.S. Census Bureau data for 428 precincts in New Orleans. The authors tested the probability that renters and homeowners would vote to eliminate the city's homestead exemption. Although all homeowners appeared to evaluate accurately the effects of the homestead exemption (by voting down the provision), all renters did not. As rent cost rose, renters were more likely to perceive that they bore a property tax burden and supported removing the exemption. One weakness of the study was that Moomau and Morton did not control for education, probably because that information was not available for Census block data.

In a review of fifteen studies completed between 1966 and 1994, Dollery and Worthington (1996) found mixed support for renter illusion. Earlier studies tended to confirm this illusion hypothesis, while later work did not find statistically significant relationships. The evolution of local public revenues may have influenced this change. The greater reliance on local sales taxes and charges has reduced property tax reliance and, therefore, the impact of renters' preferences for total spending.

Voter Perception of Property Tax Incidence

Although not directly within the purview of fiscal illusion, there exists related and important research regarding voters' awareness of property tax burdens. Levy (1979) sought to learn the factors that influenced voter support for Proposition 13 in California and compared those with the unsuccessful 1973 tax initiative, Proposition 1. Proposition 13 limited local property taxes, while Proposition 1 would have restricted state tax and expenditure growth to the state's net product. Using data from one urban county, the author regressed voting results onto socio-economic variables. Homeownership and mid-

to low-income households, which were most likely elderly, were significant variables for predicting support for Proposition 13, which makes intuitive sense because these groups benefited the most from that initiative. In contrast, median income was not significant for Proposition 13 but was for Proposition 1. In other words, higher-income households recognized the potential income tax benefits from Proposition 1 and supported the initiative. Levy concluded that for both Proposition 1 and Proposition 13, the electorate voted in their narrow self-interest.

Building off earlier research, Billings and Folsom (1980) and Greene and Munley (1984) used school district data to determine the median voter's perception of nonresidential property tax burdens. Billings and Folsom found that voters did not perceive that they bore property tax burdens for agriculture, industry, rails, utilities, and mines, while voter awareness of commercial property burden was unclear (commercial property tax variable was not statistically significant). Since these findings differed from other work, the authors surmised that the source of the data (their data were from Arizona, while earlier work came from Massachusetts) may have affected their results. Greene and Munley focused more attention on the issue of whether residents perceive they can export property tax burdens to non-residents. They concluded that residents believed 100 percent of nonresidential property taxes were exported.

In his 1982 study, May attempted to distinguish between "burden illusion" and "benefit illusion" and to understand the real and perceptual links between taxes and services. In other words, May asked whether citizens correctly estimated their tax liabilities and the size of benefits they received from government. In May's data, there existed a high correlation between actual and perceived total tax burdens, although the

visibility of a tax was important, with people having a higher level of knowledge about property taxes than income taxes. In regard to expenditures, the more visible the service, such as capital projects, the higher the correlation between actual and perceived benefits. In sum, the author concluded that people imputed costs for increased services but did not impute benefits to increases in tax burdens.

Critiques of Fiscal Illusion

Lack of consistent support for illusion hypotheses may be caused by the vague manner in which questions were defined and modeled (Oates, 1988). In Oates's (1988) review of fiscal illusion research, which was acknowledged by later researchers (e.g., Dickson & Yu, 2000; Dollery & Worthington, 1996; Mueller, 1989), there exist two major concerns with traditional, empirical fiscal illusion research: 1) the endogeneity of illusion variables, and 2) the possibility of alternative explanations for the results. While conceding that most econometric studies faced similar problems of endogeneity and was thus a "cheap shot," Oates (1988) did assert that much of the research had very little underlying theory and insufficiently explored conceptual underpinnings. For example, much of the research did not try to discount alternative hypotheses, such as whether governments chose their revenue structures simply due to preferences (e.g., the public prefers sales to property taxes) or to fiscal illusion. In addition, essentially none of the research distinguished between marginal tax rates, which are probably known and total tax rates, which are likely to be unknown by citizens.

In regards to renter illusion, renters may prefer higher tax and spending levels relative to the median voter. Renters of apartments utilize less housing in terms of square footage or value compared to homeowners; therefore, property tax burdens will also be

relatively less, even when assuming all property taxes from the building are incorporated into rental payments. This lower tax price may rationally translate into greater demands for public services and higher taxation, rather than through a lack of knowledge about tax payments.

Another compelling alternative to fiscal illusion (and the median voter hypothesis) was that the form of governance or decision-making process could account for public spending levels (Pommerehne & Schneider, 1978). Congleton (2001) proposed an interesting idea that integrates fiscal illusion and interest group influence. He argued that electoral competition tended to generate policies that advanced the interests of relatively informed voters. Individuals with a pecuniary interest would never be less informed than those individuals without a pecuniary interest. Interest groups with a pecuniary interest in public policy would supply information to members, lowering members' costs to acquire information. Therefore, voters who were also members of the interest group were better informed than they otherwise would have been. The existence of rational ignorance, once carefully defined, was sufficient to generate fiscal illusion. If costs to uncover information were systematically high, voters would remain rationally ignorant. Rational fiscal ignorance potentially allowed economic and other interest groups to directly capture the electoral process. Fiscal illusion affected the combination of services actually provided. Overall, rational ignorance may have affected the allocation of resources, with too much dedicated to some programs and not enough to others (preferences of the median voter) without increasing total government spending, as has often been found in empirical work.

Directly challenging the revenue complexity argument, the revenue diversification hypothesis posits that state and local government officials are acutely aware of neighboring jurisdictions' tax rates and keep tax rates low to avoid losing property owners or consumers (Misiolek & Elder, 1988; Oates, 1988). With low tax rates, officials seek multiple revenue sources in order to fund services. Furthermore, a diverse tax base promotes revenue stability, reducing severe fluctuations in revenue collections during downturns in the economy (Gold, 1995). Under this scenario, the tax system itself is an endogenous variable.

Unfortunately, the empirical work to date has not sufficiently controlled for the intergovernmental nature of fiscal systems. All but a few of the studies limited themselves to a single level of government (i.e., cities) and thereby implied that taxpayers sufficiently differentiate tax payments by level of government. More likely, the public evaluated and voted on their combined tax burden, such that a spending increase in one jurisdiction resulted in decreased acceptance for tax increases in another. This scenario appears to be particularly plausible for county, municipal, and school district budgets, which are primarily funded from the same revenue source (i.e., property taxes). Furthermore, local governments are limited to only those forms of revenue permitted under state law. Local governmental budgeting is highly influenced by state control, thereby restricting a local jurisdiction's ability to manipulate its revenue structure. Although limiting the research to one type of jurisdiction significantly eases data collection and analysis, the impact of other tax jurisdictions on taxation and spending practices are ignored. A study that combined all three local jurisdictions (or county and schools for unincorporated areas) would be more compelling.

Another issue addressed by West and Winer (1980) was whether fiscal illusion implies a continually growing public sector (relative to population). They argued that an optimal level of fiscal illusion likely exists for the public manager and median voter, creating an equilibrium level of public spending. Furthermore, as stated at the beginning of this review, illusion can imply both over and understating revenue collection and spending. To the extent that taxpayers underestimate their taxes, this inaccuracy may be offset by overestimating service costs to result in a preferred service level.

Conclusion

Fiscal illusion theory offers provocative and disturbing ideas regarding the motivations and actions of governments. Public choice theory creates the motivation for a democratically elected government to obfuscate taxation and public spending. Empirical studies that have tested specific illusion hypotheses, such as revenue complexity and renter illusion, have been inconclusive when evaluated as a whole. Prior research has assumed public ignorance rather than testing it directly and has not fully solved for competing hypotheses when jurisdictions do spend at levels higher than the typical median voter should desire. This research hopes to address some of these gaps by linking actual incidence with citizens' perceptions of incidence to test knowledge and tax transparency.

HYPOTHESES

The Homestead Option Sales Tax is one of the newest property tax relief options for Georgia counties. Perhaps due to its recent inception, the social and economic effects of HOST have not been studied formally, leaving a significant lack of understanding regarding the extent to which the tax has shifted tax burdens among residents, if at all.

To avoid revenue sharing requirements with cities under LOST, several counties are currently debating whether to hold referenda that would impose HOST in lieu of LOST. With the possible expansion of HOST throughout Georgia, a thorough appreciation of the tax's effects becomes all the more consequential. To the extent that the tax serves as an effective policy tool, research may provide important guidance to other Georgian communities on whether to adopt HOST.

Similar to prior research that tested the effectiveness of circuit breakers at reducing property tax burdens, a critical component of assessing the HOST program is whether the tax has reduced county property taxes for homeowners, the primary purpose of the tax. Meeting this objective is important for two reasons. First, legislators wrote this into the authorizing statute, and second, county commissioners made personal promises to the voters that property taxes would be lower because of HOST. Based on the politics of HOST implementation, one can speculate that the latter reason has been the driving force for property tax rate and exemption decisions. Although the tax was also supposed to fund capital projects, the discussion on HOST's history and current implementation demonstrates that this purpose has not been fully funded and has been secondary to property tax reductions for homeowners. By furnishing a 100 percent homestead exemption for the initial three years of the program and at over 86 percent in its fourth year, it appears likely that the program has reduced county property tax payments.⁸ If the program has not reduced property taxes for owner-occupied housing,

⁸ Decreased tax payments are offset through higher sales tax payments. Furthermore, to the extent that the county has increased property tax rates, businesses may have passed forward a portion of their property taxes through higher prices. This research does not attempt to quantify all the secondary effects of the program and, therefore, will not include analyses concerning the program's effects on nonresidential property taxes.

then the program has not achieved its statutory objective and its effectiveness may be questioned.

Hypothesis 1

H_1 *HOST has lowered county property tax payments for owner-occupied housing in DeKalb County, ceteris paribus.*

H_0 *HOST has not lowered county property tax payments for owner-occupied housing in DeKalb County, ceteris paribus.*

The literature discussed previously provides guidance as to the possible effects of HOST as a sales tax and a property tax relief program. The first section focused on tax incidence. DeKalb County provides an interesting opportunity to test the impact of trading sales taxes for property taxes because the financers and beneficiaries of the tax relief are well defined. Unlike general property tax relief efforts that reduce tax burdens to either all property or all residential property, this program only benefits owner-occupied residences. From theory, we presume that the full burden of the residential property tax lies with the owner; therefore, the tax benefits from HOST would also only accrue to the owner.

Furthermore, theory has suggested and empirical studies have confirmed that consumers typically bear the burden of a sales tax. Again, the financer of the HOST program is well defined. In DeKalb County, consumers include renters, residents of neighboring counties shopping in DeKalb, tourists, and homeowners. To the extent that businesses pay sales taxes, the research assumes that the tax is passed on to the final consumer in the form of higher prices.

Empirical studies typically support the conclusion that residential property taxes have a regressive impact on the poorest households and a proportional impact on middle and upper-income households when measured with permanent income. When measured with annual income, the property tax is regressive. Furthermore, as a normal good, housing costs increase with income. Given that HOST provides the greatest benefit to properties with the highest assessed value, the greatest benefit likely goes to households with the largest incomes. An additional method for viewing the benefit distribution of HOST is through wealth. Assuming that a home is the most significant source of wealth for most Americans and that HOST benefits increase with the value of the home, the tax provides the greatest benefits to households with the greatest wealth. Because HOST provides a 100 percent exemption for county taxes, the resulting effective tax rate for homeowners will be near zero.⁹

Renters do not receive a benefit from HOST; therefore, their property tax liabilities remain unaffected. To the extent that renters have, on average, lower incomes than homeowners in DeKalb County, the property tax will be more regressive under this program.

As stated previously, a general one percent sales tax that exempts food finances the homestead exemptions. The sales tax portion is considered proportional under an annual incidence scenario and slightly progressive using life cycle analysis due to the food exemption. When combining the benefits from HOST with the additional sales tax liabilities, the program increases the regressivity of the property tax and maintains a proportional to slightly progressive sales tax burden. Therefore, the HOST program will likely result in a more regressive tax system for DeKalb County residents, *ceteris paribus*.

⁹ As stated previously, county property taxes still apply to bonds and street lighting.

The possible regressivity is a critical component of evaluating HOST because a commonly held standard for evaluating tax systems is the ability-to-pay principle (e.g., Pechman, 1985; Rosen, 1995; Gold & Liebschutz, 1996). Generally, governments and the public have supported an overall tax system that is proportional to mildly progressive. By increasing the regressivity of their local tax system, DeKalb County has diverged from this common view.

Hypothesis 2

H_{2A} The homestead exemptions funded under HOST increase with household income.

H₂₀ The homestead exemptions funded under HOST do not increase with household income.

H_{2B} The HOST program has resulted in a more regressive tax system (property taxes and sales taxes) for DeKalb County residents than if the one percent sales tax had not been imposed, ceteris paribus.

H₀ The HOST program has not resulted in a more regressive tax system (property taxes and sales taxes) for DeKalb County residents.

Prior survey research on the public's attitudes toward taxation (e.g., Fowler, 1974; McCabe & Stream, 1999; Sjoquist, 2001) asked which taxes citizens prefer but did not ask why. The findings consistently demonstrate that people prefer consumption taxes over property taxes. This research seeks to provide insight into the reasons for those preferences. One hypothesis is that Georgians are unaware of or underestimate their sales tax burden. A second proposition is that Georgians believe individuals can avoid paying

the tax by not spending and hence, a taxpayer chooses his or her level of burden. Third, Georgians may think that renters do not pay property taxes and, therefore, it less fair than the sales tax, which all consumers pay. Fourth, citizens may dislike property taxes because of the lump sum payments associated with property taxes. Fifth, citizens may perceive the county's property assessment practices as unfair, although this criticism is somewhat alleviated because property owners can appeal their assessments to the county board of equalization and the county's superior court. Finally, citizens may simply believe county taxes should be based on consumption rather than property.

This research seeks to understand whether any of these ideas are correct. Because HOST reduces a less favored tax by substituting it with a favored one, HOST is likely popular with the majority of residents in DeKalb. Specifically, the research will attempt to confirm that homeowners support HOST more than renters because homeowners correctly perceive a direct benefit through lower property taxes. Furthermore, the primary reason that homeowners support HOST is that they believe their overall tax burdens (HOST and property taxes combined) are less than their taxes would be without HOST. Although self-interest is their primary reason for supporting HOST, residents likely have other reasons as well, such as the ability to export tax burdens under a sales tax. The key point being that these reasons are secondary to their self-interest, lower property tax payments. To the extent that a reduction in one's own property tax liability is not the primary reason for supporting HOST, then the self-interest hypothesis would not be correct.

An important consideration in evaluating tax policy is whether the taxpayers support the tax. To the extent that all residents support HOST, the sales tax and property

tax relief program should be appraised favorably. However, if a strong divide exists between renters and homeowners in support for HOST, political favoritism for the latter group may exist.

Hypothesis 3

H_{3A} *The majority of homeowners in DeKalb County continue to support HOST.*

H_0 *Less than a majority of homeowners in DeKalb County support HOST.*

H_{3B} *The primary reason that homeowners support HOST is the belief that they pay less property taxes than if HOST had not been enacted.*

H_0 *The primary reason that homeowners support HOST is not because they pay less property taxes than if HOST had not been enacted.*

Traditionally, fiscal illusion research tested the existence of illusions based on whether taxes or public spending was higher than what the median voter would prefer, *ceteris paribus*. The theory is based on the assumption that individuals incorrectly estimate their tax burdens. Under the renter illusion hypothesis, tenants are unaware of the property taxes landlords pass onto them through higher rents. Because of the underassessment of their tax price, tenants prefer higher levels of spending than homeowners, *ceteris paribus*. This research seeks to test whether the underlying assumption, that renters underestimate their tax burden, is correct.

Hypothesis 4

H_{4A} To the extent that DeKalb County residents believe renters indirectly pay property taxes, homeowners will estimate an amount less than renters, yet neither renters nor homeowners will have an accurate gauge of the incidence.

H₀ Renters and homeowners accurately perceive the property taxes renters indirectly pay through higher rent.

The debt illusion hypothesis contradicts the self-interest hypothesis in some respects because renters have a pecuniary interest in knowing their property tax burdens. Furthermore, the self-interest hypothesis would suggest that renters would support property tax relief for themselves in a manner similar to homeowners. Sjoquist's (2001) recent survey appears to support that argument. To the extent that HOST is regressive and renters support a renter's credit, some consideration for including tax relief for this group may be warranted. Of course, to the extent that homeowners object to this idea, the County Commission may face political pressure to discount renters' preferences. The appropriateness of property tax relief for renters should be evaluated on terms of equity, ease in administrative implementation, and political support by all DeKalb County residents.

H_{4B} Renters will strongly support property tax relief for themselves even at the expense of less tax relief for homeowners.

H₀ Renters will not reveal strong support for tax relief for themselves.

A second fiscal illusion hypothesis tested here concerns the extent to which taxpayers correctly perceive tax burdens that are collected in small amounts throughout the year, such as a general sales tax. This research bridges the gap between survey research that asked citizens' attitudes toward taxes and the fiscal illusion literature that has been based on assumptions regarding taxpayers' knowledge by directly asking residents of DeKalb County what they believed their sales tax liability was in 2001. Because of the difficulty and resources necessary to record sales tax payments, the research should find that individuals inaccurately gauge their sale tax liability. Fiscal illusion theory would posit that individuals will underestimate this burden.

The level of payment misperception with the sales tax is compared against the property tax. Homeowners very likely had a high level of knowledge about their property taxes, at least at the time they received their semi-annual bill. When the two tax systems are compared, homeowners are less knowledgeable about the tax burden under the HOST program than when that same burden was paid only through property taxes. This lack of tax awareness fails one of the primary criteria for evaluating tax policies, that a tax be transparent to the taxpayer. If citizens correctly gauge their sales tax burdens, then HOST has not reduced the fiscal transparency of the tax system. To the extent that this null hypothesis is correct, HOST should be evaluated affirmatively.

Hypothesis 5

H_{5A} *HOST has resulted in a less transparent tax system, which is evidenced by DeKalb County residents inaccurately estimating their households' sales tax burdens.*

H_0 *Residents of DeKalb County accurately estimate their households' sales tax burdens; therefore, HOST has not resulted in a less transparent tax system.*

H_{5B} *Residents of DeKalb County underestimate their annual sales tax burdens.*

H_0 *Residents of DeKalb County do not underestimate their annual sales tax burdens.*

H_{5C} *Homeowners are less knowledgeable about their combined sales-property tax burden than when that same burden was only collected by property taxes, ceteris paribus.*

H_0 *Homeowners have the same knowledge about their combined sales-property tax burden than when that same burden was only collected by property taxes, ceteris paribus.*

Hypotheses four and five seek to clarify the extent of taxpayer knowledge about property and sales taxes. Using fiscal illusion theory as a guide, the hypotheses support the argument that taxpayers do not know the true tax price of both indirect property taxes on tenants and general sales taxes. The second part of fiscal illusion theory states that governments utilize these illusions to increase the size of government. Due to the inconsistency of earlier findings, one cannot affirmatively say whether the theory is an appropriate explanation for government spending. This research will test whether DeKalb County has increased its spending, ceteris paribus, since HOST has been enacted.

All fiscal illusion hypotheses may not be appropriate for determining the effect HOST may have had on DeKalb County. Although renters' knowledge about their tax burdens have been tested, the argument that increasing numbers of renters results in higher public spending is not an appropriate argument in this instance because the proportion of tenant households has remained stable through the 1990s. The income elasticity of the sales tax combined with the robust economy of the late 1990s may have provided DeKalb County the opportunity to collect relatively more receipts with HOST than would have been possible by relying solely on the property tax. However, the

county's rising property values could have provided opportunities to increase spending as well. Furthermore, the income elasticity argument is somewhat assuaged by the low rates of inflation over the past several years; yet, the recent recession has affected public spending at the state level and may have affected county spending as well. To control for the effects of inflation, all budget amounts will be converted to real dollars.

The primary concern for this hypothesis is whether the tax system under HOST has become less transparent, *ceteris paribus*, thereby permitting the county to increase spending. Previous work measuring tax transparency has used tax complexity with weighting for direct and indirect taxation. Although the county collected a sales tax (MARTA) prior to HOST, and the actual number of taxes the county collects has not changed, the proportion of revenue collections to tax instruments for general fund spending has. Recall that MARTA revenues are dedicated to mass transportation funding and cannot support the county's general fund.

As mentioned earlier, research on fiscal illusion should consider or at least control for other levels of government. In the case of DeKalb, the lower property tax provides an opportunity for other local jurisdictions to raise their tax rates without increasing the combined property tax payments of DeKalb County homeowners. Commercial property owners would have a total tax increase, but their objection to higher taxes may be diminished by this group's ability to shift their property taxes onto the consumers of their products or tenants. Because the county government provides urban services to 85 percent of the property in DeKalb, the DeKalb County School District is the second most

important jurisdiction that levies property taxes in terms of total affected population.¹⁰

Therefore, the test for fiscal illusion will control for spending by the school district.

Some phenomena may have occurred regionally, which enabled DeKalb County to increase its spending for reasons other than HOST. For example, enactment of the state's homestead credit in 1999 may have offered counties the opportunity to increase their spending and property tax rates without homeowners seeing an increase in their total tax bill. To control for changes in regional spending patterns and other intervening variables, the research includes spending data from a neighboring jurisdiction. The jurisdiction serves as a control variable and assists in reducing the likelihood that influences other than HOST increased DeKalb County's spending after 1998. The county selected is Gwinnett, and like DeKalb, is urban, has a very similar population (621,528), and is highly educated (34.1 percent have bachelor's degree or higher). However, Gwinnett County has a higher median income than DeKalb at \$60,537 and a higher homeownership rate at 72.4 percent.

To the extent that the county has been able to export its tax burden and collect sales tax revenues, spending may have increased. Under this scenario, fiscal illusion did not cause the higher spending, but rather tax exportation lowered the overall tax price for DeKalb County residents. The lower tax price might have resulted in a greater demand for public goods and services. Based on estimates from the state, DeKalb County very likely has exported a significant portion of its sales tax burden. Controlling for this impact is not possible because the relative change in the public's demand for goods due to the lower tax price is unknown. Although the county collected a sales tax for its

¹⁰ Provision of urban services is measured by the total assessed value of property. The state's property tax assessment is set constitutionally at 0.250 mils and, therefore, a change in the county's rate would not affect the state's tax assessment.

regional rapid transit system, the government could not spend those funds on general operating expenses; thus, a proportion of spending to revenue from visitors cannot be calculated. Furthermore, the Georgia Department of Revenue's collection and distribution practices with MARTA would make any ratio suspect. Unfortunately, exporting sales tax burdens will remain a competing hypothesis to fiscal illusion. Under either scenario however, HOST would have stimulated the additional spending; yet the reasons, including public support for such spending, are very different.

Hypothesis 6

H₆ DeKalb County Government has significantly increased its general operating spending (per capita) since the enactment of HOST relative to a neighboring county government.

H₆₀ DeKalb County Government has not significantly increased its general operating spending (per capita) since the enactment of HOST.

CONCLUSION

In evaluating a new tax program, governments and the public need to consider issues such as equity, public approval, and transparency. This research seeks to test these issues thoroughly and fairly for DeKalb County's Homestead Options Sales Tax program. First, the research will answer whether the stated purpose of the program, homeowner property tax relief, has actually been achieved. Second, the research will evaluate the extent to which the program has affected the tax distribution among residents. Third, the study looks at public support for the program as it currently exists and asks whether residents would support broadening the tax relief to include renters.

Fourth, the study queries residents on their tax payments to learn whether HOST has affected the transparency of the tax system in DeKalb. Finally, the research measures whether the county or the school district has been able to raise spending levels due to a less transparent revenue structure.

CHAPTER 4

METHODOLOGY

To test appropriately the research hypotheses discussed previously, this research utilizes several data bases and statistical tests. The data come from a citizen telephone survey; the DeKalb County Budget Office, Tax Commission, and School District; and federal websites such as the U.S. Bureau of the Census and Bureau of Labor Statistics. Because the research employs data from a telephone survey (subsequently referred to as the HOST survey) to test multiple hypotheses, the survey methodology is discussed prior to the detailed methodological explanations of each hypothesis. In order to understand better the reliability of the county tax data, Appendix B provides background information on sales and property tax collection processes and historical property tax rates for DeKalb County.

HOST SURVEY

The HOST survey consisted of several demographic questions; attitudinal questions on sales taxes, property taxes, and the HOST program; and questions to discern the degree of knowledge respondents have of their sales tax payments (see Appendix A). During the month of February 2002, the University of Georgia's Survey Research Center conducted the telephone survey during evening hours Monday through Friday. Respondents were the heads of household for residents living in DeKalb County.

The sample of respondents comes from two separate data bases. Homeowners' names were randomly selected from the residential portion of the county tax digest, and a

reverse directory was used to learn telephone numbers. Through coding, homeowners' HOST survey responses were linked to the respective property tax digest information.

The Survey Research Center randomly selected a sample of DeKalb County renters from a countywide database composed of renters. Renters included not only persons living in apartment complexes but also those renting single-family homes. The database did not include the addresses of the renters; therefore, the survey asked renters to provide their addresses excluding apartment numbers. If respondents declined to provide this information, the Survey Research Center ended the survey and excluded them from the final sample. From the addresses given, the apartment complexes or homes were found via street maps, and apartment addresses were matched to parcel data in the tax digest. Finally, the researcher contacted each apartment complex to ascertain the number of units contained within it. From this information, an average property tax payment per unit within each complex could be calculated. Because rental payment information was not included in the survey, the research was unable to weight property tax liabilities by differences in rent liabilities among units within each complex. For renters living in single-family homes, the property's assessed value was found in the tax digest, similarly to homeowners.

The final sample approximates the housing tenure ratio for the county: 158 renters (39.5 percent) and 243 (60.5 percent) homeowners for a total of 401. According to the 2000 Census, the housing tenure ratio for the entire county equaled 41.5 percent renters and 58.5 percent homeowners. For renters, the survey cooperation rate was lower than that typically experienced in telephone surveys, while homeowners cooperated at a rate that closely resembled response rates of most telephone surveys. For homeowners, there

are 243 useable responses, 4 partial responses, and 271 refusals, for a cooperation rate of 47.3 percent.¹ For renters, there are 158 useable responses, 0 partial responses, and 263 refusals, for a cooperation rate of 37.5 percent.² The lower cooperation rate from renters may be have been due to the complexity of the tax questions, the personal nature of the demographic questions such as asking for home addresses and income, or a lack of perceived relevance to the survey since the HOST program benefits homeowners. To help bolster the cooperation rate, respondents who completed the survey had the opportunity to win a \$100.00 gift certificate to Kroger grocery stores. With a final sample of 401 and 249,339 households in DeKalb County (U.S. Bureau of the Census, 2000), the confidence interval equals ± 4.9 percent (confidence level of 95 percent).

Several renters within the final sample chose not to offer complete addresses when completing the survey. Due to the vagueness of their responses, such as providing an intersection or a street name with multiple apartment complexes, the researcher was unable to link the survey data to a tax digest parcel(s). The number of renters with both survey and tax digest data equaled 81. In contrast, all homeowners were drawn from the tax digest, so linkage equaled 100 percent. With a combined sample of 324 (81 + 243), the confidence interval equaled ± 5.4 percent (confidence level of 95 percent). This sample was used to test Hypothesis 2, which measured the change in tax burdens due to HOST, while the research used the larger sample of 401 responses to test Hypotheses 3, 4, and 5. For descriptive information about the sample, such as education, race, income, and family size, see Appendix C.

¹ Total number of homeowners attempted equals 2,081

² Total number of renters attempted equals 2,041

HYPOTHESES

Hypothesis 1

In order to test Hypothesis 1, which states that HOST has resulted in lower county property taxes for qualified homeowners in DeKalb County, the amount of property tax reductions from HOST, if any, must first be calculated. By tracking the property tax payments of homeowners over time, one can determine whether HOST has been effective at reducing payments. Property tax payments are the result of the tax rate multiplied by the assessed value of each property. For a property tax reduction to occur, one or both of these factors must be reduced without the other increasing to an extent so as to offset a reduction.

Data come from the DeKalb County Tax Commissioner and include the years 1992 to 2002. Since 1999, the county has awarded the HOST exemption to qualified homeowners. Therefore, the average tax payment for homeowners for the last four tax years must be demonstrably lower than the previous seven in order to reject the null hypothesis that HOST has not resulted in property tax relief for homeowners. The hypothesis assumes that HOST has not affected county operations and operating spending patterns.

The Office of the Tax Commissioner provided information on the total assessed value and number of residential properties but did not have information on the assessed value of properties with homestead exemptions. Therefore, the research utilizes the assessed value of residential property to calculate average dollar value for the HOST

credit.³ Although the tax designation for residential property does not include apartment complexes, it does incorporate homes not qualifying for a homestead exemption, such as vacation homes and rented homes. The average assessed value for a single residential property is the basis for measuring the value of the HOST credit for homeowners. This average measure avoids bias from an increasing number of residential properties and, thus, a larger total assessed value of residential property within the county. The entire millage rate (county, school, and state) for unincorporated property and a county-only millage rate are multiplied by the averaged assessed value to measure changes in tax burdens over time. HOST applies to residential properties that also qualify for other homestead exemptions, such as the state and county constitutional exemptions and these exemptions are first applied to the average assessed value of residential property before calculating the HOST credit.⁴ For years 1992 to 1998, the exemptions include the \$10,000 homestead exemption for county and school taxes and the constitutional exemption of \$2,000 for state taxes. After 1999, assessed values incorporate the above exemptions plus the HOST exemption. Also in 1999, the state began funding a state tax homestead credit (see discussion on p. 34). To avoid overstating the affects of HOST, the research does not deduct this new state credit from the assessed value of properties for years 1999–2002. As previously stated, county assessment practices, although improved with advancements in technology, have not changed significantly since HOST began. The analysis assumes that the county has not significantly changed its spending practices

³ The total assessed value of residential property and the number of residential properties for 2002 were not available at the time this research was undertaken; therefore, the 2002 figures equal the 2001 values plus the average increase over the prior ten-year period, respectively.

⁴ Exemptions for the elderly and disabled are not considered due to their variability and special revenue qualifications.

since HOST; therefore, no other intervening causes that might significantly inflate or deflate the impact of HOST on owner-occupied housing should exist.

To account for the effects of inflation, the research presents figures in both nominal and real dollars. The Consumer Price Index data come from the U.S. Department of Labor's Bureau of Labor Statistics (BLS), with the base period being 1982-1984 = 100 (spending within the Atlanta, GA MSA, not seasonally adjusted). In DeKalb County, the property tax year begins July 1 and ends June 30, covering halves of two calendar years. BLS divides each calendar year into halves, providing separate inflation converters. To control properly for inflation, the property tax assessment is halved and then divided by the appropriate conversion figure. The two converted property tax payments are summed to provide an annual (July through June) property tax assessment in real dollars. Conversion figures for the 2002 property tax year were unavailable at the time this research was undertaken; therefore, it uses the conversion figure for January through June 2002.

Municipal properties are not included in the analysis for this hypothesis because 85 percent of the property within the county lies within the unincorporated area and HOST does not affect city property taxes. Please note that incorporated residents also receive tax rebates on the county portion of their property tax assessments. Like unincorporated property owners, these homeowners pay the county general purpose tax, hospital tax, fire protection (except in Atlanta and Decatur), and debt service. All but Atlanta property owners pay some property taxes to fund county services under a designated tax district. The level of special county services tax depends upon the services received by various districts. For example, property owners in Chamblee paid

1.74 mills in 2001, while those in Lithonia paid 3.75 mills (see Appendix B). The city of Chamblee provides more municipal services to its residents and therefore does not utilize some county services, hence the lower millage rate. For homeowners residing in the incorporated areas, county taxes constitute a smaller portion of their total property tax bills, therefore the benefits from HOST will be less than for homeowners living in the unincorporated area.

As the largest portion of a property owner's tax bill, a significant increase in the school district's millage rate could offset any county tax decreases. The DeKalb County School Board has not increased its millage rate since the inception of HOST. The DeKalb County School District educates children throughout the county except for those living in Decatur and Atlanta. Table 4.1 shows the millage rates assessed by the school board from 1992 to 2002. In 1997, county voters approved a one-cent sales tax to fund capital projects for schools, which eliminated the debt portion of the education property tax. The slight reduction in millage rates for elementary education is somewhat surprising. With reductions in county tax payments, the board had the opportunity to increase its tax obligations without increasing a homeowner's overall tax bill. The behavior of the board runs contrary to the fiscal illusion hypothesis.

Table 4.1 Millage Rates Assessed by the DeKalb County Board of Education											
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Operating	22.53	23.53	23.53	23.73	23.73	23.73	22.48	22.48	22.23	21.98	21.98
Debt Svc	1.10	1.10	1.10	0.90	0.90	0.00	0.00	0.00	0.00	0.00	0.00
Total	23.63	24.63	24.63	24.63	24.63	23.73	22.48	22.48	22.23	21.98	21.98

Source: DeKalb County Budget Office.

This research compares tax payments for the unincorporated area across an eleven-year time span. As part of the analysis, the research undertakes a time series

analysis in addition to frequency distribution analysis. Due to the brief time following the implementation of HOST (four years), the model's primary measure is the immediate impact of HOST on owner-occupied tax payments. With time, research can measure the long-term effects of HOST with more accuracy. The model represents a simple, interrupted time series:

$$Y_t = b_0 + b_1X_{1t} + b_2X_{2t} + b_3X_{3t} + e$$

The dependent variable, Y_t , equals the property taxes paid (on the average assessed value of residential property less homestead exemptions with unincorporated millage rates) in year t . By using tax payments rather than millage rates, the model accounts for the rising assessed values of property within the county. For comparison, the time series has two dependent variables: total tax assessments, which includes county, school, and state taxes, and county-only tax assessments. The "total tax payment" variable includes tax payment adjustments from both HOST and the school board.

The independent variables are as follows: Variable b_0 is the intercept of the tax payment. Variable, X_{1t} , is the slope of the tax payment from 1992 through 1998. This coefficient should be relatively small because tax payments had been relatively stable until the sudden decrease under HOST. Variable X_{2t} measures the initial impact of the HOST program on property taxes in 1999 and should be negative, reflecting the decrease in tax payments. Variable X_{3t} reflects the change in tax payments after the implementation of the HOST program from 1999 through 2002. Finally, e represents the error term for the regression equation. In sum, the structure of HOST should result in a substantial property tax savings for qualified owner-occupied homes. Furthermore, education taxes should not have dampened the savings. Therefore, the time series model

and frequency measures should reveal significant tax savings beginning in 1999 through 2002.

Hypothesis 2

The second hypothesis seeks to learn, first, which homeowners have benefited the most and least from HOST, and second, whether the HOST program has altered the tax burden of DeKalb County residents, *ceteris paribus*. As the first step in testing both parts of this hypothesis, several pieces of information about residents are collected. The second step analyzes the data using tax progressivity indices. In this section, the data collection procedures are discussed first, followed by explanations of the tax distribution measures which are used to test the hypothesis.

Effective tax burden measures are based on the amount of taxes paid as a percent of total income. To learn this information, the HOST survey asked respondents their household's pre-tax income for 2001. As a critical component of the research, the final sample includes only those respondents who answered that question. Table 4.2 shows the number of respondents by income categories. To minimize the number of non-responses due to the sensitivity of this question, the survey asked residents their income within brackets (see Table 4.2). In order to have a specific income level for each respondent, the research uses the mean value of each bracket. For example, a respondent answering that his or her household earned between \$50,000 and \$59,999 in 2001 has an assigned income level of \$55,000. For those respondents in the lowest and highest income brackets, the research assigns \$10,000 and \$120,000, respectively, based on continuity between the other income brackets.

Table 4.2
2001 Income Distribution of Homeowners and Renters

Income	Frequency	Percent	Cumulative Percent
Less than \$15,000	16	4.9	4.9
\$15,000 - \$19,999	11	3.4	8.3
\$20,000 - \$29,999	31	9.6	17.9
\$30,000 - \$39,999	32	9.9	27.8
\$40,000 - \$49,999	53	16.4	44.1
\$50,000 - \$59,999	34	10.5	54.6
\$60,000 - \$69,999	16	4.9	59.6
\$70,000 - \$79,999	21	6.5	66.0
\$80,000 - \$89,999	28	8.6	74.7
\$90,000 - \$109,999	39	12.0	86.7
Over \$110,000	43	13.3	100.0
TOTAL	324	100.0	
Number of homeowners = 243			
Number of renters = 81			

This research employs two different methods of calculating property tax liability, depending upon the housing tenure of the respondent. For renters, the total property tax liability for their apartment complex is calculated based on the assessed value of the property times the appropriate county millage rates for 2001. The millage assessment depends upon which jurisdiction (i.e., unincorporated or municipality) the complex lies (see Appendix B for millage rates per jurisdiction and service). Once the total property tax liability is known, that amount is divided by the number of units, creating an average unit liability. By using averages, differences in tax liabilities among units in a complex are not considered. Tenants face different tax liabilities to the extent that rents also differ, such as for additional bedrooms. Given that rents within a complex are generally the same, creating an average tax payment should not distort the effective tax rates for renters in the sample. For tenants of single-family homes, the assessed value of the rental property is multiplied by the appropriate millage rate as well. Prior research (see

pp. 24 - 31) has shown that landlords are able to pass forward between 50 and 75 percent of their property tax liabilities onto renters through higher rent. Therefore, the research applies a percentage of the calculated property burden to the renter-respondents. Since HOST only offers tax reductions for qualified, owner-occupied housing, it is assumed that renters' tax liabilities are unaffected by HOST. This research conducts the tests for tax distribution twice, once assuming fifty percent of tax liabilities are passed forward to renters and again with 100 percent of property tax liabilities passed forward.

For homeowners, the total assessed value of their property, as well as applicable exemptions, are known from the tax digest. For each homeowner, the research deducts county and state constitutional exemptions, as well as the state tax credit and any applicable special exemptions (e.g., elderly or disability), from the home's assessed value prior to determining the "net" assessed value. When calculating tax burdens with HOST, the properties' assessed values, sans all homestead exemptions and credits, are multiplied by the countywide bond millage rate for all homeowners. For those living in unincorporated areas, park bond liabilities are included as well. The HOST benefit for each homeowner equals the "net" assessed value of his or her property multiplied by the millage rates for each applicable county service, which includes the county general purpose and hospital taxes for all homeowners, plus special services and fire taxes for those living outside the cities of Atlanta and Decatur. Under the no-HOST scenario, the research adds the two amounts, current property taxes plus the value of the HOST credit, to determine property tax liabilities had HOST not been enacted, *ceteris paribus*.

To calculate the entire tax liability of residents under HOST, this research includes the additional one-cent sales tax as part of their total tax liability. This study

estimates the amount of sales taxes paid by each household in the sample using Bureau of Labor Statistics *Consumer Expenditure 1999 Survey* (CES) data. In their study of sales tax incidence in Maryland, Derrick and Scott (1998) found that this simple measure for tax incidence yielded the best measure for consumer tax incidence when considering both the direct expenditures of consumers and the ability of businesses to pass forward their sales tax burdens through higher prices. Furthermore, consumer expenditures from Southern states are considered to best represent spending by Georgians. The sales tax liability equals one percent of total taxable sales. In addition, the research adjusts CES spending data with a 6.3 percent inflation factor to account for price increases between 1999 and 2001.⁵ Taxable sales do not include items exempt from sales taxes under Georgia statute. Taxable revenue from hotels stays is not considered taxable for the respondents because few, if any, residents would have rented a hotel room in DeKalb. Table 4.3 lists all consumption categories for CES designated income groups.

One may question whether the HOST one percent sales tax motivates residents to spend money in neighboring counties and thereby avoid the tax. Of the five counties adjacent to DeKalb,⁶ two have sales tax rates at seven percent (equal to DeKalb County) and three have rates equaling six percent. The state sales tax rate equals four percent, and counties and school districts may impose up to an additional three percent in local option sales taxes. Apparently, the area has a relatively homogenous sales tax rate, decreasing the incentive of DeKalb residents to shop elsewhere as a means of tax avoidance.

⁵ Bureau of Labor Statistics inflation calculator provided cost of living adjustment between 1999 and 2001. www.stats.bls.gov

⁶ Adjacent counties and their sales tax rates: Clayton 6 percent, Fulton 7 percent, Gwinnett 6 percent, Henry 6 percent, and Rockdale 7 percent.

Table 4.3
Taxable Spending 2001:¹
Sales Tax Liabilities Under HOST

	Less than \$15,000	\$15,000 - \$19,999	\$20,000 - \$29,999	\$30,000 - \$39,999	\$40,000 - \$49,999	\$50,000 - \$69,999	\$70,000 and higher
Income Before Taxes							
Taxable spending – mean							
Food away from home	789	1,181	1,669	2,299	2,778	2,846	4,377
Alcoholic beverages	135	155	261	340	357	530	661
Utilities - Natural gas	126	157	155	161	192	210	297
Utilities – Electricity	877	1,063	1,140	1,179	1,242	1,377	1,573
Utilities - Fuel oil & other fuels	58	50	51	41	49	47	58
Utilities – Telephone	625	747	861	975	1,080	1,160	1,430
Household operations – Other	157	171	242	260	299	431	1,108
House keeping operations (less postage)	207	268	348	436	451	578	728
Household furnishings & equipment	545	860	1,176	1,396	1,666	2,249	3,342
Apparel – Clothing	744	1,091	1,418	1,658	1,779	1,943	3,016
Apparel – Other products & services (50%)	54	74	89	102	119	168	376
Vehicle maintenance & repair (50%)	170	259	284	386	437	416	587
Gasoline and motor oil	659	941	1,125	1,401	1,573	1,724	2,021
Medical supplies (50%)	30	29	51	42	66	66	89
Entertainment – Fees & admissions	133	168	226	320	432	567	1,364
Television, radios, sound equipment	360	455	580	641	733	831	1,036
Pets, toys, playground equipment	144	230	279	304	367	479	794
Other equipment and services (50%)	80	47	107	146	143	344	518
Personal care product & services (50%)	165	210	268	288	358	386	522
Reading	57	75	112	125	134	165	280
Tobacco products & smoking supplies	288	364	370	358	489	434	349
Miscellaneous (50%)	188	290	384	432	597	450	843
Other vehicle	0	0	0	103	53	77	73
Total taxable spending (within DeKalb)²	6,593	8,885	11,196	13,394	15,393	17,477	25,443
<i>Tax Payments for HOST (1%)</i>	<i>66</i>	<i>89</i>	<i>112</i>	<i>134</i>	<i>154</i>	<i>175</i>	<i>254</i>
Vehicle purchase	9,460	11,131	8,624	10,009	13,710	12,993	17,326
<i>HOST Tax Payments with Vehicle</i>	<i>161</i>	<i>200</i>	<i>198</i>	<i>234</i>	<i>291</i>	<i>305</i>	<i>428</i>
Persons per household	1.90	2.40	2.50	2.60	2.70	2.90	3.10

1. CPI index adjusted by 6.3 percent from 1999 data.

2. This does not consider spending by residents outside DeKalb County

The HOST survey asks respondents to indicate the extent to which they shopped outside of DeKalb County as a percent of total shopping, such as in neighboring counties, on vacation, or over the internet (see Appendix A, Question 8). Generally, residents shop within the county. Almost 41 percent (40.9) of the respondents answered that ninety percent or more of their shopping occurs within DeKalb County while the median response was 2.00 (category: 10 to 25 percent of shopping occurs outside DeKalb County). Only eleven of the 401 respondents (2.8 percent) claimed that over 75 percent of their shopping took place outside the county. To the extent residents shop outside the county, their HOST tax payments will be lower.

To improve the accuracy of the HOST tax liability figure, the amount of tax exporting each resident said he or she did in 2001 was removed from that person's overall HOST tax liability, using the mean amount for each category. For example, a respondent with a household income of between \$40,000 and \$50,000 that did not purchase a vehicle had a HOST liability of \$154 in 2001 (see Table 4.3). If that person estimated that 10 to 25 percent of his or her shopping occurred outside DeKalb County, then the HOST liability would decrease 17.5 percent to \$127. Two homeowners chose not to answer this question on the survey so, it was assumed that all of their shopping occurred within DeKalb.

Only direct tax liabilities are considered. For a handful of spending categories, such as personal care products and services, some items are taxable like cosmetics while others such as dry cleaning are not. Rather than determine too low a spending figure by eliminating the category or, conversely, one that is too high by including the entire category, the data only count fifty percent of spending as taxable. From CES micro-data,

the amount spent for a new or used vehicle by income group is also known. For survey respondents who answered affirmatively that they purchased a vehicle from a dealership in 2001, the average cost of a vehicle (mean of new and used) is added to their household's total HOST liability. For households earning between \$30,000 and \$40,000 annually, taxable spending sans a vehicle purchase equals \$13,394, and with a vehicle, \$23,403.

For middle-income groups, the CES income categories coincide with those in the HOST survey; however, this is not the case for the highest income groups and the lowest income groups. The CES combines data for all consumer units earning over \$70,000 annually into one group, while this research divides household income into four categories beyond that figure (see Table 4.2). Unfortunately, the spending habits of consumers earning above \$70,000 cannot be disaggregated from the CES information to match the sample's income categories. Therefore, those respondents in the sample with annual incomes greater than \$70,000 have the same sales tax liabilities even though logic would dictate that households earning over \$110,000 likely spend more than those earning \$75,000. Consequently, the effective tax rates for HOST survey respondents in the highest income category will be lower than those in the \$70,000 to \$80,000 income category. Similarly, the CES utilizes one income category for consumer units earning between \$50,000 and \$69,999 annually, which comprises two income categories for the HOST survey (see Table 4.2).

The BLS separates spending data for low-income households in greater detail than deemed necessary for this research. For the BLS, the lowest income groups collect less than \$5,000 annually, \$5,000 to \$9,999, and \$10,000 to \$14,999. The HOST survey

(see Table 4.2) has one low-income category, less than \$15,000. To merge the three CES categories into one and therefore match the income data from the survey, the research weights the CES data based upon the proportion of respondents in each group. Table 4.4 provides an example of the calculation using the amount respondents spent on reading material in 1999.

Table 4.4 Comparison of CES Spending Data to HOST Spending Data				
Income Category	CES Respondents	Proportion of Spending	Amount Spent: CES Data	Value Used HOST Spending
Less than \$5,000	1,304	17.73%	\$45	\$8
\$5,000 to \$9,999	3,029	41.18%	\$51	\$21
\$10,000 to \$14,999	3,022	41.09%	\$61	\$25
Total	7,355	100.00%	\$157	\$54

To serve as a comparison for the taxable spending in Table 4.3, the kinds and levels of non-taxable spending are shown in Table 4.5. On average, 60.8 percent of all spending in 2001 was not taxable across the seven income groups (excluding spending from vehicle purchases). The percentages show a slight u-shaped spending distribution, with the lowest and highest income groups having the comparatively least amount of taxable spending at 36.5 percent and 36.0 percent, respectively. This distribution results from the importance of housing and food purchased for home consumption relative to total spending for these two groups. In sum, the current tax structure's liabilities (with HOST) are the sum of property taxes and sales taxes for 2001, which renters and homeowners pay. Under the no-HOST scenario, sales tax liabilities are eliminated, renters' tax liabilities remain unchanged, and homeowners have property taxes equal to their HOST liabilities plus the value of their HOST credits.

Table 4.5
Non Taxable Spending 2001:¹
HOST Measures

Income Before Taxes	Less than \$15,000	\$15,000 - \$19,999	\$20,000 - \$29,999	\$30,000 - \$39,999	\$40,000 - \$49,999	\$50,000 - \$69,999	\$70,000 and higher
Non-Taxable Spending							
Food at home	1,974	2,630	2,973	3,278	3,635	3,685	4,272
Shelter owned	3,260	1,909	2,493	3,156	3,780	5,432	9,993
Rented dwellings	1,801	1,945	2,165	2,203	2,288	1,629	1,092
Hotels							
No residential HOST taxes	115	164	223	342	349	480	1,278
Water	215	272	300	307	352	387	519
Household operations - Personal services	95	150	189	248	281	588	771
House keeping - Postage & stationery	52	61	89	111	144	183	205
Apparel – Other products and devices (50%)	54	74	89	102	119	168	376
Vehicle – Finance charges	115	208	317	422	500	678	759
Vehicle maintenance & repair (50%)	170	259	284	386	437	416	587
Vehicle – Insurance	369	568	731	863	1,008	1,098	1,281
Vehicle - Rental, lease, license	120	200	242	286	382	625	1,033
Public transportation	111	128	220	220	280	415	845
Health insurance	721	877	981	198	1,278	1,284	1,504
Medical services	280	428	437	569	645	794	1,166
Prescription medicines	441	620	561	433	436	520	578
Medical supplies (50%)	30	29	51	42	66	66	89
Other equipment and services (50%)	80	47	107	146	143	344	518
Personal care product & services (50%)	165	210	268	288	358	386	522
Education	281	272	292	332	344	605	1,303
Miscellaneous (50%)	188	290	384	432	597	450	843
Cash contributions	320	467	672	1,153	1,160	1,799	3,382
Personal insurance & pensions	500	1,211	2,068	3,263	4,675	6,047	12,300
Total non-taxable spending	11,454	13,017	16,138	18,779	23,254	28,079	45,218
Taxable spending (excluding vehicles)	6,593	8,885	11,196	13,394	15,393	17,477	25,443
Total Spending	18,047	21,902	27,334	32,173	38,647	45,556	70,662
<i>Non-Taxable Spending to Total Spending</i>	<i>63.5%</i>	<i>59.4%</i>	<i>59.0%</i>	<i>58.4%</i>	<i>60.0%</i>	<i>61.6%</i>	<i>64.0%</i>
<i>Taxable Spending to Total Spending</i>	<i>36.5%</i>	<i>40.6%</i>	<i>41.0%</i>	<i>41.6%</i>	<i>40.5%</i>	<i>38.4%</i>	<i>36.0%</i>

1. CPI index is adjusted by 6.3 percent from 1999 data.

To answer Part A of Hypothesis 2, the HOST homestead credit increases with income, the HOST credit as a percent of total household income is calculated. Using only data from homeowners in the sample, the research tests the hypothesis with measures of frequency and association, such as percentages and correlations.

In order to test the second part of Hypothesis 2, that the HOST program has resulted in a more regressive tax system for the county, the research employs differential incidence analysis as its theoretical foundation. According to Richard Musgrave (1959, p. 212), who is credited with developing the analysis, “differential incidence [is defined] as the differences in the distributional results of two tax policies that provide for equal yield in real terms; or to put it differently, that provide for money yields adequate to finance a given set of real expenditures of government.” In this instance, all other county revenues are held constant in order to isolate the effects the of HOST program on DeKalb residents.

This study uses specific measures and tests to determine whether the null hypothesis can be rejected. Specifically, the research begins with measures of frequency, such as percentages, and then continues with more advanced statistics. The primary tests, the Kakwani (1977) and Suits (1977) indices, are two commonly utilized measures of tax progressivity (e.g., Greene & Balkan, 1987; Wong & Michael, 1990). These two indices are derived from the Lorenz curve, which assesses income inequality within a jurisdiction. They accomplish essentially the same goal, measuring the regressivity (progressivity) of a jurisdiction’s tax system, yet they do so by using slightly different formulas. By being based on the Lorenz curve, their intuitive interpretation is relatively straightforward. The HOST and no-HOST scenarios will be compared using the same

distribution index. The hypothesis expects that the HOST scenario value will be more regressive than the no-HOST value.

The Lorenz curve, also referred to as an income concentration curve, cumulatively measures the proportion of income earned by the population, which in this case represents DeKalb County. Figure 4.1 shows the income concentration curve for homeowners and renters in the sample. The diagonal line represents a proportional income distribution. The concave line denotes the cumulative percent of total household income plotted on the Y axis and the cumulative percent of households on the X axis (Suits, 1977). The farther away the Lorenz curve lays from the diagonal line, the greater the bias in income distribution. For this sample of 324 DeKalb County households, the poorest forty percent households collect only twenty percent of the total income rather than forty percent had income been distributed proportionally.

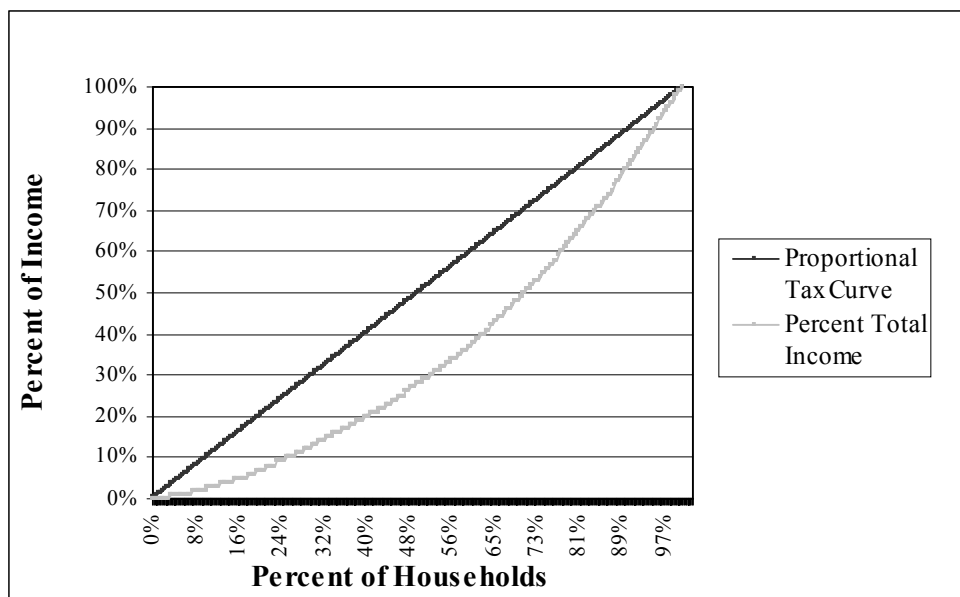


Figure 4.1
Lorenz Curve: Sample of DeKalb County Households, 2001

Building off the income concentration curve concept, the Kakwani (K) index measures the cumulative difference between the income concentration curve for a population and a tax concentration curve.⁷ The tax concentration curve measures the accumulated percent of total tax burden by the accumulated percent of total income. The difference between the two curves represents variance from a proportional tax system. The formula is as follows:

$$K = \int_0^1 [i(H) - t(H)] dH$$

Where H is households, and i(H) (Lorenz curve) and t(H) (tax concentration curve) are the cumulative distribution of income and taxes, respectively. The index values range from -2.0 for a completely regressive tax system (i.e., all tax revenues come from the poorest person) to 1.0 for a perfectly progressive tax system (Greene & Balkan, 1987; Wong & Michael, 1990). A measure of zero equals a proportional tax system.

With a slightly different focus, the Suits (S) index measures the cumulative distance between a tax concentration curve and its proportional tax line. The closer the tax concentration curve lays to the proportional tax line, the more proportional the tax system. As an illustration of how the Suits index measures tax systems, Figure 4.2 shows the tax concentration curve for HOST (sales tax only) using the sample of DeKalb County households. The vertical axis represents the cumulative percent of sales tax payments, and the horizontal axis represents the cumulative percent of total income. The lines are fairly close together, meaning that the sales tax is relatively proportional to income among DeKalb County households in the sample. Yet, HOST is still slightly

⁷ For the Kakwani theorem, please see Kakwani, (1977). Applications of Lorenz Curves in Economic Analysis. *Econometrica*. 45:3, 719 – 727.

regressive. For example, the poorest thirty percent of households pay 38 percent of all sales taxes.

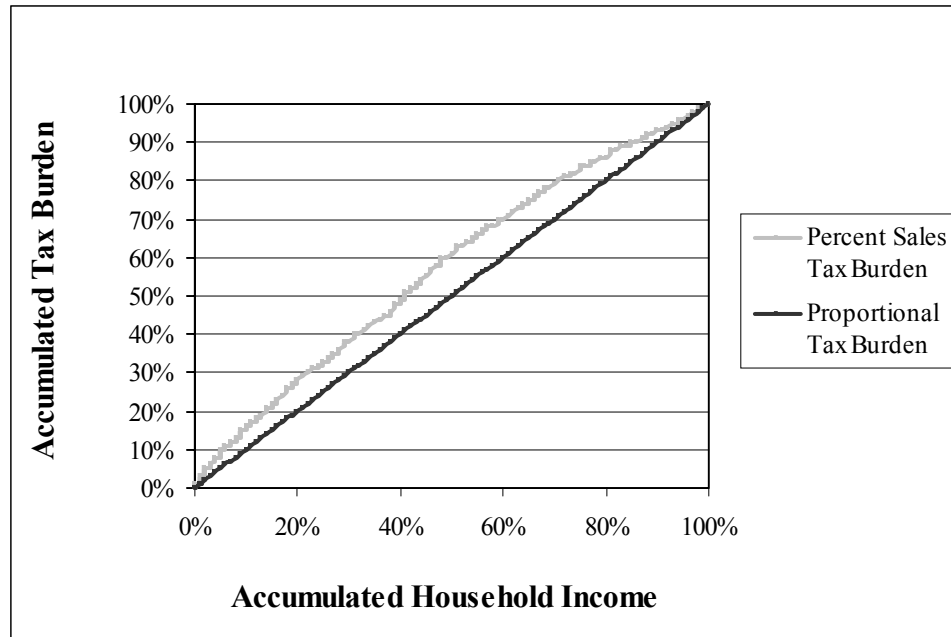


Figure 4.2
HOST Concentration Curve:
Sample of DeKalb County Households, 2001

The formula for the Suits index is as follows:

$$S = \int_0^1 [i(H) - t(H)] i'(H) dH$$

Again, H represents households in the sample, $t(H)$ is the tax concentration curve, $i(H)$ the Lorenz curve, and $i'(H)$ the slope of $i(H)$. For this index, the values range from -1.0 for a completely regressive tax system to 1.0 for a fully progressive tax system (Suits, 1977), with zero being a proportional tax system. Using Figure 4.2 as a guide, the Suits index equals the value of the area beneath the proportional tax curve less the area beneath the sales tax curve. In this instance, the index reflects a negative value and is therefore regressive.

Both the Suits and Kakwani indices measure the average progressivity of a tax across the entire income range. Yet, if HOST is regressive at one income range and progressive at another, this distribution would be lost by the indices. Rather, the negative and positive values would be averaged and provide an index figure that resembles a proportional tax (Formby, Smith, & Thistle, 1987; Greene & Balkin, 1987; Suits, 1977). Preliminary graphs appear to indicate that although the tax concentration curve for the HOST program undulates due to different tax liabilities among renters and homeowners with similar household incomes, the curve across the income scale is not both regressive and progressive.

In the article originally describing his index, Suits (1977) emphasized that income distribution is central to the concept of progressivity. The regressivity (or progressivity) of a tax, such as those on consumable goods, stems from an unequal distribution of income among the population. The comparison of indices between the HOST and no-HOST counterfactual reflects the nature of DeKalb County's income distribution for 2001. If comparing different jurisdictions or the same jurisdictions over time, the indices may not produce consistent results if income distribution patterns differ or change. To the extent the county's income distribution does change over time, so will the regressivity or progressivity of the HOST program. This fact is an important qualification for understanding both the Kakwani and Suits indices.

Hypothesis 3

From Hypothesis 3, the research seeks to demonstrate that homeowners continue to support the HOST program and that the support stems primarily from their lower property tax payments. To learn homeowners' attitudes toward HOST, as well as their

and renters' ideas regarding sales and property taxes generally, the HOST survey asks several specific questions. These questions provide the means for testing parts A and B of Hypothesis 3. Specifically, the survey asks respondents their opinion of HOST. Responses ranged from strongly approve to strongly disapprove (see Appendix A, Question 26). The benchmark for rejecting the null hypothesis of H3A is that no less than 49 percent of homeowners could either somewhat or strongly disapprove of HOST.

In Question 27, the survey queries respondents on the reason for their support. Those disapproving of HOST skipped the question. The survey offers respondents three pre-selected responses and an opportunity to provide their own reason. The pre-selected responses reflect the rationale citizens generally offer for supporting sales taxes. They are A, I pay less in property taxes; B, sales taxes are fairer than property taxes; and C, people living outside DeKalb County pay sales taxes. To reject the null hypothesis for H3B, homeowners have to select response "A" more often than any other response.

Hypothesis 4

Hypothesis 4 asserts, first, that renters will discern a higher property tax burden for themselves compared to homeowners' perceptions of that same property tax liability, and second, that renters will seek to maximize their own utility by preferring tax relief for themselves at the expense of less homeowner property tax relief. To test the first proposition, the HOST survey asks all respondents the percentage of property tax payments that landlords pass onto renters through higher rent (see Appendix A, Question 17). Furthermore, the survey questions renters on whether they support tax relief for themselves at the expense of property tax relief for homeowners (see Appendix A, Question 24). To reject the null for Hypothesis 4B, renters must support tax relief for

themselves. No generally accepted standard exists to help determine an appropriate quantifiable benchmark for determining when to reject the null hypothesis. The self-interest hypothesis would lead one to conclude that all renters would support tenant tax relief. However, meeting such a high standard seems improbable. As an easily understandable and intuitively reasonable basis, the research adopts a benchmark using quartiles. If one-fourth of the renters in the sample do not want tax relief, one would question whether the concept is politically necessary for the continued support of HOST. Using this guide, the benchmark for rejecting the null is that no more than 25 percent of the respondents could oppose tax relief for themselves.

Hypothesis 5

To learn how accurately DeKalb County residents perceive less visible tax burdens, the survey asks respondents to estimate the amount of sales taxes they paid in 2001, either in dollars or as a percent of total income (see Appendix A, Question 9). Due to the difficulty in answering this question, the survey did not offer respondents the option of not responding to the question. Rather, if a respondent refused to answer, the survey is considered incomplete and eliminated from the final sample.⁸ One hundred forty-three respondents chose to answer in dollars while 257 did so as a percent of their total income for a total of 400. For all responses, the research created an equivalent dollar or effective tax rate. To determine an unknown effective tax rate, the dollar response is divided by household income. Conversely, responses given as percentages were multiplied by household income to know the dollar value of sales tax payments for respondents.

⁸ One respondent chose to respond with zero percent sales tax payments and was removed from the data set as a non-response.

The responses are compared against sales tax liability calculations using *Consumer Expenditure Survey* data (see Table 4.6). CES sales tax liabilities serve as a comparison from which to evaluate residents' knowledge about their own (households') sales tax liabilities. The closer each respondent is to the CES figure, the more accurate and knowledgeable he or she is considered in regard to this question. Unfortunately, no benchmark or standard exists for determining exactly how close the respondent's estimate must be to the CES estimate to determine conclusively that the respondent gave an accurate answer.

Residents' sales tax payments using CES data are designed similarly to the method utilized in Hypothesis 2. This calculation, however, includes the state sales tax (four percent) and the county's three local option sales taxes assessed at one percent each: education local option (ELOST), MARTA, and HOST, for a total rate of seven percent. There are no changes in levels of spending, only on what is considered taxable due to statutory differences on exempt items among the types of sales taxes. ELOST and MARTA both tax food for home consumption at a combined rate of two percent. The calculations only include sales taxes therefore excludes the state excise tax of 7.5 cents per gallon on motor fuel but does include the state's other general sales tax for fuel at four percent. Also, taxable spending includes hotel accommodations in this scenario because this type of consumption affects total sales tax liability even though the revenue does not accrue to DeKalb County.

Table 4.6
Taxable Spending 2001:¹
Total Sales Tax Liabilities

Income Before Taxes	Less than \$15,000	\$15,000 - \$19,999	\$20,000 - \$29,999	\$30,000 - \$39,999	\$40,000 - \$49,999	\$50,000 - \$69,999	\$70,000 and higher
Taxable spending – mean							
Food away from home	789	1,181	1,669	2,299	2,778	2,846	4,377
Alcoholic beverages	135	155	261	340	357	530	661
Other lodging – Hotel / motel	115	164	223	342	349	480	1278
Utilities - Natural gas	126	157	155	161	192	210	297
Utilities – Electricity	877	1,063	1,140	1,179	1,242	1,377	1,573
Utilities - Fuel oil / other fuels	58	50	51	41	49	47	58
Utilities – Telephone	625	747	861	975	1,080	1,160	1,430
Household operations – Other	157	171	242	260	299	431	1,108
House keeping (less postage)	207	268	348	436	451	578	728
Household furnishings	545	860	1,176	1,396	1,666	2,249	3,342
Apparel – Clothing	744	1,091	1,418	1,658	1,779	1,943	3,016
Apparel – Other products / services (50%)	54	74	89	102	119	168	376
Vehicle maintenance / repair (50%)	170	259	284	386	437	416	587
Medical supplies (50%)	30	29	51	42	66	66	89
Entertainment – fees / admissions	133	168	226	320	432	567	1,364
Television, radios, sound equipment	360	455	580	641	733	831	1,036
Pets, toys, playground equipment	144	230	279	304	367	479	794
Other equipment / services (50%)	80	47	107	146	143	344	518
Personal care products / services (50%)	165	210	268	288	358	386	522
Reading	57	75	112	125	134	165	280
Tobacco products	288	364	370	358	489	434	349
Miscellaneous (50%)	188	290	384	432	597	450	843
Other vehicle	0	0	0	103	53	77	73
Taxable spending²	6,048	8,108	10,295	12,335	14,169	16,234	24,700
<i>Sales Tax Payments (7%)</i>	<i>423</i>	<i>568</i>	<i>721</i>	<i>863</i>	<i>992</i>	<i>1,136</i>	<i>1,729</i>
Food at Home	1,974	2,630	2,973	3,278	3,635	3,685	4,272
<i>Tax Payments: ELOST MARTA (2%)</i>	<i>39</i>	<i>53</i>	<i>59</i>	<i>66</i>	<i>73</i>	<i>74</i>	<i>85</i>
Gasoline and motor oil ²	659	941	1,125	1,401	1,573	1,724	2,021
<i>Sales tax Payments (4%)</i>	<i>26</i>	<i>38</i>	<i>45</i>	<i>56</i>	<i>63</i>	<i>69</i>	<i>81</i>
Total Tax Payments without Vehicle³	488	659	825	985	1,128	1,279	1,895
Vehicle Purchase	9,460	11,131	8,624	10,009	13,710	12,993	17,326
Total Tax Payments with Vehicle³	1,150	1,438	1,429	1,686	2,087	2,189	3,108
Persons per household	1.90	2.40	2.50	2.60	2.70	2.90	3.10

1. The CPI index is adjusted by 6.3 percent from 1999 data.

2. Includes the state sales tax at four percent but excludes the gasoline excise tax of 7.5 percent per gallon of gasoline.

3. Does not consider spending via internet or catalogues.

Because CES estimates are for total sales tax payments rather than spending levels in DeKalb County, consumption occurring elsewhere should not significantly affect the accuracy of the data. CES information is based on total spending, regardless of the consumer's location. Possibilities for the CES-based tax figure to overestimate burden can come from tax exempt purchases over the internet or through catalogues or when respondents pay lower sales tax rates by shopping outside DeKalb County. As stated previously, those counties neighboring DeKalb have tax rates similar to DeKalb's, decreasing the possible overstatement of each respondent's CES-based tax burden.

Like the CES sales tax calculations for HOST, 2001 spending figures are based on 1999 spending data that are adjusted for inflation at a rate of 6.3 percent. The same few spending categories are split between being taxable and nontaxable. Respondents that purchased a car or truck from a dealership in 2001 have the mean cost of a car or truck calculated from CES micro-data added to their total sales tax liability. Furthermore, spending levels for households earning \$70,000 or more annually cannot be disaggregated into more specific income categories due to data collection methods by the Bureau of Labor Statistics. For a more in-depth discussion of how the CES sales tax liabilities are calculated, please refer back to pages 96 – 102.

At a minimum, the respondent must provide an answer that does not exceed the highest possible sales tax rate to be considered knowledgeable. No response can be greater than the sales tax rate of seven percent. Even at that rate, the respondent's household would have spent all their before tax income on taxable goods, which also means the respondent did not spend any income on housing, insurance, medical treatment or prescriptions, or services, nor did he or she pay income taxes. Because food is not

taxed at the full seven percent, a “knowledgeable response” is not seven percent but any amount less than that figure. Furthermore, by making the maximum effective sales tax rate less than seven percent, the research can show the extent to which residents know whether this major spending category is exempt or not.

Including a minimum tax liability is also a necessary condition for determining a benchmark of taxpayer knowledge. Those respondents who answer less than seven percent are likely aware of the tax rate and that some of their consumption is not taxable. Yet, an amount that is unrealistically low supports the fiscal illusion assumption that taxpayers underestimate taxes that are collected in small amounts. Recognizing that choosing a floor percentage is somewhat arbitrary, an intuitive decision is made. First, the benchmarks assume that spending does not far exceed income. To err on the side of inclusiveness rather than excluding knowledgeable taxpayers, respondents had to provide answers equaling at least 0.5 percent of their total gross income. The lowest effective sales tax rate based on CES spending and the survey income categories is 1.58 percent (highest income category). The 0.5 percent figure is three times lower than the lowest CES estimated amount.

The second benchmark for taxpayer knowledge is based on the differences between the CES data and respondents’ estimates. The benchmark is a proportion rather than set dollar due to the variable income and taxable spending levels among respondents’ households. Due to the difficulty in estimating sales tax burdens, the research proposes a generous error level for the “knowledgeable” benchmark, a 100 percent difference between a respondent’s answer and the CES estimate. For example, a respondent whose household had an effective sales tax rate of 1.58 percent for 2001

could not give an amount greater than 3.16 percent to be deemed informed about his or hers sales tax burden. For the underestimation limit, respondents cannot estimate an amount less than half of the CES sales tax amount. Furthermore, these differences must still be within the initial limit set above, which is higher than 0.5 but less than seven percent. If this limit is not imposed, lower income respondents can estimate effective sales tax rates exceeding ten percent and still be counted as knowledgeable of their sales tax burdens.

In sum, the research determines the total sales tax liabilities for 2001 for each respondent's household using CES spending data and the respondent's annual household pre-tax income. These figures are compared against the respondents' estimates of total sales tax liability to determine their level of knowledge regarding sales tax payments. The respondent must have answered between 0.5 to less than seven percent (effective tax rate) to be considered knowledgeable. Furthermore, the respondent could not have stated an amount that was either more than twice or less than half the CES tax estimates.

Hypothesis 6

As stated in the literature review, Hypothesis 6 posits that DeKalb County used the enactment of HOST to increase government spending. Due to the greater tax complexity afforded by HOST, residents were (are) unaware of their total tax burdens, permitting the county to increase spending. To control for other means of fiscal illusion, such as sales tax elasticity and the influence of overlapping jurisdictions (i.e., the school district), several control measures are incorporated into testing this hypothesis.

Unlike earlier studies on fiscal illusion, which used data from multiple jurisdictions, this hypothesis focuses on a single government. As such, a simple,

interrupted time series is used to measure the impact of HOST on DeKalb County's spending. To control for regional influences on spending, a control variable for the average annual general fund expenditures of a similar neighboring county is also included. If the fiscal illusion hypothesis is correct, DeKalb County will have significantly increased its spending after 1997, the year HOST was enacted. A caveat similar to that imposed on Hypothesis 1 must also be asserted in this case. With only four fiscal years of post-HOST data, the long-term trend of county spending cannot be known. Rather, the time series will show the initial impact of HOST on county spending. The model for the time series is as follows:

$$Y_t = b_0 + b_1X_{1t} + b_2X_{2t} + b_3X_{3t} + b_gX_{gt} + e$$

In this model, Y_t equals the per capita countywide operation and maintenance spending in fiscal year t as measured in real dollars. See Hypothesis 1 for an explanation of how figures are converted from nominal to real dollars. The first independent variable, X_{1t} represents the change in spending prior to HOST (FY 1992–1997). There is no a priori reason to believe from fiscal illusion theory whether this variable will be positive (increasing spending) or negative (decreasing spending). Due to the fact that the county had a relatively constant tax structure during that period, one might expect a relatively stable per capita spending pattern and, therefore, a small coefficient. For X_{3t} , the b-score measures the change in countywide spending since the adoption of HOST, which should be positive, representing an increasing trend in per capita spending (FY 1998–2001). Variable X_{gt} represents the countywide General Fund expenditures for a neighboring county.⁹ To permit a comparison between the varying populations, data are shown on a

⁹ Although there are five neighboring counties to DeKalb (Clayton, Fulton, Gwinnett, Henry and Rockdale), only the Gwinnett is used due to data limitations. Budget data are countywide and exclude one-

per capita basis. All data for this variable are converted to real dollars as well. For a regional event to have not affected DeKalb County spending, this variable should have either a small positive or negative coefficient, and not be statistically significant. If this variable is positive and statistically significant, then spending by DeKalb County correlates with spending in a neighboring county. In that case, the null hypothesis could not be rejected because an event other than HOST may have caused the rise in DeKalb County's budgets. The most important variable for this model is X_{2t} , which measures the immediate impact of HOST on county spending (i.e., spending in 1998). From fiscal illusion theory, this variable should be both positive and significant.

To control for population growth and inflation, the dependent variable, DeKalb County's general operating and maintenance budget, is defined as the county's approved general operating and maintenance budget in real dollars divided by population.¹⁰ The approved budget is used to show the intent of the County Commission. Due to data limitations from the US Census Bureau on county population, the time series extends to FY 2001, permitting only four years of post-HOST data. To avoid spending and population disparities between incorporated and unincorporated areas, only countywide spending is used in the model (i.e., General Fund and Hospital Fund). Furthermore, the dependent variable excludes funding for capital projects and bonds, because the former should increase due to HOST funds being designated for such purposes and the latter because bond repayment represents commitments from previous decisions by the

time transfers such as for capital projects and retirements. As additional counties provide budget information, they will be included in the analyses.

¹⁰ Consumer Price Index figures come from the U.S. Department of Labor, Bureau of Labor Statistics. Data are for Atlanta, GA, not seasonally adjusted, 1982 – 1984 = 100. Since the county's fiscal year coincides with the calendar year, the research utilizes the Bureau of Labor Statistics' annual conversion figures.

commission. Table 2 in Appendix B shows the departments that are included as part of the annual countywide spending. As a supplement to the time series model, the research includes the commission-approved, countywide operating budgets between 1992 and 2001 (see Appendix B, Table 6).

As discussed in the literature review, previous fiscal illusion studies failed to consider the total tax burden of individuals and thereby implicitly assumed individuals disaggregate tax burdens by jurisdiction. In DeKalb County's unincorporated area, local taxes comprise two jurisdictions, the county and the school district. Like the county, the school district could have benefited from the more complex tax system created with HOST by increasing its spending levels as well. To create a more comprehensive spending assessment, the research runs the time series model a second time with a new dependent variable comprised of per capita spending by the school district plus the county's per capita budget figures, in real dollars.¹¹ In July 1997, the School Board also began collecting a one percent sales tax (ELOST) to fund capital projects, which may have encouraged the board to increase its operational spending. ELOST simply replaced the debt financing of the district's capital expenditures, which is another type of hidden taxation that permits fiscal illusion. Including state spending within the new dependent variable is inappropriate because HOST affects a single county.

As stated previously, in 1999 the state began issuing homestead credits to counties and schools in order to lower property taxes on owner-occupied units. In order to receive these grants, each jurisdiction had to meet the state's "truth in taxation" requirements, such as holding public hearings to announce any increases in property tax

¹¹ DeKalb County School Board's fiscal year begin July 1 and ends June 30. The dependent variable adds the district's FY 1993 expenditures with the county's FY 1992 budget to create the total local spending variable.

rates. These requirements sought to limit property tax rate and assessment increases that local governments may have sought as a result of the state's homestead credit. In other words, local governments would view the state-funded homestead credit as an opportunity to increase its own tax revenue and leave homeowners' overall tax liability unchanged. Since the state program began two years after DeKalb County began collecting HOST, the state credit should not affect or be considered as an intervening variable for measuring the immediate impact of HOST on the county's spending levels although, the state credit may encourage the county to increase its spending in the future.

CONCLUSION

To appropriately test the hypotheses presented, the methodology for this research utilizes several data sources and statistical models. The data include a random sample of renters and homeowners residing in DeKalb County, finance data from the county and school district, and information available from federal agencies. Types of statistical models range from simple measures of association, time series, and progressivity indices. The following chapter relates and analyzes the findings from these tests.

CHAPTER 5

DATA ANALYSIS: HYPOTHESES 1 AND 2

This chapter focuses on the fiscal effects of HOST on DeKalb County residents by testing the first two hypotheses discussed previously and explaining the results of those tests. Under Hypothesis 1, we review frequency measures and time series tests to learn the level of property tax relief that has actually been afforded to residential property owners under the HOST program. The next hypothesis examines property and sales tax burdens across income groups. In particular, progressivity indices measure whether HOST has resulted in a more regressive tax system for DeKalb County. These findings on fiscal effects can be compared to residents' perceptions of HOST, which are discussed in the following chapter.

HYPOTHESIS 1

The primary statutory objective of HOST is to lower property tax payments for owner-occupied housing in DeKalb County. Hypothesis 1 states that HOST has lowered county property tax payments for owner-occupied housing in DeKalb County, *ceteris paribus*. Table 5.1 shows the assessed value for the average, unincorporated residential property in DeKalb County for the past eleven years, the total and county millage rates for that same time period, and the tax assessment for the average assessed property in current and real dollars.

Table 5.1
DeKalb County Unincorporated Residential Property,
1992–2002

Year	Total Residential AV	Number Residential Properties	Average AV per property¹	Total Millage Rate²	Total Taxes Paid	Taxes Paid Real \$³	County Taxes Paid⁴	County Taxes Real \$
1992	5,835,767,143	150,127	38,866	40.03	1,166	831	474	338
1993	5,918,700,410	152,148	38,901	42.03	1,242	852	521	358
1994	6,120,834,338	153,697	39,824	41.51	1,252	843	508	342
1995	6,208,230,561	155,608	39,897	41.51	1,257	821	511	334
1996	6,358,364,072	157,197	40,448	41.51	1,279	811	520	329
1997	6,703,837,532	159,287	42,087	40.16	1,303	815	532	333
1998	7,566,221,052	161,825	46,756	37.66	1,397	859	560	344
1999	8,482,194,461	164,921	51,432	37.91	999	595	55	33
2000	9,447,720,994	169,166	55,849	37.16	1,087	624	54	31
2001	10,828,318,384	174,244	62,145	37.26	1,251	707	90	51
2002 ⁵	11,598,211,821	178,739	64,889	37.81	1,407	792	185	104

1. These figures do not incorporate the constitutional \$10,000 homestead exemption for school and county taxes and the constitutional \$2,000 exemption for state taxes. These exemptions are incorporated into the assessed values when calculating the property taxes paid. To avoid overstating the effects of the HOST credit on property taxes, the state's homestead credits are not subtracted from the average assessed value.
2. Includes county general, county special services, fire, hospital, county general bonds, special services bonds, school district, and state. See Appendix B, Table 1 for specific millage rates.
3. Conversion figures come from the U.S. Bureau of Labor Statistics. Base year equals 1984 for the Atlanta Metropolitan Area, not seasonally adjusted.
4. County-only taxes include county general, special services, fire, hospital, general bonds, and special services bonds.
5. The assessed value for residential property and the number of residential properties were not available from the Tax Commissioner at the time of this research, therefore these figures equal 2001 values plus the average percent growth over the prior ten years. Assessed values of residential property increased on average 7.11 percent and the number of residential properties increased an average of 2.58 percent.

The table reveals that HOST has reduced county property taxes for unincorporated homeowners in both current and real dollars. Homeowners' county property tax liability has decreased an average of 9.0 percent over the last eleven years and 24.2 percent over the last four years as measured with current dollars, while in real dollars, taxes decreased 11.1 percent and 25.8 percent, respectively. The initial impact of HOST was the most dramatic, with the county property tax payment changing from \$560 in 1998 to only \$55 in 1999, or a decrease of over ninety percent. The remaining \$55 tax

payment is comprised of taxes for county bond repayments, which are ineligible for any homestead exemption under state law. Due primarily to an increase in the combined county millage rates of 0.55 and a decrease in the HOST exemption from 100 percent to 86.8 percent, the 2002 property taxes doubled from \$90 in 2001 to \$185 in 2002. Yet, even with this increase, the 2002 county property taxes are \$240 (in real dollars) less than those paid in 1998, equaling a decrease of 69.8 percent. With the slight decreases in tax rates over the last four years, businesses should not have shouldered additional tax burdens from HOST as well. In fact, if the assessed values for commercial property have been stable, businesses may have experienced decreases in their tax assessment with HOST, an unexpected benefit for these property owners.

In contrast to the substantial decreases in county taxes, HOST appears primarily to have kept a homeowner's total property tax bill flat over the last eleven years. In real dollars, property taxes decreased an average of 0.48 percent annually over the last eleven years and dropped slightly more in the last four (since HOST) by an annual average of 2.01 percent. In current dollars, a homeowner's total tax bill has increased only \$241 since 1992. The immediate impact of HOST is more striking, showing a \$398 reduction between 1998 and 1999 or a change of -28.5 percent in a homeowner's total tax bill.

Differences between the county-only tax liability and those of the total tax payment reflect the impact of the DeKalb County School Board. While the state also collects a property tax, the rate is minimal (0.25 mills) and represents a relatively minor portion of total tax liability. Although the school board's overall millage rates have been stable to slightly decreasing (23.63 in 1992 and 21.98 in 2002), the increases in the assessed value of residential property (average property) have resulted in an overall

increase in tax payments. In current dollars, property values have risen an average of 5.4 percent annually over the last eleven years and ten percent (9.95) annually in the last four years. The resulting total rise in school-related property taxes has diminished the relative impact of HOST on the overall tax payment.

As a comparison, Table 5.2 shows the property taxes DeKalb County homeowners would have paid had HOST not been enacted, *ceteris paribus*.¹ Under this scenario, the total property tax liability (average assessed value of property) for a homeowner residing in the unincorporated area of DeKalb equals \$1,177 (in real dollars) in 2002 rather than the current figure of \$792. This difference of \$385 equates to a 32.7 percent decrease in total tax liability. Furthermore, the average annual tax growth without HOST reaches 3.5 percent over the eleven year period for a total increase of 41.6 percent (real dollars) rather than the 4.7 percent total reduction in taxes actually experienced.

Table 5.2 DeKalb County Unincorporated Residential Property Taxes Without HOST, 1992-2002											
Total Tax Liability	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
Current Dollars	1,166	1,242	1,252	1,257	1,279	1,303	1,397	1,583	1,715	1,959	2,090
Real Dollars ¹	831	852	843	821	811	815	859	944	986	1,107	1,177
County Liability											
Current Dollars	474	521	508	511	520	532	560	640	683	798	868
Real Dollars ¹	338	358	342	334	329	333	344	381	392	451	489

1. See Table 5.1, Note 4

¹ Still excludes the state's homestead credit.

A more dramatic difference arises when comparing county-only property taxes (all figures will represent real dollars). Without HOST, the property tax payment is \$489 in 2002 (average assessed residential property, unincorporated area), which is 450 percent higher than the current payment of \$104. The county property tax liability over the last four years averages \$55 while the estimated county tax liability without HOST is \$428, nearly eight times greater during the same period. With HOST, property taxes decrease an average of 25 percent over the last four years while the no-HOST counterfactual shows a 9.7 percent increase. Figure 5.1 dramatically illustrates the changes in tax liabilities for those residential properties located in the unincorporated areas due to HOST, *ceteris paribus*.

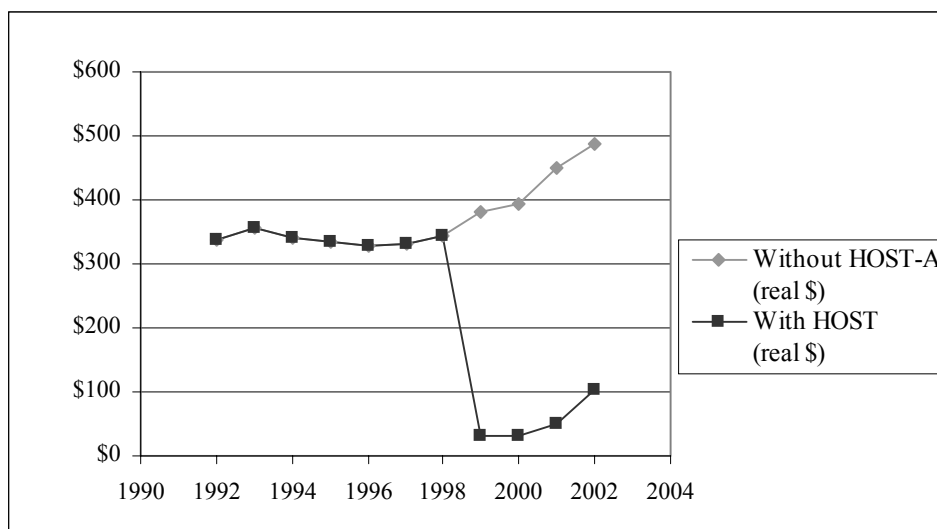


Figure 5.1
Residential Property Tax Payments,
1992–2002

Of course, this no-HOST counterfactual assumes the tax rebate from HOST has not been capitalized into the average assessed value of residential property in the county. If HOST tax relief has been capitalized into the value of homes, the assessed values of these properties would increase. According to Tom Stump, Assistant County Tax

Assessor (personal communication, September 26, 2001), the Office of the Tax Assessor had not been able to measure an increase in assessed value of residential property due to lower property taxes afforded by HOST. Mr. Stump did write, though, that he was “confident that the resulting shifting of the burden of taxes [to commercial, industrial properties] has, or will soon result in more people moving to DeKalb County and possibly increase the market value of residential properties.” In other words, although the HOST tax relief program will likely be capitalized into the market value of homes in the near future, the Assessor’s Office had not noticed a significant impact through the 2001 tax year.

Furthermore, by assuming that the county and school board have not altered their spending choices due to HOST, lower assessed values in a no-HOST counterfactual would simply result in both jurisdictions assessing higher millage rates on properties. In other words, the jurisdictions would adjust their tax rates to correspond with the tax digest, thereby ensuring sufficient revenue collections. In developing their budget, the county first determines its spending needs, then sets the millage rates for its various projects, and finally, determines the HOST exemption based on forecasted sales tax revenues. With the 100 percent homestead exemptions from 1999 to 2001 and the 86.8 percent exemption in 2002, county property tax liabilities would have neared zero regardless of the millage and assessed value combination. Therefore, the concern that the no-HOST counterfactual is not accurate due to changes in the assessed value of residential property is not as troublesome as it may appear. One can be fairly confident that the owner-occupied residential property tax savings demonstrated between the actual and the no-HOST counterfactual is reasonably accurate.

DeKalb County may have increased its spending in response to additional sales tax revenues afforded by HOST. If this scenario did occur, the no-HOST tax estimates are too high because tax collections (millage rate and assessed value combination) would be lower. This issue will be tested later in the chapter under Hypothesis 6. If the data reveal that the county has significantly increased its spending since HOST, the question of whether the tax relief program has resulted in lower property taxes will be revisited at that point.

Time Series

The time series model for this hypothesis seeks to measure the immediate impact of HOST on sales tax liabilities for the average residential property qualifying for standard homestead exemptions. The data for the time series are those given in Table 5.1 above. The model is:

$$Y_t = b_0 + b_1X_{1t} + b_2X_{2t} + b_3X_{3t} + e$$

The results of the regression also strongly support the hypothesis that HOST has reduced county property tax liabilities for qualified homeowners (see Table 5.3). With county property taxes as the dependent variable, the model has a very high adjusted R-square of 0.99. Furthermore, autocorrelation does not appear to be a concern (Durbin-Watson test = 1.99) even though there are seven data points prior to HOST and only four data points post-HOST. The intercept equals \$335, which approximates the average county tax liability for the no-HOST counterfactual (average liability = \$372). The variable, X_{2t} , which represents the immediate impact of HOST, showing a \$339 decrease in property taxes from 1998 to 1999 and is highly significant (sig. = 0.001). The coefficient for X_{1t} is small as predicted at -1.57, meaning that until HOST, property taxes

were relatively stable, decreasing only \$1.57 per year. However, this figure is not significant (sig. = 0.552). The average change in property tax payments from 1999 to 2002 (X_{3t}) is positive (24.92), meaning that property taxes increased at approximately \$25 per year. This figure is likely caused by the relatively large increase in property taxes for 2002, and though statistically significant (sig. = 0.006), may be inappropriate given that the HOST tax relief program has only been in existence four years. Future sales tax collections, property values, and budget decisions by the County Commission will determine the program's long-term impact.

Table 5.3 County Residential Property Tax Payments, 1992-2002 (real dollars)				
Independent Variables	Unstandardized Coefficients		T	Sig.
	B	Std. Error		
Constant	334.98	9.039	37.06	.000
Ave. Tax Payment	-1.57	2.507	-0.63	.552
Initial Impact of HOST	-338.66	18.593	-18.22	.000
Change in Tax Payment	24.92	6.441	3.87	.006
Adj. R^2 = .992				
DURBIN-WATSON = 1.987				

The research finds similar results to those above occur when using total property tax payments as the dependent variable (see Table 5.4).² HOST results in a \$320 decrease in property taxes in its initial year, which is slightly less than the previous model and likely due to the impact of school taxes on total tax liabilities (sig. = 0.001). Property taxes prior to HOST are stable, with less than one dollar change per year (-0.78); but again, this variable is not statistically significant (sig. = 0.849). The average tax change since HOST is positive (68.12) and larger than when the data were limited to

² Total property tax payments include tax payments to the county, school district, and the state.

county property taxes. As with the prior regression, this variable, though significant (sig. = 0.001), should be suspect because it is based on only four years of data. The Durbin-Watson test for autocorrelation is within the acceptable range (1.759).

Table 5.4 Total Residential Property Tax Payments, 1992-2002 (real dollars)				
Independent Variables	Unstandardized Coefficients		T	Sig.
	B	Std. Error		
Constant	830.85	14.227	58.40	.000
Ave. Tax Payment	-0.78	3.946	-0.20	.849
Initial Impact of HOST	-319.79	29.263	-10.93	.000
Change in Tax Payment	68.12	10.137	6.72	.000
Adj. R ² = .949 DURBIN-WATSON = 1.759				

In sum, the frequency distribution measures and the time series models support the hypothesis that county property tax payments are lower for qualified homeowners with HOST than without the tax relief program, *ceteris paribus*. When accounting for inflation, county property taxes since 1999 have averaged just \$55 per year, while without HOST, the average tax estimate exceeds \$428 for those same years. Both time series models show an immediate decrease in tax payments with HOST that is greater than \$300. Even with the upward trend in tax liabilities, the savings are substantial. One issue requiring clarification is determining whether the county has increased its spending due to HOST, therefore misrepresenting a reasonable no-HOST scenario. With this caveat, the research can comfortably reject the null hypothesis that HOST has not resulted in lower property tax liabilities for owner-occupied housing in DeKalb County, *ceteris paribus*.

HYPOTHESIS 2

With the change in tax structure, HOST has likely altered the distribution of tax burdens among DeKalb County residents. As stated in the methodology chapter, Hypothesis 2 contains two parts. The first section examines which homeowners receive the greatest benefits from the property tax relief program, and the second measures the change in tax incidence (county general taxes only) among residents using tax progressivity indices.

With a 100 percent homestead exemption, the benefit structure would appear to provide those residents with the most expensive homes the greatest amount of tax relief, in dollar terms. Furthermore, those homeowners are likely to be the county's wealthiest residents. Using the homeowner-respondents from the HOST telephone survey, Table 5.5 shows the mean and median homestead exemptions received by these homeowners in 2001 according to their gross household income.³ The table divides the 243 homeowners into eight groups (30 or 31 respondents per group), arranged from lowest to highest annual incomes.

³ Respondents' household incomes were self-reported. See Appendix A, Question 6.

Table 5.5
HOST Benefits and Property Taxes by Homeowner Income

	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8
Median Gross Income	\$17,500	\$35,000	\$45,000	\$55,000	\$75,000	\$85,000	\$100,000	\$120,000
Median AV ¹	\$48,840	\$45,060	\$50,060	\$47,160	\$53,880	\$61,880	\$74,240	\$85,560
Median HOST Benefit	\$309	\$368	\$425	\$420	\$448	\$532	\$737	\$856
Mean Host Benefit	\$445	\$422	\$565	\$439	\$509	\$592	\$900	\$911
Median Tax with HOST	\$58	\$63	\$71	\$67	\$71	\$80	\$104	\$104
Median Tax no HOST ²	\$363	\$433	\$494	\$483	\$518	\$612	\$838	\$949
Respondents	30	30	30	30	30	31	31	31

1. According to Georgia law, a property's assessed value equals forty percent of its appraised market value.
2. Eliminates the HOST credit for each property but leaves the millage rates and property values unchanged.

The mean and median benefits generally rise with income. There are slight decreases in benefits between Groups 1 and 2 and Groups 3 and 4, which may be due to some elderly homeowners and veterans qualifying for additional special exemptions. The median benefit for the most affluent homeowners is almost three times that of the poorest (2.77), falling from \$856 to just \$309, respectively. The poorer half of the sample (Groups 1 – 4) has relatively minor changes in their benefit levels ranging from only \$309 to \$425 with increases between groups ranging from \$5 to \$59. In contrast, the most affluent groups (Groups 6 – 8) experience substantial increases, with changes of \$105 to \$119 between each group, which reflects the rising home values of these high-income households.

One cannot help but notice that for all income groups, the property tax liabilities between the HOST and no-HOST scenarios differ strikingly. All groups experience tremendous savings from the tax relief program, with reductions between 81 and 88

percent. The largest benefit in both dollars and as a percentage reduction in property tax liabilities goes to the highest income group (median income of \$120,000). Property taxes with HOST are relatively flat, ranging from \$58 to \$104, showing the minor impact county bond repayment has on taxes. For the entire sample, the median property tax with HOST equals a mere \$74.

From Table 5.6, we see that HOST tax relief positively and significantly correlates with the assessed values of homes. More importantly, benefits also correlate positively with gross household income ($p = 0.420$). The sample includes 35 homeowners that qualify for either an elderly or a veteran homestead exemption. To determine whether elderly homeowners on fixed incomes appreciably dampen the correlation between HOST benefit and income, they were removed from the larger sample of homeowners. When separated from the sample, the correlation between income and the HOST credit increases to 0.473 ($\text{sig.} = 0.001$), yet the change is not too dramatic, which is likely due to the program's implementation. Special exemptions are subtracted from assessed values prior to calculating the HOST credit, decreasing the value of the latter. In sum, the high and statistically significant correlation between HOST benefits and household income permits the research to conclude that the homestead exemptions funded under HOST increase with household income.

Table 5.6 HOST Benefits to Assessed Value and Gross Income		
	HOST Benefit	
	Correlation	Sig.
Assessed Value of Home	0.947	0.001
Household Gross Income	0.420	0.001
n = 243		
Assessed Value of Home (without special exemption)	0.949	0.001
Household Gross Income (without special exemption)	0.473	0.001
n = 208 Single-tailed tests		

The second component of Hypothesis 2 uses tax progressivity measures to determine the change that HOST has had on the overall tax distribution among residents. As stated in the Methodology Chapter, the research compares the tax burdens of residents (homeowners and renters in the sample) with the HOST program against tax burdens if HOST had not been enacted, *ceteris paribus*. Again using eight income groups (n = 324), the research shows the changes in effective tax burdens both with and without HOST for the sample of DeKalb County residents. To avoid bias caused by “outlier” respondents, the table only includes median data. The table also provides the median tax payments and effective tax rates (ETRs) under two tax-shifting scenarios. Under the first, landlords pass the entire property tax payment (100 percent) onto tenants through higher rents. In the second, tenants only pay fifty percent of the tax burden. Prior empirical and theoretical research have generally supported the latter perspective; therefore, the more regressive 100 percent tax shift serves as a comparison for the more conservative and realistic tax liability scheme.

Across the income groups, the research demonstrates support for the hypothesis that HOST has resulted in a more regressive tax system (see Table 5.7). As found earlier, HOST tax credits rise with income. Generally, taxes under HOST increase with income due to sales tax liabilities rising with income. Property taxes for homeowners are relatively flat, and therefore, are not an important component of these figures. Total tax payments plateau for the upper-income groups, which is the result of similar sales tax liabilities (see discussion in the Methodology Chapter, p. 100). When assuming a 100 percent rental tax shift, Group 4 pays substantially more taxes than Group 5 in 2001. This inconsistency in rising tax payments stems from the high number of renters in Group 4 (fifty percent). Renters' property tax liabilities are unaffected by HOST. The phenomenon is somewhat suppressed when assuming renters only pay half the legal tax liability. Overall, total taxes under HOST are low, ranging from just \$136 a year to a maximum of \$346 for both sales and county property taxes.

Table 5.7
HOST Benefits and County Tax Burdens by Eight Income Groups, 2001¹

	Group 1	Group 2	Group 3	Group 4	Group 5	Group 6	Group 7	Group 8	Total
Gross Income	\$17,500	\$35,000	\$45,000 ⁴	\$45,000 ⁵	\$65,000	\$85,000	\$100,000	\$120,000	\$55,000
HOST Benefit	\$243	\$176	\$302	\$169	\$448	\$436	\$654	\$889	\$368
Total Tax with HOST ² (100%)	\$145	\$209	\$218	\$319	\$260	\$352	\$350	\$340	\$291
Total Tax with HOST (50%)³	\$136	\$189	\$215	\$232	\$260	\$331	\$346	\$340	\$259
ETR with HOST ² (100%)	0.775	0.706	0.484	0.661	0.411	0.441	0.350	0.283	0.478
ETR with HOST³ (50%)	0.775	.598	0.478	0.498	0.411	0.414	0.356	0.283	0.448
Tax without HOST ² (100%)	\$346	\$354	\$424	\$308	\$523	\$510	\$742	\$994	\$486
Tax without HOST³ (50%)	\$304	\$254	\$420	\$287	\$519	\$506	\$742	\$949	\$466
ETR without HOST ² (100%)	1.885	1.037	0.952	0.571	0.902	0.679	0.742	0.828	0.889
ETR without HOST³ (50%)	1.837	0.850	0.933	0.522	0.821	0.624	0.742	0.791	0.801
Respondents	40	40	40	40	41	41	41	41	324
Renters	7	18	12	20	4	10	6	4	
Incorporated	11	6	5	3	8	6	4	6	49

1. Tax burdens equal county property taxes plus a one percent sales tax (HOST)
2. Total tax liabilities are calculated with renters paying 100 percent of the property tax liability.
3. Tax liabilities are calculated with renters paying fifty percent of the property tax liability and fifty percent remaining with the landlord.
4. Mean income for Group 3 equaled \$42,500 in 2001.
5. Mean income for Group 4 equaled \$49,250 in 2001.

Across all income groups, the annual effective tax rates (ETRs) under HOST are low, ranging from a high of 0.775 percent to a low of 0.283 percent. In other words, no group pays an effective tax rate greater than one percent with HOST, demonstrating the small impact a one-cent sales tax that exempts food has on most households. The two highest income groups pay the lowest ETRs, while the two poorest groups experience the highest tax burdens, supporting the redistribution hypothesis. One reason for this finding may be that low-income households generally shopped within DeKalb County. Because consumption occurring outside DeKalb County is not included in calculating effective tax rates, less mobile (or those without internet access) residents will have higher HOST burdens. The correlation between HOST effective tax rates and shopping outside the county was -0.585 (sig. = .001), meaning that respondents with higher effective tax rates did not shop outside the county, while those with lower effective tax rates did so. Although shopping patterns may help to explain the regressive nature of the sales tax, it does not negate it. The regressive nature of the HOST program reflects first, the slightly regressive nature of the sales tax, and second, the impact of rental property tax payments for low-income groups. Given that seventy percent of the renters were within groups with median incomes of \$45,000 or less, the property taxes paid by tenants result in the regressive overall tax burden.

The annual ETRs do not consistently fall as incomes rise. Discrepancies among the groups arise from the differing number of renters within each group. Groups 2 and 4 have the highest number of renters (18 and 20, respectively) and also have higher effective tax rates than Group 3. The table also shows the impact of HOST on renters when comparing median ETRs under the two rental tax shifting assumptions. For

groups with few renters, such as 5 and 8, the ETRs are the same, while for Group 4, a 25 percent difference exists between the two ETRs.

Yearly taxes under the no-HOST counterfactual generally rise with income from a low of \$254 (Group 2) to a high of \$949 (Group 8). The two highest income groups pay the most taxes without HOST. More importantly, these two groups incur the greatest tax reductions in both dollars and as a percent of taxes saved when comparing HOST and no-HOST scenarios. Residents in Group 8 save \$609 with HOST (\$949 - \$340) and pay taxes that are just one-third of their no-HOST figure (35.8 percent). In contrast, those in Group 1 experience only \$168 in savings (\$304 - \$136). Groups with the most renters (2 and 4) pay the least amount in taxes without HOST when assuming landlords shift fifty percent of their liability forward, \$254 and \$287, respectively. These two groups also show the smallest differences in 2001 tax payments between the HOST and no-HOST tax schemes. For example, residents in Group 2 only save \$65 with HOST (\$254 - \$189).

Although tax liability positively correlates with income, the no-HOST (property tax only) scheme is generally regressive, albeit unevenly. The lowest income group experiences an annual ETR of 1.837 percent while the highest income group pays less than half that amount at 0.791 percent. The lowest income group includes a substantial number of homeowners who qualify for elderly and veteran exemptions (15 of the 35 in the entire sample). Several of these exemptions do not affect the HOST benefit, providing lower school taxes instead. To the extent that these respondents are retired and subsequently income-poor and house-rich, the no-HOST scenario likely imposes substantial tax burdens on these property owners. The ETR drops substantially for the

second income group to 0.850, which more closely resembles the higher income groups' burdens. Group 4 has the lowest annual ETR, even when assuming landlords shift 100 percent of their taxes onto tenants (0.571). Group 4 also has the highest number of renters, which may indicate that effective rent liabilities decrease with income. In many respects, the property tax liabilities reflect the u-shaped tax hypothesized by Bradbury and Ladd (1985), Fullerton and Rogers (1993), and Pechman (1985).

In terms of changes between the HOST and no-HOST scenarios, the lowest income group receives the largest ETR decrease, going from 1.837 to 0.775 or a 58 percent drop (fifty percent rental property tax shift). Reflecting the initial u-shaped property tax incidence curve, the reductions also reveal a somewhat u-shaped benefit. The highest income group gains the second greatest benefit from HOST: its ETR falls from 0.801 percent without HOST to 0.448, or two-thirds of the initial burden. The smallest benefit from HOST goes to those income groups with the highest number of renters: Groups 2, 4, and 6. For these groups, their ETRs fall by 0.252, 0.240, and 0.210 percent, respectively. These figures are approximately half of the yearly tax savings obtained by the other groups.

For the entire sample, the median effective tax rate decreases by 44 percent from 0.801 percent to 0.448 with HOST (fifty percent rental property tax shift) in 2001. The median HOST credit and tax payment are \$368 and \$259, respectively. In other words, the HOST credit exceeds the total HOST tax liability. Due to the impact of renters on particular groups and the u-shaped tax incidence curve, one cannot determine whether DeKalb County's overall tax system is more or less regressive with HOST than prior to its enactment.

In order to more evenly distribute the number of renters and thereby reduce most of the inconsistencies between groups, the research merges the income groups from eight into five. The number of renters within each group declines steadily, reflecting the positive relationship between income and homeownership. The results generally resemble those stated previously (see Table 5.8). As incomes rise, so do benefits, with the most affluent receiving a median HOST tax credit over four times that of the poorest group in 2001. Taxes under HOST increase steadily with income, with Group 5 paying double that of Group 1 at \$351 and \$171, respectively. ETRs under HOST steadily fall, indicating a regressive tax system. Group 1 pays an ETR of 0.884 which is almost 250 percent higher (242) than the richest income group at 0.318 (fifty percent tenant property tax shift).

Had HOST not been enacted (*ceteris paribus*), county property taxes would result in a u-shaped tax incidence curve. Although Group 1 has a median tax burden of less than \$300 in the no-HOST scenario, these residents experience the highest median ETR of all five groups at 1.332 percent. This relatively high effective tax rate may stem from the considerable number of retirees in this group. Of the 35 respondents qualifying for an elderly or veteran's exemption, nineteen are within Group 1; therefore, the relatively substantial ETR might be expected. Group 4, with a median income of \$85,000, has the lowest ETR at only 0.587 percent. Without HOST, tax payments consistently rise with income from \$251 to \$949 (fifty percent tenant property tax shift). Tax payments between the richest and the poorest differ strikingly, with the former paying 378 percent more than the latter.

Table 5.8
HOST Benefits and County Tax Burdens by Five Income Groups, 2001¹

	Group 1	Group 2	Group 3	Group 4	Group 5	Total
Gross Income ²	\$25,000	\$45,000	\$55,000	\$85,000	\$120,000	\$55,000
HOST Benefit	\$207	\$324	\$363	\$436	\$843	\$368
Total Tax with HOST ³ (100%)	\$174	\$220	\$258	\$326	\$354	\$291
Total Tax with HOST⁴ (50%)	\$171	\$208	\$233	\$317	\$351	\$259
ETR with HOST ³ (100%)	0.884	0.548	0.418	0.398	0.341	0.478
ETR with HOST⁴ (50%)	0.770	0.531	0.418	0.387	0.318	0.448
Tax without HOST ³ (100%)	\$335	\$421	\$477	\$508	\$992	\$486
Tax without HOST⁴ (50%)	\$251	\$419	\$402	\$506	\$949	\$466
ETR without HOST ³ (100%)	1.605	0.986	0.804	0.595	0.862	0.889
ETR without HOST⁴ (50%)	1.332	0.948	0.700	0.587	0.862	0.801
Respondents	64	65	65	65	65	324
Renters	22	21	18	11	9	81
Incorporated	15	7	11	8	8	49

1 County tax burdens equal property taxes plus a one percent sales tax (HOST)

2 Mean gross incomes for the five groups are from lowest to highest: \$20,898, \$41,000, \$55,615, \$85,846, and \$113,231.

3 Total tax liabilities are calculated with renters paying 100 percent of the property tax liability.

4 Tax liabilities are calculated with renters paying fifty percent of the property tax liability and fifty percent of the property tax liability remaining with the landlord.

In terms of percent reductions in their respective effective tax rates, the highest income group receives the largest ETR reduction from HOST at 63.1 percent. This group's ETR falls from 0.862 to 0.318 percent. The poorest group experiences a slightly larger reduction in their ETR of 0.562 (as compared to 0.544), resulting in a 42.2 percent lower tax burden. HOST lowers Group 4's ETR by only 0.20 (0.587 – 0.387), which may be reasonable considering this group has the smallest no-HOST ETR as well. Groups 2 and 3 reduce their ETRs by 44.0 and 40.3 percent with HOST, respectively.

The HOST tax and benefit structure is undoubtedly regressive when measured with annual data. The no-HOST scenario, rather than being linearly regressive, has a u-shaped tax incidence curve. As measured in dollars and as a percent reduction in effective tax rates, the greatest benefits from HOST go to the group with the highest annual income (median income of \$120,000). These findings support the research hypothesis. Even though the actual dollars saved are far less than those with higher incomes, the lowest income groups also benefit substantially from HOST in terms of percent reductions in their tax payments and effective tax rates. All income groups experience substantial savings with HOST. These savings may be overstated due to the relatively low number of renters in the sample (25 percent of the total) as compared to the county population, which has a tenancy rate of 41.5 percent (U.S. Census Bureau, 2000). With a higher percentage of renters in the sample, tax burdens under HOST would also be higher and the effective tax rates under the no-HOST tax scheme would be somewhat lower, particularly if tax payments are based on a fifty percent rental property tax shift.

As discussed in the methodology chapter, this research employs two progressivity indices to measure the aggregate distribution of tax burdens with and without HOST. Both the Kakwani and Suits indices measure the average progressivity of taxes across the entire income range. The Kakwani (K) index measures the cumulative difference between the income concentration curve and a tax concentration curve for a population. The difference between the two curves represents variance from a proportional tax system. Figure 5.2 shows the accumulative tax burdens with and without HOST

(assuming fifty percent tenant property tax) for the sample of DeKalb County residents.

The figure also provides the accumulative household income for the residents.

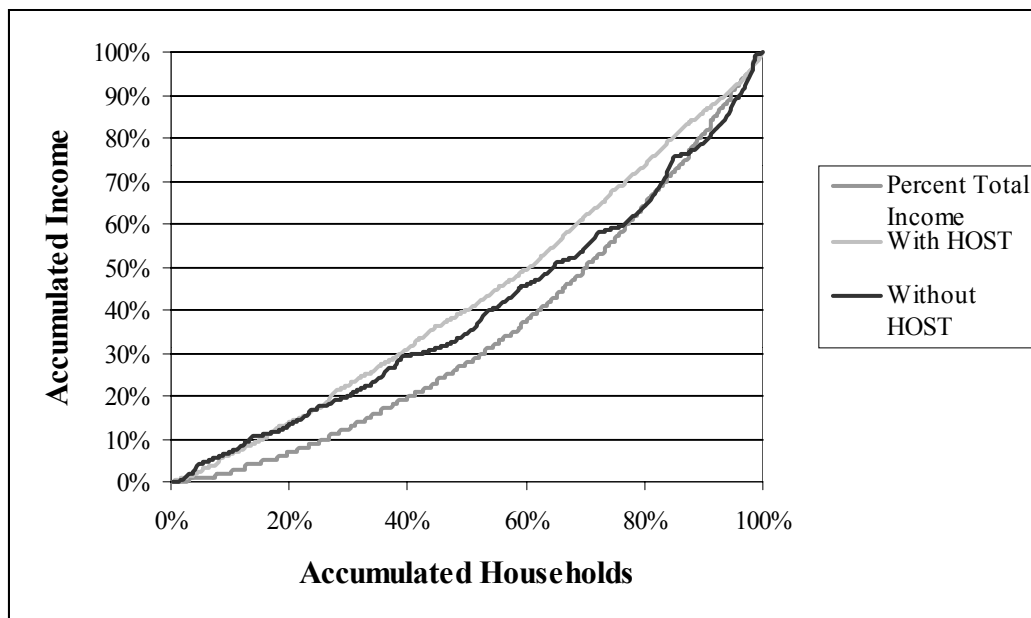


Figure 5.2
Lorenz Curves: Tax Burden With and Without HOST:
Sample of DeKalb County Households, 2001

The figure depicts several of the issues initially found when looking at effective tax rates by income group. First, we see that both tax curves lie relatively close to the income curve, indicating that both tax systems are close to being proportional; however, because both lie above the income curve, the tax systems are also regressive. For example, the first fifty percent of households earn slightly less than thirty percent of the accumulated income yet pay forty percent of the total tax burden with HOST. Second, the no-HOST tax curve crosses the income curve near the 85th percentile (highest income households), meaning that the property tax is progressive for the highest incomes. In other words, the tax curve represents the u-shaped tax incidence discussed above. As stated in the previous chapter, the Kakwani index averages the regressive and

proportional parts of the tax curve, thereby dampening the effects of progressivity in the no-HOST tax system. Given that the progressive portion of the tax curve is fairly small and lies just beyond the income curve, it should not dramatically impact the aggregate index figure. Finally and most importantly, the HOST tax curve is situated farther from the income curve than the no-HOST curve, meaning that taxes with HOST are more regressive than without HOST.

Slightly different from the Kakwani index, the Suits (S) index measures the cumulative distance between a tax concentration curve and its proportional tax line. The closer the tax concentration curve lays to the proportional tax line, the more proportional the tax system. Figure 5.3 shows the tax concentration curves with and without HOST compared to a proportional tax curve. The findings from Figure 5.3 mirror those just presented. Both the HOST and no-HOST tax curves lie slightly above the proportional tax line, resulting in mildly regressive tax systems on average. Property taxes without HOST become progressive for the highest incomes, representing a u-shaped incidence curve. The tax curve with HOST is located farther from the proportional tax line than the no-HOST tax curve, indicating that HOST has resulted in a more regressive tax system overall.

To provide specific measures for the Kakwani index, the curves were translated into quadratic equations (see Appendix B, Table 5) and then integrated into the Kakwani formula. The formula is as follows:

$$K = \int_0^1 [i(H) - t(H)] dH$$

H represents households in the sample, $i(H)$ is the income curve, and $t(H)$ is the tax curve. The index ranges are -2.0 to 1.0. Table 5.9 (p. 143) provides the aggregate tax

measures with and without HOST assuming, first, that only fifty percent of landlord tax liability is shifted to renters, and second, all tax liability is forwarded.

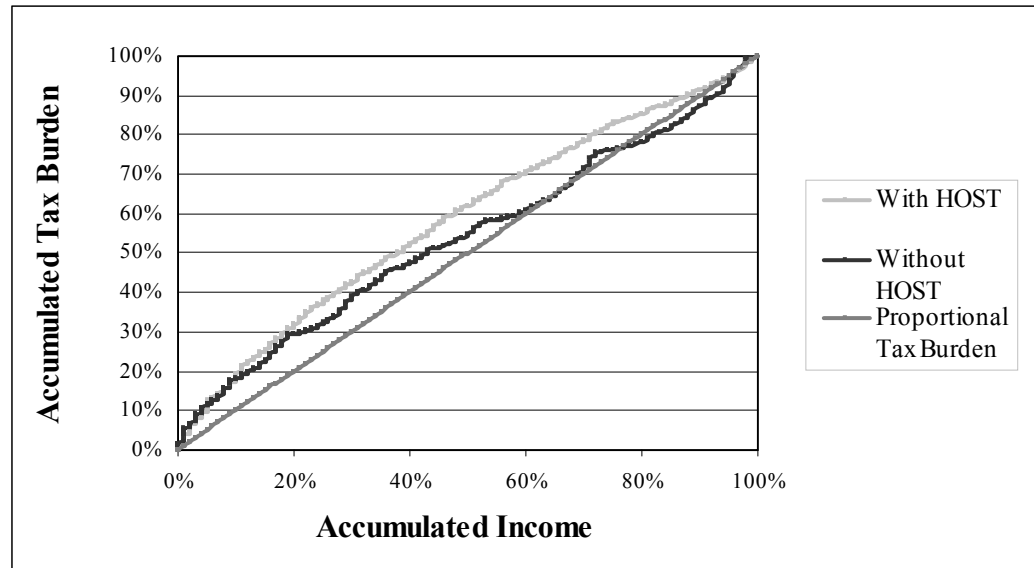


Figure 5.3
Tax Concentration Curves:
Sample of DeKalb County Households, 2001

Like the Kakwani index, the quadratic equations for the tax curves were put into the Suits index formula (see Appendix B, Table 5). The Suits index formula is as follows:

$$S = \int_0^1 [i(H) - t(H)] i'(H) dH$$

with $t(H)$ being the tax concentration curve, $i(H)$ the Lorenz curve, and $i'(H)$ the slope of $i(H)$ for households (H) in the sample. For this index, the values range from -1.0 to 1.0. Table 5.9 provides the index figures with and without HOST under both property tax shifting assumptions for tenants.

Table 5.9
Tax Distribution Indices: With and Without HOST

	50% Property Tax Shift		100% Property Tax Shift	
	With HOST	Without HOST	With HOST	Without HOST
Kakwani Index	-0.083	-0.048	-0.100	-0.06
Suits Index	-0.029	-0.017	-0.035	-0.021

The indices are negative and small, indicating a slightly regressive tax system.¹

As to be expected, the indices are higher when assuming a 100 percent property tax shift to tenants. Under both tax shifting assumptions and with both indices, HOST results in a more regressive tax system, *ceteris paribus*. Even though the index figures are not dramatically large, the percent changes between the two tax systems are. With the Kakwani index, the indices increase 73 percent (fifty percent tax shift) and 67 percent (100 percent tax shift) with the HOST program. Similarly, the Suits index figures rise 71 percent (fifty percent tax shift) and 67 percent (100 percent tax shift) with HOST. These findings, coupled with those presented for the income groups, permit rejection of the null hypothesis for H_{2b} which states that the HOST program has not resulted in a more regressive tax system (property taxes and sales tax) for DeKalb County residents than if the one percent sales tax had not been imposed, *ceteris paribus*.

Based on the findings from Table 5.8, which appear to indicate that tenant and homeowner tax burdens differ substantially with the HOST tax relief program, Table 5.10 provides tax payment information for the two groups. All the data represent median values to avoid bias from outliers. Due to the small number of renters in the sample (81), the research cannot make statistical inferences to the larger tenant population in DeKalb

¹ As a comparison, Wong and Michael's (1990) study of proposed sales tax changes for Minnesota had Suits and Kakwani index values approximating -0.1 to -0.3.

County. As a randomly drawn sample, however, the data provide a preliminary indication of HOST's impact on renters and offers an interesting contrast to the extraordinary benefits homeowners receive from the tax relief program.

From Table 5.10, one easily sees HOST's effects on renters and homeowners, and the differences between these two groups. Although total tax payments under HOST are similar for the two groups, when assuming landlords shift fifty percent of their tax liability onto renters, the ETRs differ substantially. Renters incur an ETR that is 36 percent greater than homeowners due to their \$20,000 lower median income. If one assumes tenants pay 100 percent of the property tax, their median ETR reaches 0.911 and is more than double that paid by homeowners (0.412 percent).

Table 5.10 Tax Payments With and Without HOST for Tenants and Homeowners		
	Homeowners	Tenants
Gross Income ¹	\$65,000	\$45,000
HOST Benefit	\$482	0
Total Tax with HOST ² (100%)	\$247	\$420
Total Tax with HOST³ (50%)	\$247	\$291
ETR with HOST ² (100%)	0.412	0.911
ETR with HOST³ (50%)	0.412	0.646
Tax without HOST ² (100%)	\$555	\$288
Tax without HOST² (50%)	\$555	\$144
ETR without HOST ² (100%)	0.950	0.572
ETR without HOST³ (50%)	0.950	0.286
Respondents	243	81

1 In 2001, homeowner mean gross income was \$68,025, and tenant mean gross income was \$49,722.

2 Total tax liabilities are calculated with renters paying 100 percent of the property tax liability.

3 Tax liabilities are calculated with renters paying fifty percent of the property tax liability and fifty percent of the property tax liability remaining with the landlord.

Without HOST, renters pay a median tax liability of only \$144 in 2001 (*ceteris paribus*), which is only one-fourth of the homeowners' median tax bill of \$555 (fifty

percent property tax shift). The tenants' median tax bill doubles under HOST, while the median tax bill for homeowners in the sample drops by \$308, a 55 percent savings. In the no-HOST scenario, homeowners pay an ETR of 0.950 which is 332 percent greater than the tenants' median ETR of 0.286. The tenants' median ETR enlarges from 0.286 to 0.646 under HOST, well over 200 percent. In contrast, homeowners' median ETR fell by fifty percent, from 0.950 to 0.412.

Independent sample T-tests confirm the differences between renters and homeowners in the sample. The mean difference for each groups' respective ETRs without HOST (fifty percent tax shift) is -0.848 (sig. = 0.000), meaning that renters had a mean ETR that was a 0.848 percent less than the mean ETR of homeowners. In contrast, with HOST renters had a mean ETR that was a 0.350 percent higher than the homeowners' mean ETR (sig. = 0.001). In sum, HOST shifts tax burdens from homeowners to tenants, even though the latter, as a group, has a substantially lower median income.

These findings permit rejection of the null hypotheses for Hypothesis 2. First, HOST tax relief credits increase with household income. Second, the findings indicate that regressivity in DeKalb County's tax system has increased, in the aggregate, with HOST. Interestingly, effective tax burdens with HOST, although seemingly more regressive, are less in absolute terms across income groups. The data also denote that the tax relief program has resulted in transferring tax burdens from homeowners to renters, at least in part. This latter issue requires additional study with a larger sample of renters in order to make statistically valid inferences to the DeKalb County population. In other words, the large benefits afforded to homeowners appear to offset the rising tax burdens

of renters to result in a net tax savings for all residents. The reason why this can occur, even if government spending remains constant, will be discussed in the Conclusion.

CHAPTER 6

DATA ANALYSIS: HYPOTHESES 3 THROUGH 6

This chapter concentrates on the perceived benefits and limits of HOST by testing Hypotheses 3, 4, 5, and 6 and examining those results. To the extent that perceptions and public opinion are reasonable measures of public policy success, understanding how residents view HOST and their tax burdens becomes decisive for the future viability of the tax relief program. Under Hypothesis 3, the research reports the results of the telephone survey, focusing on residents' support for the HOST program and the reasons for that support. Hypotheses 4 through 6 examine fiscal illusion and the accuracy of that theory's assumptions. Specifically, Hypothesis 4 tests renter illusion by looking at residents' knowledge of tenant property tax burdens. Furthermore, the research discovers the extent to which renters have self-interested beliefs with regard to acquiring property tax relief. Hypothesis 5 ascertains whether fiscal illusion theory's underlying assumption of tax estimation is correct. Fiscal illusion assumes taxpayers underestimate complex or less transparent tax systems, such as when DeKalb County implemented HOST. Using a sample of 400 randomly selected residents, the research compares their sales tax estimates with those calculated from the *Consumer Expenditure Survey*, with surprising results. In Hypothesis 6, the research builds off the prior two hypotheses, analyzing whether the county and/or the school system have acted opportunistically under the less observable sales tax system. The research measures the extent to which the county and/or the school system have substantially increased their spending over the last four

years relative to a neighboring jurisdiction. Combined with those discussed in the previous chapter, the results of the hypotheses provide a fairly comprehensive review of this innovative tax relief program, offering policy makers both in DeKalb County and elsewhere a decision tool to guide further tax changes.

HYPOTHESIS 3

Receiving real benefits from HOST and seeing those benefits clearly stated on a property tax statement, one could reasonably postulate that support for HOST would be high among homeowners in DeKalb County. When asked their opinion in the HOST survey, 67.1 percent said they either strongly approved (21.0 percent) or somewhat approved (46.1 percent) of HOST (Table 6.1 and Appendix A, Question 26).

Surprisingly, 22.2 percent either somewhat or strongly disapproved of HOST. These negative answers may have been in response to the DeKalb County's proposed FY 2002 budget, which decreased the county homestead exemption from 100 to 75 percent for 2002. The Atlanta newspaper and local television news stations subjected the budget and its approval to substantial media attention when the survey was being conducted in February 2002. Almost eleven percent of the homeowners in the sample (10.7) declined to respond to the survey question. With over two-thirds of the respondents supporting HOST, the research can reject the null hypothesis for H_{3A} which states that less than a majority of the homeowners in DeKalb County continue to support HOST.

Table 6.1 Opinions About HOST (homeowners only)				
Category	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Approve	51	21.0	23.5	23.5
Somewhat Approve	112	46.1	51.6	75.1
Somewhat Disapprove	36	14.8	16.6	91.7
Strongly Disapprove	18	7.4	8.3	100.0
Total	217	89.3	100.0	
Missing	26	10.7		
Total	243	100.0		

When asked why they supported HOST, homeowners answered lower property taxes most frequently, at 44.9 percent of those responding or 43.6 of all homeowners in the sample (Table 6.2). A quarter (25.9 percent) of the homeowners stated collecting tax revenue from people living outside DeKalb County as their most important reason for supporting HOST. Believing that sales taxes were fairer than property taxes was the chief reason to favor HOST for 21.5 percent of those homeowners responding. In the survey, respondents had the opportunity to offer their own response if different from the three choices mentioned above. Two individuals believed all three reasons were important while two others considered building capital projects as their principal reason for supporting HOST. A few others discussed education funding, although HOST does not affect this expenditure. The survey reminded respondents of the sales tax rate and percent distribution between homestead exemptions and capital projects prior to asking their opinion of HOST. Since homeowners considered property tax relief their most important reason for supporting HOST, the research rejects the null hypothesis for H_{3B} that lower property tax payments are not the primary reason why homeowners support HOST.

Table 6.2
Reasons for Supporting HOST
(homeowners only)

Category	Frequency	Percent	Valid Percent
I Pay Less Money in Property Taxes	71	43.6	44.9
Sales Taxes Are Fairer than Property Taxes	34	20.8	21.5
People Living Outside DeKalb County Pay Sales Taxes, Keeping My Taxes Lower	41	25.2	25.9
All of the Above	2	1.2	1.3
Spending for Capital Projects	2	1.2	1.3
Other	8	4.9	5.1
Total	158	96.9	100.0
Missing	5	3.1	
Total	163	100.0	

Almost two-thirds (63.8 percent) of all homeowners believed their property taxes would be either a lot (31.7 percent) or somewhat (32.1 percent) higher had HOST not been approved (see Appendix A, Question 22). Another 16.5 percent thought their tax bill would be the same, while less than ten percent (9.9) thought their property taxes would be lower had HOST not been approved. This latter group may not have understood the term “homestead exemptions” because the interviewer reminded each respondent of the HOST sales tax rate and revenue distribution between homestead exemptions and capital projects immediately prior to asking this question. Twenty-four homeowners (9.9 percent) did not answer this question.

Generally, homeowners comprehended the effect HOST had on county property tax payments, although that was not the case on whether homestead exemptions affected the value of their home. Less than one-fourth of the respondents (23.9 percent) answered that their homestead exemption increased the value of their home (see Appendix A, Question 20). Over half the respondents thought the exemptions did not affect the value of their home and 4.5 percent replied that the exemptions decreased their property’s value. Eighteen percent chose not to answer the question. One can surmise from these

findings that most homeowners lack an appreciation of how tax changes are capitalized into a property's value. However, respondents may have based their opinions on their property tax statements. If the Tax Assessor's Office had not reappraised respondents' properties, tax statements likely showed assessed values that were similar to their pre-1999 levels, masking any market value adjustments from lower property tax liabilities.

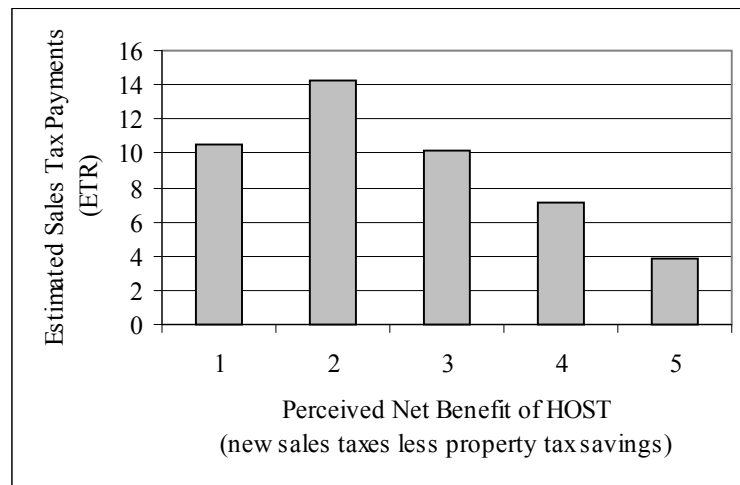
The survey also asked homeowners the extent to which their county homestead exemption was greater or less than the sales taxes they paid from HOST (Appendix A, Question 23 and Table 6.3). Although only 46.7 percent of the homeowners responding to Question 23 believed their county homestead exemptions were either a little or a lot larger than the extra sales taxes they paid, perceiving a net benefit from HOST was still the most popular response. Almost fifteen percent felt their taxes were the same, and 38.5 percent thought their sales tax payments were greater than their county homestead exemption. One-quarter of the homeowners chose not to answer this question.

<p>Table 6.3 Perceived Net Benefit from HOST¹ (homeowners only)</p>				
Category	Frequency	Percent	Valid Percent	Cumulative Percent
I pay a lot more in sales taxes	32	13.2	17.6	17.6
I pay a little more in sales taxes	38	15.6	20.9	38.5
I pay about the same	27	11.1	14.8	53.3
I pay a little less in sales taxes	66	27.2	36.3	89.6
I pay a lot less in sales taxes	19	7.8	10.4	100.0
Total	182	74.9	100.0	
Missing	61	25.1		
Total	243	100.0		

1. Question fully reads, "Do you think the extra sales taxes you pay each year from HOST is less than or greater than the amount of your county homestead exemption?"

Reasonably, a negative correlation exists ($p = -0.271$, $\text{sig.} = 0.001$) between a homeowner's support for HOST and Question 23 (Table 6.3), meaning that those

homeowners who believed their sales taxes were greater than their homestead exemption tended not to support the HOST program. Furthermore, there is a statistically significant relationship between homeowners' estimated sales tax payments and their perceived net benefit ($p = -0.229$, $\text{sig.} = 0.001$). In other words, homeowners who thought they paid a lot less in sales taxes than their county homestead exemption also estimated relatively low effective sales tax rates for their households. Figure 6.1 shows the mean sales tax estimates for homeowners by response to Question 23. Homeowners appeared to make the logical connection between their estimated sales tax payments and the net benefit from the HOST program. For example, respondents who believed their county homestead exemptions were a lot greater than their sales tax payments (Group 5) had a group mean sales tax estimate of 3.9 percent (ETR). To the extent that homeowners underestimated their net benefit, DeKalb County might consider providing information to residents about their sales tax burdens, which might increase the popularity of the tax. For further discussion about sales tax estimates by residents of DeKalb County, see pages 164 – 173.



1. Column 1: statement “I pay a lot more in sales taxes than my homestead exemption” (Question 23).
2. Column 5: statement “I pay a lot less in sales taxes than my homestead exemption” (Question 23).

Figure 6.1
Relationship Between Estimated Sales Taxes With HOST
and Estimated Net Benefit from HOST

Statistically significant correlations between attitudes toward HOST and other HOST related variables demonstrate consistent thinking and beliefs (Table 6.4). Respondents who support HOST also believe their property taxes are lower than if HOST had not been implemented ($p = 0.244$); perceive greater net benefits with it ($p = -0.271$); and estimate relatively lower sales tax rates ($p = 0.146$). Interestingly, no statistically significant correlations exist between housing variables, such as the assessed property value and property tax relief, and opinions towards HOST. Even though the county clearly writes the benefits accruing to each homeowner from HOST on property tax statements, these efforts do not appear to translate into positive beliefs about the program. Perhaps homeowners only examine their final tax liability, which partially conceals HOST benefits when combined with levies from schools and cities. Finally,

demographic variables, such as education, income, and years living in DeKalb County, are not significantly correlated to respondents' attitudes about HOST.

Table 6.4 Correlations Among HOST Attitudinal Variables (homeowners only)				
	Opinion of HOST	Property Tax Bill w/HOST	Net Benefit from HOST	Est. Sales Taxes (ETR)
Opinion of HOST				
Pearson Correlation	1.000	0.244**	-0.271**	0.146*
Sig. (1-tailed)	.	0.000	0.000	0.016
N	217	204	170	217
Property Tax Bill w/HOST				
Pearson Correlation	0.244**	1.000	0.047	-0.051**
Sig. (1-tailed)	0.000	.	0.269	.226
N	204	219	174	219
Net Benefit from HOST				
Pearson Correlation	-0.271**	0.047	1.000	-0.229**
Sig. (1-tailed)	0.000	0.269	.	0.001
N	170	174	182	182
Estimated Sales Taxes (ETR)				
Pearson Correlation	0.146*	-0.051	-0.229**	1.000
Sig., (1-tailed)	0.016	0.226	0.001	.
N	217	219	182	243

* Correlation is significant at the .05 level

** Correlation is significant at the .01 level

Generally, homeowners in the sample were satisfied with the revenue distribution between property tax relief and capital projects. Under the self-interest hypothesis, homeowners should desire additional property tax relief for themselves and less funding for capital projects, although as a public good, homeowners benefit from this expenditure as well. Of the 221 homeowners who responded to the question that asked what percent of HOST revenue should be spent on capital projects (see Appendix A, Questions 28 and 29), 39.4 percent were satisfied with the current revenue distribution, 31.7 percent desired additional spending for capital projects, and 29.0 percent wanted additional funds dedicated for property tax relief. Of the seventy persons wanting additional revenues for capital projects, they selected capital spending levels equaling 38.3 percent (mean) and

35.0 percent (median), which were only eighteen to fifteen percent above the current maximum distribution level of twenty percent. Approximately two-thirds (62.1 percent) of the respondents rejected the option to spend HOST revenue on other government programs, while 28.0 percent supported the idea (9.9 percent did not respond to the question).

The survey also asked renters their opinions regarding HOST (Table 6.5). Many renters chose not to answer this question (27.2 percent), perhaps because they did not see themselves as being affected by the tax relief program even though they help fund it. Of those who did respond, renters favored HOST. Seventy percent (70.4) either strongly or somewhat approved of HOST. Only 6.1 percent strongly disapproved of the tax. This finding was rather surprising given that the only benefits renters receive from the sales tax come from capital improvements, which the county has funded at levels substantially below the statutorily maximum rate of twenty percent. The most popular reason for supporting the tax was ideological, that sales taxes are fairer than property taxes (29 responses). Due to the small number of respondents offering reasons for their approval of HOST, inferences to the population of renters in the county cannot be made.

Table 6.5 Opinions About HOST (renters only)				
Category	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly Approve	11	7.0	9.6	9.6
Somewhat Approve	70	44.3	60.9	70.4
Somewhat Disapprove	27	17.1	23.5	93.9
Strongly Disapprove	7	4.4	6.1	100.0
Total	115	72.8	100.0	
Missing	43	27.2		
Total	158	100.0		

In contrast to homeowners, renters wanted HOST revenue spent on other government programs at 41.8 percent (see Appendix A, Question 32). Approximately that same amount disagreed with HOST funds being spent on other government programs, while 17.1 percent did not respond to the question. An analysis of the means between renters and homeowners (T-Test) on Question 32 found statistically significant differences in responses between the two groups. Significance was at the .01 level, with a mean difference of 0.19 (answers were 1 for yes and 2 for no).

The survey asked several attitudinal questions on sales and property taxes (Appendix A, Questions 1 – 7, 12 - 16). These questions sought to ascertain residents' preferences for forms of taxation, as well as learn their attitudes toward issues of tax equity and transparency. Due to concerns that residents might misunderstand questions specifically asking about tax transparency or effective tax rates, the survey statements reflected scenarios relating to transparency and the ability to pay principle. Residents reported favorably toward sales taxes and far less so for property taxes. Overall, respondents who favored sales taxes usually offered unfavorable opinions for property taxes, although a few respondents said they preferred both sales and property taxes to fund government services. The overall consistency of responses indicates that respondents comprehended the survey questions and statements.

When asked to select the fairest tax from four choices (personal income, corporate income, property, and sales), respondents overwhelmingly selected the last option (Table 6.6). Over half of all the respondents chose sales taxes (57.9 percent), which was more than twice that of the other three forms of taxation. Only 11.5 percent considered property taxes the fairest tax. These findings resembled those in Sjoquist's (2001)

statewide survey of Georgia residents, where 47 percent thought sales taxes were the fairest taxes. Furthermore, support for sales taxes among DeKalb County residents persisted regardless of housing tenure, race, education, gender, income status, and whether the respondent had lived in DeKalb County prior to 1997 (year of HOST referendum) or not. For all groups within the categories just mentioned, at least fifty percent of the residents selected sales taxes as the fairest tax. At every income scale, the modal response was the sales tax. The group that most favored sales taxes included those with household incomes between \$50,000 and \$59,999 in 2001 at over 73 percent.

Table 6.6 Opinions on Fairest Tax			
Category	Frequency	Percent	Valid Percent
Personal Income Tax	76	19.0	19.7
Corporate Income Tax	31	7.7	8.1
Property Tax	46	11.5	11.9
Sales Tax	232	57.9	60.3
Total	385	96.0	100.0
Missing	16	4.0	
Total	401	100.0	

Table 6.7 shows the response distribution for various statements about sales taxes. Residents strongly favored the sales tax for its flat rate and because everyone must pay the tax. These statements sought to learn how residents perceived fairness in the tax system. Relatively less popular was the notion that the sales tax is preferable to property taxes because the wealthy purchased more goods and therefore paid more taxes. Residents supported the exportability of sales taxes as well. Residents' conceptualization of fairness seemed to be that everyone should contribute to funding government, including non-residents, and that tax rates should be proportional rather than progressive, even though consumption taxes when measured with annual income are, in fact,

regressive. Finally, residents liked the incremental nature of the sales tax, albeit this form of tax collection obfuscates knowing true tax burdens.

Table 6.7
Responses to Sales Tax Attitudinal Statements

Category	Fund Services ¹	Legal Rate ²	Export Sales Tax ³	Pay in Increments ⁴	Wealthy Pay More ⁵	Everyone Pays ⁶
Completely Agree	44.9	59.1	48.9	45.1	35.2	63.6
Generally Agree	36.9	30.7	32.4	35.4	31.7	28.2
Neither Agree nor Disagree	2.5	0.7	5.5	3.2	3.2	2.0
Generally Disagree	9.2	4.2	6.7	10.0	17.5	3.2
Completely Disagree	5.7	5.0	4.7	6.0	12.0	3.0
Total	99.3	99.8	98.3	99.8	99.5	100.0
Missing	0.7	0.2	1.7	0.2	0.5	0
N = 401						

1. Statement: I would rather pay a sales tax than a property tax to fund government services.
2. Statement: The sales tax is fair because everyone pays the same legal rate.
3. Statement: With a sales tax, the government collects money from people who live outside DeKalb County but come here to shop, which keeps my taxes lower.
4. Statement: The sales tax is better than income or property taxes because I pay in small increments throughout the year.
5. Statement: The sales tax is fair because wealthy people buy more things and, therefore, pay more taxes.
6. Statement: The sales tax is fair because everyone has to pay the tax.

Twenty-one percent of the residents preferred funding government services with property rather than sales taxes (Table 6.8). This figure may be slightly high since only 14.9 percent disagreed with the statement to fund government services with sales rather than property taxes. What is particularly interesting about the respondents' low support for funding government services with property taxes is that these tax payments are deductible from the federal income tax, meaning that a dollar paid in property taxes is less expensive than a dollar spent on sales taxes. Over 42 percent agreed with the statement that only residents should pay for county services, which contradicts support for the exportability of sales taxes. Yet, these two variables were negatively correlated (Pearson Correlation: -0.158) with significance at the .01 level (1-tailed test). Residents in the sample rejected the statement that receiving a printed property tax statement made

that tax superior to the sales tax. This finding coalesces with previous preferences for paying taxes incrementally. Apparently, residents did not place a high value tax transparency. Supporting the ability to pay principle, 64.1 percent agreed that people with more expensive homes should pay higher property taxes. Yet, this number was far lower than the support given to the “flat” nature of the sales tax rate. Almost thirty percent of the respondents disagreed that property taxes were fair because homeowners with more expensive homes paid higher property taxes. Residents might have considered the plight of elderly homeowners on fixed incomes when answering that question. Slightly over half the residents agreed with the statement that property taxes were not fair because they did not consider a homeowner’s income, again revealing support for the ability to pay concept.

Table 6.8
Responses to Property Tax Attitudinal Statements

Category	Fund Services ¹	Receive Tax Bill ²	Residents Pay for Services ³	Home Value ⁴	Homeowner Income ⁵
Completely Agree	8.0	11.2	22.4	29.7	29.9
Generally Agree	13.2	16.5	19.7	34.4	22.2
Neither Agree nor Disagree	4.7	6.5	4.0	4.2	6.0
Generally Disagree	32.4	27.9	22.7	13.7	21.2
Completely Disagree	39.7	34.7	30.7	16.0	18.2
Total	98.0	96.8	99.5	98.0	97.5
Missing	2.0	3.2	0.5	2.0	2.5
N = 401					

1. Statement: I would rather pay a property tax than a sales tax to fund government services.
2. Statement: The property tax is better than the sales tax because tax payments are clearly written on a tax bill.
3. Statement: Only residents of a county should have to pay for county services.
4. Statement: The property tax is fair because homeowners with more expensive homes pay more property taxes than people who own less expensive homes.
5. Statement: The property tax is not fair because it does not consider the homeowner’s income.

Differences of mean tests (T-Tests) showed that renters and homeowners viewed only three of the attitudinal tax statements differently to a level of statistical significance

(Table 6.9). Two of these variables concern ability to pay concepts. These were, “the sales tax is fair because wealthy people buy more things and therefore pay more taxes,” and “the property tax is fair because homeowners with more expensive homes pay more property taxes than people who own less expensive homes.” In both cases, renters agreed with these statements more than homeowners did. In other words, renters favored statements supporting progressive tax payments more strongly than homeowners. On average, renters in the sample earned lower incomes than homeowners, which may have caused the divergence. Renters supported the third statement, “only residents of a county should have to pay for county services,” more than homeowners, perhaps because renters do not believe that they themselves pay property taxes. This issue will be discussed next under Hypothesis 4.

Table 6.9 Attitudinal Differences Between Renters and Homeowners						
Statement	T-Test for Equality of Means ¹			Renter Mean	Homeowner Mean	Mean Difference
	T-Score	DF	Sig.			
Wealthy Pay More ²	2.322	313	.021	2.60	2.26	.34
Home Value ³	-2.728	348	.007	2.27	2.67	-.40
Residents Pay for Services ⁴	-2.868	318	.004	2.91	3.38	-.47
Range 1 - 5 where totally agree equals 1 and totally disagree equals 5						

1. Equal variances not assumed. 2-tailed test of significance.
2. Statement: The sales tax is fair because wealthy people buy more things and, therefore, pay more taxes.
3. Statement: The property tax is fair because homeowners with more expensive homes pay more property taxes than people who own less expensive homes.
4. Statement: Only residents of a county should have to pay for county services.

In sum, residents continued to favor HOST for multiple reasons. Ideologically, residents preferred sales taxes to property taxes because of its perceived fairness, stemming from a flat, statutory rate, and because everyone directly pays the tax. Renters in the sample supported HOST, even though they received substantially fewer benefits than homeowners, largely because they preferred that form of taxation over property

taxes. Homeowners appreciated the pecuniary benefits from HOST and listed property tax reductions as their primary reason for supporting the tax.

HYPOTHESIS 4

Fiscal illusion theory assumes renters are unaware of the property taxes they pay through rent and, therefore, prefer higher levels of public spending than if they directly paid property taxes. The HOST survey asked all residents in the sample the percent of property taxes they believed landlords passed through to renters in the form of higher rent (Appendix A, Question 17). This question sought to determine the accuracy of this fiscal illusion assumption. Furthermore, the survey asked renters whether they would support tax relief for renters even if it resulted in less homeowner tax relief (Appendix A, Question 24). The self-interest hypothesis predicts that renters should substantially support tax relief for themselves. Residents accurately gauged renter tax burdens, estimating a mean property tax shift of between 51 to 75 percent onto renters. Perhaps more surprising, renters did not universally desire property tax relief for themselves even though they acknowledged their own indirect tax liability.

Homeowners believed landlords engaged in greater degrees of tax shifting than did tenants (Table 6.10). At 40.3 percent, homeowners most commonly responded that landlords shifted all property tax payments onto renters. In addition, only 15.2 percent thought that landlords paid more than 75 percent of their tax bill. The median answer from homeowners equaled the “76 – 99 percent tax shift” category.

Renters answered question 24 more conservatively, providing median responses that fell within the “51 to 75 percent tax shift category.” Like homeowners, the modal response for renters at 24.7 percent was that landlords shift 100 percent of their tax

liability. Unlike questions pertaining to HOST, renters were more apt to respond to this question than were homeowners, with only ten non-responses from the former and 34 from the latter.

Prior research has found that landlords pass forward approximately 50 to 75 percent of property tax liabilities over the long term (e.g., Schroeder & Sjoquist, 1978; Fullerton & Rogers, 1993; Roche, 1986). Given that the residents in the sample coincided with prior empirical work on tax shifting in terms of the median responses, the null for Hypothesis 4A cannot be rejected. The null (H_0) states that renters and homeowners would accurately perceive the property taxes renters indirectly pay through higher rent. Contradicting fiscal illusion theory, this finding supports the self-interest hypothesis because renters have a pecuniary motive for knowing their property tax burdens. Furthermore, both groups responded with the highest tax shifting category (100 percent) most frequently and only twenty of the 357 respondents thought tenants did not pay any property taxes. These findings further challenge the renter illusion hypothesis.

Table 6.10
Percent of Property Tax Landlords Pass Forward to Renters¹

Category	Value	Renters		Homeowners	
		Frequency	Percent	Frequency	Percent
None of Their Property Taxes	1	8	5.1	12	4.9
Between 1% and 25%	2	31	19.6	25	10.3
Between 26% and 50%	3	23	14.6	26	10.7
Between 51% and 75%	4	21	13.3	23	9.5
Between 76% and 99%	5	26	16.5	25	10.3
100% of Their Property Taxes	6	39	24.7	98	40.3
Total		148	93.7	209	86.0
Missing		10	6.3	34	14.0
Total		158	100.0	243	100.0
Mean (1 - 6)		3.97		4.52	
Median (1 - 6)		4.00		5.00	
Standard Deviation		1.65		1.69	

1. Question reads: "In your opinion, to what degree, if any, do landlords pass their property taxes onto renters through higher rent?"

The survey also asked renters whether they would support tax relief for renters even if that relief resulted in less tax relief for homeowners. Although a majority of renters said “yes” or “probably yes” (61.4 percent), a surprising 22.2 percent said “no” (Table 6.11). These latter respondents had opinions contradicting their self-interest. To determine whether those respondents who rejected tax relief also thought renters did not pay property taxes through rent (Question 17), correlation statistics were calculated. No statistically significant relationship between the two variables existed nor was there a relationship between renters’ attitudes toward HOST (Question 26) and support for renter tax relief. Therefore, support or lack thereof for the current HOST program was probably not a factor in determining whether renters wanted the program expanded to include them. Furthermore, demographic variables such as gender, income, race, or education were not statistically correlated with support for renter tax relief. With over one-third (34.2) of the renters in the sample rejecting or likely rejecting tenant tax relief, the null hypothesis for Hypothesis 4B cannot be rejected (H_{4B}): renters will not reveal strong support for tax relief for themselves.

Table 6.11 Support for Renter Tax Relief ¹ (renters only)			
Category	Frequency	Percent	Valid Percent
Yes	78	49.4	51.7
Not sure but probably yes	19	12.0	12.6
Not sure but probably no	19	12.0	12.6
No	35	22.2	23.2
Total	151	95.6	100.0
Missing	7	4.4	
Total	158	100.0	

1. Question reads: “Would you support tax relief for renters even if it resulted in less homeowner tax relief?”

Unfortunately, the survey did not ask why renters opposed tax relief. There are several possible explanations, one being that renters viewed themselves as future homeowners and saw their own self-interest being protected by minimizing homeowners' property taxes. Another explanation is that renters wanted to protect low-income homeowners, such as the elderly, from high property taxes. This altruistic idea is plausible because renters are probably unaware of the county's existing homestead exemptions specifically for low-income elderly homeowners. In sum, renters in the sample had a generally good idea of their own property tax burden, at least in terms of tax shifting by landlords; yet, more than one-third did not desire property tax relief at the expense of homeowners. These findings conflict with those predicted under both the renter illusion and self-interest hypotheses.

HYPOTHESIS 5

Fiscal illusion theory assumes taxpayers permit their government to collect consumption taxes because they are unaware of their total tax burden. More specifically, individuals underestimate their sales tax payments. The research presented here validates the notion that individuals incorrectly gauge their true tax burden, but surprisingly, rather than underestimating payments, they overestimate them. These findings indicate that the HOST program has resulted in a less transparent tax system, *ceteris paribus*.

The CES-derived sales tax estimates served as the "correct" or "accurate" sales tax payments paid by DeKalb County residents. Table 6.12 lists the effective tax rates paid by the HOST survey respondents in 2001. The highest effective tax rate (ETR) reached 11.43 for a respondent with an annual gross household income of \$10,000 and having purchased a vehicle that year, while households earning over \$110,000 annually

that did not purchase a vehicle paid the lowest ETR in 2001 at 1.58 percent (denominator to calculate ETR was \$120,000). The mean ETR across all income groups equaled 2.89 percent while the median was slightly lower at 2.53 percent.

Table 6.12 Effective Sales Tax Rates by Income, 2001 ¹				
Income	ETR (w/out vehicle)	ETR (w/ vehicle)	Mean ETR ²	Number of Respondents
Less than \$15,000	4.88%	11.50 %	5.16%	24
\$15,000 - \$19,999	3.77%	8.22%	4.14%	12
\$20,000 – \$29,999	3.30%	5.72%	3.58%	43
\$30,000 – \$39,999	2.81%	4.82%	3.01%	41
\$40,000 - \$49,999	2.50%	4.64%	2.93%	65
\$50,000 - \$59,999	2.33%	3.98%	2.61%	41
\$60,000 – \$69,999	1.97%	3.37%	2.27%	23
\$70,000 - \$79,999	2.53%	4.14%	3.23%	30
\$80,000 - \$89,999	2.23%	3.66%	2.67%	29
\$90,000 - \$110,000	1.90%	3.11%	2.13%	42
Over \$110,000	1.58%	2.59%	1.81%	50
Mean ETR all income categories = 2.89				
Median ETR all income categories = 2.53				
N= 400				

1. Data from the U.S. Bureau of Labor Statistics, Consumer Expenditure Survey. See Table 4.6, pp. 110 - 114, for explanation of calculations.
2. Mean effective tax rate includes all respondents within each income category.

The pattern of decreasing effective tax rates with increasing income suddenly shifts between the \$60,000-\$69,999 and \$70,000-\$79,999 income categories, which is due to similar Bureau of Labor Statistics' (BLS) spending data for these categories. Because the highest income category for the BLS is \$70,000 or higher, the sales tax liability amount is the same for all the income groups above \$70,000. The flat sales tax payment may slightly overstate the sales tax liability for those earning between \$70,000 and \$79,999 as compared to the households in the \$110,000 and over income category. However, due to the small differences in the effective tax rates, this issue should not bias the findings.

The benchmark for an accurate estimate has two stages.¹ First, respondents must have predicted a figure that was reasonable (i.e., between 0.5 and seven percent) and second, no estimate could be more than twice the CES-derived estimate. To avoid biasing responses, individuals were not told the legal tax rate (state plus county) as part of the survey question.

The estimates revealed that individuals were grossly unaware of or misunderstood their sales tax liabilities. Table 6.13 shows the distribution of responses. Of the 400 responses, less than half (192) were within the range of the first benchmark. The mean and median responses to the proportion of sales taxes to total income were 10.34 percent and 6.0 percent, respectively. In a county with a sales tax rate of 7 percent, respondents could not physically pay the mean response of ten percent without exorbitantly high debt spending. However, the high mean response stemmed from individuals who likely misunderstood the question (see Appendix A, Question 9). A significant portion of the respondents offered estimates that were extremely high, ETRs of twenty percent or higher. Perhaps these individuals thought the question referred to total tax burdens or total taxable spending, although the survey question and several prior questions only referred to sales taxes.

¹ See pp. 108–110 for more discussion on the accuracy benchmarks.

Table 6.13 Respondents' Estimated Effective Sales Tax Rates, 2001			
Value	Frequency	Valid Percent	Cumulative Percent
0.00 – 0.24	9	2.3	2.3
0.25 – 0.49	8	2.0	4.3
0.50 – 0.99	16	4.0	8.3
1.00 – 1.99	31	7.7	16.0
2.00 – 2.99	37	9.3	25.3
3.00 – 3.99	21	5.2	30.5
4.00 – 4.99	26	6.5	37.0
5.00 – 5.99	46	11.5	48.5
6.00 – 6.99	13	3.3	51.8
7.00 – 9.99	39	9.7	61.5
10.00 - 14.99	60	15.0	76.5
15.00 - 19.99	24	6.0	82.5
20.00 - 100.00	70	17.5	100.0
N = 400 Mean = 10.34 Median = 6.00 Std. Deviation = 12.12			

More interesting are those respondents who likely understood the question, yet gave inordinately high responses. Over thirty percent (30.7) of the respondents stated sales tax liabilities between seven percent and twenty percent of their total income. These responses were too low to be either combined tax burdens or the amount of taxable spending. Twenty-four individuals answered that their sales tax burdens were seven percent of their total income, which may have been an immediate reaction to the combined statutory tax rate. However, knowing the sales tax rate is fundamentally different from knowing tax payments, which is the basis for determining transparency in a tax system. Furthermore, in addition to assuming all spending is taxable, this response does not acknowledge state and HOST tax exemptions on food for home consumption. Surprisingly, fifty people responded that their sales tax rates were ten percent and 21

people gave an answer of fifteen percent. These responses revealed a lack of comprehension about the legal sales tax rate, effective tax rates, and their spending patterns. Only 4.3 percent of the respondents gave an answer that was less than 0.5 percent, supporting the conclusion that taxpayers do not underestimate their tax payments.

Two interesting exceptions to the discussion of high ETR estimates exist. Two individuals judged their tax burdens to be twenty percent and ten percent and yet, these answers accurately reflected their true burden. Household incomes for the respondents were \$10,000 and \$17,500 in 2001 and they both purchased a car or truck from a dealership that year. Due to their income status and expensive purchase, their CES ETRs were 11.50 and 8.22, respectively. The data coded these individuals as having correctly estimated their tax burden and are included in the sub-sample of 159 respondents discussed next.

One hundred and ninety-two respondents (48 percent) met the first benchmark. The mean and median responses were 3.40 and 3.17, respectively, while the mode was five percent with forty responses. Nearly two-thirds of the 192 respondents attained the second (65.1 percent) benchmark as well. Apparently, individuals either understood their sales tax burdens or did not. Of the 400 total responses, 125, or less than one-third, were considered accurate under the two-stage benchmark. Approximately the same number over- as underestimated their sales taxes, with 17.2 percent offering a value less than half the CES estimate and 17.7 percent giving a tax estimate double their CES estimate.

To the extent that respondents' sales tax estimates differed from the CES-derived estimate, one can evaluate taxpayers' knowledge regarding their sales tax burdens. The

differences between the respondents' estimated ETR and the CES-derived ETR revealed that residents of DeKalb County overestimate rather than underestimate their sales taxes payments (Table 6.14). Over three-fourths of the sample (77.3 percent) said their sales tax payments were higher than the CES estimate. Running contrary to the fiscal illusion hypothesis that assumes individuals underestimate their tax burden, this finding does not permit rejection of the null hypothesis for H_{5B} : Residents of DeKalb County do not underestimate their sales tax burdens.

The mean error for all respondents equaled 7.46 percent while the median error was much smaller at 3.29 percent (Table 6.14). The high standard deviation for the error variable (std. deviation = 12.00) reflects the wide dispersion of answers among respondents. One-third of the respondents (33.5 percent) gave an estimated ETR that was within two percent of the CES sales ETR and only 68 respondents were within one percent.

Table 6.14
Differences between
CES-Derived and Respondents' Sales Tax Estimates

Difference (percent)	Frequency	Valid Percent	Cumulative Percent
100.00 - 20.00	49	12.3	12.3
19.99 - 10.00	46	11.5	23.8
9.99 - 5.00	73	28.7	42.5
4.99 - 4.00	20	5.0	47.5
3.99 - 3.00	23	5.8	53.3
2.99 - 2.00	24	6.0	59.3
1.99 - 1.00	35	8.7	68.0
0.99 - 0.00	37	9.3	77.3
-0.01 - -1.00	31	7.7	85.0
-1.01 - -2.00	31	7.8	92.8
-2.01 - -3.00	19	4.7	97.5
-3.01 - -4.00	9	2.2	99.7
-4.01 - -5.00	0	0.0	99.7
-5.01 - -10.00	1	0.3	100.0
N = 400 Mean = 7.46 Median = 3.29 Std. Deviation = 12.0			

To learn whether certain characteristics led respondents to have a more accurate measure of the sales tax payments, correlations were calculated between several demographic and attitudinal variables and an absolute error measure (difference between CES-derived ETR and the respondents' estimated ETR, see Table 6.14). Variables thought to influence accuracy included years living in DeKalb County, education, housing tenure, household size, and support for sales taxes to fund government services. If individuals had lived in DeKalb County several years, they might be more familiar with the sales tax rate and therefore more accurately gauge their household's tax burden. With education, one expects a negative relationship to estimation error (i.e., higher education means less error). An increasing family size might have raised the difficulty in tracking housing spending and would decrease a respondent's accuracy in estimating tax

liability. Based on the fiscal illusion hypothesis, which states that a taxpayer's ignorance permits government to raise taxes, the research predicted that support for sales taxes would decrease with a higher knowledge of tax payments.

Of the variables analyzed, only one variable, income, had a statistically significant relationship with the sales tax estimation error (Table 6.15). The relationship was negative, meaning that as household incomes rose, respondents estimated their sales tax payments more accurately. Although the relationship did not meet the 95 percent confidence test, education came close to having a statistically significant relationship with estimation error. As with income, respondents with higher levels of education provided relatively more accurate sales tax estimates than those with lower educational attainment. Correlations for the subset of 192 respondents who met the first benchmark criteria (i.e., tax estimate between 0.5 and 6.99 percent) revealed that none of the variables was statistically significant at the 95 percent confidence level with a one-tailed test. Other demographic variables such as gender, housing tenure, and race were considered but not included due to a lack of theoretical justification.

Table 6.15 Correlations Between Respondents' Estimation Error and Selected Demographic Variables					
Absolute Error Pearson Correlation Significance (1-tailed)	Household Income Before Taxes	Years Live In DeKalb	Education	Household Size	Support for Sales Taxes
	-.156**	-.036	-.078	.010	.038
	.001	.234	.061	.423	.225
N = 400					

** Correlation is significant at the .01 level

Of the 243 homeowners in the sample, slightly less than half (48.6 percent) met the first benchmark of accuracy by estimating a sales tax between 0.5 and 6.99 percent. On average, this group estimated their sales taxes at 9.97 percent, while the median

equaled only 5.83 percent. A few homeowners probably misunderstood the question and offered extremely high sales tax estimates, creating the high mean. Fourteen responded that their sales ETRs were seven percent and 33 believed it to be ten percent. Of the 118 respondents who estimated a reasonable sales tax burden, almost two-thirds (64.4 percent) met the second benchmark as well. In sum, 76 of the 243 homeowners (31.3 percent) in the sample knew with relative accuracy their sales tax burdens in 2001.

To determine whether differences existed between renters and homeowners in their abilities to estimate correctly sales tax payments, the research compared the means for the absolute error and the standard error variables for the two groups. Neither T-tests nor the one-way ANOVA statistic revealed any statistically significant differences between the two groups.

Should a tax system with less than one-third of the taxpayers knowing their burdens be considered transparent? In an ideal system, all taxpayers would fully understand and estimate their tax payments. Such a standard is not feasible due to the degree of resources that would be required to ensure complete knowledge. For this research, the question becomes whether DeKalb County's tax system is more or less transparent than if HOST had not been enacted.

From Hypothesis 4, we know that renters believed, on average, that 51 to 75 percent of the property taxes landlords pay is passed onto them through higher rent. Prior theoretical and empirical research supports this conclusion as being correct. If asked to give a specific dollar amount for the property taxes they pay, renters would probably give responses with error rates similar to sales taxes because renters are given no information on property tax rates and assessed values of their dwellings. Yet, many renters appear to

intuitively understand property tax shifting from owners to tenants. The same level of comprehension about tax burdens cannot be said for sales taxes with over half (51 percent) of the renters in the sample stating that their sales ETRs were seven percent or higher.

From property tax statements, homeowners know their actual property tax liabilities. Of course, this knowledge may be short lived, but at least the government provides detailed tax information biannually, which is more than what occurs with sales taxes.

We do not know what the respondents would have estimated for their sales tax burdens in the absence of HOST. If one assumes a similar level of inaccuracy for sales taxes as evidenced by these findings, the greater reliance on this form of taxation has decreased the overall tax transparency of the system because a greater portion of residents' taxes now comes from sales taxes versus property taxes.

In sum, relatively few residents in the sample knew their true sales tax burdens; however, residents over, rather than underestimated their households' sales tax liabilities. These findings lead to three conclusions. First, HOST has resulted in a less transparent tax system, which is evidenced by DeKalb County residents inaccurately estimating their sales tax burdens. Second, the research cannot reject the null hypothesis of H_{5B} : Residents of DeKalb County do not underestimate their annual sales tax burdens. Finally, rejection of the null for H_{5A} , combined with the explanation given above on property tax transparency, permits the research to reject the null H_{5C} : Homeowners have the same knowledgeable about their combined sales-property tax burden than when that same burden was only collected by property taxes, *ceteris paribus*.

HYPOTHESIS 6

Building off of the previous hypothesis, which tested citizens' awareness of their tax burdens, Hypothesis 6 seeks to determine whether DeKalb County exploited that lack of knowledge and increased its operating budget. However, the findings for Hypothesis 5 contradict fiscal illusion theory, which assumes that residents will underestimate complex or less transparent tax burdens. This hypothesis tests the fiscal illusion premise, which states that governments will opportunistically increase spending when the overall tax system becomes less transparent. Therefore, if the fiscal illusion theory is correct, either DeKalb County or the DeKalb County School Board should have increased their general spending since the inception of HOST.

Table 6.16 shows the changes in spending by the county and the school system in both current and real dollars from 1992 to 2001.² By examining the table, one can see steady, albeit relatively small, increases in the county's operating budget over time; however, these changes may be misleading. When converted to real dollars, the county's per capita spending has been relatively stable with an annual average change of less than one percent (-.23%) between 1992 – 2002. The county did raise the budget nearly \$16 per person in 1998 (\$15.88 in real dollars), the year after HOST was enacted, equaling a 9.6 percent increase. The county raised the budget again in 1999, resulting in a per capita budget of \$185.18. In terms of the combined departments for the general purpose and hospital tax fund, the budget grew from \$97,431,352 in 1997 to \$107,277,166 the following year (real dollars) or 10.1 percent.³ In 1999, the budget increased marginally

² As stated previously in the Methodology Chapter, DeKalb County spending data are the combined values for the general purpose and hospital operating budgets as approved by the County Commission. The DeKalb County School System data reflect annual operating expenditures.

³ These figures exclude departmental reserves, contributions to the CIP.

by 2.3 percent reaching \$109,786,849. The county changed course in 2000 and spending has declined. In fact, the 2001 budget is only \$8.43 higher per capita (in real dollars) than in 1997. The result is an average increase of 1.25 percent over the last four years (1997 - 2001).

<p style="text-align: center;">Table 6.16 DeKalb County General Purpose and Hospital Operating Budgets and DeKalb County School System Spending, 1992–2001</p>										
	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
County ¹ Current \$	246.5	236.5	258.6	259.4	258.6	263.5	292.9	305.2	296.8	306.8
County ¹ Real \$ ²	177.9	164.9	176.3	171.9	165.7	165.8	181.7	185.2	174.0	174.2
Hospital Current	48.2	44.3	45.9	38.9	36.8	28.4	39.2	36.4	32.2	32.2
Hospital Real \$ ²	34.8	30.9	31.3	25.8	23.6	17.9	24.3	22.1	18.9	18.2
School Current	710.4	726.2	767.7	798.7	844.0	863.7	901.4	973.6	938.5	1,013.4
School Real \$ ²	492.5	496.4	500.7	488.0	480.7	479.2	512.6	537.9	545.3	575.6
Combined Real \$ ^{2,3}	690.9	671.3	699.6	701.1	706.8	709.4	740.9	775.9	724.1	749.4

1. Tax Funds: countywide general operating budget and hospital budget

2. Bureau of Labor Statistics conversion figures, Atlanta MSA, 1984 = 100.

3. Includes county, hospital, and school district operating budgets.

Source: DeKalb County Budget Office, DeKalb County School District, US Census Bureau for county population data.

From data provided by the DeKalb County Budget Office, HOST receipts were never so great to permit full funding for property tax relief, completing capital projects, and still leave excess revenues for additional county spending. In 1999, DeKalb County collected \$82.13 million from HOST while the exemptions cost \$69.81 million, leaving an excess of \$12.32 million. This surplus quickly faded as program expenditures rose. For 2000, HOST receipts were \$87.66 million and the granted exemptions were worth \$79.40 million, leaving \$8.26 million for capital projects. By 2001, tax relief exceeded HOST revenues, which may explain why general purpose spending decreased for that

year. Receipts equaled \$85.98 million and foregone revenues were valued at \$89.86 million. The relative costs of the homestead exemptions to HOST receipts would seem to have prohibited excessive increases in the county's budgets.

When disaggregating the general purpose and hospital tax funds, one sees that the county hospital budget increased substantially. This fund rose 36.6 percent from \$10,511,320 prior to HOST to \$14,356,527 (real dollars) one year later; however, the increase merely brought the hospital budget back to its 1996 funding level of \$13,746,732. In other words, the hospital experienced dramatic budget cuts in 1997, which were recovered in 1998. In per capita terms, the 1998 budget is \$0.73 higher than in 1996 (Table 6.16). To some extent, per capita figures for the hospital may be misleading because they do not show changes in the number of patients served over time. Of the \$15.88 per capita rise in county spending just discussed, \$6.42 is attributable to the hospital fund (40.4 percent of the increase). Since 1998, the hospital's budgets have substantially decreased once again.

The County Commission approved a general purpose budget that was \$9.8 million (real dollars) higher in 1998 than the prior year, for an increase of 6.9 percent to \$107,277,166. Measured differently, spending per capita rose 9.58 percent from 1997 to 1998. In contrast to the county hospital, the general purpose budget has steadily risen since HOST, with an average annual increase of 4.5 percent. Over the last nine years, the average budget enhancement was 3.0 percent. Perhaps more striking is the difference in budget expansion during pre-HOST years when the DeKalb economy was robust. During years 1992 to 1997, the general purpose operating budget grew by only 1.8 percent per year which is less than half the annual increases since 1997.

When asked if the county had enhanced spending since HOST began, DeKalb County's Budget Director, Dwight Cochran, replied that the county limited "new" spending to the Tax Commissioner's Office, which hired personnel to implement HOST's tax relief program. An examination of the Tax Commissioner's departmental budget revealed a \$344,000 increase from 1997 to 1998; however, the county budget rose from \$154,818,419 in 1997 to \$172,930,791 in 1998 (current dollars), which was obviously far in excess of the Tax Commissioner's budget adjustment. In fact, over three-fourths of the county's departments received budget enhancements between 1997 and 1998, although the vast majority received relatively minor increases relative to their budget size, particularly considering the constant to decreasing budgets (real dollars) the departments experienced the prior two years.

The school system has shown steady growth over the last ten years, with expenditures rising from \$492.49 to \$575.63 per capita (real dollars). These figures may be misleading because the ratio of school age children to total population may have also increased during this period, resulting in the higher spending per person. Between 1997 and 1998, the school system increased operating expenditures from \$492,000,000 to \$507,496,999 or \$863.69 to \$901.40 per person in current dollars. In real dollars, these figures translate to \$479.18 and \$512.58, respectively, which equals a seven percent annual increase. From 1997 to 2001, the annual per capita expenditures climbed nearly \$100 to \$575.63 (real dollars).

Time Series

The time series model seeks to measure the immediate effect HOST has had on both county spending and county and school system spending combined. The data used for the time series are those given in Table 6.16 above. The model is:

$$Y_t = b_0 + b_1X_{1t} + b_2X_{2t} + b_3X_{3t} + b_gX_{gt} + e$$

Overall, the models generally do not support the hypothesis that DeKalb County has significantly increased its operating budget due to HOST. In Table 6.17, none of the variables is statistically significant. The findings reveal little budget growth prior to HOST (X_{1t}) as predicted, showing a low b-score value of 1.97. The variable representing the initial impact of HOST (X_{2t}) is positive as predicted, showing a \$14 (13.57) increase in per capita spending, which is similar to the per capita increase discussed previously. The 13.57 equals 11.6 percent of the constant. Surprisingly, the variable representing the cumulative four years since the passage of HOST is slightly negative, which is likely due to the county's budget reductions in 2000 and 2001. The "neighboring county" variable (X_{gt}), which controls for spending by a similarly situated county, is positive with a slight coefficient of 0.36. Furthermore, this variable is not statistically significant, meaning that the larger post-HOST budgets in DeKalb County do not appear to be correlated with a regional spending pattern. Simple correlations between the DeKalb County and Gwinnett County appropriations (per capita, real dollars) are not statistically significant. The Durbin-Watson test for autocorrelation is somewhat higher than one would like at 2.708, although it lies within the "acceptable" range. To the extent that negative autocorrelation exists, the parameter estimates remain unbiased; however, the significance of the variables may be understated, as well as the R-square.

Table 6.17 DeKalb County Operating Budgets, 1992–2001 (per capita, real dollars)				
Independent Variables	Unstandardized Coefficients		T	Sig.
	B	Std. Error		
Constant	117.28	92.382	1.269	.260
Spending Prior to HOST	1.97	3.447	0.570	.593
Initial Impact of HOST	13.57	13.357	1.016	.356
Spending Post-HOST	-7.92	6.735	-1.175	.293
Neighboring County ¹	0.36	0.596	0.597	.577
R ² = .350				
Durbin-Watson = 2.708				

1. Only Gwinnett County, GA budget data are included.

The combined “county and school system” spending reveals a pattern similar to the county-only data. Unlike the previous model, there exists one statistically significant variable, the constant (Table 6.18). This variable has a substantially larger coefficient at 573.73 than when only measuring county budgets (117.28), reflecting the importance of school expenditures in total local government spending. None of the other variables is statistically significant. The pre-HOST spending variable (X_{1t}) is small at only 13.58, demonstrating the overall stability in per capita spending from 1992 to 1997 by the two jurisdictions. The model gives a much greater financial impact of HOST for its initial year (X_{2t}) with an increase of per capita spending at \$40.52, which is \$27 dollars higher than when only county finances are considered. This finding indicates that both the school and county increased spending in 1998. Yet, the \$27 is still less than a four percent change over 1997 (\$27/\$709) and only 4.7 percent of the constant. The data also displays a greater decrease in spending (-28.21) over the last four years, again reflecting the shrinking per capita budgets in 2000 and 2001. The coefficient for the “neighboring

county” variable (X_{gt}) is positive but small at 0.996, supporting the argument that HOST and not some other event resulted in higher spending by the county and/or the school board. Correlations between the “neighboring county” variable and the dependent variable did not show a statistically significant relationship as well. With a Durbin-Watson score of 3.0, negative autocorrelation likely exists within the data, making the findings suspect.

Table 6.18 DeKalb County and DeKalb County School System, 1992–2001 (per capita, real dollars)				
Independent Variables	Unstandardized Coefficients		T	Sig.
	B	Std. Error		
Constant	573.73	218.259	2.63	.047
Spending Prior to HOST	13.58	8.143	1.67	.156
Initial Impact of HOST	40.52	31.556	1.28	.255
Spending Post-HOST	-28.21	15.912	-1.77	.136
Neighboring County ¹	0.996	1.408	0.71	.511
R ² = .820 Durbin-Watson = 3.011				

1. Only Gwinnett County, GA budget data are included.

One caveat as to whether fiscal illusion affects spending behavior by the jurisdictions must be revisited. As discussed in the literature review, the HOST referendum information highlighted the projected revenues from tax exportation. Economists from Georgia State University projected that nearly forty percent of the sales tax revenues would come from non-residents (Cochran, 2002). To the extent that residents believed this projection, they could have reasonably desired higher spending levels because they would pay less per “government service” dollar with HOST than when services were only funded from property taxes. Unfortunately, this competing explanation to the fiscal illusion hypothesis cannot be rejected.

The data give mixed results as to whether the school board and the county used the opportunity afforded by HOST to increase spending levels. The combined operating budgets for the county (general purpose) and the hospital budget grew by 9.6 percent in fiscal year 1998. When disaggregating the two, the data show that the hospital budget grew by 38 percent and the general purpose budget increased by 6.9 percent. Due to severe budget reductions in 1997, one cannot positively conclude that fiscal illusion caused the budget change the following year. To determine whether fiscal illusion or some other event prompted the budget increase in 1998, additional information on Grady Hospital's finances must be learned. However, an argument for fiscal illusion still exists for the general purpose operating budget, which had an average four-year increase of 4.5 percent from 1998 through 2001 and only a 1.8 percent average annual increase prior to HOST. In contrast, time series model was inconclusive, giving coefficients in the correct direction but with insignificant variables.

The school system may have used the tax relief afforded by HOST to enhance its operating budget as well, although this statement must be qualified by the fact that the school's own sales tax (ELOST) was enacted at the same time as HOST and may be the true source of the system's expenditure enhancements in 1998.

The fiscal environment of DeKalb County in 1998 provided ample opportunity for government officials to increase spending due to citizens facing fiscal illusion. With property tax relief, homeowners did not see an increase in their final property tax bill from either the enhanced county or school board budgets. Furthermore, residents did not know their sales tax payments, leaving them unable to determine if their new total tax price for the higher level of county services was optimal. Due to the short tenure of

HOST, the research can only measure its immediate impact with some certainty. The countywide budget (general purpose and hospital) has decreased in the last two years to a point that is lower than in 1992.⁴ This phenomenon may be due to a variety of reasons, not the least of which is the economic downturn experienced by the state, making propositions about the long-term impacts of HOST even more precarious. Whether the county will again increase its spending when the economy and resulting tax dollars recover is unknown. With the imposition of residential property taxes once again in 2002, homeowners will see, and likely oppose, significant budget enhancements, thereby decreasing the county's ability to alter spending via fiscal illusion in the future.

SUMMARY OF FINDINGS

In this and the previous chapter, the research tested six hypotheses in order to evaluate DeKalb County's HOST tax relief program. The research was able to support three of the hypotheses in full, and one in part; and two were not supported by the data. The hypotheses covered four main areas. The research began by analyzing whether HOST had achieved its primary program goal by reducing county property taxes for homeowners and found the program provides substantial financial support for all homeowners. Secondly, the research examined the distributional aspects of HOST and determined that wealthier homeowners benefit the most financially from the tax relief program and that the county's tax system with HOST appears to be more regressive than the prior tax system, which did not collect sales taxes and relied on property taxes.

The third area focused on residents' attitudes toward the tax and perceptions of their tax burdens. The majority of homeowners continue to support HOST and the most common reason for that support is the residential property tax relief afforded to them by

⁴ Per capita spending, converted to real dollars

the sales tax. Other reasons for support include an ideological preference for sales taxes and the county's ability to export sales tax burdens.

The fourth area, consisting of last three research questions, focused on fiscal illusion theories and their ability to predict the knowledge and behavior of DeKalb County residents and the County Commission. Renter illusion theory did not accurately represent residents' knowledge of tenant property tax burdens. Furthermore, the self-interest hypothesis could not explain renters' attitudes toward HOST, particularly in relation to renters' indifference or objection to property tax relief for themselves. While residents can correctly gauge tenant property tax burdens, they appear to be unaware of their own sales tax liabilities. However, rather than underestimating sales tax burdens as fiscal illusion theory would predict, the vast majority of DeKalb County residents overestimated them. This lack of fiscal transparency results in homeowners being less knowledgeable of their tax burdens than they were before HOST. The research could not conclude that a lack of fiscal transparency caused DeKalb County to increase its spending, nor could it confirm statistically that the DeKalb County government substantially increased its spending after the enactment of HOST. However, the verdict is still out as to whether DeKalb County will do so when the economy fully recovers.

In sum, homeowners and residents continue to support the HOST tax relief program because of the real financial benefits it provides to homeowners and because of their ideological preferences. These benefits have altered the aggregate tax distribution for residents by increasing the effective tax burdens for lower-income households. HOST has also provided an important new revenue source for the county. Continued public support for HOST rests on two factors. First, homeowners must receive sustained

and substantial property tax relief, and second, renters must remain passive about their additional tax burdens. These two issues will likely persist in the future and will be discussed in the concluding chapter.

CHAPTER 7

CONCLUSION

Over the last three decades, the public has been generally supportive of instituting local option sales taxes in an effort to reduce their local governments' dependence on property taxes. While the academic community has not neglected this phenomenon, integrative and comprehensive analyses of these tax changes have not been undertaken, either by the academic community or by the local governments themselves. This study attempted such a review. Yet, the study raises several more questions than it was able to answer, particularly in areas such as voting behavior, public attitudes towards taxation, tax exportation, tax distribution based on housing status, and the capitalization of tax relief. Rather than provide a review of the findings, the conclusion introduces these topics and their importance for future research.

FUTURE RESEARCH

Voting Behavior

This research found substantial support for HOST from both homeowners and renters; however, it would be interesting to learn who initially supported the HOST referendum. "Rational actor" thinking would conclude that homeowners initially supported and voted for the tax referendum. A study that examined voting precincts by census block data could confirm whether precincts dominated by homeowners generally voted in support of HOST and therefore brought about its enactment.

From the HOST survey, this study found that renters generally supported the HOST program; however, we do not know whether that support extends back to the referendum. Did renters also vote as rational actors and oppose HOST? Were they as supportive as the respondents in this study indicate, or were they indifferent, and chose not to vote? If renters voted for HOST, then the tax would not have appeared to politically alienate either homeowners or renters. Renters may perceive themselves as future homeowners and therefore support tax policies that favor others. Yet, if renters substantially opposed the tax, county officials should be wary of future disagreement from renters over the current revenue distribution between tax relief and capital projects. The commission may want to consider increasing funding to capital projects and thereby provide renters with enhanced benefits. If renters were indifferent and did not vote, this may indicate a lack of appreciation of how HOST affects them, signifying a need to increase the public's awareness of the county's tax policies.

Generally, studies on voting behavior concentrate on issues such race and political ideology. Far less attention has been given to the impact of housing status on election outcomes (Moomau & Morton, 1992, discussed in the literature review is an exception). Yet, in cases such as HOST and for property tax issues generally, this variable may be extremely important. To the extent that homeowners are more politically aware, they can vote as a group and ensure passage of economically advantageous referenda. State and local referenda often have extensive economic impacts. For example, Proposition 13 in California dramatically altered the state's taxation and service distribution systems. On a more simplistic but prevalent level, citizens regularly vote on bond referenda that result in future property tax liabilities. To what extent do homeowners and renters differ in

their support for and perceived liability of these property-based elections? By learning how renters and homeowners differ in their voting behavior, public officials can gauge support for tax issues and can develop education strategies that will advance an outcome favorable to the government.

As part of this study, initial work on learning who voted for HOST has already been undertaken. In 1997, only 21.97 percent of the 336,092 registered voters (73,823) cast a ballot on the HOST referendum. At that time, the county was composed of 158 precincts. Census block data from 2000 were aggregated to conform to those precinct boundaries in order to obtain estimates of the proportion of owner-occupied households in each precinct. Simple correlations between the percent of homeowners and the percent voting affirmatively for HOST by precinct reached a level of 0.427 (sig. = .001, one-tailed test). This strong correlation suggests that voters residing in precincts dominated by homeowners voted favorably for HOST, helping to substantiate the idea that homeowners were a commanding force in passing the tax referendum. In further refining the voting behavior model, additional socio-economic variables such as household income and education will be included. Although difficult to acquire, to the extent that data on assessed values or tax payments are available by precinct, it would substantially enhance the quality of the findings (e.g., Button, 1992).

In DeKalb, county officials developed HOST primarily to satisfy the demands of homeowners, giving scant attention to the program's effects on renters. Although successful in meeting homeowners' insistence for tax relief, one may ask whether it was appropriate for the county to support principally one group over another. Yet, if renters support HOST, does economic favoritism matter? Only by studying election outcomes

based on tenancy can an appreciation of the effects of economic partiality begin to be understood.

Public Attitudes Towards Taxation

As discussed in the literature review, the research over the last three decades has consistently shown that the public favors sales taxes and dislikes property taxes (e.g., Beck et al., 1987; Cole & Kincaid, 2001; Fowler, 1974; McCabe & Stream, 1999; Sjoquist, 2001; Weiss, 1990). This research found similar attitudes from a random sample of DeKalb County residents. Regardless of education, income, gender, housing status, or race, sales taxes were widely preferred to property taxes. More surprisingly, renters, who have received minimal benefits from HOST due to the lack of funding for capital projects, still generally supported the tax and the tax relief program. Generally, renters favored HOST for ideological reasons, which support the findings of Beck et al. (1987) which found symbolic politics to be the strongest predictor (over self-interest and demographics) in determining attitudes toward taxation from a sample of Floridians.

Future research should seek to learn why ideology is more important than demographics in predicting tax preferences. The research could refine ideological questions, such as perceived fairness, to improve our understanding of why citizens commonly favor sales over property taxes. Research should also explore what aspects of these taxes citizens do and do not like. For example, both property and sales have proportional tax rates yet why is one tax considered equitable and the other not? Attitudes regarding these questions might then be compared with demographic factors, such as education, income, age, and political ideology through multivariate analysis to learn whether the reasons for tax preferences differ by demographic group. For example,

it may be that lower income individuals prefer the sales tax because its payments are incremental and therefore less stressful than lump-sum tax payments. Higher income persons may recognize that their effective tax rates are lower with sales taxes than with property or income taxes. With both groups preferring the sales tax, income level would not be a useful predictor of tax preferences. Through the use of survey research, we may be able to better understand the rationale for citizen tax preferences.

Impact on Renters

Due to the limited number of useable HOST survey responses, this research cannot offer a definitive discussion on the income effects of HOST on renters. Yet, due to equity concerns, this issue should not be ignored. The statutory language of HOST and its implementation clearly demonstrate that the HOST program favors homeowners at the expense of renters, by providing generous homestead exemptions and relatively little funding for capital improvements, which benefits all groups. From Hypothesis 4, we learned that both tenants and homeowners recognize that tenants pay property taxes indirectly through higher rents, yet that liability has not been perceived as sufficiently onerous to address through a separate tax relief program.

From the HOST sample, tax payments and effective tax rates for renters doubled with HOST (see Table 5.10, p. 144). Conversely, homeowners' annual effective tax rates fell from 0.950 without HOST to 0.412 with HOST. To determine whether these changes in tax liabilities are similar to the county population, a study with a substantially greater sample size that proportionally represents renters and homeowners should be conducted. Furthermore, the sample should have an income distribution similar to the population in order to avoid skewed results. One concern with this study is that homeowners in the

HOST sample have considerably larger household incomes than the median county population. To the extent that occurred, then the benefits to homeowners may be somewhat overstated. If an expanded study also shows tax shifting between the two groups, either increased funding for capital projects or a renter tax relief program may be in order. These changes may be particularly important if renters are found to have, on average, lower household incomes than homeowners, because if they do, the HOST program will increase the regressivity of the tax structure.

Tax Exportation

Based on a study by Georgia State University, DeKalb County officials have claimed that forty percent of HOST revenues come from non-residents. If that forecast was correct, then a substantial tax burden has been transferred out of the county, reducing the tax price paid by residents for local government services. In contrast, residential property tax burdens remain within the county. Furthermore, commercial and industrial property taxes are only paid non-residents if (1) businesses are able to shift tax payments forward to consumers and (2) those consumers include non-residents.

Although research on tax exportation has generally focused on states' abilities to export revenues (e.g., Morgan & Mutti, 1985; Mutti & Morgan, 1983 and 1986; Ring, 1989), some work has been done looking at municipal data. One of the best known studies on fiscal capacity, which included a calculation for sales tax exportation, was written by Helen Ladd and John Yinger (1989) entitled *America's Ailing Cities*. The authors used retail sales data to develop an "average propensity to consume" measure for metropolitan statistical areas. To the extent that a city was above the average in their ability to export sales tax burdens, the authors concluded that it had a relatively stronger

fiscal capacity. Ladd and Yinger's work was built on earlier research by Bradbury and Ladd (1985), which also examined the fiscal capacity of cities during the 1970s.

Unfortunately, little work on sales tax exportation has been conducted using counties as the unit of analysis, which may be due to their variation in funding options, service responsibilities, and urbanization even within a single state.

In order to analyze a single county, this research develops a more simplified measure than that developed by Ladd and Yinger (1989). Based on calculations using the 1999 CES data described for Hypothesis 2, sales tax exportation for HOST approximates the estimates by Georgia State University. DeKalb County collected \$82,135,000 in 1999, \$87,658,000 in 2000, and \$85,976,000 in 2001 from HOST. To measure the level of tax exportation, the research first determines how much was collected from residents. Those figures are subtracted from total collections to show the dollars exported for the years 1999 – 2001.

Table 7.1
HOST Sales Tax Liabilities, 1999–2001

	1999	2000 ¹	2001 ²
Taxable spending			
Food away from home	2,634	2,713	2,800
Alcoholic beverages	390	402	415
Utilities - Natural Gas	187	192	198
Utilities – Electricity	1,210	1,247	1,287
Utilities - Fuel Oil and other fuels	46	47	48
Utilities – Telephone	1,041	1,072	1,107
Household Operations – Other	322	332	343
House Keeping Operations (less postage)	464	478	493
Household Furnishings / Equipment	1,750	1,802	1,860
Apparel – Clothing	1,725	1,777	1,834
Apparel – Other Products / Services (50%)	127	131	135
Vehicle Maintenance / Repair (50%)	405	417	430
Gasoline and Motor Oil	1,527	1,573	1,624
Medical Supplies (50%)	62	64	66
Entertainment – Fees / Admissions	448	462	477
Television, Radios, Sound Equipment	721	742	766
Pets, Toys, Playground Equipment	380	392	404
Other equipment and Services (50%)	197	203	210
Personal Care Product / Services (50%)	346	356	367
Reading	136	140	144
Tobacco Products / Smoking Supplies	443	456	471
Miscellaneous (50%)	516	531	548
Vehicle Purchase	4,907	5,055	5,216
Total taxable spending	19,985	20,584	21,243
Less shopping outside DeKalb (17.5%)	-3,497	-3,602	-3,717
Total Taxable Spending within DeKalb	16,488	16,982	17,526
<i>Tax Payments for HOST (1%)</i>	<i>\$165</i>	<i>\$170</i>	<i>\$175</i>
Persons per household ³	2.62	2.62	2.62
Number of Households ⁴	223,502	249,339	249,065

1. Using CPI index, data are adjusted by 3.0 percent from 1999 U.S. Bureau of Labor Statistics, Consumer Expenditure Survey data.

2. Using CPI index, data are adjusted by 6.3 percent from 1999 U.S. Bureau of Labor Statistics, Consumer Expenditure Survey data.

3. Median household for DeKalb County

4. Changes in the number of household equal the percent change in population: 1999 – 2000 was 11.6 percent and 2000 – 2001 was -0.1.

Source: U.S. Bureau of Labor Statistics, 1999 Consumer Expenditure Survey; 2000 US Census Bureau

Tax revenue from residents equals taxable spending times the tax rate of one percent. For the purpose of determining tax exportation, the formula uses similar expenditures as shown on Table 4.3 (p. 98), but spending now includes an average vehicle purchase expense (see Table 7.1). Again, expenditures such as hotels are not included because residents will not likely incur such spending in their home county. Since the median income for DeKalb County equals \$49,117, (U.S. Bureau of the Census, 2000), the formula uses expenditures based on the weighted average of spending from two CES income categories (2:1 ratio for the \$40,000-\$49,999 and \$50,000-\$69,999 income categories, respectively). To avoid overstating the level of HOST receipts coming from residents, the formula subtracts residents' spending that occurs outside of DeKalb County. Using the HOST survey information, that amount is 17.5 percent.¹ Therefore, residential spending within the county comes to 82.5 percent of their total taxable spending. Changes in the number of households from 1999 to 2001 equal the percent change in population, and though not exact, provide a relatively useful estimate. Finally, the research adjusts for household size. The CES data represent spending throughout the South, and the median household size for the South equals 2.5 persons. Because DeKalb County has a larger median household size at 2.62, spending figures should be adjusted upward to account for the larger median households. For each year, the formula is as follows:

$$Resident Rev_X = HOST_X * DeKalb HH_X * DeKalb Size / South Size$$

Resident Rev_X represents total HOST collections from residents in year X. HOST equals tax collections per household. DeKalb HH corresponds to the number of households.

¹ The median response to the HOST Survey Question 8 was "10 – 25 percent of my shopping occurs outside of DeKalb County." The mean of this response is 17.5 percent. See Hypothesis 2 for more information on how the research adjusts taxable spending to incorporate exportation.

DeKalb Size is the median household size for the county in 2000 and finally, South Size is the median household size for Southern households in 1999. The formula assumes that household size remains stable over the three years examined.

The formula only considers spending by consumers and does not include HOST receipts derived from purchases by businesses. Generally, purchases used in the production of a good should be exempt from sales taxes; however, businesses may still pay them on occasion, such as on paper bought by a legal office. Although some of these sales taxes are likely passed forward to customers through higher prices, which are reflected through the *Consumer Expenditure Survey*, the entire burden may not be. Even if complete shifting of the sales tax liability does occur, consumers' total sales tax payments will be less than the amount initially paid by the business. For example, if a business pays \$0.07 in sales taxes and passes that cost forward by raising the price of its product by \$0.07, the consumer's sales tax liability will only be seven percent of that \$0.07. Therefore, the aggregate sales tax payment of consumers understates the total sales taxes paid within a jurisdiction. Ring's (1989) study on consumers' and producers' relative shares of state sales taxes found that the consumers' share ranged from 35 to 82 percent across 45 states. The average for all states was 59 percent. Although changes in state sales tax laws may have changed these percentages somewhat, the study shows the importance of businesses' tax contributions when calculating tax exportation.

Table 7.2 provides the results for the formula. HOST collections from residents range from a low of 47.02 percent in 1999 to a high of 53.21 percent in 2001. The increasing proportion of residential tax liability may partly stem from the lower HOST receipts for 2001 and increasing BLS household spending, although one should expect

less tax exportation during economic downturns as travel, tourism, and consumer spending decrease. Export ratios range from a low of 46.79 percent in 2001 to a high of 52.98 percent in 1999 with a three-year average of 49.72 percent. These numbers are somewhat higher than those projected by the Georgia State University; however, when incorporating the sales taxes paid by businesses, the exportation level is likely a bit less than the forty percent estimate.

<p style="text-align: center;">Table 7.2 HOST Receipts from Residents and Nonresidents 1999-2001</p>			
	1999	2000	2001
Resident Tax Payments	\$38,619,006	\$44,374,678	\$45,744,997
Total HOST Collections ¹	\$82,135,000	\$87,658,000	\$85,976,000
Percent of HOST Collections from Residents	47.02%	50.62%	53.21%
Percent of HOST Collections from Nonresidents	52.98%	49.38%	46.79%

Source: DeKalb County Budget Office

Although sales taxes have their own set of concerns such as relatively high income elasticity and uncertainty during economic recessions, DeKalb County has done well in shifting tax burdens to nonresidents through HOST. By lowering the overall tax price for residents, the transfer of tax burdens from homeowners to renters is also lessened. This assertion is substantiated by reviewing the property tax data from Hypothesis 2, Table 5.8 (p. 138). The table shows the combined tax burdens by income group with and without HOST. For all groups, total tax payments were less with HOST, with group savings ranging from \$80 to \$598 for 2001. If tax exportation had not occurred, tax payments with HOST would have shown likely higher tax payments for some groups and lower tax payments for others, reflecting a redistribution of the tax

burden. Because property tax rates have been stable, businesses probably have not shouldered much of the burden associated with the residential property tax savings, providing further support for sales tax exportation. In sum, the county may want to encourage further sales tax exportation and thereby lower the tax price paid by residents.

To accomplish that goal, the county may want to analyze the patterns of its taxable sales. Additional studies on exportation could discern whether the exported revenues have been generated by regional residents or by those living outside the metropolitan area. By learning who is spending their money within the county, local officials can gear services to encourage tax exportation. Furthermore, future research could refine the model and adjust for spending by businesses. Finally, additional research is seriously needed to address the dearth of sales exportation studies that use counties as the unit of analysis.

Capitalization and Migration on Property Values

With the capitalization of property taxes and tax relief, the market amends a property's value based on changes in tax payments. Therefore, a tax increase reduces property values and a tax reduction raises property values. At the time of the tax change, a property owner faces either a loss equaling the present value of all future tax payments or windfall gains worth the present value of all reduced tax payments (Rosen, 1995). In regard to DeKalb County, to what extent has HOST affected property values? If property tax reductions substantially raise the values of owner-occupied properties, then this property classification will grow relative to other classes, such as commercial and industrial property and ultimately, program costs will rise. DeKalb County CEO Vernon Jones (2002) claims that program costs rose 31.7 percent from 1999 to 2002.

From the data provided in Hypothesis 1, HOST program costs have substantially increased during the four years of their implementation. While the data consist of averages, assessed property values rose from \$51,432 in 1999 to \$64,889 in 2002, a 26 percent increase in just three years. Due to capitalization and new home construction, residential property will likely grow as a proportion of the total tax digest as well. In sum, program increases are the result of two possible factors: (1) increased home construction as families choose to build in DeKalb County and (2) higher property values of existing homes.

The Atlanta metropolitan area provides a political and geographic environment conducive to the migration of homeowners and, therefore, the probability that the HOST-funded exemptions are capitalized into residential property values. Using the traditional Tiebout model as a basis for analysis, the area is composed of several small counties offering a variety of service and taxing options. Individuals can move with relative ease to the community that offers their optimal tax price and still not disrupt their employment. With a high proportion of the sales taxes being exported and the low county property tax payments, homeowners are making a rational tax choice by moving to DeKalb County. From 1999 to 2002, the number of residential properties increased on average 2.7 percent annually, from 164,921 in 1999 to 178,739 three years later. For the seven years prior to HOST, the county's total number of new residential properties reached only 14,974 with an average annual growth rate of 1.4 percent or half the rate since HOST.

Over the last several decades, numerous empirical studies that attempt to quantify the capitalization on residential property have been undertaken.² Generally, the empirical studies have found the capitalization of higher tax payments, either coming from increased assessments or higher tax rates, to reach between forty to ninety percent (Bloom, Ladd, & Yinger, 1983). Common criticisms of these works are that the models suffer from one or more of five main concerns (Bloom et al., 1983; Do & Sirmans, 1994; Oates 1969; Wales & Wiens, 1974). First, models often suffer from simultaneity bias because much of research uses an average effective tax rate (average tax payment divided by average housing value) as an independent variable when the dependent variable is the value of the house. To solve for this problem, researchers have utilized a two-stage least squares regression formula to some success, although the first-stage independent variables may still be related to the second-stage error term. Second, problems of bias exist if variables affecting housing value are not included in the model, such as the crime rate or unemployment rate. Third, tax changes may not affect all housing equally, which may be lost when the models use averages for housing values and tax payments. Concerns might also exist with measurement error, particularly if taxes are based on equalized assessment ratios, which can be inaccurate and subject to political influence. Fourth, empirical research needs to properly measure service levels. To the extent that higher taxes result in improved services levels, property values decreases will be less. For example, spending for education can offset the loss from higher tax payments. Finally, the level of capitalization is dependent upon the discount rate chosen for the

² For a succinct critique of this research, see Bloom, Howard S. et al. 1983. Are Property Taxes Capitalized into House Values? *Local Provision of Public Services: The Tiebout Model after Twenty-Five Years*. George R. Zodrow (ed.). New York: Academic Press, Inc.

regression equation. Although the researcher makes an educated choice, the selection of a discount rate is ultimately selective and can result in inappropriate results.

A capitalization study for HOST would be able to overcome some the above problems by focusing on a single jurisdiction. In DeKalb, service levels are relatively homogenous in the unincorporated area and determining service levels for the incorporated areas should be manageable given that several of the cities rely on county support. With the low and steady rates of inflation prior to and since HOST, selecting a suitable discount rate that does not bias results should not be too problematic. To measure the change in housing values, data could include either pre- and post-HOST home sales within DeKalb or a control jurisdiction such as Fulton. To avoid problems with jurisdictional differences, the former option would likely be the most reasonable.

An important, though complicated, factor is whether the sales tax increase was also capitalized into home values and serves as an offset to the tax relief. Man and Bell's (1996) study on the effects of sales taxes on property values in Phoenix found that sales tax rate increases did reduce property values, although the reductions were not as significant as those that occur with property tax changes. The lower impact was likely the result of sales tax exportation. Given that approximately forty percent of HOST is exported, the additional one percent sales tax should not dramatically offset the windfall gains in property values from the HOST tax relief.

An important theoretical and policy study could focus on learning the extent to which HOST and its tax relief have been capitalized into property values. The distinctiveness of this program can assist researchers in understanding how homestead exemptions affect residential property values. Learning the relative pull of property tax

relief on migration is another important issue for economic development and growth management. Furthermore, it would be interesting to learn whether this isolated relief had a negative impact on commercial property. However, due to the high level of tax exportation, the county has been able to increase spending and still maintain stable if slightly decreasing property tax rates since the enactment of HOST, which should minimize any negative impacts on commercial property values.

POLICY IMPLICATIONS

To the extent that other counties consider adopting HOST, several of the issues discussed through the research questions and the conclusion should be considered. First, HOST can provide substantial funding for owner-occupied property tax relief and capital improvements; however, communities should explicitly state the relative importance of each. Consensus among politicians, residents, and business owners should be reached on the extent to which homestead exemptions can usurp public works funding. To avoid shrinking revenues for capital projects, a county may need to establish a formal budgetary policy that specifically sets revenue levels for the capital budget similarly to a “maintenance of effort” requirement.

Second, the county should realistically forecast revenue collections and costs, including the possible effects of migration and the tax relief’s capitalization into property values. With capitalization and migration, counties should expect not only program cost increases, but escalating demands for general government services as well. Businesses may be wary of governments raising property tax rates in order to meet these new expenditures, which result in shifting tax burdens to businesses. Third, as an income elastic tax, leaders should explain to residents that during economic downturns, HOST

may not fund property tax relief sufficiently at 100 percent. With this information known in advance, a temporary return to property taxes for homeowners may be more palatable and diminish the temptation to shift revenues from capital projects to funding homestead exemptions. The controversy within DeKalb County over growing HOST program costs and the reinstitution of property tax bills for homeowners, albeit only at fourteen percent, is an excellent example of why county leaders need to consider both growth and economic downturns into program costs and benefit levels. Because HOST funds are earmarked, the tax's elasticity should not directly affect the types or levels of services a government provides. To the extent that homeowners dislike property taxes and HOST revenues are insufficient to fund exemptions at 100 percent, there political pressure may keep budget expansion in check, although this phenomenon is no more likely to occur without HOST than with it.

Fourth, moving from a property to a sales tax will decrease total tax transparency. Homeowners semiannually receive property tax statements that explicitly show tax rates and the assessed values of their homes. In contrast, annual sales tax payments are generally not known. This uncertainty may result in the public over rather than underestimating their household tax payments; however, the overall popularity of the sales tax and the support for reducing reliance on property taxes may make this flaw appear negligible. To the extent that the public does not deem transparency to be important and generally favors less transparent taxes, governments realize strong incentives to rely heavily on these instruments, yet lack inducements to educate citizens regarding tax burdens. Ultimately, the public's awareness of their tax burdens will

decrease, furthering the discrepancies between perceived and actual tax prices for public services and hindering effective democratic governance in budget issues.

Whether HOST would be more or less popular than LOST is unknown, but one can speculate that HOST's earmarked residential tax relief would result in higher support from homeowners. Furthermore, by retaining all HOST receipts, counties would be able to offer higher levels of tax relief because LOST receipts must be shared with cities. If revenues are sufficient, counties may be able to extend additional tax relief to homeowners in unincorporated areas, which pay taxes on general county and special services. Of course, city officials might be expected to oppose efforts to substitute HOST for LOST because of revenue losses for their jurisdictions. Like the initial efforts in DeKalb County, county officials would likely have to work with city leaders on a means of distributing capital project funding to incorporated areas and thereby gain support from city leaders.

Finally, county officials may have the opportunity to increase public spending by instituting a less transparent sales tax. Even though public sentiment in DeKalb County opposed new public spending other than for capital projects, the current tax collection and budgetary system permits the government to enhance general operating expenditures. Businesses may be concerned that higher spending levels will result in higher property tax rates and tax shifting to commercial and industrial property. For citizens concerned about budgetary growth, more restrictive spending limitations may need to be included as part of the HOST program.

In metropolitan areas like DeKalb, county officials should anticipate rising tax relief expenditures as residents move into the area and afford themselves of the favorable

tax treatment. With new migration, counties will experience greater service demands overall. Ironically, these new residents do not provide substantial tax revenue because their residences are not taxed and sales tax revenues are relatively small in proportion to service costs. There likely will be some tax shifting from homeowners to renters, and depending upon the income distribution between renters and homeowners, it may be regressive as well. Fortunately, these areas will also likely benefit from sales tax exportation, reducing the total tax burden for their residents. In addition, higher sales tax exportation ratios should result in less tax shifting from homeowners to renters.

In more isolated communities, opportunities for tax exportation will be relatively slim. In these instances, tax shifting from homeowners to renters will be much greater and to the extent that renters have, on average, lower incomes than homeowners, the regressivity of the HOST program will also be greater. To avoid such an outcome, counties could develop renter-credits and thereby provide property tax relief to all residents. These communities will likely experience some higher HOST program costs through the capitalization of the tax relief into owner-occupied properties, but they may not face substantial population growth. In sum, isolated communities will simply transfer the tax base from property to consumption and should thoroughly review both the benefits, such as public support, against the costs, such as elasticity and regressivity, of the change.

THEORETICAL IMPLICATIONS

This research examined DeKalb County's Homestead Option Sales Tax from multiple perspectives, including its effect on horizontal equity, transparency, county spending patterns, and public support. The study tested several fundamental tax theories

and the assumptions underpinning those theories. The findings raise questions that have implications for future research and perhaps should be explored further, particularly in regards to fiscal illusion and ideas regarding the public's support for sales taxes.

The revenue and benefit structure of HOST permits a relatively uncluttered examination of tax policy using tax incidence analysis. With HOST, the beneficiaries and benefactors are known and tax shifting is minimal. From a sample of DeKalb County households, the research strongly indicates that the HOST program resulted in a more regressive tax system when measured with annual data. Since the sample included income and property tax data, assumptions regarding tax burdens were minimized. As a case study, the findings cannot be directly extrapolated to other communities, but the findings do provide a clear indication about the vertical equity impacts such a tax change would likely have elsewhere.

Little survey research exists that directly asks respondents to estimate their household tax payments and by doing so, this study adds to the existing work on taxation and public opinion. As predicted, residents of DeKalb County were not generally knowledgeable of their annual sales tax payments. While that finding supports previous work, the fact that citizens overestimate sales tax payments is new. The discovery contradicts previous research, which has assumed citizens support sales taxes because they underestimate their payments. By downplaying the importance of underestimation, the perceived fairness of the sales tax becomes a much more important factor in understanding the public's attitudes about the sales tax. Fairness can be viewed in two ways: (1) in terms of an individual's control over consumption and, therefore, tax liability and (2) in terms of the flat statutory rate. Further refinement in survey data on tax

preferences, particularly in why the sales tax is deemed fair by the public, would greatly assist policymakers and theory development. Due to distinctiveness of the findings, additional research is needed to confirm whether the public does indeed overestimate sales tax payments and the dominance of perceived tax fairness in influencing public opinion.

The public's overestimation of sales tax burdens also raises serious questions regarding the validity of fiscal illusion theory. The tax complexity hypothesis assumes individuals underestimate their total tax price which permits governments to escalate taxes and spending levels. If taxation is overestimated, governments would be prohibited from doing either of the above and the public would suffer from too little spending. Research has focused on empirically measuring the existence of illusion, with the results being contradictory and suffering from competing hypotheses and/or endogenous models. Admittedly, this research falls prey to similar concerns. Perhaps this field of study could strengthen itself by redirecting its efforts not on measuring whether certain tax structures result in higher spending levels, but in better understanding whether the theory's underlying ideas are appropriate. The field could examine the relationship between tax estimation by the public and support for taxation and government spending levels. With these ideas, the linkage between fiscal illusion hypotheses and public opinion research becomes more vital and intriguing.

With HOST, DeKalb County attempted to resolve competing needs under politically and economically difficult circumstances. Officials have been successful in reducing owner-occupied property tax payments and in maintaining strong public support for the tax and tax relief program. HOST has resulted in an overall lower tax price for its

residents by transferring some its tax burden to nonresidents. The HOST program has had several unanticipated effects however, including increasing program costs with migration, and likely, rising property values. The current economic condition has left the county vulnerable to revenues fluctuations previously not experienced with the property tax. Unfortunately, the county did not educate its public about the elasticity of the sales tax and the possibility of decreased benefits under fiscal stress. As the first county in the state to institute HOST and several other counties considering adopting it, public officials would do well to watch DeKalb County and learn whether the initial benefits from HOST translate into long-term improvements in the county's budgetary structure.

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APPENDICES

APPENDIX A

STEINBAUER HOMEOWNER SURVEY

February 11, 2002

Hello, my name is _____ and I'm calling from the University of Georgia. We are conducting a short survey of DeKalb County residents such as yourself to learn what you think about property taxes, sales taxes and DeKalb County's Homestead Option Sales Tax, commonly referred to as HOST. By completing this survey, you can be entered in a drawing to win a \$100 gift certificate from Kroger Grocery Stores. To ensure the integrity of our survey, it is necessary that I speak with the head of the household. Would that be you?

S1

1. Yes [SKIP TO CONFIDENTIALITY]
2. No [May I speak to that person please?]

[IF ASKED, WE GOT YOUR NUMBER FROM A RANDOM SAMPLE OF HOMEOWNERS AND RENTERS IN YOUR AREA]

S2 –

1. Yes [REINTRODUCE YOURSELF AND STUDY { Hello, my name is _____ and I'm calling from the University of Georgia. We are conducting a short survey of DeKalb County residents such as yourself to learn what you think about property taxes, sales taxes and DeKalb County's Homestead Option Sales Tax, commonly referred to as HOST. By completing this survey, you can be entered in a drawing to win a \$100 gift certificate from Kroger Grocery Stores. }]
2. No [Could you suggest a good time to call back? Whom should we ask for when we call back? CONTROL END AND CODE]

CONFIDENTIALITY - Great! Before we start, I want to let you know that all of your answers will remain confidential and will be used only for educational purposes. The survey is completely voluntary and if there are any questions you don't want to answer, just tell me and we'll skip to the next one.

Q1 – To begin, in general, which of the following taxes do you think is the fairest for taxpayers?

[CHOOSE ONLY ONE RESPONSE]

1. Personal income tax
2. Corporate income tax
3. Property tax
4. Sales tax

9. Ref/DK/NA

For each of the following statements about sales taxes, please tell me whether you completely agree, generally agree, generally disagree or completely disagree.

Q2 – I would rather pay a sales tax than a property tax to fund government services.

1. Completely agree
2. Generally agree
3. Neither agree not disagree
4. Generally disagree
5. Completely disagree

9. Ref/DK/NA

Q3 - The sales tax is fair because everyone pays the same legal rate.

[IF RESPONDENT HAS QUESTIONS ABOUT WHAT “LEGAL RATE” IS, RESPOND WITH: EVERYONE PAYS 7 PERCENT ON NONFOOD ITEMS PURCHASED IN DEKALB COUNTY]

1. Completely agree
2. Generally agree
3. Neither agree nor disagree
4. Generally disagree
5. Completely disagree

9. Ref/DK/NA

Q4 – With a sales tax, the government collects money from people who live outside DeKalb County but come here to shop, which keeps my taxes lower.

1. Completely agree
 2. Generally agree
 3. Neither agree nor disagree
 4. Generally disagree
 5. Completely disagree
9. Ref/DK/NA

Q5 – The sales tax is better than income or property taxes because I pay in small amounts throughout the year.

1. Completely agree
 2. Generally agree
 3. Neither agree nor disagree
 4. Generally disagree
 5. Completely disagree
9. Ref/DK/NA

Q6 – The sales tax is fair because wealthy people buy more things and therefore, pay more taxes.

1. Completely agree
 2. Generally agree
 3. Neither agree nor disagree
 4. Generally disagree
 5. Completely disagree
9. Ref/DK/NA

Q7 – The sales tax is fair because everyone has to pay the tax.

1. Completely agree
 2. Generally agree
 3. Neither agree nor disagree
 4. Generally disagree
 5. Completely disagree
9. Ref/DK/NA

Q8 – In terms of total spending, about what percent of your shopping occurs outside DeKalb County, such as in Gwinnett, over the Internet or on vacation?

1. Less than 10%
 2. Between 10 and 25%
 3. Between 26 and 50%
 4. Between 51 and 75%
 5. Between 76 and 100%
9. Ref/DK/NA

Q9 – As a proportion of your total income, how much money (in dollars or percent) do you think you paid in sales taxes last year (2001)?

[INTERVIEWER NOTE: IF R HESITATES TO ANSWER OR SAYS THAT HE/SHE DOESN'T KNOW, PROMPT WITH, "JUST GIVE ME YOUR BEST GUESS, IT'S IMPORTANT TO THE STUDY AND A GUESS IS OKAY."]

[INTERVIEWER NOTE: IF R GIVES ANSWER AS A NUMBER, PRESS 1. IF R GIVES ANSWER AS A PERCENTAGE, PRESS 2]

9.1 _____ Number [IF GIVEN AS A #]

999997 – 999997 or more
 999998 – Don't Know
 999999 – Refused

[RANGE: 0 – 999999]

9.2 _____ Percent [IF GIVEN AS A %]

998 – Don't Know
 999 – Refused

[RANGE: 0 – 100, 998 – 999]

[IF RESPONDENT ANSWERS DON'T KNOW OR REFUSED, TERMINATE SURVEY WITH "THANK YOU, THAT'S ALL THE QUESTIONS I HAVE FOR YOU TODAY" AND CODE "REFUSED SALES TAX"]

Q10 – In order to calculate the effective tax rates of all the persons in our survey, I need to ask about your income. I would like to remind you that this will remain confidential information. If you added together all the yearly income, before taxes, of all the members of your household for last year (2001), what would it be? I don't need an exact figure, just an approximate category, so could you tell me whether your total family income for last year was.....

- Above or below.....
- <START HERE>
- | | |
|----------------------|---|
| 12 - Refused | 1. Less than \$15,000 |
| 13 - Don't Know | 2. At least \$15,000 but less than \$20,000 |
| 14 - Not Ascertained | 3. At least \$20,000 but less than \$30,000 |
| | 4. At least \$30,000 but less than \$40,000 |
| | 5. At least \$40,000 but less than \$50,000 |
| | 6. At least \$50,000 but less than \$60,000 |
| | 7. At least \$60,000 but less than \$70,000 |
| | 8. At least \$70,000 but less than \$80,000 |
| | 9. At least \$80,000 but less than \$90,000 |
| | 10. At least \$90,000 but less than \$110,000 |
| | 11. Over \$110,000 |

[IF R DOES NOT ANSWER THE QUESTION (REF/DK/NA) TERMINATE INTERVIEW WITH “THANK YOU, THAT’S ALL THE QUESTIONS I HAVE FOR YOU TODAY” AND CODE “REFUSED INCOME”]

Q11 – Did you buy a car or truck from a dealership in 2001?

1. Yes
2. No
9. Ref/DK/NA

Now I’d like to ask you your opinions about property taxes. For the following statements about property taxes, please tell me if you completely agree, generally agree, generally disagree or completely disagree.

Q12 – I would rather pay a property tax than a sales tax to fund government services.

1. Completely agree
2. Generally agree
3. Neither agree nor disagree
4. Generally disagree
5. Completely disagree
9. Ref/DK/NA

Q13 – The property tax is better than a sales tax because tax payments are clearly written on a tax bill.

1. Completely agree
2. Generally agree
3. Neither agree nor disagree
4. Generally disagree
5. Completely disagree

9. Ref/DK/NA

Q14 – Only residents of a county should have to pay for county services.

1. Completely agree
2. Generally agree
3. Neither agree nor disagree
4. Generally disagree
5. Completely disagree

9. Ref/DK/NA

Q15 – The property tax is fair because homeowners with more expensive homes pay more property taxes than people who own less expensive homes.

1. Completely agree
2. Generally agree
3. Neither agree nor disagree
4. Generally disagree
5. Completely disagree

9. Ref/DK/NA

Q16 – The property tax is not fair because it does not consider the homeowner's income.

1. Completely agree
2. Generally agree
3. Neither agree nor disagree
4. Generally disagree
5. Completely disagree

9. Ref/DK/NA

Q17 – In your opinion, to what degree, if any, do landlords pass their property taxes on to renters through higher rent?

1. None of their property taxes
2. Between 1 and 25% of their property taxes
3. Between 26 and 50%
4. Between 51 and 75%
5. Between 76 and 99%
6. 100% of their property taxes
9. Ref/DK/NA

Q18 – Do you rent or own your home?

1. Rent
2. Own [SKIP TO Q20]
9. Ref/DK/NA

Q19 – What is your street address? Please do not include your apartment number.

[IF R REFUSES, ASK FOR THE NAME OF HIS/HER APARTMENT COMPLEX OR NEAREST INTERSECTION AND IF NECESSARY, REMIND R OF CONFIDENTIALITY]

1. Enter response _____
9. Ref/DK/NA

[ALL ANSWERS SKIP TO HOST]

Q20 – How does your homestead exemption affect the market value of your home?

1. Increases value
2. Decreases value
3. Has no effect
9. Ref/DK/NA

Q21 – In your opinion, do you pay more or less property taxes than the average DeKalb County homeowner?

[INTERVIEWER NOTE: THIS IS IN TERMS OF DOLLAR AMOUNT – DOES R PAY MORE OR LESS THAN THE MEAN?]

1. More
2. Less
3. About the same
9. Ref/DK/NA

The following few questions are about the Homestead Option Sales Tax, commonly referred to as HOST. At least 80% of the revenue from this one-cent sales tax must be spent on funding homestead exemptions and no more than 20% of the tax revenue can be spent on capital projects, like building roads and repairing public buildings.

Q22 – If HOST had not been approved, would your property tax bill be...

1. A lot higher
2. A little higher
3. About the same
4. A little lower
5. A lot lower
9. Ref/DK/NA

Q23 – Do you think the extra sales taxes you pay each year from HOST is less than or greater than the amount of your county homestead exemption?

1. I pay a lot more in sales taxes than my homestead exemption
2. I pay a little more
3. I pay about the same
4. I pay a little less in sales taxes than my homestead exemption
5. I pay a lot less
9. Ref/DK/NA

[ALL RESPONSES SKIP TO Q25]

HOST - The following few questions are about the Homestead Option Sales Tax, commonly referred to as HOST. At least 80% of the revenue from this one cent sales tax must be spent on funding homestead exemptions and no more than 20% of the tax revenue can be spent on capital projects, like building roads and repairing public buildings.

Q24 – Would you support tax relief for renters even if it resulted in less homeowner tax relief?

1. Yes,
2. Not sure, but probably yes
3. Not sure, but probably no
4. No

9. Ref/DK/NA

Q25 – In your opinion, does DeKalb County Government provide more or fewer services since HOST began in July 1997?

1. A lot more services
2. A few more services
3. About the same level of services
4. A few less services
5. A lot less services

9. Ref/DK/NA

Q26 – Based on what you know about HOST, what is your opinion of the tax? Do you strongly approve, somewhat approve, somewhat disapprove or strongly disapprove?

1. Strongly approve
2. Somewhat approve
3. Somewhat disapprove [SKIP TO REMINDER]
4. Strongly disapprove [SKIP TO REMINDER]

9. Ref/DK/NA [SKIP TO REMINDER]

Q27 – What is the most important reason for your support of HOST?

[CHOOSE ONLY ONE RESPONSE]

1. I pay less money in property taxes
2. Sales taxes are more fair than property taxes
3. People living outside of DeKalb County pay sales taxes
4. Other [Specify] _____

9. Ref/DK/NA

REMINDER - As stated previously, by law, the DeKalb County Government can spend at most 20% of HOST revenue on capital projects, like building roads and repairing public buildings. The County must spend at least 80% of HOST revenue on homeowner property tax relief.

Q28- In your opinion, should more or less than 20% of HOST revenue be spent on capital projects?

1. Less than 20% [SKIP TO Q30]
2. 20% is about right [SKIP TO Q30]
3. More than 20%

9. Ref/DK/NA [SKIP TO Q30]

Q29 – What percent of HOST revenue do you think should be spent on capital projects?

_____ %

101 – Ref/DK/NA

[RANGE: 0 – 101]

Q30 – In your opinion, should more or less than 80% of HOST revenue be spent on homeowner property tax relief?

1. Less than 80%
2. 80% is about right [SKIP TO Q32]
3. More than 80% [SKIP TO Q32]

9. Ref/DK/NA [SKIP TO Q32]

Q31 – What percent of HOST revenue do you think should be spent on homeowner property tax relief?

_____ %

101 – Ref/DK/NA

[RANGE: 0 – 101]

Q32 – Should any of the HOST revenue be spent on other government programs?

1. Yes
2. No

9. Ref/DK/NA

Q33 – How many years have you lived in DeKalb County?

_____ years (if less than 1, round up to 1 year)

99 – Ref/DK/NA

[RANGE 1 – 99]

Q34 – How many people live in your household?

_____ people

99 – Ref/DK/NA

[RANGE: 1 – 99]

[IF ANS = 1, ASK Q35 THEN SKIP TO Q38]

Q35 – How many persons in your household work outside the home?

_____ people

99 – Ref/DK/NA

[RANGE: 0 – 99]

Q36 – How many children under age 18 live in your household?

_____ children

99 – Ref/DK/NA

[IF 0, SKIP TO Q 38]

[RANGE 0 – 99]

Q37 – What are your children's ages?

[illegible]

6.10 _____ years, 99 – Ref/DK/NA

Q38 – What is the highest grade of school or year in college you have completed?

1. Some high school
2. High school diploma/GED
3. Some college
4. College degree
5. Some post-graduate work
6. Post-graduate degree

9. Ref/DK/NA

Q39 - What race do you consider yourself to be?

[INTERVIEWER: DO NOT READ RESPONSES; CODE RESPONSE]

- | | |
|---------------------------------|---------------------|
| 1. White | 7 - Refused |
| 2. Black (African-American) | 8 - Don't Know |
| 3. Asian | 9 - Not Ascertained |
| 4. Hispanic | |
| 5. Multi-racial [SPECIFY] _____ | |

Q40 - GENDER [ask only if unsure]

- | | |
|-----------|---------------------|
| 1. Male | 9 - Not Ascertained |
| 2. Female | |

Q41 - What is your marital status? Are you married, divorced, separated, widowed, or single?

- | | |
|--------------|---------------------|
| 1. Married | 7 - Refused |
| 2. Divorced | 8 - Don't Know |
| 3. Separated | 9 - Not Ascertained |
| 4. Widowed | |
| 5. Single | |

Q42 – And finally, would you like to be entered in the drawing to win a \$100 gift certificate to Kroger Grocery Stores? The chance of winning is 1 in 400. If you are the winner, you will be called by March 1st.

- 1 Yes
- 2 No [SKIP TO END]

Q43 – In that case, I'll need your name and telephone number for the drawing. This information will be used only for the drawing and then will be destroyed. Your answers will still remain confidential.

Name _____

Phone number _____

That's all the questions I have for you today. Thank you for sharing your thoughts and completing this survey.

APPENDIX B

DEKALB COUNTY TAX AND BUDGET INFORMATION

Sales Tax Collection

The Georgia Department of Revenue administers sales tax collection on behalf of all local governments in the state. Using a point of sale system, revenues are distributed back to local governments on a monthly. Currently, the state sales tax is four percent, and local governments may impose up to an additional percent upon approval from the public through referendum.

Property Tax Collection

Tax Assessor. The Board of Tax Assessors is responsible for the appraisal and assessment of all residential, commercial, and personal property in the county. Under state law, property is assessed at 100 percent of fair market value and assessed at 40 percent that value. The board is appointed by the county commission. The Tax Assessor's Office utilizes a computerized mass appraisal system for its work. The system can generate market, cost, and income data and producing appraisal values from each of the three approaches. In mid April, the Assessor's Office mails assessment change notices to property owners and in mid June, the office submits the tax digest to the Georgia Department of Revenue for approval. Once approved, the Tax Commissioner can bill and collect property taxes (DeKalb County Board of Tax Assessors).

The Georgia Department of Revenue reviews the Assessor's Office every three years to determine if valuations are uniform and equalized in comparison with other

counties. In 1999, the last year the county was audited, the DeKalb County Board of Tax Assessor's Office met the state's requirements. Based on a sample of 3,154 parcels, the median household assessed value for residential property was 36.91 (of 40) or 92.3 percent of fair market value (Georgia Department of Revenue, Property Tax Division 2001).

Tax Commissioner. The Office of the Tax Commissioner provides property tax collection and management including processing property tax exemptions and registering vehicles. After the State approves the county tax digest and the County Commission has voted on the millage rate for the new year in mid June, the Tax Commissioner's Office mails tax notice to all property owners in the county. Payments are due in August and November of each year. The county distributes revenues as appropriate to the school districts and municipalities.

Table 1
Property Tax Rates: DeKalb County and DeKalb County School District

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
County Government											
<i>General Purpose</i>	7.30	6.91	7.51	7.14	8.19	8.44	6.46	6.36	9.01	5.65	8.03
<i>Special Tax District Designated Services¹</i>											
Atlanta	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avondale	3.07	3.16	5.75	3.97	2.34	2.38	2.37	4.03	3.72	4.29	3.49
Chamblee	1.57	1.59	1.70	1.30	0.95	0.97	0.96	1.64	1.51	1.74	1.42
Clarkston	3.07	3.16	4.64	3.25	1.98	2.01	2.00	3.40	3.14	3.62	2.94
Decatur	2.25	2.28	2.43	1.81	1.24	1.26	1.26	2.14	1.98	2.28	1.85
Doraville	2.32	2.35	2.51	1.88	1.32	1.34	1.33	2.27	2.09	2.41	1.96
Lithonia	3.07	3.16	4.72	3.32	2.05	2.08	2.07	3.53	3.26	3.75	3.05
Pine Lake	3.07	3.16	5.75	3.97	2.34	2.38	2.37	4.03	3.72	4.29	3.49
Stone Mountain	3.07	3.16	3.83	2.74	1.76	1.78	1.78	3.02	2.79	3.21	2.62
Unincorporated	3.07	3.16	3.26	3.27	2.71	2.60	3.05	3.93	1.96	4.20	2.94
<i>Hospital Fund</i>	2.55	2.36	2.31	1.95	1.80	1.25	1.79	1.09	1.30	1.30	1.05
<i>Fire Protection</i>	2.42	2.83	2.38	2.84	2.60	2.60	2.54	2.73	1.44	2.43	2.31
<i>Fire Tax Refunds²</i>	0.00	0.92	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
<i>Special Revenue District Debt Service</i>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.53
<i>Debt Service</i>	0.81	1.37	1.17	1.43	1.33	1.29	1.09	1.07	0.97	0.85	0.72
Total County Tax	16.15	17.55	16.63	16.63	16.63	16.18	14.93	15.18	14.68	15.03	15.58
Board of Education											
<i>Operating</i>	23.53	23.53	23.53	23.73	23.73	23.73	22.48	22.48	22.23	21.98	21.98
<i>Debt Service³</i>	1.10	1.10	1.10	0.90	0.90	0.00	0.00	0.00	0.00	0.00	0.00
Total School Tax	23.63	24.63	24.63	24.63	24.63	23.73	22.48	22.48	22.23	21.98	21.98
State Government	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25
Unincorporated County Tax	40.03	42.43	41.51	41.51	41.51	40.16	37.66	37.91	37.16	37.16	37.81

1 State law requires a differential county millage rates for each municipality based upon the type and level of services certain used by a municipality. The total county millage rate shown above is for the unincorporated portion of the county which comprises over 85 percent of the total county digest.

2 The Fire Tax Refunds millage results from a court ruling that homestead exemptions must be applied to the fire tax digest and requiring that refunds be made for the years 1989, 1990, 1991, and 1992. This special, one-time levy was made to cover the cost of these refunds.

3. In 1998, the School Board began collecting a one percent sales tax for capital projects. Some of the proceeds from this tax are used to pay debt service.

Source: DeKalb County Budget Office

Table 2
DeKalb County Commission Approved Budget: Tax Funds
Fiscal Year 2001, January 1–December 31

Countywide Funds and Departments	Budget
General Fund Departments¹	2001
Chief Executive Officer	1,858,325
Board of Commissioners	835,576
Law Department	2,385,149
Ethics Board	4,000
Geographic Information Systems	1,707,850
Facilities Management	8,533,113
Purchasing	2,090,339
Human Resources and Merit System	2,728,647
Information Systems	11,251,235
Finance	5,044,799
Property Tax Appraisal	5,040,686
Tax Commissioner	5,415,458
Registrar	1,079,618
Sheriff	51,726,636
Solicitor, Juvenile Court	0
Juvenile Court	5,101,736
Superior Court	6,958,666
Clerk of Superior Court	3,761,045
State Court	8,427,582
Solicitor State Court	3,204,361
District Attorney	7,221,816
Probate Court	1,342,185
Medical Examiner	1,607,913
Public Defender	4,436,898
Public Safety	15,928,892
Magistrate Court	1,358,916
Planning	865,369
Public Works – Development	0
Public Works – Director	404,919
Economic Development	540,335
Library	10,030,223
Cooperative Extension	939,004
Public Health	4,948,158
Community Service Board	2,174,242
Family and Children Services	3,243,436
Human and Community Development	674,068
Total General Fund	18,2871,195

<p>Table 3 DeKalb County Commission Approved Budget: Tax Funds Fiscal Year 2001, January 1–December 31 (Continued)</p>	
Hospital Fund	21,424,627
Total Countywide Spending (Tax Funds)	204,295,822
Non-Countywide Tax Funds	
Fire Fund	40,413,413
Special Tax District Fund-Direct Service	119,563,957
Special Tax District Fund-Unincorporated	6,070,715
Special Tax District Debt Service Fund	8,306,217
Countywide Debt Service Fund	16,679,470

1. Excludes transfer to CIP, Non Departmental Reserves

Source: DeKalb County Department of Finance

<p>Table 4 DeKalb County Population Estimates 1992-2001</p>				
1992	1993	1994	1995	1996
555,163	561,524	568,274	576,469	485,953
1997	1998	1999	2000	2001
587,594	590,443	592,870	665,865	665,810

Source: US Census Bureau: www.census.gov/popest/archives/county/ and
www.census.gov/qfd/states/13/13089.html

Table 5
Equations for Income and Tax Concentration Curves¹
Sample of DeKalb County Residents, 2001

Curve		Equation	ANOVA	
			Adj. R ²	Std. Error
Income	Accumulated Percent of Household Income	$.01073 + .08121b + .89347b^2$	0.99907	0.00888
w/HOST (50%)	Tax Distribution with HOST (tenant tax 50%)	$-.00486 + .63501b + .35953 b^2$	0.99952	0.00634
w/HOST (100%)	Tax Distribution with HOST (tenant tax 100%)	$-.01306 + .78637b + .20728 b^2$	0.99920	0.00816
No HOST (50%)	Tax Distribution without HOST (tenant tax 50%)	$.02677 + .40178b + .50924 b^2$	0.99593	0.01705
No HOST (100%)	Tax Distribution without HOST (tenant tax 100%)	$.02010 + .49909b + .41761 b^2$	0.99660	0.01561

1. Equations used for Kakwani and Suits Indices, Hypothesis 2

Table 6
DeKalb County Commission Approved Budget (in \$000s)
Countywide Tax Funds in Nominal and Real Dollars
Fiscal Years 1992–2001

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
General Fund ¹	110,043	107,922	120,921	127,072	129,275	138,116	149,788	159,340	176,207	182,871
Hospital Funds	26,778	24,856	26,058	22,445	21,445	16,702	23,143	21,589	21,432	21,425
Total Countywide	136,821	132,778	146,979	149,517	150,720	154,818	172,931	180,929	197,639	204,296
Real Dollars²	98,788	92,593	100,190	99,038	96,616	97,431	107,277	109,787	115,849	116,011

1. Excludes transfer to CIP, Non Departmental Reserves

2. US Bureau of Labor Statistics, 1984 = 100, Atlanta, GA, not seasonally adjusted

Source: DeKalb County Department of Finance

APPENDIX C

DEMOGRAPHIC DATA FOR HOST SURVEY RESPONDENTS

Table 1 Gross Household Income 2001				
Category	Frequency	Percent	Valid Percent	Cumulative Percent
Less than \$15,000	24	6.0	6.0	6.0
\$15,000 - \$19,999	13	3.2	3.2	9.2
\$20,000 - \$29,999	43	10.0	10.0	10.0
\$30,000 - \$39,999	41	10.2	10.2	30.2
\$40,000 - \$49,999	65	16.2	16.2	46.4
\$50,000 - \$59,999	41	10.2	10.2	56.6
\$60,000 - \$69,999	23	5.7	5.7	62.3
\$70,000 - \$79,999	30	7.5	7.5	69.8
\$80,000 - \$89,999	29	7.2	7.2	77.1
\$90,000 - \$109,999	42	10.5	10.5	87.5
Over \$110,000	50	12.5	12.5	100.0
Total	401	100.0	100.0	
Missing	0	0.0		
Total	401	100.0		

Table 2
Highest Level of Education Attained by Respondent

Category	Frequency	Percent	Valid Percent	Cumulative Percent
Some High School	4	1.0	1.0	1.0
Graduate High School	50	12.5	12.6	13.6
Some College	104	25.9	26.2	39.8
College Degree	140	34.9	35.3	75.1
Some Graduate School	24	6.0	6.0	81.1
Post Graduate Degree	75	18.7	18.9	100.0
Total	397	99.0	100.0	
Missing	4	1.0		
Total	401	100.0		

Table 3
Race or Ethnicity of Respondent

Category	Frequency	Percent	Valid Percent	Cumulative Percent
White	222	55.4	56.9	56.9
Black	150	37.4	38.5	95.4
Asian	10	2.5	2.6	98.0
Hispanic	2	0.5	0.5	98.5
Multi-racial	6	1.5	1.5	100.0
Total	390	97.3	100.0	
Missing	11	2.7		
Total	401	100.0		

Table 4
Gender of Respondent

Category	Frequency	Percent	Valid Percent	Cumulative Percent
Male	167	41.6	41.6	41.6
Female	234	58.4	58.4	100.0
Total	401	100.0	100.0	
Missing	0	0.0		
Total	401	100.0		

Table 5
Occupancy Status of Respondent

Category	Frequency	Percent	Valid Percent	Cumulative Percent
Homeowner	243	60.6	60.6	60.6
Tenant	158	39.4	39.4	100.0
Total	401	100.0	100.0	
Missing	0	0.0		
Total	401	100.0		

Table 6
Comparison of 2000 US Census and HOST Survey Data
DeKalb County, Georgia

	2000 US Census	HOST Sample
Median Gross Household Income	\$49,117	\$55,000
Household Size	2.62	2.46 ¹
College Graduates (Pct. of county households / sample)	36.3% ²	60.2%
Percent White	35.8%	56.9%
Percent Black	54.2%	38.5%
Percent Female	51.5%	58.4%
Homeownership Rate	58.5%	60.6%

1. Represents mean value

2. College graduates, persons 25 years and over 1990 divided by number of households in 2000