

**Intra-Metropolitan Area Fiscal Capacity
Disparities and the Property Tax**

Michael E. Bell and Lindsay C. Clark
Co-authors: Joe Cordes and Hal Wolman
© 2004

**Lincoln Institute of Land Policy
Working Paper**

The findings and conclusions of this paper are not subject to detailed review and do not necessarily reflect the official views and policies of the Lincoln Institute of Land Policy.

Please do not photocopy without permission of the authors.
Contact the authors directly with all questions or requests for permission.

Lincoln Institute Product Code: WP04MB1

Abstract

The purpose of this study is to assess the extent of variations in the revenue capacity of select local governments in the Washington, DC area using the Representative Revenue System developed by the U.S. Advisory Commission on Intergovernmental Relations, and to investigate what impact a shift to a real property tax on land only would have on the resulting differences. Revenue capacity is the hypothetical ability of local governments to raise revenue from their own available resources.

The research results reveal that there are substantial differences in revenue-raising ability across the metropolitan area, but particularly, among the suburban jurisdictions. Moreover, when revenue capacity is recalculated assuming a real property tax on land only, we found that this had a slight effect on ameliorating differences in revenue-raising ability. However, additional studies need to be conducted to see to what extent these findings reflect the “typical” situation within other metropolitan areas.

Findings:

- There were substantial variations in the revenue capacity of local governments in the Washington, DC, area. Virginia counties tend to have above average revenue capacities and Maryland counties tend to have below average revenue capacities.
- The major disparities were between suburban jurisdictions. Washington, DC, the core center city in the metropolitan area, had an average revenue capacity while there was substantial variation across suburban governments.
- Overall, there were relatively small changes in the local governments’ revenue capacities and in the extent of fiscal disparities in the metropolitan area when these measures are recalculated assuming real property taxes are levied on land only. However, these changes, though small, were in the direction of reducing fiscal disparities.

About the Authors

Michael E. Bell is President of MEB Associates, Inc. and Executive Director of the Coalition for Effective Local Democracy. Dr. Bell is also a Research Professor at the George Washington University Institute for Public Policy. Dr. Bell's background is in public finance, with a specific focus on state and local finances and intergovernmental relations. He has recently been involved in projects to strengthen the capacity of local self-government in newly emerging democracies through in-country workshops, internships, study tours, expert missions and research projects. Recent projects in South Africa have focused on strengthening local democratic governance by encouraging greater citizen participation and strengthening local property tax administration. Dr. Bell has edited five books and published articles in several journals including *National Tax Journal*, *Public Finance*, *Urban Studies*, *Journal of Urban Economics*, *Environment and Planning C: Government and Policy*, *Public Budgeting and Finance*, and *the Regionalist*.

Contact information:

MEB Associates, Inc.

P.O. Box 869

Mc Henry, Maryland 21541

Phone: 301-387-9030

Fax: 301-387-4066

E-mail: MEBAssociates@starband.net

Lindsay C. Clark graduated from The George Washington University's Master of Public Policy Program with a concentration in urban policy and received her B.A. in U.S. History from Boston University. Currently, she is a Research Assistant for The Brookings Institution Center on Urban and Metropolitan Policy. Ms. Clark's areas of interest include urban and metropolitan policy and state and local fiscal policy.

Contact information:

The Brookings Institution

1775 Massachusetts Avenue, NW

Washington, DC 20036

Phone: 202-797-4395

Fax: 202-797-2965

E-mail: lclark@brookings.edu

Joseph J. Cordes is a Professor of Economics and Public Policy at The George Washington University. He is also the Associate Director of the School of Public Policy and Public Administration and the Director of the Ph.D. Program in Public Policy and Administration at The George Washington University. Professor Cordes has served as Deputy Assistant Director for Tax Analysis at the Congressional Budget Office, is an Associate Scholar in the Center on Nonprofits and Philanthropy at the Urban Institute, and has been a consultant to numerous government agencies. Professor Cordes is the co-editor of two books, and has authored or co-authored over 50 articles on economics and public policy in books and in scholarly journals. He serves on the editorial boards of the

Eastern Economic Journal and the International Review of Public Administration. His current research focuses on state and local fiscal policy, and the economics of nonprofit organizations.

Contact information:

The George Washington University
School of Public Policy and Public Administration
815 21st Street, Suite 601
Washington, DC 20052
Phone: 202.994.5826
Fax: 202.994.8913
E-mail: jcordes@gwu.edu

Harold Wolman is a Professor of Public Policy and Political Science at The George Washington University. Dr. Wolman also serves as the Director of the George Washington Institute of Public Policy. His fields of interest include urban and metropolitan policy and politics; local and regional economic development; state and local fiscal policy; and comparative urban policy and politics. Much of his work is interdisciplinary, drawing upon the fields of political science, policy analysis and economics. He has published six books and over 60 journal articles and book chapters, and has performed sponsored research for a large number of organizations. He teaches courses in Urban Policy, Urban Politics, and the Politics of the Policy Process.

Contact Information:

The George Washington University
School of Public Policy and Public Administration
815 21st Street, Suite 601
Washington, DC 20052
Phone: 202.994.5713
Fax: 202.994.8913

Acknowledgments: We want to thank David Brunori, Director of the George Washington University Center for State and Local Fiscal Policy Research, for his intellectual support of this work throughout the entire project. We also thank Joan Youngman, Chairman of the Department of Valuation and Taxation at the Lincoln Institute of Land Policy, for her support of this project. We thank the Lincoln Institute of Land Policy for the financial support that made this project possible. Lindsay Clark's time was paid for, in part, through the contribution of the George Washington Institute of Public Policy. All errors of omission or commission are the responsibilities of the authors.

Table of Contents

Introduction	1
The Study Area	2
<i>Table 1: Selected Local Jurisdictions</i>	2
The Representative Revenue System	3
Focus on Intra-metropolitan Fiscal Disparities	5
Sources of Tax and Non-Tax Revenues	7
<i>Table 2: Representative Revenue Sources and Bases Included in this Study</i>	7
Empirical Analysis	8
Step 1. Revenue Collections	8
Step 2. Revenue Bases	9
Property Tax	9
General Sales Tax	10
Selective Sales Taxes	11
Income Tax Base	11
User Charges Base	11
Public Utilities Base	12
Step 3. Estimating Fiscal Capacity	12
<i>Table 3: Average Tax Rates for All Local Governments</i>	12
Step 4. Estimating Fiscal Effort	13
Empirical Results	13
Fiscal Capacity	13
<i>Table 4: Fiscal Capacity and Fiscal Effort of Selected Local Governments in the Washington, DC Metropolitan Area, 2000</i>	14
<i>Table 5: Tax Bases Relative to the Average Per Capita Tax Base in the Study Area</i>	16
Fiscal Effort	16
Implications of Site Value Tax for Local Fiscal Disparities in Metropolitan Washington, DC	18
Advantages of a Graded or Split Rate Property Tax	18
Disadvantages of a Graded or Split Rate Property Tax	19
Recent Interest in Land Taxes	20
Empirical Results	22
<i>Table 6: Measures of Fiscal Capacity Under Two Alternative Scenarios</i>	23
Conclusion	24
Appendix	26
Acknowledgements	45
Endnotes	47

Intra-Metropolitan Area Fiscal Capacity Disparities and the Property Tax

Introduction

Regional concerns have become an increasingly visible part of both public debate and academic literature during the past decade. However, despite the highly publicized case of the metropolitan wide tax base sharing policy in the Minneapolis-St. Paul region, there has been little careful work done on the fiscal problems of regions. These disparities are at the very heart of the concern about fiscal equity in metropolitan areas and, particularly, the question of whether local governments with low fiscal capacity realistically have the ability to provide adequate levels of public services to their residents. This problem is most visible in the area of elementary and secondary education, but extends beyond it to all services.

The purpose of this project is to embark upon a research program that will examine the extent of fiscal disparities among local governments in metropolitan regions. Fiscal disparities are the difference between tax capacity and expenditure need for each local government within a region, standardized as deviations from the regional average. Tax capacity for a government is the amount of revenue it would raise if it applied the average tax rate for local governments in the metropolitan area for each tax to its own tax base for each of the taxes a local government is permitted to levy under state law. Expenditure need is the cost of providing an average package of public services for each government in the area, taking into account differences in need.

As an initial step in the research program, this study focuses on the revenue capacity side of the fiscal disparities problem. We proceed in a manner designed not only to produce a better understanding of intra-metropolitan tax base disparities among the research community, but also to inform policy makers on these issues. In so doing, our objective is to bridge the gap between researchers and policy makers.

Generally, most of the discussion of tax base disparities has focused on the role of the property tax as the underlying cause. However, intra-metropolitan disparities will result from the use of any local tax across various jurisdictions.¹ Nonetheless, this project focuses particularly on the relative role of the local property tax in contributing to intra-metropolitan tax base disparities. We do so primarily because we examine the sensitivity of these tax base disparities to possible changes in the property tax that would result in the differential taxation of land and structures.

In summary, the purpose of this project is to calculate revenue capacity and effort measures for local governments within the metropolitan Washington, DC area and investigate what impact a shift to a graded property tax would have on intra-metropolitan fiscal disparities.

The Study Area

The focus of our study is on local governments within the metropolitan Washington, DC area. In selecting governments to include, we start with the definition of the Washington, DC Primary Metropolitan Statistical Area (PMSA) used for the 2000 Census. However, because of time and resource constraints, we did not include all jurisdictions in the Washington, DC PMSA in our study. Specifically, we omitted the two counties in West Virginia and included two Maryland counties that are technically part of the Baltimore PMSA – Anne Arundel and Howard counties. In Virginia, we included the following counties: Arlington, Fairfax, Fauquier, Loudoun, and Prince William. We also chose to include the independent city of Alexandria. The state of Virginia has independent cities that are not part of any surrounding county and are considered county equivalents.² We chose to include Alexandria City given its relative population size in 2000 (128,283).

The individual revenue capacity and effort of the other independent cities in Virginia within our area of study – Fairfax City, Falls Church City, Manassas City, and Manassas Park City – are not examined individually; instead, we add the revenue and base data of these cities to the appropriate surrounding counties’ revenue and base totals: Fairfax City and Falls Church were added to Fairfax County, and Manassas City and Manassas Park City were added to Prince William County (hereafter, these areas will be referred to by the county name: Fairfax and Prince William).³ This was done in order to have comparable spatial units to Maryland. In Maryland, cities are not considered county equivalents; but rather, a local government within the county where it is geographically located. See Table 1 for a list of local jurisdictions selected for this study.

**Table 1
Selected Local Jurisdictions**

Maryland	Virginia	District of Columbia
Anne Arundel	Arlington County	
Calvert County	Fairfax County (includes Fairfax City and Falls Church City)	
Charles County	Fauquier County	
Frederick County	Loudoun County	
Howard County	Prince William County (includes Manassas City and Manassas Park City)	
Montgomery County	Alexandria City	
Prince George’s County		

The selection of the Washington, DC metropolitan area for this project complicates the intra-metropolitan comparison of fiscal disparities because three different state/local structures are involved – Maryland, Virginia, and Washington, DC. Since Washington, DC is not contained within the boundaries of any state, it operates as a city/state unit of

government with a revenue structure similar to the typical revenue structure of a state government.

The intra-metropolitan comparisons are made somewhat easier, however, by the fact that both Maryland and Virginia have relatively simple systems of local government. Both Maryland and Virginia have a relatively small number of independent local governments – 265 and 521 respectively. Only six states have fewer numbers of local governments – Alaska (176), Delaware (340), Hawaii (20), Louisiana (474), Nevada (211), and Rhode Island (118). Fourteen states have more than 2,000 units of local government with Illinois (6,904) and Pennsylvania (5,032) having the most.

Initially, we were going to examine the individual revenue capacity and tax effort of counties and their municipalities, but due to data constraints, we were limited to looking only at counties and large independent cities. The revenue sources and bases of municipalities and special districts are reflected in county revenue and base figures, but are not examined independently (see Appendix for a more detailed explanation).

The Representative Revenue System

According to Fastrup, public finance analysts have been concerned about fiscal capacity since the 1920s.⁴ A variety of conceptual approaches to defining and measuring fiscal capacity have evolved over the years. These various measures include per capita income, per capita gross state product, total taxable resources, export-adjusted income, and two measures developed by the Advisory Commission on Intergovernmental Relations – the Representative Tax System and the Representative Revenue System.⁵

The Advisory Commission on Intergovernmental Relations (ACIR) developed the Representative Tax System (RTS) and, subsequently, the Representative Revenue System (RRS) as an alternative measure of state and local fiscal capacity and effort because of limitations of the use of per capita income as the principle variable for measuring state and local fiscal capacity.⁶ The RTS methodology is a more comprehensive measure of revenue-raising ability than personal income because it more accurately reflects the diversity of tax and revenue sources as well as their ability to ‘export’ taxes, that is, to levy taxes that are ultimately paid by nonresidents.⁷ In 1971, ACIR broadened the RTS concept by including certain non-tax revenue sources that are commonly utilized by state and local governments. This broader concept was initially referred to as “the average financing system” and eventually became known as the Representative Revenue System (RRS). In 1971, the non-tax revenues included in the RRS were current charges, interest earnings, miscellaneous general revenues, and utility surpluses.⁸ More recently, the RRS framework includes rents and royalties, lotteries, and user charges as non-tax revenues.⁹

According to the RRS approach used by ACIR, *revenue, or fiscal, capacity* is the hypothetical ability of a state and its local governments to raise revenues to support public services. States, and their local governments, vary in their abilities to raise revenues to support public services because of differences in their underlying economic circumstances. The RRS estimates of revenue capacity, or fiscal capacity, highlight these differences by measuring the revenues that would result from applying a standard,

representative set of tax and revenue bases and rates to every state. Because the same tax base definitions and tax rates are used for every state, revenue yields estimated under the RRS vary across states only because of difference in the underlying economic bases that are available to be taxed. Additionally, the RRS methodology can provide insight into the degree with which local governments are utilizing their available economic bases by examining the ratio of a state or local government's actual per capita revenue collections to its hypothetical per capita revenue collections; this is referred to as the government's *revenue or fiscal effort*.

The RTS and RRS approaches to measuring fiscal capacity are not without their critics. The two primary criticisms of these two approaches to measuring fiscal capacity are that they assume that individual tax bases are independent of each other and that these measures are independent of the fiscal decisions of individual governments. First, the ability of a jurisdiction to tax property wealth will depend, in part, on the income levels of the residents since property taxes are paid out of current income. Barro argues that because the RTS measure of fiscal capacity ignores these interdependencies, the RTS index gives unduly low weight to income relative to other tax bases.¹⁰ ACIR acknowledges the intuitive appeal of this argument, but also acknowledges that theory does not suggest how variances in these relationships affect fiscal capacity.¹¹

The second major criticism of the RTS and RRS approach is that many of the revenue bases used in these indices are not independent of a government's fiscal decisions. Specifically, the argument is that government policies such as tax rates, zoning, and subsidies affect the size of individual tax bases. For example, in the case of real estate taxes, the literature documents how differences in tax rates relative to public service levels are capitalized into housing values so that low tax states can have higher property values than they would if they charged higher rates. Again, ACIR acknowledges this concern by recognizing that if all states taxed at the national average rate for each tax base the distribution of each tax base would certainly be different than the reality of today. Again, the issue is what can be done to correct for this limitation. In this case, researchers would have to estimate how location patterns, business, industry, sales, and population would be spatially distributed differently than the current situation – a near impossible task.¹²

While the RTS and RRS approaches to measuring fiscal capacity have some conceptual limitations, little has been offered on how these limitations might be overcome. Bradbury and Ladd, however, have put forward an alternative approach to estimating the fiscal capacity of local governments which is referred to as the export adjusted income approach.¹³ According to their approach, the fiscal capacity of a local government is defined as the per capita revenue a city can raise from tax bases in the city given a specified burden on local resident income plus revenues exported to nonresidents. This is expressed as follows:

$$FC = kY(1+e)$$

Where:

FC is per capita fiscal capacity of a local government

k is a given tax effort by local residents

Y is per capita resident income

E is the portion of each tax borne by nonresidents.

This approach requires estimation of the incidence of individual taxes and apportioning that incidence to residents and nonresidents. The incidence of individual taxes, however, may vary from community to community depending on economic circumstances. As a result, any incidence study is dependent on simplifying assumptions made to carry out the study so there is a normative dimension introduced into the analysis.¹⁴

While application of the RRS system requires some simplifying assumptions, generally they are not as critical to the outcome of the analysis as the underlying assumptions inherent in the export adjusted income approach of Bradbury and Ladd. Also, data requirements for the RRS may be somewhat less of a constraint than the data requirements of the export adjusted income approach which is trying to estimate the incidence of individual revenue sources across a large number of cities with different economic circumstances. We believe that the RRS is relatively comprehensive and easier to measure than some of the other approaches to measuring fiscal capacity. As a result, this study uses the RRS framework for calculating the revenue capacity and effort of local governments within the Washington, DC metropolitan area.

Focus on Intra-metropolitan Fiscal Disparities

ACIR applies the RTS and RRS concepts for measuring fiscal capacity and effort to the 50 state-local fiscal systems. The unit of observation is the state. The objective of this study is to apply the concept to individual local governments within a metropolitan area. Specifically, this project responds directly to an important recommendation for research needs made in the National Academy of Science's report, *Governance and Opportunity in Metropolitan Areas* (1999):

*“There is substantial research on tax/service disparities among major cities across metropolitan areas, but only scattered research on variation in tax/service capacity among local governments **within** metropolitan areas. A basic task is to compile data on variation in fiscal capacity among local governments in each (or a substantial sample of) metropolitan areas, as well as changes over time.”*

As suggested by the National Academy of Science report, there is very little experience investigating the fiscal capacity and effort of individual local governments within a metropolitan area. ACIR did apply the RTS concept to 69 Standard Metropolitan Statistical Areas (SMSAs) using data from 1977 and 1980.¹⁵ The report estimated the capacity of local governments in SMSAs to raise revenue by applying the average tax

rate in all such governments to each of seven tax bases in each of the selected SMSAs – individual income taxes, general sales taxes, residential/vacant real estate, agricultural real estate, commercial/industrial real estate, other taxes, and current charges. The unit of observation in this report is the SMSA, not individual local governments within the SMSA.

More recently, Rafuse and Marks applied the representative revenue and expenditure systems developed by ACIR to investigating fiscal disparities across 40 municipalities within the Chicago metropolitan area.¹⁶ Their study was complicated by the fact that the six county metropolitan area of Chicago is made up of more than 1,200 independent local jurisdictions with overlapping areas of responsibility. In fact, there were some 345 governmental entities providing services to the residents of the 40 municipalities selected for the study. Rafuse and Marks included 11 categories of revenues in their study – intergovernmental revenues, property taxes, general sales taxes, motor fuel taxes, motor vehicle license taxes, other taxes, current charges, interest earnings, all other own general revenues, utility revenues, and insurance trust revenues. Resident money income is used as the representative base for all revenue sources except property taxes (equalized assessed value) and general sales taxes (total retail sales in a municipality as reported in the 1987 Census of Retail Trade).

Green and Reschovsky examined fiscal disparities across 285 municipalities in Wisconsin with populations in 1991 of more than 2,500. They estimate both expenditure needs and revenue capacity of individual local governments and analyze the resulting fiscal conditions and state aid programs. Green and Reschovsky define a municipality's tax capacity as the amount of property tax revenue it would raise if all municipalities were to levy a uniform property tax rate on their residents. They chose as the uniform rate the average municipal property tax rate for the 285 municipalities in their study. While local governments in Wisconsin also receive some revenues from public accommodations (hotel) tax, and from licenses, fines, permits, and user fees, Green and Reschovsky ignored these elements of municipalities' revenue-raising capacity because there was no easily accessible data and because these sources of revenue were generally small.¹⁷

The above examples look at how much revenue a jurisdiction would raise if it applied average tax rates to a representative set of tax bases as a means of calculating fiscal capacity of local governments. Ladd, Reschovsky and Yinger utilize the export adjusted income approach to measuring fiscal capacity to examine the fiscal condition of 179 cities in Minnesota with populations greater than 2,500.¹⁸ In estimating the revenue capacity of cities in their study, the authors recognize that 80 percent of own-source revenues of the average Minnesota cities in the study came from property taxes. Other own-source revenues include the utility franchise tax, local sales and gravel taxes, licenses, permits, and user charges. As in the Green/Reschovsky study of Wisconsin municipalities, Ladd, Reschovsky and Yinger argue that user charges differ from the other local revenue sources because they resemble a price for a specific service. Therefore, user charges are not treated as a separate revenue source; instead spending financed by user charges is netted out in calculating expenditure need. Because the remaining revenue sources are small, they are omitted from the calculation of revenue

capacity. They define revenue capacity as the amount of money a city would generate from the property tax if it imposed either a standard burden on residents or a standard tax rate. The article does not provide a detailed discussion of how these estimates are determined.

Sources of Tax and Non-Tax Revenues

As applied to the 50 states by ACIR, the RRS includes 28 state and local taxes and 3 non-tax sources of revenue. These revenue sources are detailed in Table 1 of the Appendix. Our focus in this project differs from the ACIR focus on state and local revenues. ACIR used the state as the unit of observation, but our focus is on the revenue, or fiscal, capacity and effort of individual local governments within a metropolitan area. We use the local government as the unit of analysis—counties and municipalities. Therefore, in calculating fiscal capacity, and effort, we exclude revenue sources that are traditionally state level revenues – e.g. corporate income tax, motor fuels tax, death and gift taxes, estate and gift taxes, severance taxes and occupational and business licenses. We only include revenue sources that are utilized, or could potentially be utilized, by local governments in the study area. This study examines eight revenue sources, six tax and two non-tax. These include real and personal property tax, personal income tax, general sales tax, some selective sales tax (i.e. public utilities taxes and other selective sales taxes), user charges, and revenue from public utilities. Similarly, non-tax revenue sources not available to local governments would be inappropriate to include in our study. Lottery revenues fall into this category. Table 2 lists the revenue sources included in this study as well as the representative revenue base.

Table 2
Representative Revenue Sources and Bases
Included in This Study

<u>Revenue Sources</u>	<u>Representative Revenue Base</u>
Tax Revenues	
Real Property	The assessed value of all taxable real property at 100% of market value
Personal Property	Assessed value of tangible personal property and vehicle personal property
Personal Income Tax	Adjusted Gross Income
General Sales Tax	Aggregate value of total retail sales
Public Utilities	Personal Income
Other Selective Sales Tax	Personal Income
<u>Non-Tax Revenues</u>	
User Charges	Personal Income
Public Utilities	Personal Income

Once the revenue sources to be included in the study are determined, there are basically four steps in developing measures of revenue capacity and effort for individual local governments in the study area. First, we gather information on actual revenues collected by all local governments in the study area (counties, cities, special districts) for the revenue sources included in this study. Second, we gather information on the base of each revenue source for each local government in the study area – both counties and municipalities. We want to have a uniform base definition that is applied across all local governments in the study area because our focus is on differences in revenue raising capacity resulting from differences in their underlying economic circumstances. Third, we calculate an average effective tax rate for the metropolitan area, which is then applied to the base of each revenue source in each jurisdiction to determine hypothetical revenue capacity per capita. In the fourth step, we compute a measure of revenue effort for each jurisdiction in the study area by comparing its actual per capita collections with the hypothetical amount it could have collected per capita if it taxed each base at the average effective rate.

Finally, we examine the implications for fiscal disparities across local governments in the metropolitan area of shifting from the current property tax applied equally to land and improvements to some form of a graded property tax, which taxes land more heavily than improvements.

Empirical Analysis

Step 1: Revenue Collections

Metropolitan Washington, DC includes local governments from three different jurisdictions – Maryland, Virginia, and Washington, DC (a single unit of government with state and local government responsibilities because it is not included in the boundaries of any state). As a result, there are concerns regarding the comparability of data across jurisdictions since each state has its own reporting requirements, definitions, etc. Since we are comparing fiscal capacity measures across jurisdictions, we need to have a definition of revenue collections that is consistent across all jurisdictions in the study area. Therefore, in order to utilize revenue collection data that are comparable across all local jurisdictions in the metropolitan Washington, DC area, we use data from the U.S. Census Bureau.

The U.S. Census Bureau has micro-form level data available on the actual collections of local governments by source for 1997 and 2000. The 1997 Census of Government data include revenue collections by source for all local governments (counties, municipalities, and special districts). The 2000 Census data come from the Government Finance reports and include information for counties and a few large municipalities and special districts; but detailed data for all municipalities and special districts are not available from this annual series. Since we need to have comprehensive measures of revenue collections—including revenues from all counties, municipalities and special districts—we used the 1997 data to calculate the counties' share of total local government revenue in Maryland and Virginia, and then inflated the 2000 data using these percentages to obtain an

estimate of total local government revenues in FY2000.¹⁹ A more detailed description of this process is contained in the Appendix.

Finally, we need to remember that we only include in our revenue collection numbers revenues collected from sources actually used by local governments in the study area. We have excluded revenues from state type revenue sources. For example, we exclude from Current Charges revenues from higher education and hospitals.

Step 2: Revenue Bases

As mentioned above, the comparability of revenue bases across jurisdictions is also critical to insure that the representative, standard revenue bases reflect only the economic situation of each local government. Data available on the county and municipal level are sometimes difficult to obtain or do not exist; therefore, we sometimes had to estimate the value of an appropriate revenue base using data that is available from previous years. For example, estimates were used to calculate the tax base for general sales and personal property taxes. Details of the methods for estimating individual tax bases are contained in the Appendix. The following provides a brief summary of the economic base data we used for each revenue source included in the calculation of fiscal capacity.

Property Tax

The property tax base has two components – real property and personal property. The representative, standard base used for real property is the assessed value of all taxable real property at 100% of market value – this excludes property that is typically exempt from property tax such as government buildings, churches, and charities. We added back into the real property tax base assessed values that had been deducted as an across the board homestead exemption.²⁰ We were not able, however, to make adjustments in the real property tax base for other property tax relief mechanism like the ceiling on growth in assessed values in Maryland, or for the three-year cycle of valuations in effect in Maryland and the District in 2000²¹.

The personal property tax is an important source of revenue for local governments in the study area, especially local governments in Virginia. Revenue from personal property is more than 20 percent of all property tax revenue for the selected jurisdictions in Virginia compared to about 15 percent for the selected Maryland jurisdictions and 12 percent for the District. The personal property base is much more complicated tax base to determine, however.

While the basic definition of the personal property tax base is fairly consistent across all local governments in the study area, there are two primary differences between the jurisdictions: 1) the car tax that Virginia's local governments levy, and 2) a tax on manufacturing equipment levied in Virginia and the District.²²

Local governments in Virginia have the right to include automobiles in their personal property tax base. While the state government passed legislation to phase out a portion of the “car tax” that phase out was never going to be a 100 percent phase out and the actual

phase out has been put on hold because of fiscal problems in Virginia.²³ Therefore, because we are including all feasible local taxes in our estimates of fiscal capacity, although Maryland counties and the District do not currently tax automobiles, we include the value of automobiles in the personal property tax base of each of these jurisdictions.²⁴

The value of all registered vehicles in the Maryland jurisdictions and the District would be the appropriate representative, standard base to include in their personal property tax base in order to make it comparable to the personal property tax base in Virginia's local governments. However, these data were not available for Maryland and the District because they do not levy a tax on motor vehicles. Therefore, we had to estimate these values and add them to the personal property tax base of local governments in Maryland and the District. We accomplished this in two steps. First, we estimated the average value of different types of motor vehicles in the Virginia counties taxing such motor vehicles. Second, we multiplied these average values by the number of registered vehicles in the Maryland local governments and the District to estimate the total value of motor vehicles in each jurisdiction. These values were then added to the local government's personal property tax base.²⁵

The situation for manufacturing equipment was a bit more complicated. While none of our jurisdictions tax commercial and manufacturing inventory, Virginia local governments and the District tax manufacturing equipment, which is exempt in the Maryland counties in this study. In this study, we did not consider manufacturing equipment as part of the taxable personal property base because it is not a significant source of revenue for Virginia or the District. For the majority of Virginia's local governments selected for this study, the amount of revenue earned from and the assessed value of manufacturing equipment is less than two percent of the total revenue and the total assessed value of tangible personal property. In the District, the assessable base for and revenue generated from manufacturing equipment is also minimal --printing presses make up the majority of taxable manufacturing equipment in the District.²⁶ Since estimating the value of manufacturing equipment in each Maryland jurisdiction was beyond the scope of this study, we simply reduced the revenue collections and base data for Virginia's local governments included in the study and for the District of Columbia to obtain more consistent estimates of the personal property tax base across jurisdictions in the study area. A more detailed explanation of this adjustment is contained in the Appendix.

General Sales Tax

The representative tax base for the general sales tax is the aggregate value of taxable retail sales in 2000. Census data on taxable retail sales were not available for the year 2000. The most recent data available were for 1997 in the 1997 Economic Census report; the 2002 report is to be released early in 2004, which is after the completion of this study. Therefore, we estimated sales receipts for retail trade by county for 2000, using the 1997 Economic Census data and the 2000 Census data from County Business Patterns. A detailed description of this estimation is included in the Appendix.

Selective Sales Taxes

Census defines Selective Sales Taxes as taxes imposed on the sale of particular commodities or services or on the gross receipts of particular businesses separately and apart from the General Sales tax. The Advisory Commission on Intergovernmental Relations included nine separate selective sales taxes in their calculations of Representative Revenue Systems for the 50 states. However, many of these selective sales taxes are state-only revenue sources. For example, the ACIR includes in its measures selective sales taxes on motor fuel, insurance premiums and alcohol. Local governments typically do not have access to these revenue sources so we excluded them from our estimates of local own-source revenue raising capacity. However, based on the experiences of local governments in our study area, we do include selective sales taxes on public utilities, and other selective sales taxes.

Selective sales taxes on public utilities include taxes on transportation companies, telephones, telegraphs and light and power. The base of the tax is generally the gross receipts or gross earnings of the company providing the service. Sometimes the tax may be based on the number of units sold, e.g. kilowatt-hours of electricity. In either case, however, the base of the tax reflects consumption decisions by individual consumers. As a result, we use personal income for 2000 as the representative base for these selective sales taxes.

According to the Census Bureau definition, Other Selective Sales Taxes include taxes on specific commodities, businesses, or services not reported separately under selective sales taxes. For example, this would include taxes on contractors, lodging, lubricating oil, fuels other than motor fuel, sales of motor vehicles, meals, soft drinks, margarine, etc. Unfortunately, the Census data do not break down total revenues from other selective sales taxes into these component parts. As a result, we use personal income for 2000 as the representative base for Other Selective Sales Taxes.

Income Tax Base

We use Adjusted Gross Income (AGI) for tax year 2000 as the representative tax base for the income tax.²⁷

User Charges Base

According to the Census Bureau definition, Current Charges reflect “Amounts received from the public for performance of specific services which benefit the person charged and from sale of commodities or services ..” Basically, Current Charges are user charges, which reflect the consumption decisions of individual citizens. Thus, revenue generated from user charges depends, in large part, on prices and the resulting consumption choices of individual citizens. For the purposes of this study, then, we use personal income for 2000 as the representative base for user charges.

Public Utilities Base

Public Utility revenues include revenues from water utilities, electric utilities and transit authorities. In each case, there is a charge for the service being provided – essentially making these revenues comparable to user charges. As a result, we use personal income for 2000 as the representative base for Public Utility revenues.

Step 3: Estimating Fiscal Capacity

After the first two steps are completed, the third step in ACIR’s RRS methodology is to calculate the fiscal capacity of individual local governments. This step starts by calculating the average tax rate for each revenue source for all local governments included in our study. The average tax rate is calculated by dividing total collections of all local governments in the study area by the total base for all local governments in the study area for each tax or revenue source. The average tax rate for each revenue source included in our estimate of local fiscal capacity is summarized in Table 3.

Table 3
Average Tax Rates for All Local Governments

Tax and Revenue Sources	Average Tax Rate
Real Property Tax	1.25 %
Personal Property Tax	1.85 %
Income Tax	1.74 %
General Sales Tax	1.91 %
Public Utility Taxes	0.19%
Other Select Sales Taxes	0.11 %
User Charges	0.96 %
Public Utilities Revenue	0.42 %

These average tax rates are then applied to the appropriate revenue base in each jurisdiction to estimate the hypothetical potential revenue yield, or capacity, that would result from each revenue source if each jurisdiction used a standard base definition and applied the average tax rate to each base. The total revenue capacity, or fiscal capacity, of each local government is the total of the hypothetical revenue yields from each individual revenue source. The population of each jurisdiction is divided into the total hypothetical revenue it would raise to determine the hypothetical fiscal capacity per

capita for that local government. Thus, differences in fiscal capacity across jurisdictions reflect differences in economic circumstances, not differences in tax policies.

Finally, a *fiscal capacity index* is calculated for each local government by dividing their fiscal capacity per capita into the average fiscal capacity per capita of all local governments and multiplying it by 100. The fiscal capacity index is a measure of each local government's potential revenue-raising ability compared to the average of all local governments. Local governments with a fiscal capacity index greater than 100 have above average revenue-raising ability and those with a fiscal capacity index of less than 100 have below average revenue-raising ability compared to the average of the local governments in the Washington, DC metropolitan area included in this study.

Step 4: Estimating Fiscal Effort

Finally, the *fiscal effort index* is calculated using revenue capacity, or fiscal capacity, per capita and actual collections per capita. Specifically, the fiscal effort index is calculated by dividing the actual per capita collections of each jurisdiction by its per capita potential collections for each revenue source and multiplying by 100. Again, this index allows one to compare the extent to which local governments are utilizing their available resources in relation to the average of all local governments, which is 100. An index greater than 100 indicates that a jurisdiction is accessing that revenue source to a greater extent than local governments on average are in the study area. An index less than 100 indicates a revenue source is being underutilized by a local government vis-à-vis the average for the entire study area.

Empirical Results

Following this four-step process to estimate the fiscal capacity and fiscal effort for each of the 14 jurisdictions included in our study area. The results are presented in Table 4.

Fiscal Capacity

According to the data in Table 4, local governments in Virginia, with the exception of Prince William County (75), have above average revenue-raising ability compared to the average of all local governments in the study area. Arlington County ranks first with a fiscal capacity index of 129, followed by Alexandria City (123), Fairfax County (121), and Loudoun County (116). Fauquier County (103) ranks fifth. Prince William County ranks last in Virginia, the only county with a fiscal capacity below the average for the region, and has the next to lowest fiscal capacity of the 14 jurisdictions included in the study – Prince George's County in Maryland has a lower fiscal capacity.

In Maryland, only two of the counties included in the study, Montgomery (116) and Howard (102), have a fiscal capacity index above 100. The other five local governments have below average revenue-raising ability compared to the average of all local governments in the study area. Of these five counties, Calvert County is the closest to the average with a fiscal capacity index of 91 and Prince George's County ranks last with a fiscal capacity index of 69.

Table 4
Fiscal Capacity and Fiscal Effort of
Selected Local Governments in the Washington, DC
Metropolitan Area, 2000

<u>Local Jurisdictions</u>	Fiscal Capacity			Fiscal Effort		
	<u>Total Hypothetical Collections per Capita</u>	<u>Index</u>	<u>Rank</u>	<u>Actual Collections per Capita</u>	<u>Index</u>	<u>Rank</u>
WASHINGTON, DC	\$ 2,409	97	7	\$ 5,926	246	1
Maryland		-	-		-	-
ANNE ARUNDEL CO	\$ 2,223	89	9	\$ 1,752	79	7
CALVERT CO	\$ 2,259	91	8	\$ 1,657	73	9
CHARLES CO	\$ 1,969	79	11	\$ 1,538	78	8
FREDERICK CO	\$ 2,054	83	10	\$ 1,817	88	4
HOWARD CO	\$ 2,529	102	6	\$ 1,998	79	7
MONTGOMERY CO	\$ 2,878	116	4	\$ 2,804	97	3
PRINCE GEORGE'S CO	\$ 1,721	69	13	\$ 1,482	86	5
Virginia	-	-	-		-	-
ARLINGTON CO	\$ 3,206	129	1	\$ 4,229	132	2
FAIRFAX CO	\$ 3,016	121	3	\$ 2,059	66	11
FAUQUIER CO	\$ 2,553	103	5	\$ 1,242	49	13
LOUDOUN CO	\$ 2,879	116	4	\$ 1,789	62	12
PRINCE WILLIAM CO	\$ 1,876	75	12	\$ 1,547	83	6
ALEXANDRIA CITY	\$ 3,064	123	2	\$ 2,130	70	10
Aggregate Per Capita All Jurisdictions	\$ 2,489	100		\$ 2,489	100	

The District of Columbia's fiscal capacity, with an index of 97, is almost equal to the average of all jurisdictions in the study area. Using a representative set of tax bases and tax rates, the District could potentially raise \$2,409 per capita, slightly below the average per capita collections of \$2,489 for all local governments.

Table 5 presents per capita tax bases for real property, general sales, and personal income taxes in each jurisdiction relative to the average per capita tax base in the study area. For example, average real property wealth per capita in the study area was \$73,019. In the District of Columbia, real property wealth per capita was \$79,413 – or 109 percent of the regional average property wealth per capita. In Maryland, only Howard and Montgomery counties in Maryland had per capita property wealth higher than the regional average—\$74,052 and \$84,231, respectively. Alternatively, in Virginia, only Prince William County had real property wealth per capita less than the regional average.

The situation is somewhat worse in Maryland when looking at per capita personal income tax bases across the seven jurisdictions in the study area. Again, only two jurisdictions have per capita personal income tax base above the regional average – Howard and Montgomery counties. But the per capita income tax base in the other counties, relative to the regional average, are lower than real estate values per capita relative to the regional average. As a result, the average per capita personal income tax base for the seven jurisdictions in Maryland—\$26,290—is only 89 percent of the regional average, \$29,503.

The situation is somewhat better in Maryland when considering per capita general sales tax base with four jurisdictions being above the regional average – Anne Arundel, Charles, Frederick, and Montgomery counties. In Virginia, all jurisdictions included in the study have per capita general sales tax bases higher than the regional average – with the exception of Fauquier County. Given the suburbanization of the region and the development of “edge cities” across the metropolitan area it is not surprising that Washington, DC has the lowest per capita general sales tax base in the study area – just 50 percent of the regional average.

At first, it might seem a bit surprising that local governments in the Northern Virginia suburbs systematically have higher fiscal capacities than local governments in suburban Maryland. However, the economy in the Northern Virginia suburbs grew at about twice the rate of the suburban Maryland counties throughout the 1990s. AOL and the high tech bubble of the late 1990s drove this growth in large part. The information technology bubble of the 1990s impacted Northern Virginia by increasing land values, increasing retail sales, and increasing personal income.

Since we are looking at FY2000 data, one might expect the impact of the information technology bubble is at its peak in the Virginia suburbs and that differences in the fiscal capacities between Maryland and Virginia jurisdictions might have narrowed over the last three years as a result of the burst in the technology bubble. This may not be the case, however. An October 2003 report by the Brookings Greater Washington Research Program found that federal spending, particularly on security, kept the Washington area economy growing in 2001 and 2002. In fact, according to the report, *Federal Spending, Especially on Security, Kept Washington Economy Growing In 2002*, no other major metropolitan area registered net job gains in 2002 and the area’s unemployment rate during 2002 remained extremely low – 3.7 percent. However, over \$31 billion in federal spending in the metropolitan Washington area went to Northern Virginia in FY 2002 compared with less than \$23 billion going to suburban Maryland. The differences are even greater when looking at procurement expenditures. In FY2002 federal procurement spending in metropolitan Washington totaled \$36 billion with nearly half going to Northern Virginia—\$17.5 billion—and less than 25 percent going to suburban Maryland—\$7.9 billion. Therefore, it is likely the differences in fiscal capacity between Maryland and Virginia jurisdictions in our study area have probably held up since 2000, and they might have actually increased some.

Table 5
Tax Bases Relative to the Average Per Capita Tax Base in the Study Area

	Land Value	Total Real Estate Value	General Sales Tax	Personal Income Tax
WASHINGTON, DC	122.4%	108.8%	50.4%	96.4%
ANNE ARUNDEL COUNTY	110.6%	87.6%	111.8%	86.4%
CALVERT COUNTY	104.8%	98.7%	65.1%	77.6%
CHARLES COUNTY	78.0%	80.0%	109.6%	70.0%
FREDERICK COUNTY	76.6%	84.2%	102.2%	80.0%
HOWARD COUNTY	101.4%	101.4%	95.4%	110.0%
MONTGOMERY COUNTY	112.0%	115.4%	113.9%	116.3%
PRINCE GEORGES COUNTY	57.1%	66.5%	84.4%	60.8%
Maryland Total	91.0%	91.2%	101.2%	89.1%
ARLINGTON COUNTY	129.9%	144.5%	102.4%	124.7%
FAIRFAX COUNTY	107.4%	114.6%	117.6%	129.1%
FAUQUIER COUNTY	154.4%	113.0%	66.5%	109.5%
LOUDOUN COUNTY	130.2%	114.2%	115.5%	135.6%
PRINCE WILLIAM COUNTY	71.0%	71.1%	110.1%	66.7%
ALEXANDRIA CITY	106.1%	123.2%	123.1%	124.2%
Virginia Total	106.7%	110.6%	113.4%	117.4%
Total for all Jurisdictions	100.0%	100.0%	100.0%	100.0%

Fiscal Effort

In terms of fiscal effort – the extent to which local governments are utilizing their available tax and revenue sources – only the District of Columbia (246) and Arlington

County (132) scored above average on fiscal effort index; the District ranked 1st overall and Arlington County ranked 2nd. The local governments in Virginia with above-average fiscal capacity, except Arlington County, consequently, ranked the lowest on fiscal effort: Alexandria City ranked 10th, Fairfax ranked 11th (66), Loudoun ranked 12th (62), and Fauquier ranked 13th (49). This is not surprising, given the fact that local governments with above average revenue-raising capacities are able to generate more revenue with lower tax rates than areas with lower revenue-raising capacities. The Maryland counties ranked higher in terms of fiscal effort; however, none of the counties ranked above average.

The District had the highest fiscal effort index (246), which was significantly higher than the average (100). The District's actual collections per capita in 2000 were \$5,926; more than twice as much as its hypothetical collections, \$2,409, under a representative system. In 2000, the District generated a substantial portion of its revenue from general and selective sales taxes as well as from the income tax levied on its residents; the District is not authorized to levy an income tax on non-residents who work in the District. The fiscal effort indices for these revenue sources are well above the average: general sales tax (1284), select sales tax (401), and individual income tax (380).

These revenue effort numbers are high for the District in part because it functions as both a state and local government. First, this dual role requires the District to provide more public services than those typically required of local governments. Moreover, the District is an urban center; urban areas tend to have higher levels of poverty, crime, older infrastructure, and other societal ills that require higher levels of spending on public services. For example, the District has the highest number of individuals (109,500) and highest percentage of its population (19.1%) living below the poverty line in 2000 compared with the other local governments in this study.²⁸ As a result, the District has higher expenditure needs than the other jurisdictions in the study area.

Second, as a result of its role as both a state and local government, the District's sales and income tax revenues reflect both local and state level collections. All of these revenues have been attributed to the local portion of the sales and income tax, thereby overstating, to some extent, the District's "local" sales and income tax revenue effort.

Prince George's County (PGC) had the second highest number of individuals (60,196) and the second highest percentage of its population (8%) living below the poverty line, in 2000.²⁹ As mentioned above, PGC had the lowest revenue raising capacity of all local governments; but given PGC's urban like characteristics, it is not surprising that it has the fifth highest fiscal effort in the study area.

The next section examines the impact shifting to a graded property tax (which taxes land more heavily than improvements) would have on fiscal capacity disparities in the metropolitan Washington area.

Implications of Site Value Tax for Local Fiscal Disparities in Metropolitan Washington, DC

Currently, for all the local governments in metropolitan Washington, DC the property tax is an *ad valorem* tax that generates revenue by taxing the value of land and improvements on land at the same rate. An alternative to taxing land and improvements on land at the same rate is to tax land and improvements on land at different rates – typically with a higher rate applied to land and a lower rate applied to improvements on land. This is often referred to as a *graded*, or *split rate*, property tax. At the extreme, the rate applied to improvements could be zero and the property tax would be a *land tax* or *site value tax*. The purpose of this section is to explore the implications shifting from the current property tax to a land tax or graded tax will have on fiscal disparities in the Washington metropolitan area. In order to highlight the impact of shifting to a graded tax, we first look at the extreme case of a land tax – i.e., for the case where the tax rate for improvements is zero.

Advantages of a Graded or Split Rate Property Tax

A land value tax has many perceived advantages compared with the current tax on land and improvements. Specifically,

- It is argued that the land tax does not discourage investment in improvements since such investments will not increase property tax liabilities as they do under the current tax. It is said this promotes development. Examining the urban renaissance in Pittsburgh after the adoption of a graded property tax in the early 1970s, Oates and Schwab concluded “... land taxation provides city officials with a tax instrument that generates revenues but has no damaging side effects on the urban economy. In this way, it allows the city to avoid reliance on other taxes that can undermine urban development.”³⁰ Put another way, “The role of land-value taxation in Pittsburgh should be understood in a setting of *differential* taxation. The relevant issue here is how the effects of the land-value tax *compared* with those of the available alternative sources of tax revenues. It appears that a land tax did not cause a building boom in Pittsburgh, but it did allow the city government to avoid policies that might have undercut the boom.”³¹
- Some argue that taxing land more heavily than improvements may be fairer. Specifically, it is argued that since the ownership of land tends to be concentrated in high-income families and individuals, a tax on land values is more progressive than a tax on land and improvements.³²
- Finally, there are those who argue for a land tax on administrative grounds. Bell and Bowman found some preliminary evidence to support the argument that local governments in South Africa adopted a land value tax because of its administrative ease. Jurisdictions with a large number of properties and a large share of housing in informal settlements were somewhat more likely to adopt a site value tax.³³ Any perceived savings in administrative costs, however, would not be realized by a local

government with a graded, or split rate, property tax since data on improvements would have to be collected, stored, and maintained.

Disadvantages of Graded Tax or Split Rate Property Tax³⁴

There are two major disadvantages to site value taxation. The first is an assessment problem. That is, the “bundled” property value must be determined and then partitioned into the land component of value and the improvement component of value. There are several technical approaches used by valuers to address this issue. The preferred method of valuing land for tax purposes is the sales comparison approach. Assessors use actual sales data to determine an average per unit value of land in each category and then make modifications to this average to determine the value for individual properties. The problem with the comparable sales approach, however, is that in developed urban areas there are often insufficient vacant land sales.

In cases where there are insufficient vacant land sales to estimate average land prices by category, assessors must resort to less-preferred approaches to partitioning a property’s value into its land and improvement components. One approach is the abstraction approach. In this case improvement values obtained from a replacement cost model are subtracted from the sales price of improved parcels, and the residual is the estimated land value. A second approach is the allocation, or land ratio, method. Here the assessor looks for an area with adequate vacant land sales, calculates a land-to-improvement ratio for properties in that area, then applies that ratio to similar types of improved properties in the area with limited vacant land sales. A third approach is the capitalization of ground rents approach. Under this approach, the net rent paid for land, leased independent of improvements, is capitalized to generate an estimate of land value. Finally, land valuation models can be used to estimate land and improvement values based on actual sales data. In each of these cases, determining land value is a more subjective exercise than total property valuation.

This “unbundling” of parcel value into the land component and the improvements component represents a major caveat for our efforts to explore the implications shifting to a land tax will have for fiscal disparities in the study area. All the jurisdictions in the study area “unbundled” total value into the land component and the improvement component. However, there is no implication of this breakout for taxes since both components are taxed at the same rate in each jurisdiction. As a result, there is not much effort spent in trying to make this partition so relative values may change if the partition of value into the land and improvement components had implications for tax liabilities.

For example, Laura Foussekis, Special Assistant to the Director, Maryland Department of Assessments and Taxation told us that there is not a procedure for allocating value between land and improvements. In some cases, examining the sales of vacant lots and adjusting for the cost of site improvements determine land values. In other cases, land values are determined by subtracting depreciated replacement costs of structures from improved parcel sales prices. She said the land/improvement breakdown is artificial and is only maintained because it is legally required to notify individual property owners of the value of their land and improvements separately. However, if an appeal is made, the

entire property value is appealed, not the land value or the improvement value. The only property types where there is sometimes an allocation as a percentage of the total value are condominiums. These are valued on a pure market approach (sale prices per square foot). The allocation to land varies by location. In Ocean City, for instance, the majority of the value is placed in the land. In other areas, the majority of the value is placed in the improvement.³⁵

In their study of the distributional implications of shifting to a land value tax in the District of Columbia, Schwab and Harris acknowledged a similar reservation. Specifically, they recognized that

“(First), while we can have confidence in the assessed valuation of the sum of improvements and land, it is unclear how much faith we can place in the accuracy of the separate assessment of land and improvements. Under current District tax policy, land and structures are taxed at the same rate and thus it would make little sense for the District to put a great deal of effort into developing accurate measures of land values...”³⁶

They continue

“If the District did adopt a graded tax, it would need to determine land values much more carefully and it is quite possible that, as a consequence, our view of the distribution of the burden of the tax could change significantly.”³⁷

The second frequently discussed disadvantage of a land-only tax is that the value of land is a much smaller tax base than the value of land and improvements. As a result, sufficient revenues can only be generated at higher rates. Bahl asserts that there can be no question but that it is politically easier to levy a lower property tax rate on a broader base (one that includes the value of improvements) than *vice versa*. This argument is not easily dismissed. Financial officers and elected officials of fiscally strapped local governments too often see downtown office buildings, hotels, and luxury residences as legitimate and fruitful objects of taxation – in part because it is perceived as a way to shift taxes to others. In fact, some countries have made exceptions to their land value tax in order to capture the value of these types of improvements.³⁸

This issue is not a major issue in our study area because land values account for between 31 percent and 49 percent of total real estate values. When land and improvements are both included in the real property tax base, the average tax rate across the jurisdictions included in our study is 1.25 percent. When only land is included in the real property tax base the average increases to 3.48 percent. While the average rate naturally goes up under a land only tax, it is certainly not confiscatory as some predict.

Recent Interest in Land Taxes

Currently there are approximately 18 cities and boroughs in Pennsylvania with a split rate or graded property tax. These are typically smaller cities with an average population of less than 24,000. The land-to-building tax rate ratio ranges from 2-to-1 in Steelton to 19-

to-1 in Washington and the tax on land accounts for between 31 and 76 percent of local revenues. Very few cities outside of Pennsylvania have experimented with a land value tax.³⁹

Given the theoretical, equity and administrative arguments made by proponents of a land, or split rate, tax it is somewhat surprising that more cities in the U.S. and in other countries have not tried a land value, or split rate, tax. An international survey of taxes on land and buildings by Youngman and Malme found that of the 14 developed and developing countries studied, only in Australia “is land alone the primary legally prescribed property tax base.”⁴⁰ Also, Bahl and Linn observed, “One could not say that there is a groundswell of enthusiasm for site-value taxation among local governments in developing countries.”⁴¹ More recently, Bahl concluded that “if there is a worldwide trend, it is toward taxing the total value of the property.”⁴²

Recently, however, a number of local governments have expressed interest in the idea of a land value tax. For example, fully half of the local governments in Pennsylvania with a split rate tax have adopted it since 1990. In addition, the City Controller of Philadelphia, Jonathan A. Saidel, included a split tax in his blueprint to overhaul the city’s tax structure in order to halt the exodus of the middle class and businesses. After a year of study, the Tax Structure Analysis Report released in November 2001 called for instituting a land tax. Under the current system, structures and improvements account for over three-quarters of real estate tax revenues. The change proposed for FY2003, taxing land at 3.44 times the rate imposed on buildings, would generate equal revenue from land and improvements. The Controller’s analysis suggests that property taxes would decline modestly for 78 percent of city residents, but increase for 50 percent of city commercial and industrial property-owners. Owners of undeveloped land in prime areas, parking lots, and car dealerships would experience higher taxes.

More recently, a study of finance options for the City of Baltimore considered the implications of moving to a split rate tax. The study concluded that a split-tax scheme in which land is valued at five times improvements shifts the burden of property taxes slightly from residential to business uses. It is also clear that the change in tax structure would be progressive, generally falling more heavily on higher income areas than on less affluent neighborhoods. However, many of the communities where residential property tax liabilities would increase are those that the City has targeted in its Healthy Neighborhoods and other initiatives for preservation and stabilization in order to stem the out migration of middle and upper income families. In the final analysis, the study concluded that since a shift to a split rate tax would not generate new revenue for the city and would dramatically depart from the history and culture of the State of Maryland, it is unlikely that this approach would be worth the significant education effort that would be required to pass legislation to implement it.⁴³

The issue has received attention in the metropolitan Washington, DC area as well. For example, the District of Columbia Tax Revision Commission investigated the consequences of introducing a split rate tax in the District. The Commission concluded that it was not appropriate to implement a split rate tax at this time. To impose a split rate tax in DC would require either establishing five differential tax rates on land because of

the current system of classification, or eliminating the classification system which would result in unacceptable, substantial shifts in property tax burdens from commercial to residential property.⁴⁴

In 2002 the Virginia State Legislature gave Fairfax City and Roanoke City the authority to move from the current tax on land and improvements to a split rate tax. Neither city has formally taken action on the proposal to shift to a graded tax. A study of the distributional implications across neighborhoods and land uses is underway in Roanoke City and a preliminary study has been completed in Fairfax City. The preliminary study in Fairfax City found that residential neighborhoods would generally experience reduced tax liabilities under a graded tax – with the greatest benefits being experienced in newer developments with larger houses and smaller lots. Taxes would increase for land intensive recreational uses (primarily the Army-Navy Country Club) and land intensive commercial uses including auto dealerships. A shift to a graded tax would have differential impacts on shopping centers with those that have made recent investments and are fully leased seeing the greatest benefit.

All of the studies mentioned above, with the exception of the Oates and Schwab study of the Pittsburgh Renaissance have focused on the distributional implications of shifting from the current tax on land and structures to a graded tax which taxes land more heavily than structures. Basically, they identify the winners and losers of such a shift and make political judgments about the desirability or political feasibility of such a shift in tax burdens. The purpose of our study is to examine the impact of a shift to a graded tax on the fiscal disparities that exist across the Washington, DC metropolitan area. That is the subject of the next section.

Empirical Results

In a previous section we employ the ACIR Representative Revenue System to estimate fiscal disparities across local governments in the metropolitan Washington area. We found that Virginia counties tended to have above average fiscal capacity and Maryland counties tended to have below average fiscal capacities. The results presented in Table 4 above indicate that Arlington County has the highest per capita fiscal capacity of the jurisdictions in the study area (129 percent of the average for the study area) and Prince George's County has the lowest (69 percent of the average for the study area). The jurisdiction with the highest fiscal capacity index has an index that is 87 percent greater than the one with the lowest fiscal capacity index. The median fiscal capacity index was 99.5 and the spread of individual fiscal capacity indices around the median, as measured by the coefficient of dispersion, was 16.3 percent.

The purpose of this section is to recalculate the fiscal capacity measures for the jurisdictions in the study area assuming that property tax revenues collected are generated from land values only. In this scenario, the average tax rate used to calculate the hypothetical fiscal capacity of individual jurisdictions is 3.48 percent, an increase from the 1.25 percent average tax rate under the base line scenario of taxing land and improvements at the same rate. All the other average tax rates are the same under both scenarios so that the change in fiscal capacity estimates is due solely to the shift to a land

value tax (assuming the tax rate on improvements is zero). Table 6 presents the results of measures of fiscal capacity under two different scenarios – the baseline scenario which taxes land and improvements at the same rate and the alternative scenario which taxes only land.

Table 6
Measures of Fiscal Capacity Under Two Alternative Scenarios

JURISDICTION	TAXING LAND ONLY			TAXING LAND AND STRUCTURES		
	Hypothetical Collections	Fiscal Capacity Index	Rank	Hypothetical Collections	Fiscal Capacity Index	Rank
Washington, DC	2533	102	7	2409	97	7
MARYLAND						
Anne Arundel Co.	2433	98	8	2223	89	9
Calvert Co.	2315	93	9	2259	91	8
Charles Co.	1951	78	11	1969	79	11
Frederick Co.	1985	83	10	2054	83	10
Howard Co.	2529	102	7	2530	102	6
Montgomery Co.	2848	116	6	2879	116	4
Prince Georges Co.	1635	66	13	1721	69	13
VIRGINIA						
Arlington Co.	3073	123	1	3206	129	1
Fairfax Co.	2950	119	3	3016	121	3
Fauquier Co.	2932	118	4	2553	103	5
Loudoun Co.	3026	122	2	2879	116	4
Prince William Co.	1875	75	12	1876	75	12
Alexandria City	2907	117	5	3064	123	2
Aggregate Per Capita All Jurisdictions	2489	100		2489	100	

Overall, there is not much change in the fiscal capacity of individual jurisdictions and there is very little change in the relative rankings of the individual jurisdictions. Arlington County still has the highest fiscal capacity index in the study area, albeit it drops from 129 to 123. Prince George's County still has the lowest fiscal capacity index, dropping from 69 under the baseline scenario to 66 under a land only tax.

The greatest change in per capita fiscal capacity relative to the average for the region is in Fauquier and Loudoun counties in Virginia and Anne Arundel county in Maryland. Not surprisingly these three counties have the highest percentage of their real estate values in land values – 49 percent, 41 percent and 46 percent respectively. With regard to relative rankings of fiscal capacity per capita relative to the regional average, there is not much change under the land only scenario vis-à-vis the baseline scenario. While Fauquier County moves from 5th to 4th and Loudoun County moves from 4th to 2nd, the top five jurisdictions are still in Virginia.

The spread between the jurisdiction with the highest fiscal capacity index and the one with the lowest decreases marginally from 60 points to 57 points. The jurisdiction with the highest index is 86 percent higher than the one with the lowest index, compared with 87 percent spread under the baseline scenario. The median index increases slightly from 99.5 to 102. Finally, the spread around the median ratio, as measured by the coefficient of dispersion, is somewhat less under the land only scenario, 15.5 percent, compared to the baseline scenario, 16.3 percent.

Conclusion

The purpose of this project was to utilize the Representative Revenue System developed by the Advisory Commission on Intergovernmental Relations to measure intra-metropolitan fiscal capacity and effort disparities. Specifically, we calculated fiscal capacity and effort measures for 14 local governments within the Washington, DC metropolitan area. We then explored the impact shifting to a land only tax would have on the resulting fiscal disparities.

Our first concern was with the variation in fiscal capacity and effort of local governments within a metropolitan area. The data indicate this is an important concern. In the Washington, DC metropolitan area per capita fiscal capacities varied from 69 percent of the average in Prince George's county to 129 percent of the average in Arlington county. In Maryland, only 2 of the 7 local jurisdictions included in the study had fiscal capacities greater than the regional average, while in Virginia only one local jurisdiction had fiscal capacity below the regional average. Washington, DC had a fiscal capacity about equal to the regional average.

This highlights a second important finding. Not only did we find substantial variations in fiscal capacity across the metropolitan area, the major disparities were between suburban jurisdictions. Washington, DC, the core center city in the metropolitan area, had an average fiscal capacity while there was substantial variation across suburban governments.

Based on this one case study, we cannot speculate on the extent to which this pattern of fiscal disparities might exist in other metropolitan areas. For example, the Northern Virginia suburbs benefited greatly from the information technology boom of the 1990s because of the presence of AOL. Also, businesses in Northern Virginia have been very successful in competing for government contracts, especially procurement contracts. As a result of these trends, the Northern Virginia suburbs grew at about twice the rate of the Maryland suburbs for the decade of the 1990s. Other metropolitan areas have equally unique experiences that will result in different patterns of fiscal disparities. Similar studies of other metropolitan areas would be necessary before we can conclude that these are in any way representative patterns.

After calculating measures of fiscal capacity and effort, our second concern was to explore the impact on fiscal disparities in the metropolitan area of shifting to land value tax. On an equal yield bases, we recalculated the fiscal capacity measures for each jurisdiction assuming the observed property tax collections were generated from taxing land only. Looking at the spread between the high and low fiscal capacity indices, a measure of central tendency, and a measure of dispersion around the measure of central tendency we found that shifting to a land tax does not exacerbate fiscal disparities. In fact, the data seem to suggest that shifting to a land only tax would actually moderate the dispersion of fiscal disparities across the metropolitan area.

Again, these findings are from one case study and cannot be extrapolated to characterize the circumstances in other metropolitan areas. Additional studies need to be conducted to see to what extent these findings reflect the “typical” situation within other metropolitan areas. But these findings do suggest that for the Washington, DC metropolitan area, if all local governments in the metropolitan area shifted to a land tax fiscal disparities across local governments would not be made worse, and could actually be ameliorated some.

Appendix

Methodology

The purpose of this study is to estimate the revenue raising capacity and effort of individual local governments within the Washington, DC metropolitan area. The framework for conducting the study is the Representative Revenue System (RRS) developed by the Advisory Commission on Intergovernmental Relations. The purpose of this Appendix is to outline the RRS approach used in this study, discuss the selection of local jurisdictions included in the study, and document the revenue collections and bases used to generate the estimates of revenue capacity and effort for this study.

Representative Revenue System

The Advisory Commission on Intergovernmental Relations (ACIR) had a longstanding interest in measuring the fiscal capacity and effort of state and local government. The first approach put forward by ACIR for measuring state and local fiscal capacity and effort was the Representative Tax System.⁴⁵ That approach was subsequently expanded to include non-tax revenues and is referred to as the Representative Revenue System (RRS).

As applied to the 50 states by ACIR, the RRS includes 28 taxes and 3 non-tax sources of revenue. These are detailed in Table 1.

Table 1
Revenue Sources Included in ACIR Representative Revenue System

<i>Sales Taxes</i>	<i>License Taxes</i>	<i>Other Taxes</i>	<i>Non-tax Revenues</i>
General Sales Taxes	Vehicle Operator	Personal Income Taxes	Rents and Royalties
Gross Receipts Taxes	Corporation	Corporate Income Taxes	Lotteries
Selective Sales Taxes:	Hunting and Fishing	Property Taxes	User Charges
Pari-mutuel	Alcoholic Beverages	Residential	
Motor Fuel	Automobile	Farm	
Insurance	Truck	Commercial/Industrial	
Tobacco		Public Utilities	
Amusement		Estate and Gift Taxes	
Public Utilities		Severance Taxes	
Distilled Spirits		Oil and Gas	
Beer		Coal	
Wine		Nonfuel Minerals	
		Other Taxes	

Source: Advisory Commission on Intergovernmental Relations, *RTS 1991, State Revenue Capacity and Effort*, Washington, DC, September 1993, Table 1, p. 7.

Our focus in this project differs from the ACIR focus on state and local revenues. ACIR used the state as the unit of observation, but our focus is on the revenue raising capacity and effort of individual local governments within a metropolitan area. We use the local government as the unit of analysis—counties and municipalities. Therefore, in calculating revenue raising capacity, and effort, we exclude revenue sources that are traditionally state level revenues – e.g. corporate income tax, motor fuels tax, death and gift taxes, estate and gift taxes, severance taxes and occupational and business licenses. We only include revenue sources that are utilized, or could potentially be utilized, by local governments in the study area. These include real and personal property taxes, personal income taxes, general sales taxes, some selective sales taxes, and current charges. Similarly, non-tax revenue sources not available to local governments would be inappropriate to include in our study. Lottery revenues fall into this category. Table 2 lists the local own-source revenues included in our study of revenue capacity and effort of local governments in metropolitan Washington, DC.

Table 2
Local Government Revenue Sources Included in this Study

<i>Sales Taxes</i>	<i>Other Taxes</i>	Non-Tax Revenues
General Sales Taxes	Personal Income Taxes	User Charges
Selective Sales Taxes	Property Taxes	Utilities
Public Utilities	Real	
Other Select Sales Taxes	Personal	

Jurisdiction Selection

Initially, we were going to examine the individual revenue raising capacity and tax effort of counties and their municipalities, but due to data constraints, we were limited to looking only at counties and large independent cities. 2000 Census revenue data were not available for small cities and special districts; however, this was not a major concern because counties are responsible for most revenue collection and service delivery, especially in Maryland. Moreover, we were able to reflect revenue raised by cities and special districts by using 1997 Census revenue data for all local governments and then inflating the 2000 county revenue totals to reflect total revenue collections by all local governments. A more detailed explanation of these estimates is provided later in the appendix.

In selecting governments to include, we start with the Census definition of the Washington, DC Primary Metropolitan Statistical Area (PMSA) and we decided to omit the two counties in West Virginia and include two Maryland counties that are technically part of the Baltimore PMSA – Anne Arundel and Howard counties. In Virginia, we decided to include the following counties: Arlington, Fairfax, Fauquier, Loudoun, and Prince William. We also chose to include the independent city of Alexandria. The state

of Virginia has independent cities, which are defined by the U.S. Census Bureau as geographic entities not part of any surrounding county but are considered county equivalents for data presentation purposes.⁴⁶ In 2000, the population in Alexandria City (128,283) was similar to those counties we selected in Virginia: Loudoun County (169,599) and Arlington County (189,543).⁴⁷ Alexandria City exceeded the population of Fauquier County (55,139). See Table 3 for a list of the selected jurisdictions.

We considered examining the individual revenue raising capacity and effort of other independent cities such as Fairfax City, Falls Church City, Manassas Park City, and Manassas City, but ultimately, we did not given their relative size. Moreover, in Maryland, none of the cities are considered county equivalents or independent entities separate from the counties; Maryland cities are considered part of the county in which they are geographically located. Thus, revenue and tax base data are included in the county totals. In order to have comparable spatial units to Maryland, we added the tax revenue and tax base data of the above mentioned independent cities in Virginia –which are collected separately from the surrounding counties’ totals-- to the surrounding counties’ tax revenue and tax base totals: Fairfax City and Falls Church were added to Fairfax County, and Manassas City and Manassas Park City were added to Prince William County.⁴⁸

The Town of Leesburg in Virginia was also considered for individual evaluation, despite the fact it is not an independent city, because it had the largest population of all local jurisdictions in Loudoun in 2000 (28,311).⁴⁹ However, it is not examined independently because its property assessments are included in the County total due to the fact it is not an independent city.

Table 3
Selected Local Jurisdictions

Maryland	Virginia	District of Columbia
Anne Arundel	Arlington County	
Calvert County	Fairfax County + Fairfax City + Falls Church City	
Charles County	Fauquier County	
Frederick County	Loudoun County	
Howard County	Prince William County + Manassas City + Manassas Park City	
Montgomery County	Alexandria City	
Prince George’s County		

Data Sources for Revenues Collected

Metropolitan Washington, DC includes local governments from three different jurisdictions – Maryland, Virginia, and Washington, DC (a single unit of government with state and local government responsibilities because it is not included in the boundaries of any state). As a result, we had concerns regarding the comparability of data across jurisdictions. Accurate and complete revenue data are available for counties and independent cities in Maryland and Virginia; however, the definitions of what comprises the revenue sources differ across states making comparability difficult. In order to use revenue collection data that are comparable across all local jurisdictions in the metropolitan Washington, DC area, we use data from the U.S. Census Bureau.

The U.S. Census Bureau produces detailed revenue data for local governments in the form of micro-form data. These data were available for 2000 for counties and large independent cities in Maryland and Virginia, and for Washington, DC. These data are not available for smaller cities and special districts. However, data for all local governments are available from the 1997 Census of Governments – the 2002 Census of Governments had not been released at the time of this study.

As mentioned above, the lack of data for small cities and special districts is not a major concern because counties are responsible for most revenue collection and service delivery, especially in Maryland. Using 1997 Census of Government data we determined that county governments in Maryland accounted for 96 percent of total local own-source revenues. Counties accounted for 94 percent of property tax collections, 97 percent of selective sales tax revenues, 100 percent of local income tax collections, and 94 percent of user charges. In Virginia, county governments, including independent cities, accounted for approximately 98 percent of total local own-source revenue, 99 percent of property tax collections, 97 percent of selective sales taxes, and 95 percent of user charges. Local governments in Virginia do not collect income tax. Therefore, to estimate total local government own-source revenue collections by revenue source by county for FY2000 we inflated the county collection data for each source obtained from the Census Bureau's 2000 micro-form data file by the appropriate percentage.

The Census data file was comprehensive and included revenue sources that were not appropriate for this study. Because we focus on local governments, a number of adjustments were made to these categories so they reflect activities of local governments only. See Exhibit A for description of adjustments.

Apportioning Property Tax Revenue

The Census data do not provide a breakdown of property tax collections into real and personal property tax revenue.⁵⁰ We were able to obtain the amount of tax receipts collected from real and personal property from each state government for FY 2000.⁵¹ These data did not equal the totals reported by the Census - this is probably a result of differences between the Census' and the state agencies' definition of what is included under "property taxes". Therefore, in order to apportion the Census data into real and personal property tax revenue, we used the state data to calculate the share of real and

Exhibit A

Moving from Census File to Work File

The following are the adjustments made to the Census file in order to arrive at our work file:

1. In the category of user charges, we omitted **charges for higher education**, which included the University of the District of Columbia, because it is considered a state level responsibility. Similarly, we excluded **charges for hospitals**.
2. **Corporate income tax, motor fuels tax, alcoholic beverage tax, tobacco tax, death and gift taxes, estate and gift taxes, document & stock transfer, taxes not else where classified (NEC), severance taxes, and all license taxes** were omitted because revenue from these sources is primarily collected by the state, except in the case of the motor vehicle license tax and the tobacco tax⁵² in Virginia.
3. **Intergovernmental revenue**, all sources, was omitted because funds received from other governmental entities do not reflect the economic base from which local governments raise revenue. This includes federal payments to the District of Columbia.
4. **Liquor store revenue** was omitted because none of the selected jurisdictions collect revenue from this source, except Montgomery County.
5. **Miscellaneous revenues** were also completely omitted for our purposes. This category included:
 - **Property sales**, which are periodic and driven by a number of factors that do not reflect the ability of local governments to raise own-source revenues to meet annual operating expenses.
 - **Special assessments** which are compulsory payments from property owners who benefit from specific public improvements, and impact fees to fund the extension of water, sewer, roads, and other such infrastructure for new developments.⁵³ Consideration was given to including this revenue source as part of property tax revenue or user charges; for example, revenue from impact fees would have been allotted under user charges. However, a breakdown of the different revenue sources under special assessments was not available; therefore, it was not possible to apportion the different revenue sources accurately. Moreover, special assessments comprise less than 2.5% of total revenue for all counties and Alexandria city, except Prince William: it was 6.59%. Other payments included in this category are not based upon property value or individual use; therefore, it would not be appropriate to include them in either category
 - **Revenues from interest payments and rents and royalties**, reflect cash management practices, not ongoing revenue sources that reflect differences in economic circumstances across local governments.
 - **Lottery revenues**, which accrue to state governments only, are not local own-source revenues. All of these revenue sources are excluded from our study, in spite of the fact they are included in the ACIR approach.
 - **Miscellaneous general revenues not elsewhere classified (NEC)** are omitted because they do not reflect economic differences across local governments that would impact their abilities to generate own-source revenues.⁵⁴ Payments in lieu of taxes (PILOTS) could be categorized as a user charge, but the Census does not provide a detailed breakdown of the revenue sources in this category.⁵⁵ Therefore it is not possible to apportion the correct amount of revenue received from PILOTS to the user charges category.

personal property revenue to total property tax collections for each jurisdiction and then applied these percentages to the Census data.

Total property tax revenue also includes money earned from interest and penalties. This revenue was added to each jurisdictions real property tax total.

Maryland Real and Personal Property Tax Revenue

For Maryland Counties, a breakdown of real and personal property tax revenues by county was available from the Uniform Annual Financial Report provided by the Department of Legislative Services. In this report, property taxes are broken down into four categories: real, personal, railroad and public utilities (RPU), and ordinary business corporations (OBC).

According to the Maryland State Department of Assessment and Taxation and the county governments, OBC revenue is personal property tax revenue so it was added to each county’s personal property tax revenue total. The reason for the distinction is that, in previous years, both the state and the county assessed personal property; the personal property line-item was county assessments and OBC was state assessments. Currently, all personal property is assessed by the state and this distinction is no longer made.⁵⁶

Revenue from railroads and public utilities, however, may include either a combination of both personal and real property revenue or just personal or just real, depending upon the county. For example, Calvert County includes both real and personal property revenue under the RPU category. In Frederick County, RPU revenue is considered all real property tax revenue because they do not levy a personal property tax.⁵⁷ Table 4 list the revenue category (real or personal) that RPU revenue falls under for each county.

**Table 4
Maryland RPU Revenue Category**

Local Government	RPU Category
Anne Arundel	N/A
Calvert	Real & Personal
Charles	Personal
Frederick	Real
Howard	Personal
Montgomery	Personal
Prince George	Personal

N/A = not applicable

Calls were made to each county in order to determine which category RPU fell under. In the case of Calvert County, it was not possible to obtain a breakdown of RPU into real

and personal. Property tax revenue generated from RPU in 2000 for Calvert is about 24 billion dollars. Because it is not possible to obtain a breakdown, apportioning this revenue accurately into either real or personal property is not possible. Moreover, simply adding this revenue to either the real or personal revenue total would distort the amount of revenue earned from real and personal property. As a result, we divide the revenue amount in half and add approximately 12 billion to the personal property tax revenue and the remaining to the real property tax revenue.

The county of Frederick does not levy a personal property tax, but the incorporated towns within Frederick do. Due to data limitations, we were not able to obtain a breakdown of property tax revenue for the incorporated towns in Frederick; therefore, a small portion of the real property tax revenue total contains personal property tax revenue generated from the incorporated towns. This amount, however, is minimal and does not significantly distort the real property tax revenue. Four of the 12 incorporated towns do not tax business personal property. Moreover, the total property tax revenue of the incorporated towns is less than three percent of the county property tax revenue total. Therefore, we do not make any adjustments.

Inflating County Revenue Totals to Reflect Cities and Special Districts

As mentioned above, it was necessary to inflate the 2000 county revenue totals in order to reflect total revenue raised by counties, cities, and special districts. We did this by using revenue data for cities and special districts available from the 1997 Census of Governments.

The first step was to calculate the total amount of revenue collected for each revenue source for all counties and for all municipal and special districts in this study in Maryland and in Virginia in 1997. The second step was to combine the county revenue totals with the municipal and special district totals to arrive at the total local government revenue for each revenue source in our study. Then, in order to determine the counties' share of total local government revenue, we divide the counties' revenue totals by the revenue totals of all local governments (counties, cities and special districts). For most counties in Maryland and Virginia, the county share was about 95 percent of the total local government revenue. Finally, we divide the 2000 revenue data by the counties' share of total local government revenue for each revenue source in 1997 in order to reflect the revenue of municipalities and special districts; we assume that the counties' share of total local government revenue in each jurisdiction remains constant from year to year.

2000 and 1997 revenue data were available for a few municipalities and special districts in both Maryland and Virginia. In these cases, we added the 2000 revenue data for the city, town or special district to the county revenue totals and did not include those jurisdictions in calculating the revenue totals for each revenue source for all municipalities and special districts in 1997. For example, 2000 transit revenue was available for all local jurisdictions and made up 100 percent of revenue collected from cities and special districts in both 1997 and 2000; therefore, this revenue was added to the county level transit revenue category so the county share of transit revenue was 100 percent rather than 0%.

There were about five cases in which revenue from a particular source was collected entirely by municipalities and special districts and data on revenue collections were only available for 1997. For example, in Maryland, the total revenue from electric utilities was collected entirely (100%) by the municipality of Thurmont in Frederick County in 1997. Data on electric utility revenue earned in 2000 were not available and, therefore, could not be added to Frederick County's electric utilities revenue for 2000. Additionally, it was not possible to inflate the Frederick County's electric utilities revenue for 2000 by its share of total revenue in 1997 because its share was zero. In order to get an approximation of the amount of revenue earned by electric utility revenue in 2000 for the town of Thurmont, we added the amount earned in 1997 (\$2,751,000) to the total earned by the Frederick county (0) and inflated the value by the counties' share of total local government revenue earned from public utilities, which was about 97%. This provided us with an estimate of the amount of revenue earned from electric utility revenue (\$2,821,000) in 2000. This same approach was used for five cases.

Data Sources for Tax Bases

In identifying appropriate representative tax bases, we were concerned with choosing tax bases that did not reflect local government policies. This section outlines the economic tax bases selected, the data sources used, and any calculations made to estimate an appropriate tax base.

Real Property

The real property tax base is defined as the market value of all property in each jurisdiction, except property that is typically exempt from taxation (i.e. government property, churches, nonprofits). The representative base for real property is the assessed value of property at 100% of market value.

In Virginia and Maryland, real property assessments were obtained from annual reports issued by each state's department of taxation.⁵⁸ In 2000, Maryland assessed property at 40 percent of market value; therefore, we divided the assessed property values in the report by .40 to obtain the full market value.⁵⁹ In Virginia, real property was assessed at fair market value (FMV): 100 percent of market value.

Property assessments in Maryland and Washington, DC were assessing real property triennially in 2000. The local governments in Virginia, however, were assessing real property annually in 2000 with the exception of Fauquier County - real property was last assessed in 1998. We were not able to adjust the data for Maryland and DC to reflect their triennial assessment cycle.

Real property assessments for the District of Columbia for FY 2000 were available in the statistical section of the *Comprehensive Annual Financial Report FY 2000*; however, the assessments were done after homestead exemptions and tax credits.⁶⁰ It was necessary to add exemptions back into the property tax base in order to have the full market value of real property in the District. Real property assessments before homestead exemptions

and tax credits were not available for tax year 2000, but were available for tax year 2002 (Personal communication, Daniel Muhammad, 8/26/03).⁶¹ Using the 2002 data, we were able to estimate the value of all real property in the District for 2000 before allowance for homestead exemptions.

District of Columbia Real Property Base

The following steps were taken to estimate the total assessed value of residential property for 2000. Using the 2002 value of residential property prior to homestead exemptions and tax credits, or total residential tax base (hereafter TRTB₂₀₀₂), the first step was to determine the share of the assessed value of residential property after homestead exemptions, or the residential tax base (hereafter RTB₂₀₀₂), to the TRTB₂₀₀₂. We calculated RTB₂₀₀₂ to be 91.7 percent of the TRTB₂₀₀₂.

Assuming this percentage is about the same each year, the second step was to apply these percentages to the 2000 data. For example, we assume that the assessed value of residential property after homestead exemptions and tax credits (\$23,912,435), or RTB₂₀₀₀, is 91.72 percent of the total assessed value of residential property prior to homestead exemptions and tax credits, or TRTB₂₀₀₀. The final step is to calculate the value of TRTB₂₀₀₀ for which the value of RTB₂₀₀₀ is 91.72 percent. See equations below in Exhibit B.

Exhibit B

Calculations of DC Total Residential Tax Base for 2000

$$1. \text{ TRTB}_{2002} (\$27,150,679,567) = \text{TRB}_{2002} (24,902,543,000) + \text{Exemption}_{2000} (\$2,248,136,567)$$

$$2. \text{ TRTB}_{2002} (100\%) = \text{TRB}_{2002} (91.72\%) + \text{Exemption}_{2002} (8.28\%)$$

$$3. \text{ RTB}_{2000} (23,912,435,000) = 91.72\% * \text{TRTB}_{2000}$$

$$\text{RTB}_{2000} (23,912,435,000) / (91.72\%) = \text{TRTB}_{2000} (\$26,071,187,202)$$

Land and Building Assessments

The second portion of this study will examine the effect a shift to a land tax would have on fiscal disparities among the jurisdictions. In order to examine the effects, it was necessary to also collect real property assessments for both land and structures. In Virginia, the annual report published by the Department of Taxation provided the FMV assessment of land and structures.⁶² In Maryland and the District, land and structure assessments were not available for FY 2000; however, they were available for other fiscal years: in MD, assessments were available for FY2003 and in the District, assessments were available for FY1999.⁶³ Using the available data, we were able to estimate land and structure values for FY2000.

To estimate the values, we used the 2003 and 1999 data to calculate land as a percentage of the total assessed value for each jurisdiction. These percentages were then applied to the total assessed value for 2000. In order to ensure the percentages from the differing fiscal years were appropriate to apply to 2000 data, we calculated the counties assessable base as a share of the total value of assessed property for MD and DC for both fiscal years. Comparing the percentages allowed us to determine whether land would be roughly the same percentage year to year in each jurisdiction. The shares were similar in 2000 and 2003 for MD and similar in 2000 and 1999 for DC; therefore it was appropriate to apply the percentages for land as a share of total assessed value to estimate the assessed value for land and structures. Table 5 shows the calculations done for Maryland.

Personal Property Base

The principal difficulty with personal property was making the tax bases comparable across jurisdictions. In Maryland and Virginia, personal property taxes are local options; therefore, each local jurisdiction has discretion over what is subject to the personal property taxes. As a result, personal property tax levies differ not only between states but also within them. See Table 6 for local government options.

In Maryland and Virginia, personal property assessments were available through the same reports that provided real property assessments.⁶⁴ In Maryland, three categories are assessed for personal property taxation: railroads, public utilities, and other business personal property. In Virginia, four categories are assessed: tangible personal property, machinery and tools, merchant's capital, and public service corporations.

Fortunately, the county governments we selected tax similar types of personal property. None of our jurisdictions tax commercial and manufacturing inventory.⁶⁵ The major differences in taxation that had to be reconciled were: Virginia's personal property tax on vehicles, which Maryland and the District do not levy; and Virginia's and the District's taxation of manufacturing equipment, which is exempt in the Maryland counties in this study. Prince William County does levy a tax on farming equipment; however, the revenue generated from this tax is negligible according to the county's tax administrator. Therefore we do not include it since the other jurisdictions do not tax farming equipment. See Table 7 for a comparison of personal property taxes levied by the local jurisdictions in this study.

In order to make the personal property tax base data comparable across jurisdictions, we make the following adjustments: omit manufacturing equipment because the amount of revenue generated from this source is not significant and the difficulty involved in estimating an appropriate representative tax base would be substantial, and estimate the assessed value of vehicle personal property for both Maryland and DC in 2000. Further details are discussed below.

Table 5
Maryland Land Structure Assessment Calculations

Real Property Base - County/Municipality–2003 Net of Exempt Properties							
County	Total Land Value	Share of Total Land	Building Value	Share of Total Bldg Value	Total Assessed Value (AV)	Share of Total AV	Land As Pct Total
Anne Arundel	19,282,434,760	22.1%	23,133,711,120	15.0%	42,416,145,880	17.6%	45.5%
Calvert	2,379,489,575	2.7%	3,840,852,700	2.5%	6,220,342,275	2.6%	38.3%
Charles	3,064,965,513	3.5%	5,666,639,700	3.7%	8,731,605,213	3.6%	35.1%
Frederick	4,988,477,090	5.7%	10,238,326,790	6.6%	15,226,803,880	6.3%	32.8%
Howard	8,838,178,810	10.1%	15,716,748,960	10.2%	24,554,927,770	10.2%	36.0%
Montgomery	34,771,587,550	39.9%	64,723,793,270	42.0%	99,495,380,820	41.2%	34.9%
Prince George's	13,817,271,520	15.9%	30,886,126,438	20.0%	44,703,397,958	18.5%	30.9%
Total Value	87,142,404,818	100.0%	154,206,198,978	100.0%	241,348,603,796	100.0%	36.1%

Real Property Base - County/Municipality – 2000 Net of Exempt Properties

County	Total Land Value	Share of Total Land	Building Value	Share of Total Bldg Value	Total Assessed Value (AV)	Share of Total AV	Land As Pct Total 2003
Anne Arundel	14,238,530,729	21.1%	17,082,389,271	14.3%	31,320,920,000	16.8%	45.5%
Calvert	2,054,755,214	3.1%	3,316,682,786	2.8%	5,371,438,000	2.9%	38.3%
Charles	2,471,813,389	3.7%	4,569,994,611	3.8%	7,041,808,000	3.8%	35.1%
Frederick	3,934,090,749	5.8%	8,074,309,251	6.8%	12,008,400,000	6.4%	32.8%
Howard	6,605,992,096	9.8%	11,747,297,904	9.9%	18,353,290,000	9.8%	36.0%
Montgomery	25,708,591,047	38.2%	47,853,941,953	40.1%	73,562,533,000	39.4%	34.9%
Prince George	12,031,304,556	17.9%	26,893,905,444	22.6%	38,925,210,000	20.9%	30.9%
Total Value	67,368,707,590	99.5%	119,214,891,410	100.3%	186,583,599,000	100.0%	36.1%

Source: Maryland State Department of Assessment and Taxation (SDAT)

Table 6
Personal Property Tax Local Options

Maryland	District of Columbia	Virginia
Furniture, Fixtures, Machinery and Equipment	Furniture, Fixtures, Machinery and Equipment	Furniture, Fixtures, Machinery and Equipment*
Leased Property	Leased Property	Leased Property
Other Tangible Personal Property	Other Tangible Personal Property	Other Tangible Personal Property*
Commercial & Manufacturing Inventory**	-	Commercial & Manufacturing Inventory**
Supplies	Supplies	Supplies
Other Vehicles	Unregistered Motor Vehicles	Other Vehicles
-	-	Vehicles
Livestock/Agriculture	-	Livestock/Agriculture

* In VA, other tangible personal property includes household personal property; however, none of the local jurisdictions in VA selected for this study impose a personal property tax on household items.

** None of the counties we have selected in MD or VA levy a tax on commercial & manufacturing inventories.

Manufacturing Equipment

For the majority of jurisdictions in Virginia, the amount of revenue earned from and the assessed value of manufacturing equipment - which is referred to as machinery and tools by the State - is less than 2 percent of the total revenue and the total assessed value of personal property, except in the case of Manassas City where it is 48 percent. Manassas city is unique in that it is home to a large semi-conductor plant. The semi-conductor plant makes up the majority of this revenue. See Table 8 Below.

In the District, the assessable base for and revenue generated from manufacturing equipment is also minimal --printing presses make up the majority of taxable manufacturing equipment in the District.⁶⁶

Because the assessable base for manufacturing equipment is minor we eliminate it from Virginia's tax revenue and tax base by subtracting the category of machinery and tools from both totals. Unlike VA, the District did not have manufacturing equipment assessed separately, but given the fact that DC has very little manufacturing activity, we make no adjustments.

Table 7
Selected Jurisdictions Personal Property Tax

Maryland	District of Columbia	Virginia
Business Tangible Personal Property		
Furniture, Fixtures, Machinery and Equipment*	Furniture, Fixtures, Machinery and Equipment	Furniture, Fixtures, Machinery and Equipment
Leased Property	Leased Property	Leased Property
Other Tangible Personal Property	Other Tangible Personal Property	Other Tangible Personal Property
Supplies	Supplies	Supplies
Other Vehicles	Unregistered Motor Vehicles	Other Vehicles
-	-	Livestock/Agriculture**
Individual Tangible Personal Property		
-	-	Vehicles

*In MD, all the of the Counties exempt manufacturing equipment from personal property.

**In VA, Prince William levies a tax on farm tangible personal property (this does not include livestock). This tax is negligible so we do not include it or make any adjustments for it. No other VA county in this study levies a tax on agriculture or livestock
(<http://www.virginia.edu/coopercenter/vastat/taxrates2002/02section09.pdf>).

Assessed Value of Vehicle Tangible Personal Property

In order to make the personal property tax bases of the Maryland jurisdictions and the District comparable to those jurisdictions in Virginia, it was necessary to determine the assessed value of all vehicles in DC and the Maryland jurisdictions in order to add it into their personal property tax base. Unfortunately, data on the assessed value of all vehicles in the District and the select Maryland jurisdictions for FY2000 were not available. Data, however, were available for all of the jurisdictions in Virginia, except Falls Church City: Falls Church City does not collect data on assessed vehicle personal property and, therefore, it was not possible to include it in this study.⁶⁷ The assessed value for all vehicles in Virginia include passenger cars, motorcycles, vans, truck, mobile homes, and other, which includes vehicles not listed in the previous categories.

Table 8**Virginia's Assessed Value of Manufacturing Equipment as a Percentage of the Total Personal Property Assessment**

	Machinery & Tools (MT) Assessed	Total Personal Property Assessed	M&T as Pct of Total Personal Property
Virginia			
ARLINGTON COUNTY	5,679,133	2,414,130,846	0.24%
FAIRFAX COUNTY	161,764,582	12,303,429,136	1.31%
FAUQUIER COUNTY	7,228,505	607,687,078	1.19%
LOUDOUN COUNTY	1,241,362	2,495,769,071	0.05%
PRINCE WILLIAM COUNTY	469,227	2,694,840,874	0.02%
ALEXANDRIA CITY	10,402,223	1,876,175,701	0.55%
FAIRFAX CITY	2,478,390	350,358,049	0.71%
FALLS CHURCH CITY	38,546	111,820,512	0.03%
MANASSAS CITY	311,619,400	645,071,322	48.31%
MANASSAS PARK	964,533	82,835,088	1.16%
ALL JURISDICTIONS	501,885,901	23,582,117,677	2.13%

Using these data, we estimated the assessed value of vehicle personal property for Maryland and DC. The first step was to calculate an average vehicle value for each jurisdiction in Virginia by dividing the assessed value for all vehicles by the number of registered vehicles in the jurisdiction.⁶⁸ The next step was to estimate the assessed value of vehicle personal property for DC and the Maryland jurisdictions by multiplying the average vehicle values, calculated for the Virginia jurisdictions, to the number of registered vehicles in DC and the Maryland jurisdictions. We determined which average vehicle values from Virginia should be applied to DC and the Maryland jurisdictions based on similarities in their demographics (see Table 9 below).

Table 9
Comparable Jurisdictions

Virginia Jurisdiction	Equivalent DC or Maryland Jurisdiction
Alexandria City	District of Columbia
Arlington	Prince George
Fairfax	Montgomery
Fauquier	Charles
Prince William	Anne Arundel, Calvert

District of Columbia Personal Property Base

The assessed value of personal property in 2000 was not available for the District. It was, however, possible to obtain the value of all personal property in FY2002, before considering depreciation: this was approximately \$4 billion.⁶⁹ Using this proxy, we were able to estimate the value of all personal property for FY 2000. In order to do this, we calculated the effective tax rate for FY2002 by dividing the tax receipts from personal property in FY2002 by the value of all personal property in 2002. We then divided the effective tax rate by the personal property revenue raised in FY2000 to arrive at an estimate of the personal property base: \$5,054,629,630. See equations below in Exhibit C.

Exhibit C	
<u>Calculation of DC Property Tax Base</u>	
1.	$TR_{2002} (\$65,208,000) / TB_{2002} (\$4,021,782,510) = ETR (1.62)$
2.	$TR_{2000} (\$81,885,000) / .0162 = TB_{2000} (\$5,054,629,630)$

General Sales Tax

The representative tax base for the general sales tax is the aggregate value of taxable retail sales in 2000. In order to estimate sales receipts for retail trade by county for 2000, we used the 1997 Economic Census data and the 2000 Census data from County Business Patterns. The 1997 Economic Census report provides business data for all sectors of the US economy for the national, state, and local levels. For this project, we were interested in the total dollar amount of retail trade sales receipts by county for 2000. Total retail trade sales receipts by county were not available for 2000 because the Economic Census is only released every 5 years; the data for 2002 will not be available

until the 2002 Economic Census is released in early 2004, after the completion of this study.

In order to estimate retail sales for 2000, we calculated the ratio of sales receipts for retail trade to establishments in 1997 using the Economic Census data. We then applied this ratio to the number of retail trade establishments by county in 2000. This calculation provided us with an estimate for sales receipts for retail trade by county for 2000.⁷⁰ We also calculated the ratios of sales receipts to payroll and sales receipts to paid employees in order to compare the different estimates for sales receipts. Given the fact that the values for sales estimates did not vary greatly based upon the different ratios, we decided to use the ratio of sales receipts to establishments to estimate sales receipts for retail trade by county for 2000. See Table 8 for an example of the calculations done for Maryland.

Table 8
Calculations of Estimates for 2000 Retail Sales for Maryland

County	Sales Receipts 1997	# Establishments 1997	Ratio Sales to Establishments 1997	# Establishments 2000	Estimate of Sales 2000
Anne Arundel	4,757,649,000	1863	2,553,757	1,943	4,961,949,548
Calvert	404,019,000	190	2,126,416	207	440,168,068
Charles	1,243,620,000	490	2,538,000	472	1,197,936,000
Frederick	1,839,289,000	741	2,482,171	729	1,809,502,943
Howard	2,010,755,000	766	2,652,007	817	2,144,630,333
Montgomery	8,914,414,000	3,000	2,971,471	3,034	9,015,444,025
Prince George	6,390,538,000	2,425	2,635,273	2,328	6,134,916,480
Source: U.S. Census Bureau					

Selective Sales Taxes

Census defines Selective Sales Taxes as taxes imposed on the sale of particular commodities or services or on the gross receipts of particular businesses separately and apart from the General Sales tax. The Advisory Commission on Intergovernmental Relations included nine separate selective sales taxes in their calculations of Representative Revenue Systems for the 50 states. However, many of these selective sales taxes are state only revenue sources. For example, the ACIR includes in its measures selective sales taxes on motor fuel, insurance premiums and alcohol. Local governments typically do not have access to these revenue sources so we have excluded them from our estimates of local own-source revenue raising capacity. However, based on the experiences of local governments in our study area, we do include selective sales taxes on public utilities, and other selective sales taxes.

Selective sales taxes on public utilities include taxes on transportation companies, telephones, telegraphs and light and power. The base of the tax is generally the gross receipts or gross earnings of the company providing the service. Sometimes the tax may be based on the number of units sold, e.g. kilowatt-hours of electricity. In either case, however, the base of the tax reflects consumption decisions by individual consumers. As a result, we use personal income for 2000 as the representative base for user charges. Personal income for all local jurisdictions was obtained from the Bureau of Economic Analysis.⁷¹

Other Selective Sales Taxes

According to the Census Bureau definitions, Other Selective Taxes include taxes on specific commodities, businesses, or services not reported separately under selective sales taxes. For example, this would include taxes on contractors, lodging, lubricating oil, fuels other than motor fuel, motor vehicles, meals, soft drinks, margarine, etc. Unfortunately, the Census data do not break down total revenues from other selective sales taxes into these component parts. As a result, we use personal income for 2000 as the representative base for user charges. Personal income for all local jurisdictions was obtained from the Bureau of Economic Analysis.⁷²

Income Tax Base

We use Adjusted Gross Income (AGI) for tax year 2000 as the representative tax base for the income tax. AGI for Maryland and Virginia were collected from state reports.⁷³ AGI for the District is found at the Internal Revenue Service website www.irs.gov. The table is under taxstats by geographic area.⁷⁴

User Charges Base

According to the Census Bureau definition, Current Charges reflect “Amounts received from the public for performance of specific services which benefit the person charged and from sale of commodities or services.” Basically, Current Charges are user charges, which reflect the consumption decisions of individual citizens. Thus, revenue generated from user charges depends, in large part, on prices charges and the resulting consumption choices of individual citizens. For the purposes of this study, then, we use personal income for 2000 as the representative base for user charges. Personal income for all local jurisdictions was obtained from the Bureau of Economic Analysis.⁷⁵

Public Utilities Base

For the purposes of this study, Public Utility revenues include revenues from water utilities and transit authorities. In each case, there is a charge for the service being provided – essentially making these revenues comparable to user charges. As a result, we use personal income for 2000 as the representative base for user charges. Personal income for all local jurisdictions was obtained from the Bureau of Economic Analysis.⁷⁶

Fiscal Capacity and Effort Calculations

After the data on revenue collections and the representative, standard revenue bases are collected, there are basically five calculations made in order to determine the fiscal capacity and effort indices. These calculations are detailed below using Anne Arundel County's property tax revenue as an example.

Average Tax Rate

The first step, after data collection, is to calculate the **average tax rate** for each revenue base by dividing the total collections of all local jurisdictions by the total base for that revenue source.

1)	Real Property Tax Revenue All Local Governments		Real Property Tax Base All Local Governments		Avg. Real Property Tax Rate
	4,797,715,190	/	383,032,997,340	=	1.25%

Hypothetical Yield or Revenue Capacity

The **potential, or hypothetical, revenue** that a county can generate is calculated by applying the average tax rate for each revenue source to the appropriate standard, representative base.

2)	Anne Arundel's Real Prop. Tax Base		Avg. Real Prop. Tax Rate		Hypothetical Real Prop. Revenue
	31,320,920,000	X	1.25%	=	392,313,077

Per Capita Hypothetical Yield, or Revenue Capacity

The hypothetical revenue is then divided by the local government's population to arrive at the **per capita hypothetical revenue capacity**.

3)	Hypothetical Real Prop. Revenue		Anne Arundel County's Population		Hypothetical Revenue Per Capita
	392,313,077	/	489,656	=	\$ 801.20

Fiscal Capacity Index

The **fiscal capacity index** is determined by dividing the county's hypothetical real property tax revenues per capita by the total per capita real property tax collections for all local governments and multiplying by 100.

4)	Anne Arundel County's Hypothetical Real Prop. Revenue per Capita		Total Local Govt. Real Prop. Collections Per Capita		Anne Arundel County's Fiscal Capacity Index
	(\$801.20	/	\$ 914.61)	x 100	= 88

The above calculations are done for each revenue source as well as for total revenue and then aggregated to obtain one measure of fiscal capacity.

Fiscal Effort Index

The **fiscal effort index** is calculated by dividing each local government's actual collections per capita by its hypothetical yield, or revenue capacity, per capita and then multiplying by 100. Below Anne Arundel County's fiscal effort index is calculated for its total own source revenue.

5)	Anne Arundel County's Per Capita Actual Collections for Total Own Source Revenue	Anne Arundel County's Per Capita Hypothetical Total Own Source Revenue	Fiscal Effort Index
	(\$ 1751.68	/ \$ 2222.73) x 100	= 79

Again, these calculations are done for each revenue source as well as for total revenue.

Acknowledgments

Clearly, this project could not have been completed without the generous support of a number of individuals. We would like to thank the following people for their contributions to this research effort—this study would not have been possible without their help.

Robert Rafuse

U.S. Census Bureau:

Donna Hirsch

District of Columbia:

Office of the Chief Financial Officer

John Ross

Daniel Muhammad

Steve Swain

General Accounting Office:

Jerry Fastrup

James Wozny

Maryland:

Maryland Budget Office:

Jay Ladin

Department of Legislative Services:

Karen Benton

State Department of Assessments and Taxation:

Laura Foussekis

Ed Muth

Anne Arundel County:

Walt Toliver

Calvert County:

Tim Hayden

Charles County:

Jackie Winkleman

Eric Jackson

Frederick County:

James Bab

Howard County:

Jeffery Topper

Linda Watts

Montgomery County:

Phavann Shewin

Prince George's County:

Stan Willis

Virginia

Northern Virginia Cigarette Board:

Paul Kerry

Virginia Department of Taxation:

Tom Morelli

Arlington County:

Geraldine M. Whiting

Alexandria City:

Ruth Lopez

Isiah Speller

Fairfax County:

Joe Blackwell

Susan Smith

Fairfax City:

Linda Lightly

Falls Church City:

Thomas D. Clinton

Loudoun County:

Catherine Ashby

Manassas Park City:

Eric Edmonson

Prince George's County:

Ron Gitlin

Endnotes

- ¹ For example, Bowman and Mikesell found that differences in tax bases per capita were larger across jurisdictions in a metropolitan area under a local employment-based income tax and a traditional, point-of-sale, sales tax than under the property tax. John H. Bowman and John L. Mikesell, "Revenue Diversification within Metropolitan Areas: Effects on Disparities and Central City-Suburban Fiscal Relations," *Review of Regional Studies*, 8(3) (1981), pp. 66-78. More recently, see Therese J. McGuire, "Alternatives to Property Taxation for Local Government" in *Property Taxation and Local Government Finance*, edited by Wallace E. Oates, Lincoln Institute of Land Policy, 2001.
- ² U.S. Census Bureau, *Census 2000 Housing Units*, Geography Notes. Retrieved 9/3/03 from <http://quickfacts.census.gov/hunits/notes.html>.
- ³ The Bureau of Economic Analysis (BEA) also combines these independent cities with the surrounding counties when reporting data on personal income.
- ⁴ Jerry C. Fastrup, "Fiscal Capacity, Fiscal Equalization and Federal Grant Formulas," in U.S. Department of the Treasury, *Federal-State-Local Fiscal Relations: Technical Papers – Volume 1*, September 1986, p. 41.
- ⁵ For a discussion of these alternative concepts of fiscal capacity see U.S. Advisory Commission on Intergovernmental Relations, *Measuring State Fiscal Capacity: Alternative Methods and Their Uses*, (Report M-150), September 1986 as well as papers by Fastrup, Sawicky, Aten, Carnevale and Barro in U.S. Department of the Treasury, *Federal-State-Local Fiscal Relations: Technical Papers – Volume 1*, September 1986.
- ⁶ U.S. Advisory Commission on Intergovernmental Relations, *Measures of State and Local Fiscal Capacity and Tax Effort* (Report M-16), Washington, DC, U.S. Government Printing Office, 1962.
- ⁷ U.S. Advisory Commission on Intergovernmental Relations, *Tax Capacity of the Fifty State, 1982* (Report M-142), May 1985, p. 4.
- ⁸ U.S. Advisory Commission on Intergovernmental Relations, *Measuring the Fiscal Capacity and Effort of State and Local Areas* (Report M-58) Washington, DC, March 1971, pp. 56-8.
- ⁹ U.S. Advisory Commission on Intergovernmental Relations, *RTS 1991, State Revenue Capacity and Effort*, Washington, DC, September 1993, Table 1, p. 7.
- ¹⁰ Stephen M. Barro, "Improved Measures of State Fiscal Capacity: Short-Term Changes in the PCI and RTS Indices," in U.S. Department of the Treasury, *Federal-State-Local Fiscal Relations: Technical Papers – Volume 1*, September 1986, p. 195.
- ¹¹ U.S. Advisory Commission on Intergovernmental Relations, *Tax Capacity of the Fifty States: Methodology and Estimates*, (Report M-134), March 1982, p. 13.
- ¹² *Ibid.*, p. 14.
- ¹³ Katherine L. Bradbury and Helen F. Ladd, "Changes in the Fiscal Capacity of U.S. Cities 1970 to 1982," National Tax Association – Tax Institute of America, Proceedings of the Seventy-Seventh Annual Conference, 1984, Nashville, Tennessee, pp. 205-17. See also Katherine L. Bradbury, Helen F. Ladd, Mark Perrault, Andrew Reschovsky and John Yinger, "State Aid to Offset Fiscal Disparities Across Communities," *National Tax Journal*, Vol. 37, No. 2, June 1984, pp. 151-70; and

-
- Helen F. Ladd and John Yinger, *America's Ailing Cities: Fiscal Health and the Design of Urban Policy*, Baltimore, Johns Hopkins University Press, 1991.
- ¹⁴ See Appendix D in U.S. Advisory Commission on Intergovernmental Relations, *Representative Expenditures: Addressing the Neglected Dimension of Fiscal Capacity*, (Report M-174), December 1990 for a more detailed discussion of the export adjusted income approach to measuring fiscal capacity.
- ¹⁵ U.S. Advisory Commission on Intergovernmental Relations, *Measuring Metropolitan Fiscal Capacity and Effort: 1967 to 1980*, Working Paper 1, July 1983.
- ¹⁶ Robert W. Rafuse, Jr. and Laurence R. Marks, *A Comparative Analysis of Fiscal Capacity, Tax Effort, and Public Spending among Localities in the Chicago Metropolitan Region* prepared for The Regional Partnership, March 1991. The findings are summarized in Robert W. Rafuse, Jr., "Fiscal Disparities in Chicagoland," *Intergovernmental Perspective*, Summer 1991, pp. 14-19.
- ¹⁷ Richard K. Green and Andrew Reschovsky, "Fiscal Assistance to Municipal Governments," in *Dollars and Sense: Policy Choices and the Wisconsin Budget – Volume III*, edited by Donald A. Nichols, pp. 91-117.
- ¹⁸ Helen F. Ladd, Andrew Reschovsky and John Yinger, "City Fiscal Condition and State Equalizing Aid: The Case of Minnesota," in National Tax Association – Tax Institute of America, Proceedings of the Eighty-Fourth Annual Conference, 1991, Williamsburg, Virginia, pp. 42-9.
- ¹⁹ We assume that the counties' share of total local government revenue is constant from year to year.
- ²⁰ See the Appendix for a fuller discussion of how this was done.
- ²¹ In 2000, all local governments in Virginia assessed real property annually, except Fauquier County – the most recent assessment was done in 1998. However, the District of Columbia and all the local governments in Maryland were assessing real property on a three-year cycle.
- ²² See Table 6 in the Appendix for a detailed list of items subject to the personal property tax in each jurisdiction and a cross-jurisdictional comparison.
- ²³ Beginning in 1998, the tax on the first \$20,000 of the value of a car, pick-up or panel truck (weighing 7,500 pounds or less) and motorcycles owned or leased for personal use will be incrementally reduced. This reduction was scheduled to be implemented over five years with 12.5% of the tax eliminated in 1998, 27.5% in 1999, 47.5% in 2000, 70% in 2001, and 100%, in 2002 and thereafter. However, due to the commonwealth's fiscal problems, the scheduled reductions are currently halted at 70%. Once the commonwealth's revenue growth returns, the percentage of tax relief will increase to 100 percent. See Virginia Department of Taxation, *Virginia Tax Facts*, Revised June 2003, p.59.
- ²⁴ In fact, in 1990 the Maryland Commission on State Taxes and Tax Structure (the Linowes Commission) recommended a two percent personal property tax on motor vehicles and boats with one-half of the motor vehicle revenue being returned to the local government where the vehicle is registered.
- ²⁵ See Appendix for further details on the method used to estimate the average vehicle values for the District and the Maryland jurisdictions.
- ²⁶ Personal Communication, Daniel Muhammad, 10-2-03.

-
- ²⁷ We are assuming a resident based local personal income tax base. That is the model used in both Maryland and Washington, DC Some argue that such an approach overestimates the personal income tax base in Maryland and Virginia and underestimates it in the District of Columbia because so many people commute to the District to earn their income. A local personal income tax based on place of employment would produce a much different distribution of the personal income tax base across jurisdictions.
- ²⁸ U.S. Census Bureau, *Census 2000, American Fact Finder, Fact Sheet: Highlights from the Census 2000 Demographic Profiles*. Retrieved 10/20/03 from <http://factfinder.census.gov>.
- ²⁹ Ibid
- ³⁰ Wallace E. Oates and Robert M. Schwab, "The Impact of Urban Land Taxation: The Pittsburgh Experience," *National Tax Journal*, Volume 50, Number 1, March 1997, p. 19.
- ³¹ Robert M. Schwab and Amy Rehder Harris, "An Analysis of the Graded Property Tax," in *Taxing Simply, Taxing Fairly, Report of the District of Columbia Tax Revision Commission -- Part II: Consultants' Reports*, Chapter G, p. 228.
- ³² See for example, Roy W. Bahl, "Fiscal Decentralization, Revenue Assignment, and the Case for the Property Tax," in Michael E. Bell and John H. Bowman (editors), *Property Rates in South Africa: Challenges in the Post-Apartheid Era*, Lincoln Institute of Land Policy, Cambridge, Massachusetts, 2002, Chapter 2.
- ³³ Michael E. Bell and John H. Bowman, "Factors Influencing the Choice of Site Value Taxation Among Local Governments," in Michael E. Bell and John H. Bowman (editors), *Property Rates in South Africa: Challenges in the Post-Apartheid Era*, Lincoln Institute of Land Policy, Cambridge, Massachusetts, 2002, Chapter 6.
- ³⁴ This section draws on material in Roy W. Bahl, *op.cit.*
- ³⁵ E-mail correspondence, October 1, 2003.
- ³⁶ Robert M. Schwab and Amy Rehder Harris, "An Analysis of the Graded Property Tax," in *Taxing Simply, Taxing Fairly, Report of the District of Columbia Tax Revision Commission -- Part II: Consultants' Reports*, Chapter G, p. 233.
- ³⁷ Ibid.
- ³⁸ Roy W. Bahl, *op.cit.*
- ³⁹ See Robert M. Schwab and Amy Rehder Harris, "An Analysis of the Graded Property Tax," *Taxing Simply; Taxing Fairly*, The District of Columbia Tax Revision Commission, September 1998, pp. 228-30 for a further discussion of these experiences.
- ⁴⁰ Joan M. Youngman and Jane H. Malme, *An International Survey of Taxes on Land and Buildings*, Kluwer Law and Taxation Publishers, Boston, 1994, pp. 13-4.
- ⁴¹ Roy W. Bahl and Johannes F. Linn, *Urban Public Finance in Developing Countries*, published for the World Bank by Oxford University Press, 1992, p. 99.
- ⁴² Roy W. Bahl, *op.cit.*
- ⁴³ Marsha R. B. Schachtel, Aaron M. Glazer, and Michael E. Bell, *Alternative Revenue Sources and Structures for Baltimore City*, Johns Hopkins University Institute for Policy Studies, August 2002.
- ⁴⁴ *Taxing Simply, Taxing Fairly: District of Columbia Tax Revision Commission, Part I: Summary Report*, June 1998, p. 107.

-
- ⁴⁵ Advisory Commission on Intergovernmental Relations, *Measures of State and Local Fiscal Capacity and Tax Effort*, U.S. Government Printing Office, October 1962.
- ⁴⁶ U.S. Census Bureau, *Census 2000 Housing Units, Geography Notes*. Retrieved 9/3/03 from <http://quickfacts.census.gov/hunits/notes.html>.
- ⁴⁷ U.S. Census Bureau, *Census 2000, Geography Comparison Tables, GCT-PH1. Population, Housing Units, Area, and Density: 2000, Summary File 1 (SF 1) 100-Percent Data*. Retrieved 8/29/03 from <http://factfinder.census.gov>.
- ⁴⁸ The Bureau of Economic Analysis (BEA) also combines these independent cities with the surrounding counties when reporting data on personal income.
- ⁴⁹ U.S. Census Bureau, *Census 2000, Geography Comparison Tables, GCT-PH1. Population, Housing Units, Area, and Density: 2000, Summary File 1 (SF 1) 100-Percent Data*. Retrieved 8/29/03 from <http://factfinder.census.gov>.
- ⁵⁰ We considered including the tobacco tax as a potential revenue source. The tax base for this tax would be the number of cigarette packs sold in each jurisdiction. However, except for a few jurisdictions in Virginia, data on the number of packs sold per local jurisdiction was not available. Only state level data were available. In Maryland, the tobacco tax is a state tax; therefore, neither the state nor the counties track the number of cigarette packs sold by locality. In Virginia, because Fairfax and Arlington County are the only counties with the authority to levy a tobacco tax, data were available on the number of cigarette packs sold for those counties as well as the municipalities within them. The remaining counties do not have the authority to levy a tobacco tax, but the municipalities within the counties do. However, for the most part, in 2000, these jurisdictions did not levy a tobacco tax and therefore did not track the number of cigarette packs sold.
- ⁵¹ Special Assessments are compulsory contributions and reimbursements from owners of property who benefit from specific public improvements; and impact fees to fund extension of water, sewer, roads, and other infrastructure facilities in new developments. These contributions and reimbursements are designed to defray all or part of the cost of such improvements, either directly or through payment of principal and interest on debt issued to finance them. Generally, special assessments are apportioned according to assumed benefits to the property affected by the improvements. They cover not only general improvements--such as street paving, sidewalks, highway construction, sewer lines, drainage and irrigation projects--but also utility improvements, such as water lines. See U.S. Bureau of the Census, *Government Finance and Employment: Classification Manual*, May 2001, Code U01. Available at <http://www.census.gov/govs/www/class.html>.
- ⁵² Miscellaneous Revenues NEC include dividends on investments, recovery of losses charged off in a prior fiscal year, insurance adjustments, payment-in-lieu-of-taxes from private sources, premiums on bonds issues, recoveries of expenditures made in a prior fiscal year, receipts from escheats and other unclaimed monies, recorded profits from sale of investments among other revenues. See U.S. Bureau of the Census, *Government Finance and Employment: Classification Manual*, June 1992, Code U01, page Misc-4(0)-6/92.
- ⁵³ Personal communication, Donna Hirsch, U.S. Census Bureau, 8/29/03.

-
- ⁵⁴ General property taxes, relating to property as a whole, taxed at a single rate or at classified rates according to the class of property. Property refers to real property (e.g., land and structures) as well as personal property; personal property can be either tangible (e.g., automobiles and boats) or intangible (e.g., bank accounts and stocks and bonds). Special property taxes, levied on selected types of property (e.g., oil and gas properties, house trailers, motor vehicles, and intangibles) and subject to rates not directly related to general property tax rates. Taxes based on income produced by property as a measure of its value on the assessment date. Penalties and interest on delinquent property taxes; proceeds of tax sales and tax redemptions, up to the amount of taxes due plus penalties and interest. For governments collecting taxes as agents for another, includes any commissions, fees, or other items representing collection expenses retained from tax proceeds. See U.S. Bureau of the Census, ***Government Finance and Employment: Classification Manual***, May 2001, Code T01. Available at <http://www.census.gov/govs/www/class.html>.
- ⁵⁵ For DC, See the Government of the District of Columbia ***Comprehensive Annual Financial Report for 2000***, September 2000, Exhibit A-4, p.76.
For VA, See the Auditor of Public Accounts, ***Comparative Report of Local Government Revenue and Expenditures For Fiscal Year Ended June 30, 2000***, June 30, Exhibit B.
For MD, See State of Maryland, Department of Legislative Services, ***County and Baltimore City Annual Financial Report for the Fiscal Year that ended June 30, 2000***. These files were provided by Karen Benton in the Department of Legislative Services.
- ⁵⁶ Personal Communication, Ed Muth, 8-25-03
- ⁵⁷ Frederick County does not levy a personal property tax, but the incorporated towns within Frederick do.
- ⁵⁸ For MD, See Maryland State Department of Assessment and Taxation (SDAT), ***State of Maryland Fifty-sixth Report of the SDAT Annual Report FY00***, January 2000, County Assessable Base FY00, Table 1. The SDAT provides other real property assessment reports; however, the values differ slightly due to the time of year assessments were done. We selected the above report because it includes new construction for the whole tax year. The other report does not, because it is done at the beginning of the tax year, in July.
For VA, See Virginia Department of Taxation (VDT), ***Virginia Department of Taxation Annual Report FY 2000***, May 2003, Table 5.2.
- ⁵⁹ FY 2002 is the first year that all real property in MD was assessed at 100 percent of full market value (Personal communication, Laura Foussekis, SDAT, 7-23-03).
- ⁶⁰ Government of the District of Columbia ***Comprehensive Annual Financial Report for 2000***, September 2000, Exhibit S-7, p. 114.
- ⁶¹ The 2002 total residential property assessments prior to homestead exemptions and tax credits were provided by Daniel Muhammad, Financial Economist, Government of the District of Columbia, Office of the Chief Financial Officer, Office of Policy and Research Analysis, on 8/26/03 via email. According to Mr. Muhammad, 2000 residential property assessments prior to homestead exemptions and tax credits were not available.

-
- ⁶² Virginia Department of Taxation, *Virginia Department of Taxation Annual Report FY 2000*, May 2003, Table 5.2.
- ⁶³ In Maryland, Mike Bell received the FY 2003 land and structure assessments from Laura Foussekis at the SDAT. In the District, Daniel Muhammad provided the assessments for FY 1999.
- ⁶⁴ For MD, See Maryland State Department of Assessment and Taxation (SDAT), *State of Maryland Fifty-sixth Report of the SDAT Annual Report FY00*, January 2000, County Assessable Base FY00, Table 1.
For VA, See Virginia Department of Taxation (VDT), *Virginia Department of Taxation Annual Report FY 2000*, May 2003, Table 5.4.
- ⁶⁵ None of the VA counties in our study levy a tax on merchant capital, which is primarily commercial and manufacturing inventory.
- ⁶⁶ Personal Communication, Daniel Muhammad, 10-2-03.
- ⁶⁷ The assessed values for total vehicle personal property were provided, in most cases, by the Commissioner of the Revenue in each jurisdiction. Published information on assessed value of vehicle personal property was only available for Arlington, Fairfax, and Prince George's County: these counties publish the data in their annual budget.
- ⁶⁸ In Virginia, the total number of registered vehicles includes passenger cars, motorcycles, vans, truck, mobile homes, and other. This is also the case in Maryland and the District. Data on the number of registered vehicles in Virginia and Maryland were obtained from each state's Department of Motor Vehicles (DMV). Data on the number of registered vehicles in the District were obtained from the National Highway and Traffic Safety Administration, National Center for Statistical Analysis, State Traffic Data. Retrieved 9-14-03 from <http://www-nrd.nhtsa.dot.gov/departments/nrd-30/ncsa/AvailInf.html>.
- ⁶⁹ This number was provided by Mr. Daniel Muhammad.
- ⁷⁰ The GAO used a similar approach in their study *District of Columbia: Structural Imbalance and Management Issues* as one method of estimating the sales tax base for the states: they distributed sales in proportion to employment, by state, in the retail and services industries.
- ⁷¹ Bureau of Economic Analysis (BEA), *Local Area Personal Income: CA1-3 — personal income summary estimates*, Washington, DC, May 2003. Retrieved 7/10/03 from <http://www.bea.gov/bea/regional/reis/>.
- ⁷² Bureau of Economic Analysis (BEA), *Local Area Personal Income: CA1-3 — personal income summary estimates*, Washington, DC, May 2003. Retrieved 7/10/03 from <http://www.bea.gov/bea/regional/reis/>.
- ⁷³ For MD, See the Comptroller of Maryland Revenue Administration, *Income Tax Summary Report*, Tax Year 2000, Baltimore, MD.
For VA, See Virginia Department of Taxation, *Virginia Department of Taxation Annual Report FY 2002*, Richmond, VA, Table 1.5, pp. 7-11.
- ⁷⁴ Internal Revenue Service (IRS), *Tax year 2000, United States Selected Income and Tax Items for Individual Income Tax Returns: Forms 1040, 1040A & 1040EZ, By State and Size of Adjusted Gross Income, Filing/Processing Period: January 1, 2001 to December 31, 2001*, Washington D.C, September 2001. Available at www.irs.gov.

⁷⁵ Bureau of Economic Analysis (BEA), *Local Area Personal Income: CA1-3 — personal income summary estimates*, Washington, DC, May 2003. Retrieved 7/10/03 from <http://www.bea.gov/bea/regional/reis/>.

⁷⁶ Bureau of Economic Analysis (BEA), *Local Area Personal Income: CA1-3 — personal income summary estimates*, Washington, DC, May 2003. Retrieved 7/10/03 from <http://www.bea.gov/bea/regional/reis/>.