

# Municipal Tax Rates and Governmental Form in New Jersey

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**Abstract:** This paper investigates the determinants of municipal tax rates in New Jersey, which are among the highest in the United States. Previous literature on municipal tax rates fails to incorporate the effects of local governmental structure. New Jersey's property tax rates are a priority for both voters and politicians because they are among the highest in the U.S. New Jersey has five distinct local government forms, which allow for a specific examination of the effects of different government form on municipal tax rates. I find no evidence of governmental form significantly impacting the equalized property tax rate. I do find evidence, however, in support of the findings of Hoyt (1992) that shows the effects of the proximity of New York City on tax rates. Evidence is also found in support of Büttner (1999) who states that property tax rates will rise in population size. This finding is goes against the popular opinion of New Jersey Legislators that municipal consolidation is the answer to the problem of high property tax rates.

## Introduction

The state of New Jersey ranks 47<sup>th</sup> among U.S. states in terms of total area. Despite its small size, New Jersey is the eleventh most populous state with approximately 8.7 million people and has a staggering 566 municipalities, 322 of which have a population of less than 10,000 people. California, by comparison, is the nation's third largest state by total area and the most populous state with over 36 million people, and only has 478 municipalities (2000 Census Data). Due to its relatively large number of municipalities, the amount of public goods and services offered by New Jersey municipalities, such as public schools, police stations and fire-fighting stations, is unusually large. New Jersey state legislature believes that the large number of municipalities within their borders should be a concern. To deal with this issue, the state legislature has proposed such remedies as the Municipal Consolidation Act. This act provides the framework for the consolidation of contiguous municipalities into larger, more general governing jurisdictions. The common belief among state authorities is that such consolidation would insure more rational control of growth and development, more effective public administration and more efficient provision of local public goods and services.

The delivering and financing of local public goods and services is traditionally a joint effort of local and state governments. However, the current budget crisis being faced by the state of New Jersey reduced state aid to local governments. In FY 2004, New Jersey's budget was \$4.9 billion short, which is approximately 18 percent of total state appropriations. To remedy this situation, the state increased corporate income taxes, but also needed to reduce its payments to a program established to promote local property

tax relief (Holahan et al., 2004). On top of the state's own efforts, a number of Federal policies enacted between FY 2002 and FY 2005 have added to the problem. In particular, the Federal Internet Tax Freedom Act barred states from taxing certain types of transactions and receiving needed revenues. The Federal government also created certain mandates and laws, such as the No Child Left Behind law, without providing adequate funding to the states. The actual level of Federal funding for these mandates received by states is \$73 billion below the levels that were promised. In the case of New Jersey, these Federal policies have cost the state approximately \$4.16 billion. As a result, local governments in New Jersey are forced to bear most of the burden of financing their public goods and services. "In the area of education, for example, local property taxpayers pay most of the costs, even though the State has a Constitutional obligation to ensure a thorough and efficient education for all of our children" (New Jersey State League of Municipalities).

This burden on local governments in New Jersey is also compounded by the fact that state law limits how their local governments can raise money. Although local governments do receive some Federal funding, they need to generate their own revenues to successfully finance their public goods and services. The main source of revenue for many municipalities is local property tax revenue. The property tax is a local tax assessed and collected by municipalities for the support of municipal and county governments and local school districts. In New Jersey, the local property tax is apportioned among taxpayers according to the assessed value of taxable property owned by each taxpayer.

Aside from the property tax, the only other source of revenue for local governments in New Jersey is through limited user fees. User fees are charges imposed upon residents or businesses that use or receive a specific service. These user fees, however, cannot be used by local governments to offset the costs associated with many of the public goods and services that they provide. Some examples of public goods and services that cannot be funded by user fee revenues are public education, police protection and maintenance of public facilities (New Jersey State League of Municipalities). This limitation on raising funds when combined with the recent unreliability of the state government forces New Jersey's local governments to primarily rely on property tax revenues in order to finance most of their operations. This heavy reliance on property tax revenues puts the local governments in an even tougher situation because the levels of property tax rates in New Jersey are already among the highest in the United States.

This paper aims to identify the role, if any, that differing governmental form plays in the determination of the municipal tax rate. Because property tax rates in New Jersey are among the highest in the nation, voters are more sensitive to this issue compared to other U.S. states. The impact that this issue has on voters should persuade the actions of politicians seeking election to local public office. Previous literature on determinants of municipal tax rates has failed to account for this possibility. If voter priorities impact politicians' agendas, then different local governmental form could conceivably impact property tax rates.

I find that governmental form does not have a significant impact on the equalized property tax rate. Under Specification I the equalized property tax rate for the forms

town and city are found to be significantly greater than the borough form. However, after controlling for other possible explanatory variables that capture the demand for local services, housing characteristics, and different municipal infrastructure, government form is no longer found to be significant.

I find evidence that the equalized property tax rate will increase as the distance from New York City increases. This supports the findings of Hoyt (1992) who finds that the proximity of a major city will increase surrounding property values. Since it is assumed, all other things constant, that higher property values imply lower tax rates, it is logical to assume that as you move further from New York City, property tax rates should increase.

I also find support for Büttner's findings that higher population leads to higher property tax rates. This finding goes against the popular opinion regarding the large number of municipalities in the state of New Jersey. State legislators have introduced bills in an attempt to consolidate many of the smaller municipalities within the state. If a larger municipal population leads to a higher equalized property tax rate, the creation of larger municipal jurisdictions may have an adverse effect on local tax rates. If municipal consolidation does prove to be ineffective in remedying the high property tax rates in New Jersey, legislators must look to new areas for a solution.

### Literature Review

It is commonly believed that the large number of municipalities in New Jersey negatively impact the efficiency at which local public goods and services are delivered. Dennis McNerney of the *Trenton Times* echoes the popular opinion that "Property tax payers cannot sustain the administrative overhead necessary to maintain these small, local

governments.” However, Nelson (1992) finds empirical support for a different view. He notes that after World War II, there was a movement toward local jurisdiction reform. While in the United States many small local jurisdictions were emerging, the movement in Europe tended towards the creation of much larger general governing jurisdictions. In Sweden, in particular, the total number of municipalities declined from approximately 2,500 in 1952 to less than 300 by 1974. In his study of the effects of this reform in Sweden, Nelson finds support for the belief that “multiplicity of local jurisdictions can promote more accountability and responsiveness in the delivery of local services and that private or intergovernmental contracting diminishes the significance of economies of scale in determining optimal jurisdiction size.” These findings suggest that local governments are best-suited to choose their proper jurisdiction size and form. While this seems to disprove the popular belief that municipal consolidation is necessary, when the relatively large number of municipalities and the high levels of property taxes in New Jersey are taken into consideration, there may be some validity to the municipal consolidation movement.

According to a report released by the Tax Foundation in 2006, homeowners in New York and New Jersey have the highest property taxes in the United States. Of the top ten counties ranked by median property tax rates in the United States, five were in New Jersey. Hunterdon, Bergen and Essex Counties ranked three, four and five respectively. According to a 2002 fiscal study from the Nelson A. Rockefeller Institute of Government, the average New Jersey resident pays five percent of their personal income in property taxes. That number is significantly higher than the national average of 3.2 percent. These alarming statistics about the high levels of property taxes in New

Jersey make identifying the determinants of local tax rates necessary in order to be better able to resolve this problem.

Municipal tax rates can be basically defined as a function of the demand for local public goods and services and the available tax base. Municipalities offer a wide variety of public goods and services to their citizens. Such services include public education and police protection. The amount of spending on public goods can differ greatly across municipalities. The amount and type of spending on public goods can also vary based upon the type of local governmental structure. For example, “Relative to suburban areas, central cities have spent more of their revenue on noneducational public goods and less on education” (Santerre 1985). Santerre (1985) argues that analyses that treat all municipalities as spatially similar tend to overlook some important sources of variation in the demands for both public and private goods. It is possible that this variation in the demands for public goods is the driving force behind the differences in the level of local tax rates since these tax rates are a function of the demand for local public goods.

Brett and Pinkse (2000), set out to show that municipal tax rates are a function of the interaction of neighboring jurisdictions, or tax mimicking. There are three theoretical explanations for the potential presence of this tax mimicking. One explanation is the presence of public good expenditure spillovers. Kelejian and Robinson (1992) are able to show that local police expenditures tend to be higher when the police expenditures of a neighboring municipality are higher. The second explanation is an exit mechanism which exists because the tax base is mobile (Tiebout 1956). This means that if tax rates are high relative to those in neighboring jurisdictions, there is incentive for firms or households to move away. However, this does not necessarily mean that municipalities

need to compete with neighboring jurisdictions. Brett and Pinkse ultimately find no evidence of tax mimicking.

Noiset (1995) finds that although a higher tax rate itself drives out capital, the tax base may be expanded to offset any loss if the excess revenue generated is spent on public goods that can attract more capital. Matsumoto (1998) finds that this is not usually the case, however. He finds that when capital is mobile between jurisdictions, local public inputs tend to be under-provided. This under-provision can be attributed to tax competition. The third possible explanation for the presence of tax mimicking is yardstick competition. Yardstick competition, a concept first utilized by Salmon in 1987, states that voters compare the performance of their municipality to their beliefs about neighboring municipalities. Since voters cannot know their local municipality's production function, they use the neighboring municipalities' tax rates as the basis for their comparisons. Allers and Elhorst (2005) found evidence of such tax mimicking present in Dutch municipalities. They found that tax rates are mimicked to a lower extent when the governing coalition of a municipality is supported by a large majority. The findings of Brett and Pinkse in their study of the determining factors of municipal tax rates in British Columbia point toward the presence of yardstick competition as the driving force behind this concept of tax mimicking.

The interdependence of taxing decisions between municipalities, however, does not eliminate all differences in local tax rates. Büttner (1999) finds that population size also has an effect on the local tax rate. He was able to find evidence from German municipalities that local tax rates will rise with the population. Bucovetsky (1991) also found evidence of the effect of population size on differences in tax rates. He was able to

show that when the tax base is mobile between two jurisdictions, the municipality with the smaller population will pay a lower tax rate and thus, be better off than the larger municipality. The impact of large cities on the tax rates of their suburbs is another relevant topic. Hoyt (1992) finds that when a city has a large share of the population of the metropolis it influences the property values in its surrounding suburbs. Since the tax base includes the collective value of taxable real estate, any increase in property value due to the proximity of a large city will undoubtedly impact the local tax rates of its suburbs.

Since the evidence of yardstick competition shows that voters utilize the tax rates of neighboring municipalities as a way to judge the performance of their municipality, then the beliefs and goals of the politicians who set the tax levels also play a role in the determination of the local tax rates. Büttner (1999) also finds that local tax rates will rise with the government's preference in favor of public consumption expenditures. Ashworth and Heyndels (1998) find that politicians consider a given tax burden to be high if it exceeds the level in neighboring municipalities. They also find that politicians' attitudes about local tax rates depend upon possible electoral consequences. This shows that the manner in which municipal leaders are elected to office and the type of term that they serve, which is dependent upon specific municipal government form, is also a possible determinant of the local tax rate that may have been overlooked in previous literature.

The structures of municipal government in the state of New Jersey can be classified as one of the following: a borough, town, city, township or village (Cerra 2007). Each of these governmental structures has unique characteristics that should have

an effect on the municipal tax rate. For example, a city, which has a mayor elected by the citizens, and a township, which has a five-member committee appointing the mayor, will have different factors involved in the determination of their tax rates. If the mayor does not need to win an election, he may have different attitude towards tax rates and act differently than if he needed public support in order to remain in office. This paper will determine the impact that differing governmental form, and the different aspects of each, may have on the local tax rate.

### Data and Methods

In New Jersey, the most popular form of local government is the borough form. A borough's mayor serves a four-year term, but the structure is such that the council holds more powers than the mayor. The township, which is the second most popular form of local government, consists of a committee of three to five members and a mayor who presides over this council, but only serves a limited one-year term. The village form is very similar to the township form, except for the mayor, who is called the chairman of the board, serving as the head of a board of trustees instead of a three to five member council. The town structure, whose mayor serves a two-year term acting as council chair, provides the mayor with more executive powers than the township or borough forms. The final form of local government in New Jersey is the city form. Under the city form, the mayor serves a four-year term. He presides over a seven-member council and is provided with more executive powers through his position as head of the police department and the ability to veto ordinances.

To successfully compare property tax rates across districts, a flat property tax rate cannot not be used. The amount of taxable property is not based upon the true value of

the property, but rather the assessed value of the property. To account for this, the equalized property tax rate (eqproptxrte) is utilized instead of the flat property tax rate. The equalized tax rate is defined as a dollar amount per every \$100 of assessed property value and was generated by multiplying the flat property tax rate by the ratio of assessed value of taxable property to the true value of taxable property. A model was constructed to find evidence of significantly different property tax rates between local governmental forms. This model states that the equalized property tax rate is a function of government form, the demand for local services, municipal infrastructure and housing characteristics of a municipality.

Under Specification I, it is assumed that the equalized property tax rate is only a function of governmental form. A regression was run utilizing only the four dummy variables to represent the four governmental forms with the highest mean equalized property tax levels as the independent variables. The borough form has the lowest mean value of equalized property taxes of all of the governmental forms and is, thus, excluded from the model as a means to compare the results. Since Specification I fails to account for any outside variables that may control for the changes in equalized property tax rates between governmental forms, a second model needs to be formed.

Specification II disregards governmental form and assumes that the equalized property tax rate is only a function of the demand for local services, municipal infrastructure and the housing characteristics of a municipality. To capture the demand for local services, independent variables for the percentage of seasonal housing in a municipality (pctseasonal), the percentage of the population in school (schoolpop) and the percentage of the population over the age of 65 (pop65+) were included. It is

expected that a higher percentage of seasonal housing as well as a higher percentage of the population over the age of 65 would lead to lower equalized property tax rates because the demand for services would be lower. On the other hand, it is expected that a municipality with a greater percentage of the population in school would have a higher equalized property tax rate. In terms of explaining a municipality's infrastructure, independent variables for distance from New York City (nycdist), total population (pop), and the percentage of undeveloped land (undeveloped) were utilized. It is expected that a further distance from New York City would lead to a less dense population resulting in lower property values and consequently higher property tax rates. In terms of housing characteristics, independent variables for the median number of rooms per household (rooms), the average land parcel size per housing unit (avgparcel), and the percentage of houses built before 1960 (pre1960) were included. Since municipalities with higher property values may require fewer social services, it is expected that the more rooms per piece of taxable property, or a bigger house on a similar lot, will lead to lower property tax rates.

Specification III combines the previous two models in order to see if the addition of other possible explanatory variables has any impact on the significance of differing governmental form. A test for pair wise correlation was performed to see if any of the changes in significance levels of the independent variables between Specifications I and II and Specification III are the result of multicollinearity between variables. Also further regressions were run using singular governmental form dummy variables. These tests were used to ensure the validity of the results obtained under Specification III.

The data on local governmental form was obtained from the New Jersey League of Municipalities. The data on the tax base, tax rates and the ratio of assessed property value to true property value was obtained from the New Jersey Department of Community Affairs. Municipal population statistics, seasonal housing units, the proportion of housing units built before 1960, and median rooms per household were obtained from the U.S. Census Bureau. NJDEP provided the data on travel distance to New York City.

### Results

Table 1 shows the means and standard deviations for the dependent variable (equalized property tax rate) and the independent variables for the three specifications. Variation in the equalized property tax rate across governmental form was substantial; the mean value for the borough form was the lowest at \$2.43 per \$100 of assessed property value, while the mean value for the city form was the highest at \$2.96 per \$100 of assessed property value. With the lowest average equalized tax rate, the dummy variable for the borough form was removed from the regressions as a means of comparison in Specifications I and III.

Column 1 of Table 2 reports the results of Specification I. Under this specification, the governmental forms of town and city are shown to have significantly higher equalized property tax rates than the borough form. A municipality operating under the city form of government will have an equalized property tax rate that is \$.48 higher per every \$100 of assessed property value than a borough. Similarly, a municipality operating under the town form of government will have an equalized property tax rate that is \$.42 higher per every \$100 of assessed property value than a

borough. The township and village forms of government are found to not be significantly different from borough.

Column 2 of Table 2 shows the results of Specification II, which only includes the independent variables that capture the demand for services, municipal infrastructure and housing characteristics. The three variables implemented to capture the demand for local services – pctseasonal, schoolpop and pop65+ - were all significant. Both an increase in the percentage of seasonal housing in a municipality and the percentage of residents over the age of 65 have a negative effect on the equalized property tax rate. A 1 percent increase in seasonal housing units is associated with a reduction in the equalized property tax rate of \$.01 per every \$100 of assessed property value. In terms of the independent variables incorporated to control for changes in the tax rate due to differing municipal infrastructure, the distance from New York City was shown to have a significant positive effect on the equalized tax rate. A 10 mile increase in the distance from New York City is associated with an increase in the equalized tax rate of \$.03 per every \$100 of assessed property value. The independent variables associated with the percentage of houses built before 1960 and the number of rooms per household were found to have a significant positive and negative effect on the equalized property tax rate respectively. Surprisingly, population is shown to actually have a positive effect on the equalized property tax rate. This finding seems to go against popular arguments for the benefits of municipal consolidation.

Column 3 of Table 2 reports the results of Specification III. The combination of the governmental form dummy variables and the control variables changes the results drastically. The explanatory independent variables for the demand for services, the

percentage of the population that is of school age and the percentage of the population over the age of 65, remained significant. Also the variables for distance from New York City, the number of rooms per household and the percentage of houses built before 1960 remained significant with similar parameter estimates. The major difference under Specification III is that the dummy variables for governmental form no longer have any significant effect on the equalized property tax rate.

In order to check the validity of these results, a test for pairwise correlation was run. This test was run to find if the changes in levels of significance between Specifications I and II and Specification III are being driven by multicollinearity between the governmental form dummy variables and the other explanatory variables. It can be seen from the results that the dummy variables for governmental form are not highly correlated with any of the other explanatory variables. Further regressions were run using only one dummy variable with the other explanatory variables. The results of these regressions reinforce the results from Specification III and show that governmental form has no significant effect on property tax rates.

### Conclusion

Property tax rates in New Jersey are among the highest in the nation. New Jersey voters consider this problem to be a top priority because they pay nearly five percent of their personal income in property taxes. The impact that this issue has on voters should persuade the actions of politicians seeking election to local public office. Previous literature on determinants of municipal tax rates has failed to account for this possibility. If voter priorities impact politicians' agendas, then different local governmental form could conceivably impact property tax rates.

I find that governmental form does not have a significant impact on the equalized property tax rate. Under Specification I the equalized property tax rate for the forms town and city are found to be significantly greater than the borough form. However, after controlling for other possible explanatory variables that capture the demand for local services, housing characteristics, and different municipal infrastructure, government form is no longer found to be significant.

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Surprisingly, I also find support for Büttner's findings that higher population leads to a higher equalized property tax rate. This finding goes against popular opinion regarding the large number of municipalities in the state of New Jersey. State legislators have introduced bills in an attempt to consolidate many of the smaller municipalities within the state. If a larger municipal population leads to a higher equalized property tax rate, the creation of larger municipal jurisdictions may actually have an adverse effect on tax rates. If municipal consolidation does prove to be ineffective in remedying the high property tax rates in New Jersey, legislators must look to new areas for a solution.

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Table 1. Means and Standard Deviations

Variable	N	Mean	Standard Deviation
eqproptxrte	566	2.519	0.792
borough	566	0.449	0.498
city	566	0.094	0.292
township	566	0.424	0.495
town	566	0.027	0.161
village	566	0.007	0.084
nycdist	566	48.05	31
undeveloped	566	28.5	23.4
pre1960	566	49	21.1
rooms	566	6.09	1.02
avgparcel	566	0.448	0.414
pctseasonal	566	4.51	12.84
pct65+	566	14.25	6.1
schoolpop	566	25.28	4.42
pop (in thousands)	566	14.866	22.789

eqproptxrte = property tax rate in municipality *i* multiplied by assessed to true ratio  
 borough = dummy = 1 if municipal government is classified as a borough  
 city = dummy = 1 if municipal government is classified as a city  
 township = dummy = 1 if municipal government is classified as a township  
 town = dummy = 1 if municipal government is classified as a town  
 village = dummy = 1 if municipal government is classified as a village  
 nycdist<sub>*i*</sub> = distance (in miles) between the municipality and New York City.  
 undeveloped<sub>*i*</sub> = Undeveloped land (less acreage acquired as open space) as a percentage of total acreage as of 2000 for municipality *i*.  
 pre1960 = percentage of total housing units that were built prior to 1960 for municipality *i* in 2000.  
 rooms<sub>*i*</sub> = median number of rooms per housing unit for municipality *i* in 2000.  
 avgparcel = average residential lot size in acres for municipality *i* in 2000.  
 pctseasonal = percentage of total housing units that are seasonal units for municipality *i* in 2000.  
 pct65+ = percentage of total population over the age of 65 for municipality *i* in 2000.  
 schoolpop = percentage of total population in public school system for municipality *i* in 2000.  
 pop = total population for municipality *i* in 2000.

Table 2. Regression Results

Dependent Variable	Specification I	Specification II	Specification III
constant	2.4825 (0.0471)	3.0670 (0.3724)	3.0307 (0.3641)
city	0.4763 (0.1337)		-0.0234 (0.1048)
township	-0.0466 (0.0695)		0.1242 (0.1474)
town	0.4170 (0.1233)		0.0763 (0.0894)
village	0.0817 (0.3753)		-0.0323 (0.2239)
nycdist		0.0033 (0.0013)	0.0033 (0.0014)
undeveloped		-0.0010 (0.0019)	-0.0020 (0.0019)
pre1960		0.0084 (0.0019)	0.0093 (0.0028)
rooms		-0.305096 (0.0572)	-0.3119 (0.0628)
avgparcel		-0.0984 (0.1369)	-0.1028 (0.1390)
pctseasonal		-0.0098 (0.0049)	-0.0091 (0.0049)
pop65pct		-0.0143 (0.0070)	-0.0149 (0.0070)
schoolpop		0.0387 (0.0135)	0.0396 (0.0138)
pop		2.73e-06 (1.42e-06)	2.32e-06 (1.81e-06)
R <sup>2</sup>	0.0407	0.4001	0.4039
N	566	566	566