New Jersey Pinelands Commission
Long-Term Economic Monitoring Program

1998 Annual Report

September 1998

Acknowledgments

The Pinelands Commission gratefully acknowledges the assistance of the New Jersey Office of State Planning (OSP) in the preparation of this report. The expertise and effort of OSP staff were essential in updating the extensive database established for the long-term economic monitoring program and converting it to a more user-friendly format, thereby facilitating analyses, quality control, and the production of easier-to-read graphics. OSP also coordinated development of an initial draft and provided ongoing consultation on data management issues. Special recognition is extended to William S. Bauer, Jr., Research Planner, who served as primary data manager and author for OSP's contribution, and Robert A. Kull, Assistant Director, who served as Project Manager. The New Jersey Office of State Planning is under the direction of Herbert Simmens.

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1. Introduction

1.1 Background

The Pinelands is an area of over 900,000 acres located in the heart of southern New Jersey. A blend of federal, state and local programs is responsible for safeguarding the environmental and cultural resources of the region. Of particular importance to the regional economy are land use policies crafted by the Pinelands Commission and implemented by municipalities that significantly limit development in designated Preservation, Forest, and Agricultural Areas. At the same time, growth is permitted and even encouraged in other districts, particularly Regional Growth and Town Areas. These development areas tend to be located in and around already developed areas, many of which have access to central sewer systems and other infrastructure.

Of major interest to landowners, residents, and businesses in the region is the economic impact of the regulations on land values, real estate markets, local government finances, and farm and business economic performance. A number of studies have been conducted since the inception of the Pinelands Comprehensive Management Plan (CMP) in 1980 that have addressed these issues (see Appendix A). These efforts, while only able to measure the short-term impacts of the CMP, have recognized the importance of monitoring economic and fiscal impacts over the long term.

As part of its second full review of the CMP, the Commission convened a panel of economic experts in 1992 to review the prior studies and develop recommendations for future Commission efforts. Later that year, the Commission formally endorsed the panel's recommendation to monitor the region's economy on a continuing basis. Consequently, the Pinelands Commission prepared a proposal (July 1994) to the National Park Service (NPS) to institute a long-term economic monitoring program, which was incorporated into the September 1994 Cooperative Agreement between the two agencies.

Program planning commenced in October 1994 with a public meeting of interested parties, followed by a meeting of a National Park Service Technical Advisory Committee in January 1995. To ensure that the program was optimally structured to meet its goals and objectives, the Commission contracted with independent experts later in 1995 to help design the program.

Based upon input from the independent experts, a conceptual design was developed that featured continual monitoring of key economic indicators, supplemented by occasional special studies when unusual trends appear. In February 1996, Pinelands Commission staff began to identify the precise data sets to be collected and methods for data acquisition, management, and analysis. Through ongoing consultation with an expanded expert committee, the program scope and methodology were refined, resulting in the release of a detailed design document in July 1996. The detailed design serves as a blueprint for program implementation and has guided activities over the past several years.

The *New Jersey Pinelands Commission Long-Term Economic Monitoring Program First Annual Report* was released in 1997. The document, the first in a series of annual reports, presented data and described trends for key indicators – also referred to as variables – in the areas of property values, economic growth, and municipal finance. The *First Annual Report* and its accompanying Executive Summary also identified potential topics for future study. This 1998 Annual Report augments most of the data series used to develop the initial report and presents updated charts and graphs. In addition to the 1998 Annual Report, a copy of the raw data used for all analyses and a separate Executive Summary will be available on disk at cost by writing to the Pinelands Commission at P.O. Box 7, New Lisbon, NJ, 08064. For additional detail concerning previous findings and methodologies used, please refer to the *First Annual Report.*

1.2 Program Goal and Objective

The fundamental goal of the long-term economic monitoring program for the Pinelands is **to continually evaluate the health of the economy of the Pinelands region in an objective and reliable way.** The economic monitoring program, in conjunction with an ongoing environmental monitoring program, will provide essential information for consideration by the Pinelands Commission as it seeks to meet the mandates set forth in the federal and state Pinelands legislation.

The program was designed to accomplish several principal objectives:

1. Address key segments of the region's economy while being flexible enough to allow for the analysis of special topics that are identified periodically;

2. Establish a means for comparing Pinelands economic segments with similar areas not affected by the CMP;

3. Establish a means for evaluating economic segments over time so that Pinelands-related trends can be distinguished from general trends;

4. Provide for analyses to be conducted in an impartial and objective manner; and

5. Be designed and implemented in a cost-effective manner so that the program's financial requirements can be sustained over time.

1.3 Program Administration

The development and implementation of the long-term economic monitoring program is a collaborative effort. The roles and responsibilities of key participants are described below.

National Park Service

Under the terms of the cooperative agreement with the NPS, the Commission receives funding for personnel and other resources, including a full-time economist, managerial and technical support staff (on an as-needed basis), expert consultants, data acquisition, equipment and informational materials. The NPS also can provide oversight and substantive input on an ongoing basis through its Technical Advisory Committee.

Pinelands Commission

The 15-member Pinelands Commission comprises appointed federal, state, and county representatives who direct the efforts of a full-time staff in implementing the CMP. The Commission establishes the goals and objectives for the program and approves the program's design, while Commission staff members have primary responsibility for the day-to-day implementation of the program, including acquisition and analysis of data; coordination with the NPS, expert advisory committee, and public; and development of all reports and other products. Perhaps most importantly, the Commission will consider the results of these monitoring efforts as it identifies the need for in-depth economic studies and continues to refine and improve Pinelands protection policies. The data will also be distributed widely and are expected to be used for other Commission analyses and independent efforts.

Expert Advisory Committee

The expert advisory committee was created by the Pinelands Commission to provide informed and objective input on an ongoing basis. Committee members have helped to ensure that the program meets appropriate technical standards by assisting in identifying and specifying variables to be monitored, developing the detailed design, implementing appropriate methodologies, interpreting results, and reviewing draft documents. Current members of the expert advisory committee are:

John E. Petersen, Ph.D., President, Government Finance Group, Inc.
Henry O. Pollakowski, Ph.D., Professor, Massachusetts Institute of Technology Center for Real Estate
Robert Tucker, Ph.D., Director, EcoPolicy Center, Cook College, Rutgers University
Brian Schilling, Research Economist, Department of Agricultural, Food and Resource Economics, Cook College, Rutgers University

Membership of the committee may change or grow over time, depending on program needs. Special studies that result from the monitoring program will, if appropriate, be conducted under contract with other experts in specific fields.

2. Program Structure

The long-term monitoring program contains two basic parts: an ongoing data collection and analysis component and a special studies component. Ongoing data collection and analysis involves continual monitoring of key economic indicators to establish a historical basis for trend comparison and enable analysis of Pinelands activity in relationship to regional and statewide patterns. While ongoing reporting of data will not explain why changes are occurring or if unusual trends (whether they indicate opportunities or problems) are caused by CMP requirements, it will allow policy makers to target topics for in-depth research on key questions to determine cause-and-effect relationships. Two types of data are tracked on an ongoing basis:

- Core data - Data for these variables are anticipated to provide information essential to an understanding of the character of the Pinelands economy and are practical to collect at this time. Core data will be collected annually and for preceding years as is practical to discern trends. In general, these data are collected from secondary sources.

- Supplementary data – Additional information may be added to the core data as a greater appreciation of the Pinelands economy is gained. In addition to new data sets, certain core data sets may be augmented with historical information to provide a better sense of economic change over time, before and after implementation of the CMP.

Results of the ongoing data collection will be presented yearly in annual reports, with more comprehensive reviews scheduled to occur every five years.

Special studies represent the second major component of the monitoring program. One study will be initiated in each year of the program, beginning in FY 1999 (individual studies may require more than one year to complete, depending on research requirements). The ongoing data program will be highly instructive in selecting topics for special study to provide policy makers with in-depth information on apparent differences between Pinelands and non-Pinelands economic trends. Special studies may also provide an opportunity to augment ongoing data collection should a need be identified for primary (rather than secondary) data or for more geographically specific data. Special studies will be released as separate reports upon their completion.

3. Program Design

3.1 Variables Selected for Long-Term Monitoring

The program design identified three primary areas of inquiry for monitoring: land and housing values and residential development, the business climate and commerce of the region, and the fiscal health of municipalities. Within each of these areas, several variables will be monitored for the duration of the program. Collectively, these variables will provide insight into the overall health of the Pinelands' economy; individually, they offer detailed information on specific features of interest. Each of the variable groups is described below.

Property Values and Residential Development

At the heart of many of the controversies generated by the enactment of the Pinelands land use regulations is the issue of land values. To the extent that development controls affect the value of land, current and prospective landowners will be affected, as will tax ratables associated with vacant land. This group of variables identifies trends in development pressures and measures the differences in values of housing and land in different areas of the region. The value of property depends in part on the permitted use that yields the highest rate of return to the owner, often called "the highest and best use." Permitted uses on vacant and farm lands in many parts of the Pinelands have been limited significantly and therefore land prices may be adversely affected.

In addition, land use regulation may also affect the value, type and supply of housing and other development activities. For example, the implementation of the CMP has the potential to increase housing prices, both through a reduction in supply in certain areas and by providing a permanent amenity to residents of the region. Conversely, other factors, such as declining job markets, if they exist, may cause housing price decreases.

Table 3.1a identifies the monitoring period, frequency of collection, and method of analysis for the three variables tracked annually for this report: building permits, median selling prices of homes, and volume of residential real estate transactions. A more detailed description for each of the variables is provided in conjunction with the presentation of data in the following sections of this report.

In addition to the three variables tracked annually, information on housing and land prices will be generated in two-year cycles using the "Delphi" methodology. The Delphi methodology uses expert opinion to estimate prices that the market would exhibit, but that are difficult to observe. To generate the housing price index, a group of property value experts familiar with southern New Jersey (e.g., real estate appraisers) will estimate prices for housing types with different attributes (e.g., a 3-bedroom house on a 1-acre lot in a low density area) both inside and outside of the Pinelands. The same general method will be used to establish price indices for different types of land (e.g., farmland and vacant land). A committee to develop both indices will be convened in 1998; thereafter, development of

housing and land indices will alternate every two years. The frequency of data collection will be increased if possible, based on time and resource requirements.

Economic Growth

The observation of trends in indicators that are directly tied to the prosperity of a region's residents is central to the measurement of the economic well-being of the region. As such, monitoring of employment, income, and the business climate is essential to this program. This group of variables measures the prosperity and viability of business in the region. Tracking economic growth variables over time and comparing them across regions may show differences and indicate areas for special study. Information on wages and income can also shed light on this issue. To the extent that the CMP has had an effect on the regional economy, there will be both direct and indirect (multiplier) impacts on employment and wages. Further, impacts (positive or negative) may be substantially different across business sectors.

Table 3.1a identifies the monitoring period, frequency of collection, and method of analysis for the five economic growth variables tracked annually for this report: retail sales; per capita income; unemployment; employment, establishments, and wages; and agriculture (including farmland assessed acreage, net cash return per farm/acre, and blueberry and cranberry production). More detailed descriptions for each variable are provided in conjunction with the presentation of data in the following sections of this report. A sixth variable, new car registrations, was included in the *First Annual Report* but has been dropped from this update due to the inability to obtain useful, cost-effective data. If a new source of data becomes available in the future, this variable may be included in subsequent updates.

Finally, population growth drives both consumer demand and labor supply, and therefore is an extremely important indicator of economic growth. Population factors are also considered with the municipal finance variables (below).

Municipal Finance

The long-term monitoring of municipal fiscal trends is of interest for several reasons. As discussed in previous studies, Pinelands regulations have affected vacant land assessments in some municipalities (see, for example, *Economic & Fiscal Impacts of the Pinelands Comprehensive Management Plan*, New Jersey Pinelands Commission, 1983 and 1985). In all but one case, however, the short-term impact on tax rates was relatively minor. Public acquisitions of land in a few municipalities have also resulted in a loss of ratables. While these problems were mitigated in the short-term by state reimbursement programs, their long-range impacts should be evaluated.

The level of development in a municipality also affects both municipal ratable bases and expenditures for public services and facilities. Development is associated with growth in ratables, although capital and operating costs for schools, roads, and other public facilities will also increase. Whether development results in a net fiscal benefit or cost to the community depends in large part on the type of development (e.g., commercial, industrial,

apartments, single-family houses, or retirement communities). Density may also have an effect.

Municipal finance is one area of concern for which there is no dearth of information. The New Jersey Department of Treasury issues an annual report as well as several other publications that describe assessments, equalization ratios, and rates of taxation for each municipal jurisdiction. In addition, the New Jersey Department of Community Affairs (DCA), Division of Local Government Services publishes municipal budgets, including expenditures by line item, and breakdowns of assessed valuation for various property classes.

Table 3.1a identifies the monitoring period, frequency of collection, and method of analysis for the nine variables tracked annually for this report: tax collection rate, assessment class proportions in municipal tax revenues, municipal expenditures by type per capita, municipal expenditures per household, average residential property tax bill, state equalized valuation (total value of taxable property), effective tax rates, population, and demographics. More detailed descriptions for each variable are provided in conjunction with the presentation of data in the following sections.

Table 3.1a Summary of Core Variables in Second Annual Report

Name	Years Collected	Years Added[1]	Frequency of Collection	Method of Analysis
Building Permits	1980-1997	'96-'97	Annual	Inside/Outside Pinelands & Municipal Comparables
Mean Selling Prices of Homes	1988-1997	'96-'97	Annual	Inside/Outside Pinelands
Volume of Real Estate Transactions	1988-1997	'96-'97	Annual	Inside/Outside Pinelands
Retail Sales	1990-1996	'96	Annual	County
Income	1980, 1990	None	Decennial	Inside/Outside Pinelands
Unemployment	1980-1997	'96-'97	Annual	Inside/Outside Pinelands
Employment	1993-1996	'96	Annual	Inside/Outside Pinelands (1993-1996)
Number of Establishments	1989-1996	'96	Annual	County (1989-1992) & Inside/Outside Pinelands (1993-1996)
Payroll by Major Industry Sector	1989-1996	'96	Annual	County (1989-1992) & Inside/Outside Pinelands (1993-1996)

[1] Refers to addition from previous report and specifies which years of data are new in this update.

Table 3.1a, Continued				
Name	**Years Collected**	**Years Added**	**Frequency of Collection**	**Method of Analysis**
Farmland Assessed Acreage	1986-1995	None	Annual	Inside/Outside Pinelands
Net Cash Return Per Farm and Per Acre	1987, 1992	None	Quintennial	County
Blueberry and Cranberry Production	1972-1996	'93-'96	Annual	State
Tax Collection Rate	1980-1993	'93	Annual	Inside/Outside Pinelands & Municipal Comparables
Assessment Class Proportions in Municipal Tax	1980-1993	'93	Annual	Inside/Outside Pinelands & Municipal Comparables
Municipal Expenditures by Class Per Capita	1980-1993	'93	Annual	Inside/Outside Pinelands & Municipal Comparables
Municipal Expenditures Per Household & Relative to Household Income	1980, 1990	None	Decennial	Inside/Outside Pinelands & Municipal Comparables
Average Residential Property Tax Bill	1983-1995	'95	Annual	Inside/Outside Pinelands & Municipal Comparables
Equalized Property Value	1980-1993; 1996-1997	'93 & '96-'97	Annual	Inside/Outside Pinelands & Municipal Comparables
Effective Tax Rate	1980-1997	'93-'97	Annual	Inside/Outside Pinelands & Municipal Comparables
Population	1980, 1990 1996 (projection)	None	Decennial	Inside/Outside Pinelands
Demographics	1980, 1990	None	Decennial	Inside/Outside Pinelands

3.2 Method of Analysis

An important consideration in specifying the variables to be monitored is the level of detail that is optimal and feasible. Whether a variable is analyzed at the state, regional, or sub-regional level depends on the nature of the variable as well as the availability of data. Specifying the level of analysis, in turn, prescribes how the data is presented. Analyses performed for this program follow one of the four formats described below.

County

The Pinelands Area encompasses portions of seven counties in southern New Jersey: Atlantic, Burlington, Camden, Cape May, Cumberland, Gloucester, and Ocean. Another southern county, Salem, is located entirely outside of the Pinelands Area, but is predominantly rural in nature and therefore serves as a good comparison for assessing some of the effects of the CMP. Data for variables that are designated as county-level are compiled and tracked for each of these eight counties. Because county-level data are necessarily limited in the amount of geographic information they can convey, a chart showing the contribution of each county to Pinelands acreage is provided in Appendix B to aid in interpretation whenever county data are presented.

Inside/Outside Pinelands

Because none of the seven counties that constitute the Pinelands Area is located entirely within the Area's boundaries, monitoring variables at the county level cannot differentiate between "inside" and "outside" trends, with the exception of Salem County. If the data are available, a more appropriate means of comparison for certain variables is activity inside of the Pinelands vs. activity outside of the Pinelands. Analysis of data for these variables begins with the compilation of municipal-level data, which is then categorized into one of fifteen separate regions: the inside or outside portions of the seven Pinelands counties plus Salem County. A "10% rule" was used to categorize those municipalities with acreage both inside and outside of the Pinelands; i.e., municipalities with less than 10% of their acreage inside of the Pinelands are classified as "outside", while municipalities with 10% or more of their acreage inside of the Pinelands are classified as "inside". Of the 53 municipalities completely or partially located in the Pinelands Area, 47 were classified as inside, while 6 were classified as outside[2], joining the remaining 149 municipalities located entirely outside of the Pinelands (resulting in a total of 155 municipalities classified as outside). Data from the 15 regions were then aggregated to show total inside and outside activity. Two other municipalities currently classified as inside (Wrightstown Borough and New Hanover Township) contain only Military and Federal Installation Areas within the Pinelands Area and will be evaluated in the future for potential as "outside" towns.

[2] The six municipalities are: Corbin City, North Hanover Township, Springfield Township, Berlin Borough, Vineland City, and Dover Township.

Municipal Comparables

The eight-county area encompassed by the program has a total of 202 municipalities. While the amount of data and level of detail increases with smaller units of analysis, the number of potential comparisons is unwieldy. To allow for the examination of data at the municipal level, similar municipalities were grouped together based on rankings with respect to population density, access to major employment centers, and per capita income as of 1980. A total of six groups were formed, comprising 28 Pinelands communities and 27 non-Pinelands communities. Additional explanation of the municipal comparables methodology and identification of group members are provided in Appendix C; results are presented in section 7. Summary statistics (e.g., state, regional, and inside/outside trends) are also presented for each of the variables in sections 4-6.

Other

Data for certain other variables do not readily lend themselves to the above types of analyses. Much of this data is either available only on the state level or in limited quantity. For these variables, appropriate analytical methods and presentation formats are developed on a case-by-case basis.

3.3 Adjustment for Inflation

All variables that describe monetary amounts are adjusted for inflation using the Consumer Price Index (CPI-U) from the U.S. Bureau of Labor Statistics. All amounts are presented in 1995 dollars.

4. Property Values and Residential Development

4.1 Building Permits for Dwelling Units

Description: Building permit activity measures the number of dwelling units authorized for construction as reported by municipal building inspectors in New Jersey. The data are collected through a cooperative program between the U.S. Bureau of the Census and the New Jersey Department of Community Affairs (NJ DCA), and made available via the World Wide Web by the New Jersey Department of Labor (NJ DOL). The monitoring period for this variable, 1980-1997, has been updated with data from 1996 and 1997 in this report.

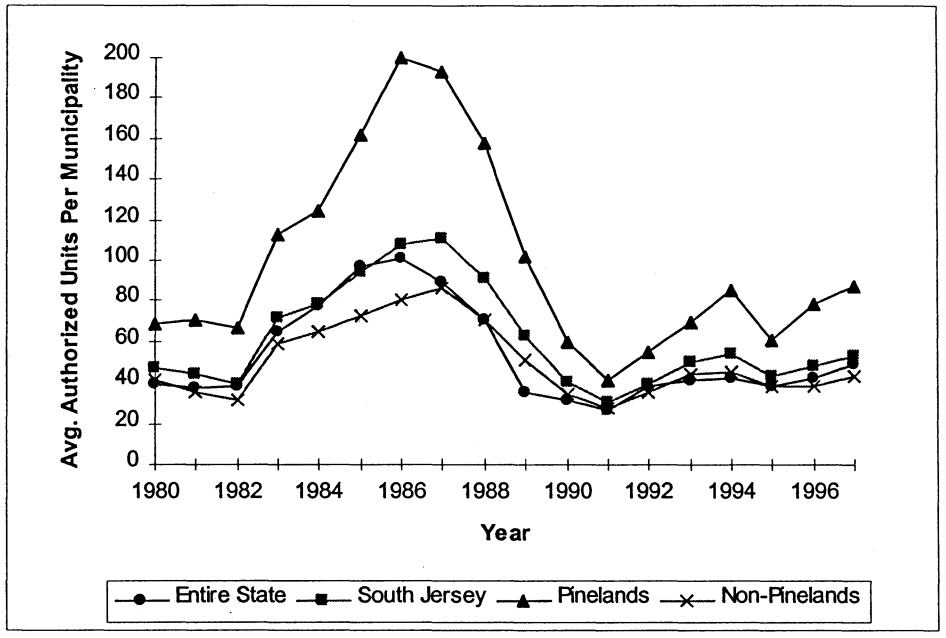
Unit of Analysis: Municipal level data are aggregated to allow for inside/outside Pinelands, regional, and statewide analyses. The aggregation method calculates the average units authorized per municipality. The data are also presented in the municipal comparables format (see page 55).

Summary of Previous Findings: The overall trend in permits for dwelling units followed the broad cycle of economic activity, from a building boom in the mid-1980's to recession at the turn of the decade and subsequent recovery. The average number of permits issued by municipalities inside of the Pinelands was consistently higher and generally experienced more volitility than in other areas throughout the monitoring period. This finding could be related to the residential build-up that followed the beginning of casino gambling in Atlantic City in the early 1980's.

Update: The addition of two years of data essentially continues the trends identified previously, with the area inside of the Pinelands recovering a bit faster than the area outside of the Pinelands, following a drop in building permit activity in 1995 (see Figure 4.1a). The 1995 decline was possibly a reaction to the "excessive optimism" that characterized the market at this time according to the U.S. Federal Reserve Chairman, which subsequently led to a decline in construction starts nationwide.

Recommendations for Special Studies: Exploring better ways to capture this variable would be useful if the new methods controlled for relative differences among regions (e.g., some regions are much more developed than others). Improving the data in this way might provide more insight as to why the average number of permits issued by municipalities is higher inside of the Pinelands region.

Figure 4.1a Dwelling Units Authorized by Building Permits



4.2 Mean Selling Prices of Homes

Description: The mean selling price for homes sold in each municipality in a given year is derived from sales data compiled by the New Jersey Department of Treasury. Selling prices are shown in 1995 dollars for the monitoring period 1988-1997, which includes two additional years of data (1996 and 1997).

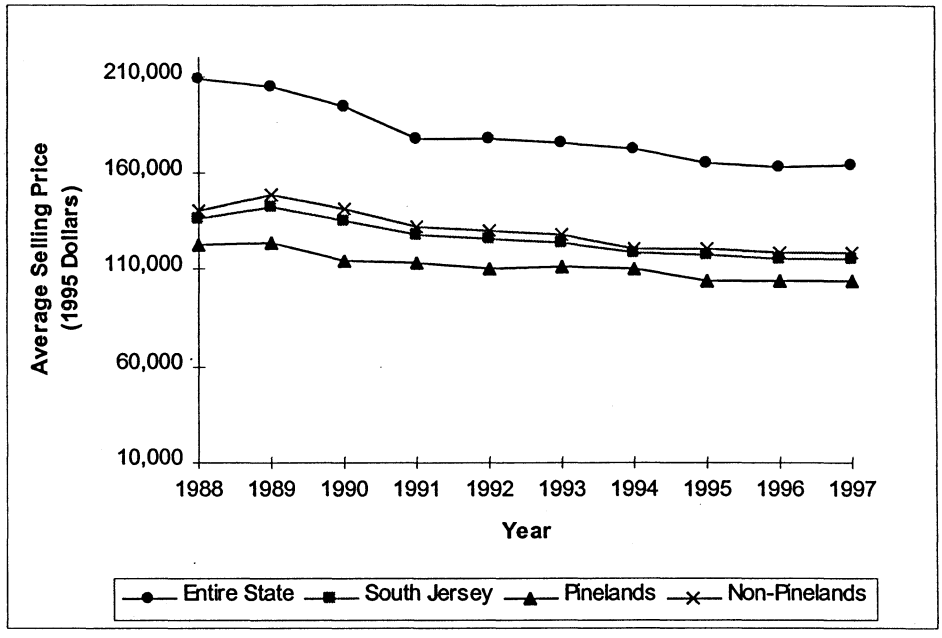
Unit of Analysis: Data on mean selling prices are compiled at the municipal level and aggregated to allow for inside/outside Pinelands, regional, and statewide analyses. These data were also originally selected for examination in municipal comparables groupings, but the ability to draw meaningful conclusions was precluded by limited data; therefore, this format has been excluded from the annual reports.

Summary of Previous Findings: Mean selling prices of homes inside and outside of the Pinelands remained relatively flat during a period that encompassed the end of a real estate boom, recession, and subsequent recovery. The pattern of overall steadiness was in contrast to some other areas of the country that experienced substantial declines in real prices related to the recession. Mean selling prices were slightly higher outside of the Pinelands than inside, which is consistent with data from the years prior to implementation of the CMP and shortly thereafter (see, for example, *Economic & Fiscal Impacts of the Comprehensive Management Plan*, New Jersey Pinelands Commission, 1983). Mean selling prices at the state level were substantially higher than those for southern New Jersey.

Update: As shown in Figure 4.2a, the steady trend in mean selling prices of homes continued across all areas with the addition of two years of data.

Recommendations for Special Studies: As noted in the previous report, acquisition of data on median selling prices (as opposed to mean selling prices) would help to reduce the influence of uncharacteristically high or low observations on the aggregated value for a particular region (e.g., inside of the Pinelands). Although not a top priority, it might also be informative to lengthen the monitoring period by obtaining data from previous years, possibly at periodic intervals to reduce data acquisition and analysis costs.

Figure 4.2a Mean Selling Prices of Homes



4.3 Volume of Residential Real Estate Transactions

Description: The number of homes sold in each municipality is derived from sales data compiled by the New Jersey Department of Treasury. Transactions are shown as percentages of the total number of state transactions. The monitoring period has been expanded by two years (1996 and 1997) and now extends from 1988 to 1997.

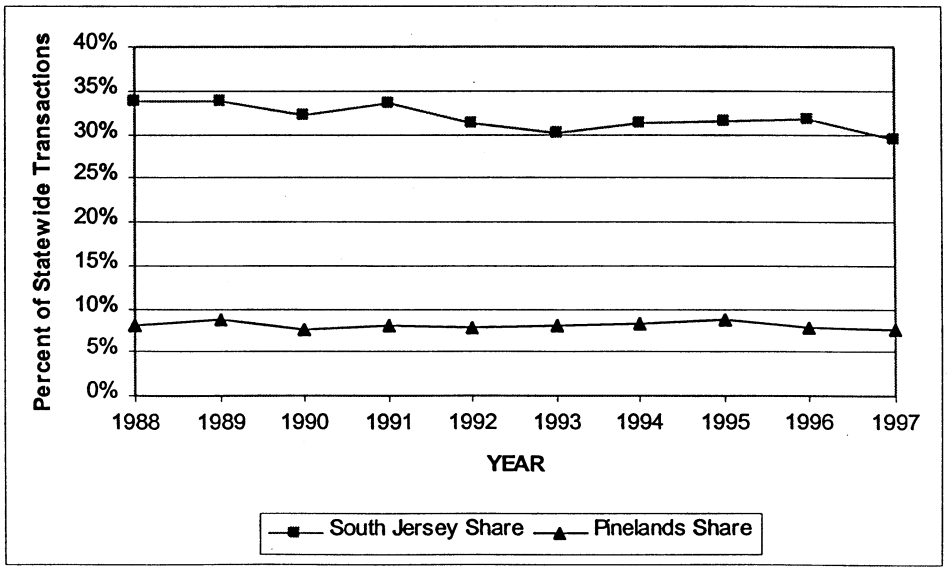
Unit of Analysis: Real Estate transaction data are compiled at the municipal level and aggregated to allow for inside/outside Pinelands analysis. (These data were also originally selected for examination in municipal comparables groupings, but the ability to draw meaningful conclusions was precluded by limited data; therefore, this format has been excluded from the annual reports.)

Summary of Previous Findings: The proportion of residential real estate transactions remained relatively steady inside of the Pinelands and the surrounding region over the initial monitoring period, 1988-1995. Although share was relatively constant, the actual number of statewide transactions substantially declined from the beginning of monitoring in 1988 through 1991.

Update: Figure 4.3a shows that the share of transactions continues to remain fairly steady with the addition of two new years of data.

Recommendations for Special Studies: Similar to the data for mean selling prices of homes, it would be useful to lengthen the monitoring period by obtaining data from previous years.

Figure 4.3a Transactions of Residential Properties



5. Economic Growth

5.1 Retail Sales

Description: Data on retail sales were acquired from Market Statistics, publishers of *Demographics USA* (the source of 1990, 1992, 1994, and 1995 data) and *The Survey of Buying Power* (the source of 1991, 1993, and 1996 data). Market Statistics defines total retail sales as net sales (minus refunds and allowances for returns) for all establishments primarily engaged in retail trade. Retail sales by wholesalers and service establishments are excluded from the total. Because prior comparison of these data with sales data compiled by the U.S. Bureau of the Census revealed certain discrepancies, some caution should be used in interpreting findings. The monitoring period 1990-1996 has been updated to include one additional year (1996) in this report. Sales for all years are adjusted for inflation and shown in 1995 dollars.

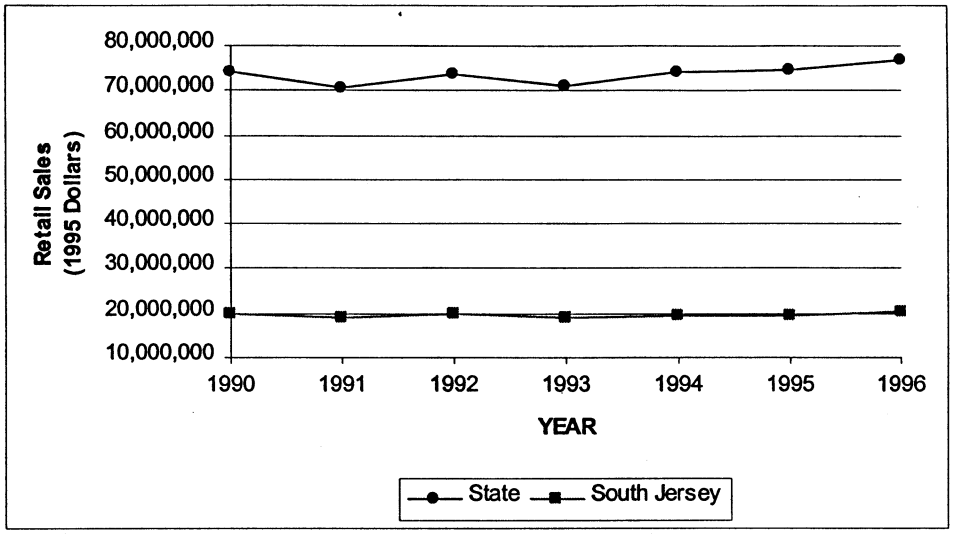
Unit of Analysis: Retail sales data are obtained at the county level and aggregated to yield totals for the southern eight-county region and the entire state (see Appendix B on page 100 for Pinelands acreage by county).

Summary of Previous Findings: Retail sales remained relatively constant throughout southern New Jersey, consistent with statewide activity. In absolute terms, higher retail sales were recorded in more densely populated counties, as expected.

Update: As shown in Figure 5.1a, retail sales appear to be increasing somewhat over the past three years, with southern New Jersey posting a 7% gain from 1993-1996 and statewide activity increasing 8% over the same period. However, year-to-year fluctuations vary considerably, reflecting the national business cycle.

Recommendations for Special Studies: Obtaining data at the municipal level to allow for inside/outside Pinelands analysis would be useful for future analyses. One possible area of investigation is the relationship between population growth and retail sales in southern New Jersey.

Figure 5.1a Retail Sales



5.2 *Per Capita Income*

Description: Per capita income is an important indicator of regional economic health because it provides information regarding the ability of a region's residents to make purchases and pay taxes, and provides a measure of the economic well-being of individuals. Data are reported as part of the census every decade and were obtained for the years 1980 and 1990 (the monitoring period remains unchanged from the previous report). The data are compiled by the United States Bureau of Economic Analysis and provided to the New Jersey Department of Labor. Values are adjusted for inflation and shown in 1995 dollars.

Unit of Analysis: Per capita income data are compiled at the municipal level and aggregated to allow for inside/outside Pinelands and statewide analyses.

Summary of Previous Findings: Real per capita income increased significantly inside and outside of the Pinelands over the decade 1980-1990, unlike many areas of the country. As shown in Table 5.2a, per capita income growth inside of the Pinelands more than kept pace and finished slightly ahead of the surrounding region in terms of percentage change (44% vs. 38% growth). While the level of per capita income remained higher in absolute terms outside of the Pinelands than inside of the Pinelands over the decade, the higher income growth rate inside of the Pinelands caused the gap to narrow from 9.7% in 1980 to 5.2% in 1990.

Update: No new data are available (new data will be compiled as part of the 2000 census).

Recommendations for Special Studies: No special studies are recommended at this time.

Table 5.2a Per Capita Income, 1980 and 1990

Location	1980 PCI (1995 $)	1990 PCI (1995 $)	Percent Change
Inside Pinelands	$12,277.36	$17,733.70	44%
Outside Pinelands	$13,473.08	$18,648.90	38%
Statewide	$15,031.00	$21,821.07	45%

5.3 Unemployment

Description: The employment rate is the proportion of the labor force (the number of people available to be, and desiring to be, working for pay) residing in an area which is unemployed (not working for pay) at a given point in time. Unemployment data were acquired from the New Jersey Department of Labor. The monitoring period for this variable (1980-1997) has been extended by two years (1996 and 1997) in this report.

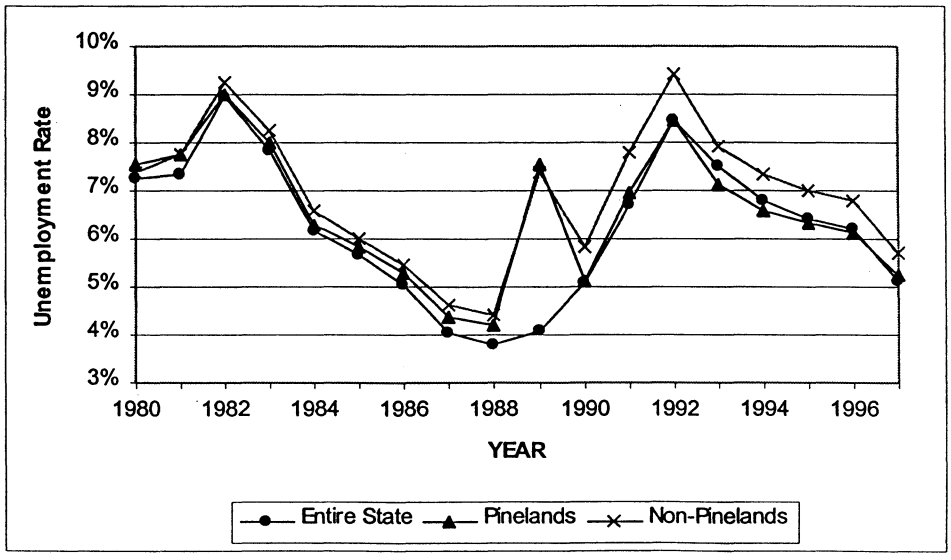
Unit of Analysis: Unemployment data are compiled at the municipal level and aggregated to allow for inside/outside Pinelands and statewide analyses.

Summary of Previous Findings: Trends in unemployment inside and outside of the Pinelands generally tracked closely together, with levels inside of the Pinelands consistently lower than levels outside of the Pinelands from 1990-1995. Overall unemployment in southern New Jersey appeared to follow general economic conditions, declining in the mid-1980's before increasing at the turn of the decade during the recession. Following a peak in 1992, unemployment levels had declined roughly two percentage points by 1995, coinciding with a new period of economic growth.

Update: Unemployment levels continued to decline throughout the state, with levels declining one percentage point from 1996 to 1997 (see Figure 5.3a). The unemployment level inside of the Pinelands remained below the level outside of the Pinelands, and was roughly equivalent to statewide values.

Recommendations for Special Studies: No special studies are recommended at this time.

Figure 5.3a Unemployment



5.4 *Employment, Establishments, and Wages*

Description: These three variables collectively provide a picture of the composition, size, strength, and location of the job market. The first variable, *employment*, is a basic measure of economic health. Employment data count the number of jobs in each municipality as tracked by unemployment insurance coverage.[3] The data are broken down to the first Standard Industrial Classification (SIC) code level (major industry division) to track the shifting of activity between major economic components. The second variable, *number of establishments*, refers to the number of places that have employees and is presented at the single-digit SIC code level. The third variable, *wages*, is a measure of economic activity that complements employment and number of establishments. Wages paid are also shown by SIC code to allow for industry-specific analysis. Data for all three variables were acquired from the New Jersey Department of Labor for the monitoring period 1989-1996. One additional year of data (1996) is included in this report.

Unit of Analysis: Municipal level data became available for all three variables beginning in 1993, enabling analysis of inside/outside Pinelands and statewide trends. Data for all three variables were only available at the county level for years prior to 1993 and have been discontinued from this analysis. Refer to the *1997 First Annual Report* for county data prior to 1993.

Summary of Previous Findings: The area inside of the Pinelands outperformed the area outside of the Pinelands with respect to relative gains in employment, establishments, and wages during the initial monitoring period. In general, employment trends inside and outside of the Pinelands followed the same basic pattern, although fluctuations inside of the Pinelands were more subtle. Employment in both areas declined during the recession, with levels inside of the Pinelands rebounding past pre-recession levels in 1993 (levels outside of the Pinelands still had not fully rebounded by 1995).

The number of establishments inside and outside of the Pinelands increased steadily during the late 1980's. Establishments in southern New Jersey remained significantly concentrated outside of the Pinelands. Number of jobs per establishment, however, declined both inside and outside of the Pinelands, and firms inside of the Pinelands were smaller in size than those in the surrounding area.

Trends in real wages also showed the effects of the recession. While the wages inside of the Pinelands surpassed pre-recession levels in 1993, wages outside of the Pinelands had still not recovered fully by the end of the initial monitoring period. Throughout the entire monitoring period, however, workers outside of the Pinelands received higher wages than workers inside of the Pinelands, consistent with historical patterns and indicative of the types of jobs in each area.

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[3] Because government employment is not included in all data sets, any such data have been omitted to facilitate comparisons over the entire monitoring period. Federal, state, local, and postal service jobs are therefore not represented in the data shown. This exclusion is in addition to the types of employment not tracked by the New Jersey Department of Labor, which includes "self-employed and unpaid family workers or certain agricultural and in-home domestic workers." As used in this report, the term "employment" refers to the modified private employment figures.

With respect to industrial classifications, the bulk of southern New Jersey's employment is derived from three sectors: retail trade, manufacturing, and service. The service sector represented the largest portion of employment in 1995, providing 39.3% of the jobs in non-Pinelands municipalities and 31.2% of jobs in Pinelands municipalities. The number of service establishments increased 6.0% throughout southern New Jersey from 1993-1995, while real wages in this sector dropped by 0.8%. Employment in the retail trade sector accounted for 28.0% of the jobs inside of the Pinelands and 25.8% of the jobs outside of the Pinelands. The number of retail establishments in southern New Jersey increased slightly from 1993-1995, but real wages dropped 2.5%. Manufacturing jobs accounted for 8.7% of employment inside of the Pinelands and 13.1% outside of the Pinelands in 1995. The number of manufacturing establishments declined 1.9% in southern New Jersey from 1993-1995. Manufacturing wages also declined outside of the Pinelands but increased 3% inside of the Pinelands.

In addition to the major industries, the strongest growth in employment inside of the Pinelands from 1993-1995 occurred in the transportation, communications and utilities sector, while the strongest growth outside of the Pinelands occurred in the agricultural sector (although agriculture still remained one of the smallest sectors in both regions). Wholesale trade posted the greatest increase in the number of establishments inside and outside of the Pinelands. The largest gain in wages was also provided by the wholesale sector outside of the Pinelands, and by the services and retail trade sectors inside of the Pinelands.

Update: Table 5.4a shows changes in employment, establishments, and wages inside and outside of the Pinelands from 1993-1996. Identification of meaningful trends is limited by the brevity of the monitoring period and the effect of data suppression, especially inside of the Pinelands.[4] In general, employment and establishments continued to post gains inside and outside of the Pinelands, with wages holding steady or declining slightly. Overall regional activity generally tracked with statewide patterns. While total employment increased less than 1% inside and outside of the Pinelands from 1995 to 1996, certain industrial sectors registered larger gains and losses over the past year, most notably agriculture. Many of these changes must be considered as yearly fluctuations in the absence of additional data. Inside of the Pinelands, however, it is worth noting that retail trade appears to be catching up with services as the largest source of employment and construction has become the third largest employer, surpassing manufacturing. Construction and wholesale trade also registered their fourth year of consecutive gains inside of the Pinelands. Outside of the Pinelands, employment in the services, wholesale trade, and transportation, communications and utilities sectors posted consecutive gains from 1993-1996, while manufacturing lost jobs each year (but continued to be the third largest source of employment with nearly double the number of jobs of the next largest employer, wholesale trade).

[4] The information derived in this analysis was obtained from the records of the Covered Employment system, which does not release data in cases where it has the possibility of providing information about a single employer or employment location. Data are "suppressed" when the system contains information on three or fewer employers, or when one employer represents 80% or more of the market. While it is unlikely that data suppression has had a large effect at the county level, it is likely to affect data at the municipal level, especially when the data are further broken down by industrial sector.

The total number of establishments in southern New Jersey continued to grow, increasing in 1996 by 4.4% inside of the Pinelands and by 2.0% outside of the Pinelands. While the number of jobs per establishment inside of the Pinelands, 10.9, continued to trail jobs per establishment outside of the Pinelands, 14.2, the overall gap between the two areas did not change appreciably. The number of establishments in the construction, service, wholesale trade, and transportation, communication, and utilities sectors increased annually inside and outside of the Pinelands over the monitoring period. Inside of the Pinelands, the number of agricultural establishments also showed consecutive annual gains (despite a potentially anomalous drop in employment from 1995-1996), as did the number of retail trade establishments outside of the Pinelands.

Estimated annual wages per job generally continued to fluctuate across industrial sectors both inside and outside of the Pinelands. Two of the sectors with the top three annual wages are inside of the Pinelands – wholesale trade and transportation, communications and utilities (despite consecutive annual declines in wages for the transportation, communications, and utilities sector across southern New Jersey). Conversely, wages for the lowest paying sector inside of the Pinelands, retail trade, are lower than any other sector outside of the Pinelands. Outside of the Pinelands, manufacturing jobs provided the highest annual wage, and were the second highest wages overall in southern New Jersey. Also, wages for construction workers declined for a fourth year in a row. Wages for all sectors in southern New Jersey both inside and outside of the Pinelands noticeably trail those for the same sectors statewide.

Recommendations for Special Studies: One potential area for future study noted in last year's report is examination of the differences between the number of jobs per establishment inside and outside of the Pinelands.

Table 5.4a Industrial Sector Breakdowns of Employment, Establishments, and Wages

NEW JERSEY

SECTOR	Employment				Establishments				Annual Wages Per Job (1995 Dollars)			
	1993	1994	1995	1996	1993	1994	1995	1996	1993	1994	1995	1996
AGRICULTURE	24,004	25,468	26,998	27,988	5,056	5,098	5,224	5,414	$20,588	$20,269	$20,120	$20,230
CONSTRUCTION	114,517	121,733	122,616	124,296	23,551	23,387	23,617	24,421	$38,495	$36,972	$37,353	$37,406
FINANCE, INSURANCE, & REAL ESTATE	221,517	223,155	220,614	223,288	15,472	15,746	15,953	16,371	$44,769	$42,148	$45,469	$48,946
MANUFACTURING	513,630	507,357	497,999	482,704	12,511	12,325	12,043	11,902	$41,734	$40,667	$42,171	$44,510
MINING	1,855	1,912	1,963	1,863	99	99	89	84	$42,881	$42,794	$43,644	$44,359
RETAIL TRADE	552,676	568,508	582,022	584,021	46,554	46,566	47,147	47,547	$18,162	$17,696	$17,820	$17,839
SERVICES	942,782	969,090	1,006,282	1,042,392	76,869	78,511	81,763	85,675	$31,821	$30,594	$31,979	$32,133
TRANSPORTATION, COMMUNICATIONS AND UTILITIES	229,057	240,637	242,881	246,787	9,687	9,940	10,131	10,566	$41,374	$40,915	$42,038	$42,703
WHOLESALE TRADE	256,946	260,867	263,754	268,418	23,139	23,477	4,378	25,398	$43,648	$42,149	$43,700	$44,103
UNCLASSIFIED	15,512	10,142	6,999	4,792	5,221	3,804	2,746	2,134	$31,464	$32,419	$37,592	$35,296
TOTAL	2,872,496	2,928,869	2,972,128	3,006,549	218,159	218,953	223,091	229,512	$37,640	$32,782	$37,827	$38,653

INSIDE PINELANDS

SECTOR	Employment				Establishments				Wages Per Job*			
	1993	1994	1995	1996	1993	1994	1995	1996	1993	1994	1995	1996
AGRICULTURE	4,749	4,824	5,671	4,741	496	496	513	535	$16,629	$16,253	$14,538	$18,053
CONSTRUCTION	8,810	9,859	9,879	10,737	1,692	1,798	1,865	1,936	$34,297	$33,803	$31,579	$32,461
FINANCE, INSURANCE, & REAL ESTATE	6,125	5,969	6,048	6,343	607	621	599	617	$32,257	$29,531	$30,738	$31,500
MANUFACTURING	9,747	10,239	9,769	9,175	362	363	350	354	$30,608	$32,393	$31,523	$29,025
MINING	90	113	112	187	10	11	7	10	$40,626	$39,412	$35,987	$35,055
RETAIL TRADE	28,304	30,052	31,222	32,810	2,259	2,257	2,288	2,350	$15,848	$16,096	$15,335	$14,974
SERVICES	31,851	34,040	36,078	34,569	2,784	2,840	3,013	3,176	$24,508	$24,280	$23,264	$24,902
TRANSPORTATION, COMMUNICATIONS AND UTILITIES	7,033	7,955	7,290	7,393	467	469	471	507	$41,227	$39,344	$38,708	$37,619
WHOLESALE TRADE	5,322	5,371	5,550	5,876	669	697	758	812	$36,833	$38,012	$36,591	$37,296
UNCLASSIFIED	0	27	0	0	0	9	0	0	$0	$13,075	$0	$0
TOTAL	102,031	108,449	111,619	111,831	9,346	9,561	9,864	10,297	$25,442	$25,374	$24,151	$24,646

OUTSIDE PINELANDS

SECTOR	Employment				Establishments				Wages Per Job*			
	1993	1994	1995	1996	1993	1994	1995	1996	1993	1994	1995	1996
AGRICULTURE	8,479	8,509	9,052	8,719	1,010	994	1,036	1,060	$17,565	$17,777	$17,412	$18,058
CONSTRUCTION	23,189	26,059	25,217	26,971	4,370	4,463	4,503	4,662	$34,699	$34,379	$33,758	$33,057
FINANCE, INSURANCE, AND REAL ESTATE	31,733	31,706	30,687	29,860	2,795	2,851	2,837	2,879	$31,007	$31,242	$30,330	$30,996
MANUFACTURING	76,981	76,188	75,139	74,187	1,778	1,755	1,734	1,746	$37,188	$37,041	$36,689	$37,383
MINING	0	0	0	0	0	0	0	0	$0	$0	$0	$0
RETAIL TRADE	133,715	137,641	141,159	135,256	9,951	9,986	10,205	10,246	$15,949	$16,209	$15,549	$16,075
SERVICES	216,296	222,181	227,020	232,214	13,853	14,189	14,704	15,142	$26,836	$27,167	$26,652	$26,855
TRANSPORTATION, COMMUNICATIONS AND UTILITIES	26,216	27,711	29,027	29,863	1,444	1,497	1,515	1,538	$34,232	$34,165	$32,343	$31,118
WHOLESALE TRADE	33,454	34,932	36,954	38,117	2,948	2,996	3,135	3,222	$35,999	$36,009	$35,365	$35,930
UNCLASSIFIED	0	70	64	0	0	35	15	0	$0	$21,823	$16,724	$0
TOTAL	550,063	564,997	574,319	575,187	38,149	38,766	39,684	40,495	$26,977	$27,138	$26,446	$26,873

* Wages are annualized based on average third quarter wages per job, in 1995 dollars. Total wages per job are calculated by dividing total annualized wages for all sectors by total employment for all sectors.

5.5 *Agriculture*

Description: Agriculture is recognized in federal and state Pinelands legislation as an industry of special significance and, therefore, receives a more detailed examination using three variables. The first variable, *land in farming*, provides a measure of the area devoted to agricultural and horticultural use. Two types of measurements are tracked, farm acreage and farmland assessed acreage, which differ in their definition of farm. Farm acreage is compiled by the Census of Agriculture and includes any property that generates $1,000 or more in sales of agricultural products. Census data are collected every five years and are provided for 1982 and 1992. Consequently, the monitoring period for farm acreage remains unchanged from the previous report. Data on farmland assessed acreage are compiled from FA-1 forms, which are completed by landowners and indicate acreage devoted to various crops and pasture as well as livestock. To qualify for farmland assessment, a landowner must have a minimum of five contiguous acres devoted to agricultural or horticultural use, and generate a minimum of $500 in sales (plus an additional $5 per acre for every acre of agricultural land beyond the first five acres or $0.50 per acre for every acre of woodland land beyond the first five acres). Farmland assessed acreage data were obtained from the New Jersey Department of the Treasury for 1982-1989 and from the New Jersey Agricultural Statistics Service for 1990-1995. The total monitoring period, 1982-1995, remains unchanged from the previous report.

The second variable, *net cash return per farm and per acre*, measures the net income generated from the sale of crops (gross income from farming operations minus operating costs). Data for 1987 and 1992 were obtained from the Census of Agriculture; the monitoring period remains unchanged from the previous report. Values shown are adjusted for inflation and shown in 1995 dollars.

The third variable, *cranberry and blueberry production*, measures a critical component of Pinelands agriculture. Annual production data were obtained from the New Jersey Agricultural Statistics Service for 1972-1996. This report was updated to include four additional years of data (1993-1996). Cash values are expressed in 1995 dollars.

Unit of Analysis: Data on farm acreage are limited to the county level and consequently inside/outside Pinelands trends cannot be distinguished. Farmland assessed data are compiled at the municipal level and aggregated to examine Pinelands and county totals. Net cash return per farm and per acre data are compiled at the county level and are subject to the same geographic limitations noted above. Cranberry and blueberry data are only available at the state level, but because these crops are found almost exclusively within the Pinelands, statewide figures provide sufficient information for the purposes of this analysis.

Summary of Previous Findings: As shown in Table 7.5a, the seven Pinelands counties contained nearly 34% (287,000 acres) of the roughly 847,000 farm acres reported for New Jersey in the 1992 Census of Agriculture. From 1982-1992, the state lost 7.5% of its farm base, with Pinelands counties experiencing a 9.5% decline and non-Pinelands counties experiencing a 6.4% loss. Counties with particularly high rates of decline in the Pinelands included Camden, Cape May, and Burlington, all of which had relatively high rates of

suburbanization outside of the Pinelands. In contrast, Atlantic and Ocean Counties experienced modest gains in farmland acreage over the same period.

Farmland assessed acreage is shown in Table 5.5f. Burlington County has nearly twice as much farmland assessed acreage inside of the Pinelands than any other county. In Atlantic and Ocean Counties, virtually all farmland assessed acreage is located inside of the Pinelands. Cumberland and Gloucester Counties have substantial amounts of farmland assessed acreage located outside of the Pinelands.

With respect to agricultural sales, Pinelands counties contributed nearly 48% of total sales statewide in 1992 as shown in Table 5.5b. The relatively high value of production in the region is especially noteworthy given that only 34% of the state's agricultural acreage was located in these counties in 1992. Similarly, Pinelands counties contributed 45% of total agricultural sales statewide in 1982 while accounting for only 35% of farm acreage.

In terms of net cash returns, farms in the seven Pinelands counties accounted for 54% of total net returns statewide as shown in Table 5.5c. Farmers in Cumberland County alone generated nearly 18% of statewide returns, while Burlington, Gloucester, and Atlantic Counties each contributed roughly 11%. These counties ranked first, third, fourth, and fifth in aggregate net cash returns in New Jersey in 1992. Comparison of net cash returns in 1992 and 1987 clearly demonstrates the impact of the recession on the state's farm sector. Statewide returns dropped 24.2% over the five-year period, with non-Pinelands counties experiencing a steeper decline of 32.4% and Pinelands counties a more moderate decline of 15.6%. Aggregate trends, however, were shown to be misleading with the Pinelands county returns dropping 29% when Cumberland County's contribution was removed. Table 5.5d also shows that more than half of New Jersey's farms lost money in 1987 and 1992. Farmers in the Pinelands, however, were shown to be faring slightly better than their counterparts outside of the Pinelands in both years.

Examination of two key Pinelands crops, cranberries and blueberries, revealed that cranberry production posted significant gains, with the value of utilized production[5] increasing 178% from 1972-1992 and overall production in terms of pounds produced increasing 144%. Sustained growth in the cranberry industry was attributed in part to aggressive marketing efforts and product diversification. In contrast, the value of utilized production for blueberries remained fairly steady over the same time period, with total production declining 32% from a peak of 34 million pounds in 1985. Similarly, price per pound decreased 46% from a peak of $1.61 in 1978. Comparison with statewide trends found that, unlike the gains experienced by the cranberry industry, the real value of sales of all agricultural products statewide declined. Similarly, the value of blueberry sales declined as the fresh blueberry market has approached saturation.

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[5] The New Jersey Agricultural Statistics Service defines utilized production as that portion of the total quantity of fruit produced that has value to the producer; i.e., "harvested production minus harvested production which is not sold." A portion of harvested production may not be sold for economic or other reasons such as "...lack of transportation, cannery or packer strikes, excess cullage not paid for, abnormal storage losses, shrinkage before marketing, etc." Also included in the abandoned quantity are cranberries set aside under the Cranberry Marketing Order.

Update: New data are not available for farm acreage, agricultural sales, and net cash return per farm and acre (data from the 1997 Census of Agriculture should be available next year). Three additional years (1993-1995) of farm sale data reveal that despite fluctuations, farm sales have generally increased from 1993 to 1995 (see Figure 5.5e).

The addition of four years of data for cranberries and blueberries essentially extended the trends identified in the previous report. The value of utilized cranberry production and utilized cranberry production continued to gradually increase, with peak values for both occurring in 1994 (see Figure 5.5g). As shown in Figure 5.5i, prices for cranberries remained fairly steady from 1993-1996 while prices for blueberries appear to have extended the declining pattern that was evident throughout most of the monitoring period (the 1996 gain in blueberry and cranberry prices may be a normal fluctuation). As shown in Figure 5.5h, utilized blueberry production was relatively high for the years 1993-1996, despite the fact that blueberry prices continued to decline over the same period.

Recommendations for Special Studies: As noted in last year's report, potential areas for future study include evaluation of net cash returns on an inside/outside Pinelands basis, and a more detailed analysis of crop type with respect to location, acreage, and revenue.

Table 5.5a Land in Farming, 1982 and 1992

County	1982		1992		1982-1992
	Land in Farming (acres)	Pct. Of NJ Land in Farming	Land in Farming (acres)	Pct. Of NJ Land in Farming	Pct. Change
Atlantic	27,504	3.0	29,606	3.5	7.6
Burlington	112,689	12.3	97,186	11.5	-13.8
Camden	11,690	1.3	7,799	0.9	-33.3
Cape May	13,992	1.5	11,644	1.4	-16.8
Cumberland	75,184	8.2	68,627	8.1	-8.7
Gloucester	66,133	7.2	61,748	7.3	-6.6
Ocean	9,960	1.1	10,365	1.2	4.1
Pinelands Counties	**317,152**	**34.6**	**286,975**	**33.9**	**-9.5**
Non-Pinelands Counties	599,179	65.4	560,620	66.1	-6.4
New Jersey	916,331	100.0	847,595	100.0	-7.5

Table 5.5b Agricultural Sales, 1982 and 1992
(1995 Dollars)

County	1982		1992	
	Sales ($1,000s)	Pct. Of NJ Sales	Sales ($1,000s)	Pct. Of NJ Sales
Atlantic	$54,960	7.98	$47,191	8.15
Burlington	$79,847	11.60	$70,131	12.11
Camden	$16,053	2.33	$8,885	1.53
Cape May	$7,140	1.04	$6,098	1.05
Cumberland	$79,040	11.48	$79,288	13.70
Gloucester	$67,081	9.74	$59,282	10.24
Ocean	$6,563	0.95	$5,481	0.95
Pinelands Counties	**$310,684**	**45.12**	**$276,357**	**47.73**
New Jersey	$688,510	100.00	$578,955	100.00

Table 5.5c Net Cash Return for New Jersey Farms, 1987 and 1992
(1995 Dollars)

County	1987				1992				Pct. Change In Total Net Cash Return (1987-'92)
	Net Cash Return (Avg. per Farm)	Total Net Cash Return of Farms ($1,000s)	Pct. Of Total NJ Net Cash Returns	Avg Size of Farm (acres)	Net Cash Return (Avg. per Farm)	Total Net Cash Return of Farms ($1,000s)	Pct. Of Total NJ Net Cash Returns	Average Size of Farm (acres)	
Atlantic	$40,075	$15,389	11.2%	77	$28,637	$11,197	10.8%	76	-27.2%
Burlington	$17,902	$14,930	10.9%	124	$14,019	$11,439	11.0%	119	-23.4%
Camden	$17,099	$3,027	2.2%	57	$11,036	$2,075	2.0%	41	-31.4%
Cape May	$11,630	$1,442	1.1%	109	$6,504	$1,060	1.0%	71	-26.5%
Cumberland	$21,927	$13,420	9.8%	118	$30,393	$18,510	17.8%	113	37.9%
Gloucester	$24,240	$16,508	12.0%	91	$16,192	$11,399	11.0%	88	-30.9%
Ocean	$10,798	$2,224	1.6%	43	$3,524	$821	0.8%	44	-63.1%
Pinelands Counties	$22,180	$66,939	48.8%	99	$18,203	$56,501	54.3%	92	-15.6%
Non-Pinelands Counties	$11,694	$70,325	51.2%	99	$7,955	$47,530	45.7%	94	-32.4%
New Jersey	$15,198	$137,265	100.0%	99	$11,458	$104,031	100.0%	93	-24.2%

Table 5.5d Farms with Net Losses, 1987 and 1992.

	1987		1992	
County	**Farms With Net Losses**	**Percent of All Farms**	**Farms With Net Losses**	**Percent of All Farms**
Atlantic	139	36.2	162	41.4
Burlington	427	51.2	431	52.8
Camden	86	48.6	91	48.1
Cape May	71	56.8	75	46.3
Cumberland	286	46.8	219	35.9
Gloucester	305	44.7	337	47.8
Ocean	98	47.6	159	68.5
Pinelands Counties	**1,412**	**46.8**	**1,474**	**47.5**
Non-Pinelands Counties	3,356	55.8	3,375	56.5
New Jersey	4,768	52.8	4,849	53.4

Table 5.5e Sales of New Jersey Farm Products
(1995 Dollars, 1,000s)

Sales	**1972**	**1992**	**1993**	**1994**	**1995**
Cranberry	$9,005	$25,338	$19,215	$26,740	$22,700
Blueberry	$32,620	$23,702	$26,372	$23,863	$26,500
New Jersey	$876,118	$701,271	$739,459	$792,043	$773,216
Annual % Change		**1972-1992**	**1992-1993**	**1993-1994**	**1994-1995**
Cranberry		5.3%	-24.2%	39.2%	-15.1%
Blueberry		-1.6%	11.3%	-9.5%	11.1%
New Jersey		-1.1%	5.4%	7.1%	-2.4%

Table 5.5f **Farmland Assessed Acreage in Southern New Jersey With Respect to Pinelands Boundaries**
(Mean Acreage from the Years 1986-1995)

County	Farmland Assessed Acreage Located in Pinelands Municipalities	Total Farmland Assessed Acreage	Percent of Farmland Assessed Acres in Pinelands Municipalities	Percent of Total County Area in Pinelands
Atlantic	40,107	40,354	99.4	63.4
Burlington	88,240	155,458	56.8	63.8
Camden	10,161	13,394	75.9	37.7
Cape May	7,408	13,595	54.5	19.1
Cumberland	6,851	79,559	7.9	14.1
Gloucester	20,417	82,658	24.7	15.6
Ocean	14,061	14,843	94.7	38.6

Figure 5.5g Cranberry Production in New Jersey
Production Volume and Value

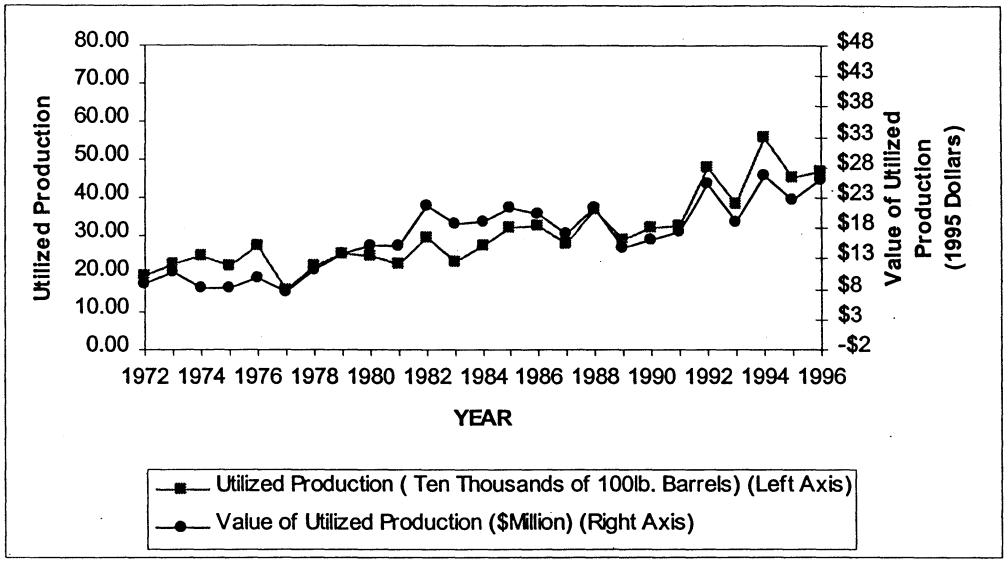


Figure 5.5h Blueberry Production in New Jersey
Production Volume and Value

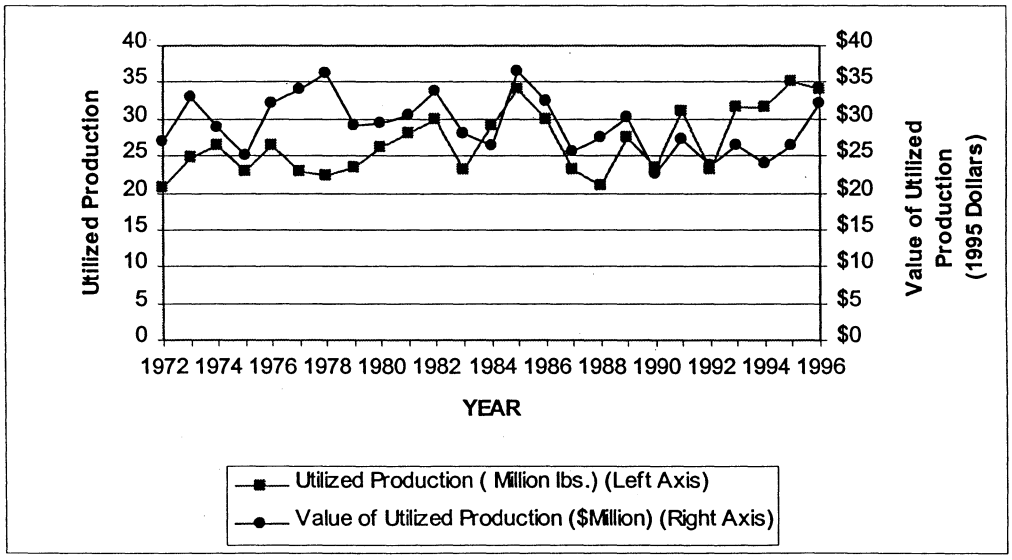
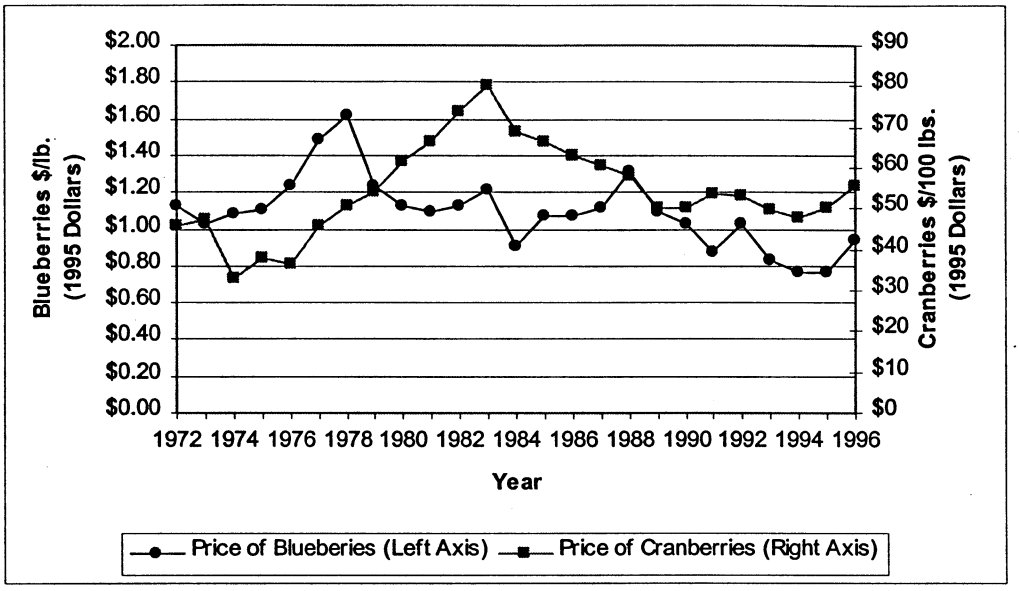


Figure 5.5i Cranberry and Blueberry Prices



6. Municipal Finances

6.1 Tax Collection Rate

Description: The tax collection rate is the ratio of the taxes actually collected to the taxes billed. It provides a measure of the municipality's ability to collect the revenues it anticipates and the financial well-being of its citizens. Data were obtained from the New Jersey Department of Community Affairs, Division of Local Government Services for 1980-1993, extending the monitoring period one year (1993).

Unit of Analysis: Tax collection data are compiled at the municipal level and aggregated to allow for inside/outside Pinelands, regional, and statewide analyses. The data are also presented in the municipal comparables format (see page 59).

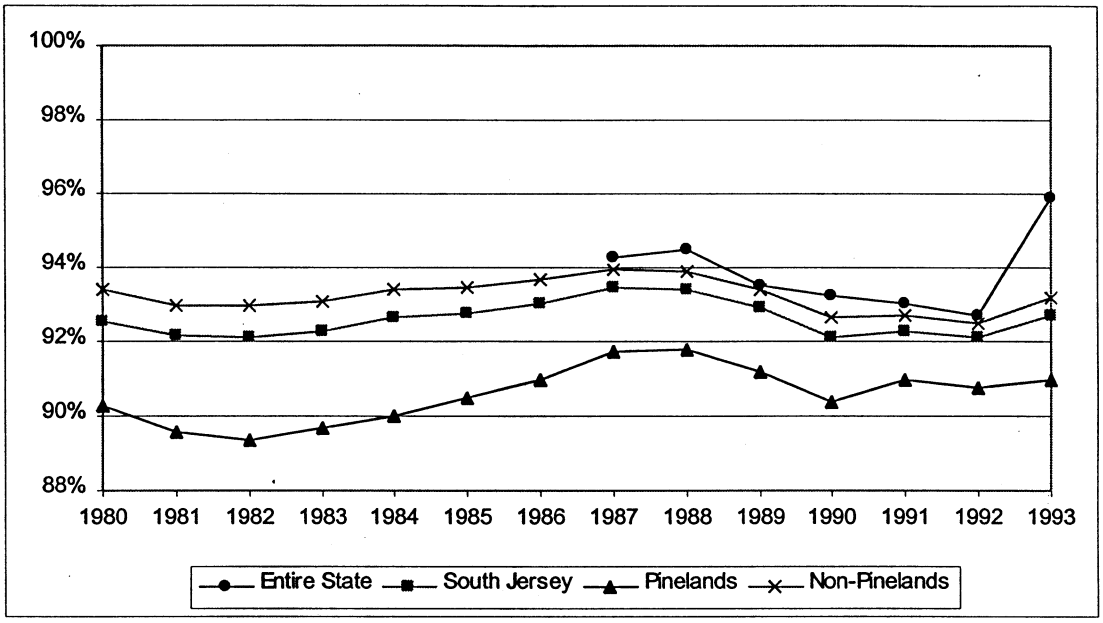
Summary of Previous Findings: Tax collection rates inside of the Pinelands and in the surrounding region tracked closely together, following the peaks and troughs of the business cycle. Although tax collection rates in the Pinelands remained lower than the rates in the surrounding region, the difference was roughly halved by the end of the monitoring period. Data at the statewide level, which were only available in electronic format from 1987-1992, followed similar trends, but demonstrated a greater drop than occurred in southern New Jersey.

Update: As shown in Figure 6.1a, tax collection rates inside and outside of the Pinelands continue to track together with the addition of one year of data. Statewide tax collection rates, however, showed a substantial increase of more than three percentage points. More current data is needed to determine if this apparent anomaly merits more detailed examination.

Recommendations for Special Studies: It would be beneficial to explore the tax collection rate data in more detail to help explain the apparent divergence of the statewide tax collection rate. In addition, obtaining more recent data would help compensate for the time lag between this variable and other variables in the report.

Figure 6.1a Tax Collection Rate

Average Per Municipality



6.2 *Assessment Class Proportions in Municipal Tax Revenues*

Description: The relative contribution of the different assessment classes (e.g., commercial, residential, and vacant land) to the tax revenue of each municipality measures the reliance of the municipality on different types of land uses for tax revenues. Data were obtained from the New Jersey Department of Community Affairs for 1980-1993. The addition of 1993 data extends the monitoring period by one year from the previous report.

Unit of Analysis: Data for assessment class proportions are compiled at the municipal level and aggregated to allow for inside/outside Pinelands, regional, and statewide analyses. The data are also presented in the municipal comparables format (see page 63).

Summary of Previous Findings: The dominant trend inside of the Pinelands during the initial monitoring period was a decline in the share of vacant land assessments (and, therefore, a decline in the proportion of tax revenues), which coincided with a nearly equivalent increase in the share of residential assessments. The amount of the decline, roughly 4.5 percentage points, substantially exceeded other changes in assessment class proportions found in the surrounding non-Pinelands area, the eight southern counties, and the entire state. Possible explanations include the development of vacant land, an increase in the value of developed land at a higher rate than that of vacant land, and/or a decrease in the value of vacant land. The proportions of most other assessment classes inside of the Pinelands remained fairly steady, with slight declines in the proportion of farmland and apartment assessments and a slight increase in the proportion of commercial assessments. Overall proportions in the non-Pinelands area also remained fairly steady, with slight declines experienced in the share of farmland and apartment classes. Similarly, statewide class proportions were fairly steady, although data were only presented for a more limited monitoring period, 1987-1992.

In terms of the contributions of individual assessment classes, the Pinelands area is characterized by the highest proportion of vacant land assessment and the lowest proportions of industrial and apartment assessments, which is consistent with the rural character of the region. Conversely, statewide proportions, including a low amount of vacant land and higher percentages of commercial and industrial land, are representative of a densely populated state.

Update: Changes in assessment class proportions over the monitoring period 1980-1993 are shown in Table 6.2a. This presentation format differs from the one used in the previous report and allows for inclusion of statewide data for 1980. In general, the addition of one year of data (1993) extends trends previously identified. Other notable changes include a gradual increase in the proportion of commercially assessed property inside of the Pinelands and statewide, and a decline in the proportion of industrial assessed property across all areas.

Recommendations for Special Studies: No special studies are recommended at this time.

Figure 6.2a Assessment Class Weights in Municipal Valuations
Average Weight Per Municipality

	PINELANDS		NON-PINELANDS		SOUTH JERSEY		NEW JERSEY	
	1980	1993	1980	1993	1980	1993	1980	1993
Vacant	15%	8%	5%	4%	7%	5%	4%	4%
Residential	66%	75%	68%	72%	67%	72%	66%	69%
Farm	4%	2%	4%	3%	4%	3%	1%	1%
Commercial	10%	12%	14%	14%	14%	13%	14%	16%
Industrial	3%	2%	5%	4%	4%	4%	10%	7%
Apartment	2%	1%	4%	3%	4%	3%	5%	3%
Total	100%	100%	100%	100%	100%	100%	100%	100%

6.3 *Municipal Expenditures by Type Per Capita*

Description: Total municipal expenditures and breakdowns of the total by major expenditure type measure the levels of services provided by the municipality. Measurement on a per capita basis allows for comparisons between municipalities of different population sizes. Data on expenditures were obtained from the New Jersey Department of Community Affairs (DCA) for 1980-1993, extending the monitoring period by one year (1993) from the previous report. Values are adjusted for inflation and shown in 1995 dollars. Municipal expenditures are categorized by DCA into 41 categories. For the purposes of this report, the categories have been aggregated into five general expenditure types as follows:

1. Capital & Debt Expenditures – Capital improvements, and principal and interest (debt service) payments.
2. Public Safety – Fire protection, police protection, civil defense and disaster control, environmental inspection and control, and other public safety.
3. Recreation and Conservation – Beaches and boardwalks; parks, playgrounds, and shade trees; land reclamation and conservation; and other recreational services.
4. Schools – Local district school taxes, regional and consolidated school taxes, and school taxes in municipal budget.
5. General Government – All other municipal expenditures tracked by DCA.

Population data necessary to perform the analysis were compiled from the United States Census Bureau.

Unit of Analysis: Data for municipal expenditures by type are compiled at the municipal level and aggregated to allow for inside/outside Pinelands, regional, and statewide analyses. The data are also presented in the municipal comparables format (see page 70).

Summary of Previous Findings: Total per capita expenditures for Pinelands communities were roughly 20% less than those for the balance of southern New Jersey throughout the initial monitoring period, with rates of increase for Pinelands and non-Pinelands municipalities almost identical. Overall per capita expenditures followed roughly the same trend inside and outside of the Pinelands and statewide: a steady increase until 1990 followed by leveling off or slight declines. School spending was the largest component of municipal expenditures.

Rates of change in expenditures for specific types of services were more varied, with capital and debt expenditures experiencing the highest rate of increase in both Pinelands and non-Pinelands communities (but constituting a fairly small proportion of total expenditures). General government expenditures rose at a significantly lower rate in Pinelands municipalities (24%) than in the balance of southern New Jersey (36%) or the state (35%). The data do not indicate, however, whether this is a positive finding (Pinelands municipalities providing basic services at lower cost) or a negative finding (Pinelands municipalities withholding services that are increasingly being provided by other similar municipalities).

Update: As shown in Table 6.3a and Figures 6.3b-6.3d, school spending continues to be the largest category of municipal expenditures, ranging from 44% of expenditures outside of the Pinelands to 52% of expenditures inside of the Pinelands (the statewide average is 46%).[6] While all types of municipal expenditures increased outside of the Pinelands from 1992-1993, expenditures for general government declined by 3.4% inside of the Pinelands and declined by 2% statewide.

Recommendations for Special Studies: As noted in the *First Annual Report*, the divergence of spending patterns for general government expenditures inside and outside of the Pinelands is a potential topic for further study.

Table 6.3a Per Capita Expenditures by Class
(1995 Dollars)

	PINELANDS		NON-PINELANDS		SOUTH JERSEY		NEW JERSEY	
	1980	1993	1980	1993	1980	1993	1980	1993
SCHOOLS	393	585	453	626	439	615	520	759
RECREATION & CONSERVATION	8	15	20	23	17	20	17	22
PUBLIC SAFETY	92	111	156	201	141	177	171	224
GENERAL GOVERNMENT	307	368	367	502	353	466	400	540
DEBT	29	57	44	82	41	75	54	88
TOTAL	**829**	**1,135**	**1,040**	**1,433**	**992**	**1,353**	**1,162**	**1,633**

6 1980 school expenditures presented in Table 6.3a differ from 1980 school expenditures presented in the *First Annual Report*. The school expenditure class in the *First Annual Report* included County and Special District taxes.

Figure 6.3b Per Capita Expenditures by Class (Pinelands)

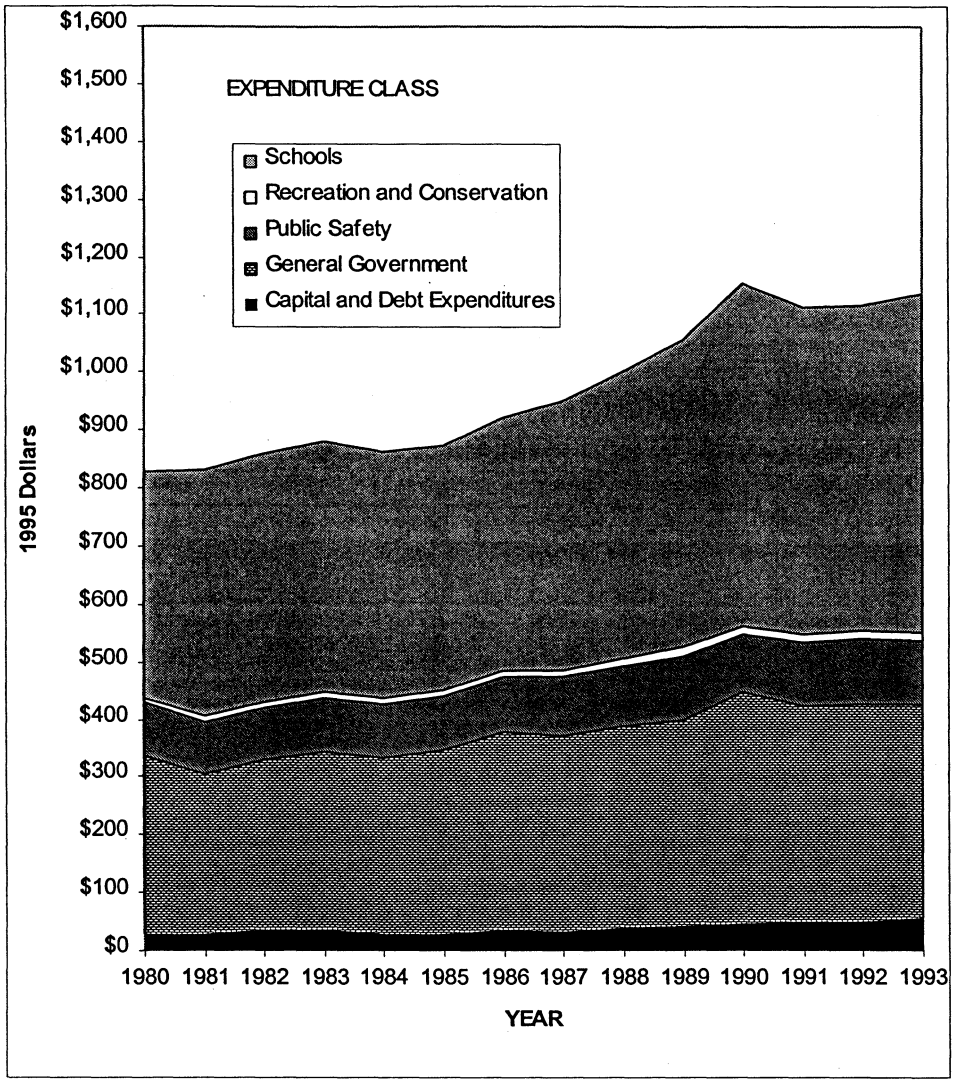


Figure 6.3c Per Capita Expenditures by Class (Non-Pinelands)

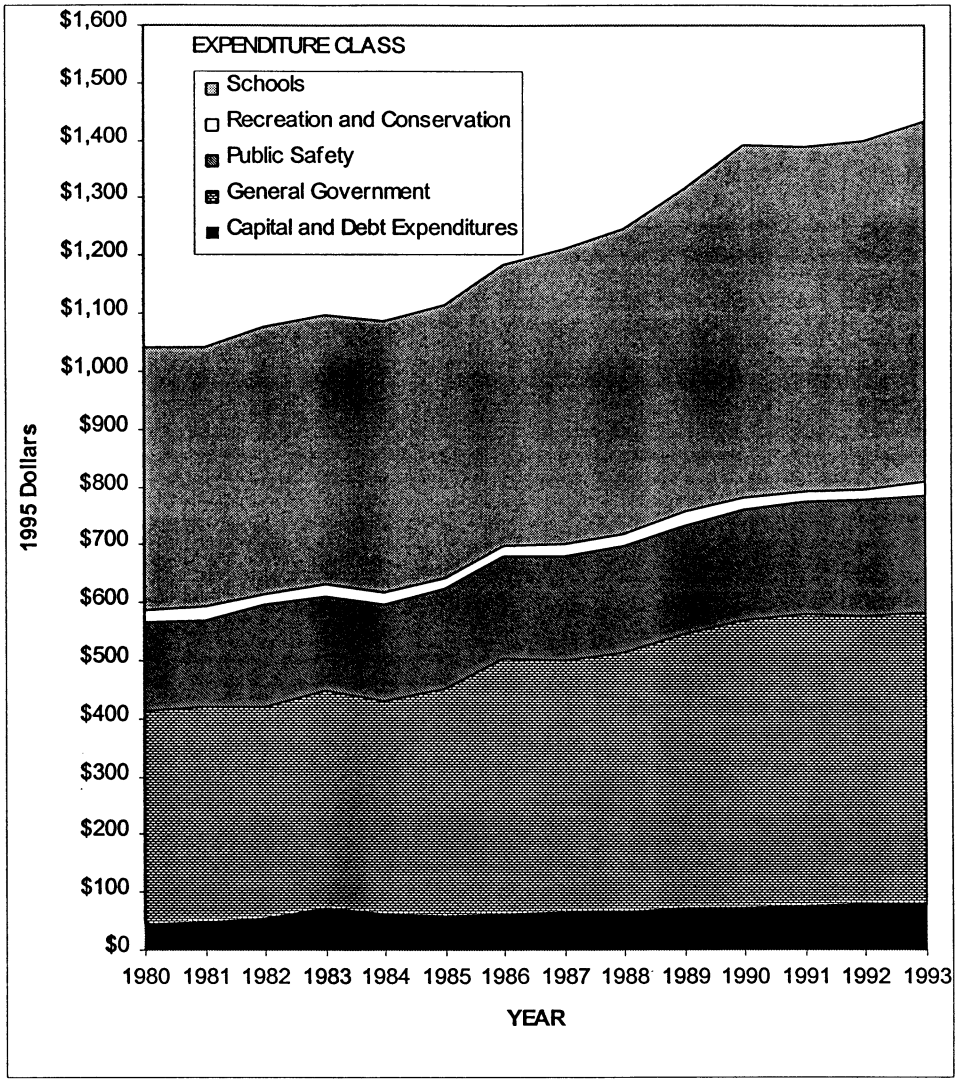


Figure 6.3d Per Capita Expenditures by Class (South Jersey)

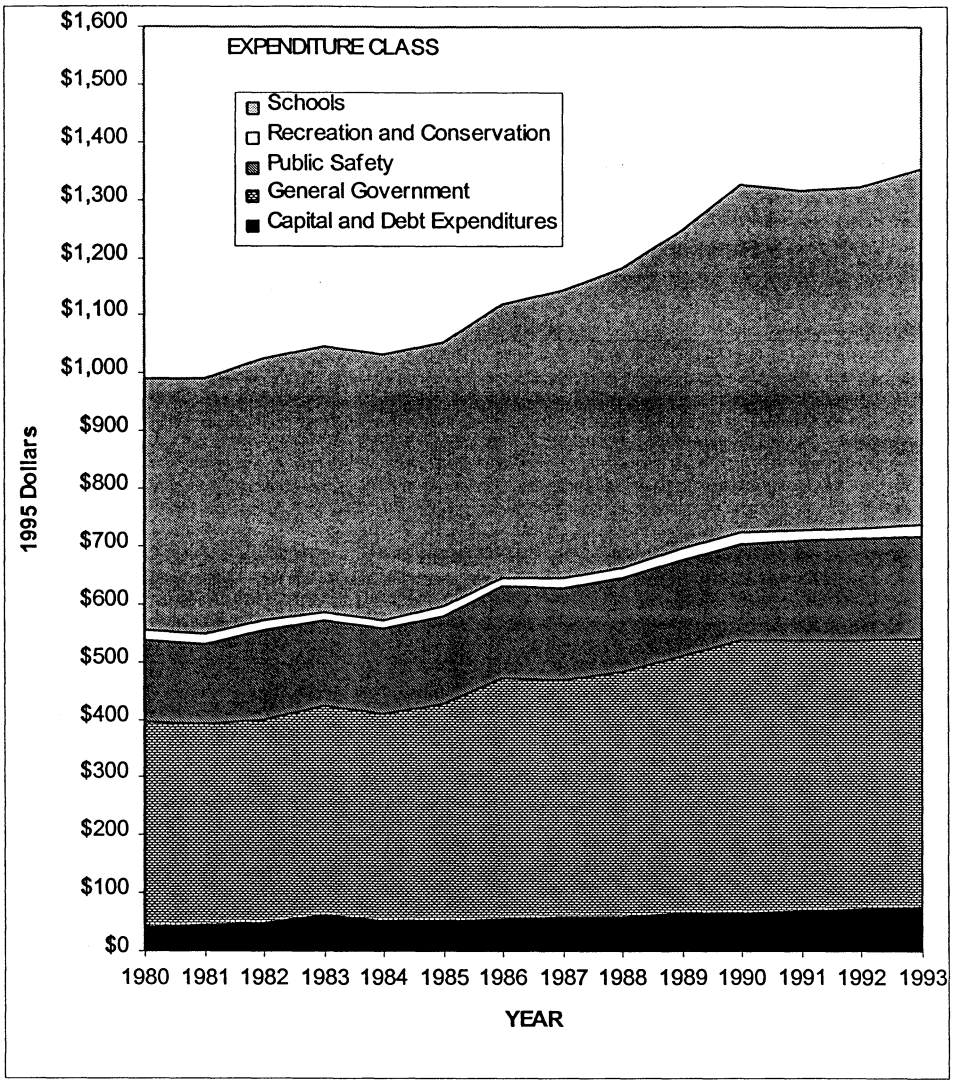
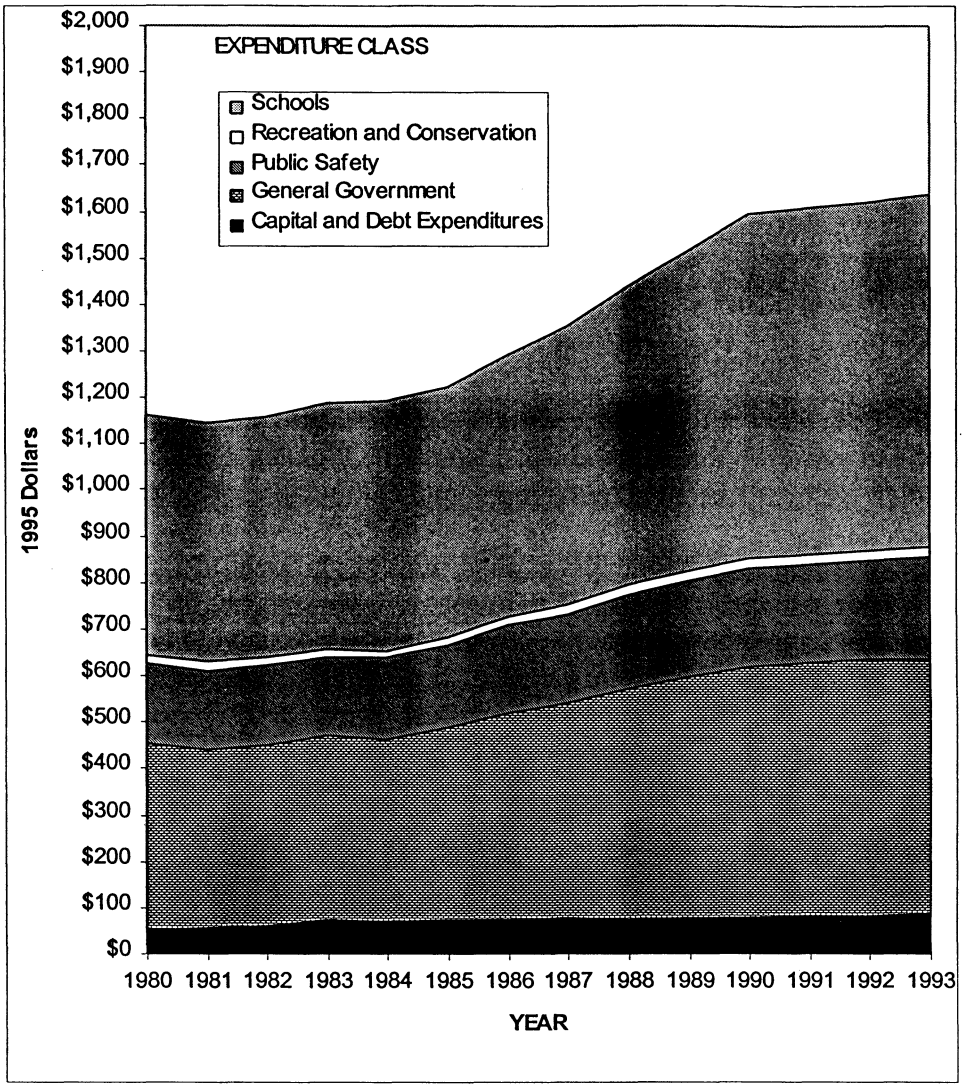


Figure 6.3e Per Capita Expenditures by Class (New Jersey)



6.4 *Municipal Expenditures Per Household and Relative to Median Household Income*

Description: Measurement of a municipality's expenditures relative to the number of households and the income of each household provides an alternative view of municipal expenditures. This variable was derived using municipal expenditure data from the New Jersey Department of Community Affairs in conjunction with household data from the United States Bureau of the Census for the years 1980 and 1990 (the monitoring period remains unchanged from the previous report). Because 1980 data on median family income were not available for municipalities with a population under 2,500, relevant county values were substituted when necessary (53 of the 202 southern New Jersey municipalities had populations under 2,500 in 1980, including 17 of the 55 municipalities examined using the comparables methodology). Values shown are in 1995 dollars.

Unit of Analysis: Data for municipal expenditures per household are compiled at the municipal level and aggregated to allow for inside/outside Pinelands, regional, and statewide analyses. The data are also presented in the municipal comparables format (see page 78).

Summary of Previous Findings: Municipal expenditures per household and relative to household income were higher statewide than in southern New Jersey for both 1980 and 1990 (see Figures 6.4a and 6.4b). Expenditures per household statewide grew 30.9% over the decade and represented 9.3% of the state's median household income in 1990, little changed from the 9.2% recorded in 1980. In southern New Jersey, expenditures per household grew 23.3% during the decade, but declined slightly as a percentage of income from 9.0% in 1980 to 8.7% in 1990. Municipal expenditures per household were lower in the Pinelands than in the non-Pinelands portion of southern New Jersey, although expenditures in the Pinelands increased slightly more between 1980 and 1990 (29.0%) than in the non-Pinelands portion of the region (28.2%).[7] As a percentage of median household income, expenditures held relatively steady in both the Pinelands (7.6% in 1990) and non-Pinelands (8.9% in 1990) portions.

Update: No new data are available (new data will be compiled as part of the 2000 census).

Recommendations for Special Studies: No special studies are recommended at this time.

7 Because county data were substituted for the 53 municipalities with populations less than 2,500 in 1980, values for Pinelands, non-Pinelands, and southern New Jersey expenditures relative to median household income are approximations. This method of calculation results in certain inconsistencies, such as the value for 1980 South Jersey expenditures relative to median household income being greater than the value for both the Pinelands and Non-Pinelands regions.

Figure 6.4a Municipal Expenditures per Household

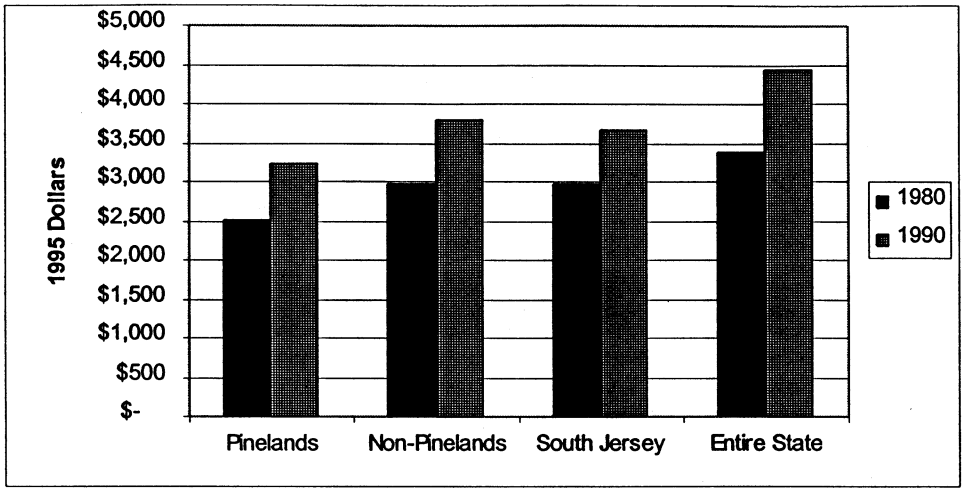
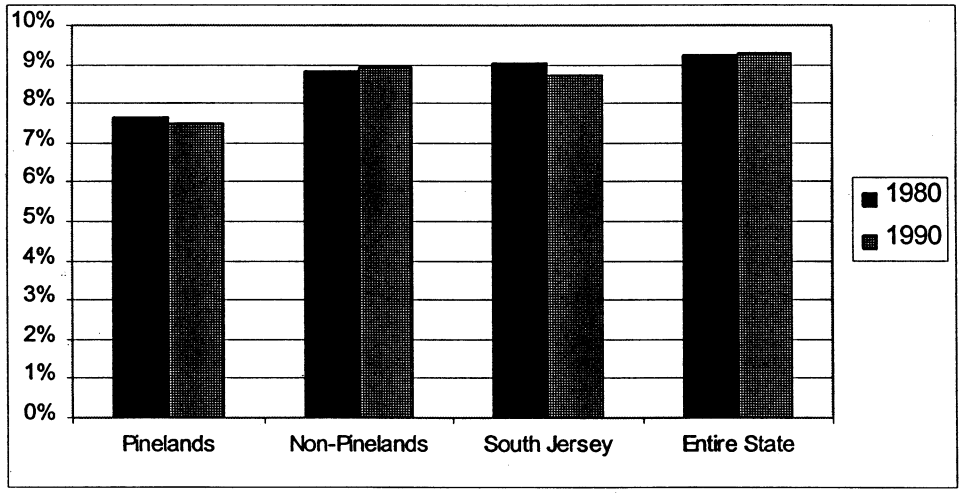


Figure 6.4b Municipal Expenditures Relative to Median Household Income



6.5 *Average Residential Property Tax Bill*

Description: The average residential property tax bill measures the impact of property taxes or tax burden on residents of the municipality. Data were obtained from the New Jersey Department of Treasury, Division of Taxation for the monitoring period 1983-1995. This report updates the previous report by one year to include 1995 data. Values are adjusted for inflation and shown in 1995 dollars.

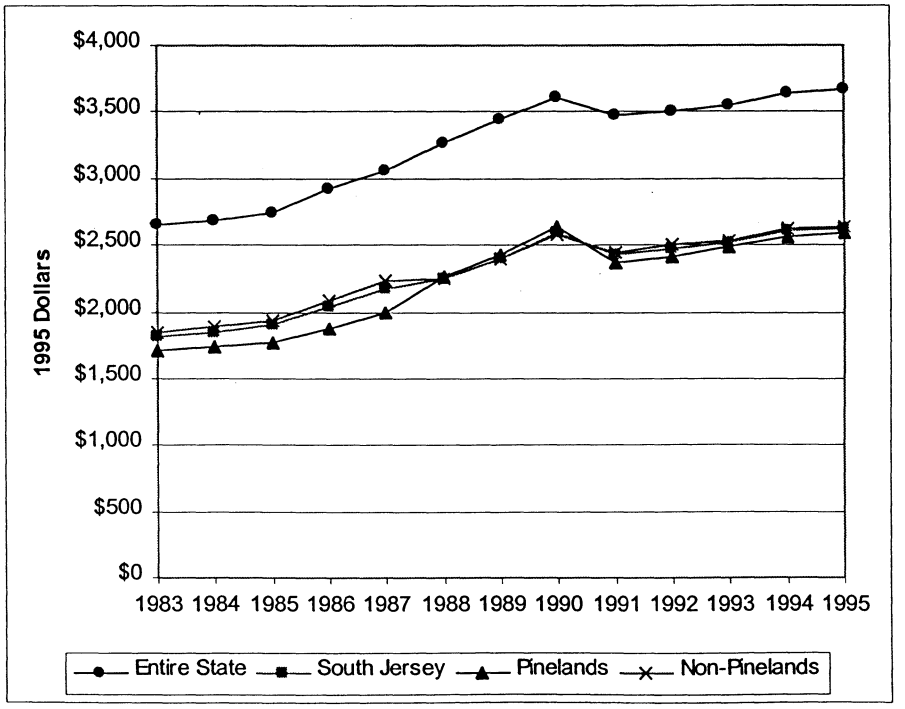
Unit of Analysis: Average residential property tax data are compiled at the municipal level and aggregated to allow for inside/outside Pinelands, regional, and statewide analyses. The data are also presented in the municipal comparables format (see page 85).

Summary of Previous Findings: Average residential property tax bills in New Jersey demonstrated a gradual but steady pattern of increase throughout the 1980's to a peak in 1990, followed by a decline in 1991 and a subsequent slow, continued increase. The annual rate of change over the monitoring period was virtually the same for all geographic areas. Average residential property tax bills inside of the Pinelands and in the surrounding region were approximately $1,000 lower than the statewide average.

Update: The addition of one year (1995) of data extended the gradual increase across all areas as shown in Figure 6.5a.

Recommendations for Special Studies: No special studies are recommended at this time.

Figure 6.5a Average Residential Property Tax Bill



6.6 State Equalized Valuation (Total Value of Taxable Property)

Description: Equalized property value is the total assessed value of all property in a municipality equalized to adjust for different municipal assessment biases in order to make values across New Jersey municipalities comparable to one another. It is useful as a measurement of the wealth of one municipality relative to other municipalities. Data were obtained from the New Jersey Department of Community Affairs for 1980-1993 and from the New Jersey Department of the Treasury, Division of Taxation, for 1996 and 1997 (data for 1994 and 1995 are not yet available in electronic format). The overall monitoring period, 1980-1997, has been extended by three new data points (1993, 1996 and 1997) in this report. Values are adjusted for inflation and shown in 1995 dollars.

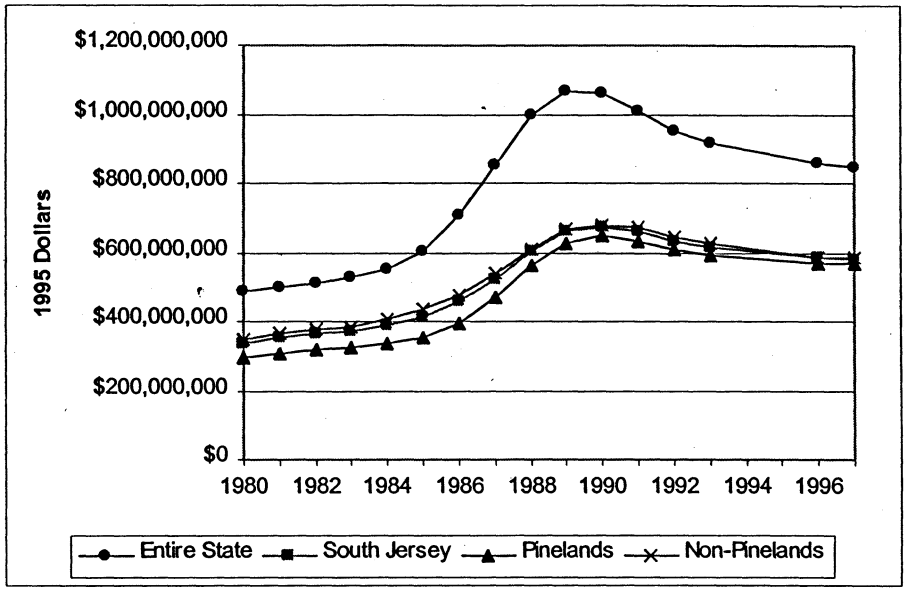
Unit of Analysis: State equalized valuation data are compiled at the municipal level and aggregated to allow for inside/outside Pinelands, regional, and statewide analyses. The data are also presented in the municipal comparables format (see page 89).

Summary of Previous Findings: Equalized property valuation in New Jersey rose throughout the 1980's, with most of the growth concentrated in the latter part of the decade. Average municipal valuation inside of the Pinelands tracked closely with average valuation outside of the Pinelands. While average valuation inside of the Pinelands was lower than average valuation outside of the Pinelands over the monitoring period, the gap progressively narrowed. Conversely, while average valuation in southern New Jersey remained lower than average valuation in the entire state, the differential did not diminish over the monitoring period. Following a peak in 1989, statewide average valuation experienced a steeper decline than average valuation throughout southern New Jersey.

Update: From 1993 to 1997, average equalized valuation continued to gradually decline across all areas of the state. This decline is consistent with the decline in mean selling prices of homes previously noted (see page 13). As shown in Figure 6.6a, the decline may be starting to subside in southern New Jersey.

Recommendations for Special Studies: No special studies are recommended at this time.

Figure 6.6a State Equalized Valuation
Average Per Municipality



6.7 Effective Tax Rates

Description: The effective tax rate is the rate at which the municipality taxes the (equalized) assessed value of property, and is equal to the general property tax adjusted by the municipality's equalization ratio as calculated by the New Jersey Department of the Treasury, Division of Taxation. Data were obtained from the New Jersey Department of Community Affairs for 1980-1993 and from the Division of Taxation for 1994-1997. The monitoring period was extended by 5 years (1993-1997) in this report.

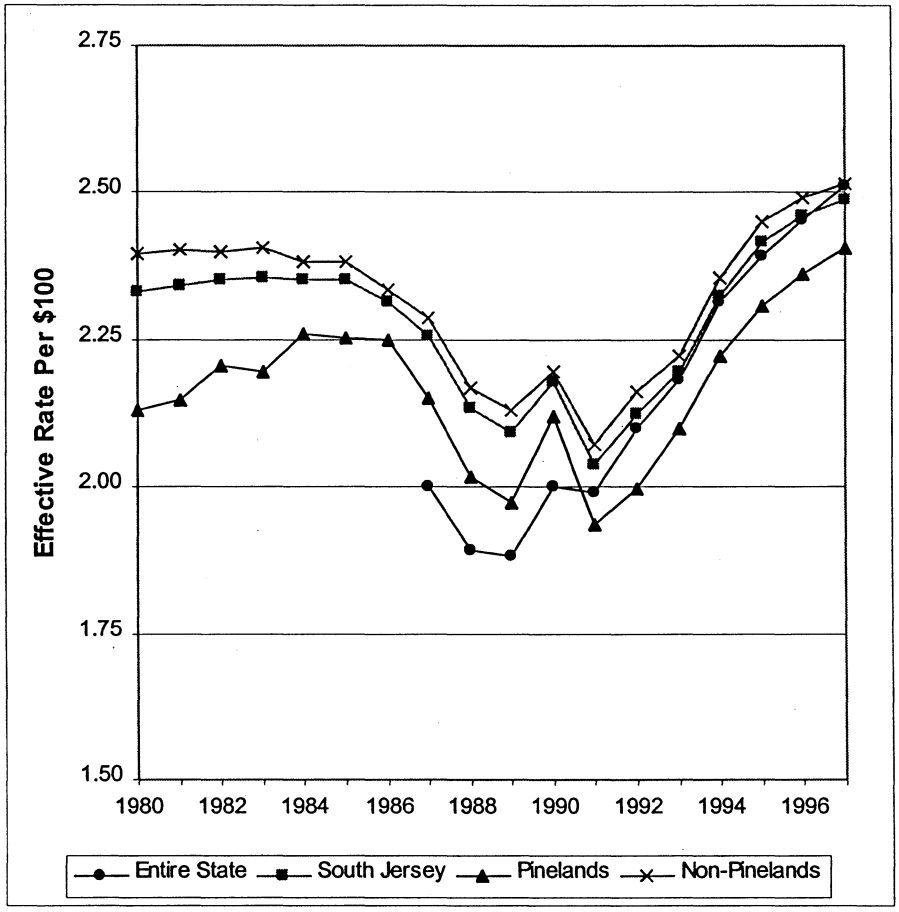
Unit of Analysis: Average effective tax rate data are compiled at the municipal level and aggregated to allow for inside/outside Pinelands, regional, and statewide analyses. The data are also presented in the municipal comparables format (see page 93).

Summary of Previous Findings: Effective tax rates in all regions remained steady or increased slightly in the early 1980's before beginning a period of decline in 1986. Effective tax rates inside of the Pinelands remained below rates outside of the Pinelands, with the differential decreasing somewhat from 1984 onward. Although statewide data were not available until 1987, statewide effective tax rates were below rates outside of the Pinelands, but surpassed rates inside of the Pinelands in 1991.

Update: As shown in Figure 6.7a, effective tax rates have gradually increased in all regions since the early 1990's and surpassed earlier highs set in the 1980's. Effective tax rates across all regions continue to track closely together, with statewide rates exceeding rates inside of the Pinelands.

Recommendations for Special Studies: One potential area for future study would be to obtain statewide data prior to 1987 to determine if the pattern established in 1991 (when statewide rates surpassed Pinelands rates) represents a departure from earlier trends.

Figure 6.7a Effective Tax Rate
Per $100 State Equalized Valuation,
Average Per Municipality [8]



8 The origin of the vertical axis in Figure 6.7a is not shown to better distinguish data points from the different regions.

6.8 Population

Description: The most important measure of demand for municipal services is population size. Data regarding population size are useful both as an indicator of demand for housing and for private and public goods and services, as well as for various per capita and per household calculations. 1980 and 1990 data for all municipalities were obtained from the United States Bureau of the Census. Population estimates based on the 1990 Census data were also obtained from the Bureau for 1996, extending estimates contained in the previous report by two years.

Unit of Analysis: Population data are compiled at the municipal level and aggregated to allow for inside/outside Pinelands, regional, and statewide analyses.

Summary of Previous Findings: The percentage increase in population was much higher inside of the Pinelands (30%) than outside (7%) from 1980 to 1990. Both areas surpassed the statewide increase in population of approximately 5% over the decade. A separate analysis of trends by county found that Atlantic County had the greatest differential between inside and outside growth rates from 1980-1990, which was most likely due to the start of casino gambling in Atlantic City and associated growth in nearby communities. Population estimates through 1994 indicated that the overall disparity in inside/outside growth trends continued, although not to the same extent as in the previous decade.

Update: As Table 6.8a shows, population continues to increase in all of the regions monitored. The percentage increase in population was higher inside of the Pinelands than outside from 1990 to 1996 (although in absolute terms, population increased more outside of the Pinelands over the same period). Also, the disparity between inside and outside Pinelands annual growth rates continued to lessen. Similarly, the annual growth rate in southern New Jersey remained higher than the growth rate for the entire state, while the difference between the two rates was also decreasing.

Recommendations for Special Studies: One potential area for future study is a more detailed analysis of the relationship between population and spatial characteristics (e.g., identify how employment centers are changing over time and how residential areas are responding). Another area for examination is population trends (and land and building values estimated using the Delphi method) in municipalities split along the Pinelands border.

Table 6.8a Population

	1980	1990	1996 Estimate	Annual % Change 1980-1990	Annual % Change 1990-1996
New Jersey	7,365,011	7,730,188	7,993,220	0.49%	0.56%
South Jersey	1,854,074	2,083,938	2,178,125	1.18%	0.74%
Non-Pinelands	1,430,609	1,534,417	1,587,646	0.70%	0.57%
Pinelands	423,465	549,521	590,479	2.64%	1.21%

6.9 Demographics

Description: The age distribution of the population within each municipality provides some determination of the demand for services and the ability of the population to withstand changes in tax rates. Data were obtained from the United States Bureau of the Census for 1980 and 1990; the monitoring period remains unchanged from the previous report.

Unit of Analysis: Demographic data are compiled at the municipal level and aggregated to allow for inside/outside Pinelands, regional, and statewide analyses.

Summary of Previous Findings: Examination of demographic data indicated that the population throughout southern New Jersey is aging. As shown in Table 6.9a, the proportion of the population under 18 dropped 3.3 percentage points outside of the Pinelands between 1980 and 1990, and dropped 4.4 percentage points inside of the Pinelands over the same timeframe. During the same decade, the proportion of the population over 65 increased 1.7 percentage points outside of the Pinelands and rose 2.9 percentage points inside of the Pinelands. Statewide trends were similar to those found in southern New Jersey. Table 6.9b shows the prevalence of different age classes in Pinelands and non-Pinelands municipalities. An examination of the geographic distribution of the 20 municipalities in the eight southern counties with the lowest and highest median ages in 1980 and 1990 found that both age extremes (youngest and oldest) are found at the edges of the region, predominantly outside of the Pinelands. The concentration of older populations along the southern and eastern borders reflects the popularity of resort and beach communities among retirees, while the concentration of younger populations in the north and west most likely reflects the presence of large military installations, a college campus, and more urban areas in Camden County.

Update: No new data are available (new data will be compiled as part of the 2000 census).

Recommendations for Special Studies: No special studies are recommended at this time.

Table 6.9a Proportion of Age Classes, 1980 and 1990

Location	<18 Yrs., 1980	<18 Yrs., 1990	>65 Yrs., 1980	>65 Yrs., 1990
Inside Pinelands	29.1%	24.7%	13.5%	16.4%
Outside Pinelands	28.1%	24.8%	12.5%	14.2%
Statewide	27.0%	23.3%	11.7%	13.4%

Table 6.9b Median Age, 1980 and 1990

Median Age in 1980

Age Class	18 - 22	23 - 29	30 - 34	35 - 39	40 - 49	50 - 59	60 - 64	65 - 69	Total
Non-Pinelands									
Number of Municipalities	0	32	78	20	17	7	0	0	154
Percent of Non-Pinelands Municipalities	0	20.78	50.65	12.99	11.04	4.55	0	0	100.00
Pinelands									
Number of Municipalities	1	26	13	3	2	1	0	1	47
Percent of Pinelands Municipalities	2.13	55.32	27.66	6.38	4.26	2.13	0	2.13	100.00
Total	1	58	91	23	19	8	0	1	201[9]

Median Age in 1990

Age Class	18 - 22	23 - 29	30 - 34	35 - 39	40 - 49	50 - 59	60 - 64	65 - 69	Total
Non-Pinelands									
Number of Municipalities	0	10	69	51	15	7	3	0	155
Percent of Non-Pinelands Municipalities	0	6.45	44.52	32.9	9.68	4.52	1.94	0	100.00
Pinelands									
Number of Municipalities	0	6	27	11	1	0	0	2	47
Percent of Pinelands Municipalities	0	12.77	57.45	23.4	2.13	0	0	4.26	100.00
Total	0	16	96	62	16	7	3	2	202

9 Municipalities in 1980 totaled 201 due to lack of data for Tavistock Boro (population=9).

7. Select Data for Comparable Municipalities

The data presented in previous chapters highlighted gross differences between variables for areas inside and outside of the Pinelands. However, they may mask smaller or more localized area trends. Therefore, a more refined evaluation, based upon an analysis of variables in somewhat similar municipalities inside and outside of the Pinelands, is presented here as another means to judge whether significantly different economic trends may be occurring inside and outside of the Pinelands.

As discussed previously (see section 3.2 on page 10), this section will evaluate six groups of "comparable" inside and outside municipalities on the basis of eight economic variables. Two additional variables (mean selling prices of homes and volume of real estate transactions) planned for inclusion in this section are not included at this time because the small number of data points makes it extremely difficult to discern meaningful trends.

This presentation of data on comparable municipalities is part of a multi-year effort to thoroughly examine the fiscal health of the Pinelands municipalities. The method of selection described in Appendix C will be further examined (e.g., by broadening or changing the criteria used to define comparability) as will the effect of changes in a municipality over time *vis a vis* the selection criteria. Refinement of the "comparables methodology" is a key priority for future study. Future areas of study may include an examination of how the variables interrelate and whether interrelationships shed light on any unusual trends seen in a single variable.

Appendix C (see page 101) includes a more detailed discussion of municipal groupings and a list of the Pinelands and non-Pinelands municipalities that make up each comparable group.

7.1 Building Permits for Dwelling Units

Description: Building permit activity measures the number of dwelling units authorized for construction as reported by municipal building inspectors in New Jersey. The data are collected through a cooperative program between the U.S. Bureau of the Census and the New Jersey Department of Community Affairs (NJ DCA), and made available via the World Wide Web by the New Jersey Department of Labor (NJ DOL). The monitoring period for this variable, 1980-1997, has been extended by two years (1996 and 1997) in this report.

Units of Analysis: Building permit data are presented here in the municipal comparables format. The data were initially compiled at the municipal level and aggregated to allow for inside/outside Pinelands analysis (see page 11).

Summary of Previous Findings: The Pinelands and non-Pinelands subgroups of four comparables groups experienced roughly similar building permit activity over the monitoring period 1980-1995: Lower Access, Lower Density, Lower Income (LLL); Lower Access, Lower Density, Middle Income (LLM); Middle Access, Higher Density, Middle Income (MHM); and Higher Access, Middle Density, Higher Income (HMH). Pronounced divergences between the Pinelands and non-Pinelands portions of the other comparables groups, Middle Access, Middle Density, Higher Income (MMH), and Higher Access, Middle Density, Middle Income (HMM) occurred in the years leading up to the recession. The most substantial activity among the Pinelands subgroup of MMH occurred in Manchester and Hamilton Townships, with Manchester peaking in 1986 at 853 units and Hamilton peaking in 1988 with 487 units. Both of these townships had high activity levels in 1980 when the CMP first came into effect. Subgroups in the HMM comparables category showed a similar pattern, with overall activity higher among the Pinelands members. In this instance, Galloway and Winslow Townships had substantially higher levels of activity than other communities in the subgroup, with Galloway peaking at 955 units in 1987 and Winslow peaking at 681 units in 1988.

Update: With the addition of two years of data, the subgroups of three comparables groups continue to track closely together: LLL, LLM; and HMH (see Figures 7.1a – 7.1f). The subgroups of a fourth comparables category that previously tracked together, MHM, may be starting to diverge. While annual fluctuations have always been more pronounced in the Pinelands subgroup, the gap between Pinelands and non-Pinelands activity has increased to approximately 150 permits. This increase can be mostly attributed to a higher level of permits issued in Barnegat Township, which increased from 27 in 1995 to 187 in 1997.

Recommendations for Special Studies: As discussed previously (see page 11), exploring better ways to capture this variable would be useful if the new methods controlled for relative differences among regions (e.g., some regions are much more developed than others).

Figure 7.1a **Dwelling Units Authorized By Building Permits (LLL Group)**
Lower Access, Lower Density, Lower Income

Average Per Municipality By Group

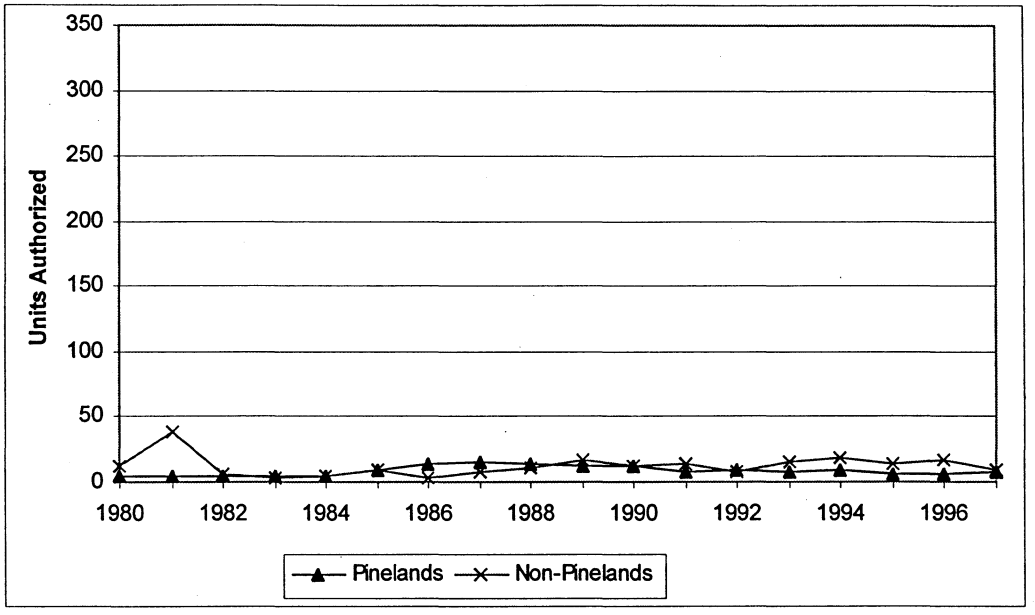


Figure 7.1b **Dwelling Units Authorized By Building Permits (MMH Group)**
Middle Access, Middle Density, Higher Income

Average Per Municipality By Group

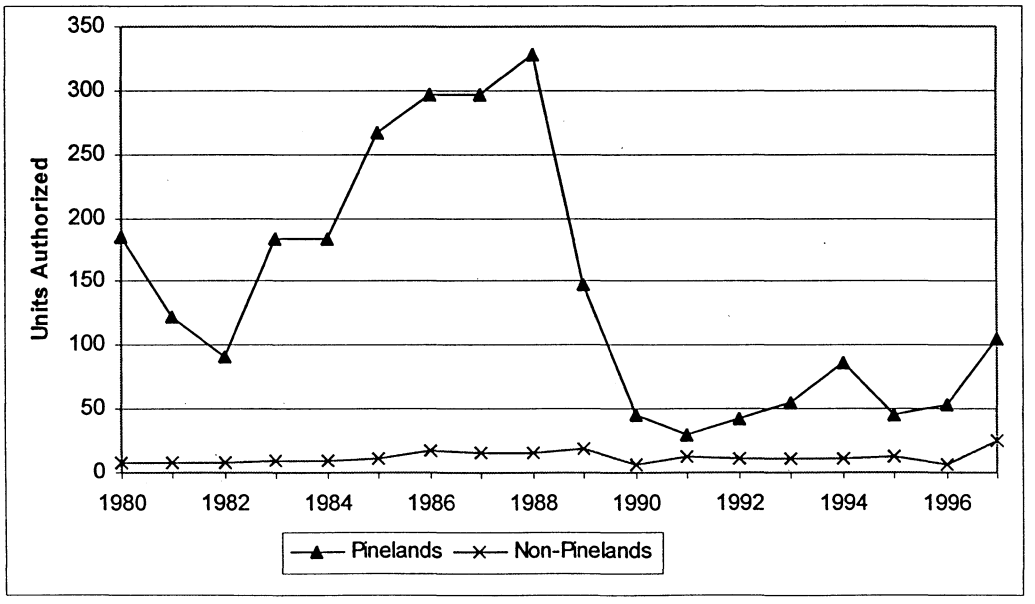


Figure 7.1c **Dwelling Units Authorized by Building Permits (HMH Group)**
Higher Access, Middle Density, Higher Income

Average Per Municipality

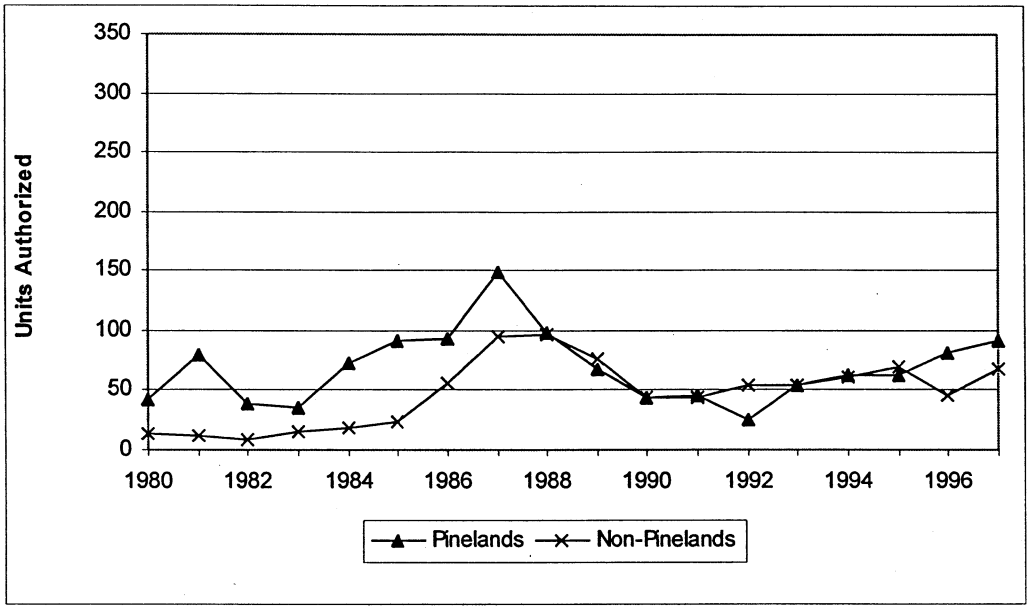


Figure 7.1d **Dwelling Units Authorized By Building Permits (MHM Group)**
Middle Access, Higher Density, Middle Income

Average Per Municipality By Group

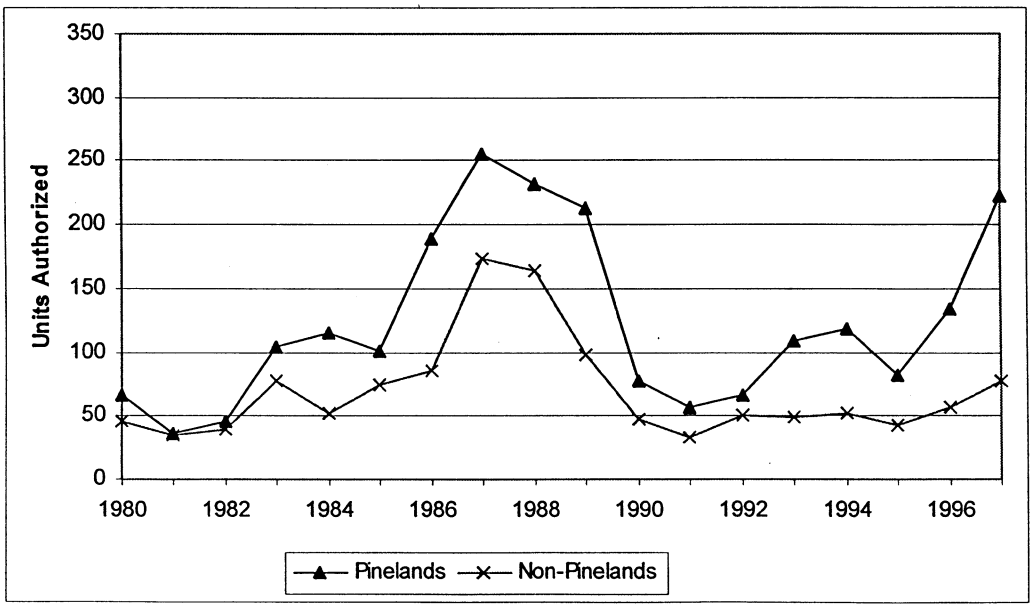


Figure 7.1e **Dwelling Units Authorized By Building Permits (LLM Group)**
Lower Access, Lower Density, Middle Income

Average Per Municipality by Group

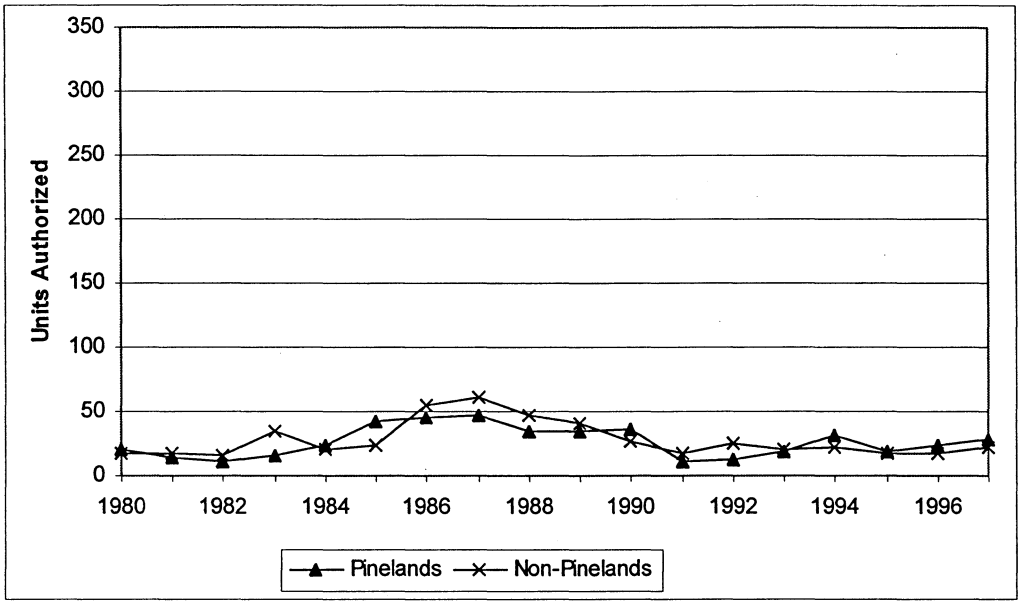
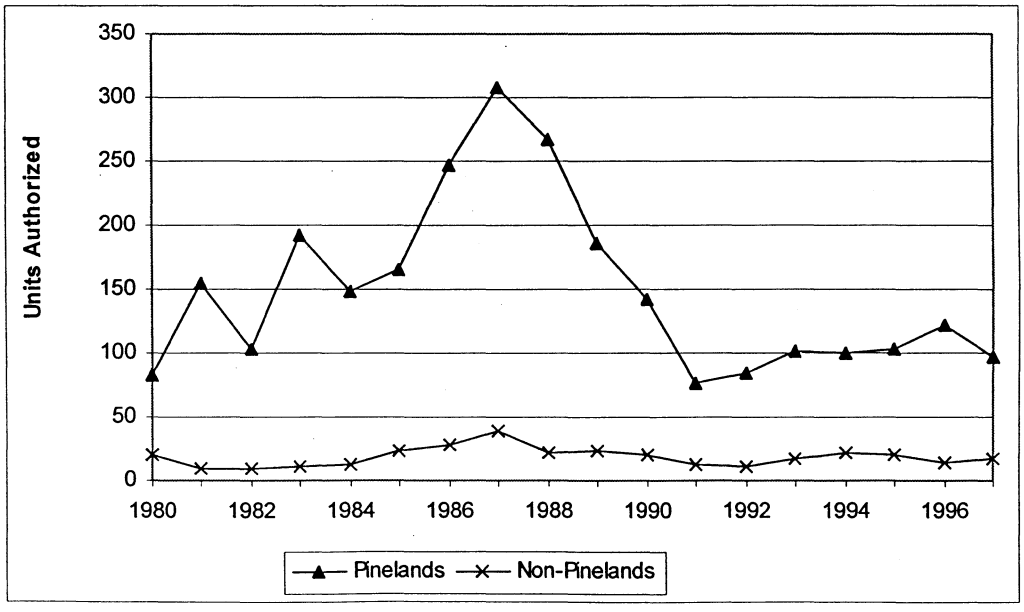


Figure 7.1f **Dwelling Units Authorized By Building Permits (HMM Group)**
Higher Access, Middle Density, Middle Income

Average Per Municipality By Group



7.2 Tax Collection Rates

Description: The tax collection rate is the ratio of the taxes actually collected to the taxes billed. It provides a measure of the municipality's ability to collect the revenues it anticipates and the financial well-being of its citizens. Data were obtained from the New Jersey Department of Community Affairs, Division of Local Government Services for the monitoring period 1980-1993, extending the record one year (1993) from the previous report.

Unit of Analysis: Tax collection data are presented here in the municipal comparables format. The data were initially compiled at the municipal level and aggregated to allow for inside/outside Pinelands, regional, and statewide analyses (see page 34).

Summary of Previous Findings: Unlike the aggregated inside/outside trends, average tax collection rates for Pinelands subgroups in 1980 were the same or higher than their non-Pinelands counterparts in all but the Higher Access, Middle Density, Middle Income (HMM) and Middle Access, Higher Density, Middle Income (MHM) groups. Average tax collection rates significantly diverged in only two groups: Lower Access, Lower Density, Lower Income (LLL) and Middle Access, Middle Density, Higher Income (MMH). In both cases, the individual municipal distributions were fairly consistent, indicating that one or two anomalies are not causing the divergence. Collection rates in the LLL Pinelands subgroup were the same as their non-Pinelands counterparts in 1980 but began to consistently outpace them beginning in 1985. Closer examination of the data revealed that Eagleswood Township lagged behind the other Pinelands municipalities during the early 1980's but caught up with the rest of the subgroup in 1985. While the gap between the Pinelands and non-Pinelands subgroups of MMH appears to be closing in the early 1990's, the rather large annual fluctuations in the Pinelands subgroup make it difficult to judge whether a trend is developing.

Update: Consistent with aggregated inside/outside Pinelands data, tax collection rates generally increased in 1993 across all comparables subgroups (see Figures 7.2a – 7.2f). The divergence previously noted for the MMH group appears to be diminishing due to fairly flat Pinelands collection rates and increasing non-Pinelands collection rates from 1991 to 1993. Similarly, the gap between the Pinelands and non-Pinelands subgroups of the LLL comparables group continued to converge in 1993 as a result of a larger increase in the average tax collection rate of the Pinelands subgroup. Subgroups of the remaining comparables groups generally followed the same patterns noted previously.

Recommendations for Special Studies: No special studies are recommended at this time.

Figure 7.2a Tax Collection Rates (LLL Group)
Lower Access, Lower Density, Lower Income

Average Per Municipality by Group

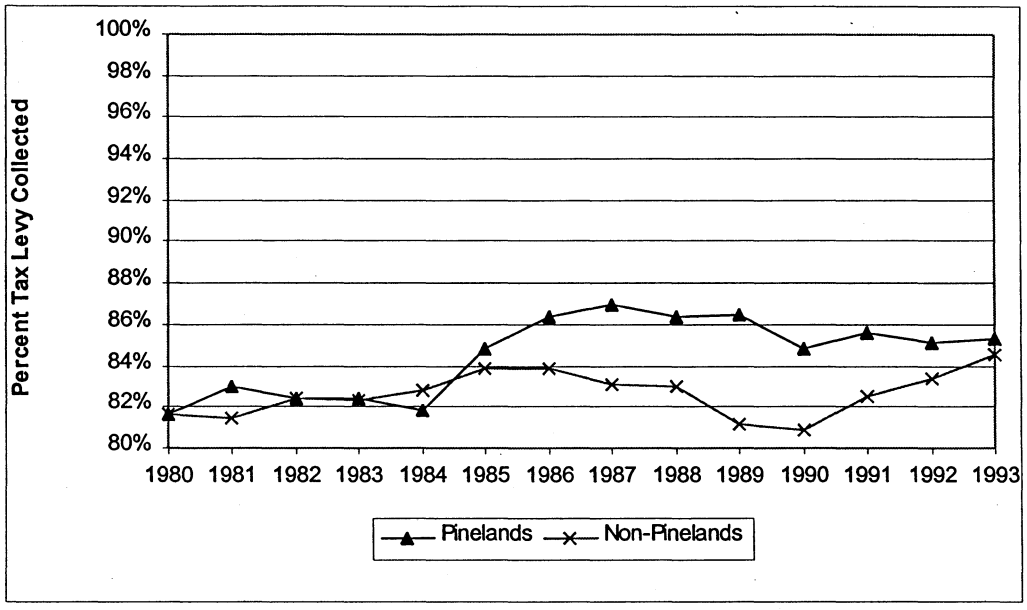


Figure 7.2b Tax Collection Rates (MMH Group)
Middle Access, Middle Density, Higher Income

Average Per Municipality by Group

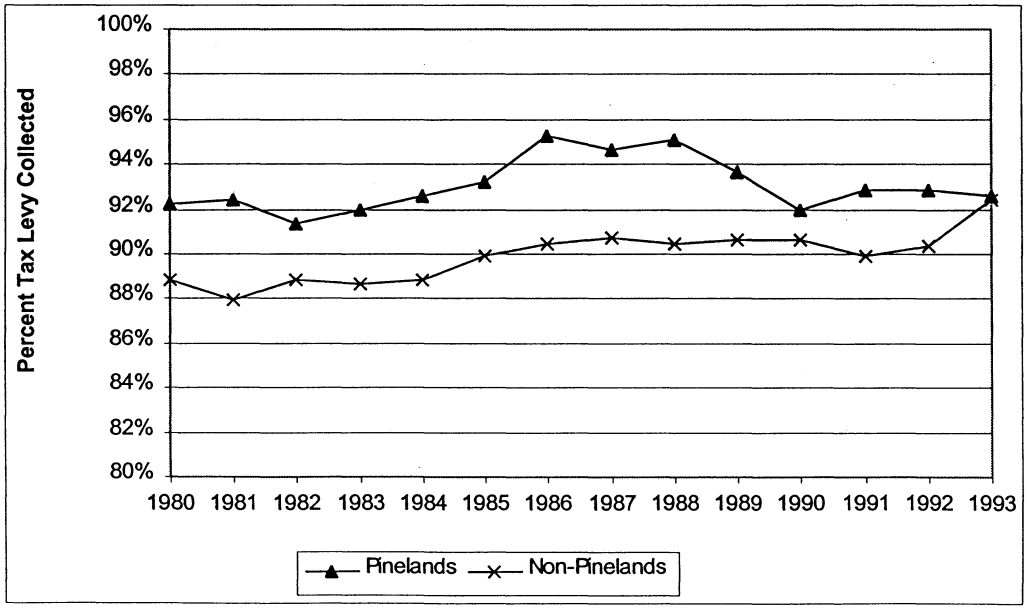


Figure 7.2c Tax Collection Rates (HMH Group)
Higher Access, Middle Density, Higher Income

Average Per Municipality by Group

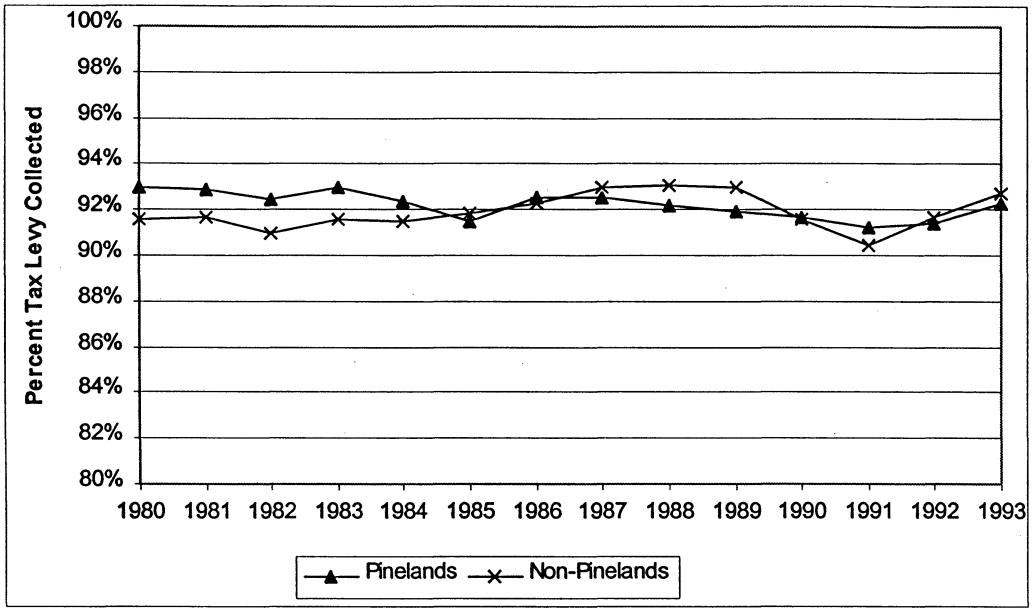


Figure 7.2d Tax Collection Rates (MHM Group)
Middle Access, Higher Density, Middle Income

Average Per Municipality by Group

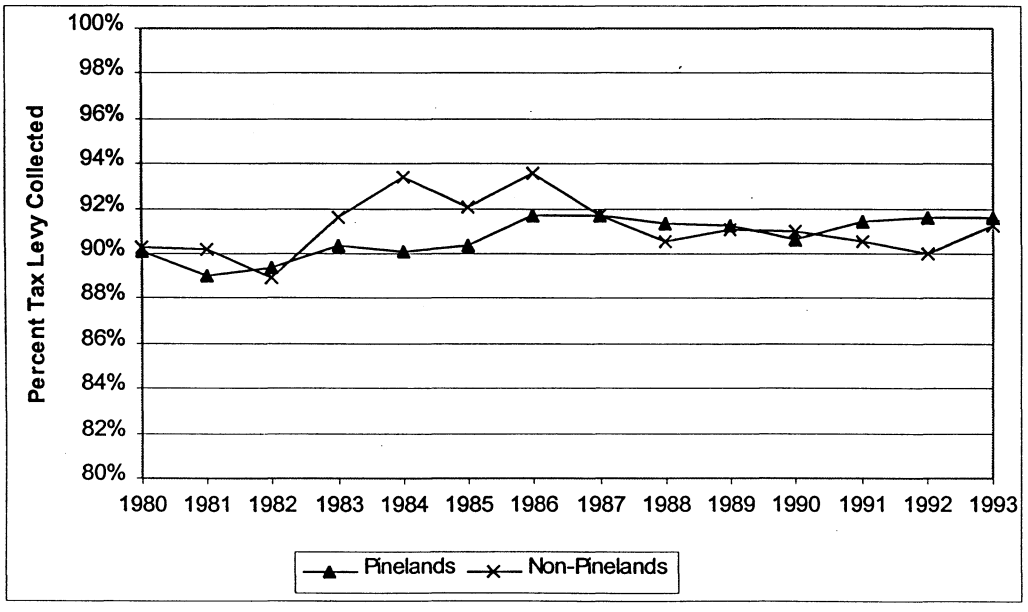


Figure 7.2e Tax Collection Rates (LLM Group)
Lower Access, Lower Density, Middle Income

Average Per Municipality by Group

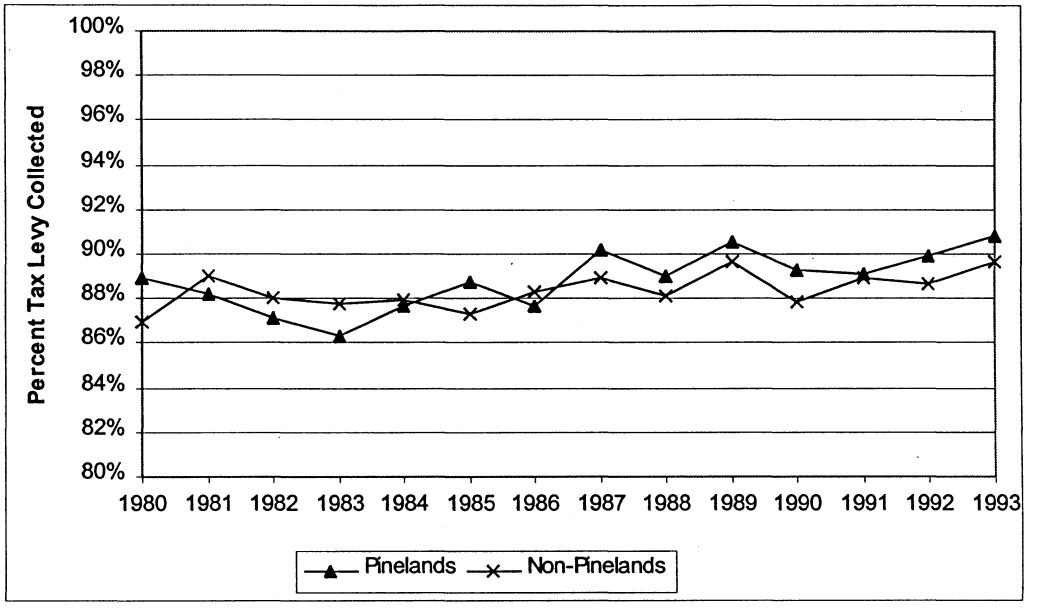
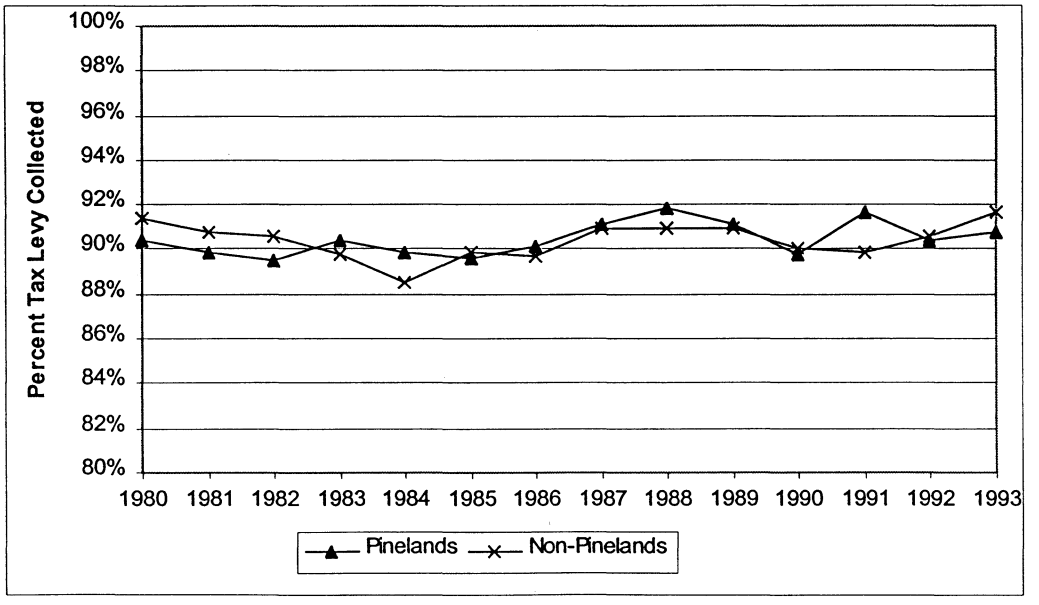


Figure 7.2f Tax Collection Rates (HMM Group)
Higher Access, Middle Density, Middle Income

Average Per Municipality by Group



7.3 *Assessment Class Weights in Municipal Valuations*

Description: The relative percentage of the different assessment classes (e.g., commercial, residential, and vacant land) in the tax revenue of each municipality measures the reliance of the municipality on different types of land uses for tax revenues. Data were obtained from the New Jersey Department of Community Affairs for 1980-1993, extending the monitoring period one year (1993) from the previous report.

Unit of Analysis: Data for assessment class proportions are presented here in the municipal comparables format. Data were initially compiled at the municipal level and aggregated to allow for inside/outside Pinelands, regional, and statewide analyses (see page 36).

Summary of Previous Findings: The average share of municipalities' total valuations represented by vacant land diminished substantially in the Pinelands portion of each group over the initial monitoring period while remaining stable or declining moderately for the non-Pinelands portions of the same groups. All groups registered increases in the residential proportion of municipal assessments, with larger increases generally experienced by the Pinelands subgroups. The sum of commercial and industrial valuation percentages remained relatively stable or increased slightly for all subgroups, except for the Pinelands and non-Pinelands subgroups of the Higher Access, Middle Density, Middle Income (HMM) comparables group. The role of farms in municipal assessments tended to be fairly small and decreased slightly over the monitoring period, with proportions higher in each non-Pinelands subgroup than in the corresponding Pinelands subgroup. Apartment parcels represented either a negligible or non-existent share in all of the groups with the exception of the Middle Access, Higher Density, Middle Income (MHM) and Higher Access, Middle Density, Higher Income (HMH) groups.

Update: Because changes in assessment class proportions typically take place gradually, it is difficult to identify significant departures from previous activity on an annual basis. In general, the addition of one year of data extends the broad trends described in last year's report (see Figures 7.3a-7.3l). Among the more distinct changes is the near elimination of the apartment class in the Pinelands subgroup of Middle Access, Middle Density, Higher Income (MMH) comparables grouping, which had the highest percentage of apartment assessments at the start of monitoring in 1980. This drop was caused almost exclusively by Manchester Township, where apartment assessments declined from 35% in 1980 to less than 1% by 1993. In the non-Pinelands communities of the HMM group, commercial assessments increased noticeably over the past year. The non-Pinelands communities of another comparables group, HMH, experienced a slight increase in the proportion of residential assessments and a corresponding decline in the share of vacant land.

Recommendations for Special Studies: The *First Annual Report* identified two potential areas for further study. One option would examine whether the declining role of vacant land valuations in Pinelands subgroups and the simultaneous increase in residential valuations is due to the conversion of vacant land to residential uses or to a relative decline in prices of vacant land. A second option would analyze assessment types to determine if a relationship exists between the composition of ratable bases and the fiscal stability of the community.

Figure 7.3a **Assessment Class Weights in Municipal Valuations (LLL Group)**
Lower Access, Lower Density, Lower Income

Average Weight Per Municipality, Pinelands

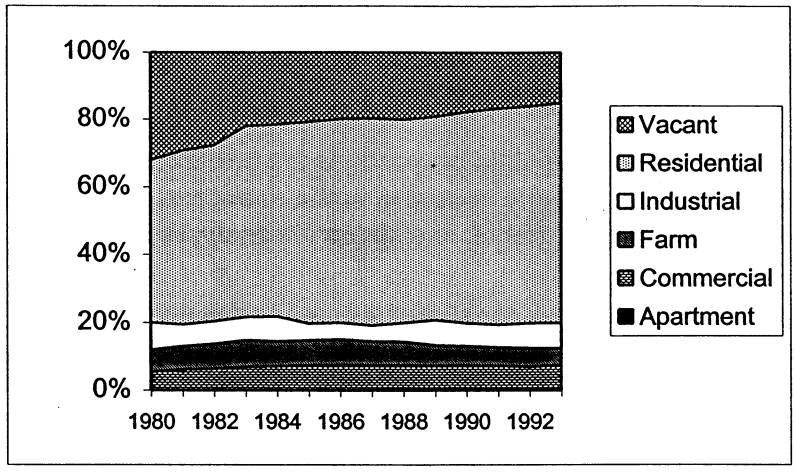


Figure 7.3b **Assessment Class Weights in Municipal Valuations (LLL Group)**
Lower Access, Lower Density, Lower Income

Average Weight Per Municipality, Non-Pinelands

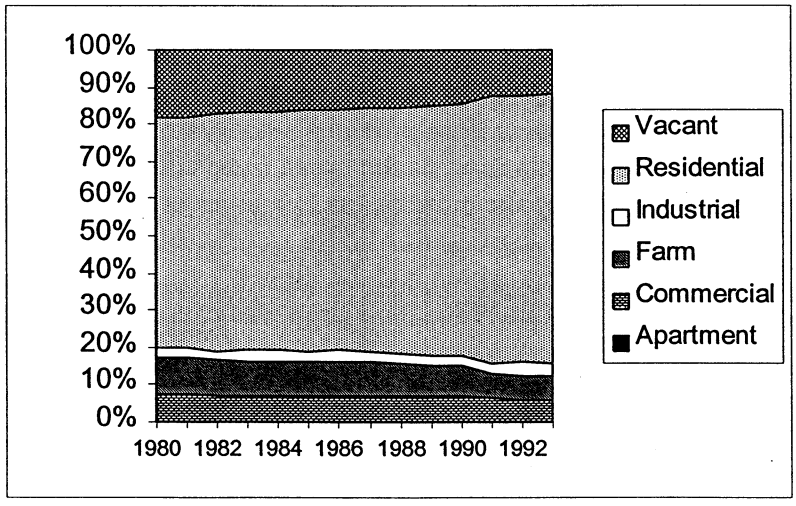


Figure 7.3c **Assessment Class Weights in Municipal Valuations (MMH Group)**
Middle Access, Middle Density, Higher Income

Average Weight Per Municipality, Pinelands

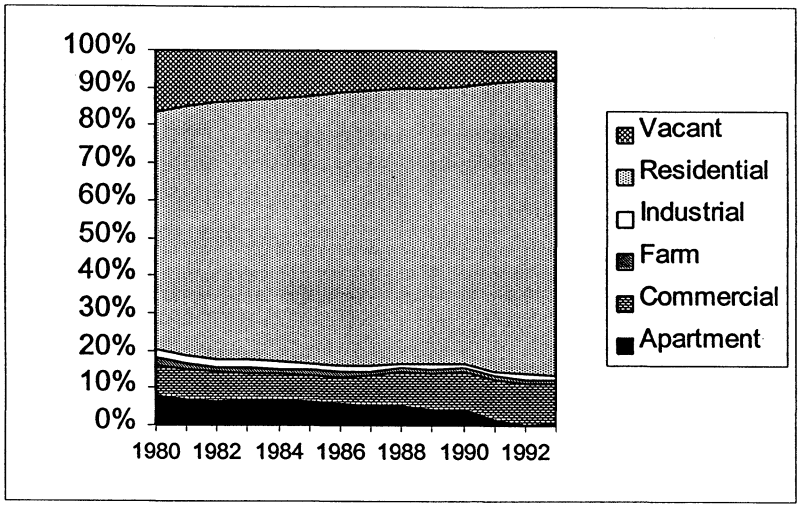


Figure 7.3d **Assessment Class Weights in Municipal Valuations (MMH Group)**
Middle Access, Middle Density, Higher Income

Average Weight Per Municipality, Non-Pinelands

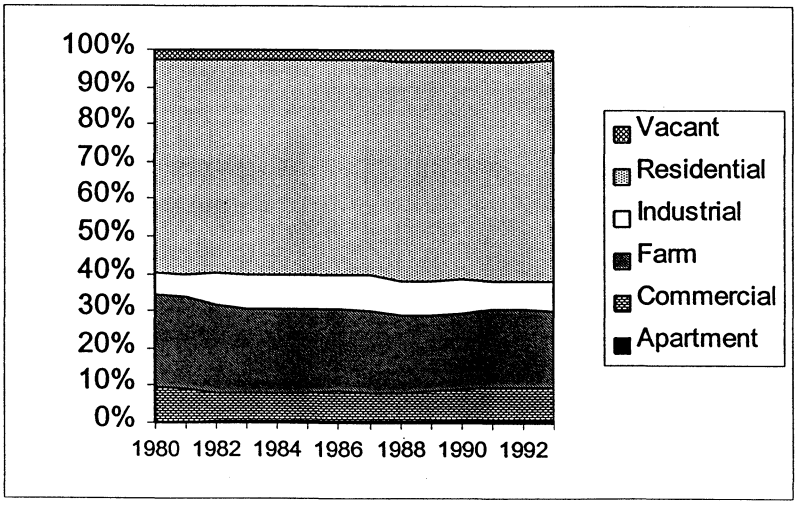


Figure 7.3e **Assessment Class Weights in Municipal Valuations (HMH Group)**
Higher Access, Middle Density, Higher Income

Average Weight Per Municipality, Pinelands

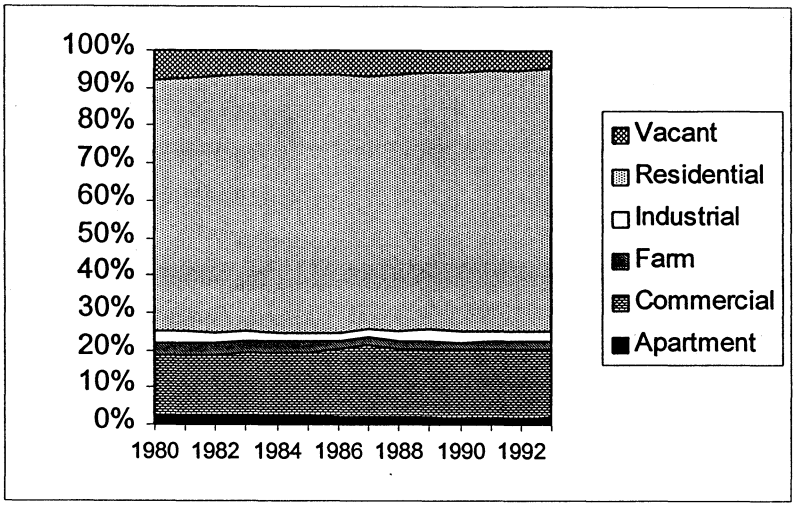


Figure 7.3f **Assessment Class Weights in Municipal Valuations (HMH Group)**
Higher Access, Middle Density, Higher Income

Average Weight Per Municipality, Non-Pinelands

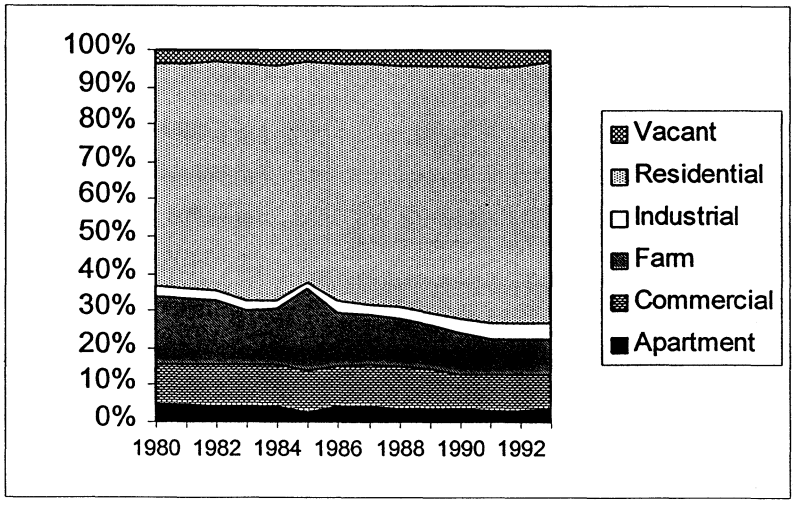


Figure 7.3g **Assessment Class Weights in Municipal Valuations (MHM GROUP)**
Middle Access, Higher Density, Middle Income

Average Weight Per Municipality, Pinelands

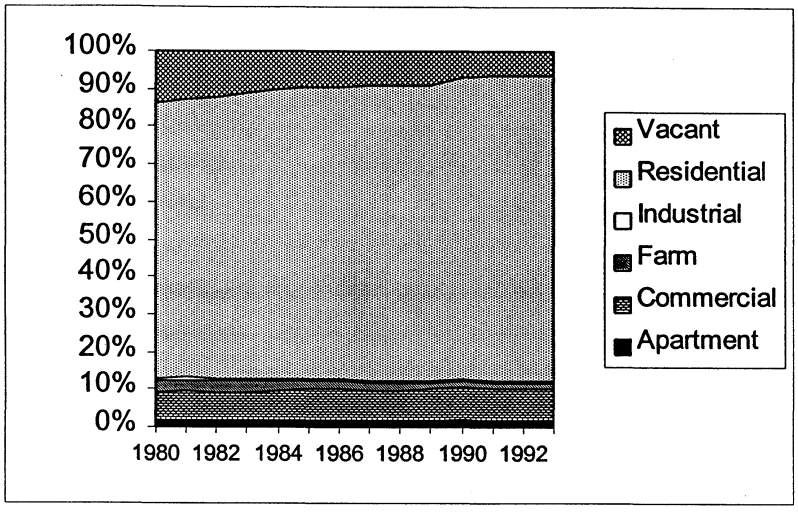


Figure 7.3h **Assessment Class Weights in Municipal Valuations (MHM Group)**
Middle Access, Higher Density, Middle Income

Average Weight Per Municipality, Non-Pinelands

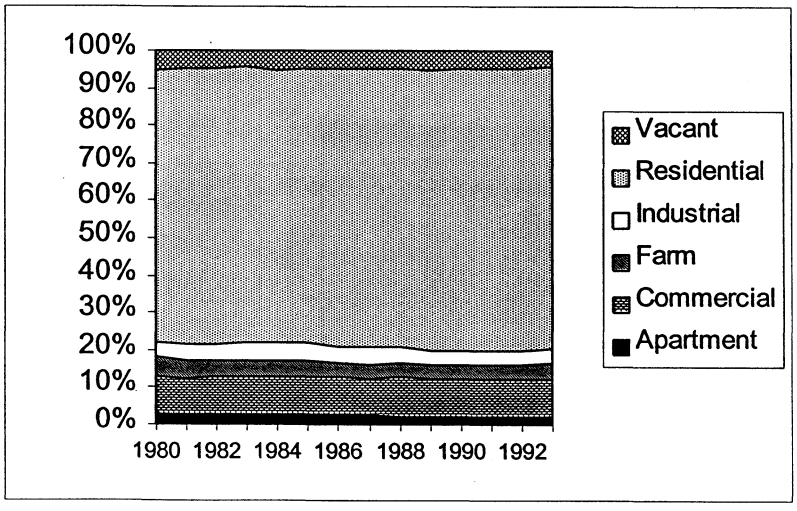


Figure 7.3i **Assessment Class Weights in Municipal Valuations (LLM Group)**
Lower Access, Lower Density, Middle Income

Average Weight Per Municipality, Pinelands

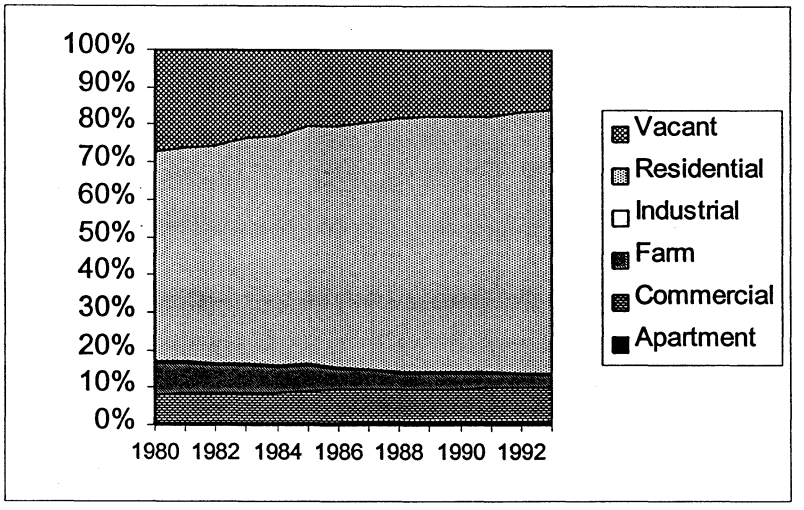


Figure 7.3j **Assessment Class Weights in Municipal Valuations (LLM Group)**
Lower Access, Lower Density, Middle Income

Average Weight Per Municipality, Non-Pinelands

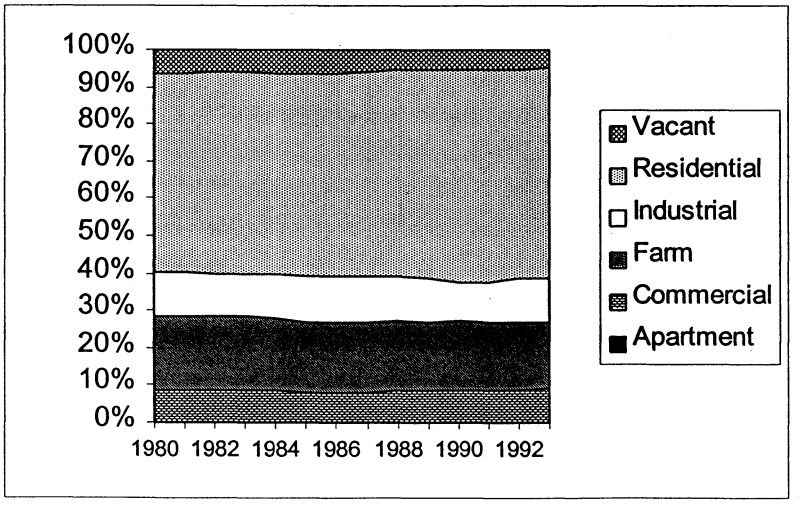


Figure 7.3k **Assessment Class Weights in Municipal Valuations (HMM Group)**
Higher Access, Middle Density, Middle Income

Average Weight Per Municipality, Pinelands

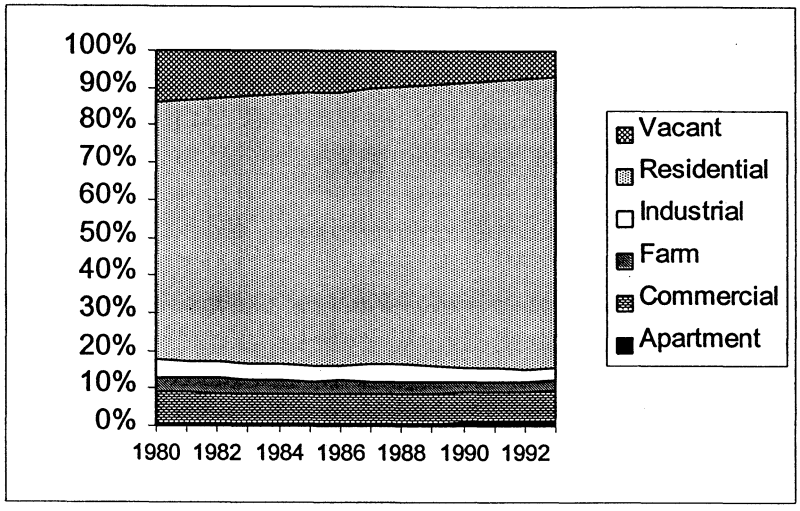
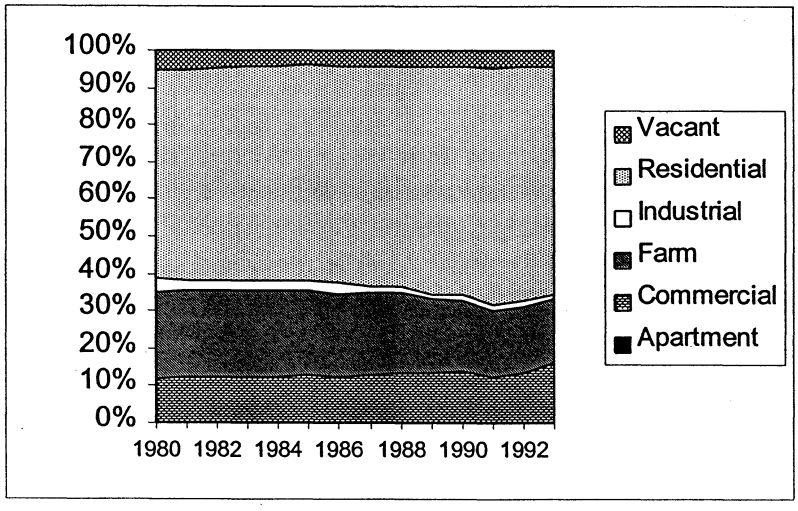


Figure 7.3l **Assessment Class Weights in Municipal Valuations (HMM Group)**
Higher Access, Middle Density, Middle Income

Average Weight Per Municipality, Non-Pinelands



7.4 *Municipal Expenditures by Type Per Capita*

Description: Total municipal expenditures and breakdowns of the total by major expenditure type measure the levels of services provided by the municipality. Measurement on a per capita basis allows for comparisons between municipalities of different population sizes. Data on expenditures were obtained from the New Jersey Department of Community Affairs (DCA) for 1980-1993, extending the monitoring period one year (1993) from the previous report. Values are adjusted for inflation and shown in 1995 dollars. Municipal expenditures are categorized by DCA into 41 categories. For the purposes of this report, the categories have been aggregated into five general expenditure types as follows:

1. Capital and Debt Expenditures – Capital improvements, and principal and interest (debt service) payments
2. Public Safety – Fire protection, police protection, civil defense and disaster control, environmental inspection and control, and other public safety
3. Recreation and Conservation – Beaches and boardwalks; parks, playgrounds, and shade trees; land reclamation and conservation; and other recreational services
4. Schools – Local district school taxes, regional and consolidated school taxes, and school taxes in municipal budget
5. General Government – All other municipal expenditures tracked by DCA.

Population data necessary to perform the analysis were compiled from the United States Census Bureau.

Unit of Analysis: Data for municipal expenditures per capita are presented here in the municipal comparables format. The data are compiled at the municipal level and are also aggregated to allow for inside/outside Pinelands, regional, and statewide analyses (see page 38).

Summary of Previous Findings: The rate of increase in per capita municipal expenditures was significantly lower than the rate of increase in population in Pinelands and non-Pinelands municipalities in three municipal groups: Lower Access, Lower Density, Lower Income (LLL), Lower Access, Lower Density, Middle Income (LLM)[10] and Higher Access, Middle Density and Middle Income (HMM). Expenditures per capita (in 1995 dollars) remained relatively low in these three groups.

Some disparity in expenditures for schools and general government was evident in the two groups with small overall expenditure increases. Per capita school expenditures during the monitoring period in the non-Pinelands LLM subgroup were essentially unchanged from the 1980 level while its Pinelands counterpart experienced a moderate increase in 1992. School expenditures in the Higher Access, Middle Density and Middle Income (HMM) group were

[10] For the comparables analysis of municipal expenditure data, Lower Alloways Creek Township was dropped from the LLM non-Pinelands subgroup because it is the site of the Salem Nuclear Reactor. The construction and continuing presence of this reactor resulted in large expenditures by the municipality unlike those made by any other South Jersey Municipality.

well below regional averages. General government expenditures increased in the LLM group and the HMM non-Pinelands subgroups at rates generally consistent with those of the region.

Update: In general, the municipal expenditures per capita increased slightly from 1992 to 1993 in all comparables groups. Most subgroups' expenditures increased for either schools or general government. The non-Pinelands HMH group experienced a large increase in recreation and conservation expenditures in 1993. This is due mainly to a 45% increase in recreation and conservation expenditures in Millville City.

Recommendations for Special Studies: The municipal expenditure data set is the largest and most complex of the core monitoring variables. More detailed statistical analyses of these data, in association with other variables such as demographic information, are critical for comparables groups and for the larger universe of Pinelands and non-Pinelands municipalities. Some of the data anomalies found during the analysis also suggest that the method of analyzing comparable municipalities needs to be examined in more detail.

Figure 7.4a Per Capita Expenditures by Class (LLL Group)
Lower Access, Lower Density, Lower Income

Pinelands

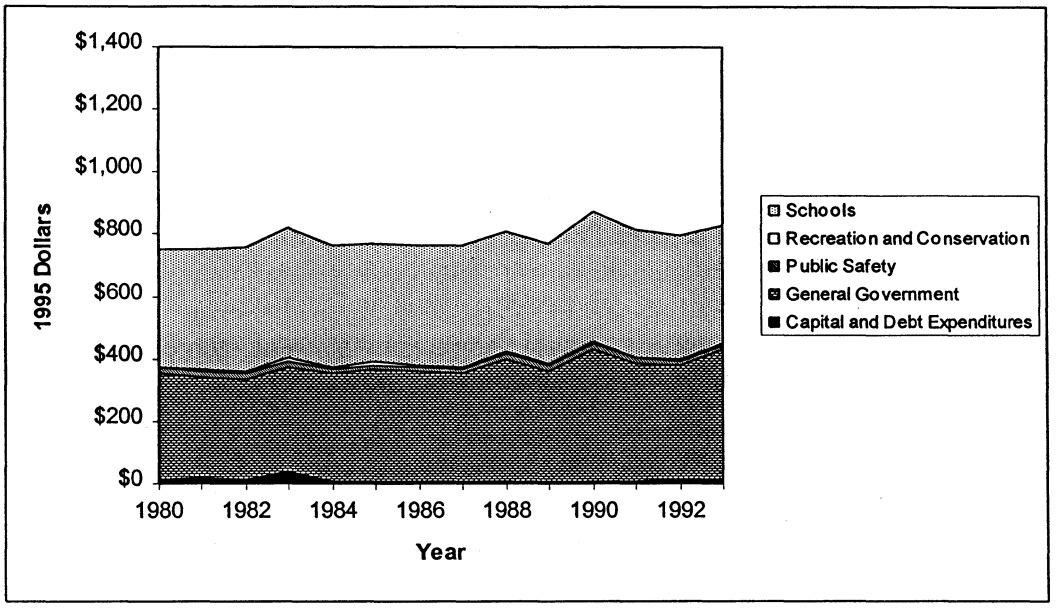


Figure 7.4b Per Capita Expenditures by Class (LLL Group)
Lower Access, Lower Density, Lower Income

Non-Pinelands

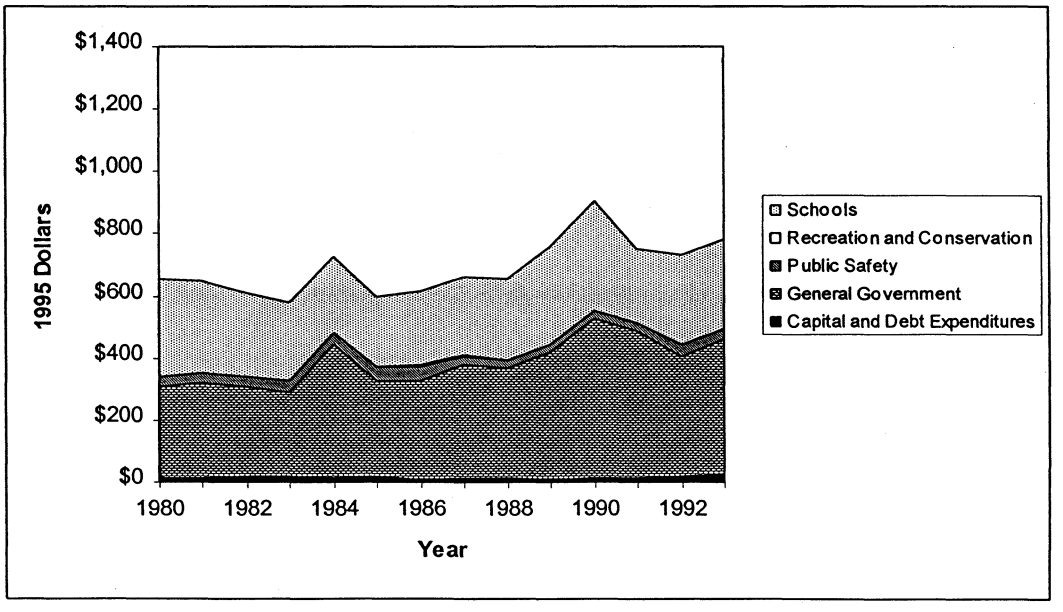


Figure 7.4c Per Capita Expenditures by Class (MMH Group)
Middle Access, Middle Density, Higher Income

Pinelands

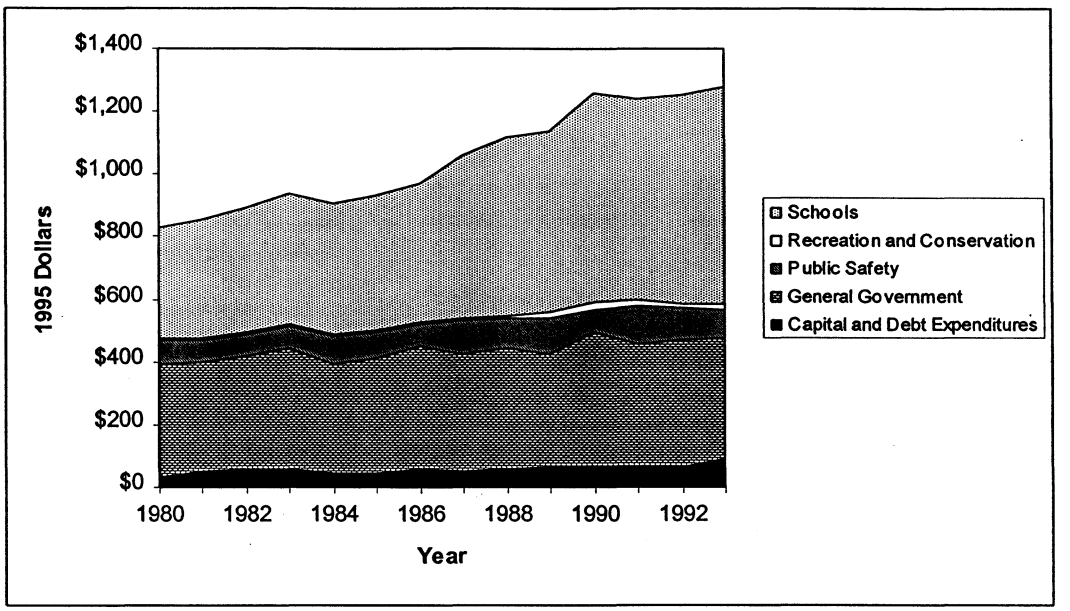


Figure 7.4d Per Capita Expenditures by Class (MMH Group)
Middle Access, Middle Density, Higher Income

Non-Pinelands

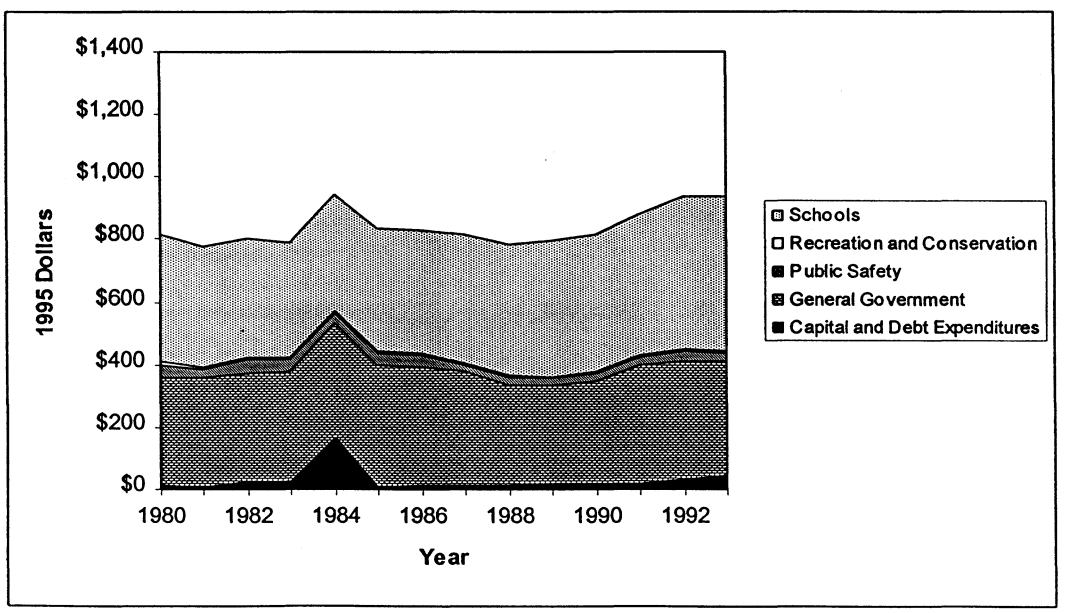


Figure 7.4e Per Capita Expenditures by Class (HMH Group)
Higher Access, Middle Density, Higher Income

Pinelands

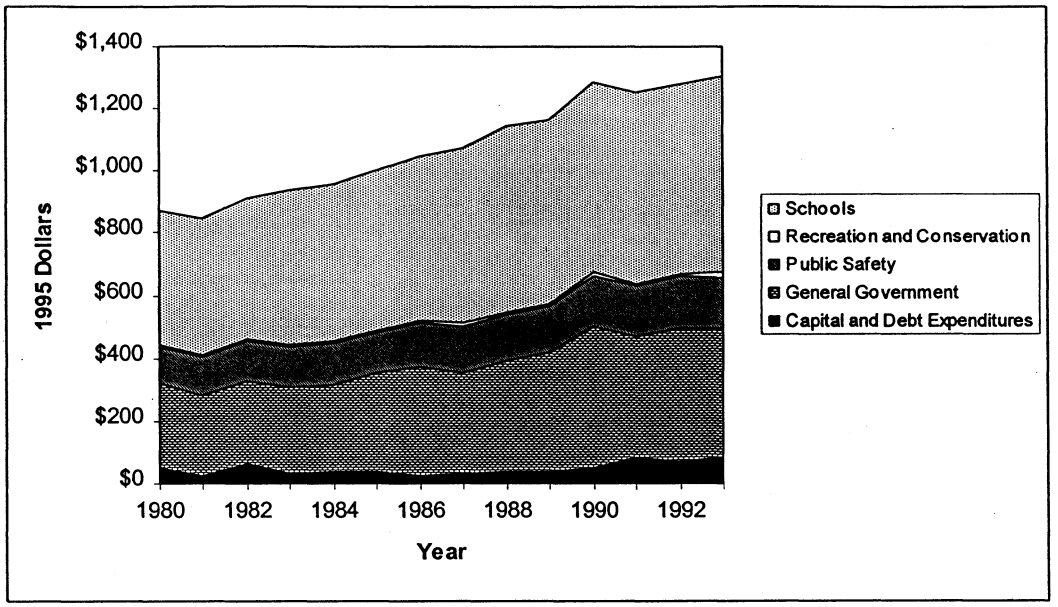


Figure 7.4f Per Capita Expenditures by Class (HMH Group)
Higher Access, Middle Density, Higher Income

Non-Pinelands

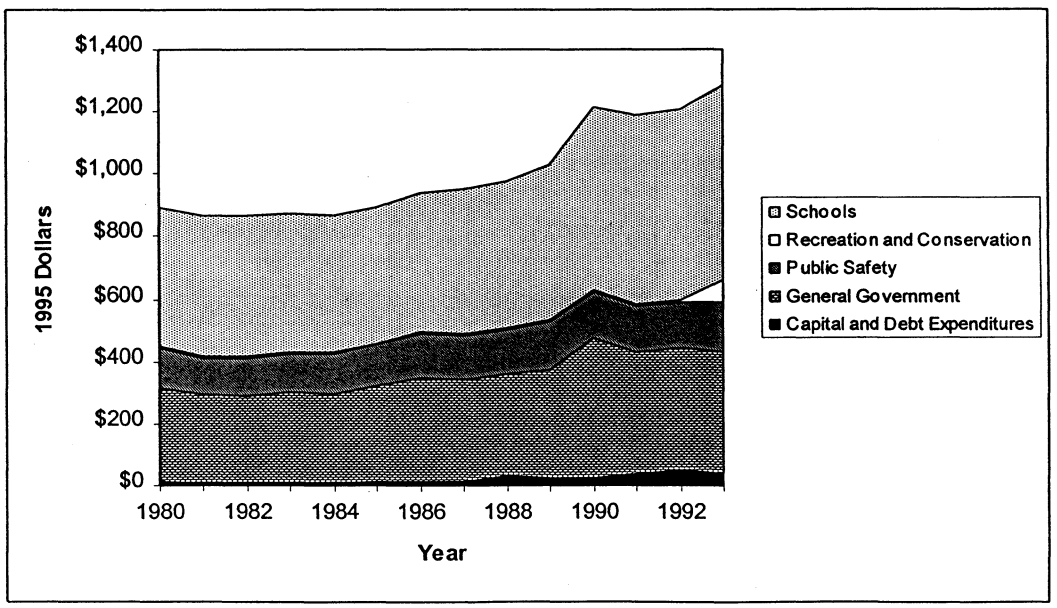


Figure 7.4g Per Capita Expenditures by Class (MHM Group)
Middle Access, Higher Density, Middle Income

Pinelands

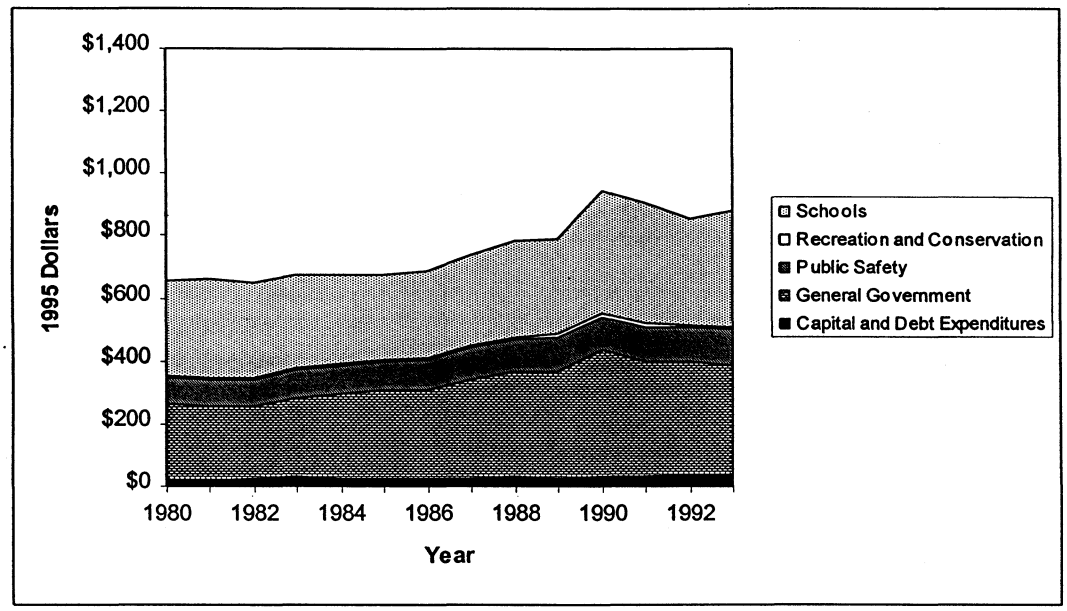


Figure 7.4h Per Capita Expenditures by Class (MHM Group)
Middle Access, Higher Density, Middle Income

Non-Pinelands

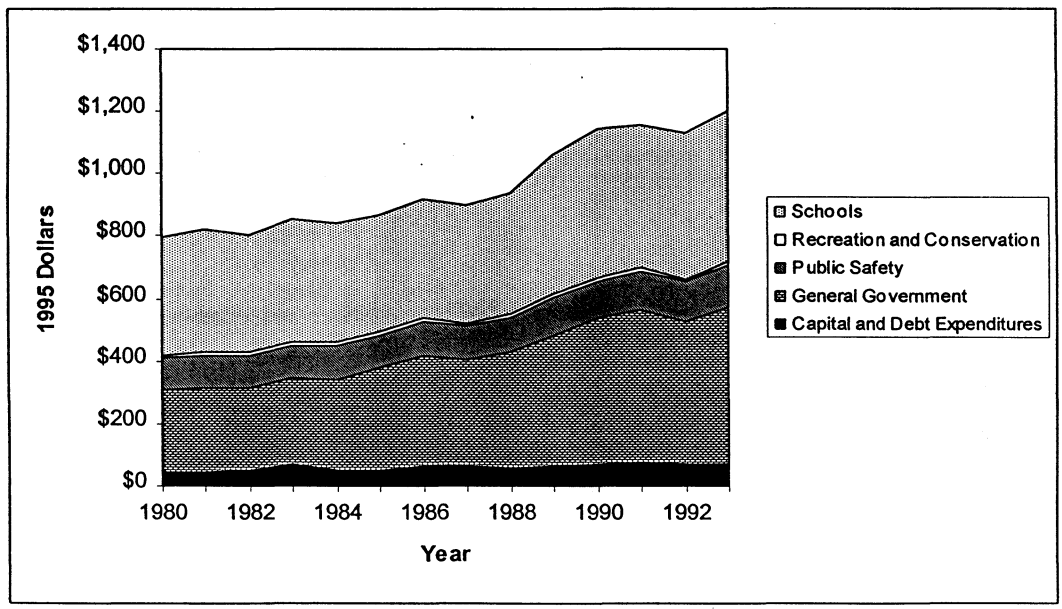


Figure 7.4i Per Capita Expenditures by Class (LLM Group)
Lower Access, Lower Density, Middle Income

Pinelands

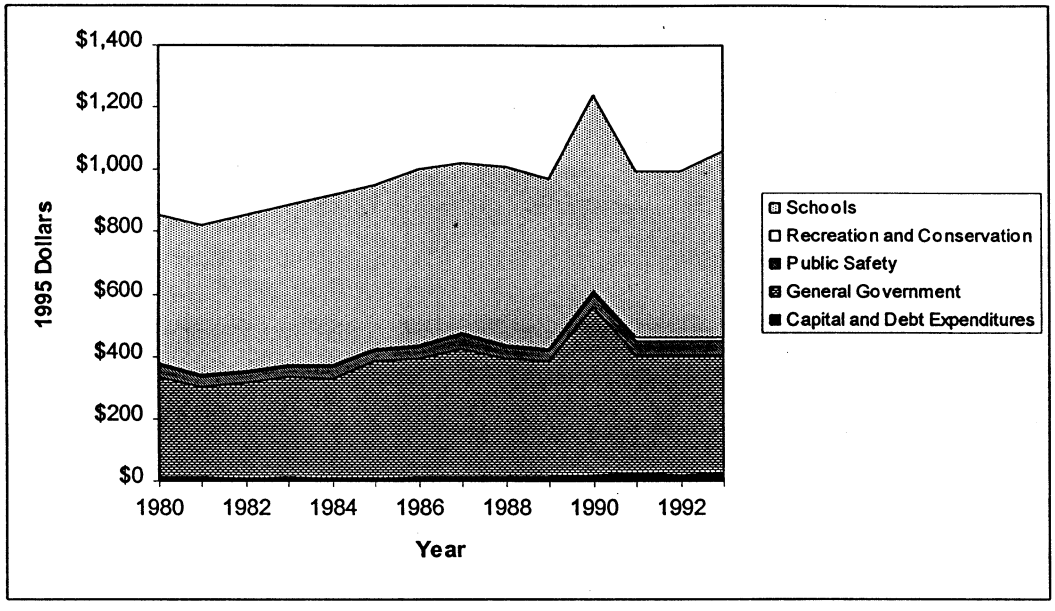


Figure 7.4j Per Capita Expenditures by Class (LLM Group)
Lower Access, Lower Density, Middle Income

Non-Pinelands

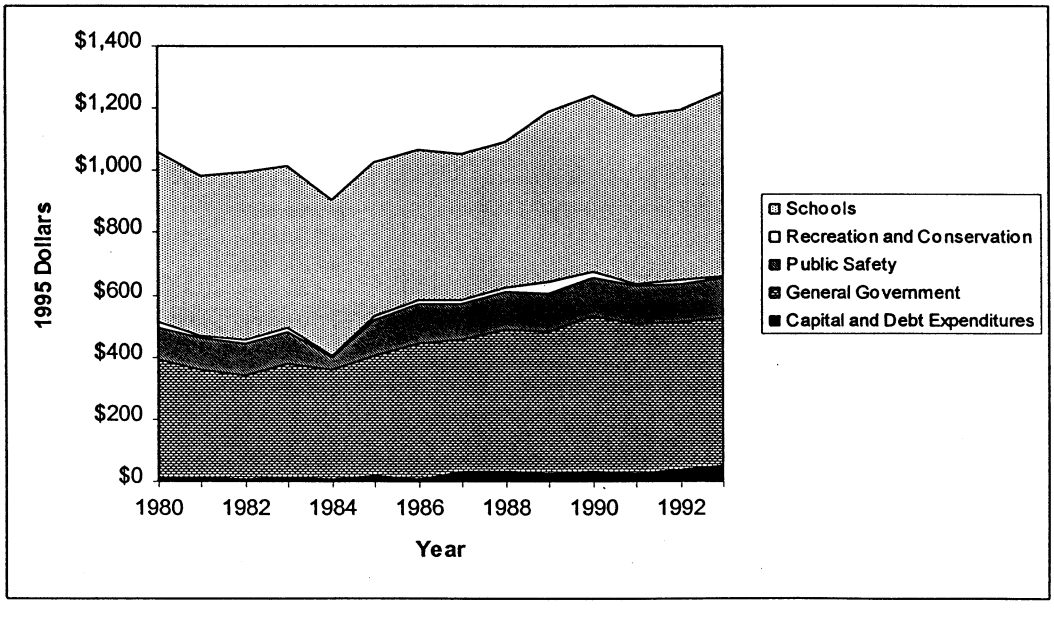


Figure 7.4k Per Capita Expenditures by Class (HMM Group)
Higher Access, Middle Density, Middle Income

Pinelands

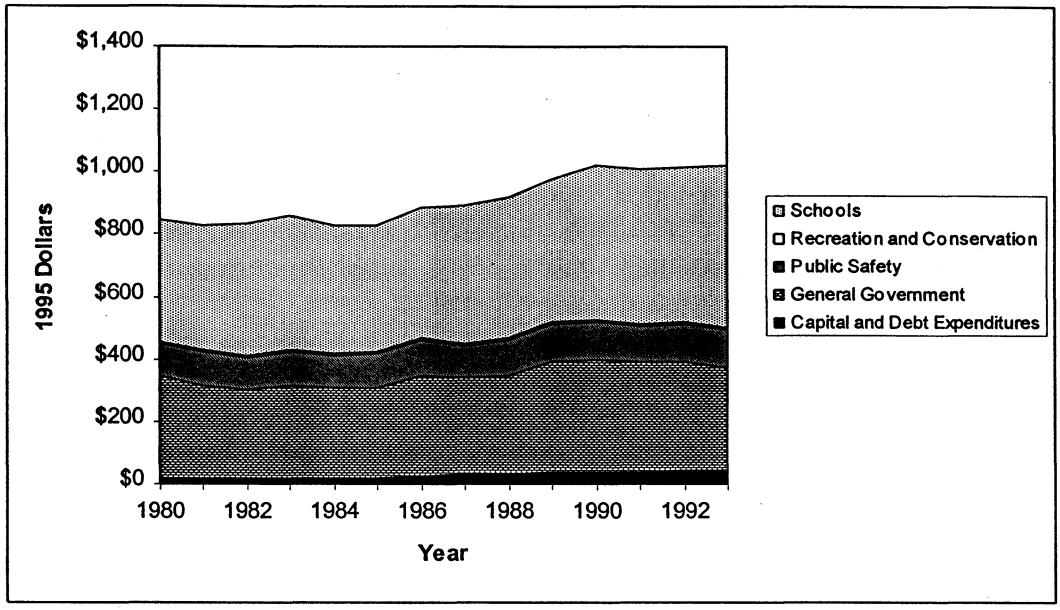
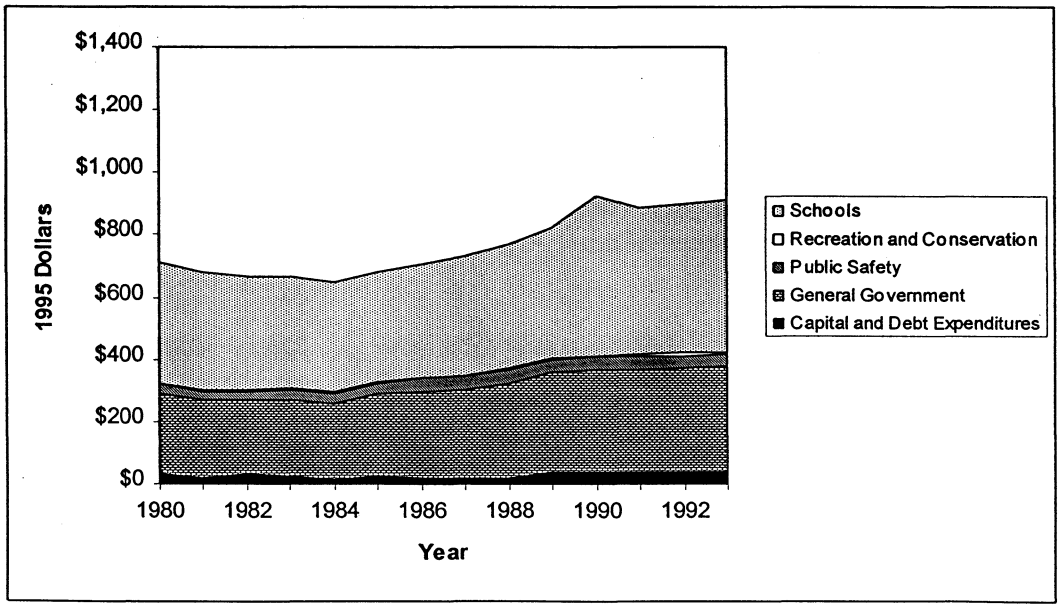


Figure 7.4l Per Capita Expenditures by Class (HMM Group)
Higher Access, Middle Density, Middle Income

Non-Pinelands



7.5 *Municipal Expenditures Per Household*

Description: Measurement of a municipality's expenditures relative to the number of households and the income of each household provides an alternative view of municipal expenditures. This variable was derived using municipal expenditure data from the New Jersey Department of Community Affairs in conjunction with household data from the United States Bureau of the Census for the years 1980 and 1990 (the monitoring period remains unchanged from the previous report). Because 1980 data on median family income were not available for municipalities with a population under 2,500, relevant county values were substituted when necessary (53 of the 202 southern New Jersey municipalities had populations under 2,500 in 1980, including 17 of the 55 municipalities examined using the comparables methodology). Values shown are in 1995 dollars.

Unit of Analysis: Data for municipal expenditures per household are presented here in the municipal comparables format. The data are compiled at the municipal level and also aggregated to allow for inside/outside Pinelands, regional, and statewide analyses (see page 44).

Summary of Previous Findings: Trends in municipal expenditures per household and relative to household income in the comparable groups differ from the overall regional trends. Although almost all Pinelands and non-Pinelands subgroups started and ended the period with lower per household expenditures than the average for all of southern New Jersey, the rate of change varied dramatically, and in all but four subgroups, out-paced the rate of increase for southern New Jersey as a whole. Consistent with the overall trend in southern New Jersey, municipal expenditures relative to income declined in two Pinelands and four non-Pinelands subgroups; however, six other subgroups had increasing municipal expenditures relative to income. Several groups showed a significant divergence in the rate of change in expenditures per household between Pinelands and non-Pinelands subgroups.

Update: No new data are available (new data will be compiled as part of the 2000 census).

Recommendations for Special Studies: As noted in the 1997 report, further investigation may be appropriate to determine the sources of divergent behavior within these groups.

Figure 7.5a Municipal Expenditures per Household (LLL Group)
Lower Access, Lower Density, Lower Income

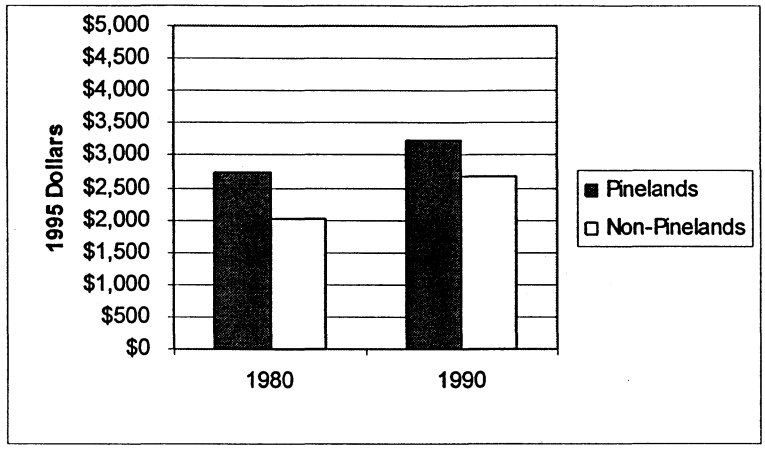


Figure 7.5b Municipal Expenditures per Household (MMH Group)
Middle Access, Middle Density, Higher Income

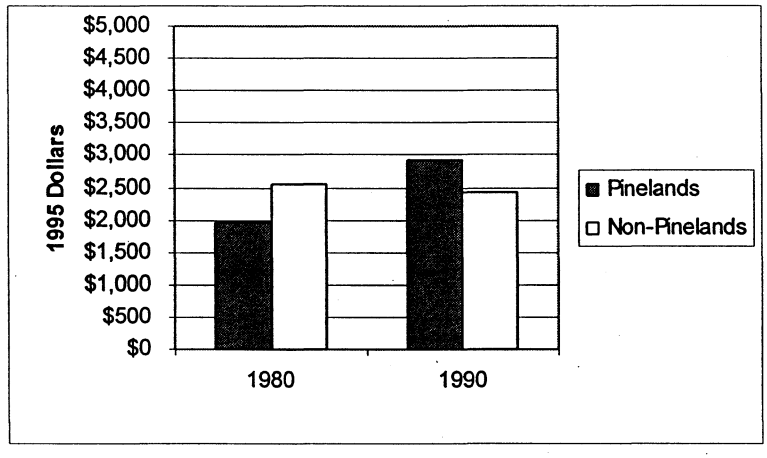


Figure 7.5c Municipal Expenditures per Household (HMH Group)
Higher Access, Middle Density, Higher Income

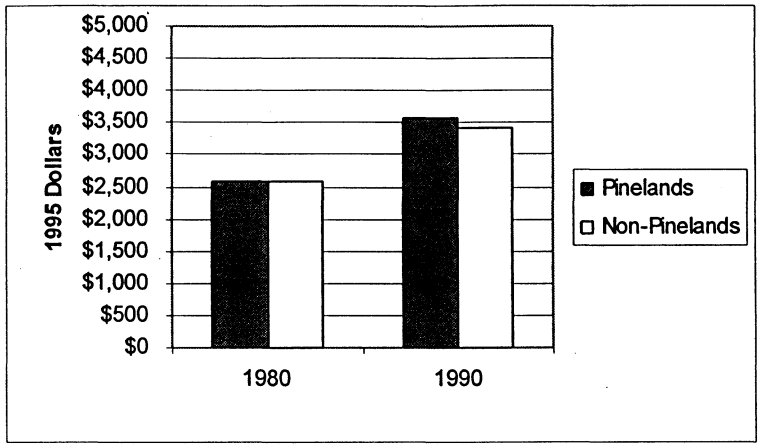


Figure 7.5d Municipal Expenditures per Household (MHM Group)
Middle Access, Higher Density, Middle Income

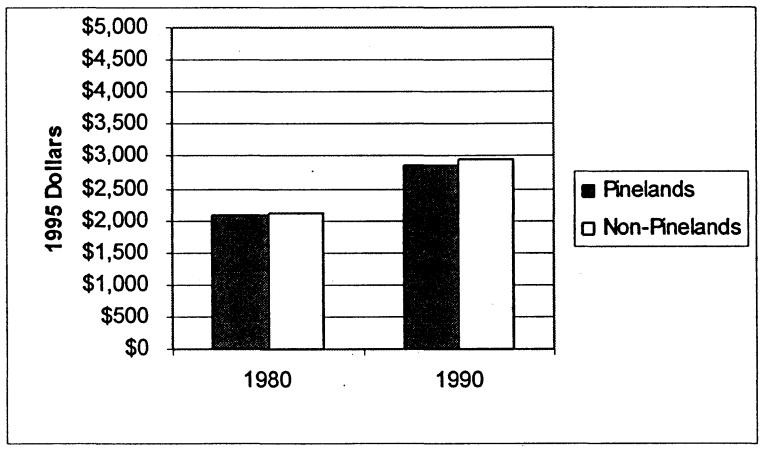


Figure 7.5e Municipal Expenditures per Household (LLM Group)
Lower Access, Lower Density, Middle Income

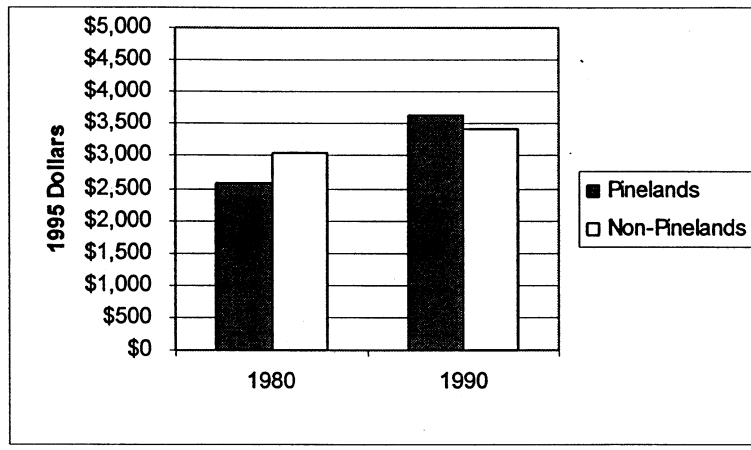


Figure 7.5f Municipal Expenditures per Household (HMM Group)
Higher Access, Middle Density, Middle Income

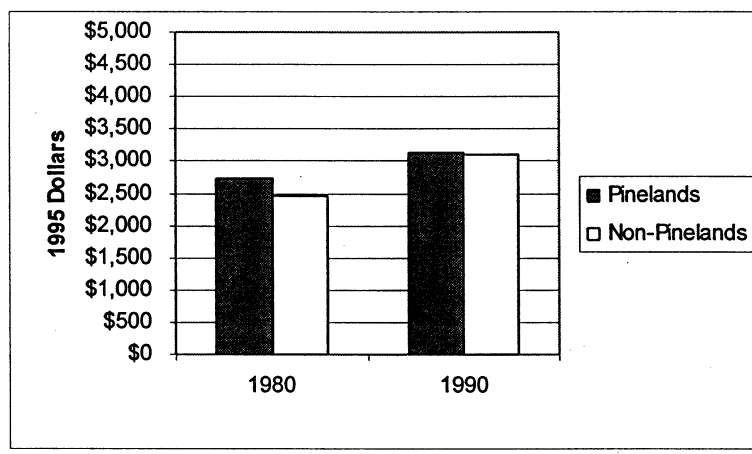


Figure 7.5g **Municipal Expenditures Relative to Median Household Income (LLL Group)**
Lower Access, Lower Density, Lower Income

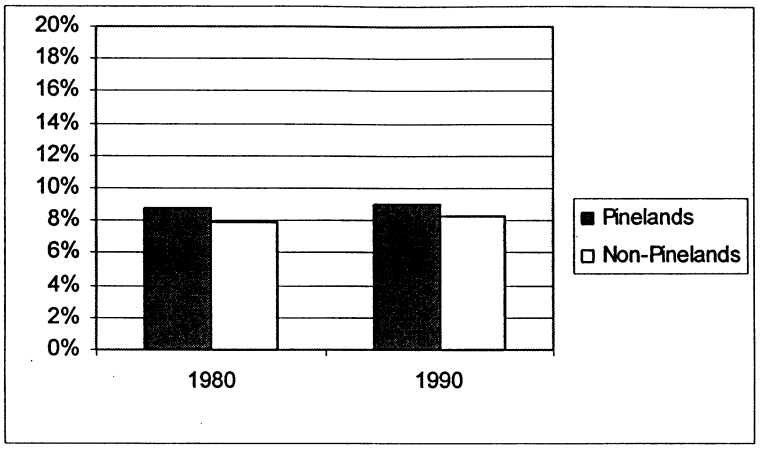


Figure 7.5h **Municipal Expenditures Relative to Median Household Income (MMH Group)**
Middle Access, Middle Density, Higher Income

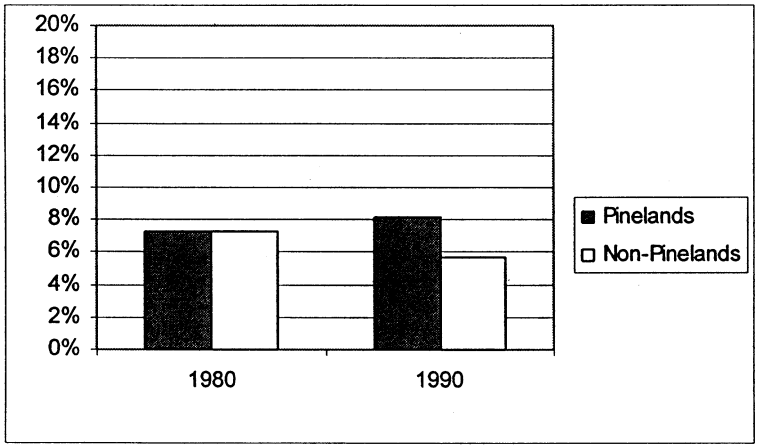


Figure 7.5i **Municipal Expenditures Relative to Median Household Income (HMH Group)**
Higher Access, Middle Density, Higher Income

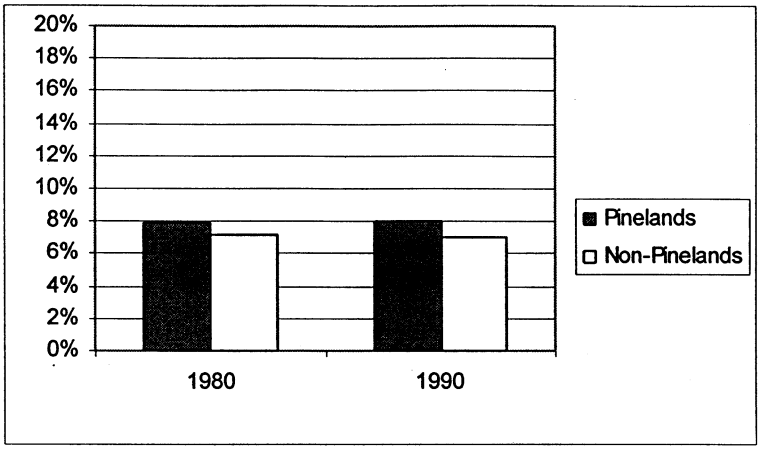


Figure 7.5j **Municipal Expenditures Relative to Median Household Income (MHM Group)**
Middle Access, Higher Density, Middle Income

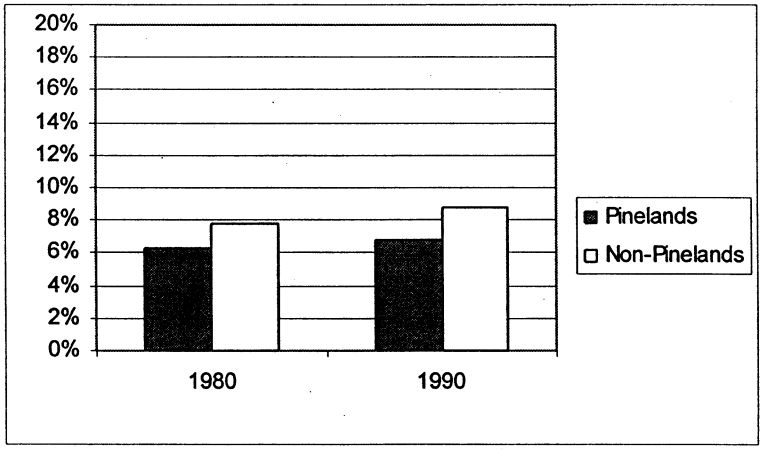


Figure 7.5k **Municipal Expenditures Relative to Median Household Income (LLM Group)**
Lower Access, Lower Density, Middle Income

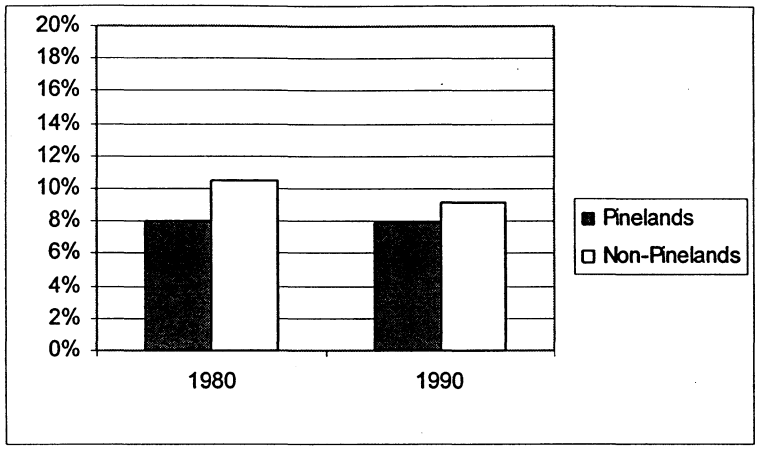
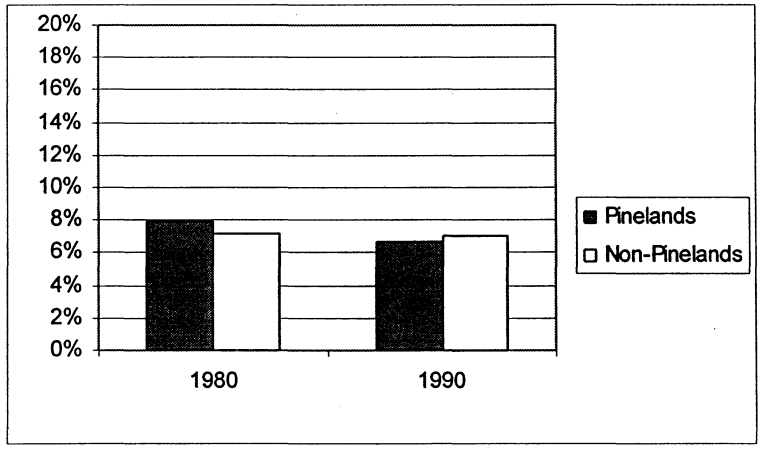


Figure 7.5l **Municipal Expenditures Relative to Median Household Income (HMM Group)**
Higher Access, Middle Density, Middle Income



7.6 Average Residential Property Tax Bill

Description: The average residential property tax bill measures the impact of property taxes or burden on residents of the municipality. Data were obtained from the New Jersey Department of Treasury, Division of Taxation for the monitoring period 1983-1995, extending the monitoring period from the previous report by one year (1995). Values shown are in 1995 dollars.

Unit of Analysis: Average residential property tax data are compiled at the municipal level and presented here in the municipal comparables format. The data are also aggregated to allow for inside/outside Pinelands, regional, and statewide analyses (see page 46).

Summary of Previous Findings: In five of the six comparable groups, residential taxes in Pinelands subgroups were about the same as or higher than their non-Pinelands counterparts at the start of the period in 1983. This is in contrast to regional trends, where average residential taxes in Pinelands towns have historically been lower than other southern New Jersey communities. Average tax bills (adjusted for inflation) increased between 1983 and 1990 for the comparables subgroups, receded in 1990 and 1991, and began a slight increase through 1994.

Update: The addition of one year of data extended the gradually increasing trend across most subgroups as shown in Figures 7.6a through 7.6f. Average residential property taxes for Pinelands subgroups continue to be near or higher than those for the non-Pinelands subgroups.

Recommendations for Special Studies: No special studies are recommended at this time.

Figure 7.6a Average Residential Property Tax Bill (LLL Group)
Lower Access, Lower Density, Lower Income)

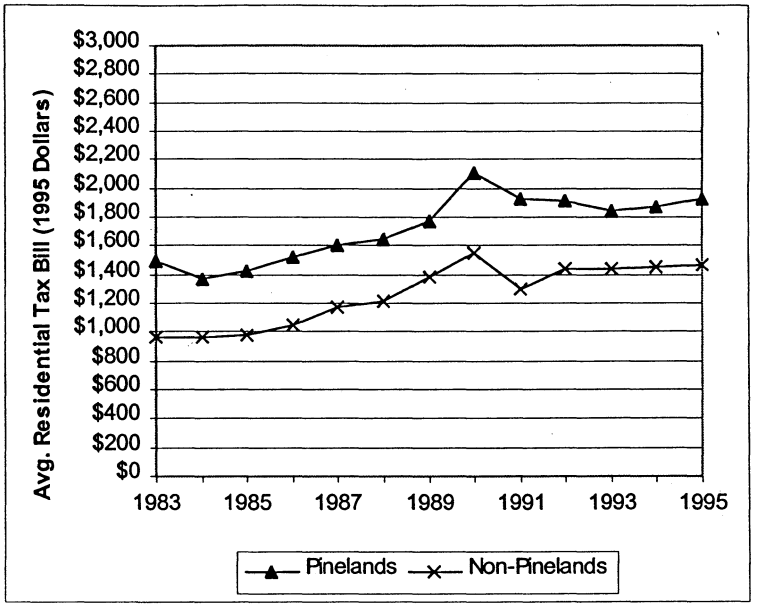


Figure 7.6b Average Residential Property Tax Bill (MMH Group)
Middle Access, Middle Density, Higher Income

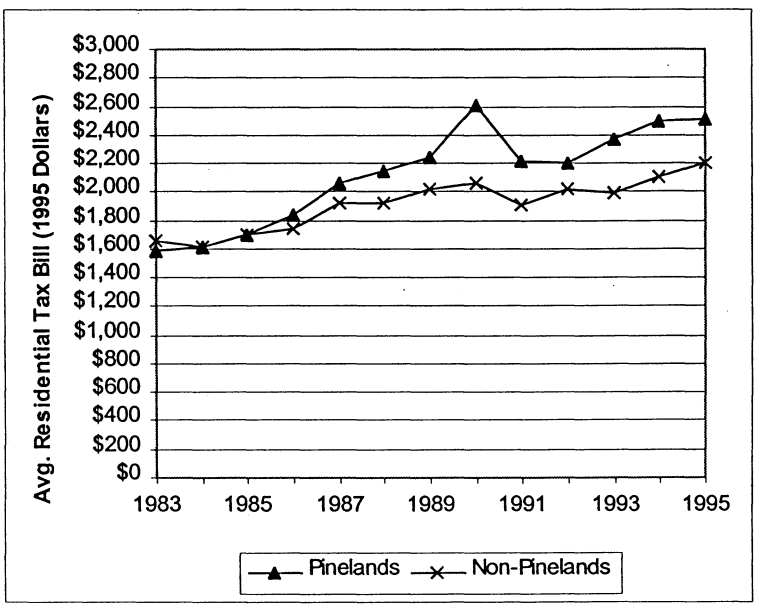


Figure 7.6c Average Residential Property Tax Bill (HMH Group)
Higher Access, Middle Density, Higher Income

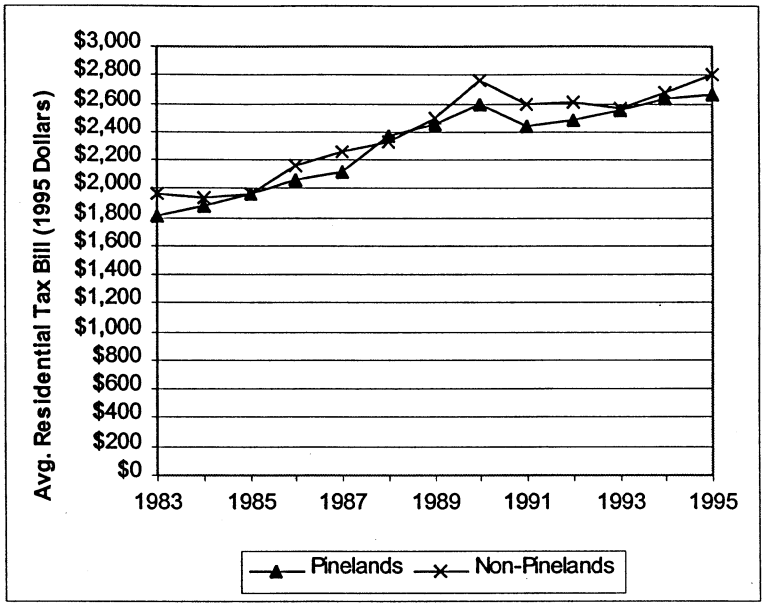


Figure 7.6d Average Residential Property Tax Bill (MHM Group)
Middle Access, Higher Density, Middle Income

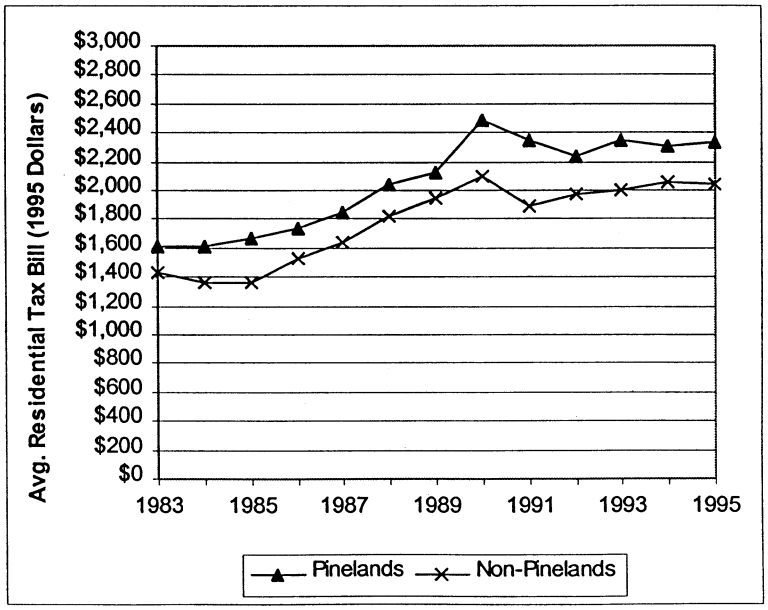


Figure 7.6e Average Residential Property Tax Bill (LLM Group)
Lower Access, Lower Density, Middle Income

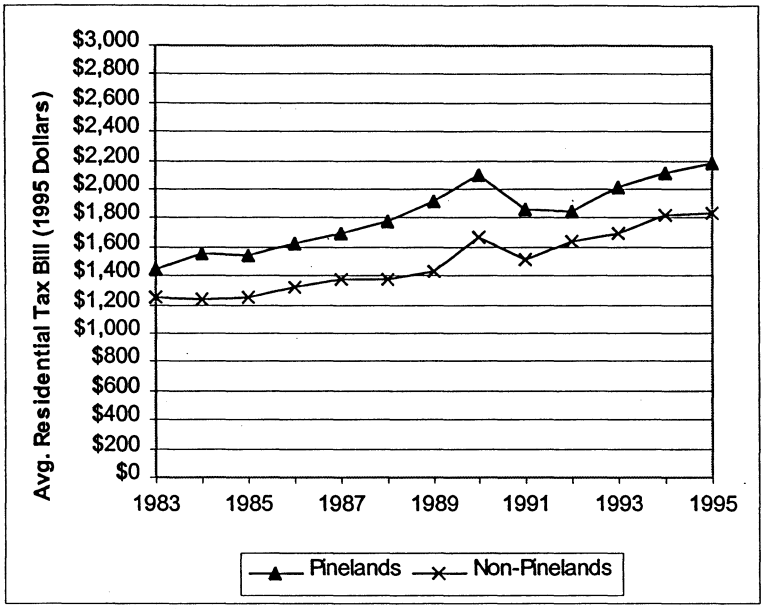
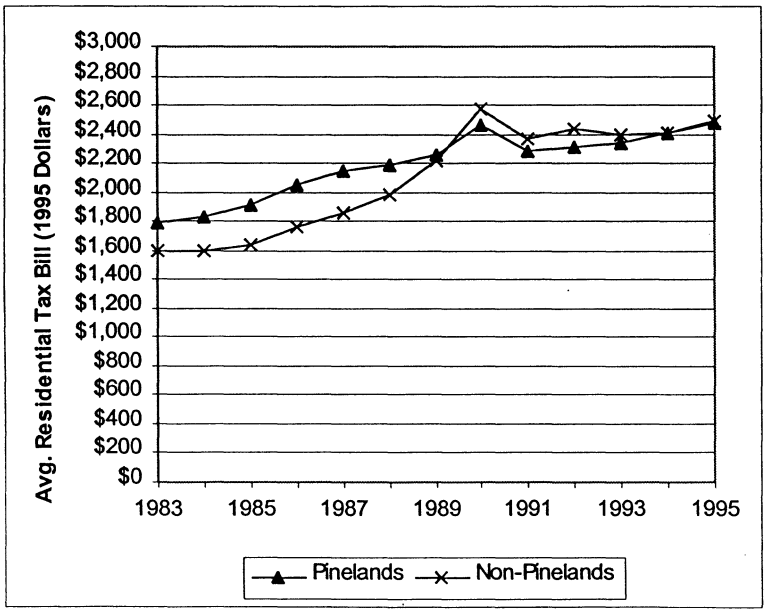


Figure 7.6f Average Residential Property Tax Bill (HMM Group)
Higher Access, Middle Density, Middle Income



7.7 State Equalized Valuation (Total Value of Taxable Property)

Description: Equalized property value is the total assessed value of all property in a municipality equalized to adjust for different municipal assessment biases in order to make values across New Jersey municipalities comparable to one another. It is useful as a measurement of the wealth of one municipality relative to other municipalities. Data were obtained from the New Jersey Department of Community Affairs for 1980-1993 and from the New Jersey Department of the Treasury, Division of Taxation, for 1996 and 1997 (data for 1994 and 1995 are not yet available in electronic format). The overall monitoring period, 1980-1997, has been extended by three new data points (1993, 1996, and 1997) in this report. Values shown are in 1995 dollars.

Unit of Analysis: State equalized valuation data are compiled at the municipal level and presented here in the municipal comparables format. The data are also aggregated to allow for inside/outside Pinelands, regional, and statewide analyses (see page 47).

Summary of Previous Findings: Pinelands subgroups maintained a higher total valuation than their non-Pinelands counterparts throughout the monitoring period, with the exception of one comparables group, Lower Access, Lower Density, Middle Income (LLM). In addition, total valuations for most Pinelands subgroups increased at a significantly higher rate than their non-Pinelands counterparts between 1980 and 1992.

Update: As Figures 7.7a through 7.7f show, total valuations for both Pinelands and non-Pinelands subgroups began to level off or decline slightly from 1992 to 1997. This is consistent with the regional trends discussed previously (see page 47). Total equalized valuations for Pinelands subgroups remain higher than their non-Pinelands counterparts with one exception (LLM group). This is in contrast to the regional trends, where the total Pinelands equalized valuation was consistently lower than the total non-Pinelands equalized valuation.

Recommendations for Special Studies: No special studies appear warranted at this time.

Figure 7.7a State Equalized Valuation (LLL Group)
Lower Access, Lower Density, Lower Income

Average Per Municipality by Group

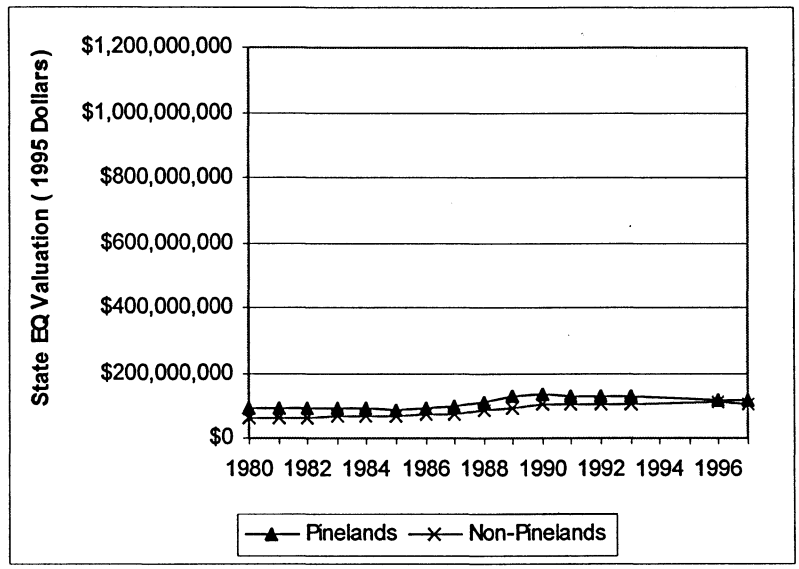


Figure 7.7b State Equalized Valuation (MMH Group)
Middle Access, Middle Density, Higher Income

Average Per Municipality by Group

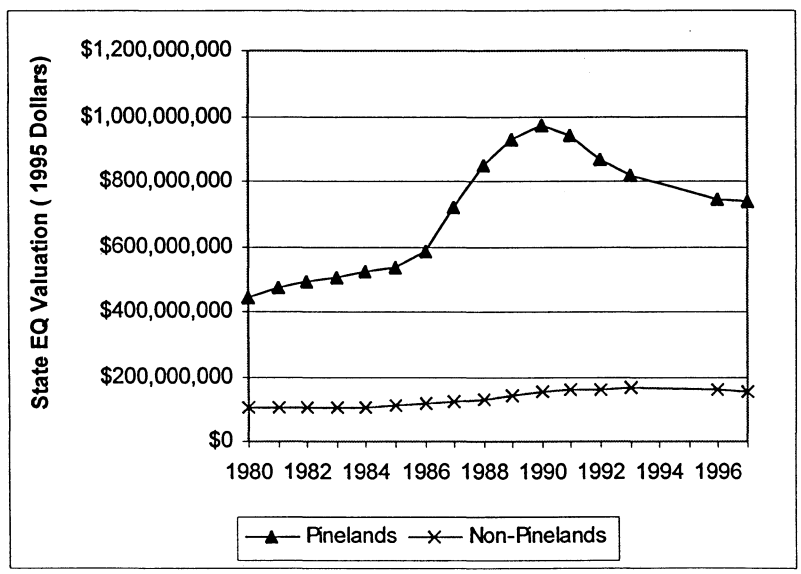


Figure 7.7c State Equalized Valuation (HMH Group)
Higher Access, Middle Density, Higher Income

Average Per Municipality by Group

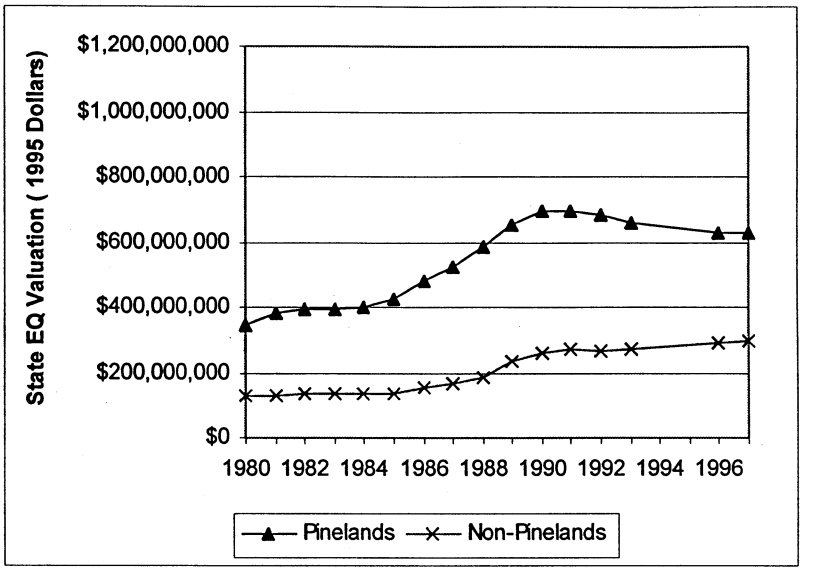


Figure 7.7d State Equalized Valuation (MHM Group)
Middle Access, Higher Density, Middle Income

Average Per Municipality by Group

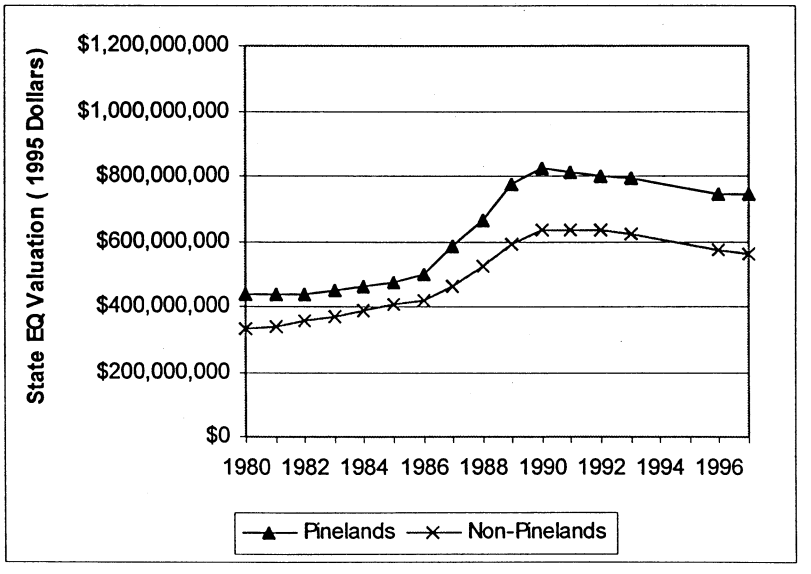


Figure 7.7e State Equalized Valuation (LLM Group)
Lower Access, Lower Density, Middle Income

Average Per Municipality by Group

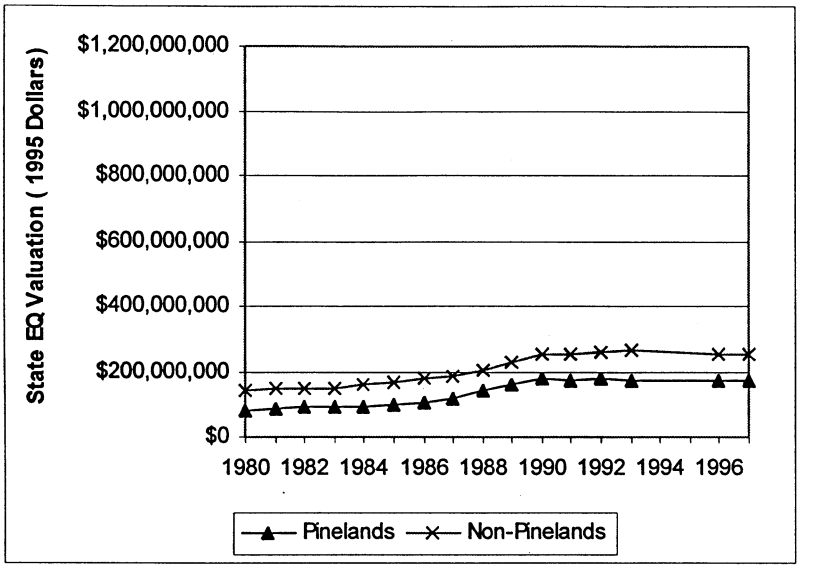
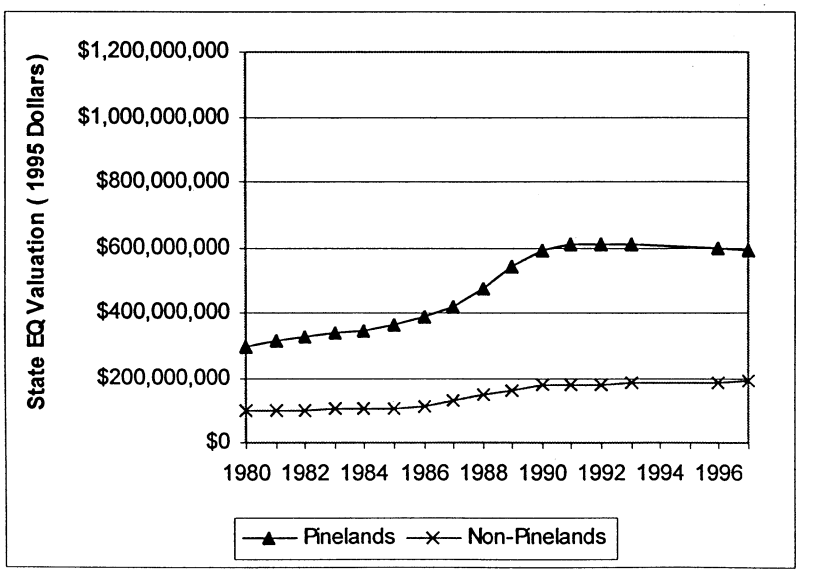


Figure 7.7f State Equalized Valuation (HMM Group)
Higher Access, Middle Density, Middle Income

Average Per Municipality by Group



7.8 Effective Tax Rates

Description: The effective tax rate is the rate at which the municipality taxes the (equalized) assessed value of the property, and is equal to the general property tax adjusted by the municipality's equalization ratio as calculated by the New Jersey Department of the Treasury, Division of Taxation. Data were obtained from the New Jersey Department of Community Affairs for 1980-1993 and from the Division of Taxation for 1994-1997. This report has been updated to include five new years (1993-1997) of data.

Unit of Analysis: Average effective tax rate data are compiled at the municipal level and aggregated to allow for inside/outside Pinelands, regional, and statewide analyses (see page 49). The data are presented here in the municipal comparables format.

Summary of Previous Findings: Tax rates in Pinelands subgroups began the monitoring period about the same as or lower than their non-Pinelands counterparts. The gap in effective tax rates began to close among most of the subgroups over the monitoring period. This is similar to the regional trends where historically lower Pinelands tax rates were gaining on those of surrounding communities.

Update: Figures 7.8a through 7.8f show that the gap in effective tax rates continues to close among most subgroups. Two exceptions are the Higher Access, Middle Density, Higher Income (HMH) and Higher Access, Middle Density, Middle Income (HMM) subgroups, where the gap in effective tax rates appears to be widening. In these two cases, the effective tax rates for the Pinelands subgroups are increasing faster than those for the non-Pinelands subgroups.

Recommendations for Special Studies: The trends do not appear to indicate the need for any special studies at this time.

Figure 7.8a Effective Tax Rate (LLL Group)
Lower Access, Lower Density, Lower Income

Per $100 State Equalized Valuation, Average per Municipality

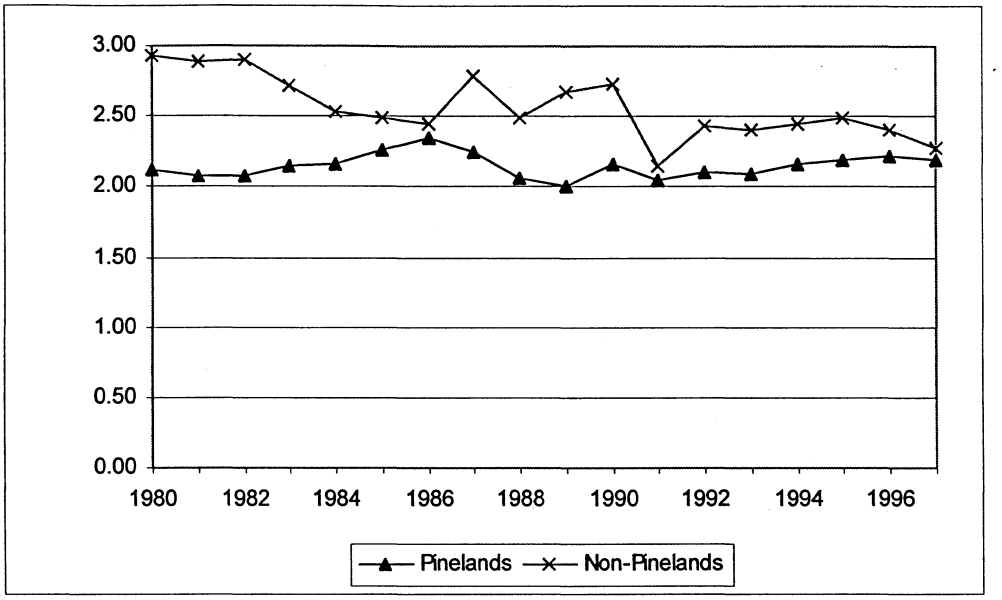


Figure 7.8b Effective Tax Rate (MMH Group)
Middle Access, Middle Density, Higher Income

Per $100 State Equalized Valuation, Average per Municipality

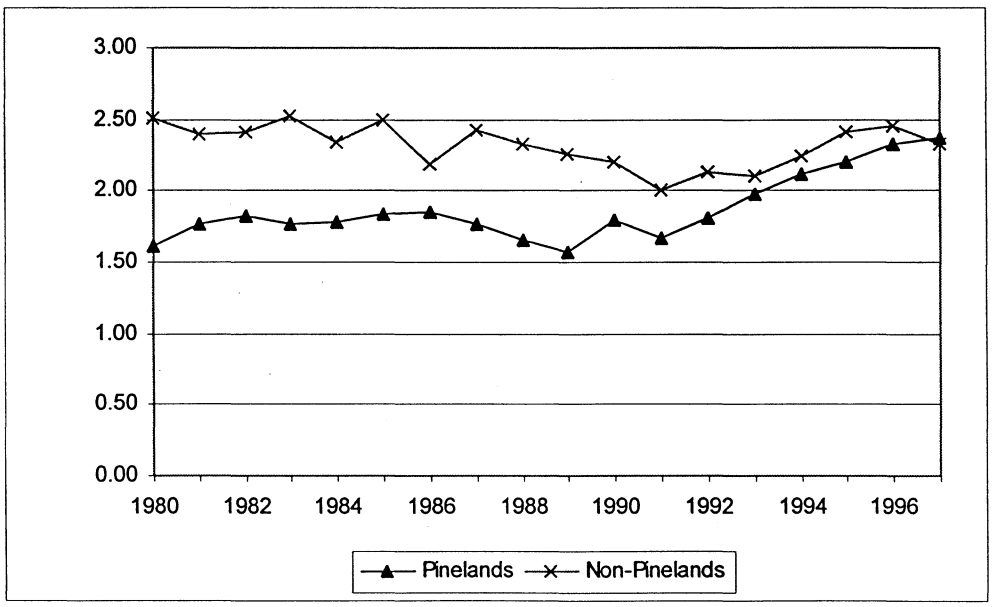


Figure 7.8c Effective Tax Rate (HMH Group)
Higher Access, Middle Density, Higher Income

Per $100 State Equalized Valuation, Average per Municipality

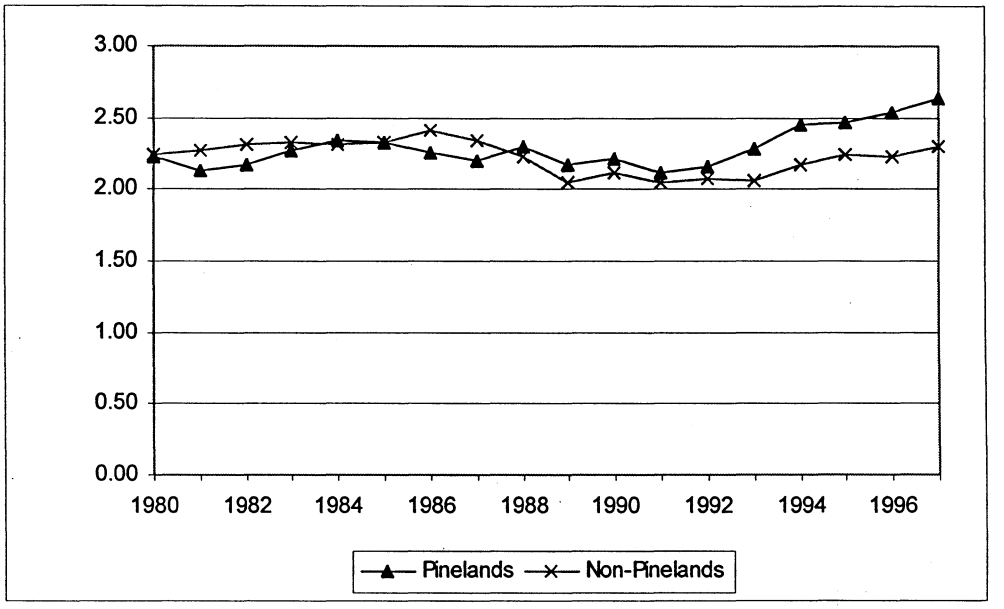


Figure 7.8d Effective Tax Rate (MHM Group)
Middle Access, Higher Density, Middle Income

Per $100 State Equalized Valuation, Average per Municipality

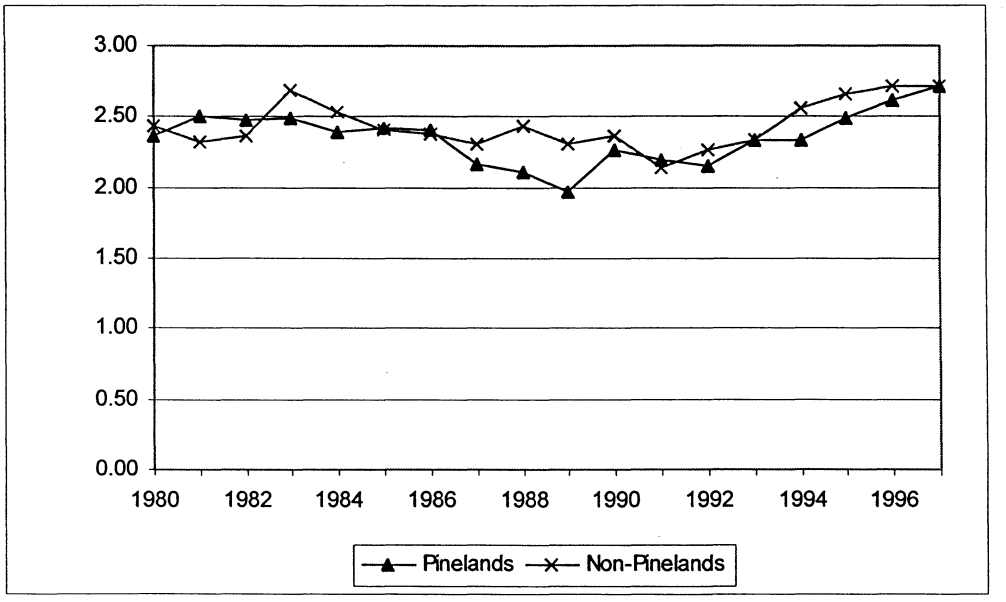


Figure 7.8e Effective Tax Rate (LLM Group)
Lower Access, Lower Density, Middle Income

Per $100 State Equalized Valuation, Average per Municipality

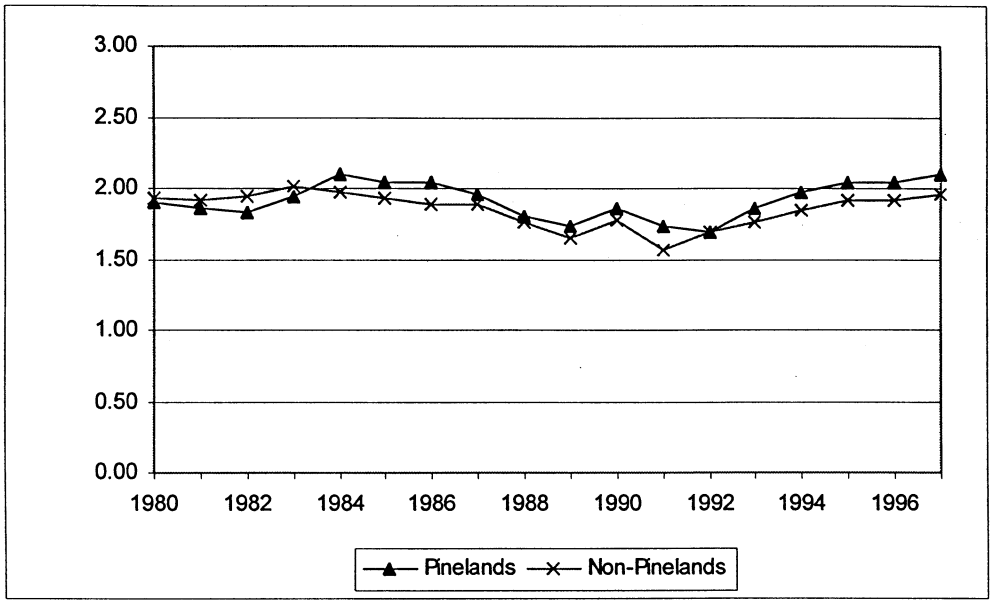
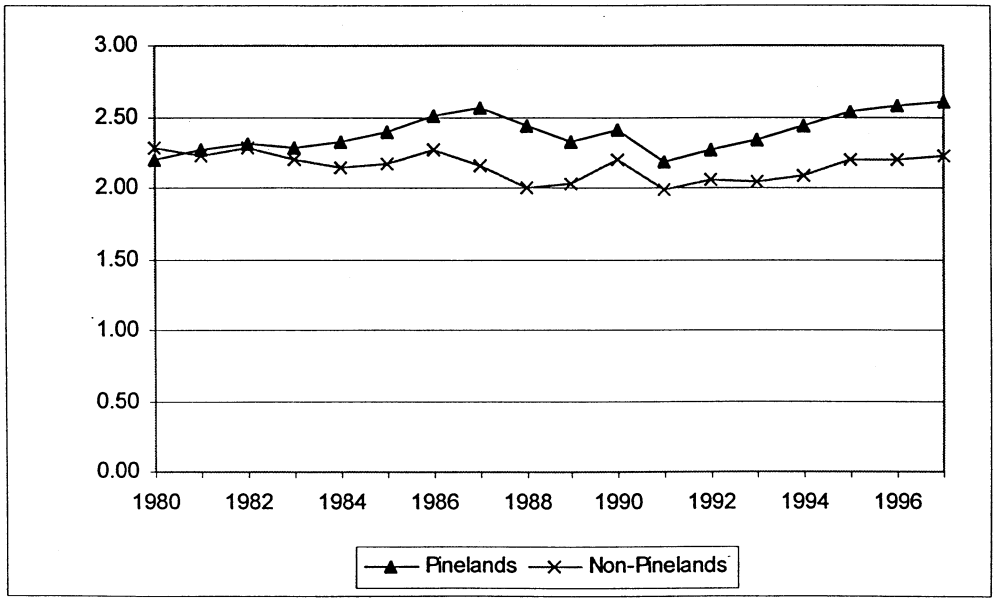


Figure 7.8f Effective Tax Rate (HMM Group)
Higher Access, Middle Density, Middle Income

Per $100 State Equalized Valuation, Average per Municipality



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Appendix B. Pinelands and South Jersey Acreage by County

Table B.1a Pinelands and Southern New Jersey Acreage by County[11]

County	Total Acreage	Acreage Inside the Pinelands	Acreage Outside the Pinelands	Proportion in the Pinelands	County Pinelands Acreage as a Proportion of Total Pinelands Acreage	County Acreage as a Share of Total South Jersey Acreage
Atlantic	391,134	247,877	143,257	63.4%	26.4%	17.3
Burlington	524,166	334,187	189,979	63.8%	35.6%	23.1
Camden	145,593	54,915	90,678	37.7%	5.9%	6.4
Cape May	182,633	34,807	147,826	19.1%	3.7%	8.1
Cumberland	321,645	45,356	276,289	14.1%	4.8%	14.2
Gloucester	215,616	33,580	182,036	15.6%	3.6%	9.5
Ocean	485,569	187,490	298,079	38.6%	20.0%	21.4
Total	2,266,357	938,212	1,328,145	41.4%	100.0%	100.0

[11] Source: NJ Pinelands Commission, Cartography Office, Geographic Information System

Appendix C. Municipal Comparables Groupings

Municipal Comparables Groupings

To allow for a more detailed examination of data at the municipal level, similar municipalities inside and outside of the Pinelands were grouped together. Specifically, groups were developed on the basis of population density, access to major employment centers, and per capita income as of 1980. After discarding towns that were qualitatively determined to be significantly different from other municipalities in southern New Jersey (e.g., military or vacation communities and the urban centers of Camden and Atlantic City), six groups were formed from among the towns that remained. The composition of these groups was further refined by retaining only those municipalities that were sufficiently similar to other group members. Group members are shown in Tables C.1a and C.1b. More detailed information concerning the comparables methodology is contained in Appendix C of the *New Jersey Pinelands Commission Long-Term Economic Monitoring Program First Annual Report.*

Additional groupings will also be constructed in the future as municipalities diverge from the criteria that set the original groupings or the methodology is improved to accommodate additional information (e.g., types of municipal services provided).

Table C.1a Municipal Comparables Groupings

Group Name	Municipality Name	County	Location
Lower Access Lower Density Lower Income	Commercial Township	Cumberland	non-Pinelands
	Downe Township	Cumberland	non-Pinelands
	Fairfield Township	Cumberland	non-Pinelands
	Lawrence Township	Cumberland	non-Pinelands
	Buena Vista Township	Atlantic	Pinelands
	Washington Township	Burlington	Pinelands
	Woodland Township	Burlington	Pinelands
	Maurice River Township	Cumberland	Pinelands
	Eagleswood Township	Ocean	Pinelands
Middle Access Middle Density Higher Income	Greenwich Township	Cumberland	non-Pinelands
	Hopewell Township	Cumberland	non-Pinelands
	Upper Deerfield Township	Cumberland	non-Pinelands

Group Name	Municipality Name	County	Location
	Mannington Twp.	Salem	non-Pinelands
	Hamilton Township	Atlantic	Pinelands
	Shamong Township	Burlington	Pinelands
	Upper Township	Cape May	Pinelands
	Manchester Township	Ocean	Pinelands
	Ocean Township	Ocean	Pinelands
Higher Access **M**iddle Density **H**igher Income	Lumberton Township	Burlington	non-Pinelands
	East Greenwich Township	Gloucester	non-Pinelands
	Harrison Township	Gloucester	non-Pinelands
	South Harrison Township	Gloucester	non-Pinelands
	Carneys Point Township	Salem	non-Pinelands
	Egg Harbor City	Atlantic	Pinelands
	Egg Harbor Township	Atlantic	Pinelands
	Hammonton Town	Atlantic	Pinelands
	Tabernacle Township	Burlington	Pinelands
Middle Access **H**igher Density **M**iddle Income	Lower Township	Cape May	non-Pinelands
	Millville City	Cumberland	non-Pinelands
	Shiloh Borough	Cumberland	non-Pinelands
	Tuckerton Borough*	Ocean	non-Pinelands
	Pemberton Township	Burlington	Pinelands
	Monroe Township	Gloucester	Pinelands
	Barnegat Township	Ocean	Pinelands
Lower Access **L**ower Density **M**iddle Income	Middle Twp.*	Cape May	non-Pinelands
	Stow Creek Township	Cumberland	non-Pinelands
	Alloway Township	Salem	non-Pinelands
	Lower Alloways Creek Township	Salem	non-Pinelands
	Quinton Township	Salem	non-Pinelands
	Estell Manor City	Atlantic	Pinelands
	Weymouth Township	Atlantic	Pinelands
	Bass River Township	Burlington	Pinelands
	Dennis Township	Cape May	Pinelands

Group Name	Municipality Name	County	Location
	Plumsted Township	Ocean	Pinelands
Higher Access Middle Density Middle Income	Chesterfield Township	Burlington	non-Pinelands
	Elk Twp.	Gloucester	non-Pinelands
	Oldmans Twp.	Salem	non-Pinelands
	Pittsgrove Twp.	Salem	non-Pinelands
	Upper Pittsgrove Township	Salem	non-Pinelands
	Folsom Borough	Atlantic	Pinelands
	Galloway Township	Atlantic	Pinelands
	Mullica Township	Atlantic	Pinelands
	Waterford Twp.	Camden	Pinelands
	Winslow Township	Camden	Pinelands
	Franklin Township	Gloucester	Pinelands

* Pinelands National Reserve only; not part of the smaller, State-designated Pinelands Area

Table C.1b Municipal Comparables Groupings Summary

GROUP ID	GROUP			# OF MUNICIPALITIES	
	ACCESS	POPULATION DENSITY	INCOME	INSIDE PINELANDS	OUTSIDE PINELANDS
LLL	LOWER	LOWER	LOWER	5	4
MMH	MIDDLE	MIDDLE	HIGHER	5	4
HMH	HIGHER	MIDDLE	HIGHER	4	5
MHM	MIDDLE	HIGHER	MIDDLE	3	4
LLM	LOWER	LOWER	MIDDLE	5	5
HMM	HIGHER	MIDDLE	MIDDLE	6	5
				28	27