2009

Residential Property Tax Abatement;Testing a Model of Neighborhood Impact

Doreen Swetkis
Cleveland State University

RESIDENTIAL PROPERTY TAX ABATEMENT:

TESTING A MODEL OF NEIGHBORHOOD IMPACT

DOREEN SWETKIS

Bachelor of Liberal Studies

Bowling Green State University

May, 1991

Master of Education

Cleveland State University

December, 1998

Submitted in partial fulfillment of requirements for the degree

DOCTOR OF PHILOSOPHY IN URBAN STUDIES AND PUBLIC AFFAIRS

at the

CLEVELAND STATE UNIVERSITY

December, 2009

This dissertation has been approved for the Department of URBAN STUDIES

and the College of Graduate Studies by

_____
Dissertation Chairperson, Professor Mark S. Rosentraub, Ph.D.

_____
Department of Urban Studies, Date

_____
Professor William M. Bowen, Ph.D.

_____
Department of Urban Studies, Date

_____
Professor Julia Beckett, J.D., Ph.D.

_____
Department of Public Administration and Urban Studies,
The University of Akron, Date

DEDICATION

This dissertation is dedicated to my wonderful husband Marc, whose steadfast support was paramount to my success,
and to my daughter Fay, who can now call me “Dr. Mommy”.

ACKNOWLEDGEMENTS

I wish to thank my dissertation chair, Dr. Mark S. Rosentraub, for providing consistent and sage advice throughout this entire process, and saving my academic life. I would like to gratefully acknowledge Dr. William M. Bowen. Words can not fully express the deep respect, admiration and gratitude I feel for having had the pleasure of learning from him throughout my time in the program. I wish to thank Dr. Julia Beckett, whose comments and perspective were instrumental in the formulation of this final document.

I want to acknowledge what an honor it had been to work with the faculty, staff and students of the Maxine Goodman Levin College of Urban Affairs, especially Dr. Roberta Steinbacher. Such a supportive environment has been instrumental to my success.

Finally, I would like to acknowledge the Albert A. and Maxine Goodman Levin Advisory Fund for providing financial assistance for this dissertation.

RESIDENTIAL PROPERTY TAX ABATEMENT:

TESTING A MODEL OF NEIGHBORHOOD IMPACT

DOREEN SWETKIS

ABSTRACT

Using a quasi-experimental research design, this study examines the relationship between residential property tax abatement for new construction, and urban neighborhoods in four Ohio cities. Neighborhoods were defined as census tract. The purpose of this research is to determine if there is a statistically significant relationship at $p < .05$ between residential property tax abatement programs for new construction and several different measures of neighborhood outcomes. The neighborhood outcome measures can be grouped under the broad concepts of increased private investment, blight removal, decreased criminal activity, and property tax equity. Subsequent questions investigated are the direction of these relationships and the existence of a threshold level at which point relationships become significant. The utilization of a comparable comparison group addresses the counterfactual scenario. Independence of samples tests and multivariate cubic regression are employed to answer the research questions.

Results indicate that there are no discernable effects between residential property tax abatement and the indicators of neighborhood change as defined in the study. Second, there appears to be no threshold at which the number of tax abated residential units becomes significantly associated with the indicators of neighborhood change. Third, there were no significant differences on the indicators of neighborhood change between subject and comparison groups. In essence, there are no effects from residential tax abatement policy seen at the neighborhood level.

TABLE OF CONTENTS

List of Tables

Page

List of Figures

Evaluation of programs needs to take into account program objectives other than just economic development, for example, do they actually help solve social problems.

~ B. Guy Peters, 1999, pp. 60-61.

CHAPTER I

INTRODUCTION

1.1 Purpose of the study and statement of the problem

If the frequent and enduring use of tax incentive programs in Ohio cities is any indication, then one could conclude elected officials perceive such policies as effective or at the minimum, necessary evils used to compete with other communities and states. Empowered by state government, local jurisdictions in Ohio can (and often do) grant tax incentives to attract new or retain current homeowners and businesses. The effectiveness of such incentives for residential development has been debated in newspapers (e.g., *Pittsburgh Post-Gazette*, 2007; *The Plain Dealer*, 2007; *Toledo Blade*, 2008; *Dayton Daily News*, 2009), on community blogs (e.g., Green City Blue Lake;

blog.cleveland.com) and in government chambers, as well as in the academic literature (e.g., Simons & Sharkey, 1997; Dalehite, Mikesell, & Zorn, 2005).

Tax incentives are often rationalized in terms of achieving broad public policy objectives such as increased investment (e.g., City of Toledo Department of Development, 2008; Columbus City Bulletin, 2005; City of Dayton, 2003), elimination of blight (e.g., Cleveland City Record, 1999) decrease in criminal activity (e.g., Toledo Ordinance No. 170-04, 2004), and promotion of neighborhood stability (e.g., City of Columbus Department of Development, 2006; City of Cleveland, 1990). Evaluating such programs to determine if goals and objectives are being met is often overlooked. This study will examine the relationship between one such policy incentive, residential property tax abatement programs for new construction (herein referred to as "RPTA"), and urban neighborhoods in four Ohio cities. The purpose of this research is to determine if there is a statistically significant relationship between RPTA and several different measures of neighborhood outcomes: (1) home purchase mortgage loan applications, (2) home purchase mortgage application approval rates, (3) the median amount of home purchase loans originated, (5) number of businesses in a neighborhood, (6) type and number of crimes and (7) vertical equity in property taxation. This evaluation is modeled after Galster, Hayes, Boxall and Johnson's (2005) work that focused on developing a set of robust, parsimonious indicators of neighborhood change, and the work of Galster, Hayes and Johnson (2004) and their examination of the impact of place-based public programs in changing the trajectories of neighborhoods indicators.

The four cities in this study, Cleveland, Columbus, Dayton and Toledo, provide an interesting group to examine, as each has tailored RPTA programs to fit local

objectives. The local character associated with each city's RPTA program allows for intra-state comparisons of the broader Ohio policy and evokes an additional set of important questions regarding RPTA policy implementation including the effects of abatement levels, the concentration of abated properties, and the duration of abatements on each indicator of success. Simons and Sharkey (1997) conducted a cost-benefit analysis on several RPTA projects in Cleveland and concluded that the duration of abatement (fifteen years) may be too long, resulting in a deficit for the city if extended beyond ten years. Conversely Bier, Mikelbank, Horn, Post and Rosentraub (2007) concluded in their study of Cleveland's RPTA program that increasing the duration from ten to fifteen years resulted in a spike in residential construction and an increase in the city's tax revenues. This study influenced the recent political decision made by Cleveland City Council, which was to renew the current RPTA program at 15 years, 100 percent for new construction (Cleveland City Council, 2007).

The data in Table 1 describe the four cities. The estimated change of certain socio-demographic characteristics is useful in providing a context for a study on RPTA. The data were taken from the actual count for the 2000 U.S. Census and the estimated figures derived from the 2005-2007 American Community Survey (U.S. Bureau of the Census, 2008). The following estimates are illustrative of possible trends occurring in these cities. Additionally, the City of Columbus is unique in that it has increased its population through annexation of several surrounding areas. Dayton is unique in that the percentage of owner-occupied homes is projected to decrease, while increasing in the other cities. This trend may reflect that Dayton is a community hit particularly hard by

the foreclosure crisis, which may also have resulted in the median housing values being grossly over-estimated.

Table 1

Estimated Percent Changes in Socio-Demographic Characteristics from 2000 to 2005-07

City	Population	White	Black	Owner-occupied units	Median value owner-occupied units	Housing units built 00-07 as percent of total housing units
Cleveland	-15.3	-19.7	-12.3	+6.3	+18.9	2.7
Columbus	+1.7	-1.7	+8.9	+14.6	+26.2	10.5
Dayton	-11.7	-12.7	-9.7	-4.1	+20.1	3.1
Toledo	-7.8	-11.6	-0.8	+0.7	+30.2	2.5

Source: U.S. Census Bureau, 2000 Census of Population & Housing; 2005-2007 American Community Survey

1.2 The Political Debate

In examining RPTA, the essential question for cities considering the program is whether policy implementation changes housing investment patterns within specific geographic areas. From the city's perspective, the overall goal of the policy is to increase housing supply through increased private development, and increase demand for housing by attracting non-residents from outside the city. It has been argued that RPTA makes new housing construction affordable and provides "new product jumpers" an incentive to put urban neighborhoods on their list of housing options (D. S. Sharkey, personal communication, November 17, 2006).

Popular arguments supporting the use of RPTA hinge on a counter-factual scenario: if there were no abatements, there would be significantly less demand for housing in urban neighborhoods (e.g., Bier, et al., 2007). It has been argued (e.g., Rosentraub, 2003) that RPTA can be offset by the increased revenue from other taxes a city can collect from its new residents who, presumably, earn a higher-than-average income. For example, the City of Cleveland operating budget for 2007 lists income taxes as 55.3 percent of general fund revenues, sales, fines and other taxes as 14 percent, and property taxes as constituting 10.5 percent (City of Cleveland, 2008). Bier et al., (2007) found a modest increase in income tax gain for Cleveland of $509,044 per year. Proponents also argue that, not only is the city receiving greater property tax revenues from land taxes, but the formerly under-utilized land is now occupied by owners who earn (on average) higher incomes, and who could possibly contribute to a city's revenue base through payment of other taxes. There are also costs to cities to maintain abandoned properties or vacant land such as maintenance (lawn mowing) and public safety. Other possible positive benefits of RPTA are that it helps remove blight (the original goal of tax abatement policy in Ohio), spurs more local economic activity (the current goal of the policy), and positively impacts nearby non-abated property values (Bier, et al., 2007). Further, framing RPTA as an effective economic development policy over the long term allows proponents to argue that the abatements will eventually expire resulting in substantial and new property taxes filling city coffers. Finally, while it can be argued that RPTA creates a gap at the neighborhood level between the original lower-income households and the new generally higher-income households in abated homes, conversely it can be argued that, on a regional level RPTA may help improve the mix of income

groups in a city and reduce the disparity in median income levels between central city and suburban households.

Opponents of RPTA describe such policy incentives as nothing more than "bribes" for potential homeowners to choose one community over another, resulting in foregone property tax revenues for the community offering the incentive. Abatements have been described as "involuntary subsidies" (Dardia, 1998) given by overlapping jurisdictions (e.g., school districts, counties) who have little or no control over RPTA policies. Hoxby argues that tax burdens are not an indicator of competitiveness, but rather an attempt to compensate for an unobserved difference in more fundamental characteristics (as cited in Bradbury & Kodrzycki, 1997).

Opponents can also argue that RPTA may result in tax inequity because properties of similar values are not being equally taxed, placing a heavier burden on poorer and more immobile city homeowners. In essence the owners of non-abated property may be paying higher taxes to maintain public service provisions in order to compensate for those not paying the property tax. The counter argument is that non-abated homes increase in value due to the improved demand for property as more people are attracted to a city by incentives such as RPTA. Opponents further argue that the abated taxes are merely capitalized into the sales prices (or rent) of homes; therefore, purchasers end up paying an amount equal to the abated taxes to the home seller or developer (Bartimole, 2007). For aging, declining areas in a region tax abatements offered by one community may in effect force neighboring communities to offer similar or better tax incentives, resulting in a negative-sum game as these jurisdictions draw from the same limited regional pool of "desirable" (middle class, higher earning) residents.

Across the longer term these residents may eventually leave the community for one that has a more desirable package of public goods and services, regardless of the tax incentive, because of homeowners' changing preferences. If the out-migration of desirable homeowners results in filtering, the desirable homeowners will be replaced with a less wealthy group of homeowners. Thus, the reliance on alternative taxes to enhance a city's revenues may no longer support the alternative-to-property-taxes argument made by some proponents of RPTA. Another major argument against RPTA programs is that they cripple urban city school districts. The current funding structure of public school districts in Ohio is such that districts rely heavily on property tax revenues, which is not the case in other states[1]. Finally, a legal argument against RPTA could be made in that, although the policy appears prima facie neutral, it has a disparate impact on minorities who are significantly less likely to be able to afford new homes, even if those homes are tax abated.

1.3 Statement of the Research Question

Adapting the work of Galster, Walker, Hayes and Johnson (2004) and Galster, Hayes and Johnson (2005), a fundamental research question regarding the effectiveness of public policy at the neighborhood level is addressed. The main research question is whether there is a statistical relationship between residential property tax abatement (RPTA) and changes in urban neighborhoods as measured on a set of indicators.

[1] However, changes in the current school funding structure (rather than a moratorium on RPTA programs) may be the preferred solution to the plight of urban schools in Ohio. Since 1997, the State of Ohio has been under an order from the Ohio Supreme Court to create a more equitable public school district funding structure, including a decrease in the reliance on property tax revenues. See Case No. 1999-0570, *DeRolph v. State*, and subsequent court action for more details. The complex relationship between school district funding and property tax allocation is beyond the scope of this study.

Subsequent questions are investigated, namely, if there are such relationships, in what direction are these associations? Is there a certain number of new RPTA homes needed in a neighborhood before significant relationships are revealed? Finally, if there were no RPTA in neighborhoods would the relationships remain the same, maintain a significant level of association, and/or be in the same direction?

1.4 Objectives & Significance

An objective of this study is to uncover significant relationships between RPTA and stated policy outcomes such as increased private investment, removal of blight, and reduction in crime. Although equitable distribution of property tax burden is not an outcome stated in the legislature, it is a popular argument made against the effectiveness of RPTA and therefore worthy of investigation.

This study makes a new and important contribution to the literature in its evaluation of RPTA policy (and, by extension, other local economic development policies involving incentives) in several ways. First, this study expands upon the established work of other experts in the field of urban studies, thus building on our collective knowledge of policy evaluation at the neighborhood level. This is accomplished by testing the usefulness of a published model used to measure the impact of another public policy at the neighborhood level. Second, this study includes a measure for equity in its evaluation of a public policy. Including measures for private and public activities, as well as a measure for equity appears to be somewhat unique in that policy evaluations generally pick one type of indicator only. Third, previous studies of RPTA have been mostly descriptive in the analysis (e.g., Bier, et al., 2007; Dalehite, et al., 2005) and/or are from a purely economic

perspective (e.g., Simons & Sharkey, 1997). This study is a causally-probative (Shadish, Cook, and Campbell, 2002) analysis in order to uncover the impact of RPTA on certain neighborhood characteristics, which serve as proxies for more complex dimensions of neighborhood activity (Galster, et al., 2005). Bier, et al. (2007) comment that the ideal research design would be to compare a set of outcomes between subject cities with RPTA and cities without such a program. They argued that appropriate statistical controls and methodological limitations required reliance on an in-depth case study approach. This study takes a different tact and, rather than attempting a city-to-city comparison, it compares a set of outcomes between neighborhoods with tax-abated homes and those without such homes in an attempt to measure impact at the community level versus the more common approach of examining outcomes at the parcel level. Finally, the analysis uses data that are collected annually, thus providing a more accurate reflection of current activity in urban neighborhoods.

The administration of the same public policy (and its effects) can vary widely across jurisdictions. In the case of RPTA, states grant different authority to local governments regarding their ability to offer abatements. Some states grant localities the authority to abate all property taxes—county and school—on new investments in their jurisdiction. Other states allow each overlapping government to grant abatements of only its own taxes on new investments (Beck, 1993). The study sample is drawn from the population of Ohio municipalities because the abatement policy is a state-derived policy and operates at the state level. The study can be replicated to examine the impact of RPTA policy in other areas or to examine other public policies.

1.5 Definition of Terms

Constructs such as "effective" and "equity" need to be clearly defined in order for an empirical analysis incorporating such constructs to have any useful meaning. The following section provides definitions for terms and constructs used in this analysis. Please note that the definitions provided are not necessarily the only way in which one could frame these constructs.

1.5.1 Residential Property Tax Abatement

Residential property tax abatement (RPTA) is defined as an exemption from taxation for real property granted by municipal, township, or county governments as an incentive for development (Ohio Department of Taxation, 2006), specifically under the Ohio Community Reinvestment Area program. The International Association of Assessing Officers (IAAO) define abatement as

> (1) an official reduction or elimination of one's assessed valuation after completion of the original assessment; (2) An official reduction or elimination of one's tax liability after completion of the assessment roll. (2004, p. 25)

Carter and Hildreth define real property as land and improvements (as cited in Rabin, 1992), assessed at 35 percent in Ohio (Ohio Department of Taxation, 2006). The abatement offered under RPTA in Ohio's large cities, however, do not include the land, but apply only to the improvements (in this case, new residential construction). The particulars of local RPTA policy vary for new construction in Ohio. Table 2 provides a summary of the RPTA policy parameters current for the four cities in this study. Each city may have designated Community Reinvestment Areas prior to the date listed, and may have scattered properties receiving tax abatement prior to the date as well. The date

listed in Table 2 identifies when the respective city standardized and codified its RPTA program. As reflected in Table 1, Columbus is unique among Ohio cities because of its ability to annex outlining areas resulting in population changes different to the other cities in the study. Similarly, Table 2 shows that Columbus officials did not see the need for offering residential tax incentives until 2001, when apparently some of the oldest areas of the city were showing substantial levels of disinvestment. Further, Columbus and Dayton confine their respective RPTA programs to small geographic areas.

Table 2

Comparison of Residential Tax Abatement Program Characteristics by City for One-Three Family New Construction

	Cleveland	Columbus	Dayton	Toledo
Beginning Date of Neighborhood Program	1991	2001	1993	1981
Rate (% of Improved Value)	100%	100%	100% (graduated for 2 CRAs)	100%
Duration	15 years	15 years	9-10 years	15 years
Clawbacks/penalties for non-compliance	Rescind abatement w/o reinstatement	Rescind abatement	Rescind abatement	None
Community Reinvestment Area	Whole City	Neighborhood Investment Districts	Specific CRAs, w/emphasis on historic districts	CRAs comprising majority of city

It can be argued that *exemption* rather than abatement is the appropriate term to use in drafting such policies because the locality is choosing not to collect taxes on the

increased value of the property, the value of which was non-existent prior to the exemption. In essence, one cannot *abate* (i.e., put an end to) something one never had in the first place. Since *Black's Law Dictionary* (2004) defines abatement as "the act of lessening or moderating; diminution in amount or degree", this definition is appropriately applied in this instance because governments collect taxes on real property, regardless of the value of the property. RPTA is merely a diminution in the amount of what otherwise would be collected. Further, if the results from this study support a counter-factual scenario i.e., that these neighborhoods would have followed the same trajectories if there had been no residential tax abatement policy implemented, then the respective taxing jurisdictions would experience a *loss* of property tax revenues because of RPTA.

1.5.2 Effective

When describing public policy as *effective*, one way to measure it is to determine whether the goals were reached and stated objectives met. The stated goal of CRA policy in Ohio is:

> To promote the revitalization of areas where investment has been discouraged…The law is used for historic preservation, residential rehabilitation, industrial remodeling and expansion, and new commercial, residential and industrial construction. (Ohio Department of Taxation, 1998, p. 6)

RPTA will be described as effective policy if there is a significant increase in investment, a decrease in crime, and no significant differences in the distribution of the property tax burden in neighborhoods with RPTA versus city neighborhoods without the program. One could make a determination that RPTA was effective if the above legislative goal has been met, in essence, if there was a significant increase in private sector investment. However, this dissertation expands beyond that economic objective to

include measurements addressing blight removal, public safety and tax equity, concepts that are mentioned as objectives in some of the local ordinances regarding RPTA. If there are no significantly different relationships between the indicators of neighborhood change for the subject and comparison neighborhoods, then the effectiveness of RPTA as an economic or community development tool is brought into question.

1.5.3 Equity

Notions of redistribution and equality are often components in definitions of equity as it relates to public policy. These notions are value-laden terms that can be interpreted differently by different people (Been, 1992). For example, some ways to frame a discussion of *redistribution* can be in terms of wealth, income, tax burden, administrative cost, or public goods and services. Krumholz and Clavel define social equity as, "The conscious attempt [by public officials] to devise redistributive policies in favor of the least powerful and to enhance the avenues of participation" (1994, p. 1). Cleveland Mayor Frank Jackson frames the concept not as a political one but as the need for equitable representation in the way our American society and economy are structured (Zaun, 2007). While public choice models of local expenditures do not explicitly include redistribution, such approaches may be considered equitable if one assumes that the federal government fulfills a redistributive role (Blair & Kumar, 1997; Helms, 1985; others). In essence, distribution (of tax burden, public services, income) is a public policy issue more so than an economic market outcome because it is a question of values (Musgrave & Musgrave, 1989). Similarly, *equality* can be framed as equal access to the allocation of public resources, equal distribution of public goods and services, or equal

application of the procedural processes of government administration, or all of the above. Equality can be viewed as a passive approach to fairness; if everyone in a jurisdiction is offered the same opportunity to access public resources, then the system could be viewed as fair.

In this study, *equity* refers to vertical equity in property taxation, which occurs "when the assessment ratio—the ratio of assessed value to market value—is uniform across property value ranges", (Cornia & Slade, 2005, p. 19). The International Association of Assessing Officers (IAAO) defines equity in assessment as, "the degree to which assessments bear a consistent relationship to market value…(2) In popular usage, a synonym for tax fairness" (2004, p. 26).

Systematic vertical inequity occurs when lower-value properties are consistently assessed at a greater portion of their market value, creating what may be referred to as an "arbitrary and capricious" tax system, with those least able to afford it paying a greater proportion of their income for property taxes. One hypothesis for the existence of such inequity is that, in order to offset the loss in revenues from the higher-valued tax-abated homes, the lower-valued non-abated homes in the neighborhood may be systematically assessed at a greater proportion of their market value (e.g., Bartimole, 2007). This study examines vertical tax equity to uncover the presence of any unfair property tax burden in neighborhoods with tax-abated homes relative to those without abatement. If median assessment-to-sales ratios between the subject and comparison neighborhoods are significantly different from each other, then there exists the possibility of systematic vertical inequity across the combined neighborhoods (Birch, Sunderman & Smith, 2004), and a need for further research to determine the extent of the inequity.

1.5.4 Neighborhood

Galster (2001) describes neighborhoods as bundles of spatially-based characteristics including those that are structural, infrastructural, demographic, socio-economic, environmental, political, social-interactive and sentimental, where what is produced is consumed by the same actors, namely households, property owners, business people and local government. Where one neighborhood stops and another begins is where the bundle of attribute changes. Galster (1986) discusses Suttles' four levels of neighborhood: block face (where children are allowed to play w/o supervision; "defended neighborhood" (the smallest area possessing a corporate identity as defined by mutual opposition to another area); "community of limited liability" (administrative district in which individuals' social participation was selective and voluntary). When people have been asked to draw their neighborhood, there is no common answer given, nor is one of the levels of neighborhood dominant: "Actual urban spaces thus may be arrayed within a matrix according to their scores on these dimensions, analogous to a social area analysis" (p. 258). Sawicki & Flynn (1996) argue that examining indicators at the neighborhood level is the best way to check for success/failure of public policy at the local level because local economic development policies, such as RPTA, operate on a city subarea (CRAs).

In the academic literature, there are several possibilities for defining neighborhoods for analysis such as predetermined radii around elementary schools, administrative boundaries as determined by government, housing submarkets (e.g., Bates, 2006), and other interesting ways to conceive of them (e.g., “collective consumption units”, Ostrom, 2005, p. 2). Sawicki and Flynn (1996) sum it up well when they write:

> More recently, Galster (1986) showed that, depending on the context, even a single resident could describe different boundaries for a neighborhood according to the subject being explored. User-defined areas, institutional definitions, etc. make it so that there is not one overarching definition. (p. 167)

A common approach in the literature (Chow & Coulton, 1998), and the one taken by Galster, et al. (2004; 2005), is to delineate neighborhoods by Census tract. Some of the data sets used in this study are available at the tract level (e.g., HMDA), while the other data at parcel or address level will be assigned appropriate census tracts.

This dissertation will examine the relationship of RPTA to urban neighborhoods. Census tracts will act as proxies for neighborhoods, and *urban neighborhoods* are defined as those Census tracts that fall within the political boundaries of the following Ohio cities: Cleveland, Columbus, Dayton and Toledo. While use of proxies is not the ideal choice, Gephart (in Brooks-Gunn, Duncan & Aber, 1997) comments,

> although administrative units, such as census tract and block groups, are imperfect proxies for the concept of local community, they generally possess more ecological integrity than cities or SMSAs, and they are more closely linked to the causal processes assumed to underlie the outcomes of interest. (p. 10)

CHAPTER II

LITERATURE REVIEW

2.1 Introduction

The literature review guiding this study included work from several different academic disciplines, as well as from government legislation. This dissertation examines the relationships between RPTA legislation and changes in the urban neighborhoods of four Ohio cities. The review begins with an analysis of the relevant state legislation (2.2), followed by a discussion of municipal policies and local legislation (2.3) pertaining to residential property tax abatement (RPTA) for the four cities included in this study. Since RPTA is a tax incentive policy, an analysis of relevant academic literature regarding the use and effectiveness of tax incentives (2.4) is necessary. The final section includes a review of theoretical issues (2.5) that are relevant to this study also drawn from the academic literature and instrumental in the development of the conceptual model, and is organized under five themes. It is argued that the implementation of RPTA can have serious implications for both inter-jurisdictional competition (2.5.1) and property tax equity (2.5.2), and that theories of neighborhood change (2.5.3), the theory of broken

windows (2.5.4), and the anti-urban—pro-rural dichotomy (2.5.5) have helped lay the theoretical grounding for the development of policies such as RPTA.

2.2 State Legislative History

In 1969, to help stem the flow of population and investment from the state's urban areas, the Ohio's General Assembly enacted sections 3735.65 and 3735.72 of the Ohio Revised Code (ORC), which created "rehabilitation areas" wherein remodeled and/or newly constructed homes were exempt from property taxes. Rehabilitation areas originally were defined as,

> areas within a municipal corporation or unincorporated area of a county for which the legislative authority…has adopted a resolution…describing boundaries of the area and containing a statement of finding that the area…is one in which the conditions of slum housing, blight, or disrepair of housing is such that property values are depressed, new housing construction and repair and rehabilitation of existing housing are discouraged because of such depression of values, or because the incomes of residents generally in the area are such that taxes on property substantially affect the ability of residents or owners of housing for…repair or rehabilitation of housing. (§ 3735.65 (B)).

The legislation limited RPTA to ten years and required that cities appoint a housing officer (§3735.66), a housing committee comprised of property owners in the rehabilitation area charged with making quarterly inspections of area properties (§3735.70), and a housing rehabilitation council comprised of political appointees whose duty it was to conduct annual property inspections in the designated areas (§3735.71).

In 1977, the General Assembly created the Ohio Community Reinvestment Area (CRA) Program, which repealed the term "rehabilitation areas" and replaced it with "community reinvestment areas". This change was not merely one of semantics; by changing the terminology, the legislature loosened the requirements for an area to qualify

for tax abatement. Specifically, the conditions of *slum housing*, *blight*, *disrepair*, *depressed property values* and *income issues of residents* were removed, leaving only two requirements for an area to qualify as a CRA: the existence of structures with 0historical significance, and the discouragement (meaning a dearth) of new housing construction and repair (§ 3735.65 (B)). The decision of what denotes "historical significance" was left to local governments with some constraints regarding age, architectural quality, rarity, and previous designation (§3735.65(D)).

The 1977 CRA program set a maximum allowable tax abatement period of fifteen years for new construction (§3735.67 (C)). In addition to the CRA program, Chapter 1728 of the ORC contains a tax abatement program for "blighted areas" in "impacted" cities, but requires the establishment of community urban redevelopment corporations "to acquire, construct, operate, and maintain a [redevelopment] project" (§1728.01(B)). It is more difficult to have areas qualify as "blighted" or for a municipal corporation to be an "impacted city" than it is to establish a CRA. However, a specific examination of the relationship between community development corporations and RPTA is beyond the scope of this study.

In 1990, another major change to the law was passed with the insertion of language requiring local legislative bodies or the housing officer to notify affected school districts of the proposed tax exemption. Prior to this stipulation, local legislative authorities were not required to include affected school districts in decisions to grant tax abatements. Local school districts can be adversely impacted by the loss of property tax revenues. Municipalities can circumvent the need for approval by affected school districts waiving their rights to be notified of proposed RPTA offerings (see §

3735.67(C)). In essence, the level of involvement by the school district depends on the political strength of the respective school board (M. Sutherland, personal communication, April 21, 2009).

In 1992 the General Assembly added language that increased local government accountability in that it required an annual "status report" for each CRA to be submitted to the Ohio director of development (§ 3735.69 (B)). The Ohio Department of Development (ODD) acts in an advisory capacity through reviews of proposed legislation (recommending broad parameters), recommendations on how to limit administrative dollars to administer the program, and recounts of what has occurred elsewhere around the state. The ODD also has a regulatory role of investigating complaints, helping cities with compliance, and decertifying CRAs if necessary (M. Sutherland, personal communication, April 21, 2009).

When Senate Bill 19 was enacted in 1994, a series of major changes passed through the Ohio General Assembly regarding CRAs and the corresponding tax abatement incentives, resulting in a different CRA program. Most of these changes applied to commercial and industrial projects (such as adding a clawback provision under §3735.68) more so than to RPTA and does not impact this study. One significant change for RPTA was that, before 1994 it was stipulated in the Ohio Revised Code that real property *must* be exempted 100 percent. Since 1994, more discretion is given to local legislative authorities in that real property is now exempted *up to* 100 percent. However, less discretion was granted to local legislative authorities in that all CRA commercial or industrial projects created after 1994 must receive approval from the ODD director *prior* to granting a real property tax incentive (§3735.671). In essence, these changes resulted

in two types of CRAs operating in the State: those areas designated as such prior to 1994 and those areas created after the 1994 revisions.

Residential property tax abatement is designed to attract homeowners to purchase homes in the community offering RPTA. The original objectives outlined in the authorizing legislation were to combat blight and encourage residential development where it has been declining. It can be inferred, even if not explicitly stated, that another objective of the program was to attract desirable (i.e., from a higher socio-economic group) homebuyers to settle in specific geographic areas. State legislators were operating under the assumption that Ohio's urban neighborhoods no longer held any attraction; developers would no longer build in the city and homeowners would no longer buy without the use of incentives. By offering RPTA, cities could become a formidable housing market competitor for the perceived limited pool of desirable residents. To date, it appears that no published study has evaluated the impact of Ohio RPTA policy on urban neighborhoods.

2.3 Municipal Development and Administration of RPTA

Much of the language found in local legislation flows from Chapter 3735 of the ORC. Local legislative bodies were granted some discretion by the General Assembly in order to tailor Ohio's Community Reinvestment Program (CRA) program to the specific needs of their respective communities. Some common program parameters derived from the ORC and implemented at the local level are the transference of the abatement to subsequent property owners and by owners paying property taxes on the value of the land. All that is required of a municipality if it wants to establish a CRA is that there must

be at least two structures in the proposed area, one of which is a residence, and to survey the proposed area for "evidence of disinvestment in the structures located there…basically, evidence that the structures have not been kept up", (C. R. Manno, Ohio Department of Development, n.d.).

Detailed decisions regarding the administration of an RPTA program can vary from locality to locality in terms of the number and size of CRAs, the rate and duration of abatements, penalties for non-compliance and sunset provisions (language that allows for the law to "expire" after a certain time if no further legislative action is taken), as well as requirements concerning historic preservation and green building. Abatements have come to be viewed as legislative entitlements, so to allow a local RPTA ordinance to sunset or to decrease the current incentives can pose quite a political problem for local officials.

Table 3 provides an overview of some projected economic characteristics of the cities included in this study (U.S. Census Bureau, 2005). Also included is a number representing the dissimilarity index for each city. The role of racial segregation in housing can have a significant impact on declining urban areas as well as the current housing foreclosure crisis. The dissimilarity index represents the percentage of white people that would need to move to another neighborhood in order to make blacks and whites evenly distributed across all neighborhoods (Censuscope.org, n.d).

Table 3

2005 Estimates of Select Economic Characteristics of Four Cities in Study

	Cleveland	Columbus	Dayton	Toledo
Population	312,237	565,708	115,219	224,599
Percent of unemployed (civil labor force)	16.3	7.8	13.3	12.5
Median household income (inflation-adjusted to 2007 dollars)	$27,007	$42,031	$28,381	$34,839
Percent of households on food stamps in last 12 months	23.2	11.2	18.8	16.9
Percent of families below poverty level	25.2	14.6	24.3	18.0
Index of Dissimilarity	79.4	61.0	78.3	67.0

One interesting question to examine is how strong a political influence is wielded by residential property developers and how this influence may impact local RPTA legislation. Table 4 provides a brief overview of some municipal spending trends for construction under neighborhood/community development initiatives. To be sure, local developers have a vested interest in encouraging the adoption of programs and their enhancement. In Cleveland, for example, local developers encouraged the city to maintain the program and when the mayor voiced concern with the program's effects and the scale of the abatements, businesses leaders lobbied to have an evaluation performed and to have future decisions about the program based on the evaluation's analysis and recommendations (Mikelbank, Rosentraub & Post, 2009). While studies of the politics in the others cities were not found, it is reasonable to suggest that the outcomes and actions of developers in Cleveland mirrored the sentiments and positions of builders in other parts of the state.

Table 4

Construction Costs as a Percentage of Total (Capital) Expenditures for Neighborhood/Community Development

Budget Year	Housing construction costs Cleveland	Columbus capital budget, neighborhood services	Capital improvement contracts Dayton	Construction contracts Toledo
2003	22.1	---	4.4	45
2004	22.1	---	56.0	38
2005	23.0	0	3.6	54
2006	23.2	0	---	58
2007	36.4	0.17	18.6	0

2.3.1 Cleveland

The first RPTA ordinance for Cleveland (Ord. No. 2831-86, 1987) established a Downtown CRA, the goal of which is paraphrased from the ORC: Cleveland CRAs can be established where there are structures of historical significance and where construction and repair has been discouraged. Cleveland City Council maintained language from the original state legislation regarding the removal of blight and preventing its reoccurrence. Abatements were granted for seven years for new residential units, "with the rate of exemption set at the increase in market value of the property" (§3). In 1991 local legislation established all of Cleveland as a CRA, excluding the already established Downtown CRA, with a fifteen-year abatement at 100 percent for new construction or conversion of large residential developments of more than twenty-five one- and two-family homes (Ord. No. 1776-A-90). Residential projects constructing less than twenty-

five single or two-family homes would receive 100 percent abatement for ten years. In 1994 there were changes made to the Downtown CRA that increased the duration to fifteen years, at 75 percent of market value (Ord. No. 1171-94). In 1999, the geographic area of the Downtown CRA was expanded (Ord. No. 959-99) and the tax abatement on new one- and two-family residential construction, regardless of the size of the project, was increased to fifteen years in City neighborhoods (Ord. No. 960-99).

In 2007, when Cleveland's RPTA policy was scheduled to end, the policy was renewed again for the maximum allowable duration and rate for new construction (fifteen years at 100 percent). What changed in renewing the program is that the former Downtown-area CRA is now considered a neighborhood, which in essence makes all of Cleveland one large CRA with the maximum rate and duration allowed for RPTA. In addition, Cleveland City Council approved future requirements for new construction to meet Energy Star standards (Samsa, 2007; *The City Record*, 2007).

2.3.2 Columbus

CRAs have been codified in Columbus since 1978, but the current RPTA program began in 2001 in five specific areas. The language in the local legislation refers to these areas as CRAs pursuant to Chapter 3765 of the ORC; however, the city refers to these areas as Neighborhood Investment Areas, or NIDs. The stated goals of the RPTA program in Columbus are to stabilize these neighborhoods and upgrade housing units to increase investments in the city (City of Columbus, 2006). According to the former RPTA program manager for the city, in order for an area to be considered for NID designation it must be losing population, have declining schools, vacant lots and/or

boarded up buildings, and there must be something upon which the city officials can "hang" success (A. Owens, personal communication, June 27, 2008). For example, Area A (also known as the Linden neighborhood) had the highest reported crime rate in the city, with a reduction in crime following redevelopment of the area, which included a new government agency headquarters for the housing authority and a terminal for the transit authority, (A. Owens, personal communication, June 27, 2008). Columbus recently renewed CRA designation of the original five areas, and expanded its RPTA program to include six more areas (City of Columbus, 2009).

In listing the benefits of tax abatement, Columbus identifies public sector entities as beneficiaries. Language from both the 2006 and 2009 city development department website contains the language, "the schools will continue to receive the current, existing property taxes" (City of Columbus, 2006; 2009). Columbus appears to be no different than the other cities in the study on this point; owners of newly constructed single-family homes do not make any additional payments to the school district other than the taxes paid on the land value. Also similar to other cities, if the home has "uncured" code violations the abatement can be rescinded (R. Parise, personal communication, April 28, 2009).

2.3.3 Dayton

Similar to Columbus, Dayton has the most targeted RPTA program of the four cities in this study. Dayton suffers from some of the same urban problems as Cleveland (even though it is a much smaller city) including high foreclosure rates, a sharp decline in a number of manufacturing concerns leading to high unemployment levels, an aging

housing stock, and high level racial segregation (between parts of the city and between the city and the county. "In recent history, little has affected The City more profoundly than the significant numbers of people and jobs that have moved to the suburbs" (City of Dayton, 2008, p. 7). Unlike Cleveland, however, lawmakers did not establish the entire city as a CRA. Dayton appears to be very careful about using RPTA as a redevelopment tool. Not only are the city's CRAs small, but also it has seven neighborhoods in which only renovations or new construction within the historic districts in those neighborhoods are eligible for tax abatement. By controlling for each city, this study will attempt to uncover whether Dayton's prudent use of the CRA program works better on certain outcomes than other more geographically comprehensive approaches.

Dayton lawmakers give explicit voice to the impacted school districts, although the districts have not been granted additional powers beyond notification and comment (Ord. 28718-93, §44, 1993). Dayton is also unique in that the local legislation states that the duration of RPTA is up to fifteen years for new construction but the specific time period varies by area. For example, two historic districts (Wright-Dunbar and Madden Hills) follow a nine-year, graduated scale for the RPTA program, with a 100 percent exemption for the first five years decreasing by 20 percent in each of the remaining years. The city's vision plan highlights one of the common goals of RPTA, which is to "provide incentives to community-based developers and the private market to build market-rate housing", (*Citiplan*, n.d., p. 10).

2.3.4 Toledo

The City of Toledo, also paraphrasing from the ORC, has as the stated goal of its CRA program to promote investment in neighborhoods that have experienced decline resulting from disinvestment. Toledo Ordinance 170-04 declares that,

> there exist areas of the city that are underdeveloped, blighted, deteriorated or deteriorating, or inappropriately developed and that these areas have arisen from inadequate public and private investment and reinvestment in housing. (§1201.02, 2004)

Currently Toledo offers 100 percent abatement on improvements for fifteen years on single-family new construction, but city officials are contemplating lowering the parameters on new construction and increasing the rate and duration on rehabilitated properties (J. Morell, personal communication, August 7, 2008), probably in light of diminished demand for new housing construction. Unlike the other cities in this study, Toledo does not emphasize residential development in its advertisement of its CRA program, but rather highlights the advantages for business and industry relocation to the city (City of Toledo, 2009). Chapter 135.09 of Ordinance 653-02 (2002) established the Division of Real Estate within the Department of Economic and Community Development. The City does have a Department of Neighborhoods with a housing division; however, it is the Division of Real Estate that is responsible for administering the RPTA program. Toledo has nine distinct CRAs (see Figure A4 in Appendix), which account for a majority of the city's geographic area.

Similar to the discussion of how Columbus city officials define success, Toledo's leadership capitalized on the construction of new city school buildings by linking them with large RPTA developments of new single-family construction and calling it the New School/New Neighborhoods Initiative. In addition, in 2005 city officials created a CRA

for political reasons more so than for actual area need; it is the one CRA for which the city's tax incentive officer receives the most phone calls for people wanting to build new homes (J. Morell, personal communication, August 7, 2008). This is not a contemporary or unique occurrence. Indeed, Swanstrom (1985) provided an example of tax abatement offered in Manhattan to build office towers in the 1970s, which was not needed and not supported by market conditions (they would have been built anyway).

An underlying tension in the local conception and administration of RPTA programs is one of balancing public and private sector interests although, as Malpezzi (2003) surmises, the public-private distinction is more of a spectrum than a distinct separation. Common underlying goals of the RPTA programs discussed above are to revive the urban housing market, attract desirable households to reside in the city, and remove blight. Additional goals may be to preserve historical structures and areas, as well as promote green building. All of these goals can create tension between what the city wants on behalf of all its residents, and what developers want in terms of their profit margins. As Buss & Redburn (1987) describe it:

> The misapplication of public subsidies has also to do with the inherent difference between the incentives/opportunities for private investors and the public responsibilities that public officials are charged with...nearly all private entrepreneurs...invest their capital with the expectation that the return on investment will be commensurate with the risk undertaken...the public sector, on the other hand, has traditionally…invested capital in areas where the financial return is long term, indirect, and uncertain. (pp. 292-293)

These two perspectives do not have to be in conflict necessarily but are often framed as a game in which the city ends up losing, either by playing too hard and losing the development contract/firm location decision, or by being too generous with incentives so that the benefits to the firm outweigh those to the city (e.g., Blair & Kumar, 1997;

McGuire, 1991). It appears that no published study has examined RPTA on a set of outcomes derived from both public and private sectors.

2.4 Incentives as Tax Policy

Public policy is an intentional course of action followed by a governmental entity and backed by the coercive power of the state for resolving an issue of public concern manifested by laws, public statements, regulations, or widely accepted and visible patterns of behavior (Cochran, et al. 1999). In the case of economic development, why does the public sector need to create policies intended to influence the private market? These policies are designed to move market-based activities to areas that have been avoided because of perceived higher costs or risks (Musgrave & Musgrave, 1989). Economic development policy provides administrators and officials with taxes, services, and regulations in their competitive bag of tricks. There are three characteristics often used to describe policies as "good:" transparency (openness of processes, decisions, outcomes), congruency (conforming to the law), and simplicity (not vague). The way policies involving tax incentives are administered seems to violate these features. Very often transparency is lacking in what can be considered "backroom deals" between public officials and corporate executives regarding the offerings being made. Violation of this characteristic seems to be less with RPTA and more with commercial/industrial projects. Congruency, it can be argued, is currently being violated by the City of Lorain in its attempt to make RPTA retroactive for a particular CRA (Green, 2008; 2009), considering there is no provision in the state law for retroactive RPTA. Finally, when it comes to administration of tax abatement policy, it can be argued that simplicity is often violated.

Tax abatement is a part of the broader category of tax policy, which Peretz (1996) points out, is inherently more complex than other policies. Giertz, McGuire, Nowlan (1996) define simplicity of tax policy as easy compliance for the taxpayer and easy administration for the collection agency. Issues such as the fairness of property assessment and distributional concerns regarding tax burden are but two examples of how complicated tax policy can be. As Musgrave and Musgrave (1989) contend, "An equitable tax system cannot be simple...Tax policy is an art no less than a science; and equity is to be sought as a matter of degree rather than as an absolute norm" (p. 228).

As briefly outlined in Chapter I, the use of tax abatement (and incentives in general) by the public sector to lure businesses and residents back to the city is not without controversy. Historically, according to Swanstrom (1985), tax abatement can be viewed as the successor to urban renewal projects from the 1950s and 1960s, but with two important distinctions. First, the federal government subsidized two-thirds of urban renewal projects compared to contemporary administration of local incentives where, Swanstrom claims, the subsidy is borne by local taxpayers. Second, communities and developers used to have to follow a federally approved plan; he argues that there is little public control over tax abatement plans by developers. Jacobs (1961) was extremely critical of urban renewal policies, which she believed destroyed communities and created isolated, unnatural urban spaces. If Swanstrom's criticism of tax abatement policy is valid, then residential property tax abatement (RPTA) may not bode well for Ohio's urban neighborhoods and may place an unfair burden on residents who do not live in tax-abated homes.

The economic development literature has devoted substantial attention to the impacts of tax incentives for business and industry. Far less work has focused on the effects of residential tax incentives. This section reviews the literature on the role and impact of public sector incentive programs offered to both firms and homeowners. Krumholz (1991) defines local economic development activity as "a process by which local governments manage resources to stimulate private investment opportunities in order to generate new jobs and taxes" (p. 292). Rasmussen, Bendick and Ledebur (1984) define economic development incentives as giving "…public money to private enterprises in order to encourage these enterprises to alter their operating decisions in some socially desirable way" (p. 24). In essence, cities give up some revenue today for the promise of higher revenues in the future (Malpezzi, 2003). After years of incentive packages being administered, local governments have come under pressure to provide quantifiable evidence that the policy goal is being reached, namely, that this tool has increased private investment (Smith, 2006).

Many evaluations conducted in the 1980s and 1990s illustrated the possibility of negative effects of using incentives in the production of zero-sum gains (e.g., Blair & Kumar, 1997; Ladd, 1998), prisoner's dilemmas (e.g., Morse & Farmer, 1986; Anderson & Wassmer, 1995), and unhealthy inter-jurisdictional competition, (e.g., McGuire, 1991; Ladd, 1998). In Detroit, communities wanted to avoid being perceived as "non-friendly" to business, and it appears that firms used the incentives offered by one community to strong-arm another community into providing a better incentive package, less they lose the possibility of the firm locating in their community (Anderson & Wassmer, 1995). Bingham and Bowen (1994) evaluated the impact of economic development program

funding on state economic vitality and found no significant relationship. Bartik (1991) examined economic development and asked the question of who benefits. In terms of job growth policies, he concluded that unemployed residents get jobs in the short run, which can positively impact their long-run prospects, and that any net benefits from these policies are most likely to be positive in the worst areas. However, in terms of net benefits for tax abatement policies, Bartik reached a different conclusion stating that if land value increases are the only benefits from these policies, then the problems of the poor and disadvantaged are not being addressed. This conclusion is relevant because of the disproportionate number of lower-income households that live within urban neighborhoods. Sawicki & Flynn (1996) argue that,

> Public policy often aims at moving individuals in order to generate improvements in geographically-based indicators. For example, the de facto goal of a city policy often seems to be to displace poorer households with richer ones, thus raising the socioeconomic standards of the area. The action may make the city more solvent fiscally, but the result is not necessarily an improvement in the lives of some residents. (p. 15)

Positive effects from incentives are found in Wong's (2002) study of the use of incentives in England. He concluded that, "the 'welcome mat' effect of financial incentives, relocation packages and other activities of local development agencies is critical to attract foreign inward investment," (p. 1843).

Sands, Reese and Khan (2006) note that incentives have been reported to be effective as well as ineffective in the literature because of differing research methodologies, variation in the operationalization of "effectiveness", differing units of analysis (individual, local, county, region, state), and differing time periods. Their general conclusion is that the more effective abatement programs seem to be local initiatives that are geographically targeted and evaluated periodically. The authors

include a discussion of best practices, or what local governments should consider before granting tax abatements. Their recommendations include focusing on particular areas, ensuring the proposed incentive is compatible with the local population, and including claw backs or some recourse in the event that the private sector does not deliver on what was promised to the city (also Ledebur & Woodward, 2003).

Krumholz (1991) argues that hard bargaining rather than making offerings of inducements would be a better move for municipalities; in essence, "cities should negotiate as equals" (p. 292). Professor Krumholz believes inducements should be carefully programmed and development should be balanced between "weaker" (neighborhoods) and "stronger" areas (downtown), although downtowns often become the focus of development. Rasmussen, Bendick and Ledebur (1984) recommended that enticements to businesses to influence their location decisions should come from the federal government: "...state and local government may be well suited to administer, but not finance, many forms of firm-specific economic development incentives" (p. 24).

Morse and Farmer (1986) also examine effectiveness of tax abatements for business in a sample of Ohio's CRAs (n=24) and conclude that tax abatements for businesses only work if the state aid formula to these areas is adjusted to reflect the loss of public revenue from the abatement. Based on their conclusion, one has to ask whether any incentive policy is effective considering that the state would have to continue to provide additional subsidy designated areas. Dalehite, Mikesell and Zorn (2005) provide a comprehensive overview of state abatement programs, and recommend that tax abatement be used for select parcels, have a time limit on the reduction (also Courant, 1994), and that it is the only incentive offered (i.e., it cannot be used in conjunction with

other incentive programs). Their main conclusion is that abatement programs tend to be overly generous and, similar to others (e.g., Sands, Reese & Khan, 2006), conclude that targeting blighted areas may be the only way to guarantee positive net benefits for the city.

Similar to the incentives discussed previously, a goal of RPTA is to increase residential investment where disinvestment has occurred. Is there anything inherent in the CRA legislation that guarantees RPTA (or incentives for firms) will spawn growth in an area? As Coffin (1982) points out, "there is in principle no mechanism in the tax reduction itself which would be expected to increase the long-term growth rate of the jurisdiction" (p. 18). Krumholz (1991) argues that there is little support that incentives ("subsidies") fulfill the public purpose of neighborhood revitalization. Jacobs (1961, p. 532) warns that urban areas must be capable of holding their populations "to stay put by choice over time" and a temporary property tax break may not be enough to support such a choice.

Additionally, the research performed does not support the notion that tax incentives alter firm's inter-regional location decisions, although they may influence the location decision within the region (e.g., Coffin, 1982; Morse & Farmer, 1986) or between a few locales (Ledebur & Woodward, 2003). Does this marginal influence hold true for households? Mark, McGuire and Papke (2000) control for jurisdiction and time effects in their panel study spanning twenty-five years to examine whether taxes are an important determinant of economic development in Washington, D.C. In their analysis of the revealed preferences of buyer behavior, the authors did not find local property taxes to be a significant factor in residential location choice. Conversely, Bier, et al.

(2007) found that over a quarter of those surveyed who recently bought a tax-abated home in Cleveland (n=44) stated that they would not have done so without RPTA, and over half who were planning to buy a home in the near future (n=101) would not consider purchasing a new home in Cleveland without RPTA.

Dardia (1998) and Smith (2006) examine redevelopment programs within TIF districts, and define effectiveness as an increase in property values. Tax-increment financing (TIF) uses incremental tax revenue from a revitalized area to finance the infrastructure that made the revitalization possible. The authors did not reach similar conclusions regarding the effectiveness of incentives. Dardia (1998) performed matched-paired testing, and used property assessment values of 38 projects in California TIF districts from 1983 to 1996. Each project area was matched to a Census block group based upon location and two conditions of blight (average vacancy and poverty rates), and the differences in the growth of assessed values in a project and its matched or paired area to determine effectiveness. Dardia's study is particularly interesting because he determined that the project areas, in order to be considered self-financing (and therefore effective), needed to grow at a faster rate than the comparison areas since a majority of the increase in property taxes was reinvested back into the TIFs. He found fewer than 25 percent of the projects came close to being responsible for the property tax revenues they received; the rest of their funding was government subsidy. Smith (2006) examined the Chicago multifamily real estate market in order to determine the influence of TIF designation on the real property appreciation rates. The results indicated that properties located within a designated TIF district exhibit higher rates of appreciation after the area

is designated when compared to those properties selling outside TIF districts, or to those properties that sell within TIF district boundaries prior to designation.

Tax policy seen from an economic perspective highlights the effect of tax policies on economic growth and on efficient use of resources, while speculating on the potential distortions results from such policies. Determining if a public policy is economical may make one ponder the question of for whom is it economical. Do all those impacted from said policy inherent the same burdens as well as benefits? Much of the emphasis in the legislation and the empirical research examining tax incentives is from an economic perspective. For example, Bier, et al. (2007) highlight the additional benefits to Cleveland resulting from its RPTA such as appreciated land value, earnings tax, and improved property values of nearby homes. Conversely, Courant (1994) argues that analyses of tax incentives should include all *social* costs, including externalities: "What we should seek to measure in our assessments of local economic development policies is changes in the level and distribution of economic welfare" (p. 863). Malpezzi (2003) concludes that distributional considerations have implications for state and local fiscal conditions, giving the example of a poverty rate one percent higher than average spends an extra $2.20 per capita on police. Fosler (1991) writes, "the experience of state and local economic development efforts reflects a series of economic relationships that is both broader and richer than those captured in conventional economic theory" (p. 250). Krumholz (1991) advocates for economic development practitioners to emphasize upgrading education and increasing the employable population rather than focusing on capital and subsidies. Hissong (2003) argues that cities need to incorporate social and political forces, and to understand the community "as something in which the economy is

embedded as part of the overall social relations; markets do not emerge out of a vacuum but out of the social circumstances that surround them" (paraphrasing Polanyi, p. 133). Dror (1967) regrets the "invasion" of economics into public decision making. He argues that critical elements (e.g., future non-economic impact) of policy making get ignored by viewing it only in economic terms.

Mikesell (1998) and Peters (1996) see tax policy development as primarily political:

> They [taxes] are amounts established through the operations of a political process in which a structure of laws, not a series of market transactions, determines how the cost of government will be distributed among elements of the private economy, (Mikesell, 1998, p. 173).

He observes that the tax system is more than what is written (statues defining tax base and rates); it involves the administration of that system and how private entities respond to that administration, the interactions of which are essentially political. Peters (1996) sees the political process as having its own internal logic that can conflict with other criteria such as simplicity, fairness/equity, and openness (i.e., transparency). He notes that government has to figure out how to find ways to pay for the services while escaping notice of the pursuit of payment. This may be one reason why RPTA is so politically palatable; there is no pursuit of payment in the short term. Peters also argues that politicians can rarely use tax policy to their advantage in electoral politics. One could argue RPTA is an exception. As an owner of an RPTA property, one receives city services while paying a minimal amount of land taxes in the shorter term, and non-RPTA property owners are not aware of the potential of an increased tax burden to cover the costs of RPTA. All tax decisions are political decisions, but tax policies also may be used as mechanisms for social control (Peters, 1996). "Sin" taxes will hopefully curb

undesirable behavior, and RPTA will hopefully encourage people to move back to city neighborhoods.

Some authors argue that there are positive non-economic impacts resulting from incentives, particularly RPTA, such as pride of homeownership. Abatements can give some people mortgage ability that they may not otherwise have qualified for (Bier, et al., 2007). DiPasquale and Glaeser (1999) argue that homeownership may encourage investment in local amenities and social capital because homeownership gives individuals an incentive to improve their community and because it creates barriers to mobility. Using the U.S. General Social Survey, the authors conclude from their analysis that homeowners invest more in social capital, and that a large portion of the effect of homeownership on these investments comes from lower mobility rates for homeowners. Hence, RPTA may encourage the initial home purchase in an urban neighborhood, but the effect of such a purchase may have an impact beyond the parcel. This positive outcome may not apply to all income classes, however. Ambrose (1998) asked whether subsidized loans increase home ownership in low-income neighborhoods. He found current subsidies to be too low relative to the costs of homeownership, and particularly less attractive to low-income families. He discussed the risks and costs involved to homeowners who take on a mortgage and the care of their own home and property. Although abatement can help some people obtain a mortgage they may not have qualified for otherwise, the unforeseen costs of homeownership and/or uncontrollable factors (job loss, illness) may result in home loss. This assertion is sustained by Bier, et al., (2007). They found that twenty percent of tax-abated homes went into foreclosure.

There remains no consensus whether tax incentives comprise "good" public policy. What, then, accounts for the popularity of incentives as policy? As Swanstrom (1985) mentions and Ledebur and Woodward (2003) observe, incentives "provide policymakers with one of the few discretionary tools available that could sway private decisions in the short run", (p. 76). In addition, officials seeking reelection can "hang success" on securing additional jobs and/or residents for their respective community. Third, tax incentives can be framed as something that does not cost anything for the taxpayer; i.e., no public money was spent on the very visible, new-constructed structures. Rebuilding infrastructure can be presented as something that needed to happen anyway and that is beneficial to all residents of an area, not just those in RPTA homes.

Graham Allison (1980) argues that there is a *constitutional difference* between private sector and public sector administration of policy due to the separation of powers principle. Private industry is centralized under a chief executive officer, but local public administrators answer to numerous elected officials and citizens. Business is expected to operate in its own self-interest (Beckett, 2000) but this behavior can be in conflict with operating in the public interest. Indeed, there is an assumption about public policy, an example of which can be found in the legislative language pertaining to RPTA, which is that it is of a *public* purpose. Conversely, Kincaid (1991) argues that competition between public and private interests is inherent part of the American federalist system and that "it [competition] is not accidental or an undesirable by-product of democracy; it is a constitutionally protected value", (p. 97). Ostrom (2005) concurs and sees opening the public sphere to "entrepreneurship" as key to increasing the quality of public goods.

Another issue rests with the goal of private enterprise, which can be to maximize profits or market domination. If the goal of government is to operate like the private sector and maximize profits then, Beck (1993) argues, government should pursue discriminatory taxation practices because it will enhance its ability to fulfill this goal. Bewley (1981) tested the revenue-maximizing hypothesis for government and concluded, "I find a [Tiebout local expenditures] model with homogenous communities and profit-maximizing governments startling and strikingly in conflict with my everyday experience" (p. 735). In essence, there are normative democratic values (such as liberty and equality) that cannot be ignored when pursuing private sector principles in the public sector.

Another approach to minimizing negative impacts of incentives is to structure the policy so that costs and benefits are distributed throughout the metropolitan region. Through zoning restrictions suburbs in metropolitan regions are able to limit the number of poor people they are willing to allow in their respective communities. Therefore, the central city has a disproportionate number of poor people for whom to provide services. Set-asides such as affordable housing units have not redistributed lower-income households to the degree needed to decrease the burden placed on central cities. Apart from Corman and Mocan (2005), uncovering relationships between residential tax incentives and redistribution appears to be missing from the already sparse literature examining RPTA. It is argued that an equitable stance would be for the region to bear the collective burden for the costs of the central city providing incentives, with regional tax sharing offered as a solution (e.g., Orfield, 2003; Reschovsky, 2000), although this approach comes with its own set of problems not the least of which is securing the

political will of many local jurisdictions to participate. However, a detailed discussion of regional tax sharing and its relationship to RPTA policy is beyond the scope of this study.

2.5 Theoretical Issues

If Waldo (1948) is correct, then every public sector decision has a political theory behind it. The decision to give tax abatements to certain homeowners in certain designated geographic areas can be grounded in the argument that, not only does RPTA directly provide a short-term benefit to individual homeowners who buy abated properties, but also the policy may benefit the greater good in the longer term through increased property values, spurring other local development, and building social capital and community cohesion. One of the goals of this dissertation is to test this utilitarian principle by uncovering relationships between RPTA and overall changes in neighborhoods. RPTA is a tax policy presented by public officials as an economic development tool designed to influence potential home buyers' purchasing decisions and increase overall investment in previously distressed areas. This section of the literature review begins with an examination of American property tax policy as it relates to inter-jurisdictional competition and equity. Ultimately, the discussion over each of these concepts seems to center around how the argument is framed, either viewing residents as consumers and neighborhoods as "collective consumption units" (E. Ostrom, 2005, p. 2), or residents as members of something beyond the economic vernacular and the function of local governments as more than a service delivery agent. Then, an overview of theories of neighborhood change is provided, followed by a discussion of the theory of

broken windows policing. The final theoretical issue in this section examines some ideological concepts that continue to influence American residential location patterns.

2.5.1 Inter-jurisdictional Competition

This discussion begins with Tiebout's (1956) theory of local expenditures, which lays the groundwork for all further discussion in the literature on inter-jurisdictional competition (IJC). Examining IJC is fundamental to an examination of tax incentives because our federalist political system is structured in such a way that there are many local jurisdictions in a given urban area in competition with one another for opportunities to maintain or increase revenues. In the case of RTPA, property tax revenues may not increase but revenues should increase from other taxes collected from new residents and private development who were wooed away from nearby jurisdictions. From the Tiebout perspective (see also Ostrom, Tiebout, & Warren, 1961; Oates & Schwab, 1991; E. Ostrom, 2005, and others), property taxes are benefit payments for the services produced and financed by those taxes. If many local governments compete against one another, than all local taxes become benefit taxes with an obvious incentive for efficient service delivery (Oates & Schwab, 1991). Courant (1994) argues that at the local level the common public services package consists of primarily infrastructure maintenance and public safety. Therefore, "given that water and sewer are already covered by user charges, a property tax is not a bad approximation of a user charge [benefit tax]", (paraphrasing George Break, p. 877). However, Courant concedes that the use of property taxes to finance public schools complicates the benefits approach to property taxes. Kenyon and Kincaid (1991) concluded that the Tiebout model is economically

efficient in that the optimal mix of public goods at minimal cost is delivered, but that it is not equitable because there are no excess local taxes available to pay for public goods or services needed by residents who are unable to pay property taxes. Not all scholars are in agreement regarding the notion of property taxes as benefit taxes because tax systems are complex and unclear, and so it is difficult to say how closely a given tax system mimics benefit taxation (Goodspeed, 1998), and it is difficult to determine who actually bears the tax burden (Zodrow, 2006).

Viewing the property tax as a benefit tax has possible implications for RPTA programs, from increasing the property tax burden on nearby un-subsidized property (negative externality) to having no aspects of redistribution. Property tax capitalization happens when a change in taxes or public services causes a change in housing price (Sirmans, Gatzlaff, & Macpherson, 2008). Mandell (2003) considers the possibility that property taxes are capitalized into housing prices. If so, are taxes on land (not on the improvements) neutral and therefore better than property taxes? This is an issue that can be made by proponents of RPTA, namely that the abatement is capitalized into the housing price resulting in homeowners "getting more house for their money", with homeowners only paying taxes on the land. Mandell (2003) concludes that only under specific and generally unrealistic circumstances does the property tax behave in this way: "It is hard to establish whether a high tax rate results in low housing values (through capitalization) or low housing values result in a need for high tax rates", (p. 11). Yinger (1999) concurs; "except under extreme conditions, the local property tax does distort housing decisions, regardless of voters' perceptions about capitalization", (p. 322). These "extreme" conditions are powerful (perfect) zoning laws and (perfect) mobility, which

describe certain suburbs only and do not apply to large and heterogeneous cities (Ladd, 1998). In essence, even if property taxes were fully capitalized into housing prices, it still does not establish whether the property tax should be viewed as a user charge on benefits received (Zodrow, 2006).

Another potential issue with the Tiebout model is the unintended spillover effects (externalities) that may occur outside of the market. The possibility of externalities resulting from administration of tax policy is relevant to RPTA in that there may be spillover effects, positive or negative, impacting the areas in which tax-abated homes are located. Moreover, does RPTA create externalities that can lead to inefficient location decisions (Oates & Schwab, 1991)? Reschovsky (2000) notes that some authors have argued that the Tiebout model does not necessarily generate an efficient allocation of public goods, with others asserting that the theory may hold but the assumptions upon which it is based do not.

In the Tiebout model, one assumes that the consumer-resident (referred to as the consumer-voter in his model) is perfectly mobile, and can move ("vote with their feet") to a community that optimizes their preferences for public goods. In this view, local taxes-services packages are what make communities unique and, therefore, influence the location decisions of the consumer-resident. Tiebout's model relies on this exit mechanism, but there are other approaches offered that do not have to assume perfect mobility. For instance, Hirschman (1970) discusses a voice mechanism of complaining to your elected official. As Warner & Hefetz (2002) argue, "…both localism and markets are equated with voice and freedom, but consumer voice and citizen voice are not the same" (p. 85). High rates of residential mobility prove detrimental to areas of decreasing

population and “foster institutional disruption and weakened social controls over collective life” (Sampson & Raudenbush, 1997, p. 920).

Tiebout's description of consumer-residents may be applicable to a certain segment of society, namely white middle- and upper-class potential home owners who would consider moving to urban neighborhoods if it was a good investment. This group has mobility (or they would not be looking to buy a house), they have choices of communities (unlikely to experience housing discrimination), and there are incentives being offered (RPTA) to influence their choices. The survey results in Bier, et al. (2007) seems to support Tiebout's assumptions somewhat in that those homeowners who took advantage of Cleveland’s RPTA program were mobile, had an array of choices of communities, and were aware of the incentives being offered. As a result it could be argued that Tiebout's theory of local expenditures is a good descriptor for the behavior of certain groups, but not for others.

It has also been argued that the assumption of mobility, let alone perfect mobility, is a faulty one. Bartik (1991) argues that households are extremely immobile due in part to having a “sense of place” as well as the substantial costs associated with moving. Courant (1994) also counters the assumption of ease of mobility:

> First, it is worth noting that the transactions and transition costs associated with leaving one's current place of residence in response to structural unemployment may be quite large. Selling one house and buying another uses up perhaps 15 percent of the house value; moving itself may cost thousands of dollars. There are nontrivial capital losses involved in losing a good deal of location-specific knowledge that is of both social and economic value. Children who are attached to their social setting add to these costs. I can easily believe that for many households, willingness to pay for finding reasonable employment near home, rather than having to leave the area, could be worth a year's pay or more. (p. 873)

These two comments move beyond the resident-as-consumer metaphor with the inclusion of non-economic factors that may influence residential location choices. In answer to the question of residential mobility, it depends on whose model you use (Mandell, 2003).

Another assumption of Tiebout's theory is one of perfect information. The perfectly mobile consumer-resident can vote with their feet because they have all that is required to make a fully informed choice of which community has the taxes-to-services ratio they most prefer. One can envision a resident-consumer moving to a community where the prices (taxes) of community services are set (another assumption) and fully known, and the resident-consumer knows the exact amount of services she wishes to purchase. As Tiebout describes it, "If consumer-voters are fully mobile, the appropriate local governments, whose revenue-expenditure patterns are set, are adopted by the consumer-voters" (1956, p.424). In essence, administrators need to uncover the resident-consumer's preferences for public goods and services, and then tax her accordingly to pay for these services. This assumes, of course, that the government will allocate funding based purely on the preferences of its resident-consumers, without influence from any other parties or factors. Another fundamental problem with uncovering resident-consumer preferences is that there is no good mechanism by which residents register their preferences for public goods and services other than the flawed political process of voting and/or complaining to a representative in the hopes of influencing local revenue-expenditure patterns.

Finally, assuming that the tax-services mix is set seems grounded in the assumption that communities are static entities. Rosenthal (2008) concluded that neighborhoods are not static, but that there exists cycles of neighborhood decline and

renewal. If communities are indeed dynamic one has to question whether is it possible to ever have the production, allocation, and distribution of public goods and services aligned with current resident-consumer preferences, or if prospective resident-consumers ever have full information to make a location choice given this dynamic nature of communities. Indeed, there is a theoretically optimum community size in Tiebout's model defined as "the number of residents for which this bundle of services can be produced at the lowest average cost" (1956, p. 419). In the case of urban neighborhoods, which are part of large municipalities, can a city be "too big" to ever accommodate preferences? How does this issue play out in retaining residents over the longer-term, say, beyond the years of tax abatement? Moreover, cities are facing higher demands for public services from poorer and aging residents, with lower revenues with which to provide these services (Reschovsky, 2000; Ladd & Yinger, 1991). Indeed, "dozens of studies show that the cost of public services is higher in communities with more concentrated poverty or disadvantage" (Yinger, 1999, p. 318). From a resident-consumer perspective, assuming full information, RPTA may not provide enough incentive for folks to move to urban neighborhoods because the cost for city services is greater than the benefit received, coupled with payment for services consumed by other, disadvantaged residents.

The approach taken by Tiebout's theory is grounded in a stream of economic thought known as public choice. Public choice advocates find it desirable to place the majority of governmental action at the lowest possible levels because local governments would provide more innovation and true competition. The reality is that higher levels of government weigh in on policy and tax decisions that impact local development patterns,

which in turn influence individual location decisions. It is assumed that individuals are rational economic actors driven by competitive self-interest (Terry, 1998) who rank bundles of public goods and services in the same way they rank private goods. Public choice theory supports privatized cities that can exclude others (Frug, 2000), and control revenue (Briffault, 2000). It is also assumed that these individuals have the ability to exit a community if their chosen local jurisdiction no longer fulfills their preferences, and that any location choice they make is free from any restriction (i.e., no housing discrimination). From the public choice perspective, aggregation of all individuals' choices results in the collective choice of a community. However, Sen (1970) argues that individual preferences reflect the forces that determine said preferences in a society: "Just as social choice may be based upon individual preferences, the latter in their turn will depend on the nature of society" (p. 5).

Frug (1999) rejects the benefit tax models on two points. First, he rejects the notion that homogeneity promotes efficiency, and that rich and poor want to live apart because they want different types and levels of city services:

> Our fragmented communities should not be viewed as voluntary associations because of exclusionary zoning, discriminatory practices, etc. Nobody 'has a taste for' bad schools and services. People do so because they feel they have no other choice. The prosperous suburban high school feels like a private school, where the 'exclusive' quality is maintained through exclusionary zoning rather than an admissions office (p. 174).

Second, Frug argues it is wrong to assume city services are only objects of consumption, and call for community leaders to be more than mere goods and services providers. He argues that, to equate citizenship with consumption is to diminish the notion of citizenship; choice should not be based merely on exit and consumption. Warner & Hefetz (2002) believe that citizens create choices that can advance their community.

Clark (1996) provides a list of flaws in neoclassical economic theory as it applies to real estate markets: there is no homogeneity of objects traded (each property is unique); there are relatively few buyers and sellers, both of whom have less than full knowledge; the markets are highly localized and segmented wherein the supply of land is relatively fixed, yet demand is volatile.

Kenyon (1997) provides a review of several models of inter-jurisdictional competition (IJC) including the Tiebout and Oates-Schwab models, McGuire's (1991) model of destructive competition that assumes individuals have preferences for redistribution and thus choose revenue systems based upon ability-to-pay taxes, and Wolkoff's (1985) model of competition of business using economic development subsidies. Kenyon concludes that IJC is prevalent, should not be squelched, and would be better if channeled and regulated. Reschovsky (2000) hold a very different view of IJC, arguing that it exacerbates sprawl and the degradation of metropolitan areas.

Kincaid (1991) warns that, "a wholesale embrace of competitive federalism [i.e., IJC] could have its own undesirable consequences" (p. 88). These models of IJC apply to the current study because RPTA helps create unmediated market competition in that jurisdictions are in direct competition with each other for a limited pool of desirable residents moving to a given region. However, unmediated does not equal unregulated competition; state-level departments of development as well as the judicial system can fulfill a regulatory role regarding RPTA.

From the perspective that IJC is beneficial, cities are in competition with one another and need to approach their public policy decisions regarding land use with competition in mind. Potential homebuyers weigh public goods and services bundles

offered by communities and choose "that community which best satisfies his [her] preference pattern for public goods" (Tiebout, 1956, p. 418). Oates (1969) stated that households actually take public policy into account when choosing a community in which to live. Netzer (1997) believes that IJC for businesses can result in an externality because the location of a firm will affect more than just its chosen jurisdiction; unless you have fiscal zoning (used to attract occupants whose tax contribution is greater than their public services usage (Podgodzinski, 1993)), all of the advantages of economic growth in a city do not accrue to the specific municipality in which it occurs. However, Rosentraub (2003; 2006) points out that the *costs*, as well as the advantages of such growth can be distributed beyond the municipality. Additional interesting work has been done examining the impact of tax abatements and other location incentives on inter-jurisdictional competition (e.g., Anderson & Wassmer, 1995; Blair & Kumar, 1997; McGuire, 1991).

McGuire (1991) argues that the Tiebout model of IJC is efficient in production and allocation of public good and services, but that it is not equitable in its distribution of resources and residents, leaving some jurisdictions with an unfair advantage. Fair treatment requires tax burdens reflecting ability to pay regardless of residential location. This issue may fall away if redistribution is effectively pursued at a higher level of government. Indeed the conventional economic wisdom (e.g., Ostrom & Schwab, 1991; Helms, 1985; Ladd, 1998) is that redistribution should remain the purview of federal government, which in theory would help maintain a more equitable distribution of public goods and services. McGuire (1991) counters the Tiebout model with her model of destructive IJC among state governments, where there is strong incentive for

governments to compete for mobile (and often wealthier) residents and businesses by cutting taxes and reducing the tax burden, or shifting the burden to the non-mobile and non-wealthy. She argues that this strategy may result in governments collecting less revenue and therefore providing a lower level of public goods, or charging higher taxes to immobile/poorer residents. After a time, the competing jurisdictions are all worse off.

Wolkoff (1985) presents a model of IJC that takes tax abatement into account. He comments that in practice abatements to firms are almost always granted, and no system is in place to determine when it should be offered and how generous an offer should be made. Since RPTA is viewed as a legislative entitlement with relatively uniform program parameters, there is arguably no "backroom dealings" regarding residential abatement, unlike abatement agreements with businesses (M. Rosentraub, personal communication, August 29, 2006). Wolkoff concludes that economic development administrators seem to overestimate the influence the abatements have on firm investment decisions, or they pay too little attention to the likelihood that investment will proceed without the abatement. Similar to Krumholz (1991), Wolkoff recommends that full abatements not be viewed as an entitlement, but rather given as an award. For instance, projects that require less from the city (e.g., less infrastructure improvements) should get a greater abatement. However, it may be impossible to put the abatement genie back in the bottle now that there are years of precedent for full abatement offerings as the expected standard. Critics of IJC (e.g., Netzer, 1997) worry about the limiting of government's ability to perform redistributive functions and that, "we're trading social equity for public efficiency" (Kincaid, 1991, p. 88).

2.5.2 Equity

The definition and conceptualization of equity changes and is a function of disciplinary norms and normative values. *Social* equity is a normative approach where public officials and administrators advocate on behalf of those of lower socioeconomic status, thus giving a voice to those with less power and ability to influence the public decision making process. Social equity advocates in public administration and urban planning (e.g., Frederickson, 1971; Krumholz & Clavel, 1994) often criticize public policy development as inadequate because, in drafting policy goals and objectives legislators often fail to ask, "Goals and objectives for whom?" and fail to give consideration to the most disadvantaged in society. However, answering this question is complicated and involves social philosophy and value judgments (Musgrave & Musgrave, 1989). In essence, "revenue policy and expenditure policy reflect the values of the society" (Ross, Levine, Stedman & Murray, 1991, p. 415). Social equity as a value can impact all members of a community, not just public decision makers:

> The society in which a person lives, the class to which he belongs, the relation that he has with the social and economic structure of the community, are relevant to a person's choice not merely because they affect the nature of his personal interests, but also because they influence his value system including his notion of 'due' concern for other members of society (Sen, 1970: 6).

When economic goals are the only stated pursuit of a given public policy, for example, these can be perceived as antithetical to objectives of equity and to democratic practices (Hummel, 1994). Income redistribution advocates, such as Bradbury and Kodrzycki (1997), argue that there is a broader array of issues that must come into consideration when writing public policy:

> ...policymakers have additional goals besides economic development, including an equitable distribution of income and the evenhanded treatment of different business activities (p. 2).

This conception of social equity differs from the discussion found in the public finance literature, wherein equity is equated with *redistribution* of resources, goods and services, tax burden, and/or income. Ostrom, Tiebout, & Warren (1961) view equity as an "equitable distribution of costs and benefits" (*n 13*, p. 836) in a framework that considers local taxes to be payment for the benefits received by the one making the payment. This is referred to as the benefit equity principle (Musgrave & Musgrave, 1989). However, Reschovsky (1991) is critical of this view and argues that looking at local taxes as benefit taxes cannot adequately consider redistributive policies and requirements, suggesting that,

> there is a great deal of fluidity in the state and local fiscal environment, with competition pushing some governments toward benefit taxation, while other governments resist such moves, presumably for reasons of tax equity. (p. 150)

Assuming that equity as redistribution is a legitimate and worthwhile public policy objective, the question then becomes at what level of government should it be pursued. A common argument is that redistribution should be pursued only at the federal level of government. The first reason given is that only the federal purse is large enough to pursue adequately such policy:

> By including the general welfare as a legitimate objective of federal finance, the Constitution refrains from setting specific limits to the federal government's expenditure function. (Musgrave & Musgrave, 1989, p. 25)

Also, the amount of redistribution undertaken at the local level is limited by the potential in-migration of the poor and out-migration of the rich (Oates, 1972). Epple and Romer (1991) examined the role of mobility as a constraint on redistribution, with results

showing a sorting of the poorest households to communities with the most redistribution. Epple and Platt (1998) discuss a "zone of indifference" for some households, wherein taxes can increase (to a point) and yet they do not move out of the city. They argue that using the property tax for redistribution does not have to cause an out-migration of wealthier households; however, they find that the proportion of wealthier households relative to the total number of households in a municipality is a decreasing function of income.

The second reason given is that redistributional efforts at the state or local levels create competitive disadvantages in attracting and/or maintaining wealthier populations and firms. The assumption here is that equity is viewed as a disincentive for household and business location decisions. If the rich live outside the central city, then county-level or regional approaches (which are still at the local level) could bring about spatial redistribution (Netzer, 1997). If redistribution is a pure "national public good" so that non-residents also benefit, then the level of redistribution provided by localities will be inefficiently low (McGuire, 1997). If, however, preferences for redistributive policies differ wildly, then it begs the question whether redistribution is a national public good. In McGuire's model (1997), she assumes people value redistribution, therefore they choose revenue systems based upon ability-to-pay taxes. Fox (2001), on the other hand, argues that people and businesses move to avoid redistribution. Reschovsky (1991) found that state and local governments do in fact have redistributive social programs, and concluded in his test of Oates & Schwab's model of perfectly competitive behavior of local and state government that,

> there is a great deal of fluidity in current state and local fiscal environment, with competition pushing some governments toward benefit taxation, while other governments resist such moves, presumably for reasons of equity, (p. 150).

Musgrave and Musgrave (1989) argue that distribution is a policy issue more so than a market outcome. They warn that there is a limit to redistribution, "a further increase in tax rates eventually hits a ceiling", (p. 83), and that society must accept some efficiency costs with an equity gain, but argue that the cost should be minimized.

A subcategory in the public finance literature on equity as redistribution focuses on *tax* equity. Tax equity can be defined as having each taxpayer contribute his or her fair share to the cost of government (Smith, 1776; Musgrave & Musgrave, 1989), which could be expanded to include imposing a higher tax burden on those with greater ability to pay (Giertz, McGuire & Nowlan, 1996), but avoids questions such as what is a fair share, and also how much should be the imposition. Adam Smith's original perspectives and treatises emphasized the need for progressive taxation (tied to the benefits of an absence of chaos) establishing the normative value that progressive tax payments were inherently equitable.

Fairness in taxation is also conceived of in terms of horizontal and vertical equity. Horizontal equity involves an individual's ability to pay, while vertical equity is concerned with the distributions of burdens across individuals with differing abilities to pay (Giertz, McGuire, & Nowlan, 1996). Some approaches that can be used for redistribution in this arena are tax-transfer schemes, progressive taxation, and taxes on expensive luxury items with subsidies to other goods purchased by person of lower income (Musgrave & Musgrave, 1989). There are two parts to any tax, the base and the rate. There are three ways to measure the tax base: ad valorem (the dollar value), excise

(the number of units or by volume), or grouped by classes based on same criteria such as permits and licenses (Carter & Hildreth, 1992). There are two types of rates. The first type is called face, nominal or statutory, and the second type is effective. The face rate is what is listed in formal statements; the effective rate is the amount of tax actually paid, and these two types can differ greatly (Musgrave & Musgrave, 1989; Carter & Hildreth, 1992).

Throughout U.S. history property tax has been the purview of local jurisdictions (Musgrave & Musgrave, 1989), and remains the primary revenue source for localities with school districts almost totally dependent and counties heavily reliant on it (Carter & Hildreth, 1992). When discussing property tax equity in particular, one could argue there exists a redistributive relationship between tax burden and an ability to pay by virtue of housing price: "Property taxes on real estate are loosely related to ability to pay because wealthier persons are likely to own more expensive homes, but the relationship is not tight" (Rubin, 2005, p. 47).

For property taxation, vertical equity describes a state where differences between assessed values and market values are equal across property value ranges (IAAO, 2004). For example, lower value homes should be assessed at an equal proportion of their market value, as are homes of higher values (Allen & Dare, 2002). The reality is often an over-assessment of property of low-income homeowners (Ross, Levine, Stedman & Murray, 1991). Assessment is defined as the process of determining the value of property or land for tax purposes (Carter & Hildreth, 1992). Inequities already occur between the tax rates of given jurisdictions, but these differing rates are assumed to be

known (or easily retrieved) by the informed potential homebuyer. However, the assessment process is somewhat ambiguous:

> The greatest problems facing property tax appraisers is that to arrive at a pinpoint, accurate tax bill, which is the primary focus of taxpayers, one must go through a process beginning with the appraisal, which, by its nature, is only an estimate. (Clark, 1996, p. 27)

Sjoquist and Pandey (2001) found horizontal and vertical inequities in their examination of disparity ratios (assessment-to-sales) for residential properties post-Proposition 13 in California. Bowman and Mikesell (1978) examined differences in property tax assessment uniformity in Virginia, and found that about 70 percent of the variation in property tax assessment is associated with uncontrollable economic and housing market factors. Variations in assessment-to-sales ratios among properties impose different effective rates on otherwise equally-situated properties resulting in "arbitrarily high portions of governmental costs to certain properties" (p. 137). Musgrave and Musgrave (1989) concur, commenting that although there are policy reasons for differentiating between types of property, the actual practice results in "substantial and unjustifiable differentiation between specific properties within the same general category" (p. 417). Birch, Sunderman, and Smith (2004) attempt to uncover vertical inequity at the neighborhood level using median assessment ratios and find inequities in several neighborhoods, accounting for fifty percent of total home sales in the city.

A common approach in the academic literature is juxtaposing equity against some other policy objective: equity versus growth, ability-to-pay versus benefit, efficiency versus equity. Swanstrom (1985) describes tax abatement as being "the classic tradeoff between equality and growth", (p. 139). Giertz, McGuire, Nowlan (1996) argue that policy objectives of efficiency, equity and simplicity are often mutually incompatible,

and cite "sin" taxes an example of placing a disproportionate amount of the tax burden on lower-income people. Bartik (1991) argues the need for long-term consideration because local growth may push up property values to a greater extent than it increases real wages or employment prospects for the bottom part of the income distribution.

One can be more optimistic, viewing the above as false dichotomies. For example, Hill claims that while efficiency and equity do not necessarily fit hand-in-glove, they can because asset building is community development, which is where equity is housed. A policy can be designed to redistribute in order to create opportunity (such as low income housing set-asides) or to redistribute income (personal communication, November 2006). In following this logic, the ability for equitable growth to occur or for efficiency and equity to coexist is possible in a well-designed policy. Bier, et al. (2007) saw a redistribution of wealth in terms of increased market value of non-abated residential properties in Cleveland; the geographically closer the non-abated home was to an abated home, the greater the value increase. This study examines whether such desirable changes are seen at a larger geographic level—the neighborhood. Others argue that most public services (public safety, environmental, infrastructure, libraries) redistribute wealth because they benefit all residents, unless a service is specifically tied to property (Netzer, 1997), which is the case with RPTA. When talking about residential tax abatement and equity, the implication seems to be that there is some aspect of the policy that gives an unfair advantage to some people at the expense of others, and that something of value needs to be redistributed to members of the community in order to compensate for this perceived unfair advantage. The language in the Ohio Revised Code emphasizes what would be considered economic outcomes such as increasing household

incomes and local investment. However, the legislative language does not include explicit objectives addressing equity considerations. It could be argued that RPTA programs are, by definition, equitable programs at the neighborhood level because they target formerly underserved areas in order to provide new opportunities to the disadvantaged who already reside in those areas. RPTA critics argue the opposite position suggesting abatements do not help the poor but merely provides a tax break to middle- and upper-income households. Sands, Reese and Khan (2006) argue this point for incentives to firms in that "selectively reducing the burden of local property taxes seems to provide the greatest benefits to prosperous firms and prosperous communities, raising serious questions of equity" (p. 54). Conversely, one could argue that RPTA acts as an [small] equalizer in that it makes certain desirable housing affordable to those who could not afford it otherwise.

2.5.3 Neighborhood Change

Both Galster (2001) and Aber, Gephart, Brooks-Gunn and Connell (1997) argue that changes in neighborhoods are driven by external forces. Galster (2001) states that, "the most fundamental sorts of neighbourhood changes are externally induced" (p. 2118). Aber, et al. (1997) use social disorganization theory to examine the impact neighborhoods have on the individuals living there, and present a set of exogenous forces (globalization, economic restructuring, migration, public policies) they say shape the characteristics of neighborhoods and communities. Chow and Coutlon (1998) test empirically William Julius Wilson's hypothesis that the social conditions of inner-city neighborhoods are worsening because those conditions have become concentrated over

time (concentration effects). Examining Cleveland's inner-city areas, the authors found that eight of the ten indictors of negative social conditions increased, and that these conditions became increasingly intertwined over time.

Coulson and Leichenko (2004) examined the impact of historical designation on three common theories of neighborhood change: tipping, gentrification, and filtering. Tipping is the change in racial or ethnic composition of a neighborhood or community, where there is some threshold amount of "other" that is reached and becomes intolerant for the majority to continue to reside in that area. Gentrification is the dramatic shift in neighborhood composition toward residents with higher levels of educational achievements and income (Freeman & Braconi, 2004). Filtering describes the process of poorer families occupying older homes that originally were built for higher income households because the slow decay of the housing stock encouraged higher income households to move away (Rosenthal, 2008). Coulson and Leichenko (2004) found that historic designation of a neighborhood does not support these theories of neighborhood change, and does not lead to any neighborhood turnover based upon demographic composition of neighborhoods. Similarly, Freeman and Braconi (2004) did not find rapid turnover due to gentrification in New York City neighborhoods in the 1990s. However, Rosenthal (2008) did find filtering to impact neighborhood change, although the duration of change attributed to filtering varied among neighborhoods.

RPTA was conceived of because of decline and disinvestment in city neighborhoods. Keating and Smith (1996) outline three categories of causes for urban decline: physical decline (technological, architectural), institutional factors (zoning, code enforcement) and social characteristics (i.e., racial composition). It can be argued that

RPTA addresses all three categories, albeit to varying degrees. The policy most obviously addresses the physical decline of an area through incentives for new construction, as well as rehabilitation and historic preservation of existing structures. Communities promoting RPTA support use of the policy and address institutional factors by, for instance, allowing rezoning of areas for residential development and declaring areas as historical districts. Finally, RPTA can address social characteristics by creating a supply of housing in urban areas that potentially increases the number of middle to higher income households in that neighborhood. To date no local RPTA policy has explicitly listed changes in racial or ethnic housing segregation patterns as a policy objective and, unless a community specifically markets these areas in order to affect such change, it is likely that the current racial or ethnic compositions of the respective neighborhoods will remain. If Jane Jacobs (1961) is correct that it is the city that is the true player in the worldwide economic game, then the vitality of city neighborhoods can be seen as fundamental to America's economic strength and RPTA as one way to improve the overall strength of a city through inducing desirable changes in its neighborhoods.

Jacobs (1961) advocated that new construction should be introduced gradually rather than "cataclysmically" into an urban area, viewing new construction "as an ingredient of neighborhood diversity instead of as a form of standardization" (p. 423), and Galster (2001) concurs: "when new neighborhoods are created through large-scale construction or rehabilitation projects, they can change the relative attractiveness of existing neighborhoods" (p. 2115). City officials could counter that the reality of vast expanses of dilapidated structures and vacant lots, in addition to depressed local

economies, leave the city no choice but to introduce large development projects and incentives such as RPTA to bring residents back to the city. The question is whether there is a level or threshold at which such large-scale RPTA developments are associated with desirable changes in these areas.

2.5.4 Theory of Broken Windows

The theory of broken windows was presented in Wilson and Kelling's essay in which they argue that disorder and crime are linked "in a kind of developmental sequence" where, "...if a window is broken *and is left unrepaired*, all the rest of the windows will soon be broken" (1982, p. 30). Following this logic, a broken window represents an unstable neighborhood where people do not take care of their property. Serious crime may not yet flourish, so the argument goes, but is likely coming down the pike if the trajectory of disorder and disrepair continues. Broken windows policing as a public safety policy is an approach whereby a community has aggressive policing efforts for lower-level crimes (Corman & Mocan, 2005). Some trace the theory of broken windows to a broader incivilities thesis, which posits that neighborhood disorder can lead to residents withdrawing from the community and increasing their fear of crime in their community (Hinkle & Weisburd, 2008). Wilson and Kelling (1982) cite a study conducted by the Police Foundation examining the use of foot patrol as a way of cutting crime. Although the study found that foot patrol did not reduce crime, residents perceived foot patrolled areas as safer, and had a more favorable opinion of police. They further cite a study of a Boston public housing project where the greatest fears were expressed by persons living in disorderly buildings, not in the buildings with the most

crime. The authors also claim that there are informal codes of acceptable neighborhood conduct that is represented by order and a distrust of outsiders, and the key to effective broken windows policing is to

> identify neighborhoods at the tipping point--where the public order is deteriorating but not un-reclaimable, where the streets are used frequently but by apprehensive people, where a window is likely to be broken at any time, and must quickly be fixed if all are not to be shattered. (p. 35)

Wilson (2002) cites Kelling's continued research as supportive of broken windows, wherein an increase in the number of misdemeanor arrests was accompanied by a decrease in serious crime after controlling for high unemployment, drug use, and increase in young men of crime-prone age. Giacopassi and Forde (2000) conducted a study that lends support to broken windows and links homicide with traffic fatality rates, which are used as proxies for incivility and aggression. They amusingly conclude that broken windows policing needs to include "crumpled fenders" policing, for if one can ignore traffic laws with impunity perhaps one could get away with other more serious crimes in the area: "broken windows and crumpled fenders both may be seen as indicators that police are either unconcerned or lack the ability to enforce community standards" (p. 403). Freeman (1999) comments that additional police patrols at criminal hot spots have been shown to be effective.

The theory of broken windows is not without its critics (e.g., Sampson & Raudenbush, 1997; 1999; Morenoff, Sampson, & Raudenbush, 2001). Sampson & Raudenbush (1997;1999) found concentrated poverty and mixed land use to be associated with physical and social disorder, and argue that it is *collective efficacy* that explains lower rates of crime and observed disorder, not aggressive policing for low-level crimes.

The authors define collective efficacy as "social cohesion among neighbors combined with their willingness to intervene on behalf of the common good" (1997, p. 918). They conclude that the link between broken windows policing and crime is unsupported, except possibly for robbery. It has been argued in the literature that the theory does not suppose a direct link between disorder and crime, but rather with fear of crime and a withdrawing from the neighborhood by residents as mediating factors between disorder and crime (Hinkle & Weisburd, 2008). Corman and Mocan (2005) used misdemeanor arrests as their measure of broken windows policing, and controlled for economic and deterrence effects. They found that misdemeanor arrests had an impact on motor vehicle theft, robbery and grand larceny, but "we do not find strong evidence to support the contention that broken-windows policing strategy affects other crimes" (p. 262).

Hinkle and Weisburd (2008) recently found an unexpected outcome. They noted that police intervention for lower-level crimes significantly increased the probability of residents' feeling unsafe. While they did find support for the notion that disorder leads to a fear of crime, they suggest that communities need to focus on how broken windows policing is implemented. Pertinent to this dissertation, the authors also found physical disorder, literally broken windows, to be significantly and positively related to fear of crime. Other potentially negative consequences for increased broken windows policing are its impact on the civil liberties of minorities, higher cost of police resources, and the impact misdemeanor arrests will have on future labor market viability for individuals (Corman & Mocan, 2005).

One question common in the criminal justice literature on this topic is whether people's perceptions or objective measures of neighborhood characteristics are more

significantly related to crime. For example, Schafer, Huebner and Bynum (2006) found that "fear and safety were related more with subjective perceptions of neighborhood quality than with objective measures of neighborhood dangers" (p. 296). Austin, Furr and Spine (2002) used a standardized scheme for evaluating the conditions of neighborhoods rather than residents' perceptions, and found that housing quality affected both neighborhood satisfaction and perceptions of safety. Physical deterioration of a neighborhood increased perceptions of danger. They conclude, "neighborhoods, as sources of identity and social support, were undermined if the neighborhood was in disrepair" (p. 426). A favorable answer to either position is important when analyzing the potential impact RPTA has on a neighborhood measure of crime. If perceptions have a greater impact, then a well-designed policy of broken windows policing may be useful in allaying residents' fears. Similarly, if it is characteristics such as physically decaying structures, abandoned cars and excess litter that impacts people's opinions about their neighborhood, then maybe increasing annual expenditures for police *and* community development (i.e., "weed-and-seed") would have greater impact (Ren, Zhao & Lovrich, 2008).

RPTA may impact the theory of broken windows in that a neighborhood's physical disorder or disrepair (i.e., blight) is a significant factor associated with residents' fear of crime or perceptions of safety. RPTA creates new physical structures in an area and, in many cases blight was removed in order to erect these new homes. Further, neighborhood stability has been shown to have a significant association with lowering fear of crime, and RPTA contributes to neighborhood stability by increasing homeownership. Also, one of the goals of RPTA is to increase population in designated

areas but, as Freeman (1999) points out, "a one percent increase in crime rate induces a one to two percent decrease in city population. The effect is larger for families with kids and higher income groups" (p. 356). Thus, the inclusion of some kind of discussion regarding crime is relevant to an analysis of RPTA's impact on neighborhoods. Summarizing survey responses from RPTA homeowners in Cleveland, Bier, et al. (2007) comment:

> Respondents did not indicate a willingness to accept reduced property taxes for assuming higher risks related to crime. There is a clear indication that respondents are as interested in safe neighborhoods as they are in getting as much house possible for their money (p. 44).

2.5.5 American Ideology: The anti-urban—pro-rural dichotomy

Warner (1962) describes a contradiction that could be referred to as an anti-urban—pro-rural dichotomy wherein the city is viewed as artificial and incomplete while the country is perceived as simple, timeless and gratifying. Warner traces this dichotomy back at least to Roman times, but argues it is imitated in the United States by the ideal of the English county gentleman who goes to the city for business while "at the same time living a well-rounded life on his estate" (p. 13). Before street railway, this was accomplished through having a city residence and a country house. Improvements in transportation made the ability to work in the city and live in the hinterland a reality for the more mobile middle- and upper-income classes. This dichotomy continues to influence residential development in America. What began as *early* American sentiments of anti-urbanism, rural living as moral goodness, the noble yeoman farmer, and the conquest of frontier America continue to operate in the collective American psyche as we pursue our residential settings in the 21st century.

2.5.5.1 Anti-Urbanism

Anti-urban sentiment has a long history in American thought and can be traced back to the writing of the founding fathers, notably in the letters of Thomas Jefferson. For instance, in a letter to Dr. Benjamin Rush during Philadelphia's yellow fever epidemic, Jefferson (1800) wrote:

> The yellow fever will discourage the growth of great cities in our nation, & I view great cities as pestilential to the morals, the health and the liberties of man. True, they nourish some of the elegant arts, but the useful ones can thrive elsewhere, and less perfection in the others, with more health, virtue & freedom, would be my choice.

Dr. Rush concurred, stating that cities are "reservoirs of all the impurities of a community" (Letter to Thomas Jefferson, October 6, 1800).

The out-migration of urban populations to the hinterland is deeply rooted in this anti-urban sentiment, described in Warner's *Streetcar Suburbs* (1962) as

> …an attitude which had always contained the notion of escape from city restraints, organizations, and objects. The city's ways and forms were conceived of as too artificial and of the wrong quality to support a moral life. (p. 12)

Clapp (1978) argued that urban problems fuel negative images of urban life and force those who are mobile to "opt for departure at the earliest opportunity", (p. 1). Once they have "escaped", suburban residents wanted the political autonomy of being separate from the central city and its problems, and to keep the "problems" in the city by use of exclusionary zoning (Booth, 2002).

Anti-urban perceptions are continuing into the twenty-first century, although Walker and Fortmann (2003) argue that today's anti-urban attitudes differ from those of the nineteenth century middle class. They argue that the current perception is a fear of the city, rather than the nineteenth century view of the city as an unhealthy environment in

need of change (e.g., better sanitation, green space). They argue that this distinction has led to retreat and indifference: "today the bourgeoisie has lost much of its guilty conscience about cities. It has retreated to purified spaces in the countryside" (p. 58). Bayoh, Irwin, and Haab (2006) concur, arguing that current residential community choice decisions are driven more by flight-from-blight factors than by natural evolution. Arguably the greatest factor impacting forsaken city neighborhoods is racism and the perceived urban woes attributed to African Americans. As Glaab & Brown (1967) describe it,

> Racial segregation drastically limited the possibility of upward mobility by individual or group. The black metropolises...were areas where few could benefit from the economic and cultural advantages of the city but where all the long-standing urban problems of crime, poverty, and disease existed in aggravated form...and reflected a general tendency to increased economic and cultural segregation in the twentieth century metropolis...the wealthier and more powerful members of the community steadily moved to the outer zones of the city and to the new suburban areas. (p. 287)

As city public officials attempt to combat anti-urban bias and to curb the flow of population out of their cities, the notion of providing incentives to influence the location decisions of households and businesses became an important public policy pursuit.

2.5.5.2 The Rural Ideal

Along with anti-urban sentiment, the pursuit of the rural ideal can be traced back to early American thought. The Jeffersonian vision of the good and moral life was to be found in the country (Booth, 2002), and exemplified in early writings to that effect:

> I think our [American] governments will remain virtuous for many centuries; as long as they are chiefly agricultural…When they get piled upon one another in large cities, as in Europe, they will become corrupt as in Europe. (Jefferson, 1787)

In the 1800s, moving to the suburbs was how the rural ideal was pursued by city dwellers. According to Glaab (1963) the flight from the city was not a post-WWII phenomenon and "as early as 1823, a New York real estate advertisement described country lots an easy 15-25 minutes by foot from the city's business district" (p. 229). In 1873, a pamphlet described real estate offices as being

> crowded daily with eager purchasers, and everybody...is kept busy explaining subdivisions, answering questions...and such other points as the *prospective ruralist* would naturally take into consideration. (emphasis added, In Glaab, 1963, p. 233)

The nineteenth century pursuit of the rural ideal affected modern planning policy by supporting the notion that open small communities were the best settings for family life (Warner, 1962). Public policy encouraged the expansion of public services so that this ideal could be realized, thus influencing the way in which American cities developed. A century later, public programs such as residential property tax abatement were implemented as a way to try and recapture the disappearing residential base of the city.

The pursuit of the rural ideal continues, with people moving several communities away from the perceived border of decaying cities, which now includes their older suburbs. As Booth (2002) describes it, "The countryside beyond the suburbs seems to be gaining magnetic powers" (p. 4), and this migration "seems to be motivated by values that are essentially rural in origin" (p. 2). In a recent study conducted by the Pew Research Center (Morin & Taylor, 2009), a nationally representative sample was asked, if you could live anywhere would you prefer to live in a city, a suburb, a rural area or a small town. Only 25 percent said the suburb is their ideal community type, with small towns and rural living comprising 51 percent of responses. Given the nature of this dissertation, it is interesting that 23 percent of respondents chose urban living as their

preference, which may bode well for city officials trying to lure residents back into urban neighborhoods. In a different survey, wherein one thousand randomly selected registered voters in the Sierra Nevada region were asked why they moved to the region, one of the dominant responses was the ability to live in a rural area (Booth, 2002). Walker and Fortmann (2003) concur, citing that "a typically well-educated middle-to-upper class migrated to Nevada County seeking refuge from the city and pleasure in being close to a perceived 'natural' landscape" (p. 484).

Jeffersonian views continue their influence on American culture and can be found in the romantic view of the American family farm, embodied in the noble yeoman farmer. Farming is perceived to produce the human virtues of patience, humility, and a hard work ethic (Mariola, 2005), as well as producing real “American heroes” (Peterson, 1990). Generally, Americans with enough mobility can pursue such romantic notions when making decisions about where they will live and raise a family. As Peterson (1990) describes it, "The American pastoral's synthesis of progress and tradition...beckons endless numbers of newcomers into the garden" (p. 12).

In reality Americans are not leaving city or suburban types of employment to work on the farm but rather to live in low-density housing divisions, what Mariola (2005) describes as "countrified city", and exemplified by the mid-1970s accelerated loss of productive cropland to urban populations moving to the countryside. He criticizes this purely economic approach to land use, arguing that

> Pastures and parking lots are not compared using aesthetic or ethical criteria, but on a cost-benefit basis only...There is simply no recognition that land may have any value other than the money that changes hands upon its purchase. The land is more 'valuable' as a farm for the sole reason that the developer cannot afford to turn it into a park[ing lot].
> (p. 215)

Another variation on the theme of the rural ideal is the romantic notion of the American frontier, which is also interrelated to the other attitudes previously discussed. In essence, "While the American frontier and Jeffersonian agrarianism represent distinct myths, the two are interconnected in agricultural discourse" with "the myth of the agrarian frontier retain[ing] a significant role in contemporary land-use rhetoric" (Peterson, 1990, p. 9). Indeed, whether it is the romantic view of the American frontier or that of the yeoman farmer, it can be argued that both archetypes may help explain migration patterns out of cities (Louv, 2008).

Like their yeoman brothers, brave men were carved from the hard work needed to tame nature, resulting in the mythic hero of the American frontiersman. According to Louv (2008), there are three American frontiers. The first was the actual Lewis and Clark type frontier expansion. The second frontier was a romantic link to and respect for the family farm described by Peterson (1990) as, “the newly-acquired farm lands represent a frontier that promises the satisfaction of all demands and the reconciliation of all contradictions” (p. 13). The second and third frontiers occurred concurrently, with the third frontier comprised of what Peterson (1990) describes as a “suburban manifest destiny, when boys still imagined themselves woodsmen and scouts, and girls still yearned to live in a little house on the prairie” (p. 18). In essence anti-urban bias and romantic notions of rural living, Jeffersonian agrarianism and the American frontier myth all feed an urban exodus, are implicitly ingrained in the American psyche, and continue to influence residential location decisions that have a detrimental impact on America’s urban neighborhoods.

2.6 Conclusion

The major findings of this literature review as they relate to this dissertation are first, that administrators of RPTA are constantly trying to balance between public and private interests in an effort to increase development in certain geographic areas of the city. The hope is that increased development would start a cycle of increased revenues for the city, leading to increased levels of public goods and services for the residents provided at lower costs (resulting from the presence of more higher-valued real estate), leading to higher levels of resident satisfaction that contributes over time to higher levels of development reflected an increased demand to live in urban areas. This theory is examined through the hypotheses posed in this study regarding the relationship between RPTA and private sector development, namely certain aspects of the housing lending market and number of businesses.

Second, a discussion of inter-jurisdictional competition (IJC) was included because it addresses a pragmatic and real concern for municipalities trying to revitalize their urban neighborhoods through offering incentives and whether or not these incentives are working. In other words, are tax incentives for firms and residents fulfilling the original intentions of policymakers? As noted, much of the academic literature is concerned with incentives for firms, which is why this dissertation helps to fill a void in the literature by addressing incentives for residents. If study results indicate that RPTA holds desirable relationships with measured changes in urban neighborhoods, then one could infer that from the perspective of the central city RPTA does not adversely affect IJC. In essence, urban neighborhoods have become options for mobile residents once again.

Third, a discussion of equity was included in the literature review because the term is defined and operationalized in this dissertation as one of the indicators of neighborhood change. Because equity is a concept neither universally defined nor commonly examined in studies of tax incentives, an extensive discussion of the concept seemed warranted. Fourth, a brief discussion of common theories of neighborhood change was included in this review because these theories set the stage for why incentive policies such as RPTA were even conceived by policymakers, namely that urban neighborhoods were no longer attractive because of changing neighborhood characteristics over time. Moreover, this dissertation examines the impact of RPTA on a set of indicators of neighborhood change, which is how policy effectiveness is being defined for purposes of this study.

This study hypothesizes that RPTA will have a significant relationship with crime. There is, however, no agreed upon approach to defining, recording or measuring the concept. Therefore, the theory of broken windows was included in this review of the literature as the selected approach to examining crime in urban neighborhoods. The final section included a discussion of a pervasive view impacting residential location decisions, namely an anti-urban—pro-rural bias. This dichotomy, grounded in hundreds of years of American migratory patterns, has currency today because it continues to influence people's location decisions. Therefore, if results of this study suggest that RPTA has no significant relationship with measures of neighborhood change, then such policies as they are currently administered may be ineffective in stemming the flow of population from urban areas.

CHAPTER III

FRAMEWORK AND HYPOTHESES

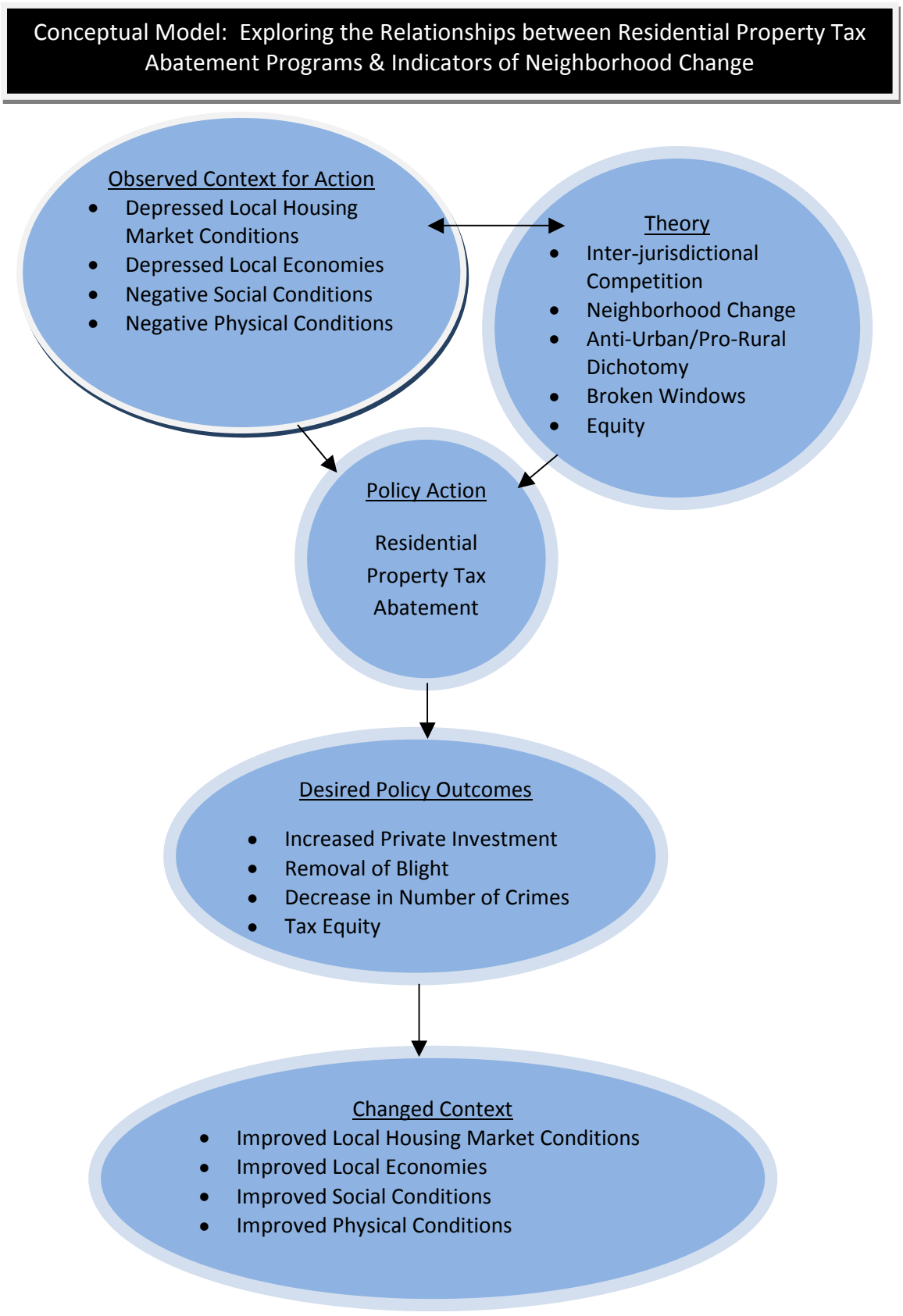
3.1 Conceptual Framework

This study is an exploration of a popular public policy program intended to stimulate redevelopment in designated urban areas. As such, it is useful to develop a conceptual framework that (1) links the policy with the observed context from which it arises, (2) identifies the theoretical concepts influencing policy development, and (3) makes explicit the desired policy outcomes. Figure 1, Exploring the Impact of Residential Property Tax Abatement (RPTA) Programs on Indicators of Neighborhood Change, is the conceptual model constructed for this study, and outlines a way in which RPTA may be related to urban neighborhoods. This conceptual model is derived from the academic literature and from legislation discussed previously in the literature review.

The Observed Context for Action included in the conceptual model is a broad brush-stroke of the conditions of Ohio's urban areas prior to the implementation of RPTA. Similar to other cities in the "rust belt," Ohio cities were suffering from depressed housing market conditions including a lack of mortgage lending activity and

depressed local economies as the state continued to lose its manufacturing base. Within such older metropolitan areas, businesses were relocating to outlying areas (Bogart & Ferry, 1999; Lee, 2007), and the population levels in center cities declined in response to perceived negative social conditions such as high crime and poverty rates, and negative physical conditions such as a dilapidated housing stock and decaying infrastructure (e.g., Kasarda, Appold, Sweeney & Sieff, 1997; Freeman, 1999). In addition, declining transportation and communication costs made it easier for businesses and residents to move to decentralized locations (e.g., Warner, 1962; Judd & Swanstrom, 2002). It is these observations of urban neighborhood decline that not only generated theories attempting to explain these observations but also influenced the development of financial incentives as desired public policy. Referring to Figure 1, the first theory to be discussed as influenced by the Observed Context of Action and influencing the Policy Action taken is inter-jurisdictional competition (IJC). City officials view RPTA as a way of effectively competing with surrounding jurisdictions for the limited resource of residents of higher socio-economic status. Underpinning the concept of IJC is the classical theory of supply and demand. Because housing conditions in urban neighborhoods were perceived as no longer desirable, policy makers provided direct incentives such as providing infrastructure improvements and/or waiving of fees, along with promises of the future incentive of profits from new construction sales, in order to increase the housing supply. On the demand side, policy makers provided several years of property tax abatement to homebuyers in exchange for choosing to purchase homes in designated CRAs.

Figure 1


Conceptual Model: Exploring the Relationships between Residential Property Tax Abatement Programs & Indicators of Neighborhood Change
Observed Context for Action
Depressed Local Housing Market Conditions
Depressed Local Economies
Negative Social Conditions
Negative Physical Conditions
Theory
Inter-jurisdictional Competition
Neighborhood Change
Anti-Urban/Pro-Rural Dichotomy
Broken Windows
Equity
Policy Action
Residential Property Tax Abatement
Desired Policy Outcomes
Increased Private Investment
Removal of Blight
Decrease in Number of Crimes
Tax Equity
Changed Context
Improved Local Housing Market Conditions
Improved Local Economies
Improved Social Conditions
Improved Physical Conditions

Second, theories of neighborhood change have attempted to explain the trajectory of decline in urban neighborhoods. Moreover, ideas about neighborhood change have influenced RPTA policy development. For example, the idea of filtering supports the notion that aging housing stock is less desirable than new construction. A designated CRA can become gentrified as pockets of RPTA new housing are developed, which can also result in patterns of racial and economic segregation in an area if housing development is not affirmatively marketed (defined as making a deliberate effort to reach more than white and higher income potential homeowners through targeting marketing campaigns to reach diverse populations).

Third, an American anti-urban bias that is rooted in negative feelings about racial and ethnic minorities and poor people (e.g., Glaab & Brown, 1967; Booth, 2002) has fed the exodus of people from urban neighborhoods into the suburbs, and a pro-rural bias has continued to influence residential location choices beyond suburban areas (e.g., Warner, 1962; Walker & Fortmann, 2003; Morin & Taylor, 2009). RPTA can be seen as one way in which city officials try to influence these location decisions through the offering of a financial incentive in order to lure people back to urban neighborhoods through pricing effects. An issue is whether or not the fiscal incentives offset any perceived biases or preferences for suburban and more homogenous communities.

Fourth, the theory of broken windows and its influence on crime relates to RPTA policy in that new market rate housing development should have the desired impact of decreasing the level of criminal activity in these designated areas by decreasing blight and increasing neighborhood stability through increased levels of homeownership. Finally, according to public finance theory, one of the normative considerations in

creating tax policy such as RPTA should be tax equity. Indeed, one indictment against RPTA policy is that it creates vertical property tax inequity by placing an increased tax burden on the non-abated homes in the area, which are generally of lower value (Bartimole, 2007).

In the conceptual model, there is a set of Desired Policy Outcomes expected to result from effective administration of RPTA and is derived from the legislation. One desired outcome is that RPTA will increase private investment in areas that have experienced disinvestment. Private investment is increased through increased availability of market rate housing followed by increased mortgage lending activity to purchase said housing. The resulting increase in the residential population in designated areas should result in increased activity in the local economy because of increased demand for goods and services. The second outcome—decrease in blight—should be achieved as RPTA helps to increase the number of owner-occupied homes, resulting in decreased blight as homeowners maintain their properties and influence others to maintain their properties thus improving the physical conditions of the area. Another desired policy outcome is a decrease in the number of crimes, which is expected as the physical landscape improves and more homes become owner-occupied. Tax equity is the final desired outcome evaluated in this study and is derived from the political debate of RPTA, specifically addressing the criticism that RPTA places a higher tax burden on those who can least afford it, and also derived from public finance theory that tax policies should be equitable.

3.2 Hypothesis

The research question is whether there is a statistical relationship between residential property tax abatement (RPTA) and changes in urban neighborhoods as measured on a set of indicators. Table 5 presents the specific hypotheses as they pertain to each of the neighborhood indicators stated in the research question.

Table 5

Hypotheses Representing Indicators of Neighborhood Change

	Hypothesis	References
H_1	RPTA is significantly (+) related to home purchase mortgage loan approval rates.	Galster, et al. (2004; 2005); ORC 3735.65; local ordinances.
H_2	RPTA is significantly (+) related to the number of home purchase mortgage loan applications.	Galster, et al. (2004; 2005); ORC 3735.65; local ordinances.
H_3	RPTA is significantly (+) related to the median dollar amount of home purchase mortgage loans originated.	Galster, et al. (2004, 2005); ORC 3735.65; local ordinances.
H_4	RPTA is significantly related (+) to the number of businesses.	Galster, et al. (2004, 2005); ORC 3735.65; local ordinances.
H_5	RPTA is significantly related (-) to Type I crimes.	Corman & Mocan (2005); Toledo Ord. No. 170-04; NEO CANDO.
H_6	RPTA is significantly related (-) to Type II crimes.	Corman & Mocan (2005); Toledo Ord. No. 170-04; NEO CANDO.
H_7	RPTA is significantly related to assessment ratios.	Birch, Sunderman & Smith, (2004); Cornia & Slade, (2005).

The first four specific hypotheses are designed to measure the first two policy outcomes in the conceptual model. It is hypothesized that RPTA will have a significant relationship with measures of private investment primarily as they relate to the mortgage lending industry and number of businesses. First, it is expected that RPTA will be significantly and positively correlated with home purchase mortgage loan approval rates. A positive correlation is interpreted to mean that an increase in the approval rates of home purchase mortgage loans will be significantly associated with having RPTA homes in a neighborhood. Second, it is expected that RPTA is positively correlated with the number of home purchase mortgage loan applications. A positive correlation is interpreted to mean that an increase in the number of home purchase mortgage loan applications will be associated with the presence of RPTA homes in a neighborhood. Third, it is expected that RPTA will be positively correlated with the median dollar amount of home purchase mortgage loans originated. A positive correlation is interpreted to mean that an increase in the median dollar amount of home purchase mortgage loans originated will be significantly associated with the presence of RPTA homes in a neighborhood. Fourth, it is expected that RPTA will be positively correlated with the number of businesses. A positive correlation is interpreted to mean that an increase in the number of businesses will be associated with having RPTA homes in a neighborhood.

It is expected that criminal activity is negatively related to RPTA. In other words, the presence of RPTA homes in a neighborhood will result in a decrease in Type I Crimes and Type II Crimes. Type I Crimes are violent crimes and property crimes, while Type II crimes include all other lesser crimes such as vandalism and disorderly conduct. This categorization is one way of separating "broken windows" criminal activity (i.e., Type II

Crimes) from more serious crimes. Results from the academic literature testing broken windows hypotheses are conflicting and "crime" is a complicated behavior to operationalize. Therefore, it seems reasonable to categorize criminal activity in some logical manner. This particular categorical scheme is taken from the Center on Urban Poverty and Social Change from the Mandel School of Social Sciences at Case Western Reserve University through their NEO CANDO online database system. Finally, it is expected there will be a significant association between RPTA neighborhoods and assessment ratios. In essence, the presence of RPTA homes in a neighborhood should be significantly related to the assessment-to-value ratios for homes. One-tailed tests are employed for all hypotheses testing because theory indicates the expected direction of association listed in Table 5. Statistical significance is evaluated at $\alpha = .05$. In essence, because a reasonable expectation for any public policy operating at the neighborhood level is that the policy is *at least related* to a set of policy outcomes, it is hypothesized that there will be a significant change in the policy outcomes in neighborhoods with RPTA, ceteris paribus.

3.3 Null Hypotheses and Significance Testing

The null hypothesis in this study is that there is no statistically significant association between residential property tax abatement (RPTA) and desired policy objectives as measured by several indicators of neighborhood change. Table 6 provides the specific hypotheses for each indicator.

Table 6

Null Hypotheses Representing Indicators of Neighborhood Change

	Null Hypothesis	References
NH_1	RPTA is not significantly related to home purchase mortgage loan approval rates.	Galster, et al. (2004; 2005); ORC 3735.65; local ordinances.
NH_2	RPTA is not significantly related to the number of home purchase mortgage loan applications.	Galster, et al. (2004; 2005); ORC 3735.65; local ordinances.
NH_3	RPTA is not significantly related to the median dollar amount of home purchase mortgage loans originated.	Galster, et al. (2004, 2005); ORC 3735.65; local ordinances.
NH_4	RPTA is not significantly related to the number of businesses.	Galster, et al. (2004, 2005); ORC 3735.65; local ordinances.
NH_5	RPTA is not significantly related to Type I crimes.	Corman & Mocan (2005); Toledo Ord. No. 170-04; NEO CANDO.
NH_6	RPTA is not significantly related to Type II crimes.	Corman & Mocan (2005); Toledo Ord. No. 170-04; NEO CANDO.
NH_7	RPTA is not significantly related to assessment ratios.	Birch, Sunderman & Smith, (2004); Cornia & Slade, (2005).

Failure to reject the null hypothesis is consistent with the public choice view that unfettered competition should remain the preferred public policy course of action, and residential location decisions should be the purview of housing markets. Failure to reject the null also results in the rejection of the counter-factual scenario that, if it were not for RPTA, there would be no significant change in the neighborhood indicators. Conversely, rejection of the null hypothesis is consistent with the utilitarian principle that RPTA benefits the greater good, assuming that the associations between RPTA and the indicators of neighborhood change are in the desirable direction. If the direction of the

significant associations between RPTA and measurement of neighborhood change are undesirable, this result lends support to opponents of RPTA and questions the effectiveness of the policy.

CHAPTER IV

METHODOLOGY

4.1 Research Question

This study asks whether there is a statistical relationship between residential property tax abatement (RPTA) and expected changes in urban neighborhoods as measured on a given set of indicators. These indicators were chosen to operationalize RPTA policy objectives and are intended to uncover correlations seen at the neighborhood (i.e., census tract) level. The indicators can be grouped under the broad concepts of (1) increased private investment; (2) blight removal; (3) decreased criminal activity; and (4) property tax equity (see Figure 1 in Chapter III). If tracks with RPTA are not significantly associated with indicators if neighborhood change relative to tracts without RPTA then the policy, as it is currently being administered, may not be fulfilling its policy objectives at the neighborhood level. However, if RPTA has the hypothesized statistical relationships (see Chapter III) with the indicators of neighborhood change, then

these results lend support to proponents that RPTA may be fulfilling desired policy objectives to some capacity.

4.2 Research Design

In attempting to devise a research design for this study, the nature of the research question and the place-based nature of the policy investigated necessarily limited the type of analysis that could be employed. First, there could not be random assignment; either the neighborhood had RPTA or it did not and the researcher had no control over which neighborhoods fell into what category. Second, the level of "treatment" could not be manipulated; there was no control over the number of tax-abated properties built in a neighborhood, the value of those homes, or the specific policy parameters (i.e., duration and rate), or when the homes were built. In essence, this study is a natural experiment, which has been conceived of as a pretest-posttest non-equivalent group design, graphically displayed in Figure 2:

Figure 2

Pretest-Posttest Non-Equivalent Group Design

NR_s	O_1	X	O_2
NR_c	O_1		O_2

The pretest (O_1) consists of a series of measurements on a set of neighborhood indicators for 2001, before a majority of RPTA homes were erected, and the posttest (O_2) is a series of measurements on the same set of indicators for 2006. This five-year lag is

intended to measure the cumulative changes that may have occurred in the outcome indicators (Galster, et al., 2004). In the above figure, NR_s represents the city neighborhoods (tracts) that have RPTA homes and N_c represents neighborhoods contiguous to those tracts but without RTPA. The treatment is the number of new construction one- through three-family units receiving RPTA. A time lag is assumed to occur between the construction of RPTA units and when market and neighborhood effects begin to register the change; newly built homes need to be sold and become occupied. Following Galter et al.'s approach (2004) the time lag in this study is three years, with the neighborhoods in the subject group consisting of RPTA untis built through 2003, and posttest measures taken in 2006. While a 2001 pretest measure is not a "pure" pretest measure because some tracts had RPTA homes built prior to 2001, in this study the pretest measure is providing control for variation on the neighborhood indictors, and provides a common temporal starting point for possibly uncovering the trajectory of change occurring at the neighborhood level on each respective outcome.

Threats to internal validity question the existence of valid causal relationships for the population being studied (Moss & Yeaton, 2006). Shadish, Cook, and Campbell (2002) recommend good research design first, followed by statistical adjustments to help control for these threats. This study makes use of some good design controls such as the inclusion of pre-test measures and a comparison group. However, there can be no random assignment or manipulation of treatment, so there are threats that need to be addressed and if possible, controlled for in order to interpret any valid relationships between the constructs operationalized in this study. This section lists the possible threats to the internal validity of the proposed study, and how the researcher expects to

resolve these issues to the best of her ability and given the constraints established by the study itself.

The greatest threat to a non-equivalent group design (NEGD) is selection bias (Trochim, 2006) and may account for observed differences between RPTA and non-RPTA neighborhoods because the groups are non-equivalent by definition (Shadish, et al., 2002) and these group differences may have existed prior to RPTA. Indeed, it is the presence of self-selection bias that has resulted in a natural experiment because the municipalities in the study chose to administer RPTA in certain areas (presumably more distressed) and not in others. Use of a comparison group helps to diminish this threat, although the comparison group is de facto self-selected.

The initial comparison group conceived of for this study included all non-RPTA census tracts for the four cities in the analysis. In order to examine the usefulness of such a comparison group, the researcher conducted independent samples tests of the pretest measures. The hypothesis tested in an independent samples test is whether the mean of each pretest measure is significantly different between groups. Results indicated that there were significant differences between subject and comparison groups for several of the variables ($p < 0.05$). These significant differences remained even after alternately removing the census tracts for each city. However, when the researcher conducted the same analysis on a modified comparison group, the group composed of non-RPTA tracts geographically and politically (within the same municipality) contiguous to the subject group of tracts, only the number of businesses pretest measure was statistically significantly different between the two groups at $p < 0.05$ (Table 1A, Appendix). Shadish, et al. advise the use of non-equivalent comparison groups in quasi-experimental

design that are "deliberately chosen to have maximum pretest similarity to the treatment group on as many observed characteristics as possible", (2002, p. 159). Therefore, the contiguous tract comparison group was utilized as the comparison group in this study and the threat of selection bias was diminished for every neighborhood indicator except number of businesses.

Another threat to internal validity applicable to this study is history. As Shadish, et al. (2002) write: "Even in field research…the plausibility of history can be reduced…by selecting groups from the same general location and by ensuring that the schedule for testing is the same in both groups" (p. 56). In this study, the above criteria are maintained in that neighborhoods in both the subject and comparison groups are from the same geographic locations. Also, variables are included to the model to control for variation in housing values, economic growth and city over the study period. Although the researcher attempted to construct as complete a model as possible, which included using variables that have been derived from a larger set of indicators through previous research (see Galster et. al, 2004; 2005), there remains the possibility of variable omission bias.

Attrition/mortality is not a plausible threat to this study because, for the time period under investigation, no neighborhoods lost or gained designation as RPTA areas. Theoretically, regression artifacts are possible threats in this study because, assuming RPTA tracts are suffering from extreme disinvestment relative to non-RPTA tracts, it is likely that there will be some improvement even if RPTA had no effect. Following the recommendations in Shadish, et al. (2002) for reducing regression artifacts this analysis will include the using of two-year averages on HMDA data to help control for extreme

variability from one year to the next (Chow & Coulton, 1998; Galster, et al., 2005), use a multivariate function of several variables, and use a comparison group that is not significantly different from the neighborhoods comprising the subject group when measured on a set of pretest measures.

4.3 Study Population

The study population is defined as large municipalities in Ohio (greater than 100,000 in population according to the 2000 U.S. Census) that use RPTA as an economic development policy. Four of the six large Ohio cities are included in this analysis: Cleveland, Columbus, Dayton, and Toledo. Akron is not included in this analysis because it does not use RPTA (D. L. Kleinhenz, personal communication, September 21, 2006). *Large* cities were chosen because they have been using RPTA as a development policy for several years and, arguably, the health of a region depends upon the strength of its central city (Shroitman-Sarig, 2006), which presumably includes its neighborhoods. Further, the population was defined as large *Ohio* cities because the policy under investigation is a state-derived policy, and operates at the local governmental level.

Originally, Cincinnati was to be the fifth city included in the analysis. The required data could not be secured from Cincinnati's Police Department at a useful geographic level, from the Hamilton County Sheriff's Office, nor from the Hamilton County Auditor at an affordable price. Crime data from the police department were not available on a geographic level other than precincts, which are too large to provide any meaningful inferences at the neighborhood level. Even after a faxed data request, an in-person visit and two phone calls, the Hamilton County Sheriff's Office failed to fulfill the

request for sheriff's sales data or assist the researcher in locating the appropriate department or staff person for the data request. The appropriate assessment and sales data could not be secured without payment of a substantial amount of money. The Assistant County Auditor for Hamilton County stated that certain files needed to be linked to census tracts to secure the requested sales and assessment data. In addition, these data for Hamilton County are propriety and owned by a private vendor (P. Drake, personal communication, July 8, 2008). The researcher also contacted two faculty members at the University of Cincinnati who did not have the appropriate data available. In essence, the only data acquired in a usable format for the City of Cincinnati were the tax-abated residential properties. The researcher and her dissertation chair agreed that, for these reasons, the City of Cincinnati would have to be dropped from the analysis, and that this omission does not reduce the efficacy of the study.

4.4 Statistical Model

Building on the Program Theory Model in Chapter III and modifying Galster, et al.'s (2004a) impact study of Community Development Block Grant (CDBG) spending, the chosen statistical model is intended to uncover statistical relationships between the presence of RPTA homes and changing values of six neighborhood indicators. The approach taken in this study was determined to be useful because any analysis of the impact of CBDG funding, RPTA, or any large public policy on neighborhoods is very often done ex post facto. Indeed, this is a problem with policy analysis in general; the question of program effectiveness occurs well after the policy is already operating, the political will is behind its implementation and public dollars are already allocated to the

program or, at least, to its administration. In addition, the proposed model appears to be a reasonable attempt at modeling the counterfactual scenario of what the neighborhoods in the subject group would have looked like in lieu of RPTA. Galster, et al. (2004a) used cubic regression to uncover any possible threshold effects in CDBG spending. A similar approach is taken here to uncover any threshold effects in terms of a critical number of RPTA homes built in a neighborhood at which we see significant changes in the outcome variables since "cubic regressions permit the estimation of a wide range of nonlinear relationships, some of which may suggest thresholds" (p. 909).

The statistical model is:

$$Y06_i = a + b_1(RPTA_i) + b_2 (RPTA_i^2) + b_3(RPTA_i^3) + b_4(Y01_i) + MHV_i + \Delta JG_i + SS_i + CITY + e$$

where

a = intercept

b = coefficient

Y06 = 2006 value for outcome indicator Y in neighborhood i

Y01 = 2001 value for outcome indicator Y in neighborhood i

RPTA = number of newly constructed single-, two-, and three-family residential units through 2003 for neighborhood i

MHV = 2003 median housing value for neighborhood i

ΔJG = rate of change in job growth from 2001 to 2006 for neighborhood i

SS = number of sheriff's sales in 2006 for neighborhood i

CITY = dummy variable for city

e = random error term

4.5 Variables

A "measured change in neighborhood indicators" (Galster, et al., 2004) approach was chosen for this study because of the researcher's interest in examining housing policy at the neighborhood level and because policies such as RPTA are designed to be administered at the neighborhood level.[2] The following sections describe the dependent, independent, and control variables for use in this study. In addition to testing a model of neighborhood change, this study also tests the assertion that there are a set of robust, parsimonious neighborhood indicators that are

> inexpensive, annually updated, and available for all U.S. communities yet robustly capture significant variation in these neighborhood dimensions [e.g., crime, housing type and tenure, business and employment]". (Galster, Hayes & Johnson, 2005, p. 265)

Therefore, in using the approach outlined in this dissertation, a researcher should be able to get a sense of change happening in urban neighborhoods without having to wait for such information from the decennial census, which arguably is outdated by the time the data are released.

4.5.1 Dependent Variables

Determining what constitutes neighborhood change is complex and there is no agreed upon set of measurements. Therefore, a set of indicators of neighborhood change was drawn from the literature, namely the work of Galster et al. (2004, 2005), wherein a set of robust and parsimonious indicators of neighborhood change was developed and tested for such purposes. As discussed previously, measures for neighborhood crime and of property tax equity were drawn from the literature and from local legislation. Given

[2] Indeed community development corporations, examination of which is beyond the scope of this study, are an example of a legislative invention to implement policies such as RPTA at the neighborhood level.

the time needed for completion of housing construction and "the recognition of them by market forces in the neighborhood" (Galster, et al., 2004, p. 914), there is a three-year lag between the last year of RPTA construction included in the dataset (2003) and the measures taken on the outcome indicators (2006).

4.5.1.1 Private Investment & Blight

There are four variables used to measure private investment: *approval rate of home purchase mortgage loan applications (HPMLAAR), number of home purchase mortgage loan applications (HPMLA), median dollar amount of home purchase mortgage loan originations (DHPLO)*, and *number of businesses (BIZ)*. On the surface, these indicators appear to be primarily measures of economic changes and, indeed, are used to measure the concept of private investment activity drawn from the Conceptual Model. However, there is no unanimous measure for blight; Dardia (1998) used vacancy and poverty rates to measure blight while Bier, et al. (2007) used changes in property values. Galster, et al. (2005) included a battery of variables in their attempt to find a small set of robust indicators of neighborhood change, and concluded from their analyses that the above indicators derived from HMDA data also act as strong proxies for housing and social dimensions such as vacancy rates, number of female head of households and neighborhood racial composition. Therefore, these dependent variables act as proxies for private investment and blight in this study. Moreover, since this study is concerned with a housing policy and its impact on neighborhoods, measures of private mortgage lending activity are viewed as particularly salient to this study.

The first three variables regarding mortgage lending activity were extracted from the Home Mortgage Disclosure Act (HMDA) data and averaged over two years, 2005 and 2006 (see Table 7). HMDA data provide the most accurate picture of mortgage lending activity at the census-tract level (Galster, et al., 2004). Following recommendations found in previous research (e.g., Chow & Coulton, 1998; Galster, et al., 2005) two-year averages were taken from the HMDA data to help control for extreme variability between years. HPMLA is the median number of home purchase loan applications by tract, while HPMLAAR is the median approval rate of those applications. The third variable, DHPLO, is the median dollar value of home purchase loans originated. The fourth measure of private investment, BIZ, is the mean number of businesses by tract. Number of businesses is relevant to urban neighborhoods because it presents one measure of economic growth, which is often viewed as the priority in the development of public policy (Bartik, 1991). Historically, urban neighborhoods did not evolve as "bedroom communities" but can often contain business and industry.

4.5.1.2 Crime

Support for including a measure for crime is found in the Cleveland case study on RPTA conducted by Bier, et al. (2007):

> Respondents [Cleveland residents who owned tax-abated property] did not indicate a willingness to accept reduced property taxes for assuming higher risks related to crime. There is a clear indication that respondents are as interested in safe neighborhoods as they are in getting as much house possible for their money. (p. 44)

In addition, the 2005 study by Galster, et al. found that crime remained a significant indicator of neighborhood change and is therefore included in this study.

Crime data should be a consistent and reliable variable to include in any examination of neighborhoods because they are collected annually, fall under general uniform categories and can be retrieved at no cost. However, the experience of this researcher found that accurate crime data are difficult to obtain given the underreporting of such activity by victims and witnesses, the discretionary nature of such data as they are recorded by law enforcement officers, as well as different reasons that can motivate police officers to underreport crime (see Maier, 1999). Indeed, of all the data gathered for this dissertation from several different governmental entities, the potential for human error in constructing a data set is possibly highest for crime data. The researcher could not obtain 2001 crime data for Columbus because the Columbus Police Department had yet to fully computerize such information at that time, and the 2006 crime data for the City of Toledo is inaccurate and incomplete. Therefore, the analysis of crime consists of the cities of Cleveland and Dayton, and results will be reported with limitations of such a small sample size in mind. Although, posttest data were available for the city of Columbus, there are too few observations to run a posttest only analysis of crime for the city. Crime is divided into two categories, Type I and Type II crimes, as described in Chapter III. In addition to the raw number of crimes variables, additional analyses were run using these variables standardized by 2000 population in order to obtain a measure of crimes per capita per tract because crime is often measured in terms of rates (per 100,000 population) or per capita.

4.5.1.3 Equity

The final neighborhood indicator is a ratio of median assessed value to median sales price for each neighborhood, called an *assessment ratio*, and is from the work of Birch, Sunderman, & Smith (2004), Allen & Dare (2002), and others (IAAO, 2004). Ratio values greater than one imply regressive property tax inequity because the property is being assessed at a higher value than the property is worth in the market, resulting in the payment of higher property taxes on a property that is of lower value. Ratio values less than one imply the presence of progressive property tax inequity because the value used to determine the taxes on the property is less than the value of the property in the market. A ratio equal to one represents equity because the property is being assessed at or near its true market value, assuming sales price is an adequate proxy for true market value. If there appears to be a significant relationship between RPTA and assessment ratios, depending on the direction of the relationship, then the existence of RPTA units may be having an impact on the property tax equity of neighborhoods.

TABLE 7

Dependent Variables: Indicators of Neighborhood Change

Indicator	Definition	Source
HPMLA	Median number of home purchase mortgage loan applications.	HMDA
HPMLAAR	Median home purchase mortgage loan application approval rate.	HMDA
DHPLO	Median dollar amount of home purchase mortgage loans.	HMDA
BIZ	Mean number of new businesses.	ES202
Type I Crimes	Violent crimes (homicide, rape, robbery and aggravated assaults) and property crimes (burglary, larceny-theft, auto theft and arson).	City Police Depts.; NEO CANDO
Type II Crimes	Everything not listed in Type I Crimes such as non-aggravated assaults, forgery, fraud, embezzlement, receiving stolen property, weapons and drug violations, vandalism, prostitution, family offenses, and all others.	City Police Depts.; NEO CANDO
Assessment Ratio	Median Assessed Value / Median Sales Price.	County Treasurers & County Auditors

All of these indicators serve to quantifiably measure outcomes hypothesized to have significant statistical relationships with the public policy under examination. If RPTA policy is indeed an effective neighborhood development policy, then we should see statistically significant changes in the trajectories of the neighborhood indicators for tracts in the subject group that are not seen in the comparison group.

4.5.2 Independent Variable

Given that the purpose of the proposed study is to uncover the relationship between RPTA and a set of neighborhood indicators, RPTA is specified and entered into the statistical model as an independent variable. RPTA represents the number of RPTA

single-, two- and three-family newly constructed units in a census tract from the first entry in the information provided by the respective public sector department up through 2003. Table 8 provides the various sources from which the independent variable was collected.

Table 8

Independent Variable

Variable	Definition	Source
RPTA	Number of single-, two-, and three new construction residential properties with tax abatement.	Columbus Dept. of Community Development; Cuyahoga County Auditor's Office; Dayton Dept. of Planning & Community Development; Toledo Dept. of Development

The variable is given the value of zero for each observation in the comparison group. RPTA is also entered into the model in squared and cubic forms to help uncover any threshold effects. In other words, is there a certain number (i.e., threshold) of tax-abated homes needed in a neighborhood before significant change is seen in any of the dependent variables? Although RPTA can apply to significantly *rehabilitated* units, only new construction is included in this study. This choice was a pragmatic one and relates to the pressure housing developers place on city officials to building more new construction with claims of positive neighborhood impact. Further, cities vary in their approaches to rehabilitated properties that differ from new construction in terms of durations and rates.

4.5.3 Control Variables

There are four control variables included in the statistical model for this study. The first variable, Y01, provides a pretest measure of the neighborhood context on a given indicator. Although the independent variable (RPTA) includes new construction built prior to 2001, the year of the pretest measures, this variable is included in the model to give a sense of where the neighborhoods stood in a specific year on each respective outcome variable. In other words, in order to measure change in an outcome variable, there needs to be a baseline with which any change in compared. Following the approach taken by Galster, et al., (2004) a five-year lag between pretest and posttest measures was chosen. In addition, Columbus did not begin using RPTA until 2001 and data from any city become less reliable the further back in time one goes. Bivariate analyses revealed essentially linear relationships between each posttest measure and its pretest.

A second variable was included in the statistical model to control for housing stock characteristics. Housing value has been used as a reasonable proxy representing housing stock characteristics and some variation in neighborhoods. Median housing values were obtained for year 2003 to correspond to the last year that RPTA data were collected. Median housing values were calculated using 2003 county auditor data. Assessed housing values are often defined at 35% of the estimated full market value; the median housing value used in this analysis is the estimated full market value.

The third control variable in the analysis measures the change in job growth between 2001 and 2006. Change in job growth (i.e., number of jobs) is acting as a proxy for overall economic health (Galster, et al., 2004a), and corresponds to the five-year lag between the pretest and posttest measures. This variable was constructed using ES202

data, a database that includes variables for job growth at the tract level, collected annually.

The fourth control variable is the number of sheriffs' sales in 2006 by neighborhood for each of the four cities. Similar to studies examining foreclosures (e.g., Coulton, Mikelbank, & Schramm, 2008; Brasington & Sarama, 2008), sheriffs' sales are used as a proxy for foreclosures in this study. Neither the City of Dayton, Montgomery County Clerk of Courts, or the County Sheriff's Office could produce any information on sheriff's sales for year 2001. The researcher was told that this information is only kept for two years and then records are deleted. The original variable conceived of to control for sheriffs' sales was the change in number of sheriffs' sales between 2001 and 2006. However, since Dayton could not provide any 2001 data, and there were many missing values for this variable for 2001 in the other three cities, the researcher decided that the best use of this information given the imperfect data collection was to use the number of sheriffs' sales for 2006 as the control variable in the model. Further, the original scope of this project did not include a variable for foreclosures. However, after discussion during the prospectus presentation, the researcher agreed that a control variable for foreclosures would be prudent given that rates of foreclosure in Ohio's cities are at crisis levels. An independent samples t-test was conducted to determine whether the number of sheriffs' sales was significantly different between subject and comparison groups. Results indicate that there was a significant difference between subject and comparison groups ($t = -2.142$, $p < .05$) for the number of sheriff's sales in 2001. Therefore, a variable was included in the analysis to control for sheriffs' sales, given the current foreclosure crisis affecting Ohio's urban neighborhoods. The final control variable included in the analysis

is a dummy variable to control for any variation seen in outcome indicators that is significantly related to a given city. Table 9 provides a summary of the control variables included in this analysis.

Table 9

Control Variables

Variable	Measure	Sources
Y01	2001 value for outcome indicator in neighborhood i	HMDA; ES202; City Police Depts.; County Treasurers; and Auditors; NEOCANDO
MHV	Median housing value, 2003	MGLCUA Housing Center; County Auditors
ΔJG	Percent change in jobs 2001 to 2006 for neighborhood i	ES202
SS	Number of sheriffs' sales in 2006 for neighborhood i	County Auditors; Montgomery Co. Sheriff's Office & Clerk of Courts; MGLCUA Housing Center
CITY	Dummy variable for Columbus, Cleveland, Dayton	N/A

Performing a similar analysis as the national level would generate the need to control for regional changes and indeed Galster, et al. (2004) was pulling from a national sample of cities and therefore stratified their sample into four categories based upon region. Such stratification proved to be unwarranted in this study and, given the relatively small sample size, there are degrees of freedom to be considered.

4.6 Data Collection

Several public agencies and universities in the four cities were contacted over several months in attempts to acquire the various data needed for this project. In the summer of 2008, the researcher visited the cities in the study, met with the public administrator(s) in charge of the respective city's RPTA program, began her data collection efforts, and was given guided tours of one or more neighborhoods with RPTA. Data on RPTA program dimensions including the date of home construction was given to the researcher by these administrators. For the City of Cleveland, however, the contact person was unsure of how long it would take her to complete the request. Therefore, the same request was made to the Tax Incentive Review Council in the Office of the Cuyahoga County Auditor, who fulfilled the request. The data were converted from either address or parcel number to census tract level. These data of the location and date of the number of newly-constructed single- and two-family residential units that have property tax abatement (RPTA) were used to construct the independent variable.

The first three dependent variables regarding mortgages were taken from Home Mortgage Disclosure Act (HMDA) data provided by the Mandel School of Applied Social Sciences Center on Urban Poverty and Community Development at Case Western Reserve University. The fourth dependent variable, number of businesses, and the control variable for percent change in jobs were drawn from the Quarterly Census of Employment and Wages (ES202) from the Ohio Department of Jobs & Family Services. These data were compiled by the Center for Economic Development at the Maxine Goodman Levin College of Urban Affairs at Cleveland State University, and were provided at the census tract level for the four cities in the analysis. For the crime data

used in this analysis, data comprising the fifth (Type I Crimes), sixth (Type II Crimes) and seventh (Property Crimes) dependent variables were collected through the Columbus and Dayton Police Departments for those respective cities. Crime data for the City of Cleveland was retrieved from NEO CANDO, the database website maintained by the Mandel School of Applied Social Sciences Center on Urban Poverty and Community Development at Case Western Reserve University, which receives the data from the Cleveland Police Department. The researcher confirmed with the Cleveland Police Department that the data retrieved from NEO CANDO are the same data one would receive from a public records request through the department. The advantage to retrieving data from NEO CANDO is that the data can be retrieved at census tract level.

The final dependent variable is a ratio of assessed values to sales values for residential property. For the cities of Columbus, Dayton and Toledo, a public records request was submitted to the respective county auditors, each of whom fulfilled the data request with a monetary charge varying from $1 to $50. The data were converted from parcel level to census tract level using GIS. For the City of Cleveland, sales and assessment data were compiled by The Center for Housing Research and Policy at the Maxine Goodman Levin College of Urban Affairs at Cleveland State University at the census tract level.

Sales data for 2001 and 2006 were collected from the Franklin County Auditor's Office for the City of Columbus, the Lucas County Auditor's Office for the City of Toledo, the Montgomery County Sheriff's Office and Clerk of Courts for the City of Dayton, and The Center for Housing Research & Policy at the Maxine Goodman Levin College of Urban Affairs at Cleveland State University for the City of Cleveland. For the

City of Dayton, only 2006 data were available. The researcher was awarded funding that covered the costs of data gathering through the Albert A. and Maxine Goodman Levin Advisory Fund to assist in her data collection pursuits.

4.7 Data Analysis

The SPSS statistical software package was used. The first step in the analysis involved the examination of bivariate scatterplots for each pretest and posttest measure; the relationships were essentially linear. Second, independence of samples tests were run on pretest measures to determine comparability between subject and comparison groups as described previously. The third step of analysis is the presentation of some descriptive statistics regarding the data. This stage is to help familiarize the reader with the data by presenting summary statistics and distributions of the variables.

The final stage involves a multiple regression analysis designed to uncover any significant statistical relationships between RPTA and the several indicators of neighborhood change and the direction of those relationships controlling for city, economic growth, housing stock characteristics, and foreclosures by neighborhood. A cubic regression model was run based upon previous research and may help to uncover a threshold at which the level of RPTA homes reaches a statistically significant relationship with a given neighborhood indicator. This analysis is exploratory in nature and, as such, no strict interpretations of regression coefficients will be made.

CHAPTER V

DATA ANALYSIS

5.1 Introduction

This chapter presents results from the analyses performed on each of the seven dependent variables as they relate to the presence of newly-constructed residential units that received property tax abatements. Specifically, this chapter will discuss the strength and direction of any relationships between the dependent variables and any of the independent and control variables in the model as hypothesized in Chapter III. Hypotheses were crafted from the perspective of the policy maker and city official in that RPTA is a policy effort to revitalize urban neighborhoods and retain and/or attract middle- and upper-income homeowners to neighborhoods and cities that have seen these groups relocate to suburban areas.

First there is a brief discussion of the results of the hypothesis testing. Second, a discussion of the independent and dependent variables will be presented. Third, model summaries from testing the usefulness of a chosen statistical model for analyzing residential tax abatement policy will be presented and discussed. Finally, answers to the

initial research questions of this study will be presented. Namely, are there statistically significant relationships between residential property tax abatement and a chosen set of neighborhood indicators? Further, is there a certain number of newly-constructed RPTA units (a threshold) at which one sees significant relationships between RPTA and indicators of neighborhood change?

5.2 Summary Results of Hypothesis Testing

The researcher found only one discernable relationship between the subject group and an indicator of neighborhood change—Type II crimes (H_6)—even after controlling for the current foreclosure crisis in Ohio's urban neighborhoods, job growth, housing stock characteristics, and the city. The presence of RPTA homes was significantly related to Type II crimes, and the relationship was in the expected direction. One fails to reject the null hypotheses for the remaining six neighborhood indicators. Table 10 provides a summary of the hypothesis test results for each specific null hypothesis.

Table 10

Summary of Hypothesis Test Results for Indicators of Neighborhood Change

	Hypothesis	$p < .05$
NH_1	RPTA is not significantly related to home purchase mortgage loan approval rates.	Fail to reject null
NH_2	RPTA is not significantly related to the number of home purchase mortgage loan applications.	Fail to reject null
NH_3	RPTA is not significantly related to the median dollar amount of home purchase mortgage loans originated.	Fail to reject null
NH_4	RPTA is not significantly related to the number of businesses.	Fail to reject null
NH_5	RPTA is not significantly related to Type I crimes.	Fail to reject null
NH_6	RPTA is not significantly related to Type II crimes.	Reject the null
NH_7	RPTA is not significantly related to assessment ratios.	Fail to reject null

5.3 Preliminary Analysis of Independent Variable

The measure of the independent variable, RPTA, was the number of newly-constructed single-, two- and three-family tax-abated units in each census tract, from as early as 1987 through 2003. The starting date for implementation of RPTA programs varied from city to city, with Toledo reporting the earliest RPTA homes in its dataset (1987). Following the structure laid out in Galster, et al. (2004), a three-year lag between the completion of RPTA homes and the measurement of changes in the neighborhood

indicators was incorporated into the model. It is assumed that there is a lag between the completion of housing construction and any changes seen in the neighborhood as a result of these investments. In the comparison group observations, RPTA is given a value of zero. Standardizing the independent variable for RPTA was considered but not justified by theory, the literature or legislation. Initially it was considered that number of RPTA homes should be standardized by some overall neighborhood characteristic such as median number of households or population by tract. However, there is no standard by which areas with RPTA are created. For example the policy does not have any population requirements for a proposed area, but merely requires that investment has been discouraged.

Galster et al. (2004) did not find significant relationships when using median CDBG spending for their full sample of census tracts or even when they standardized CDBG spending per poor resident, per tract. "Results changed dramatically when we confined our analysis to those tracts evincing above-sample-average CDBG spending" (2004, p. 915). Following this logic, this study focused on a sample of tracts that had sixteen or more RPTA units, i.e., those tracts with above-sample-average number of RPTA units. Even with this confined sample (n=59), there were no statistically significant relationships between number of RPTA new construction and any indicators of neighborhood change ($p < 0.05$). Moreover, confining the sample in this way resulted in the exclusion of any Columbus neighborhoods and a preponderance of Cleveland census tracts comprising the sample (n=45, over 76%).

The comparison group used in this study is comprised of those census tracts contiguous to census tracts with new construction residential tax-abated properties.

Tracts contiguous to RPTA tracts were determined to be a reasonable comparison group as presented in Chapter IV. Table 11 lists the number of tracts for each city included in the analysis, by group. This information is also represented in Figures A1-A4 of the Appendix, which are maps highlighting the subject and comparison groups for each city included in the analysis. There were thirteen contiguous tracts removed from the comparison groups for the city of Cleveland for a variety of reasons. Some of the tracts lacked housing and/or mortgage data, while other tracts had zero population and missing data. One subject group tract was removed for the city of Toledo because of scant data. No tracts were removed from either group for Columbus or Dayton.

Table 11

Number of Tracts in Subject and Comparison Groups by City

City	Subject Group Tracts	Comparison Group Tracts	Total
Cleveland	159	51	210
Columbus	8	37	45
Dayton	10	20	30
Toledo	28	24	52
TOTAL	205	132	337

5.4 Descriptive Statistics of the Dependent Variables

Table 12 provides information about the distribution of the dependent variables. This information is important in understanding why assumptions regarding the

interpretation of the regression coefficients, as well as the ability to make causal inferences about relationships between RPTA and the given neighborhood indicators are not applicable to this analysis because no assumptions are made about the distribution of the variables or their corresponding error terms. Looking at the table of descriptive statistics, a majority of the dependent variables are not skewed, but there are high levels of kurtosis, especially in the comparison group. This study was not based on a random sample; repeating the study with a large number of samples would yield normally distributed sample means. Included in the Appendix is Table A2, which provides descriptive statistics for the dependent, independent, and control variables.

Table 12

Descriptive Statistics of Dependent Variables by Group

SUBJECT	HPMLAAR	HPMLA	DHPLO	BIZ	Type I	Type II	AV_SP
Valid N	204	203	204	203	177	175	200
Missing	1	2	1	2	28	30	5
Mean	.479	77.810	80709.559	30.61	180.67	195.86	1.278
Std. Error of Mean	.008	3.868	2107.702	2.006	8.707	8.967	.0284
Median	.470	75.500	77625.000	21.50	161.00	177.00	1.224
SD	.112	55.106	30104.005	28.584	115.842	118.622	.402
Variance	.013	3036.703	9.063E8	817.043	13419.462	14071.062	.162
Skewness	-.749	.921	1.931	2.248	2.264	1.339	.337
SE of Skewness	.170	.171	.170	.171	.183	.184	.172
Kurtosis	5.464	.955	8.528	6.918	8.331	2.887	1.385
Std. Error of Kurtosis	.339	.340	.339	.340	.363	.365	.342

Range	.92	273.50	258750.00	168	806	752	2.63
Minimum	.00	.00	.00	1	3	3	.00
Maximum	.92	273.50	258750.00	170	809	755	2.63
COMP.							
Valid N	132	132	131	130	105	105	124
Missing	0	0	1	2	27	27	8
Mean	.486	93.489	78938.93	49.07	210.57	259.72	1.29
Std. Error of Mean	.011	6.086	4248.56	4.905	14.304	20.266	.0346
Median	.482	89.25	71750.00	32.25	189.00	213.00	1.202
SD	.129	69.926	48626.98	55.931	146.573	207.662	.385
Variance	.017	4889.586	2.365E9	3128.22	21483.632	43123.394	.148
Skewness	-.920	.794	4.203	3.049	1.684	1.383	.642
SE of Skewness	.211	.211	.212	.212	.236	.236	.217
Kurtosis	4.248	.316	26.223	11.432	4.756	1.928	1.059
Std. Error of Kurtosis	.419	.419	.420	.422	.467	.467	.431
Range	.81	298.00	433500.00	356	872	974	2.32
Minimum	.00	1.00	.00	0	12	8	.22
Maximum	.81	299.00	433500.00	356	884	982	

5.5 Model Results

This section will discuss the outcomes of testing the cubic regression model presented in Galster, et al. (2004) as a useful tool for uncovering relationships between RPTA and a set of indicators of neighborhood change that were derived from the literature and from legislation, and discussed at length in previous chapters. The results

will be presented as they relate to the conceptual model. The results regarding changes in neighborhood private investment and blight are presented first, followed by a discussion of RPTA and its relation to crime levels. Lastly, results regarding the measure of property tax equity will be presented and discussed. The design of this study was chosen to present a counter-factual scenario regarding RPTA; namely, the research design included a comparison group in order to present what would happen in a neighborhood if there were no new tax-abated homes. Differences between the subject and comparison groups will be discussed for each dependent variable.

It should be made clear at the outset of this discussion that this analysis is probative in nature and attempts to uncover the strength and direction of relationships between the dependent variables and the independent variable of interest, RPTA. For reasons discussed in the previous section regarding errors with the data, no interpretation of the effects on the margin as reflected in the regression coefficients will be included in this analysis. Table A3 and A4 in the Appendix list the coefficients and standard errors for those relationships significant at $p < .05$ for both subject and comparison groups.

5.5.1 Private Investment & Blight

The first three variables chosen to represent private investment activity and blight were derived to test the usefulness of a tested and published set of such indicators from the work of Galster et al. (2004; 2005) and from the legislation regarding the policy. These three variables are tested measures of mortgage and mortgage lending activity in neighborhoods. The first dependent variable chosen from this previous study is used in this analysis as a way to measure private investment activity: median home purchase

mortgage loan approval rates (HPMLAAR) averaged over two years (2005 and 2006). Median values averaged over two years were chosen to help control for known variability in HMDA data (Galster, 2004). This variable helps to measure private investment activity by gauging the willingness of lenders to invest in local residential markets.

It was hypothesized (H_1) that the presence of RPTA homes in a neighborhood is significantly and positively related to home purchase mortgage loan approval rates. In other words, as the number of RPTA homes increased in a neighborhood the HPMLAAR also would increase and that there would be no significant change in this indicator for neighborhoods in the comparison group. A one-tailed test was employed because theory indicates that the expected direction of the relationship between RPTA and mortgage loan approval rates should be positive. The researcher failed to reject the null hypothesis NH_1 that there is no significant relationship between RPTA and home purchase mortgage loan approval rates.

For the subject group, only two control variables were significantly related to the dependent variable at $p < .05$: the pretest variable controlling for loan approval rates in 2001 and the constant, which reflects the base category of the dummy variable for city which, in all cases, is Cleveland (Table A3, Appendix). In the comparison group, all control variables except change in job growth were significantly related to HPMLAAR at $p < .05$ (Table A4, Appendix). In essence, there does not appear to be a statistically significant discernable relationship between this particular measure of private investment and the presence of tax-abated homes. Table 13 presents the cubic regression model summary for this neighborhood change indicator. Both groups appear to have a relatively strong linear relationship between the observed values of HPMLAAR and the predicted

values of the model. Approximately thirty-five to forty percent of the variation in HPMLAAR is explained by the model.

Table 13

Model Summary of Outcome Variable HPMLAAR

Group	N	R	R Square	Adjusted R Square	Std. Error of the Estimate
Subject	202	.599	.359	.325	.09226
Comparison	120	.628	.395	.357	.07331

The second measure using HMDA data represents blight, and is the median number of home purchase mortgage loan applications (HPMLA), averaged for 2005 and 2006. This variable is a measure of the demand for new housing purchases in an area and is therefore a gauge for blight, assuming that increased home purchase loan applications for new construction is an indicator of positive physical change in an area. The hypothesis presented in Chapter III is that RPTA will be significantly related to HPMLA and that this relationship will be positive. In essence, as the number of RPTA homes increase in a neighborhood the number of home purchase mortgage loan applications would increase as well, and that there would be no significant change in this indicator for neighborhoods comprising the comparison group. The researcher failed to reject the null hypothesis NH_2. RPTA is not related to the number of home purchase mortgage loan applications ($p < .05$).

However, the cubed variable presented a relationship at a significance level of $p < .10$, and the direction of the relationship was positive (Table A3, Appendix). This result can be interpreted as evidence that there may be a level at which a high number of RPTA homes in a neighborhood may be related to HPMLA. Intuitively and logically this relationship makes sense because as a neighborhood reaches a point where there is a very large amount of new residential property for sale (i.e., $RPTA^3$), one should expect the number of mortgage loan applications to increase, possibly significantly, assuming there is demand for the housing. What is interesting about this finding is that, even though the number of mortgage loan applications shows a significant and positive relationship with RPTA, the first variable measuring private investment (HPMLAAR) was not significantly related, even at a threshold level. In essence, if a significant number of mortgage loan applications to buy these newly-constructed tax abated units are not approved, then how well does such an outcome bode for neighborhoods suffering from disinvestment? A relationship may not exist between the supply of home financing being made available in these neighborhoods and consumers willing to invest. While this question is not addressed in this study per se, it has policy implications that will be discussed in Chapter VI.

For both subject and comparison groups it was found that median housing value, number of 2006 sheriffs' sales, and the pretest measure of HPMLA in 2001 was each related to the outcome variable at $p < .05$ (Tables A3 & A4 in Appendix). A distinction between the two groups arises regarding the role of the city in each model. For the comparison group representing the counter-factual scenario, only Columbus had a significant association with the number of home purchase loan applications in 2006.

However Columbus, Dayton and Toledo were significantly associated with HPMLA for the subject group. This result implies localized effects in the way RPTA is administered in these cities; all three cities designate areas to receive RPTA, while Cleveland administers the program citywide. Table 14 presents the model summary on this outcome variable of interest. Both groups appear to have a relatively strong linear relationship between the observed values of HPMLA and the predicted values of the model, and the model explains between 76 and 88 percent of the variation in HPMLA, ceteris paribus.

Table 14

Model Summary of Outcome Variable HPMLA

Group	N	R	R Square	Adjusted R Square	Std. Error of the Estimate
Subject	202	.940	.883	.877	98.2806
Comparison	120	.874	.764	.750	34.4424

The third variable measures both private investment and blight in that it gauges how much lenders are willing to invest in an area on average, and also with how much mortgage debt homeowners are willing to burden themselves. This variable is the median dollar amount of home purchase mortgage loans originated (DHPLO), averaged for 2005 and 2006. It was hypothesized that RPTA would be significantly related to DHPLO, and that the direction of this relationship would be positive. In other words, as the number of RPTA homes increased in a neighborhood the median dollar amount of home purchase

loans originated would increase, but there would be no significant change in DHPLO in the neighborhoods comprising the comparison group. The results of this analysis on the outcome variable DHPLO indicate a failure to reject null hypothesis NH_3. RPTA is not significantly related to the median dollar amount of home purchase mortgage loans originated. For the subject group, the variables controlling for city, the pretest, and the number of sheriffs' sales were significant at $p < .05$. For the comparison group, only the constant term (Cleveland) held a significant relationship with the outcome variable. Table 15 presents the model summary for the dependent variable DHPLO. The subject group appears to be a better fit to the model than the comparison group, with fifty-three percent variation in median dollar amounts of home loans originated explained by the model.

Table 15

Model Summary of Outcome Variable DHPLO

Group	N	R	R Square	Adjusted R Square	Std. Error of the Estimate
Subject	202	.730	.532	.508	21206.374
Comparison	119	.403	.162	.110	39761.813

The fourth dependent variable in this analysis is a measure of change in private investment in urban neighborhoods and is the mean number of businesses in 2006 (BIZ) and used herein as a robust and parsimonious measure of neighborhood change (Galster, et al., 2004; 2005). It was hypothesized that RPTA was significantly related to the

number of businesses and that this relationship was positive. In essence, as the number of RPTA homes increase in a neighborhood, the number of businesses would significantly increase and that there would be no significant change in number of businesses in the neighborhoods comprising the comparison group. One fails to reject null hypothesis $NH_{4;}$ RPTA is not significantly related to the number of businesses.

Table 16 presents the model summary for this outcome variable. Both subject and comparison group models are a good fit to the data because of the strength of association between the pretest variable (mean number of businesses in 2001) and the 2006 measure for both the subject and comparison groups (Tables 3A & 4A in Appendix). This strong association between the pretest and posttest variables makes sense in that the number of businesses at the neighborhood level may change more slowly over time than the five-year lag between measurements employed in this study. The variable controlling for median housing values was significantly related to the number of businesses for the subject group, and the dummy variable for Toledo was significantly associated with number of businesses in both groups.

Table 16

Model Summary of Outcome Variable Mean Number of Businesses

Group	N	R	R Square	Adjusted R Square	Std. Error of the Estimate
Subject	201	.983	.986	.985	5.412
Comparison	119	.993	.966	.964	6.853

5.5.2 Crime

The variable for crime proposed earlier for this study was adapted from an article by Chow and Coulton (1998) and was defined as the total number of homicide, rape, robbery, assault, aggravated assault, burglary, auto theft and larceny per capita. However, further investigation into the literature on broken windows (e.g., Corman & Mocan, 2005) and in the ways in which other sources organize the data (e.g., NEO CANDO) reveal that lumping all crimes into one large category may miss a significant distinction mentioned in some of the literature that tests the broken windows hypothesis. The logic of the argument is that crimes such as homicide and aggravated assault are a few more steps removed from (and therefore harder to link directly to) "broken windows" than are theft and non-aggravated assaults, ceteris paribus. So, as discussed and defined in Chapter III, the original indicator of neighborhood change representing crime in neighborhoods has been divided into two separate indicators: Type I and Type II crimes, measured in 2006. Results from the separate analyses run on each type will be discussed. It should be kept in mind that the sample size was diminished, with only two of the four cities included in the analysis.

The first variable measuring crime, Type I crimes, includes violent crimes and property crimes as delineated by the Mandel School of Social Sciences at Case Western Reserve University, and discussed previously. The hypothesis presented was that RPTA was significantly related to Type I crimes and that this was an inverse relationship. In other words, a significant increase in the number of RPTA homes in urban neighborhoods is associated with a significant decrease in the number of Type I crimes, and that there

would be no significant change in number of Type I crimes in the neighborhoods comprising the comparison group for the time period.

One fails to reject null hypothesis NH_5. This finding is contrary to the finding of Giacopassi and Forde (2000), who found a link between homicide and traffic fatality rates in their empirical analysis of the theory of broken windows. Table 17 presents the model summary for this outcome variable; tables for Type I crimes per capita (total number of crimes divided by population, per tract) are presented in Table 5A in the Appendix. Similar to the strong pretest-posttest association found with the number of businesses, the pretest measure of Type I crimes in 2001 was significantly related to the outcome variable and helps explain the high r-square value for both subject and comparison groups.

Table 17

Model Summary of Outcome Variable Number of Type I Crimes

Group	N	R	R Square	Adjusted R Square	Std. Error of the Estimate
Subject	166	.919	.844	.836	41.368
Comparison	62	.959	.921	.913	43.152

The second variable measuring crime is Type II crimes, and represents lesser criminal offenses. The hypothesis stated in Chapter III is that RPTA is significantly related to Type II crimes, and that these variables were inversely related. One rejects null hypothesis NH_6 at $p < .05$; there appears to be a statistically significant relationship

between the number of RPTA homes in a neighborhoods and the number of Type II crimes, ceteris paribus. The direction of the relationship was also expected, with the number of Type II crimes decreasing as number of RPTA homes increased. This relationship disappears when the analysis is run with Type II crime per capita, the summary of which is in Table 6A in the Appendix. The significant association between this indicator of neighborhood change and RPTA should be interpreted with caution given the relatively small sample sizes comprised of data for only two cities (Cleveland and Dayton). Both the number of sheriffs' sales in 2006 and the pretest measure of Type II crimes in 2001 were significantly related to Type II crimes in 2006. In addition, variables controlling for city were significant for the subject group. Model summary results comparing subject and comparison groups in this outcome variable are presented in Table 18. Similar to Type I crimes, there is a high goodness-of-fit statistic primarily due to the pretest measure being highly correlated with the posttest measure.

Table 18

Model Summary of Outcome Variable Number of Type II Crimes

Group	N	R	R Square	Adjusted R Square	Std. Error of the Estimate
Subject	165	.822	.851	.843	45.605
Comparison	62	.961	.923	.916	56.569

5.5.3 Equity

The final variable in the analysis is a measure of equity and is the median assessed value-to-sales price ratios for each census tract. Assessed values were pulled from the data for each residential property for pretest year 2001 and posttest year 2006. In some cities the assessed value is equal to thirty-five percent of the estimated market value. In other cities, the assessed value is presented as the estimated full market value. For this study, the estimated full market value was used as the assessed value. All property transfers are included in the data resulting in many cases where transfers took place but no money was exchanged; these transfers have a zero as the sales amount and were removed from the analysis. All sales amounts with a value greater than zero were used in calculating the denominator of the ratio. The median assessment ratio was calculated for each census tract.

In examining vertical tax equity issues, one is observing the difference between homes in one stratum with homes in another stratum. In this case, the delineation is between assessment ratios for neighborhoods with RPTA and those without tax-abated units. In essence, the question in whether cities practice systematic inequitable assessment of properties in neighborhoods without RPTA a way to "make up" the loss of property tax revenues from tax abated properties. Specifically, is there a statistically significant relationship between the number of RPTA units in a neighborhood and assessment ratios. City officials do not want RPTA to be associated with *any* change in the assessment ratios because that would imply that the governmental administration of the property assessment process is systematically skewed (i.e., unfair).

One fails to reject the null hypothesis NH_7; RPTA and assessment ratios are not statistically significantly related at $p < .05$. Only the number of sheriffs' sales and all four cities had significant relationships with the equity measure for the subject group. These significant associations differed for the comparison group (pretest, median housing value, Cleveland, and Dayton). However, the cubed RPTA variable presented a relationship at a significance level of $p < .10$, and the direction of the relationship was negative. The researcher cautiously interprets this result as evidence that there may be a level at which a high number of RPTA homes in a neighborhood may be related to changes in the assessment ratios. The negative direction of the relationship is interesting; either the assessment of new residential properties is more accurate (i.e., closer to the sales value) than for older properties, or the process systematically under-assesses new residential construction. An answer to this question is beyond the scope of this study but worth further inquiry. Table 19 provides a summary of the cubic regression model on this neighborhood indicator. The model appears to fit the data for both groups adequately, ceteris paribus.

Table 19

Model Summary for Outcome Variable Assessment Ratios, 2006

Group	N	R	R Square	Adjusted R Square	Std. Error of the Estimate
Subject	193	.636	.405	.372	.307
Comparison	116	.709	.503	.471	.275

An additional finding when examining the descriptive statistics for the dependent variable is that the assessment ratios vary considerably from 2001 to 2006, with an over-assessment of 2006 residential property values across both subject and comparison neighborhoods. Indeed, 2001 assessment ratios reveal under-assessment of property values, with assessment ratios of less than one for 82.7% of the 323 tracts included in the analysis for which data were available. Conversely, 2006 assessment ratios reach a level of over-assessment (where the value is greater than one) at 21.6% of the 324 tracts for which data were available. In other words, less than 20% of homes in the sample tracts in 2001 had an increased property tax burden, while in 2006 nearly 80% of the homes were being taxed at a higher-than-market rate. Paired samples t-tests (Tables 19 and 20) reveal that the mean difference between 2001 and 2006 assessment ratios for both groups is significant.

Table 20

Paired Samples Statistics for Assessment Ratios by Group, 2001 and 2006

Group	Variable	Mean	N	SD	SE Mean
Subject	Assess. ratio_01	0.870	195	.255	.018
	Assess. ratio_06	1.287	195	.386	.028
Comparison	Assess. ratio_01	0.847	120	.144	.013
	Assess. ratio_06	1.305	120	.380	.035

Table 21

Paired Differences for Assessment Ratios by Group, 2001 and 2006

Group	Variable	Mean	SD	SE Mean	t	Sig. (2-tailed)
Subject	Assess. ratio_01 Assess. ratio_06	-.417	.428	.031	-13.595	.000
Comparison	Assess. ratio_01 Assess. ratio_06	-.458	.368	.034	-13.647	.000

5.6 Conclusion

Three aspects of RPTA programs with important policy implications were examined in this study regarding the role of residential property tax abatement and its possible relationship with changes on a set of neighborhood indicators. The first question of whether there are statistically significant relationships between residential property tax abatement policy and any of a set of indicators of change in Ohio's urban neighborhoods is a qualified no, with evidence of only one statistically significant relationship between RPTA and the respective dependent variables at $p < .05$. The second issue is derived from the first, and posited that there may be a certain point at which the number of RPTA units is large enough to generate a significant relationship between this threshold and any indicators of neighborhood change. There appears to be no level at which the number of RPTA homes is significantly associated with any of the indicators of neighborhood change. The third aspect of this study presented a counterfactual scenario by running the same analysis on a comparison group of census tracts in order to uncover any significant

differences between it and the subject group. Comparison of tracts with RPTA and those without such homes did not yield significant differences between the two groups.

CHAPTER VI

CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

6.1 Answering the Research Question

Using a tested statistical model and set of indicators of neighborhood change (Galster, et al., 2004; 2005), the purpose of this study was to find evidence of any discernable relationships between new construction residential property tax abatement (RPTA) and a set of indicators of neighborhood change. These indicators were drawn from the Ohio legislation and the academic literature. The indicators attempting to examine changes in private investment and blight were determined to be useful to "summarily track[ed] key dimensions of neighborhoods" (Galster, et al., 2004, p. 265). The indicators for crime were chosen to test the broken windows hypothesis (e.g., Wilson & Kelling, 1982), and changes in assessment ratios were chosen as a measure of vertical property tax equity (Cornia & Slade, 2005; IAAO, 2004). The comparison group representing the counter-factual scenario was comprised of contiguous census tracts for

which data could be gathered and that did not have RPTA units at the time of the study period.

The research question is whether there are significant statistical relationships between residential property tax abatement (RPTA) and changes in urban neighborhoods as measured on a set of indicators, and the direction of those relationships. The answer is no, there were no significant statistical relationships between RPTA and six of the seven indicators of neighborhood change. There was one significant association in the expected direction between RPTA and Type II crimes, but this relationship was not tight given the small sample size drawn from only two cities. In essence, no neighborhood effects were found as defined in this study.

Another possible result from the analysis would be to discover a threshold at which the number of RPTA homes in a neighborhood reaches a point where one sees significant changes in the outcome indicators by examining the level of significance of the square and the cube of the independent variable. No such threshold was found at $p < .05$ for any of the indicators of neighborhood change, but the cubed independent variable was significantly related to the number of home purchase mortgage loan applications at $p < .10$. However, this result is not surprising given that a huge increase in the supply of newly constructed homes in an area would be significantly associated with an increase in the number of loan applications to buy these homes.

A well-matched comparison group was incorporated into the research design to represent a counter-factual scenario: were it not for RPTA, would the neighborhood trajectories have remained the same? Not necessarily. While subject and comparison groups appeared to be similar to each other based upon six of the seven pretest measures,

there were significant differences between the subject and comparison groups on posttest measures, suggesting that the subject group and the control group may indeed be on different trajectories of change. However, this study provides evidence that these different trajectories of change *are not related to* the number of RPTA homes in these urban neighborhoods.

In addition, no one city stood out as having significantly different relationships between its indicators of neighborhood change and the independent or control variables. This finding is important given that the cities of Columbus and Dayton target their RPTA programs to small geographic areas, Toledo includes a much larger area, and Cleveland's RPTA program is citywide (Figures A1-A4 in the Appendix). This finding also runs counter to conclusions reached in the literature about the effectiveness of targeting tax incentive program to smaller geographic areas (e.g., Sands, Reese and Khan, 2006).

Following a similar approach in Galster, et al. (2004), no discernable relationships were found when the sample was stratified by those tracts with number of RPTA homes above the mean (greater than 15.56). Therefore the follow-up question regarding the direction of the relationship was rendered moot. There was a suggestion of a threshold at $p < .10$, where a certain large number of RPTA homes must be constructed before one starts to see significant change in two of the neighborhood indicators, the number of home purchase mortgage loan applications and lesser criminal offenses (Type II crimes). These results mirror the results found in the non-stratified sample.

6.2 Results of Analysis and Theoretical Concepts

The design of this dissertation took the result of a public policy focused on neighborhoods — the building of new tax-abated homes—and compared a sample of neighborhoods where the policy was in operation with a sample of neighborhoods where there was no policy operating during the period under study. The dependent variables were each related to notions of neighborhood change. These indicators represented both constructs in the conceptual model (Figure 1 in Chapter III) and desired policy outcomes that were to ultimately change neighborhood context for the better. In essence, residential property tax abatement (RPTA) was to be related to desirable changes in local housing markets, local economies, and social and physical conditions of the neighborhood. In addition, there were five theoretical branches outlined in this dissertation and represented in its conceptual model that support the exploration of the relationship between RPTA and neighborhood change. As discussed previously, these branches were derived from the academic literature, state and local legislation, and the political debate surrounding residential property tax abatement.

It appears that RPTA is having a desirable impact for cities regarding the first theoretical branch, inter-jurisdictional competition (IJC). The positive relationship between the number of home purchase mortgage loan applications and the number of RPTA homes in a neighborhood implies that there is demand for homes in urban neighborhoods with RPTA. However, this conclusion makes an assumption that the loan applicants are not just drawn from a population making intra-city moves. Bier, et al. (2007) argue that even if these moves are within the city, at least urban neighborhoods

are retaining emerging middle-class families. Such an outcome is noteworthy given the population loss occurring in older urban areas.

The second branch involved a discussion of some general theories of neighborhood change such as filtering and gentrification. The idea of filtering as the notion that aging housing stock is less desirable than new construction is supported by the results of this analysis, if one assumes that the significant positive change in the median number of home purchase loan applications in neighborhoods with RPTA is due to the demand for these newly constructed homes. It may be useful to conduct an analysis examining the demand for RPTA new construction versus rehabilitation, which also receives tax incentives. Making any assertions regarding the process of gentrification is beyond the scope of this study, but a similar analysis could be used to examine the relationship between RPTA and gentrification. For example, an examination of changes in median household income, poverty levels and changes in racial composition of neighborhoods and their possible relationships to the indicators of neighborhood change could be conducted.

It can be argued that the proposed anti-urban—pro-rural dichotomy is operating and supported by the study results. RPTA is an offering of a large financial incentive in order to lure people back to urban neighborhoods, but they are not enough to generate desirable changes in these neighborhoods. The fact that such incentives are commonplace speaks to the idea that urban areas are undesirable places to live.

The fourth theory incorporated into this study is the theory of broken windows as it relates to changes in crime. This study lends support to the broken windows hypothesis that improving physical conditions of an area through the construction of RPTA homes

will have an impact on the number of lesser (Type II) crimes reported to police, ceteris paribus. However, there was not a significant relationship between improving physical conditions through RPTA and more serious criminal offenses. A more comprehensive examination of any relationships between crime and RPTA was beyond the scope of this study, but warrants further investigation to try and uncover the relationship between urban redevelopment efforts and Type I and Type II crimes. As discussed in Chapter V, the support is very weak due to incomplete and missing data.

The final theoretical branch is concerned with the idea of equitable distribution, specifically regarding the property tax burden. The results of this study do not support the assertion of RPTA policy opponents that there is a significant relationship between an increase in the number of RPTA homes and an increase in vertical property tax inequity (as measured by median assessment ratios) in the subject group. Instead, there appears to be a systematic over-assessment of properties for 2006 across both subject and comparison groups (see Tables 20 and 21 in Chapter V). There were unique historical factors operating in the housing market over the last several years that may account for the drastic changes in the assessment ratios.

6.3 Policy Implications

From a policy perspective, a finding of no finding is significant. When cities are pressured to encourage the building of dozens of tax-abated homes in a given area with purported claims of neighborhood revitalization, the question of the effectiveness of such public investments is what initially prompted this researcher to examine the issue at the neighborhood level. Moreover, when public officials from an economically-challenged

city are being persuaded to believe that RPTA is the panacea to all the financial woes of the city's neighborhoods (e.g., 8/6/91 Plain Dealer, p. 1F), this study provides evidence to the contrary of that assertion.

Policy analysis is muddy at best but city officials are pushed to do something, and RPTA is a popular choice of action because it can be framed as a policy that does not incur obvious costs to residents; there is no government outlay of funds in order to build, and officials can claim increased government revenues once the abatement expires. Further, some studies have shown (namely Bier, et al., 2007) that while there may be foregone revenue there is also an immediate increment in higher tax revenues related to the enhanced valuation of the land upon which RPTA homes sit. This outcome permits public officials to classify RPTA as having immediate positive revenue effects.

An original point broached in the first chapter of this dissertation was a discussion of the effectiveness of RPTA, with a description of the criteria under which this policy would be deemed effective. The policy would be effective if RPTA had a statistically significant relationship in a desirable direction with the chosen set of indicators of neighborhood change. In other words, the number of RPTA homes in a neighborhood would be associated with increased private investment, blight removal, decreased number of crimes, and no change in the distribution of property tax burden.

The results of this study suggest that this policy, as it is currently administered, is not effective in fulfilling these policy outcomes. Of course one can make a case against this assertion. Indeed, perhaps the number of tax-abated homes is not robust enough to be related to changes in the benchmarks of neighborhood progress that were chosen for this study; maybe the dollar amount of the investment in such construction would yield

significant associations. Perhaps *neighborhood* is too large a unit of analysis to uncover any significant change, but significant relationships may be seen at a smaller level such as census block group or, as Bates (2006) argues, that defining areas by their housing submarkets would be a more effective way to distribute revitalization policies. Or maybe…RPTA is not the panacea some decision makers and developers claim it is in turning around whole tracts of depressed areas in older urban neighborhoods.

Bates (2006) also concludes from her study that,

> Policies that target neighborhoods as though they are homogenous housing areas may be problematic and lead to policy failures if the policies are being applied are not appropriate for all parts of the neighborhood. (p. 15)

This assertion implies that housing policies need to be more parochial and tailored to the unique situations in which Ohio's urban neighborhoods find themselves. Building on this point, a further consideration is that maybe RPTA policy would work better in the inner-ring suburbs where there is a greater likelihood of substitution by home seekers among similar suburbs than the neighborhoods of a large city. In other words, if inter-jurisdictional competition is operating properly, offering RPTA in one suburb could draw residents from other similarly-situated area suburbs. However, offering RPTA may not have the same effect in drawing people from one urban neighborhood to another, given the high level of racial polarity from neighborhood to neighborhood and that the public services are delivered on too large a scale (and therefore perceived as less efficient). The cities included in this study do not have inherent transportation or access advantage issues that would significantly impact location decisions in other urban areas. Therefore, potential homebuyers can move further out from the central business district without

incurring a burdensome commute. For urban areas without traffic congestion issues, RPTA may help make inner-ring suburbs more competitive.

In essence it can be argued that RPTA perpetuates the view that Ohio's city neighborhoods are undesirable to reside in. First, RPTA is now *expected* to accompany the purchase of new construction in the city. Indeed, Bier, et al. (2007) found that a majority of recent home purchasers in Cleveland knew about RPTA and of those residents, over 43 percent stated they would not have purchased a home in Cleveland but for the abatement, and they were also aware of what was available in other cities with whom Cleveland competes. A second consideration is whether RPTA promotes a sense of temporary residency, and that moving to "greener pastures" results once the abatement expires. It would be worthwhile to examine whether homeowners of RPTA property change their perceptions (or possibly their behavior) about living in urban neighborhoods post-RPTA.

Building on the Cleveland case study on RPTA by Bier, et al. (2007), this dissertation sought evidence regarding the effectiveness of RPTA from the perspective of the public sector. However, the Cleveland study was looking at the policy in terms of increased tax revenues (or costs) for a particular city; the current study expanded upon this inquiry to include other Ohio cities and derived a set of desired policy outcomes from state and local legislation.

6.4 Limitations of the Study

This study takes a tested statistical model used on one public policy and a set of indicators of neighborhood change and attempts to apply the same process of analysis to

another policy that can be examined at the neighborhood level, namely RPTA. Although this analysis was successful and makes a contribution to the conversation surrounding tax abatement, it is not without flaws. First, it was not easy to gather accurate data for this study, contrary to Galster, et al.'s (2005) assertion, even after the researcher had favorable communications with the respective city and county departments regarding her ability to access the data. Galster et al.'s (2005) assertion may hold if the person requesting the data is a city or county employee and the request is for data regarding only one city. The issue of difficult data gathering can be remedied, but only if public agencies prioritize such requests and also have the technical expertise to extract the data.

A second limitation is with the study sample. While the recommendation would be to draw a random sample of neighborhoods, the policy under investigation is a state-level policy. Therefore, geo-political entities within a state comprise the study population, and it is those entities within the state from which one would draw a sample. In this particular case, one could expand the sample by including suburbs with RPTA.

A third limitation analyzing this particular policy is that the unit of analysis may be too large to capture associations between RPTA and changes occurring, but in a smaller geographic area. However, moving the analysis to a smaller geographic area necessarily removes one's ability to test many of the dependent variables representing the mortgage lending activity. Indeed, there is the potential for a Type II error in this analysis, whereby there are statistically significant relationships between the independent variable and the dependent variables but these relationships remain hidden due to the choice of the unit of analysis. Again, significant differences between the cities may be revealed at a smaller unit of analysis rather than at tract level.

A final limitation is the construction of the independent variable. Another measure of RPTA (median investment amount per tract, for example) may have greater statistical associations with changes in neighborhoods indicators, and/or may uncover threshold effects regarding the value of RPTA homes needed in a neighborhood in order to see relationships between the program and change in neighborhoods. Therefore, a recommendation for future research would be to conduct the current analysis again using a more robust measure of RPTA.

In essence, there is a trade-off with changing one's approach to the research questions. Compiling data from multiple governmental sources will never be without some difficulty, especially the further back in time one goes, and in many cases there is no alternative data source. Expanding the sample size is a noble pursuit, but is necessarily limited because RPTA is a state-level policy, and the researcher does not have control over the application of the treatment. A smaller unit of analysis removes one's ability to analyze HMDA data since it is only released at the tract level. Using a different measure of RPTA such as investment values may prove to be more robust but there is an assumption that such information is accurately recorded and available, especially for units constructed prior to 2000.

The researcher recognizes that this relatively small, non-random sample limits the ability to generalize the results beyond large cities in Ohio, which is the defined population. However, this study was testing the generalizability of a particular statistical model used in the analysis (Galster, et al., 2004), as well as the usefulness of a set of previously-examined indicators of neighborhood change meant to capture complex dimensions of neighborhood constructs (Galster, et al, 2005). A finding of no significant

statistical relationships does not disqualify the previous study's results or the results of the current study. Indeed, Galster et al., (2004) did not uncover significant relationships in their analysis until they examined only those census tracts above the mean value of the independent variable. Given the lack of studies examining relationships between residential tax abatement and change in urban neighborhoods and the practical usefulness of this study to local policy makers, the chosen approach is relevant. As Shadish, et al. comment: "Experiments that demonstrate limited generalizations may be just as valuable as those that demonstrate broad generalization" (p. 19).

6.5 Suggestions for Future Research

In addition to the aforementioned suggestions such as a different measure of the independent variable, the researcher has other suggestions for future research in the area of RPTA. First, using a spatial model may result in a more robust analysis of these data. As Bates (2006) concluded in her spatial analysis of housing markets, predefined neighborhoods (e.g., census tracts) do not define areas for predicting the housing market response to policy. Indeed,

> areas targeted for revitalization planning do not reflect variations in the housing market accurately...policy target boundaries could be shifted to more closely align with housing-quality variations across space. (p. 6)

A second suggestion for future research is to examine the relationship between RPTA and changes in the racial composition of areas or, more interestingly, examining the role that RPTA may have in changing people's perceptions of race, class, and levels of crime. A third area to be explored in future research is an examination of how the anti-urban—pro-rural dichotomy continues to impact residential location decisions. This

researcher argues that until there is a greater understanding of how this push factor is operating in the collective minds of American homebuyers, urban policies meant to influence residential choices will fall short of their true ability to impact such decisions.

A final suggestion for future inquiry involves the statement made in Chapter V regarding a possible disconnect between the supply of funding for housing being made available in RPTA neighborhoods, and the potential homebuyers willing to invest in the new housing. This result warrants further examination and could uncover a fundamental flaw in the way RPTA programs are currently being administered. If a city has secured the development of RPTA but not secured the confidence of [non-predatory] mortgage lenders, then RPTA continually will fail to meet its program objectives, whether they are diminishing blight and crime or increasing investment and tax revenues.

6.6 Concluding Remarks

As Sands, Reese and Khan (2006) noted, incentives have been reported to be effective as well as ineffective in the literature because of differing methods, variation in the operationalization of "effectiveness", differing units of analysis and of time periods. Their general conclusion, and that of Dalehite, Mikesell & Zorn (2005), is that the more effective abatement programs seem to be local initiatives that are geographically targeted and evaluated periodically. The conclusion reached in this dissertation does not lend support to this assertion. Localized RPTA programs, even for the Ohio cities with the most geographically targeted approaches (Columbus and Dayton), do not appear to be related to desirable changes at the neighborhood level. In essence, RPTA is not effective public policy for Ohio's urban neighborhoods as examined in this study.

REFERENCES

_____. *Standard on property tax policy*. (2004). Chicago: International Association of Assessing Officers.

Allen, M. T., & Dare, W. H. (2002). Identifying determinants of horizontal property tax inequity: Evidence from Florida. *Journal of Real Estate Research, 24*(2), 153-164.

Allison, G., T. (1980/1996). Public and private management: Are they alike in all unimportant respects? In R. J. Stillman II (Ed.), *Public administration: Concepts and cases.* (6th ed., pp. 291-307). Boston: Houghton Mifflin Company.

Ambrose, B. W. (1998). Risks and incentives in underserved mortgage markets. *Journal of Housing Economics, 7*(3), 274-285.

Anderson, J. E., & Wassmer, R. W. (1995). The decision to "bid for business": Municipal behavior in granting property tax abatements. *Regional Science and Urban Economics, 25*, 739-757.

Austin, D. M., Furr, L. A., & Spine, M. (2002). The effects of neighborhood conditions on perceptions of public safety. *Journal of Criminal Justice, 30*, 417-427.

Bartimole, R. (2007). Wealthy benefit most from Cleveland abatement policy. CoolCleveland.com, retrieved July 27, 2009.

Bartik, T. J. (1991). *Who benefits from state and local economic development policies?* Kalamazoo, MI: W. E. Upjohn Institute for Employment Research.

Bates, L. K. (2006). Does neighborhood really matter? Comparing historically defined neighborhood boundaries with housing submarkets. *Journal of Planning Education & Research, 26*, 5-17.

Bayoh, I., Irwin, E. G., & Haab, T. (2006). Determinants of residential location choice: How important are local public goods in attracting homeowners to central city locations? *Journal of Regional Science, 46*(1), 97-120.

Beck, J. H. (1993). Tax abatement and tax rates in a system of overlapping revenue-maximizing governments. *Regional Science and Urban Economics, 23*, 645-665.

Beckett, J. (2000). The 'government should run like a business' mantra. *American Review of Public Administration, 30*(2), 185-204.

Been, V. (1992). What's fairness got to do with it? Environmental justice and the citing of locally undesirable land uses. *Cornell Law Review, 78*, 1001-1085.

Bewley, T. F. (1981). A critique of Tiebout's theory of local public expenditures. *Econometrica, 49*(3), 713-740.

Bier, T., Horn, A., Mikelbank, B., Post, C., & Rosentraub, M. S. (2007). *Cleveland's residential tax abatement study: It's impact, effects, and value*. Cleveland: Maxine Goodman Levin College of Urban Affairs at Cleveland State University, The Ohio Urban University Program.

Bingham, R. D., & Bowen, W. M. (1994). The performance of state economic development programs: An impact evaluation. *Policy Studies Journal, 22*(3), 501-513.

Birch, J. W., Sunderman, M. A., & Smith, B. C. (2004). Vertical inequity in property taxation: A neighborhood based analysis. *Journal of Real Estate Finance and Economics, 29*(1), 71-78.

Blair, J. P., & Kumar, R. (1997). Is local economic development a zero-sum game? In R. D. Bingham & R. Mier (Eds.), *Dilemmas of urban economic development: Issues in theory and practice* (Vol. 47, pp. 1-20). Thousand Oaks, CA: SAGE Publications.

Bogart, W.T. & Ferry, W.C. (1999). Employment centres in greater Cleveland: evidence of evolution in a formerly monocentric city. *Urban Studies, (36)*12, 2099-2110.

Booth, D. E. (2002). *Searching for paradise*. Lanham, Maryland: Rowman & Littlefield, Publishers, Inc.

Bowman, J. H., & Mikesell, J. L. Uniform assessment of property: Returns from institutional remedies. *National Tax Journal, XXXI*(2), 137-152.

Bradbury, K., & Kodrzycki, Y. (1997). The effects of state and local public policy on economic development: An overview. *New England Economic Review*, 13-29.
Brasington, D.M. & Sarama, Jr., R.F. (2008). Deed types, housing prices, and mortgage interest rates. *Real Estate Economics, 36*(3), 587-610.

Breton, A. (1991). The existence and stability of interjurisdictional competition. In D. A. Kenyon & J. Kincaid (Eds.), *Competition among states and local governments: Efficiency and equity in American federalism* (pp. 37-56). Washington, D.C.: The Urban Institute Press.

Brooks-Gunn, J., Duncan, G. J., & Aber, J. L. (Eds.). (1997). *Neighborhood poverty: Context and consequences for children* (Vol. 1). New York: Russell Sage Foundation.

Buss, T. F., & Redburn, F. S. (1987). The politics of revitalization: Public subsidies and private interests. In G. Gappert (Ed.), *The future of winter cities* (Vol. 31, pp. 285-296). Newbury Park, CA: SAGE Publications.

Calhoun, C. A. (2001). Property valuation methods and data in the United States. *Housing Finance International, 16*(2), 12-23.

Carter, R. Y., & Hildreth, W. B. (1992). The design of taxes. In J. Rabin (Ed.), *Handbook of public budgeting* (pp. 273-299). New York: Marcel Dekker, Inc.

Chay, K. Y., & Greenstone, M. (2005). Does air quality matter? Evidence from the housing market. *Journal of Political Economy, 113*(2), 376-424.

Chow, J., & Coulton, C. (1998). Was there a social transformation of urban neighbourhoods in the 1980s? A decade of worsening social conditions in Cleveland, Ohio, USA. *Urban Studies, 35*(8), 1359-1375.

City of Cleveland. (1990). *Summary: Proposed tax abatement policy, August 15, 1990*. Cleveland, OH: Author.

City of Columbus (Oh) Department of Development. (2006). *Neighborhood investment districts and residential tax incentives.* Retrieved April 8, 2009, from http://td.ci.columbus.oh.us/NeighborhoodsandResidents/housing/homeowner/NIDS/nhoodivestdis.asp.

City of Dayton (Oh) Department of Planning and Community Development. (2003). *Citiplan Dayton: The 20/20 vision*. Dayton, OH: Author.

City of Toledo (Oh) Department of Development. (2008). *Tax incentives.* Retrieved April 9, 2009, from http://www.ci.toledo.oh.us/Departments/DepartmentofDevelopment/TaxIncentives/tabid/148/Default.aspx.

City of Toledo. (2004). *Toledo City Ordinance No. 170-04, March 23, 2004*. Toledo, OH: Author.

Cleveland City Council. (2007). *Cleveland City Council unveils new tax abatement policy.* Retrieved April 10, 2009, from http://www.clevelandcitycouncil.org/Home/News/May222007/tabid/260/Default.aspx.

Columbus City Bulletin. (2005). *Columbus City Ordinance No. 1841-2005, October 25, 2005.* Columbus, OH: Author. p. 75.
Clapp, J. A. (1978). *The roots of anti-urbanism*. San Diego: Institute of Public Affairs, San Diego State University.

Clark, L. J. (1996). Market value: Hitting the middle of the range. *Assessment Journal, 3*(5), 27-32.

Coffin, D. A. (1982). Property tax abatement and economic development in Indianapolis. *Growth and Change*, 18-23.

Corman, H., & Mocan, N. (2005). Carrots, sticks, and broken windows. *Journal of Law and Economics, XLVIII*, 235-266.

Cornia & Slade. (2005). Property taxation of multifamily housing: An empirical analysis of vertical and horizontal equity. *Journal of Real Estate Research 27*(1), 17-46.

Coulson, N. E., & Leichenko, R. M. (2004). Historic preservation and neighbourhood change. *Urban Studies, 41*(8), 1587-1600.

Courant, P. N. (1994). How would you know a good economic development policy if you tripped over one? Hint: Don't just count jobs (symposium on state and local development policy). *National Tax Journal, 47*(4), 863-881.

Dalehite, E. G., Mikesell, J. L., & Zorn, C. K. (2005). Variation in property tax abatement programs among states. *Economic Development Quarterly, 19*(2), 157-173.

Dardia, M. (1998). *Subsidizing redevelopment in California* (Report). San Francisco: Public Policy Institute of California.

DiPasquale, D., & Glaeser, E. L. (1999). Incentives and social capital: Are homeowners better citizens? *Journal of Urban Economics, 45*, 354-384.

Elazar, D. J. (1991). Cooperative federalism. In D. A. Kenyon & J. Kincaid (Eds.), *Competition among states and local governments: Efficiency and equity in American federalism* (pp. 65-86). Washington, D.C.: The Urban Institute Press.

Epple, D., & Platt, G. J. (1998). Equilibrium and local redistribution in an urban economy when households differ in both preferences and incomes. *Journal of Urban Economics, 43*, 23-51.

Epple, D., & Romer, T. (1991). Mobility and redistribution. *Journal of Political Economy, 99*(4), 828-858.

Fosler, R. S. (1991). Does economic theory capture the effects of new and traditional state policies on economic development? In D. A. Kenyon & J.

Frolik, J. (2006*). Let the abatement debate begin—again.* The Plain Dealer. Sunday March 19, 2006. Retrieved March 22, 2006, from www.cleveland.com.

Kincaid (Eds.), *Competition among states and local governments: Efficiency and equity in American federalism* (pp. 247-250). Washington, D.C.: The Urban Institute Press.

Frederickson, G. H. (1990). Public administration and social equity. *Public Administration Review, 50*, 228-237.

Freeman, L., & Braconi, F. (2004). Gentrification and displacement: New York City in the 1990s. *Journal of the American Planning Association, 70*(1), 39-52.

Freeman, R. B. (1999). The economics of crime. In O. Ashenfelter & D. Card (Eds.), *Handbook of labor economics* (Vol. 3C, pp. 3630). Amsterdam: Elsevier Science, B. V.

Frug, G. E. (1999). *City making: Building communities without building walls*. Princeton, NJ: Princeton University Press.

Galster, G. (1986). What is neighborhood? An externality-space approach. *International Journal of Urban and Regional Research, 10*, 243-261.

Galster, G. (2001). On the nature of neighbourhood. *Urban Studies, 38*(12), 2111-2124.

Galster, G., Hayes, C., & Johnson, J. (2005). Identifying robust, parsimonious neighborhood indicators. *Journal of Planning Education & Research, 24*, 265-280.

Galster, G., Walker, C., Hayes, C., Boxall, P., & Johnson, J. (2004). Measuring the impact of community development block grant spending on urban neighborhoods. *Housing Policy Debate, 15*(4), 903-934.

Garcia-Mila, T., & McGuire, T. J. (2002). Tax incentives and the city. *Brookings-Wharton Papers on Urban Affairs: 2002*, 95-132.

Gardner, T. (2001). The slow wave: The changing residential status of cities and suburbs in the United States, 1850-1940. *Journal of Urban History, 27*(3), 293-312.

Giacopassi, D., & Forde, D. R. (2000). Broken windows, crumpled fenders, and crime. *Journal of Criminal Justice, 28*, 397-405.

Giertz, J. F., McGuire, T. J., & Nowlan, J. D. (1996). State and local revenue sources in Illinois. In L. B. Joseph (Ed.), *Dilemmas of fiscal reform: Paying for state and local government in Illinois* (pp. 211-244). Chicago: The University of Chicago.

Glaab, C. N. (1963). *The American city: A documentary history* (Vol. 2). Homewood, IL: The Dorsey Press, Inc.

Glaab, C. N., & Brown, A. T. (1967). *A history of urban America*. New York: The Macmillan Company.

Goodspeed, T. J. (1998). Tax competition, benefit taxes, and fiscal federalism. *National Tax Journal, 51*(3), 579-586.

Gravelle, J. G. (1999). The major tax bases. In R. T. Meyers (Ed.), *Handbook of government budgeting* (First ed., pp. 255-276). San Francisco: Jossey-Bass Inc.

Helms, L. J. (1985). The effect of state and local taxes on economic growth: A time series-cross section approach. *The Review of Economics and Statistics, 67*(4), 574-582.

Hinkle, J. C., & Weisburd, D. (2008). The irony of broken windows policing: A micro-place study of the relationship between disorder, focused police crackbowns and fear of crime. *Journal of Criminal Justice, 36*, 503-512.

Hissong, R. (2003). The efficacy of local economic development incentives. In S. B. White, R. D. Bingham & E. W. Hill (Eds.), *Financing economic development in the 21st century* (pp. 131-144). Armonk, NY: M.E. Sharpe.

Hummel, R. P. (1994). *The bureaucratic experience* (4th ed.). New York: St. Martin's Press.

Jacobs, J. (1993 (1961)). *The death and life of great American cities* (Third ed.). New York: The Modern Library.

Jefferson, T. (1787). Objections to the constitution. In J. Madison (Ed.). Paris: Electronic Text Center, University of Virginia Library.

Jefferson, T. (1800). In D. B. Rush (Ed.). Monticello: Electronic Text Center, University of Virginia Library.

Jefferson, T. (1823). In W. Short (Ed.). Monticello: Electronic Text Center, University of Virginia Library.

Judd, D. & Swanstrom, T. (2002). City politics: Private power and public policy. NY: Longman.

Kasarda, J.D., Appold, J., Sweeney, S.H. & Sieff, E. (1997). Central-City and Suburban Migration Patterns: Is a Turnaround on the Horizon? *Housing Policy Debate, 8*(2), 307-358.

Keating, W. D., & Smith, J. (1996). Neighborhoods in transition. In W. D. Keating, N. Krumholz & P. Star (Eds.), *Revitalizing urban neighborhoods* (pp. 24-38). Lawrence, KS: University Press of Kansas.

Kenyon, D. (1997). Theories of interjurisdictional competition. *New England Economic Review*, 13-29.

Kenyon, D. A., & Kincaid, J. (1991). Introduction. In D. A. Kenyon & J. Kincaid (Eds.), *Competition among states and local governments: Efficiency and equity in American federalism* (pp. 1-33). Washington, D.C.: The Urban Institute Press.

Kincaid, J. (1991). The competitive challenge to cooperative federalism: A theory of federal democracy. In D. A. Kenyon & J. Kincaid (Eds.), *Competition among states and local governments: Efficiency and equity in American federalism* (pp. 87-114). Washington, D.C.: The Urban Institute Press.

Krumholz, N. (1991). Commentary: Equity and local economic development. *Economic Development Quarterly, 5*(4), 291-300.

Krumholz, N., & Clavel, P. (1994). *Reinventing cities: Equity planners tell their stories*. Philadelphia: Temple University Press.

Ladd, H. F. (1998). *Local government tax and land use policies in the United States: Understanding the links* (Vol. Four). Northhampton, MA: Edward Elgar Publishing, Inc.

Ladd, H. F., & Yinger, J. (1989). *America's ailing cities: Fiscal health and the design of urban policy*. Baltimore, MD: The Johns Hopkins University Press.

Lee, B. (2007). "Edge" or "Edgeless" Cities? Urban Spatial Structure in U.S. Metropolitan Areas, 1980 to 2000. *Journal of Regional Science, (47)*3, 479-515.

Ledebur, L., & Woodward, D. P. (2003). Adding a stick to the carrot. In S. B. White, R. D. Bingham & E. W. Hill (Eds.), *Financing economic development in the 21st century* (pp. 70-91). Armonk, NY: M.E. Sharpe.

Live Cleveland! (n.d.). www.livecleveland.org/cityIncentives. Retrieved April 23, 2009.

Louv, R. (2008). *Last child in the woods: Saving our children from nature-deficit disorder* (Second edition ed.). Chapel Hill, NC: Algonquin Books of Chapel Hill.

Lubinger, B. (1991). *The Plain Dealer*. New homes expected to revive Glenville. 8/6/91, 1F/6F.

Maier, M.H. (1999). The data game: Controversies in social science statistics, third edition. Armonk, NY: M.E. Sharpe.

Malpezzi, S. (2003). Local economic development and its finance: An introduction. In S. B. White, R. D. Bingham & E. W. Hill (Eds.), *Financing economic development in the 21st century* (pp. 3-26). Armonk, NY: M.E. Sharpe.

Mariola, M. J. (2005). Losing ground: Farmland preservation, economic utilitarianism, and the erosion of the agrarian ideal. *Agriculture and Human Values, 22*, 209-223.

Mark, S. T., McGuire, T. J., & Papke, L. E. (2000). The influence of taxes on employment and population growth: Evidence from the Washington, D.C. Metropolitan area. *National Tax Journal, 53*(1), 105-126.

McGuire, T. J. (1991). Federal aid to states and localities and the appropriate competitive framework. In D. A. Kenyon & J. Kincaid (Eds.), *Competition among states and local governments: Efficiency and equity in American federalism* (pp. 153-166). Washington, D.C.: The Urban Institute Press.

McGuire, T. J. (1997). Intergovernmental fiscal relations and social welfare policy. In R. C. Fisher (Ed.), *Intergovernmental fiscal relations* (pp. 171-198). Boston: Kluwer Academic Publishers.

Mikesell, J. L. (1998). Tax administration: The link between tax law and tax collection. In F. Thompson & M. T. Green (Eds.), *Handbook of public finance* (Vol. 67, pp. 173-198). New York: Marcel Dekker, Inc.

Morenoff, J. D., Sampson, R. J., & Raudenbush, S., W. (2001). Neighborhood inequality, collective efficacy, and the spatial dynamics of urban violence. *Criminology, 39*(3), 517-560.

Morin, R., & Taylor, P. (2009). *Suburbs not most popular, but suburbanites most content* (No. 1134): Pew Research Center.

Morse, G. W., & Farmer, M. C. (1986). Location and investment effects of a tax abatement program. *National Tax Journal, 39*(2), 229-236.

Moss, B. G., & Yeaton, W. H. (2006). Shaping policies related to developmental education: An evaluation using the regression-discontinuity design. *Educational Evaluation and Policy Analysis, 28*(3), 215-229.

Musgrave, R. A., & Musgrave, P. B. (1989). *Public finance in theory and practice* (Fifth edition ed.). New York: McGraw-Hill Book Company.

Netzer, D. (1997). Metropolitan-area fiscal issues. In R. C. Fisher (Ed.), *Intergovernmental fiscal relations* (pp. 199-239). Boston: Kluwer Academic Press.

NEO CANDO (Northeast Ohio Community and Neighborhood Data for Organizing). Center on Urban Poverty and Community Development, Mandel School of Applied Social Sciences, Case Western Reserve University (retrieved 1/26/09 from http://neocando.case.edu/cando/index.jsp).

Noto, N. A. (1991). Trying to understand the economic development official's dilemma. In D. A. Kenyon & J. Kincaid (Eds.), *Competition among states and local governments: Efficiency and equity in American federalism* (pp. 251-258). Washington, D.C.: The Urban Institute Press.

Oates, W. E. (1969). The effects of property taxes and local public spending on property values: An empirical study of tax capitalization and the Tiebout hypothesis. *Journal of Political Economy, 77*(6), 957-971.

Oates, W. E., & Schwab, R. M. (1991). The allocative and distributive implications of local fiscal competition. In D. A. Kenyon & J. Kincaid (Eds.), *Competition among states and local governments: Efficiency and equity in American federalism* (pp. 127-145). Washington, D.C.: The Urban Institute Press.

Ostrom, E. (2005). *Unlocking public entrepreneurship and public economies.* Paper presented at the EGDI-WIDER Conference on Unlocking Human Potential - Linking the Informal and Formal Sectors, Helsinki, Sweden.

Ostrom, V., Tiebout, C. M., & Warren, R. (1961). The organization of government in metropolitan areas: A theoretical inquiry. *The American Political Science Review, 55*(4), 831-842.

Pence, K. M. (2006). Foreclosing on opportunity: State laws and mortgage credit. *Review of Economics and Statistics, 88*(1), 177-182.

Peretz, P. (1996). Tax policy. In P. Peretz (Ed.), *The politics of American economic policy making* (Second ed., pp. 203-205). Armonk, NY: M. E. Sharpe.

Peters, A., & Fisher, P. (2003). Enterprise zone incentives: How effective are they? In S. B. White, R. D. Bingham & E. W. Hill (Eds.), *Financing economic development in the 21st century* (pp. 113-130). Armonk, NY: M.E. Sharpe.

Peters, G. (1996). Understanding tax policy. In P. Peretz (Ed.), *The politics of American economic policy making* (Second Edition ed., pp. 206-220). Armonk, NY: M.E. Sharpe.

Peters, G. (1999). *American public policy* (5th ed.). New York: Chatham House Publishers.

Peterson, T. R. (1990). Jefferson's yeoman farmer as frontier hero: A self defeating mythic structure. *Agriculture and Human Values*, 9-19.

Pogodzinski, J. M. (1993). The effects of fiscal and exclusionary zoning on household location: A critical review. *Journal of Housing Research, 2*(2), pp. 145-160.

Putnam, R. D. (1993). *Making democracy work: Civic traditions in modern Italy*. Princeton, NJ: Princeton University Press.

Rasmussen, D. W., Bendick, J., Marc, & Ledebur, L. (1984). A methodology for selecting economic development incentives. *Growth and Change*, 18-25.

Reese, L. A., & Rosenfeld, R. A. (2004). Local economic development in the united states and Canada. *American Review of Public Administration, 34*(3), 277-292.

Ren, L., Zhao, J., & Lovrich, N. P. (2008). Liberal versus conservative public policies on crime: What was the comparative track record during the 1990s? *Journal of Criminal Justice, 36*, 316-325.

Reschovsky, A. (1991). How closely does the state and local government behavior conform to a perfectly competitive model? In D. A. Kenyon & J. Kincaid (Eds.), *Competition among states and local governments: Efficiency and equity in American federalism* (pp. 147-151). Washington, D.C.: The Urban Institute Press.

Reschovsky, A. (2000). An evaluation of metropolitan area tax base sharing. *National Tax Journal, 33*(1), 55-66.

Rosenthal, S. S. (2008). Old homes, externalities, and poor neighborhoods: A model of urban decline and renewal. *Journal of Urban Economics, 63*, 816-840.

Rosentraub, M. S. (2003). The guns and butter of urban redevelopment: Big-ticket items, neighborhoods, and a new convention center. *Unpublished paper supported by the Ruth Ratner Miller Center for Greater Cleveland's Future at the Maxine Goodman Levin College of Urban Affairs, Cleveland State University*, 1-25.

Rosentraub, M. S. (2006). The local context of a sports strategy for economic development. *Economic Development Quarterly, 20*(3), 278-291.

Ross, B. H., Levine, M. A., & Stedman, J., Murray S. (1991). Chapter 14: Financing urban America. In *Urban politics: Power in metropolitan America* (Fourth ed., pp. 387-415). Itasca, IL: F.E. Peacock Publishers, Inc.

Rubin, I. S. (2005). The politics of public budgeting: Getting and spending, borrowing and balancing. In (5th ed., pp. 37-74). Washington, D.C.: CQ Press.

Sampson, R. J., & Raudenbush, S., W. (1997). Neighborhoods and violent crime: A multilevel study of collective efficacy. *Science, 277*(5328), 918-925.

Sampson, R. J., & Raudenbush, S., W. (1999). Systemic social observation of public space: A new look at disorder in urban neighborhoods. *American Journal of Sociology, 105*(3), 603-651.

Samsa, K. B. (2007). Cleveland City Council unveils new tax abatement policy. Retrieved April 10, 2009, from www.clevelandcitycouncil.org/Home/News/May2120072/tabid/260/Default.aspx.

Sands, G., Reese, L. A., & Khan, H. L. (2006). Implementing tax abatements in Michigan: A study of best practices. *Economic Development Quarterly, 20*(1), 44-58.

Sawicki, D. S., & Flynn, P. (1996). Neighborhood indicators: A review of the literature and an assessment of conceptual and methodological issues. *Journal of the American Planning Association, 62*, 165-183.

Schafer, J. A., Huebner, B. M., & Bynum, T. S. (2006). Fear of crime and criminal victimization: Gender-based contrasts. *Journal of Criminal Justice, 34*, 285-301.

Sen, A. K. (1970). *Collective choice and social welfare*. San Francisco: Holden-Day, Inc.

Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Boston: Houghton Mifflin Company.

Simons, R. A., & Sharkey, D. S. (1997). Jump-starting Cleveland's new urban housing markets: Do the potential fiscal benefits justify the public subsidy costs? *Housing Policy Debate, 8*(1), 143-171.

Simonsen, B., & Robbins, M. D. (1999). The benefit equity principle and willingness to pay for city services. *Public Budgeting & Finance, 19*(2), 90-110.

Sirmans, G. S., Gatzlaff, D. H., & Macpherson, D. A. (2008). The history of property tax capitalization in real estate. *Journal of Real Estate Literature, 16*(3), 327-343.

Sjoquist, D. L., & Pandey, L. (2001). An analysis of acquisition value property tax assessment for homesteaded property. *Public Budgeting & Finance, 21*(4), 1-17.

Smith, B. C. (2006). The impact of tax increment finance districts on localized real estate: Evidence from Chicago's multifamily markets. *Journal of Housing Economics, 15*, 21-37.

Stephen, M. T., McGuire, T. J., & Papke, L. E. (2000). The influence of taxes on employment and population growth: Evidence from the Washington DC metropolitan area. *National Tax Journal, 53*(1), 105-126.

Swanstrom, T. (1985). *The crisis of growth politics*. Philadelphia: Temple University Press.

Tiebout, C. M. (1956). A pure theory of local expenditures. *The Journal of Political Economy, 64*(5), 416-424.

Trochim, W. M. K. (2006). Research Methods Knowledge Base. http://www.socialresearchmethods.net/kb/index.php.

United States Bureau of the Census. (2007). http://factfinder.census.gov.

Waldo, D. (1948/1984). *The administrative state : A study of the political theory of American public administration* (2nd ed.). New York: Holmes & Meier Publishers.

Walker, P., & Fortmann, L. (2003). Whose landscape? A political ecology of the 'exurban' sierra. *Cultural Geographies, 10*, 469-491.

Warner, M., & Hefetz, A. (2002). Applying market solutions to public services: An assessment of efficiency, equity, and voice. *Urban Affairs Review, 38*(1), 70-89.

Warner, S. B. (1962). *Streetcar suburbs: The process of growth in Boston, 1870-1900*. Cambridge, MA: Harvard University Press and the M.I.T. Press.

Wassmer, R. W. (1992). Property tax abatement and the simultaneous determination of local fiscal variables in a metropolitan area. *Land Economics, 68*(3), 263-282.

Wilson, J. Q. (2002, April 16, 2002). How an idea drew people back to urban life: Twenty years after 'broken windows'. *The New York Sun,* p. 10.

Wilson, J. Q., & Kelling, G. L. (1982). Broken windows. *The Atlantic Monthly, 38*, 29-36.

Wolkoff, M. J. (1985). Chasing a dream: The use of tax abatements to spur urban economic development. *Urban Studies, 22*, 305-315.

Wong, C. (2002). Developing indicators to inform local economic development in England. *Urban Studies, 39*(10), 1833-1863.

Yinger, J. (1999). Capitalization and efficiency. In A. Panagairiya, P. R. Portney & R. M. Schwab (Eds.), *Environmental and public economics: Essays in honor of Wallace E. Oates* (pp. 310-334). Northhampton, MA: Edward Elgar.

Zaun, T. (2007). A conversation with Mayor Frank Jackson. Retrieved July 28, 2009 from http://coolcleveland.com/index.php?n=Main.TimZaunInterview.

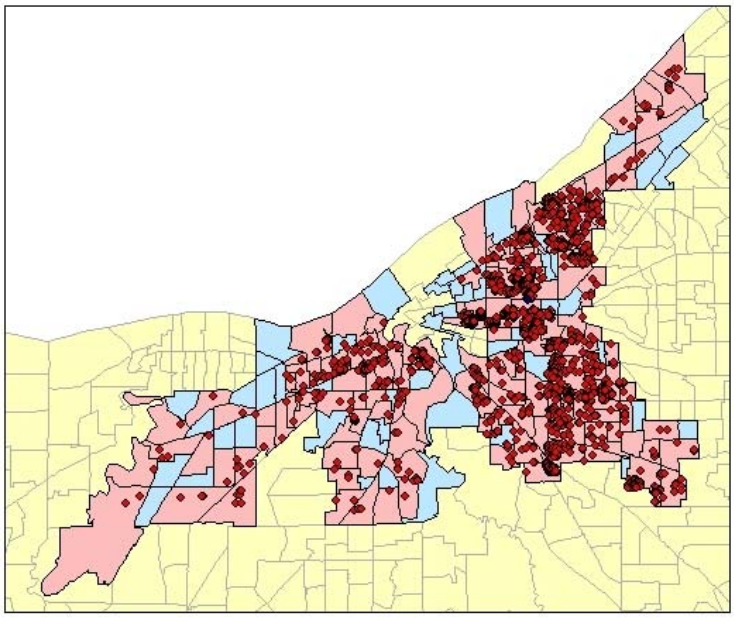
Zelizer, V. A. (1988). Beyond the polemics on the market: Establishing a theoretical and empirical agenda. *Sociological Forum, 3*(4), 614-634.

Zodrow, G. (2006, April 2006). Who pays the property tax? *Land Lines, 18*.

Zuckerment, I. H., Lee, E., Wutoh, A. K., Xue, Z., & Stuart, B. (2006). Application of regression-discontinuity analysis in pharmaceutical health. *Health Services Research, 41*(2), 550-563.

APPENDIX

Cleveland Census Tracts with Residential Property Tax Abatement (RPTA), through 2003



0 8,000 16,000 32,000 48,000 64,000
Feet

Data: www.esri.com;
Cuyahoga County Auditor

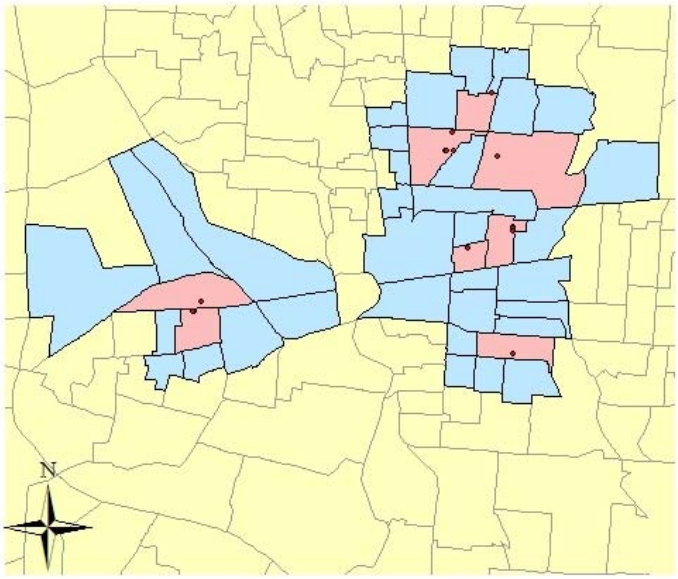
Projection:
NAD_1983_StatePlane_Ohio_
North_FIPS_3401_Feet

Map generated by
Satya Subha Vyakaranam,
August, 2009

Legend

- RPTA Homes
- RPTA Tracts
- Contiguous tracts
- Other tracts in Cuyahoga County

Columbus Census Tracts with Residential Property Tax Abatement (RPTA) through 2003



Data: www.esri.com;

City of Columbus
Department of Development

Projection:

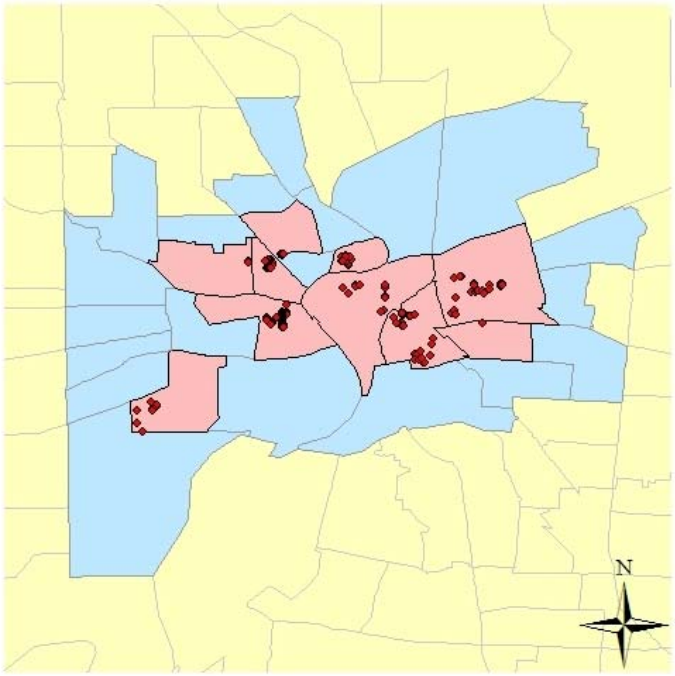
NAD_1983_StatePlane_
Ohio_South_FIPS_3402_Feet

Map generated by
Satya Subha Vyakaranam,
August, 2009

Legend

- RPTA Homes
- RPTA Tracts
- Contiguous tracts
- Other tracts in Franklin County

Dayton Census Tracts with Residential Property Tax Abatement (RPTA) through 2003



0 5,500 11,000 22,000 33,000 44,000
Feet

Data: www.esri.com;

City of Dayton
Department of Development

Projection:

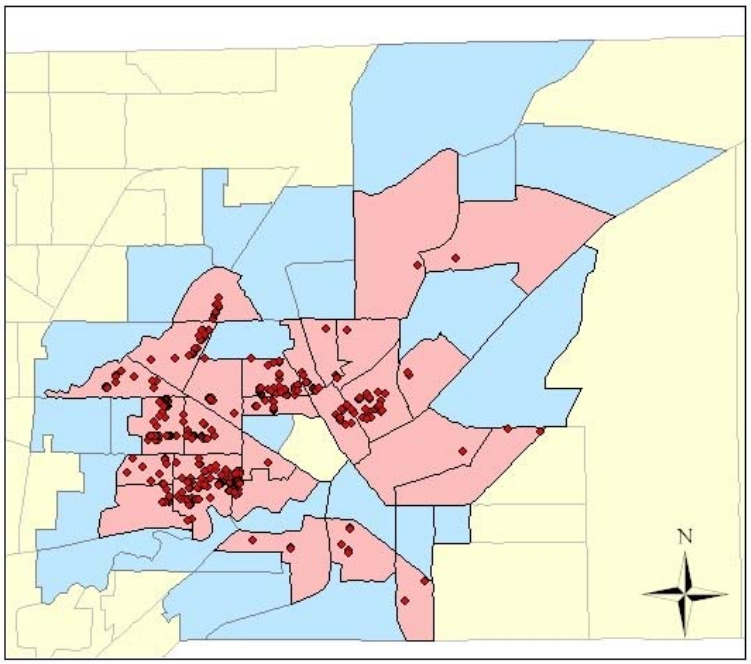
GCS_North_American_ 1983_CSRS

Map generated by
Satya Subha Vyakaranam,
August, 2009

Legend

- RPTA Homes
- RPTA Tracts
- Contiguous tracts
- Other tracts in Montgomery County

Toledo Census Tracts with Residential Property Tax Abatement (RPTA) through 2003



0 4,150 8,300 16,600 24,900 33,200
Feet

Data: www.esri.com;

City of Toledo
Department of Development

Projection:

NAD_1983_StatePlane_
Ohio_North_FIPS_3401_Feet

Map generated by
Satya Subha Vyakaranam,
August, 2009

Legend

- RPTA Homes
- RPTA Tracts
- Contiguous tracts
- Other tracts in Lucas County

Table A1

Independent Samples Test for Equality of Means between Subject & Comparison Groups

Variable 2001	t	Sig. (2-tailed)
HPMLA	-1.857	.065
HPMLAAR	-0.866	.387
DHPLO	0.325	.746
BIZ	-2.932	.004*
Type I Crimes	-1.401	.165
Type II Crimes	-0.047	.962
Assessment Ratio	1.113	.267

* *Significant at p < .05.*

Table A2

Descriptive Statistics for Key Variables for Census Tracts by Group

	Median Change in Sheriffs' Sales, 2001 to 2006	Median Housing Value, 2003	Median Change in Jobs, 2001 to 2006	Median No. of RPTA Units	Median Dollar Loan Amounts, 2005/06	Median Loan Approval Rates, 2005/06	Median No. of Loan Applications, 2005/06	Mean No. Businesses, 2006	Median No. of Type I Crimes, 2006	Median No. of Type II Crimes, 2006	Median Assessment Ratio
Subject	137%	$45,700	-10.28%	7	$76,000	47.85%	78	22	161	177	1.22
Comparison	118%	$50,975	-8.62%	NA	$89,250	48.62%	94	32	189	213	1.20

Table A3 *Summary of Regression Coefficients for Subject Group, Significant at p < .05.*

	Neighborhood Indicators						
Independent Variables	HPMLAAR	HPMLA	MDHPMLO	BIZ	TypeI	TypeII	AV_SP
RPTA	NS*	4.489E-5^ (.000)	NS	NS	NS	-1.979 (.763)	NS
MHV	NS	.000 (.000)	NS	2.65E-5 (000)	NS	NS	NS
ΔJG	NS	NS	NS	.012 (.007)	NS	NS	NS
Dummy_day	NS	-26.27 (6.664)	NS	NS	-74.51 (16.991)	57.654 (17.848)	.399 (.114)
Dummy_tol	NS	18.16 (4.08)	-14746.47 (4914.125)	-2.063 (1.145)	NA	NA	.512 (.072)
Dummy_col	NS	24.35 (9.281)	25969.38 (9936.22)	NS	NA	NA	-.391 (.149)
SS06	NS	.943 (.147)	-550.09 (113.160)	NS	1.055 (.289)	1.009 (.362)	.010 (.002)
Y01 (pretest)	.502 (.056)	.801 (.052)	.747 (.085)	.944 (.014)	.853 (.043)	.662 (.037)	NS
Constant*	.226 (.033)	NS	21.33 (5.97)	NS	NS	35.96 (10.962)	1.168 (.110)
N	202	202	202	201	166	165	193

^ RPTA**3 significant at $p < .10$.
* NS = Not Significant
** Reflected in the constant term is the City of Cleveland, which is the base category for the dummy variables for CITY. Standard errors are in parentheses.

Table A4 *Summary of Regression Coefficients for Comparison Group, Significant at p < .05.*

	Neighborhood Indicators						
Independent Variables	HPMLAAR	HPMLA	MDHPMLO	BIZ	TypeI	TypeII	AV_SP
MHV	1.52-E6 .000 (.000)	NS* (.000)	NS	NS	NS	NS	-5.607E-6 (.000)
ΔJG	NS	NS	NS	NS	NS	NS	NS
Dummy_day	.079 (.023)	NS	NS	NS	-79.755 (18.896)	NS	.466 (.088)
Dummy_tol	.044 (.019)	NS	NS	-3.932 (1.799)	NA	NA	NS
Dummy_col	.049 (.020)	18.96 (9.304)	NS	NS	NA	NA	NS
SS06	-.001 (.000)	1.27 (.301)	NS	NS	1.509 (.427)	2.489 (.510)	NS
Y01 (pretest)	.199 (.061)	.675 (.107)	NS	1.001 (.012)	.850 (.058)	.631 (.047)	.914 (.196)
Constant*	.299 (.031)	NS	67661.03 (15232.47)	NS	NS	NS	.731 (.164)
N	120	120	119	119	62	62	116

** Reflected in the constant term is the City of Cleveland, which is the base category for the dummy variables for CITY. Standard errors are in parentheses.

Table A5

Model Summary for Outcome Variable Type I Crimes per Capita, 2006

Group	N	R	R Square	Adjusted R Square	Std. Error of the Estimate
Subject	166	.806	.650	.633	.0289
Comparison	62	.868	.753	.731	.0217

Table A6

Model Summary for Outcome Variable Type II Crime per Capita, 2006

Group	N	R	R Square	Adjusted R Square	Std. Error of the Estimate
Subject	165	.832	.693	.677	2643.048
Comparison	62	.899	.809	.792	2752.280