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School Funding in New Jersey: A Fair Future for All

Part 5: Inequities Within School Districts

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About This Series

NJPP's second annual report on the state of school funding in New Jersey arrives at a time of unprecedented challenges, both fiscal and educational. The COVID-19 pandemic has forced school districts to radically change how they deliver instruction, while the ensuing economic downturn has created a fiscal crisis for both the state and its local school districts. Ironically, the looming threat of cuts to education spending comes at a time when there is a stronger research consensus than ever about the role of funding in student academic achievement: Adequate and equitable school funding is the necessary precondition for student success. If New Jersey is to see its students thrive through this emergency, it must find a way to ensure that all children, no matter where they live or what learning challenges they face, have access to schools that are adequately funded.

This series, *School Funding in New Jersey: A Fair Future for All*, provides an in-depth look at the current state of school finance in New Jersey: how the state got here, what the consequences have been for our students, and how the state should proceed in the face of the current crisis.

Summary

State school funding systems typically focus on allocating resources between districts. There has, however, been increasing federal regulatory policy interest in within-district funding inequities – differences in resources between schools within the same district. For a state like New Jersey, this is a secondary concern, as most districts in the state are not large enough to have schools with significant differences in students or resources. Rather, the differences in resources that do exist within districts are often driven by variations in grade levels or special education populations. Nevertheless, within-district inequities are a valid concern, and federal law requires New Jersey to collect data and conduct analyses.

This report suggests methods for conducting these analyses: specifically, between-school disparity analysis should explore how resources differ between schools based on factors such as student disadvantage, English Language Learner (ELL) status, grade level, special education status, and school

type (district, magnet, charter, etc.). The state should conduct these analyses, not local districts, as the state is more likely to develop the data gathering and analysis capacities needed. The methods described in this report provide actionable information for schools to more equitably allocate resources.

Inequities Within School Districts: A Concern For New Jersey?

Since the early-2000s, a handful of Washington D.C. think tanks have been raising a specific alarm: while states have taken significant steps to mitigate school funding disparities *between* local public school districts, disparities between schools *within* districts persist and are the dominant equity concern.¹ Specifically, they assert that local public school districts have been providing significantly more resources to schools serving rich neighborhoods within their boundaries than poor neighborhoods. State funding formulas, such as New Jersey’s School Funding Reform Act (SFRA), do not address inequities between schools within a district; therefore, according these analysts, states must develop policies to monitor and regulate how revenues are distributed within districts.

In states like New Jersey, however, very few districts have within their boundaries both “rich” and “poor” schools. Unlike states where school districts encompass an entire county (for example, Florida and Maryland), New Jersey has many small, homogeneous districts: some rich and some poor, with persistent tax capacity and funding disparities between them. The greatest variations in school funding in New Jersey, then, are not within school districts, but between them.

The federal policy interest in regulating spending disparities between schools within districts, rather than tackling the bigger issues of disparities between districts, has been a choice of political convenience for federal officials.² The federal government provides less than 10 percent of overall public school funding; it has had little ability to pressure states, through mandates tied to aid programs, to adopt state school finance formulas and raise sufficient taxes to provide equitable and adequate state school finance systems.³ Even if the federal government did contribute more revenues to K-12 education, attaching strings to federal aid programs – or even enacting coercive federal policies on states – is a heavy political lift. It is difficult for the federal government to take a position against elected state leaders on questions of tax policy and public expenditure, particularly in the current, polarized political environment. By contrast, it is much easier for the federal government (and/or state leaders) to impose constraints or mandates directly on school district officials, whose local public schools often depend directly on federal aid programs, especially if those districts enroll many low-income students. In the end, it’s politically easier to condition the receipt of federal aid for local districts on requirements such as reporting the “comparability” of per pupil spending in districts’ lower- and higher-poverty schools; conversely, it’s more difficult to condition federal aid on a state providing an equitable and adequate statewide system of school funding.

“Comparability” reporting requirements have evolved through various iterations of federal legislation, from *No Child Left Behind* (NCLB) to the *Every Student Succeeds Act* (ESSA).⁴ ESSA compels states

to develop better systems for reporting school-level per pupil spending. But the pressure remains on districts to ensure that school-level spending is sufficiently “comparable” between lower and higher-poverty schools. New Jersey has begun reporting school-level expenditures as of 2019, but has provided little guidance as of yet regarding how local public-school districts should evaluate those expenditure data.⁵

This report provides frameworks for understanding:

- How within-district resource allocation across schools and programs differs conceptually from between-district funding differences,
- How and why these conceptual differences inform how we should evaluate and interpret empirical findings, and;
- How the expansion of charter schools within a district’s geographic spaces complicates these analyses and potentially exacerbates inequity.

Additionally, this report provides specific methodological guidance for evaluating disparities in per pupil resources across schools within and between districts, including charter schools. This report provides illustrations of recommended methods using New Jersey’s new school-level spending data, and using estimates of school-level staffing expenditures based on the state’s fall staffing report data.

School-Level Vs. District-Level Resource Allocation

State school finance systems like SFRA are designed to provide “need-based” and “wealth-equalized” aid across local public-school districts such that each *district* can provide their students with equal educational opportunities to achieve common statewide outcome goals. Local public school districts and their elected boards remain the primary fiscal stewards that determine how to allocate resources – in other words, how to spend the revenues – toward serving the educational needs of the resident students in their geographic space. This point may seem basic, but it is important in understanding how and why there are variations in resources across schools *within* districts, even when evaluated with similar methods as used for evaluating variation *between* districts, leads to different interpretations and policy implications.

Overall, local public-school districts are charged with complying with state and federal mandates, which can constrain or dictate the allocation of resources.⁶ When states like New Jersey do not comply, their state courts compel them to provide sufficient funding to meet state constitutional mandates. However, when it comes to fully complying with the needs of children with disabilities under federal statutes, only local districts are often held responsible to meet these needs whether or not states provide those districts with sufficient funding. This pressure in particular can have outsized influence on a district’s allocation of programs, services, and staff. Approximately 15 percent of students, nationally, on average, are classified as having a learning disability. But in order to meet their educational needs, this requires as much as 30 percent of a district’s resources.⁷ The uneven sorting of children by disability status into school districts across the state is a function of residential choices and constraints on households – factors that school districts, in general, do not control. The distribution of

children with disabilities across programs and settings *within* a school district, however, is more a function of district responses to compliance pressures and resource constraints.

Local boards of education are responsible for how programs and schools are organized within districts, including attendance zones for schools and feeder patterns from elementary to middle to high schools. Districts also determine the distribution of specialized programs and services across schools. They may also choose to operate specialized schools, like magnet schools. In making these choices, local boards control both how children are sorted across schools and programs, and how resources are allocated to those schools and programs. But no matter how a local district sorts and organizes these programs and services, they are compelled to enroll all geographically- and age-eligible students, as well as comply with relevant federal statutes. Districts may have some control in how they sort students within their boundaries, but they have little control over the districtwide population they serve.

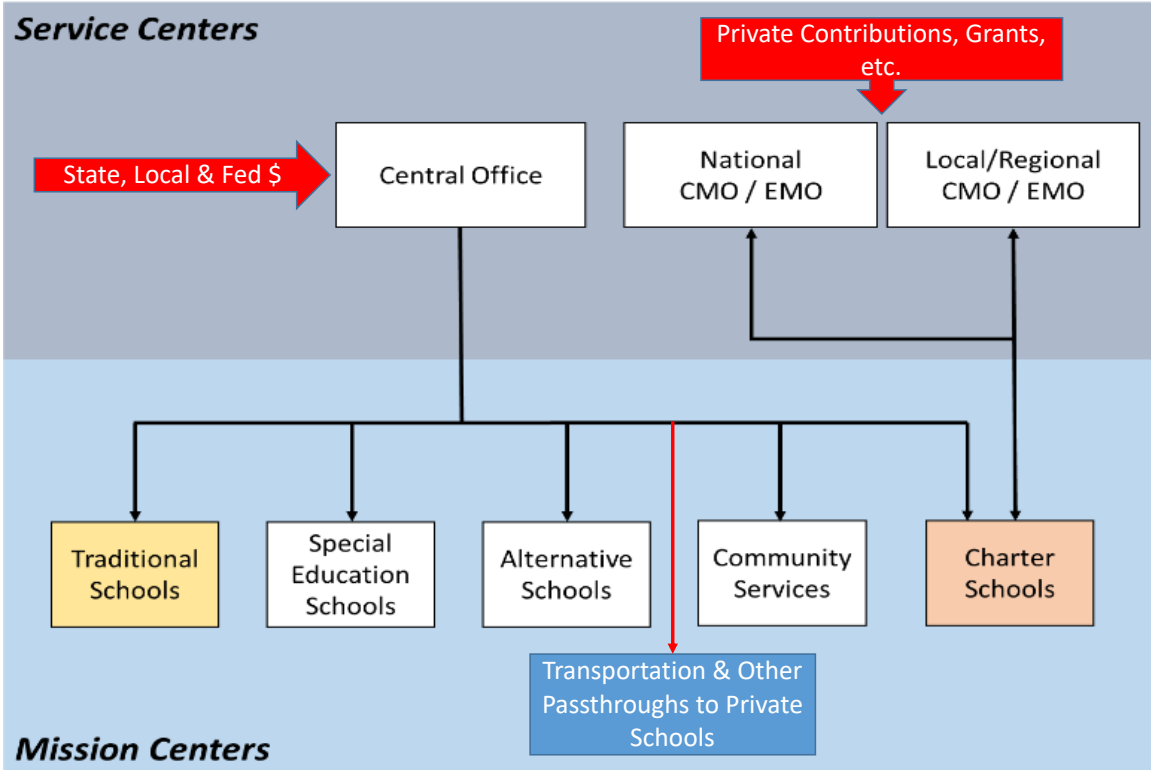
State-authorized charter schools are a complicating factor in how students are sorted within a district. In New Jersey, charter schools are authorized solely by the state, and not by districts. Charters operate within a district's geographic space, drawing students that would otherwise most likely attend district schools. Charter schools may reshape not only the total numbers of students to be served in district schools, but also the mix of students of varying characteristics. New Jersey's charter schools continue to enroll proportionally fewer students with disabilities – rarely serving those with more severe disabilities – and proportionally fewer English Language Learners.⁸ Meanwhile, the formulas that determine the funding that districts must distribute to charter schools are outside the control of local boards of education.

Figure 1 is adapted from a report for the Maryland Department of Education, where the goal was to determine the “commensurate” expenditures of district and charter schools in that state. Maryland charter schools, like New Jersey charter schools, are fiscal dependents of local districts: they are funded by a pass-through system, where local tax revenues and state aid “pass through” the district and to the charter for each resident student enrolled. The district also retains responsibility for the direct provision of some services for charter schools, including transportation and system-wide enrollment management.⁹ While the Maryland report focuses on comparing charter and district school spending, its broader goal is establishing data standards and methods for better evaluating equitable allocation of resources across schools within districts, where that context includes a variety of “mission centers,” including charter schools.

As Figure 1 shows, the majority of public/taxpayer financing for the system goes first to the school district. Only a portion of that funding then flows to typical (“regular,” “traditional”) general purpose schools. Districts provide a wide array of services, including providing special schools, where necessary, for children with significant special needs, and alternative placements or schools for children removed from general purpose schools due to disciplinary actions (as is required in New Jersey). Because many school districts in New Jersey (unlike Maryland) are relatively small, students with special needs are often placed in schools outside the district's direct control; the district, however, still retains the financial responsibility and pays tuition for the student. Districts also provide an array of community

services, make facilities available for community organizations, subsidize transportation and textbooks for private school children, and provide for transportation and special education supports for children attending charter schools.

Figure 1



Adapted from: Levin, J., Baker, B.D., Atchison, D., Brodziak, I., Boyle, A., Hall, A., Becker, J. (2017) Study of Funding Provided to Public Schools and Public Charter Schools in Maryland. Maryland Department of Education. <http://marylandpublicschools.org/stateboard/Documents/01242017/TabG-CharterPublicSchoolFundingStudy.pdf>

When evaluating resource equity across schools, the goal is to have as complete and comparable a measure as possible of the resources actually available to specific schools, based on the characteristics of students served in those schools. Doing so requires knowing not only which resources are assigned directly to individual schools – per Figure 1– but also identifying which other district services provide support to which schools, or provide support to activities that aren’t connected with individual schools – like providing community services. It would be inappropriate, for example, to take the total revenues received by the district, divided by the district’s own pupils, and compare those to the funding allocated to the charter school, divided by the charter schools’ pupils. This is because some of that revenue received by the district (even after subtracting direct transfers to charters) includes district spending on activities that serve charters, and funds obligated for support of private school students. District revenues allocated to special education schools, which serve student populations that differ

substantially from those enrolled in charter schools, will operate at higher per pupil costs than charters.¹⁰

These complications do not relate exclusively to comparisons between district and charter schools; they relate to *any* attempts to evaluate the equitable distribution of resources across schools within districts. Once we have isolated the comparable per pupil resources for all schools within a geographic space there will still exist important differences across student populations that must be accounted for when comparing school resources. This is true even when comparing the subset of “general purpose” district-operated schools and charter schools (most of which in New Jersey are “general purpose”).

School-Level Funding: Toward Better Data And Methods

To put it bluntly: there are right and wrong ways to evaluate variations in spending across schools within districts, just as there are right and wrong ways to evaluate spending across districts. Further, there are better and worse – more and less comparable – data for making these comparisons. If New Jersey is to accurately address the issue of school-level resource disparities, it must use the best possible methods and the best possible data. There are two necessary steps the state must first take when addressing the issue:

1. Given the structural issues laid out in the previous section of this report, New Jersey must develop a school-level data system that provides the most comparable estimates of resources both spent directly (“attributed” resources) at school sites, and resources spent system-wide (or on other service centers) that provide support to school sites (“allocated” resources).
2. Identify those factors – those attributes of students and schools – within the system that may reasonably affect differences in spending across schools. These factors are well-understood,¹¹ and include, but may not be limited to:
 - Shares of children with disabilities, preferably disaggregated by disability classification;
 - Shares of English Language Learners;
 - Shares of children from low-income families;
 - Shares of children by grade ranges served.

If the state wants to isolate whether there are differences in resources between lower- and higher-poverty schools in any given setting, it must consider whether there are differences driven by other student population characteristics or the level of schooling being provided. Evaluations that fail to account for these factors can easily lead to erroneous conclusions.

As an example: a 2007 study compared school-level spending in lower- and higher-poverty schools in Ohio, concluding that most Ohio school districts were spending more per pupil in low-poverty schools than in higher-poverty schools.¹² The problem with this finding is that the analyses failed to consider that most Ohio school districts have only 3 to 5 schools: an elementary or two, a middle school and a high school. The analyses failed to recognize that, within any given school district, filing compliance rates for the National School Lunch Program tend to be lower in secondary than elementary schools,

leading to a pattern wherein elementary schools show higher rates of low-income children and high schools lower rates – even if the economic conditions of families were similar. In addition, and especially in smaller districts, per pupil expenses tend to be higher in secondary settings (to achieve necessary staffing ratios to provide multiple levels of curriculum alongside other elective courses). Therefore, while it’s true that “most” Ohio school districts spent more on high schools (that appeared lower in poverty) than on elementary schools (that appeared higher in poverty), this finding isn’t particularly useful for informing policy. New Jersey must avoid these sorts of methodological traps if it is to develop a robust system of school-level funding analysis.

Setting the Stage for School-Level Analysis in New Jersey

New Jersey has just under 2,500 schools, in about 640 school districts, including charter schools as separate districts. Over the past 10 years, while the New Jersey total student population has grown by under 4 percent, the number of schools has grown by 10 percent, and the average enrollment per school has dropped by 6 percent. While New Jersey policy makers frequently argue that the state should consider school and district consolidation and reorganization to improve the efficiency of the system as a whole, in practice the state has taken the opposite approach. New Jersey has significantly expanded the number of self-governed charter schools, operating in many cases with relatively low enrollments and duplicative administrations (duplicative with administration of the districts in which they are geographically located). Policy preferences for charter expansion is, in practice, directly in conflict with policy preferences for improving operational efficiency through district consolidation. The most thorough summary of economies of scale in public schooling suggests that K-12 districts enrolling 2,000 or more students achieve economies of scale, and that optimal school enrollments for elementary schools range from 300 to 500, and for secondary schools from 600 to 900.¹³ Despite being the nation’s most population dense state, during the last decade the number of schools that serve mostly elementary grades with enrollments under 300 pupils increased from 153 to 212, while the number of schools serving majority secondary enrollments and enrolling under 600 students increased from 39 to 73 (Table 1). In a time of great fiscal challenges, New Jersey should consider ways to reverse this trend, including incentivizing consolidation (and integration) of small, non-unified K12 district, closure of charter schools lagging in enrollments even after sufficient opportunity to achieve scale, and limiting authorization of new charter schools.

Table 1

	Year	#Districts	Elementary Schools <300 Pupils	Secondary Schools <600 Pupils
District >2,000 Pupils	2009	200	162	18
	2018	201	201	50
District <2,000 Pupils	2009	354	153	39
	2018	441	212	73

School-Level Funding: Illustrations of Essex County And Newark

This section explores the patterns of school-level spending across New Jersey schools and districts, starting with a few illustrations of the distribution of school-level spending across schools a) within the city of Newark and b) throughout Essex County. Previous research has indicated the importance of viewing the spending patterns across high-poverty schools within any given district in the context of their surroundings.¹⁴ Figure 2 shows the distribution of school-level spending per pupil with respect to shares of children in special education programs for Newark Public Schools (red squares), charter schools within Newark (green diamonds) and other schools in Essex County (beige circles). Schools across Essex County vary in their shares of children with disabilities from under 10 percent to about 30 percent. Among Newark Public Schools, schools serving larger shares of children with disabilities tend to have higher per pupil spending. The two largest charter schools in the city (TEAM Academy and North Star) have relatively low shares of children with disabilities (and even lower shares of children with more severe disabilities) and higher than average school spending per pupil among schools with similar shares of children with disabilities.

Figure 2

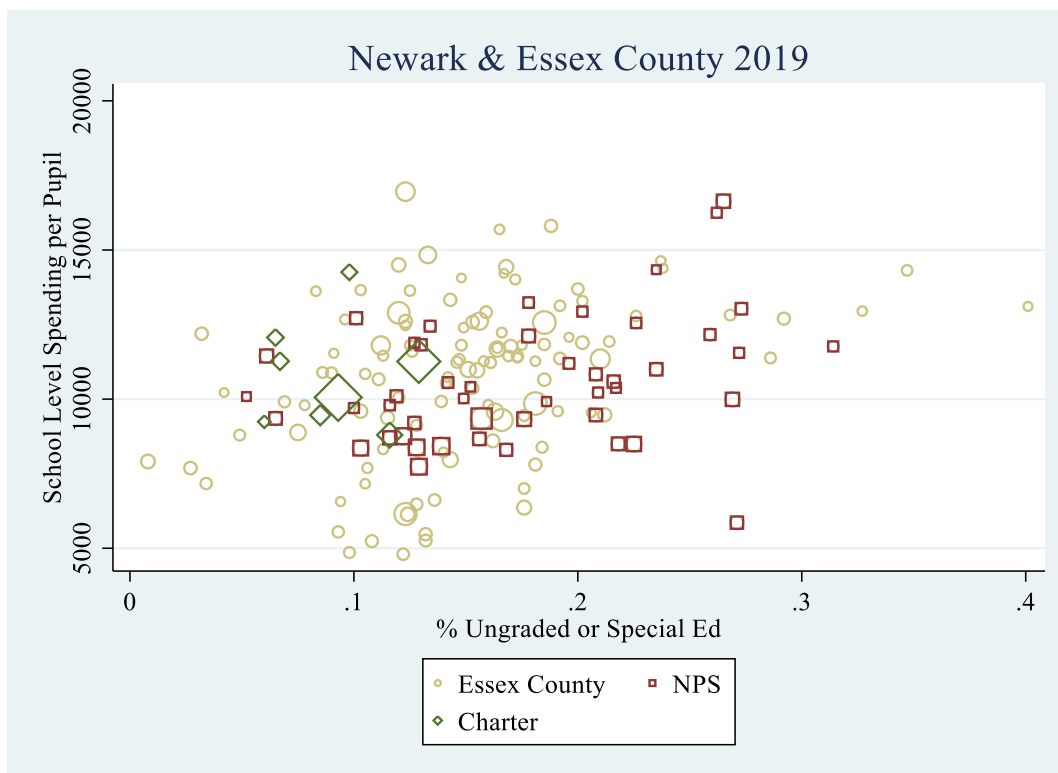
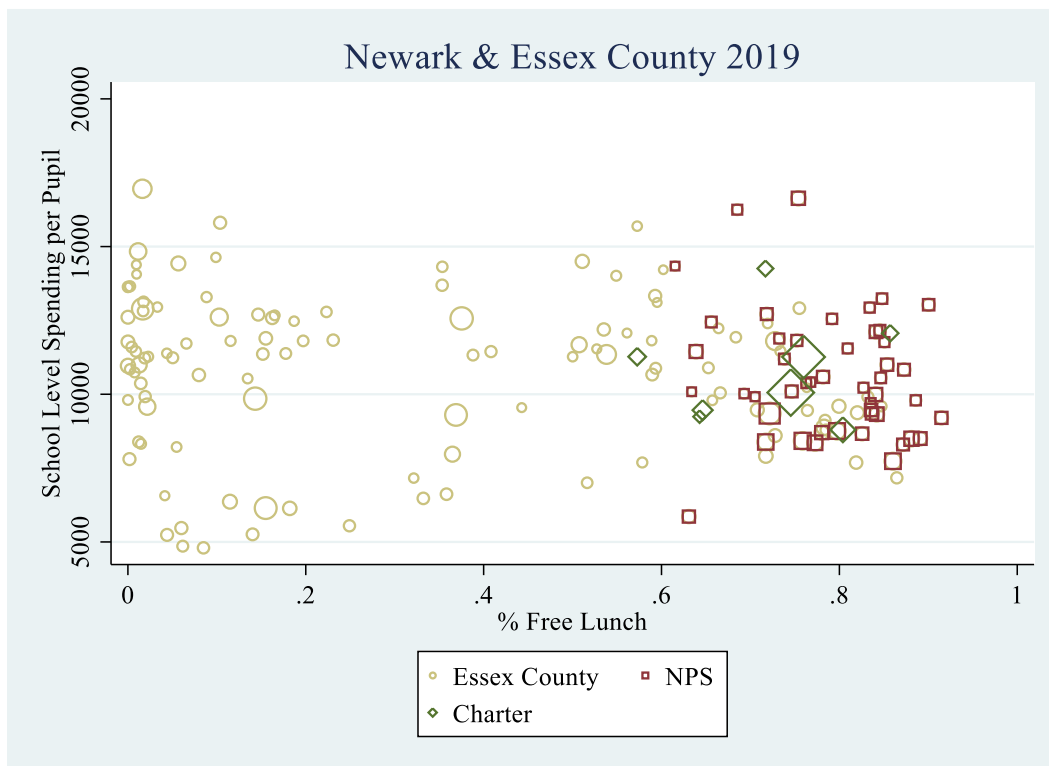


Figure 3 shows Newark Public Schools, Newark charter schools, and other Essex County schools by shares of low-income students. Most Newark schools have around 80 percent low-income children; none are lower than 60 percent low-income, which is still very high. There simply aren't low-poverty schools within Newark; the low-poverty schools are outside of Newark, in other parts of Essex County. If we care about the relationship between per pupil school spending and student disadvantage, we must look at more than just Newark's schools; the real variation in student disadvantage is across the entire country, not just within Newark. In contrast, based on Figure 2, we know that a) special education shares vary widely across Newark's schools and b) per pupil spending is associated with those special education shares.

The pattern of spending variation across the relatively narrow range of "very poor" to "extremely poor" NPS schools tells us little. We can see, however, that the two major charter operators fall among those schools with somewhat lower shares of low-income children (though still high compared to all of Essex County), and higher spending levels than many of the district's higher-poverty schools. Further, the average level of spending among the schools within Newark is lower than the average level of spending among schools that have much lower child poverty rates throughout the county. Several low-poverty schools in Essex County have very low levels of reported school-level spending. Any analysis of school-level spending should approach these figures with caution: it is difficult to conceive that low-poverty school districts – which, as we showed above, have greater tax capacity and, therefore, access

to revenues – are allowing their schools to fall so far behind in spending. It may be that districts vary in what they report as “school-level” and “district-level” spending, even when total spending per pupil is similar. This underscores the need for accurate, uniform data collections and rigorous analysis when making comparisons of within-district spending disparities.

Figure 3



Variations in School-Level Funding Within Counties

This section explores broader patterns of school spending disparity across the state, with particular attention to determining what factors most significantly drive variations in school spending across schools and across districts within counties. In a rational, progressive system of school funding:

- 1) Per pupil spending will be higher in schools that have;
 - a) Larger shares of low-income children,
 - b) Larger shares of English language learners and,
 - c) Children with disabilities.
- 2) Per pupil spending will also likely vary based on the shares of children in certain grade ranges (elementary, middle, and high school).¹⁵

The analysis here employs a statewide model using the school-level data on the state's more than 2,000 schools. Because this analysis compares schools to others in the same county, it assumes that labor costs do not vary. The first set of models constructs a school-level staffing spending measure by summing up the salaries of certified staff (from the New Jersey Department of Education's fall staffing reports) assigned to each school in each district (using this measure for all years and all schools from 2009 to 2019). This is an important measure as staff salaries are the largest part of a school's spending.¹⁶ The second model uses the new (2019) NJDOE school-level expenditure figure.

The central question encouraged by the "comparability" provisions of the *Every Student Succeeds Act* is whether school-level resources overall are progressive, flat or regressive with respect to poverty. Figure 4 through Figure 6 attempt to answer this question – across schools and districts within New Jersey counties. Figure 4 models school spending over the decade using our total salaries per pupil measure of spending. Figure 5 focuses on the last few years, since 2016. Figure 6 uses the NJDOE school spending figure, for 2019 only. Each model explores differences including and excluding racial characteristics of the student population.

Figure 4 shows that as schools increase their share of students with disabilities (from 0 to 100 percent), per pupil staffing expenditure is expected to rise by about \$11,000 per pupil. For more recent years (Figure 5), that figure tops \$12,000. Actual variations in disability shares run from zero percent to around 30 percent. Practically, therefore, we can expect that per pupil spending in a school with 30 percent students with disabilities would spend \$3,000 to \$4,000 more per pupil than a school with zero percent students with disabilities. This is the dominant driver of school-level spending variation – and it is not an indication of inequality. Figure 6 shows that the school-level expenditure measure produced by NJDOE for 2019 is even more sensitive to variations in disability shares. This makes sense because meeting the needs of these children substantially drives staffing ratios and assignments to schools. This is also why any attempt to evaluate differences in spending across schools by poverty must consider the distribution of children with disabilities.

All three figures reveal that as the share of children in middle grades increases, per pupil spending increases, and as the share of children in secondary grades increases, per pupil spending increases about twice as fast (or more, when the state's spending measure is used). Spending, therefore, is partially a function of grade level: the likely cause is that a comprehensive secondary curriculum requires extra resources for elective courses, extracurriculars, technology, etc. Again, this is not necessarily an indicator of inequality, but of a district's choice to provide students with desirable educational programs in middle and high schools.

On the central question of "poverty progressiveness," we get inconsistent results across the three figures. For the most part, the relationship between concentrations of low-income children (those qualified for "free lunch") and school-level spending is small to non-existent. Higher-poverty schools neither have more nor less funding, on average, than lower-poverty schools within the same county. The overall system of school-level funding is "flat" – just as the statewide system of between-district disparities has become flat in recent years. This is a problem that cannot be rectified only at the school

level; it must be addressed both *between* districts and *within* districts. Any attempt New Jersey makes to address school-level disparities must start, therefore, with addressing district-level disparities.

Figure 4

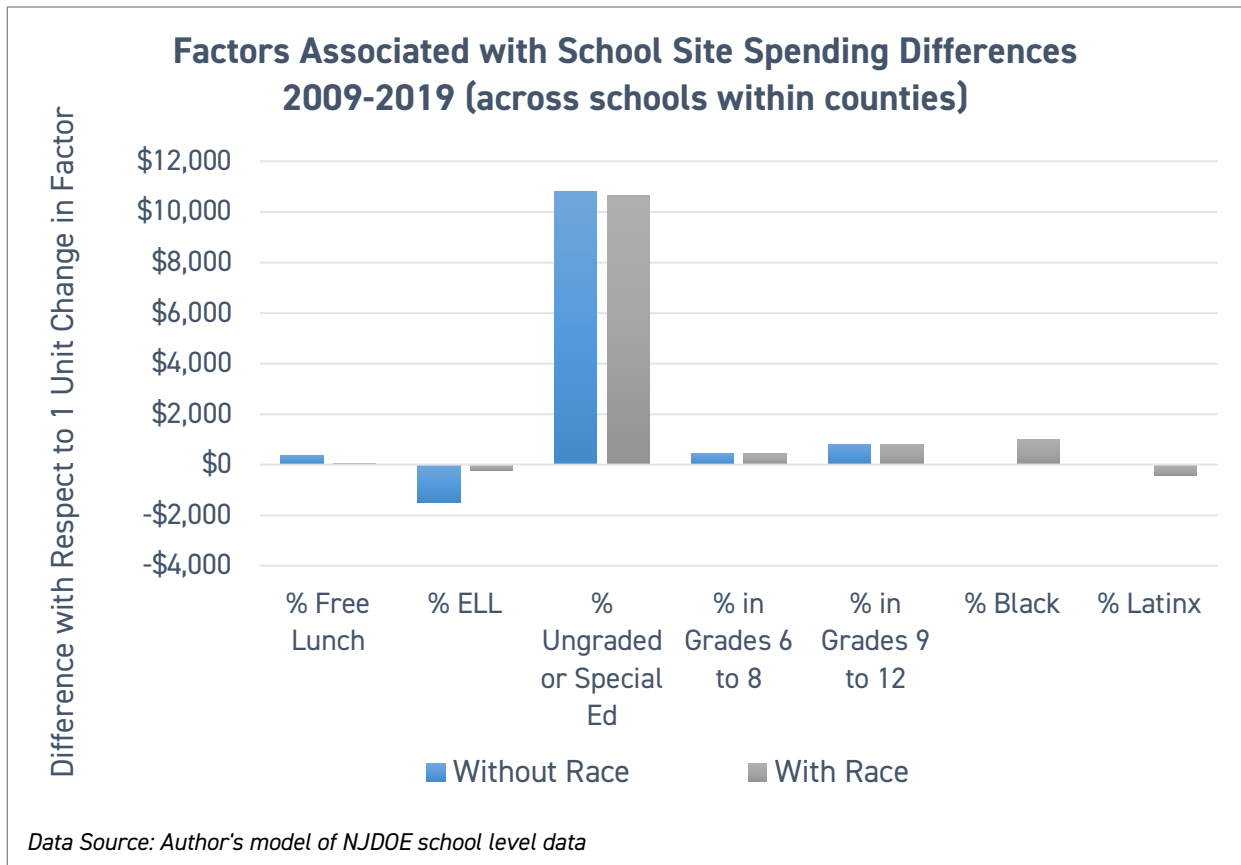


Figure 5

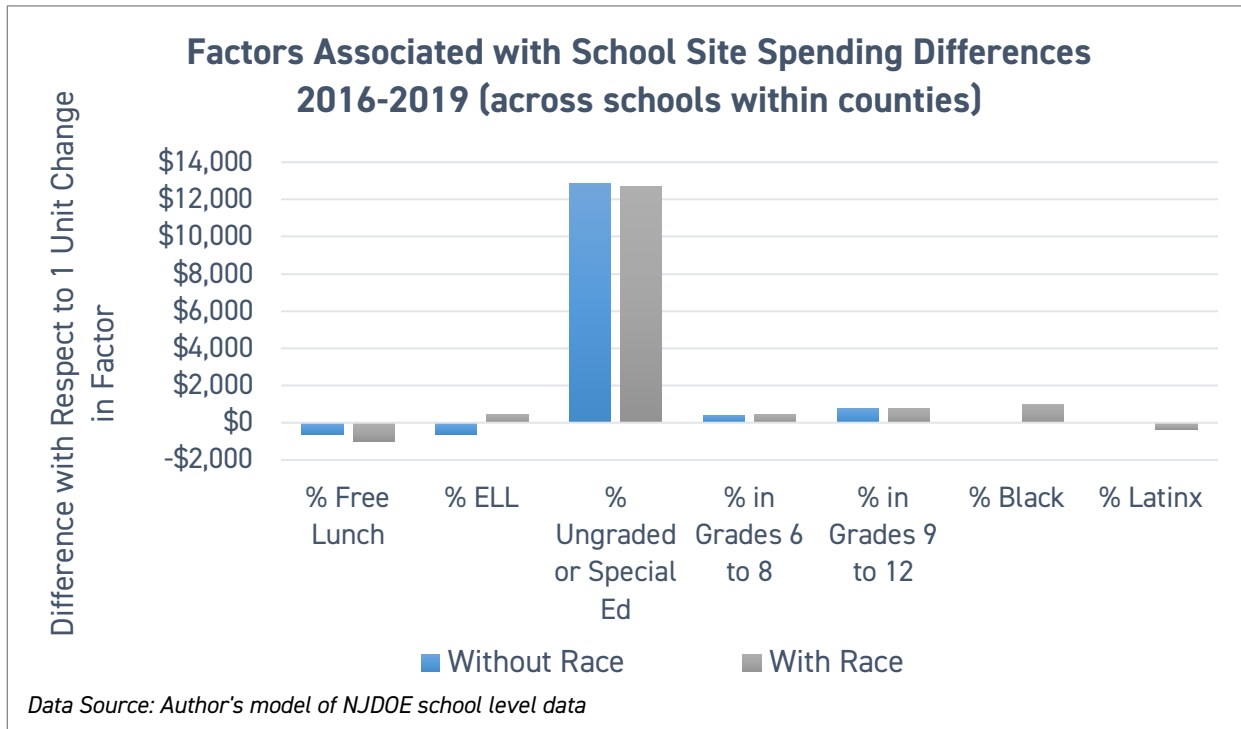
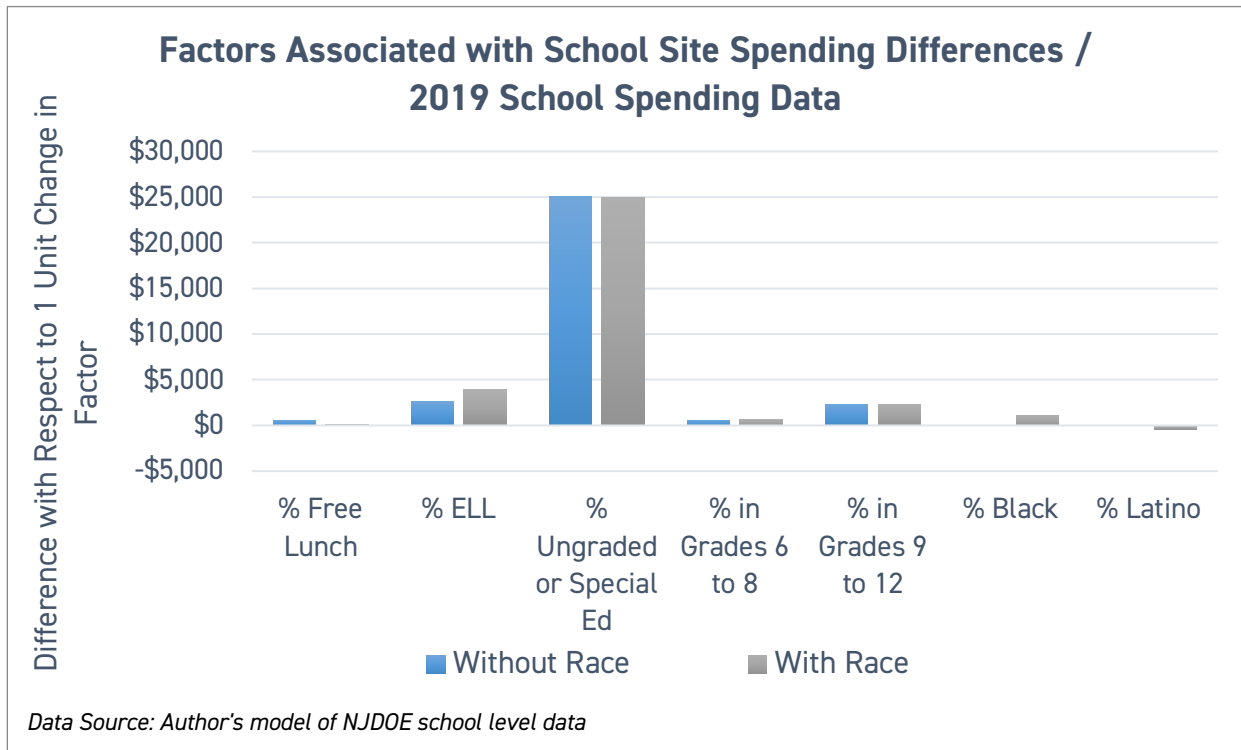


Figure 6



School-Level Funding Within Selected Large Districts

This section explores variation within three large New Jersey districts: Newark, Paterson and Jersey City. Very few New Jersey school districts have sufficient numbers of schools to reveal patterns of variation in resources across them, and even fewer (if any) have both large numbers of schools and diversity of student needs among them. These three districts are among the very few in the state that have large enough enrollment to conceivably explore the issue of school-level disparities. Again, the focus here is on the same set of factors as determinants of variations in school-level per pupil resources, because these factors are well understood to be the primary and relevant determinants of school spending differences. Three questions guide this analysis – the same as they should guide local district and state officials’ analyses:

Question 1: Do these factors explain the variation in spending across schools? And if so, how much?

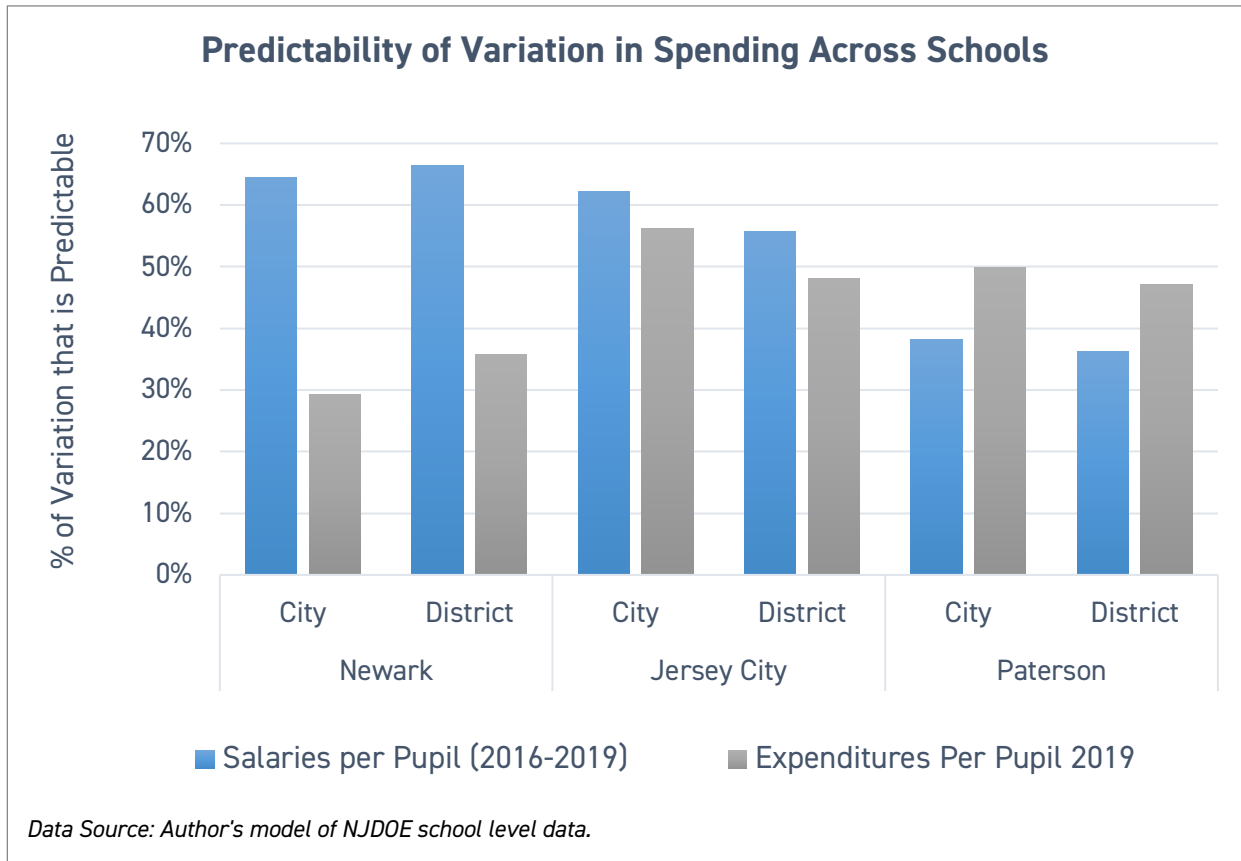
Question 2: Are the differences in spending with respect to each factor in the “expected” direction? That is, do schools serving populations with greater needs have more, or fewer, resources?

Question 3: Are the differences in spending with respect to each factor systematic and of appropriate magnitude? That is, are they progressive enough, and how predictable is the pattern?

Question 1 basically asks what share of spending variation across schools within any setting is “rational” based on factors that should predict variation in spending. Schools with more low-income children should spend more, as should schools with more children with disabilities and more English language learners. It is also reasonable to expect there to be some differences in spending by grade ranges served. As such, the question is: how much of the overall variation in spending across schools is predictable by these factors alone? This question implies that the remaining share of variation that is not predictable may not be rational variation. It may, instead, be a function of historical decisions and patterns. It may also be the result of political or other preferences that are not well aligned with costs and the needs of students. This is variation that is more likely to be perpetuating or increasing inequities in school spending.

Figure 7 reports the “variance explained” by student population and grade range distribution across district schools (district) and across all schools within city limits (which includes charter schools and may also include county magnet or vocational schools within city limits). In Newark and Jersey City, half or more of the variation in staffing expenditures can be explained by these factors. For per pupil spending, more than half of the variation in Paterson is also explained by student characteristics and grade levels enrolled. Within Newark Public Schools the share is higher than for all schools across the city (which includes charter schools).

Figure 7



Predictability alone, however, is not always a good thing; in fact, it may be “predictable” that schools with greater student needs are receiving systematically fewer resources. That would be predictably bad; in other words, predictably regressive. The second question is then equally, if not more, important than the first: how much of the expected variation in school-level spending is the result of higher spending where it is needed most? Figure 8 and Figure 9 show the directions in which school spending varies with respect to these factors. In each city or school district context, schools with more children with disabilities spend more per pupil – either on staffing alone (Figure 8) or on the state’s more inclusive per pupil spending measure (Figure 9). In terms of staffing expense, special education shares seem to drive spending most in Jersey City, but on the 2019 school spending measure, special education drives spending most in Paterson. This is the type of variation in spending that we would expect: more spending for students with greater needs.

In Newark and Paterson, however, schools with larger shares of ELLs tend to spend *less* per pupil. Given the additional staffing needs to adequately serve these children, this finding is disconcerting: we would expect to see instead that school spending increases as ELL populations grow. In addition, only Paterson shows a positive relationship between low-income shares and school spending: a school with 100 percent low-income children is expected to spend 48 to 69 percent more than a school with zero percent low-income children. For district schools alone, using the state’s expenditure data, Jersey City

has a more modest positive relationship between low-income shares and school spending (39 percent more for a school with 100 percent low-income students).

Figure 8

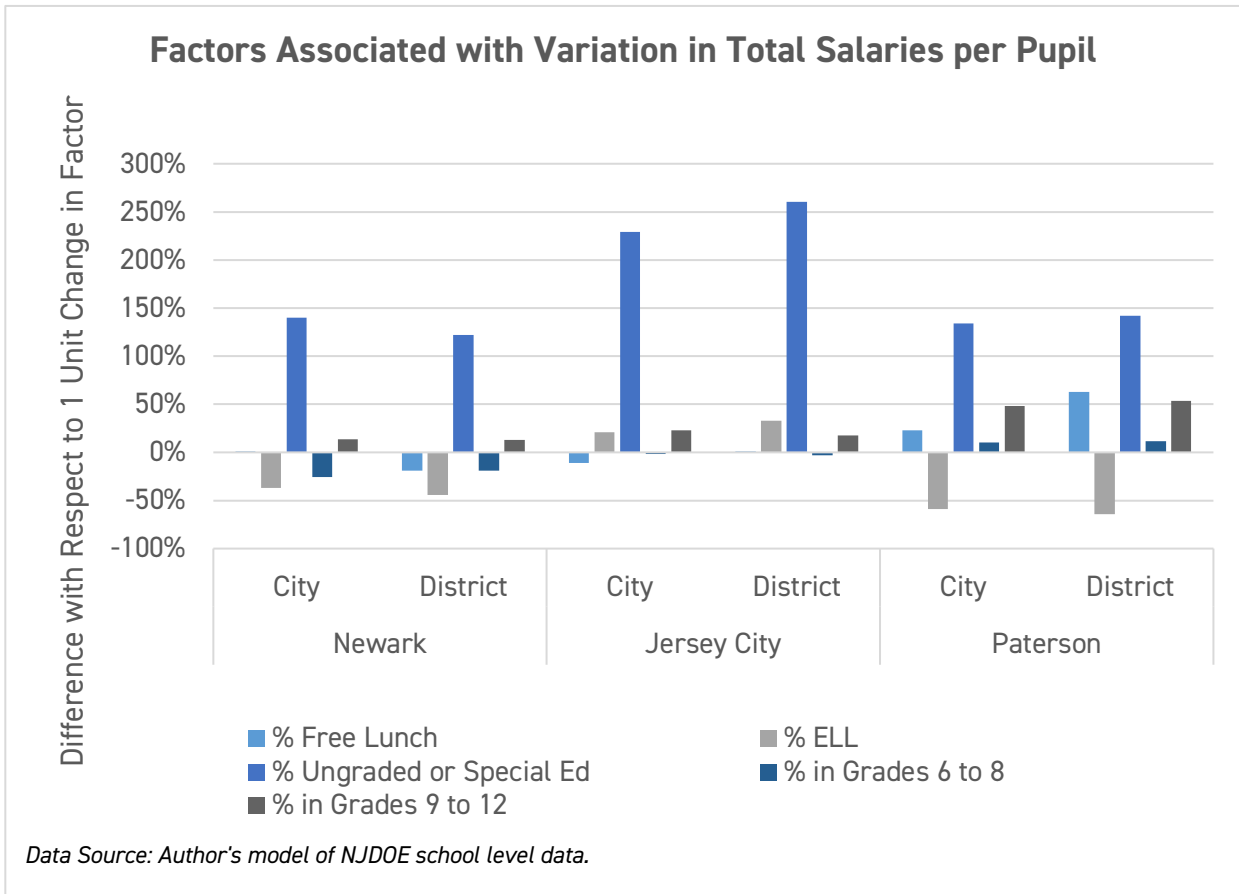
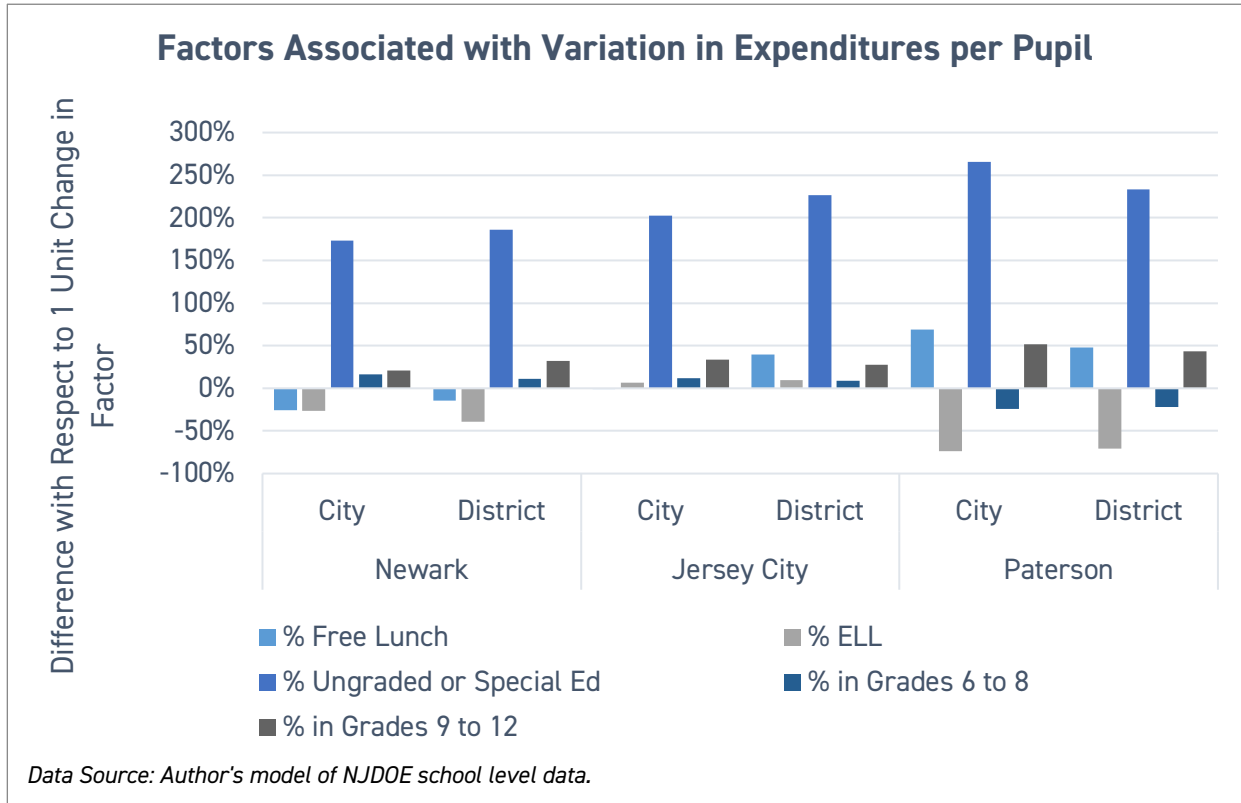


Figure 9



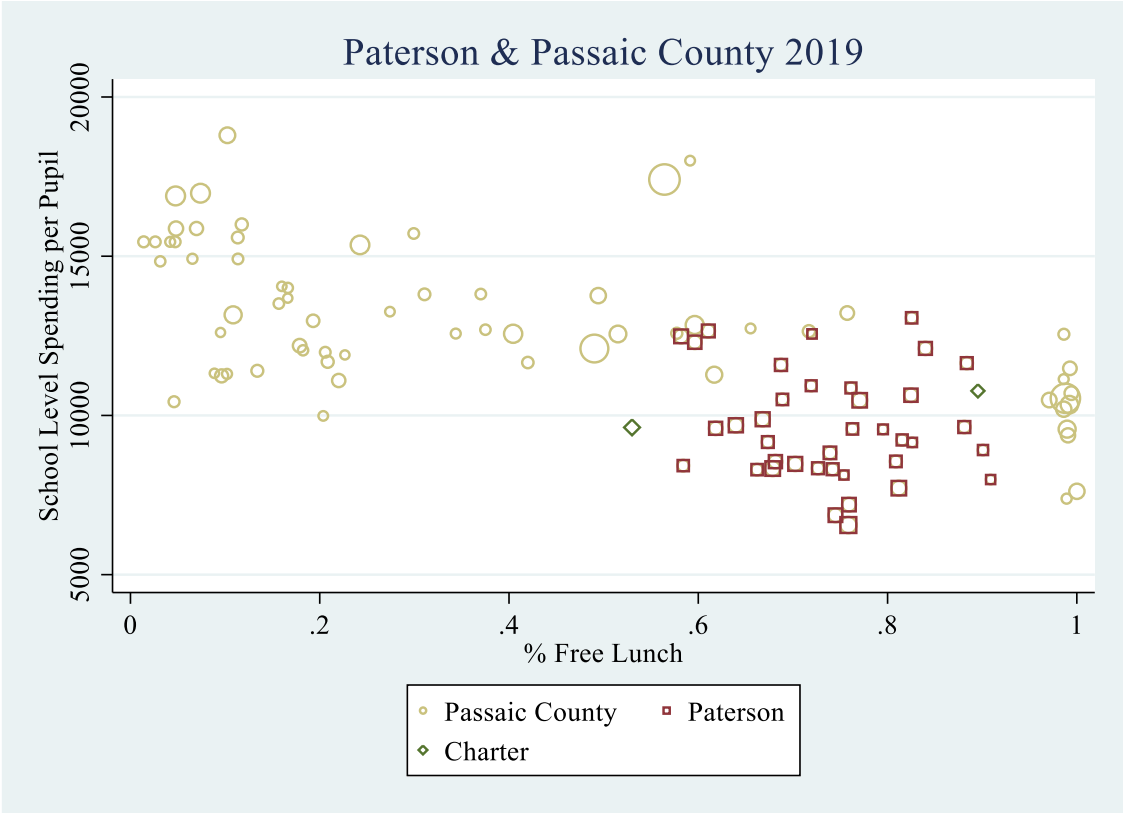
The findings in Figure 9 use the state’s new measure of school-level expenditures. Using Paterson as an example, there are some bright spots, but also some serious concerns:

- First, according to Figure 7 (grey bars) about half of the variation in spending across schools in Paterson can be explained by student population characteristics and grade range distributions.
- Second, as expected, schools with higher shares of children with disabilities spend substantially more than schools with smaller shares of those children;
- Third, schools with larger shares of children from low-income families spend somewhat more than schools with smaller shares of children from low-income families.
- Fourth, schools with larger shares of English Language Learners spend significantly less than schools with smaller shares of ELLs.

This last finding is particularly troubling. ELLs require more staff, with specialized training and experience, to meet their needs. A school with larger shares of these children should be expected to have more of these staff and, consequently, higher overall staffing expense per pupil. But the opposite is true in Paterson: ELL students are receiving fewer resources than other students (holding other factors equal).

Figure 10 puts Paterson schools into their county context. Paterson might try to reshuffle resources across its own schools with respect to student populations; however, the district operates in a context where numerous districts with lower-poverty schools significantly outspend Paterson schools. There are also a handful of schools in Passaic County that have even higher concentrations of low-income children, but fewer resources. These are problems only the state can fix by returning to a progressively financed, fully funded state aid formula.

Figure 10



In the final part of this analysis, Table 2 provides a step-by-step walkthrough of why it is critically important to include each of these factors when attempting to determine whether a school district is providing comparable resources to its higher-poverty, versus lower-poverty, schools. Table 2 applies a series of regression models to all schools within Newark City, including charter schools. Walking through the table stepwise:

- 1) Model 1 shows that if we look only at the relationship between low-income shares and per pupil spending, the pattern is regressive such that a school with 100 percent of low-income children would have nearly \$3,600 per pupil less than a school with 0 percent low-income children. The

pattern, however, is hardly systematic: low-income shares alone explain (predict) less than 2 percent of the variation in spending across schools.

- 2) Model 2 adds other student characteristics: percent ELL and percent students with disabilities. This model still shows regressiveness with respect to poverty increases, as well as significant regressiveness for increases in ELL populations. Most significantly, however, the model shows that per pupil spending is driven significantly by special education shares. When these additional measures of student characteristics are included in the model, they explain 25 percent of the variation in per pupil spending across schools (most of this being attributed to special education).
- 3) Model 3 adds grade level enrollments to the set of predictors of spending. The model shows that there are also some grade level differences in per pupil spending across schools that, when added to the mix, reduce the poverty and ELL regressiveness of the funding. The implication here is that secondary schools, which spend more, serve fewer of these children, but that the spending variation is associated with grade level. Adding grade levels to these models explains slightly more of the variation in spending across schools.
- 4) Finally, Model 4 adds an indicator for charter schools (which have been in the data all along, but not separated out in the model), to reveal the average difference in spending for charter schools, compared to district schools serving similar populations and grade ranges. Charter schools spend about \$1,000 more per pupil than otherwise similar district schools, holding differences in students and grade levels constant. When the charter indicator is included, the regressiveness of the system across all schools is lessened – but only because charter schools enroll fewer low-income children, fewer ELLs, and fewer special education students, while still spending more per pupil. In other words, a substantial portion of the regressiveness of Newark’s school spending can be explained by the fact that Newark’s charters spend more money on students who have less costly learning needs.

Had we taken only the first step in this analysis – had we only analyzed disparities in school spending relative to schools’ enrollments of economically disadvantaged students – we would have been misled as to the nature of school spending variations within Newark. We would have been missing *most* of the predictable variation in spending, we would lack any understanding of the factors that predict that variation, and we would not know how much predicted spending varies and in what direction. It is also insufficient to simply exclude schools that are “special” schools or considered outliers for having high special education shares, and then take simple averages of spending for the remaining higher- and lower-poverty schools. All of these factors vary along continuous ranges, and special education shares, even between schools with 10 to 30 percent of students with disabilities, strongly influence staffing ratios and per pupil spending.

Table 2

	Model 1		Model 2		Model 3		Model 4	
	coef	se	coef	se	coef	se	coef	se
Pct. Free Lunch	-3,575	3,656	-5,468	3,518	-3,869	4,139	-2,335	4,287
Pct. ELL			-4,731**	2,362	-4,707*	2,418	-2,407	2,876
Pct. Ungraded or Special Ed			13,167***	3,569	12,819***	3,721	15,885***	4,257
Pct. in Grades 6 to 8					-118	4,509	1,482	4,674
Pct. in Grades 9 to 12					825	1,412	1,880	1,588
charter							1,116	768
_cons	13,154***	2,835	13,050***	2,565	11,747***	3,150	9,174**	3,611
Number of observations	62		62		62		61	
R2	0.016		0.257		0.265		0.293	

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Conclusion

This report finds that most New Jersey school districts lack sufficient numbers of schools, or variation in student needs across schools, to engage in meaningful within-district, between-school analysis of funding disparities. In addition, because New Jersey’s overall distribution of funding across districts is now flat to regressive, it is increasingly difficult for the state’s high-need, underfunded districts to reshuffle their scarce resources in meaningful ways. This problem is exacerbated by the high degrees of racial and economic segregation that occurs across New Jersey’s school districts.

However, because these federal reporting requirements are not going away, and because there is validity to the concern over within-district and between-school resource disparities, the state must engage in improved data collection on school-level expenditures and provide local school districts with frameworks for evaluating disparities in those expenditure data.¹⁷ NJDOE itself should issue reports to local school districts on the variation in expenditures across schools following the technical guidance and recommendations herein:

- Those reports should use model-based approaches like those illustrated herein, where relevant and comparable school site spending per pupil is modeled as a function of
 - grade range distribution,
 - special education enrollments (ideally, divided into severity/cost categories),
 - English language learners, and
 - low-income concentrations.
- Those reports should provide indicators of
 - the predictability of variation in school site spending, and,
 - whether and to what extent spending variations are in the right or wrong direction with respect to student need variations.

There is no reason for local districts to each go it alone and develop models for comparing school-level expenditures. Just as the state provides districts with modeled estimates of student achievement growth (taking that technical burden off districts and achieving uniformity across districts), the state can provide districts with modeled estimates of school spending variation, within their district, and positioning their district among all districts in the relevant county/context. The methods outlined here will produce analyses that are reasonable, comprehensible, and actionable. They are both technically and physically feasible and can help New Jersey school districts better meet their goals for equity and adequacy in school spending and investment.

Endnotes

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- ² Baker, B. D., & Welner, K. G. (2010). Premature celebrations: The persistence of inter-district funding disparities. *Education Policy Analysis Archives/Archivos Analíticos de Políticas Educativas*, 18, 1-30.
- ³ National Center for Education Statistics (April, 2020). “Public School Revenue Sources.” https://nces.ed.gov/programs/coe/indicator_cma.asp#:~:text=In%20school%20year%202016%E2%80%9317,in%20constant%202018%E2%80%9319%20dollars.&text=Of%20this%20total%2C%208%20percent,billion%2C%20were%20from%20local%20sources
- ⁴ Burnette II, D. (October 8, 2019). “Your Guide to ESSA’s New School-by-School Spending Mandate.” *Education Week*, <https://www.edweek.org/ew/articles/2019/10/09/your-guide-to-essas-new-school-by-school-spending.html>
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- ⁶ Baker, B. D. (2003). State policy influences on the internal allocation of school district resources: Evidence from the common core of data. *Journal of Education Finance*, 29(1), 1-24.
- ⁷ Chambers, J. G., Parrish, T. B., & Harr-Robins, J. J. (2004). What Are We Spending on Special Education Services in the United States, 1999-2000? (Updated 2004). Center for Special Education Finance, American Institutes for Research. <https://www.air.org/sites/default/files/SEEP1-What-Are-We-Spending-On.pdf>
- ⁸ Baker, B.D. & Weber, M.A. (2017) Newark’s Schools: The Facts. New Jersey Education Policy Forum. <https://njedpolicy.files.wordpress.com/2017/12/baker-weber-newark-12-13-17.pdf>
- ⁹ We note that increases in enrollment in charter schools will inevitably increase these costs. Transportation routes grow more complex and extensive when students must travel further than their neighborhood school to attend their charter school. Enrollment systems grow more complex and require greater administration when they include more schools, especially when they include “oversubscribed” charter schools. The indirect costs of charter school proliferation in New Jersey are explored further here: Weber, M.A. (2019) Ten Important Facts About New Jersey Charter Schools... And Five Ways To Improve The New Jersey Charter Sector. New Jersey Education Policy Forum. <https://njedpolicy.wordpress.com/2019/04/26/ten-important-facts-about-new-jersey-charter-schools-and-five-ways-to-improve-the-new-jersey-charter-sector/>
- ¹⁰ Levin, J., Baker, B., Atchison, D., Brodziak, I., Boyle, A., Hall, A., & Becker, J. (2016). Study of funding provided to public schools and public charter schools in Maryland. American Institutes for Research. <http://marylandpublicschools.org/programs/Documents/Charter-Schools/StudyFundingProvidedPublicSchoolsPublicCharterSchoolsMD122016.pdf>
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- ¹⁴ Baker, B. D. (2012). Rearranging deck chairs in Dallas: Contextual constraints and within-district resource allocation in urban Texas school districts. *Journal of Education Finance*, 287-315.

¹⁵ Typically, we see higher per pupil spending at the secondary level, with variation in whether elementary or middle schools have higher spending. These spending differences tend to reflect historical practices and not necessarily best practices, or “what should be.” It may, for example, make more sense to leverage more resources toward providing robust early education and lower grades programs, rather than toward the array of electives and extracurricular opportunities available in typical high schools.

¹⁶ National Center for Education Statistics (2020) “Public school expenditures.”

https://nces.ed.gov/programs/coe/indicator_cmb.asp

¹⁷ Maryland’s study of charter and district school site expenditures provides a detailed model.