



Our Piece of the Pie

The Distribution of State Funds to Municipalities Across N.J. Regions

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Summary¹

The current study builds on previous research to estimate the regional gap in state funding assistance between municipalities in South NJ compared to similar municipalities in Central and North NJ. The study offers three main findings:

- First, the regional gap *only exists* between the poorest NJ municipalities. The top 10% poorest municipalities in South NJ receive 33% less total state funding compared to similarly poor municipalities in non-South NJ, even after controlling for differences in population, property values, income levels, demographics, etc.
- The regional gap mentioned above is entirely the result of disparities in Consolidated Municipal Property Tax Relief Act (CMPTRA) funds across NJ regions.
- Lastly, the regional gap is increasing over time.

¹ Comments and questions are welcome. Email: michael.hayes@rutgers.edu. Phone: 856-225-6561. Rutgers University-Camden, 401 Cooper Street, Room 302, Camden, NJ 08102. The author thanks Spencer Clayton for his assistance with data collection, and Christopher Wheeler for comments and feedback. Any remaining errors are my own.

1. Introduction

State funding assistance accounts for almost 25% of all revenue received by local governments in New Jersey (NJ).² The distribution of state funding to local governments serves at least two purposes. First, state aid is often used to help offset the cost of providing local governmental services. The rationale for this is that the benefits of local government services (e.g. parks and recreation) may spillover to residents living in other NJ municipalities. Second, state aid is used to alleviate property tax burdens for local NJ households. This is especially important since NJ has the highest local property taxes in the entire country. For example, in 2016, the average NJ household paid almost \$8,600 in property taxes.

Given the importance of state aid, it is vital for local policymakers and citizens to be aware of how much state funding assistance is distributed across NJ municipalities. One logical question is whether all NJ municipalities receive similar levels of state funding assistance. It is unlikely state funding assistance is distributed equally across NJ because not all NJ municipalities are the same. For example, NJ municipalities differ by population, socioeconomic characteristics, and the geographic location within the state.

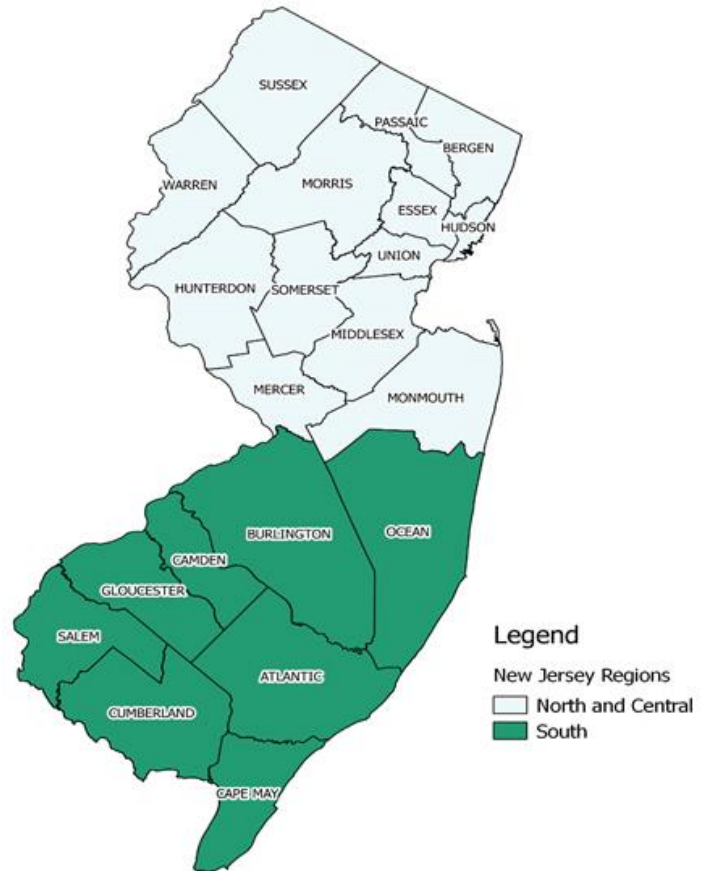
Differences in geographic location is of special attention in the current study because many policymakers and citizens in South NJ have argued that their region does not receive a fair share of state resources relative to other NJ regions.³ A 2008 poll conducted by Monmouth University finds that more than 50% of residents in

² This estimate was calculated by the author using U.S. Census data on all types local governments in NJ including townships and school districts.

³ Figure 1 illustrates how NJ counties are divided into two regions: South NJ and non-South NJ.

South NJ believe that North Jersey receives the most amount of state resources.⁴ A 2016 Walter Rand Institute study tested whether this opinion is backed by the data.⁵ Examining differences in state aid to county governments, Shames and Clayton (2016) find that county governments in South NJ received significantly less state funding compared to similar county governments in non-South NJ.

The current study builds on the Shames and Clayton (2016) study in the following ways. First, like Shames and Clayton (2016), this study examines the regional gap in state funding assistance between South NJ and non-South NJ. However, this study focuses on state funding assistance that goes directly to NJ



municipalities instead of the state aid to NJ county governments. This is an important contribution because state funding assistance to municipalities makes up a larger portion of total state funding assistance. Second, the current study examines whether the regional gap in state funding assistance varies by type of municipality. For example, it is possible that the regional gap varies by

⁴ For more information about this poll, please see https://www.monmouth.edu/polling-institute/reports/monmouthpoll_nj_033108/.

⁵ For a copy of that report, please see <https://rand.camden.rutgers.edu/2018/01/09/is-south-jersey-getting-its-fair-share-of-public-goods/>.

municipalities' levels of economic distress. Lastly, the study tests to see if the regional gap in state funding assistance is increasing over time.

Specifically, this study addresses the following research questions:

1. Is there a regional gap in state funding assistance between municipalities in South NJ and non-South NJ?
2. What factors explain why there would be a regional gap?
3. Has the regional gap been increasing or decreasing over time?

The current study offers three main findings. First, the regional gap in state funding assistance *only exists* between the poorest municipalities in South NJ and non-South NJ. Specifically, the top 10% poorest municipalities in South NJ receive 33% less total state funding compared to similarly poor municipalities in non-South NJ, even after controlling for differences in population, property values, income levels, etc. Second, the regional gap is the result of disparities in a particular source of total state funding assistance, the Consolidated Municipal Property Tax Relief Act (CMPTRA) funds. Lastly, there is evidence that the regional gap is increasing over time for the most economically distressed municipalities in NJ. For example, the regional gap was about 15 percentage points higher in 2009 compared to 2008, whereas the regional gap was more than 50 percentage points higher in 2016 compared to 2008.

The remainder of this report is organized into three sections. Section 2 describes the data and methodology used to address the three research questions stated above. Section 3 presents the main results. Lastly, the concluding section of this report provides a summary of the main findings, limitations, and policy implications.

2. Data and Methodology

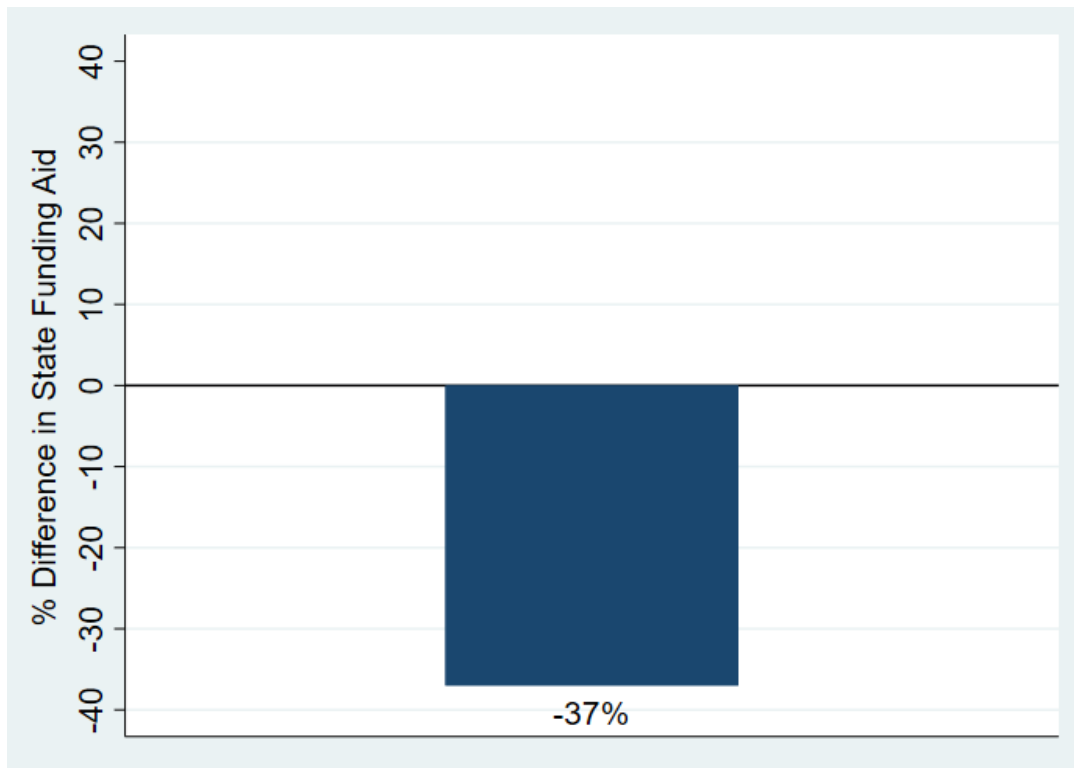
This report uses data from publicly available data sources to create a panel dataset of all NJ municipalities between 2008 and 2016.⁶ The NJ Department of Community Affairs (DCA) annually publishes the Certification of State Aid dataset, which includes information on state funding received by each NJ municipality by source.⁷ The Certification of State Aid data files are used to create the outcome of interest called total state funding assistance. Total state funding assistance includes all sources of state aid received by municipalities including energy tax receipts (ETR), the Consolidated Municipality Property Tax Relief Act (CMPTRA) funds, transitional aid, Garden State Trust funds, and all other sources.⁸

⁶ The sample includes data on 563 unique NJ municipalities over nine years. Some municipality-year observations were eliminated due to missing data. For more information about the sample restrictions, please contact the author.

⁷ For more information about this data source, please see <http://www.state.nj.us/dca/>. The main results are qualitatively similar when using similar data from an alternative DCA report called the Statement of State Aid.

⁸ For more information on the history of state aid in NJ, please see <http://www.njslom.org/energy-tax-paper.html>.

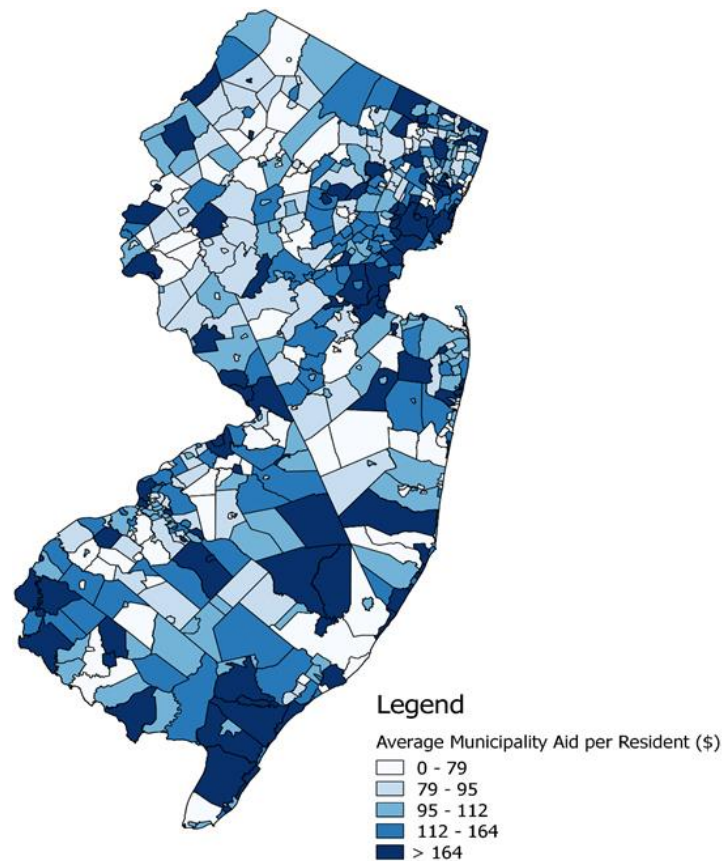
Figure 2. Difference in State Funding Assistance between South and non-South NJ



Notes: Figure 1 reports the unconditional difference in state funding assistance between the average municipality in South NJ and the average municipality in non-South NJ. This statistic is from a regression model reported in Column 1 of Table 3. The regression model only controls for year fixed effects.

To address the first research question, I examine the average difference in total state funding assistance across NJ regions. Figure 2 shows there is a significant gap in total state funding assistance by region. Specifically, shown in Figure 2, the average municipality in South NJ receives approximately 37% less state funding assistance compared to the average non-South NJ municipality. A 37% regional gap is equivalent to a \$910,000 difference in total state funding for the average NJ municipality. Figure 3 reports the distribution of state funding assistance per resident across NJ municipalities.

Figure 3. State Funding Assistance per Resident (\$)



The remainder of this report will examine why there is such a large regional gap in total state funding assistance. There are likely many explanations for this large regional gap. One explanation is that the average municipality in South NJ is substantially different than the average municipality in non-South NJ, especially when you examine differences in socioeconomic characteristics across NJ regions. To examine these differences, this study collected additional municipality-level data to control for population, property wealth, resident income, tax rates, demographics, and levels of economic distress for all NJ municipalities.⁹ These variables are summarized in Table 1.

⁹ These variables come from multiple data sources including the American Community Survey (ACS), NJ DCA, and NJ Department of Labor. Please contact the author for any questions about the dataset. Unfortunately, the ACS only has data from 2009 to 2015. Therefore, I use 2009 data on control

Table 1. Average socioeconomic differences between South NJ and non-South NJ

	Mean Difference
% Difference in Population	-42.0***
% Difference in Equalized Property Values	-70.0***
<i>Income and Tax Rates Indicators</i>	
% Difference in Median Household Income	-28.0***
% with a High Property Tax Rate	-1.0
% with a Medium Property Tax Rate	6.0
% with a Low Property Tax Rate	-5.0
<i>Demographics Indicators</i>	
Residents per Square Mile	-2,173.0***
% of Non-Hispanic White Residents	5.0***
% of Non-Hispanic Black Residents	4.4***
% of Hispanic Residents	-4.7***
% of Asian Residents	-5.2***
% of Other Race Residents	0.0
% of Residents under 18 years old	-1.6***
% of Residents over 65 years or older	2.5***
<i>Economic Distress Indicators</i>	
Economic Distress Index (in SDs)	0.77***
% of Vacant Properties	6.4***

*Notes: SD = standard deviation. The sample includes 563 unique New Jersey municipalities between 2008 and 2016 with data for all variables shown in Table 1. Mean difference is the gap between the average municipality South NJ and the average municipality in North and Central NJ. Marked p values indicate the statistical significance of the mean difference. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.*

Table 1 reports the mean difference between the average South NJ municipality and the average non-South NJ for each relevant variable. Overall, municipalities in South NJ tend to have less residents compared to the rest of the state. Specifically, as shown in Table 1, the average South NJ municipality has 42% less residents compared to the average non-South NJ municipality. South NJ also has lower levels of property wealth and household income. The average South NJ

variables to proxy for 2008 and use 2015 data to proxy for 2016 control variables. The results are qualitatively similar if I use only data from 2009 to 2015.

municipality has 70% lower property values and 28% lower median household incomes compared to municipalities in North and Central NJ.¹⁰

Interestingly, even after controlling for population, the average municipality in South NJ still has 37% lower property values compared to the average non-South NJ municipality. This implies that the average municipality in South NJ finds it relatively more difficult to raise the same level of property tax revenue per resident compared to non-South NJ municipalities, even if they set the same property tax rate. Therefore, it's possible that South NJ municipalities may set higher property tax rates compared to municipalities in non-South NJ to compensate for lower property tax bases. Table 1 reports that there is no difference between South NJ and non-South NJ in the percent of municipalities setting a high property tax rate. However, South NJ municipalities relative to municipalities in non-South NJ are 6% more likely to set a medium property tax rate and 5% less likely to set a low property tax rate. These differences are not statistically significant, but they are practically significant. Future research should examine these differences in more detail.

Table 1 also shows important demographic differences across NJ regions. The average municipality in South NJ has approximately 2,170 less residents per square mile compared to the average municipality in non-South NJ. The average municipality in South NJ, compared to non-South NJ, has a relatively higher percentage of white residents, a higher percentage of black residents, a lower

¹⁰ The NJ Division of Taxation (DOT) publishes data on equalized property values for all NJ municipalities. DOT adjusts equalized property values to control for different assessment practices across NJ municipalities. For this reason, the current study uses equalized property values instead of actual taxable property values. The main results are robust to using actual taxable property values instead of equalized property values.

percentage of Hispanic residents, and a lower percentage of Asian residents. South NJ municipalities also tend to have an older population compared to all other NJ municipalities.

This study also examines the differences in economic distress levels across NJ regions. There are two variables that proxy for economic distress. First, I use the percent of vacant properties in the municipality as a measure for economic distress. Table 1 shows that the average municipality in South NJ has a 6.4 percentage point higher % of vacant properties compared to the average non-South NJ municipality. The second variable to proxy for economic distress is an economic distress level index. The economic distress level index is a composite variable made up of four variables including unemployment rates, percent of resident with a bachelor's degree or higher, percent of residents with less than a high school degree, and the child poverty rate.¹¹

¹¹ I use a standard linear scoring method to generate a standard score for economic distress levels for each municipality-year observation based on its unemployment rate, percent of resident with a bachelor's degree or higher, percent of residents with less than a high school degree, and its child poverty rate. This composite variable has a mean of 0 and a standard deviation of 1. Therefore, each municipality's score for economic distress is interpreted as a standard deviation above or below the average NJ municipality's level of economic distress.

Figure 4. Economic Distress Across New Jersey Municipalities

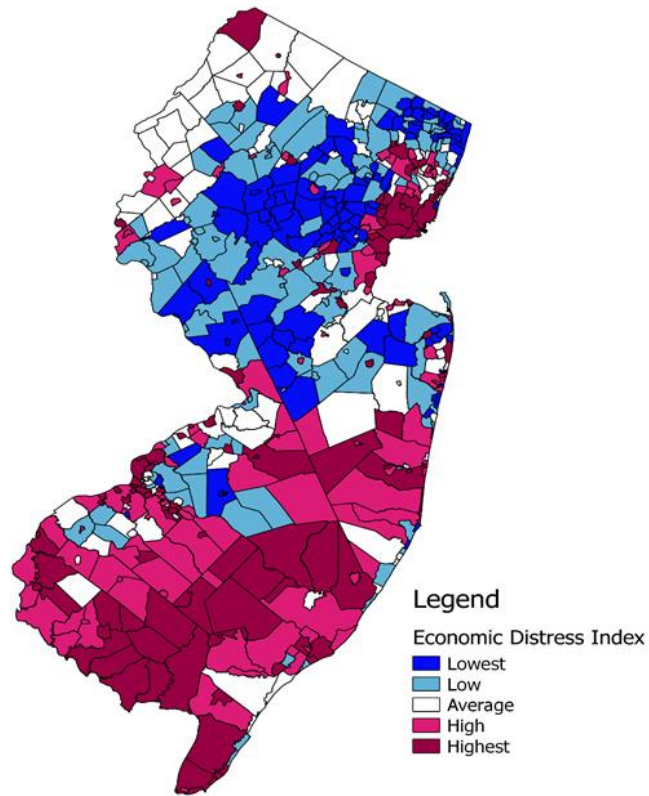


Figure 4 displays the distribution of economic distress across NJ municipalities. The municipalities colored dark blue have the lowest levels of economic distress, whereas municipalities colored dark red have the highest levels of economic distress. Figure 4 shows that there is a large concentration of economically distressed municipalities in South NJ compared to the non-South NJ region. Consistent with Figure 4, Table 1 shows that the average municipality in South NJ has almost a 0.8 standard deviation higher level of economic distress compared to the average non-South NJ. Overall, both variables proxy for economic distress levels show that South NJ has higher levels of economic distress compared to non-South NJ.

Given that South NJ has significant differences in levels of economic distress, income/wealth, and demographics compared to non-South NJ, it would be inappropriate to compare the unconditional mean differences in total state funding assistance between South and non-South NJ. Therefore, to estimate the difference in total state funding assistance across NJ regions, the current study estimates the following baseline equation by Ordinary Least Squares (OLS):

$$Y_{it} = \alpha + \gamma South_i + \beta X_{it} + \theta_t + \varepsilon_{it} \quad (1)$$

where i and t index municipality and year, respectively; Y is the natural log of total state funding assistance; $South$ is a binary variable that equals 1 if the municipality-year observation is located in South NJ and 0 otherwise; X is a vector of control variables including population, property wealth, income & tax rates, demographics, and economic stress levels all shown in Table 1; θ is a year fixed effect (FE); and ε is an idiosyncratic error term.¹²

The coefficient of interest is γ , which is the estimate of the difference in total state funding assistance between municipalities in South NJ and non-South NJ. It is important to stress that the estimate of γ cannot tell us that being in South NJ causes a municipality to have more or less total aid, but that only that the average South NJ has more or less total aid relative to non-South NJ, holding all of the control variables mentioned above constant. Unfortunately, the current study cannot control for all observable and unobservable factors that may affect the distribution of total aid across NJ regions. Therefore, as a robustness check, I will report results from equation (1) with and without control variables.

¹² Since the distribution of total state funding assistance is highly skewed, I transform this variable by taking the natural log. Standard errors are clustered at the municipality-level, which makes inference robust to arbitrary serial correlation within municipalities.

3. Results

This section is divided into four subsections. The first subsection examines which socioeconomic factors best explain the differences in total state funding assistance across NJ municipalities. The second subsection addresses the second research question by estimating the regional gap in state funding assistance while controlling for differences in socioeconomic characteristics across NJ regions. This allows us to determine why there is a regional gap in state funding assistance. The third subsection examines whether or not the regional gap in state funding assistance is a result of a particular type of state aid. The last subsection examines the third research question, which tests whether the regional gap has increased or decreased since 2008.

3.1. What are the determinates of total state funding assistance in NJ?

Table 2 reports baseline regression results from Equation (1) without controlling for NJ region. I run this baseline model without controlling for NJ regions because I want to understand which socioeconomic characteristics best explain the variation in total state funding assistance across all NJ municipalities. Table 2 shows that both population and property values are positively correlated with the amount of state funding assistance that a municipality receives. Specifically, a 10% increase in population and 10% increase in property values corresponds to a 7.2% and 2.8% increase in total state funding assistance, respectively. The positive relationship between population and total state funding assistance is intuitive, but the positive relationship between property values and total state funding assistance is a bit surprising. Given that state aid is often used to offset inequalities in property tax

bases across local governments, I expected to find a negative relationship between a municipality's property values and the amount of state funding assistance received by the municipality. Overall, these two findings help explain why South NJ tends to receive less total state funding assistance, especially given that the average municipality in South NJ has less residents and lower property values compared to non-South NJ.

Table 2. Determinates of Total State Funding Assistance to NJ Municipalities

	(1)
Natural Log of Population	0.72*** (0.05)
Natural Log of Equalized Property Values	0.28*** (0.05)
Natural Log of Median Household Income	-0.12 (0.12)
% with High Property Tax Rates	0.15** (0.06)
% with Medium Property Tax Rates	0.01 (0.05)
Residents per Square Mile	0.00 (0.00)
% of Non-Hispanic Black Residents	0.01*** (0.00)
% of Hispanic Residents	0.00 (0.00)
% of Asian Residents	0.00 (0.00)
% of Other Race Residents	0.03** (0.02)
% of Residents under 18 years old	-0.01 (0.01)
% of Residents over 65 years or older	-0.01 (0.00)
Economic Distress Index (in SDs)	0.10** (0.04)
% of Vacant Properties	0.01*** (0.00)
Adjusted R ²	0.86
Sample Size	5,013

*Notes: The dependent variable is the natural log of total state funding assistance. All regression models control for year fixed effects (FE). The standard errors are reported in parentheses and are robust to municipality-level clustering. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.*

Interestingly, Table 2 shows there is a positive relationship between total state funding assistance and property tax rates. On average, a municipality that sets a high property tax rate receives approximately 15% more total state funding assistance compared to those municipalities that set the lowest property tax rates. This indicates that the state government rewards NJ municipalities with relatively

more state funding when they are willing to set higher property tax rates, holding all other control variables in model constant.

Lastly, Table 2 reports a positive relationship between economic distress levels and total state funding assistance. On average, a one standard deviation in a municipality's economic distress level corresponds a 10% increase in total state funding assistance. Additionally, Table 2 shows that a one percentage point increase in vacant properties corresponds to a 1% increase in total state funding assistance. Both results suggest that the state government attempts to redistribute additional state funding assistance to the poorest NJ municipalities.

3.2. Is there a regional gap in state funding assistance after controlling for socioeconomic differences across NJ regions?

Table 3 reports estimates of the baseline regression model (equation 1). Each cell of Table 3 reports the coefficient for the south region indicator from a unique regression. Column 1 reports estimates of the parsimonious specification that conditions only on year FE. Moving from left to right, each column of Table 3 augments the model estimated in column 1 to include a richer set of controls: column 2 adds the natural log of total population, column 3 adds the natural log of property values, column 4 adds the income and tax rate variables, column 5 adds demographic variables, and column 6 adds indicators for economic distress levels.

Table 3. Determinates of Total State Funding Assistance to NJ Municipalities

	(1)	(2)	(3)	(4)	(5)	(6)
South	-0.37*** (0.11)	0.04 (0.05)	0.07 (0.05)	-0.06 (0.05)	-0.05 (0.06)	-0.12** (0.05)
<i>Controlling for:</i>						
Population		✓	✓	✓	✓	✓
Property Wealth			✓	✓	✓	✓
Income & Tax Rates				✓	✓	✓
Demographics					✓	✓
Economic Distress						✓
Adjusted R ²	0.02	0.82	0.83	0.85	0.86	0.86

*Notes: N = 5,013 municipality-years. The dependent variable is the natural log of total state funding assistance. Each column reports coefficients from a separate regression model. All regression models control for year fixed effects (FE). The standard errors are reported in parentheses and are robust to municipality-level clustering. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.*

In Column 1, the coefficient on the south region indicator is -0.37. This is the exact result reported in Figure 1: the average municipality in South NJ receives approximately 37% less total state funding assistance relative to the average non-South NJ municipality. This estimate of the regional gap does not control for the various socioeconomic differences across NJ regions reported in Table 1. Given that the results from Table 2 show that various socioeconomic characteristics explain differences in the amount of state funding assistance received by NJ municipalities, this regional gap estimate of 37%, reported in Column 1, might change once controlling for these differences in socioeconomic characteristics across NJ regions.

Columns 2 and 3 shows that the coefficient of interest becomes positive and not statistically significant once controlling for population and property values. This suggests that there is no significant difference in total state funding assistance across NJ regions for municipalities with similar levels of population and property wealth. Columns 4 and 5 report regional gap estimates of -0.06 and -0.05,

respectively. For example, the coefficient of -0.05 tells us that the average South NJ municipality receives approximately 5% less total state funding assistance compared to the average non-South NJ municipality, after controlling for additional variables including median household income, whether the municipality set a high property tax rate, and demographics. However, this 5% regional gap is not statistically significant.

The last socioeconomic characteristic that needs to be controlled for is economic distress levels. As mentioned above, the typical municipality in South NJ has significantly higher levels of economic distress compared to the typical municipality in non-South NJ. Since the results from Table 2 show the state government tends to provide additional state funding assistance to NJ municipalities with relatively higher economic distress levels, it is important for us to control for economic distress levels when estimating the regional gap in state funding assistance. Column 6 of Table 3 reports a regional gap estimate of -0.12 . This tells us that the typical South NJ municipality receives approximately 12% less state funding assistance compared to all other NJ municipalities, even after controlling for all control variables including economic distress levels. This 12% regional gap is not only statistically significant, but it is quite large. This finding suggests that NJ municipalities with similar levels of economic distress receive different levels of state funding assistance depending on whether they are located in the South NJ region or the non-South NJ region.

Clearly, the results from Table 3 suggests that there are important differences in state funding assistance depending on the NJ region. However, it is unclear whether this regional gap exists for all types of South NJ municipalities. It is

possible that the regional gap between the average South and non-South NJ municipalities depends on their level of economic distress. To investigate this further, I re-estimate the regional gap three times while controlling for all control variables except economic distress levels. First, I estimate the regional gap for all NJ municipalities in the sample. Second, I estimate the regional gap for all NJ municipalities with an economic distress level below the 90th percentile. Lastly, I estimate the regional gap for all NJ municipalities with an economic distress level above the 90th percentile.¹³ This allows us to identify whether or not the regional gap only exists for the top 10% poorest NJ municipalities, or if the regional gap exists for all South NJ municipalities. Figure 5 presents a map of New Jersey municipalities with economic distress levels above the 90th percentile.

¹³ Being above the 90th percentile tells us that this municipality is among the top 10% most economically distressed municipalities in NJ.

Figure 5. NJ Municipalities with Highest Economic Distress Levels

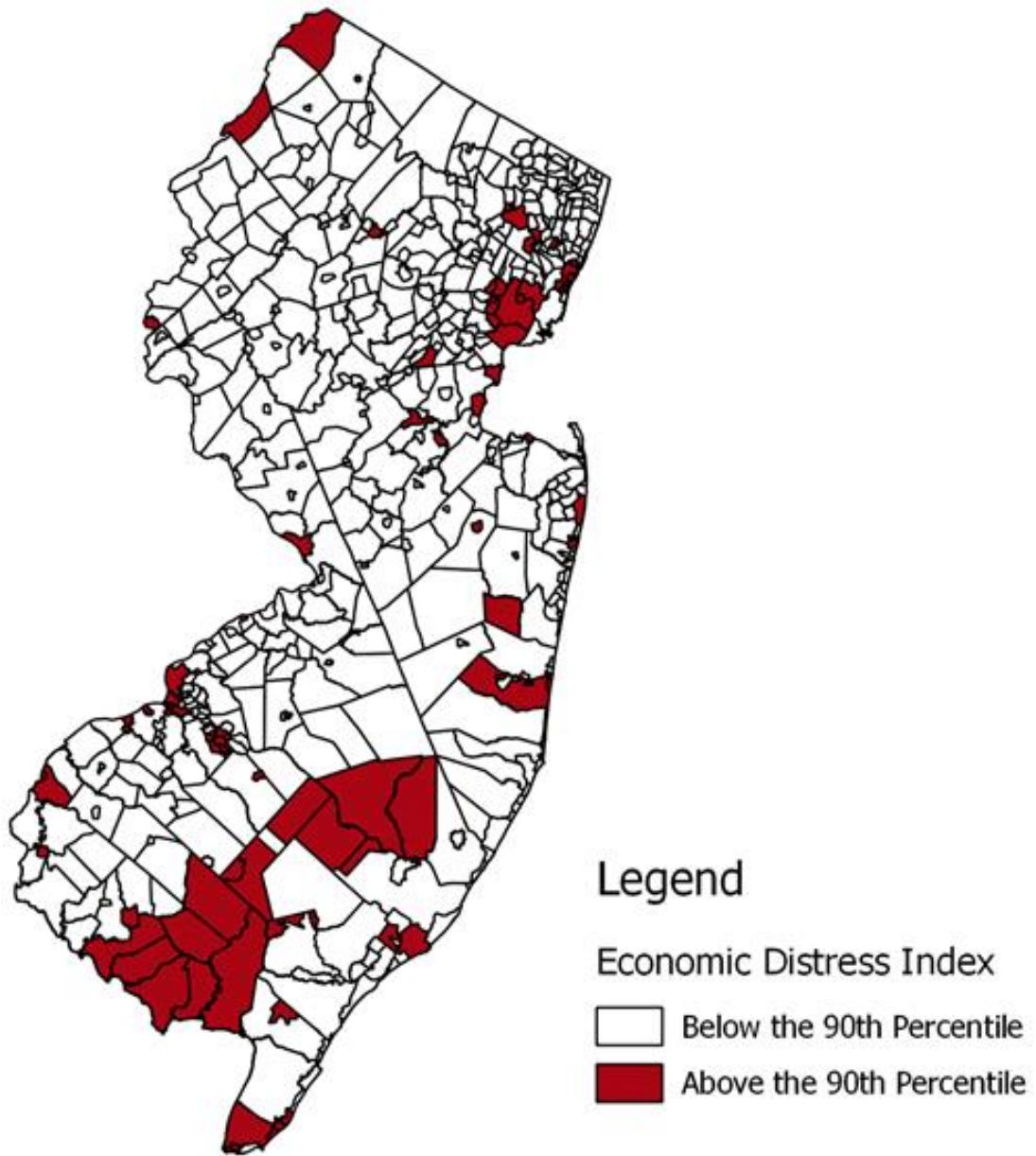


Table 4. Estimated Gaps in Municipality Aid by Level of Economic Distress

	Full Sample	Economic Distress Level	
		< 90 th Percentile	> 90 th Percentile
	(1)	(2)	(3)
South	-0.05 (0.06)	-0.02 (0.06)	-0.33* (0.19)
<i>Controlling for:</i>			
Population	✓	✓	✓
Property Wealth	✓	✓	✓
Median Income & Tax Rates	✓	✓	✓
Demographics	✓	✓	✓
Economic Distress			
Adjusted R ²	0.86	0.85	0.90
Sample Size	5,013	4,522	491

*Notes: The dependent variable is the natural log of total state funding assistance. Each column reports coefficients from a separate regression model. All regression models control for year fixed effects (FE). The standard errors are reported in parentheses and are robust to municipality-level clustering. *** p<0.01, ** p<0.05, * p<0.1.*

Table 4 reports the regional gap by sample restriction mentioned above. Column 1 of Table 4 reports a coefficient of -0.05. This is same coefficient from Column 5 of Table 3 because it is the exact same regression model. Column 2 of Table 4 reports a coefficient of -0.02. This suggest that there is no significant difference in total state funding assistance between South and non-South NJ municipalities with economic distress levels below the 90th percentile. Column 3 of Table 4 reports a coefficient of -0.33. This suggests that the top 10% poorest municipalities in South NJ receive 33% less total state funding assistance compared to similarly poor municipalities in non-South NJ, even after controlling for differences in population, property wealth, and other control variables. Overall, the results from Table 4 show that the regional gap *only exists* for the poorest NJ municipalities, and the results also suggest that the state government appears to

be targeting relatively more state funding assistance to the poorest municipalities in non-South NJ than the poorest municipalities in South NJ.

3.3. Does the size of the regional gap depend on the source of state aid?

As mentioned above, total state funding assistance is made up of two main sources: Energy Tax Receipts (ETR) and non-ETR. ETR is made up of taxes on utilities collected by the state on behalf of NJ municipalities. The distribution of ETR funds to municipalities is based on historic values of utility property and equipment in a municipality. By law, ETR funds to municipalities must increase annually with inflation. The vast majority of non-ETR state aid is made up of Consolidated Municipality Property Tax Relief Act (CMPTRA) funds. Unlike ETR, the state government is not required to increase CMPTRA annually. Additionally, CMPTRA funds also include transitional aid, which is additional state funding assistance that goes to the most economically distressed municipalities in NJ. Given this information, the state government is likely to have relatively more discretion to increase or decrease CMPTRA funds to municipalities each year compared to ETR funds. Therefore, it is possible that the regional gap in state funding assistance could be the result of disparities in CMPTRA funding across NJ regions.

I test for differences in the regional gap by source of state aid by estimating equation (1) using three dependent variables: total state funding assistance, only ETR, and only non-ETR. Table 5 reports the results from these three regression models. Column 1 presents the regional gap estimate where the dependent variable is total state funding assistance and the model controls for all control variables. The coefficient is -0.12 and it is the same coefficient from Column 6 of Table 3. Column 2 of Table 5 reports the same regression results, but the dependent variable is

state aid from ETR only. The coefficient is -0.04 and not statistically significant. Column 3 of Table 5 reports the regional gap estimate when the dependent variable is state aid from non-ETR only. The coefficient is -1.64 and statistically significant. This coefficient suggests that the average municipality in South NJ receives approximately 164% less non-ETR state funding compared to the average non-South NJ municipality, even after controlling for all control variables.

Table 5. Estimated Gaps by Type of Municipality Aid

	Type of Municipality Aid		
	All (1)	Only ETR (2)	Non-ETR (3)
South	-0.12** (0.05)	-0.04 (0.05)	-1.64*** (0.32)
<i>Controlling for:</i>			
Population	✓	✓	✓
Property Wealth	✓	✓	✓
Median Income & Tax Rates	✓	✓	✓
Demographics	✓	✓	✓
Economic Distress	✓	✓	✓
Adjusted R ²	0.86	0.86	0.36

*Notes: N = 5,013 municipality-years. The dependent variable is the natural log of total aid. Each column reports coefficients from a separate regression model. All models control for year fixed effects (FE). The standard errors are reported in parentheses and are robust to municipality-level clustering. *** p<0.01, ** p<0.05, * p<0.1.*

Overall, it appears that the regional gap between South and non-South NJ is entirely driven by differences in non-ETR state funding assistance, and there is no evidence that the typical South NJ municipality receives less ETR state funding assistance relative to the typical municipality in non-South NJ. As mentioned above, this finding might be the result of the state government having more discretion in increasing or decreasing the amount of CMPTRA funding across NJ municipalities and over time.

3.4. Has the regional gap increased or decreased since 2008?

So far, this study finds that there is a regional gap in state funding assistance, and the regional gap *only exists* between the poorest municipalities in South NJ compared to the poorest municipalities in non-South NJ. However, this is only an average estimate over the last nine fiscal years between 2008 and 2016. It is important to determine if this regional gap in state funding assistance has been increasing or decreasing over time, especially since the state government has cut total state funding assistance following budgetary shortfalls caused by the Great Recession.

Figure 6. Difference in State Aid Between South and non-South NJ Municipalities Over Time

Figure 6a. All NJ Municipalities

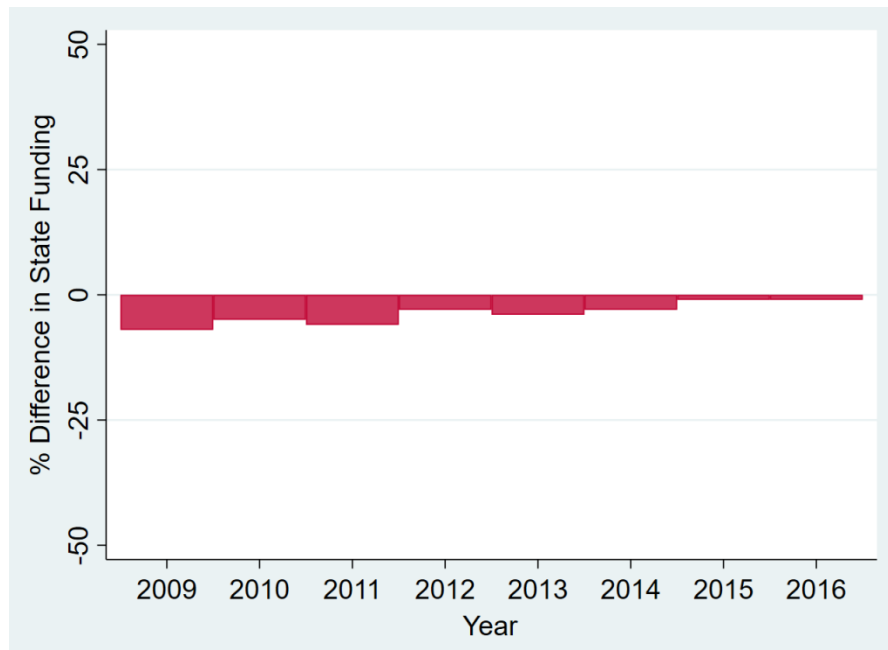
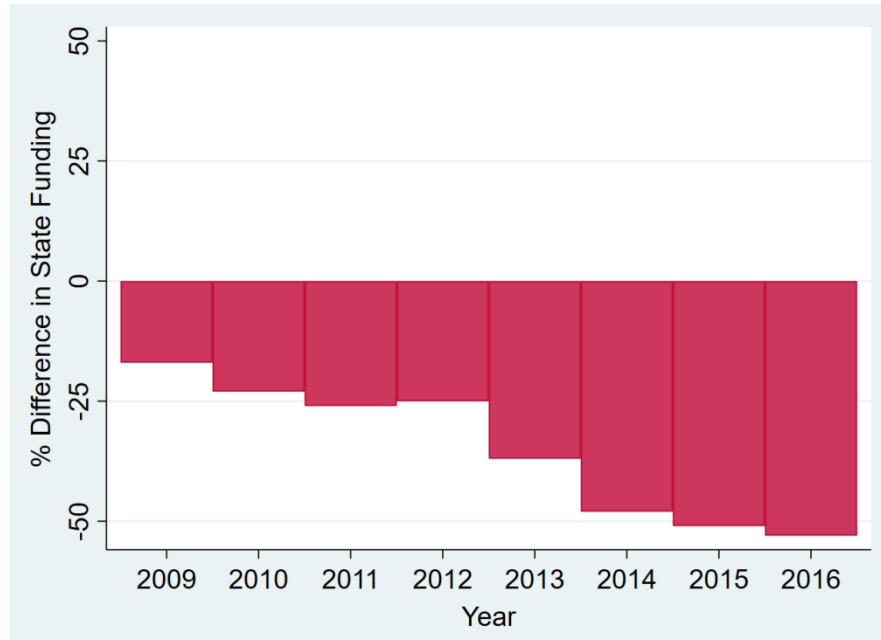


Figure 6b. NJ Municipalities w/ Economic Distress Levels Above 90th Percentile



To estimate the change in the regional gap in state funding assistance over time, I conduct an event history analysis, which is a similar regression model as equation (1), except I interact the South NJ indicator with each year indicator separately. This allows me to estimate the regional gap for each year starting in 2009 relative to the regional gap in 2008. Figure 6 reports the results from the event history analysis. Figure 6a includes all NJ municipalities in the sample. As shown in Figure 6a, there is no statistically or practically significant change in the regional gap when including all NJ municipalities in the sample.

However, given that the regional gap only exists between the poorest NJ municipalities, it is important to run the event history analysis when only including the poorest NJ municipalities in the sample. As shown in Figure 6b, there is convincing evidence that the regional gap in state funding assistance between the poorest South and non-South NJ municipalities has increased significantly since 2008. For example, the regional gap was about 15 percentage points higher in

2009 compared to 2008, whereas the regional gap was more than 50 percentage points higher in 2016 compared to 2008. Unfortunately, the lack of statistical power (e.g. number of observations) makes it difficult to find a statistically significant difference across the years. With that said, the steady increase in the regional gap across the last 8 years and the practical size of the increase in the regional gap over time makes me comfortable concluding that there is enough qualitative evidence to suggest that the regional gap is increasing over time.

4. Conclusions

4.1. Summary of Main Findings

This study examines the distribution of state funding assistance across NJ municipalities. Specifically, this study sought to answer whether there is a regional gap in total state funding assistance between municipalities in South NJ compared to similar municipalities in non-South NJ. Overall, this report offers three main findings. First, the regional gap in state funding assistance *only exists* between the poorest municipalities in South NJ and non-South NJ. I find that the top 10% poorest municipalities in South NJ receive 33% less total state funding compared to similarly poor municipalities in non-South NJ, even after controlling for differences in population, property values, income levels, etc. This finding suggests that the state government appears to be targeting more state funding assistance to economically distressed municipalities in North and Central NJ compared to similarly poor municipalities in South NJ.

Second, the regional gap is the result of disparities in a particular source of total state funding assistance, the Consolidated Municipal Property Tax Relief Act (CMPTRA) funds. There is no evidence of a regional gap when only examining the state funding assistance from Energy Tax Receipts (ETR). This might be explained by the fact that the state government has relatively more discretion to increase or decrease CMPTRA funds compared to ETR funds.

Lastly, there is evidence that the regional gap is increasing over time for the most economically distressed municipalities in NJ. For example, the regional gap was about 15 percentage points higher in 2009 compared to 2008, whereas the

regional gap was more than 50 percentage points higher in 2016 compared to 2008. In other words, it appears state funds are being targeted to the most economically distressed municipalities in non-South NJ relative to similarly poor municipalities in South NJ at higher rates each year between 2008 and 2016. One possible explanation for this increasing regional gap since 2008 is that the state government faced multiple years of budgetary shortfalls following the Great Recession. In response to these budgetary shortfalls, the state government may have cut state funds relatively more in South NJ than non-South NJ. Future research is needed to confirm this possible explanation.

4.2. What is the financial cost of reducing the regional gap?

It would be interesting to know how much it would cost the state government to eliminate this regional gap in state funding assistance. While determining an exact cost is outside of the scope of this study, I can offer a naïve estimate using a back-of-the-envelope calculation. I find that increasing total state funding assistance by 3% and targeting that additional funding to the most economically distressed municipalities in South NJ would eliminate the gap, using my back-of-the-envelope calculation. My simple approach follows three steps. First, I multiplied the total amount of state funding assistance received by the top 10% poorest South NJ municipalities between 2008 and 2016 by 33%, $\$1,228,347,000 \times 33\% = \$372,384,100$. I multiplied by 33% because that is the regional gap estimate reported in Table 4. Second, I then calculated the total state funding assistance received by all NJ municipalities between 2008 and 2016, $\$12,352,660,000$. Lastly, I divided $\$372,384,100$ by $\$12,352,660,000$, which equals 3.01%.

4.3. Limitations

It is important to acknowledge the various limitations of the current study. First, the dataset only includes information starting in 2008. It is possible that including data going back several decades could show smaller differences in total state funding assistance across NJ regions. Second, this study does not have data on historical values of utility equipment and properties across NJ municipalities. As mentioned above, the distribution of energy tax receipts (ETR) to municipalities, making up the vast majority of total state funding assistance, is based on historical values of utility equipment and property. While this is a possible limitation of the study, the main results show that differences in ETR funds does not explain the regional gap. With that said, it still would be beneficial to control for those historical values in this study. Third, this report relies only on a subset of all possible observable differences across NJ municipalities (e.g. Median Household Income). Moreover, there are likely unobservable differences across NJ municipalities (e.g. political influence factors) that may also explain why there are differences in total state funding assistance across NJ regions. Lastly, and most importantly, the current study cannot speak to whether or not differences in total state funding assistance are “fair” or “not fair”. Fairness is a subjective term with many definitions and interpretations. Therefore, it is impossible for this study to objectively claim whether or not a particular NJ region is receiving its fair share of total state funding assistance. For this reason, I caution readers of this study to avoid making these claims.

4.4. Policy Implications

The current report does not make any explicit policy recommendations, but it does offer “next-steps” for local South NJ policymakers. First, it is important for local policymakers to determine whether or not the regional gap is a result of:

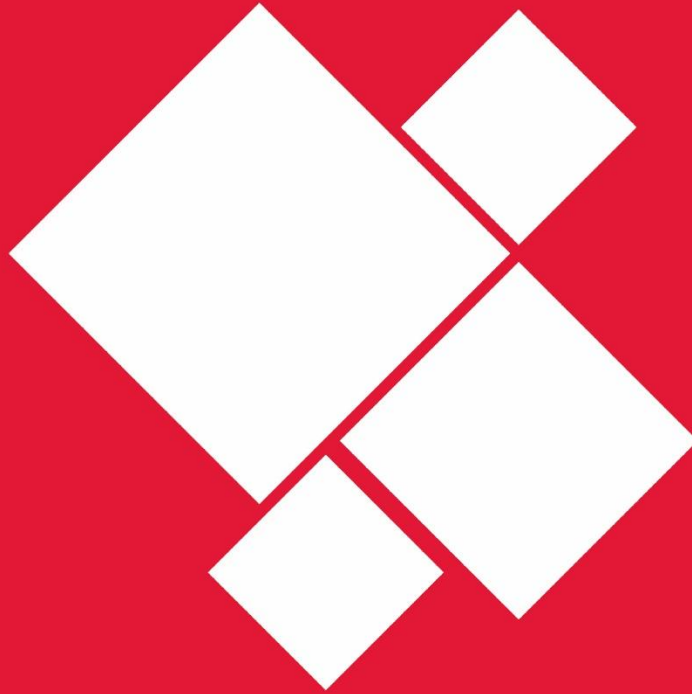
- Scenario 1 - A set of previously enacted state policies that were designed to increase economic development in North and Central NJ.
- Scenario 2 - An unintended outcome from several years of state government budgetary shortfalls following the Great Recession.
- Scenario 3 - An unintended outcome from the current formula for distributing municipality aid.
- Scenario 4 - A combination of the three scenarios mentioned above.

Consistent with scenario 1, it is possible that additional state funding assistance is going to the poorest municipalities in North and Central NJ because of a calculated decision by the state government, especially if there is a brief that the economic benefit to the state would be highest when investing in the non-South NJ region relative to the South NJ region. If this is the case, local policymakers in South NJ will need to conduct additional research to make their case that either there is a larger economic benefit from investing scarce state funding assistance in South NJ relative to non-South NJ, or that the inequalities created by this scenario will have significantly negative, long-term consequences for municipalities in South NJ.

Consistent with scenarios 2 through 4, it is possible that the additional state funding assistance going to the poorest municipalities in non-South NJ is a result of an unintended outcome. If this is the case, local policymakers in South NJ might

consider offering proposals for changes to the current formula used to distribute state funding assistance, particularly for the poorest municipalities. The current study's results provide policymakers a good starting point for possible proposals. For example, the regional gap is entirely the result of regional disparities in CMPTRA funds. It is possible that changes to CMPTRA funding could eliminate this regional gap. Additionally, it might also be worth considering changes to the distribution of ETR funds, especially since ETR funds are primarily distributed based on historic values of utility property and equipment in a municipality. One logical question is whether using these historical values to determine total state funding assistance is the most effective way to ensure efficiency and equity across NJ municipalities.

Lastly, policymakers might consider whether it is suitable that there is a positive relationship between the level of property values in a municipality and the amount of state aid received by a municipality. As mentioned above, the current study finds that municipalities with relatively higher property values receive significantly more state funding assistance. This is a surprising finding because, in the case of school districts for example, the state aid formula is designed to provide additional state funding to school districts with the lowest property tax bases. Should a similar approach be used for municipality aid?



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