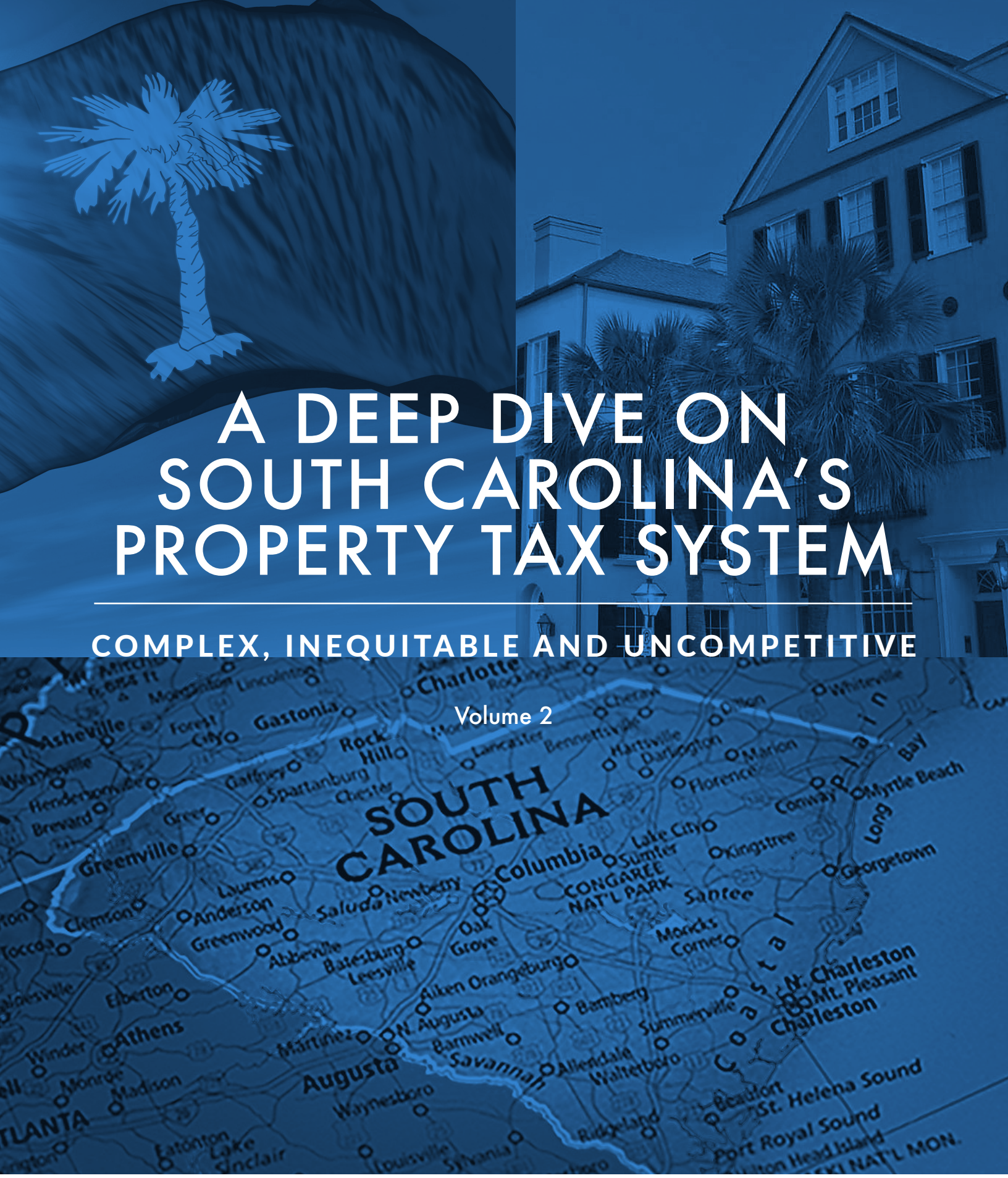

A DEEP DIVE ON SOUTH CAROLINA'S PROPERTY TAX SYSTEM

COMPLEX, INEQUITABLE AND UNCOMPETITIVE

Volume 2

SOUTH CAROLINA CHAMBER FOUNDATION

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LINCOLN INSTITUTE OF LAND POLICY

A Deep Dive on South Carolina's Property Tax System

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A Deep Dive on South Carolina's Property Tax System

Complex, Inequitable and Uncompetitive

Volume 2[1]

[1] Volume 1 summarizes the chapters in Volume 2. Volume 1 also includes key findings, the executive summary, and policy options. Some material, such as the definitions section, appears in both volumes.

Chapter 4:

Effects of Act 388 on School Budgets

by

John E. Anderson, Ph.D.

With Appendix E by John Anderson and Bethany Paquin

With Appendices F and G by Alannah Shute

Introduction

Like the rest of the United States, South Carolina depends heavily on the property tax to fund its schools. Currently about one-third of K–12 school funding in South Carolina comes from the local property tax. The focus of this chapter is how Act 388 made significant changes in the property tax that have affected school funding.

First, Act 388 is summarized. Next, the difficulty of directly estimating the effects of Act 388 on schools and school funding is explained. The following section describes the twenty school districts within our 10 focus counties that are the focus of this chapter. After providing a state overview, data from the National Center for Education Statistics is used to describe how the budgets of those same school districts were affected in the following areas:

- Property tax revenue
- Total revenue per pupil
- Instructional expenditure per pupil
- Total expenditure per pupil

Two sections then examine trends among the school districts in pupil-teacher ratios and share of funding received from state aid. Finally, the question of the effect of school spending on student achievement is addressed.

Summary of Act 388

Appendix G provides a longer discussion of the components of Act 388 and their impacts, which are briefly summarized here. Act 388, passed in 2006, limited property tax revenue in three major ways:

- It eliminated property tax liability on primary residences for school operating costs known as the "O & M" (operation and maintenance) exemption. Homeowners are still liable for property taxes for school debt service. Since Act 388, non-homestead property owners bear the burden of school operating costs funded by property taxes. Act 388 raised the sales tax by one cent to offset the revenue loss, mandating state reimbursement of local government tax loss.
- It placed a 15 percent cap on the growth of appraised value of property tax over a five-year period unless the property is sold (assessable transfer of interest or ATI). If a property is sold, it is revalued at its fair market value.
- It placed a cap on the rate of growth of jurisdiction-specific property tax rates. The maximum millage cap limits increases in local millage rates for operating purposes. Under the law, a locality may not increase its millage rate by more than the increase in the consumer price index plus its population growth percentage in the previous year except in very limited conditions (*Significant Features of the Property Tax*).[1]

Act 388 provided for reimbursement to local school districts for the revenue lost from the O & M exemption. In the first year the state of South Carolina was required to reimburse local school districts dollar for dollar for operating revenue lost after the school property tax was eliminated for owner-occupied homes. After the first year, reimbursements were scheduled to increase at the rate of population growth plus inflation. The additional sales tax penny was designated as a means to fund the reimbursements to local school districts. However, this sales tax revenue has been insufficient, requiring the state to partially fund the reimbursement from the state's general fund.

[1] For example, the millage rate limitation may be overridden by a 2/3rd majority of the local council in the case of a natural disaster or if required to comply with a court order (S.C. Code Ann. § 6-1-320).

Challenges of Estimating the Effect of Act 388 on Schools

Unfortunately, for those who are interested in the effect that Act 388 had on schools in South Carolina, the housing market bubble burst just after Act 388 was implemented, and the economy fell into recession. The *Great Recession*, which occurred from December 2007 through June 2009, had major effects on state revenues, state funding of schools, and federal funding for schools across the United States. It may have also had some impact on property tax revenues.

Because Act 388 eliminated the obligation for owner-occupied homes to pay property taxes for school operating costs, falling housing values from 2008 to 2010 were unlikely to have directly affected school district property tax revenues. However, there were other effects resulting from the Great Recession. For example, the recession likely drove down market values for other types of property, which could have reduced property tax receipts. On the other hand, a national study of the impact of the Great Recession and public education found that, "the property tax fared much better than other state and local taxes" during that downturn (Evans, Schwab, and Wagner 2019, 306).

State and local tax revenue in total, however, was heavily impacted, particularly compared with the two previous recessions. According to Evans, Schwab, and Wagner (2019, 304), "It was not until eighteen quarters after the start of the recession that state and local tax revenues returned to pre-recession levels." One result of the decline in state revenue is that most states cut school funding (Leachman, Masterson and Figueroa 2017). South Carolina was no exception. Although the state kept its Act 388 reimbursement commitment, in the FY2009 year it cut other K-12 funding by $365 million (Ullrich 2012).

In addition, the American Recovery and Reinvestment Act (ARRA) of 2009 provided stimulus funds for state and local governments from 2008 to 2010; $100 billion of ARRA funding was dedicated for education (Evans, Schwab and Wagner 2019, 317).

Because of these influencing factors, we cannot directly attribute declines in school district revenue and expenditures to Act 388. Nevertheless, trends from 2008 to 2016 compared to those from 2002 to 2007 provide a broad estimate of the effect of Act 388 on K–12 school funding.

Districts Analyzed in This Study[2]

For the purpose of this study, South Carolina experts chose 10 counties for analysis to represent a broad range of counties in the state among which the impacts of Act 388 have varied. Twenty school districts lie within those counties. Table 4.1 reports basic characteristics of the selected districts in 2016-2017, illustrating their varying contexts. The Greenville School District is the largest in the study, with nearly 77,000 students. The Charleston and Horry districts are also relatively large, with over 40,000 students each. At the other end of the size distribution, the Florence 4 School District is the smallest, with just 692 students. Other small districts include Allendale, Florence 2, and Florence 5, which all have just over 1,000 students.

The composition of student bodies in each district is illustrated in the columns of the table reporting limited English-proficiency learners, free and reduced-cost lunch eligible students, and racial characteristics (Hispanic, Black, and White). Districts such as Greenville, Horry, Charleston, and

[2] In two cases, the districts in this analysis have been affected by mergers. First, note that Table 4.1 lists Orangeburg 3, 4, and 5 districts, which were created from eight districts via consolidation in the 1990s. Hence, there are no Orangeburg 1 and 2 districts listed. As of July 1, 2019, Orangeburg 3, 4, and 5 merged into one consolidated district. This merger does not affect the analysis in this report, however. Second, the Sumter district was created in 2011 by merging Sumter 2 and Sumter 17. Data in this report combine Sumter 2 and Sumter 17 for the years prior to the merger.

Richland 2 have large numbers of students with limited English proficiency. Greenville has the highest share of students with limited English proficiency as a proportion of the total student body, at nearly 11 percent.

Several districts have large numbers of students eligible for free and reduced-cost lunches, reflecting low-income households from which those students come; those districts include Greenville, Horry, and Sumter. Notably, nine districts—Allendale, Florence 2, Florence 3, Florence 4, Orangeburg 3, Orangeburg 4, Orangeburg 5, Richland 1, and Sumter— have all of their students eligible for free or reduced-cost lunches.

The racial composition of student bodies varies widely among districts, with several districts having large proportions of racial minorities. Nine districts are predominantly Black: Allendale, Florence 3, Florence 4, Orangeburg 3, Orangeburg 5, Richland 1, Richland 2, and Sumter. Notably, Allendale School District is nearly all Black.

The number of full-time equivalent (FTE) teachers is highly correlated with the total number of students. FTEs are largest for Greenville and Charleston districts, which have the greatest numbers of students. The average pupil-teacher ratio is 14.7, ranging from a low of 12.1 in Florence 4 School District to ratios over 16 in the Greenville, Horry, and Orangeburg 5 districts.

Expenditures per pupil vary widely, from a high of nearly $20,000 in York 2 (Clover) School District to much lower levels, near $10,000 per pupil, in the Greenville and Florence 5 districts. Allendale, Charleston, and Richland 1 districts are among the relatively higher spending districts.

Table 4.1 Public School District Characteristics, 2016-2017

District	Total Students, All Grades (Excludes AE)	Limited English Proficient (LEP) / English Language Learners (ELL) [District]	% LEP / ELL*	Free and Reduced-Cost Lunch Eligible Students	Hispanic Students	Black Students	White Students	Full-Time Equivalent (FTE) Teachers	Pupil/Teacher Ratio	Total Expenditure per Pupil ($ FY2016)
Allendale	1,243	18	1.4	1,243	24	1,172	30	86	14.39	15,336
Charleston	48,551	3,031	6.2	27,198	4,411	18,670	23,167	3,274	14.83	15,591
Edgefield	3,499	124	3.5	2,587	192	1,505	1,652	251	13.93	10,885
Florence 1	16,358	385	2.4	12,048	516	8,599	6,476	1,097	14.91	11,152
Florence 2	1,133	43	3.8	1,133	56	422	624	78	14.6	10,864
Florence 3	3,683	139	3.8	3,683	202	2,311	1,077	257	14.34	11,167
Florence 4	692	53	7.7	692	58	556	48	57	12.14	13,028
Florence 5	1,318	21	1.6	1,122	39	385	854	91	14.48	10,268
Greenville	76,918	8,189	10.6	40,799	11,817	17,629	42,184	4,684	16.42	10,297
Horry	43,991	3,165	7.2	28,716	5,126	8,489	27,113	2,705	16.26	12,619
Orangeburg 3	2,775	24	0.9	2,775	57	2,436	242	205	13.54	13,117
Orangeburg 4	3,751	105	2.8	3,751	157	1,685	1,778	256	14.64	11,018
Orangeburg 5	6,697	138	2.1	6,697	208	5,828	550	407	16.46	13,073
Richland 1	23,886	844	3.5	23,886	1,114	17,052	4,442	1,852	12.9	16,804
Richland 2	27,802	1,314	4.7	13,473	2,694	16,403	6,541	1,870	14.87	13,468
Sumter	17,136	369	2.2	17,136	673	10,448	5,328	1,087	15.77	10,560
York 1	5,159	192	3.7	3,240	419	956	3,472	351	14.71	11,499
York 2	7,535	177	2.3	2,433	407	726	5,928	526	14.34	19,928
York 3	17,795	840	4.7	10,735	1,478	7,015	8,156	1,150	15.47	10,865
York 4	14,024	458	3.3	2,489	1,160	1,427	10,091	910	15.41	13,127

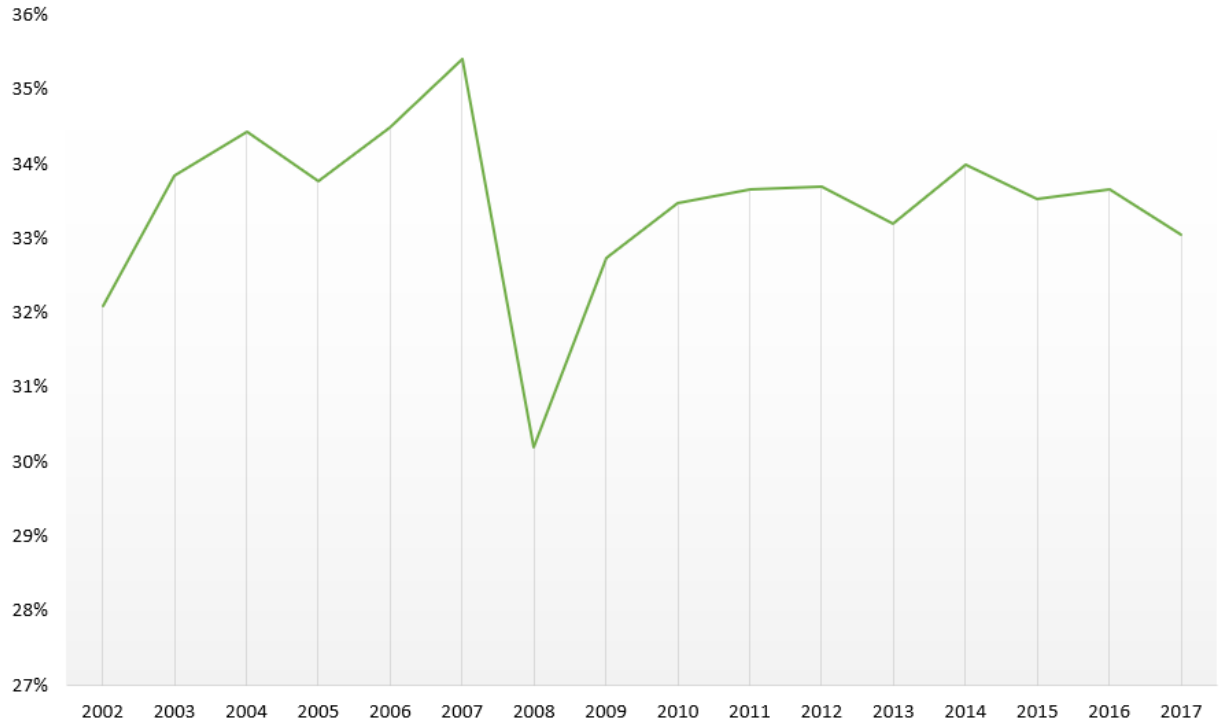
Source: National Center for Education Statistics

*This column is the percentage of Limited English Proficient/English Language Learners in each district

State Overview

Act 388 had a clear impact on reducing the share of funding from local property taxes in the year of implementation, FY2008, cutting that share from approximately 35 percent to 30 percent, as shown in Figure 4.1. Subsequently, that share rose and has fluctuated in the 33 to 34 percent range. That pattern is an aggregate view, however, and masks very different impacts across school districts, which we will explore in the rest of this chapter.

Figure 4.1 Percentage of South Carolina School Funding from Local Property Taxes, 2002-2017



Sources: U.S. Census, Annual Survey of School System Finances

School District Revenue Trends by District

In order to examine revenue trends since 2008, *total property tax revenues*, and *total revenue per pupil* were examined. Total revenue per pupil includes property tax revenue, non-property tax local revenue, state funding, and federal funding.

For each of the 20 districts in the 10 comparison counties, a time series trend estimate is computed for both property tax revenue and total revenue per pupil (from local, state and federal sources) and reported in Table 4.2. The year coefficient captures the overall annual trend in the revenue pattern while the Act 388 coefficient captures the change in the trend's intercept starting in 2008 and the Act 388-year interaction term captures the change in the slope of the trend starting in 2008. For example, the Allendale district has an overall 1.2 percent increase in its annual property tax revenue over the time period from 2002 through 2016. Act 388 had the effect of increasing the intercept of the trend by 2.1 percent, but it reduced the slope of the trend by three-tenths of one percent. Bold coefficients in the table are significantly different from zero at the 5 percent level or less.

Table 4.2 Revenue Trends and Act 388 Impacts

District		Year coefficient	Act 388 coefficient	Act 388-year interaction coefficient
Allendale	Property tax revenue	0.012	0.021	-0.003
	Total revenue per pupil	**0.045**	0.083	-0.018
Charleston	Property tax revenue	**0.115**	**0.397**	**-0.082**
	Total revenue per pupil	**0.088**	**0.232**	**-0.051**
Edgefield	Property tax revenue	**0.042**	-0.026	**-0.018**
	Total revenue per pupil	0.011	0.069	0.008
Florence 1	Property tax revenue	**0.083**	0.002	**-0.038**
	Total revenue per pupil	**0.051**	**0.23**	**-0.034**
Florence 2	Property tax revenue	**0.061**	0.055	**-0.047**
	Total revenue per pupil	-0.008	-0.101	0.018
Florence 3	Property tax revenue	**0.03**	**-0.265**	0.007
	Total revenue per pupil	**0.046**	**0.302**	**-0.042**
Florence 4	Property tax revenue	0.024	-0.204	0.002
	Total revenue per pupil	0.025	0.213	-0.016
Florence 5	Property tax revenue	0.02	-0.169	-0.015
	Total revenue per pupil	**0.029**	0.114	-0.024
Greenville	Property tax revenue	**0.035**	**-0.255**	0.012
	Total revenue per pupil	**0.041**	0.114	**-0.024**
Horry	Property tax revenue	**0.095**	**0.772**	**-0.102**
	Total revenue per pupil	**0.047**	**0.372**	**-0.041**
Orangeburg 3	Property tax revenue	**0.04**	**0.16**	**-0.027**
	Total revenue per pupil	**0.053**	**0.221**	**-0.036**
Orangeburg 4	Property tax revenue	0.012	-0.096	0.002
	Total revenue per pupil	**0.04**	**0.178**	**-0.029**
Orangeburg 5	Property tax revenue	**0.042**	**0.104**	**-0.034**
	Total revenue per pupil	**0.029**	0.129	-0.13
Richland 1	Property tax revenue	**0.07**	**0.366**	**-0.046**
	Total revenue per pupil	**0.063**	**0.381**	**-0.051**
Richland 2	Property tax revenue	**0.099**	0.136	**-0.042**
	Total revenue per pupil	**0.048**	**0.177**	**-0.023**
Sumter	Property tax revenue	0.043	0.018	-0.017

	Total revenue per pupil	**0.033**	**0.182**	-0.021
York 1	Property tax revenue	**0.038**	0.094	-0.004
	Total revenue per pupil	**0.036**	**0.198**	-0.015
York 2	Property tax revenue	**0.041**	0.058	-0.007
	Total revenue per pupil	**0.024**	**0.21**	-0.015
York 3	Property tax revenue	**0.049**	0.015	**-0.022**
	Total revenue per pupil	**0.035**	**0.156**	**-0.021**
York 4	Property tax revenue	**0.095**	-0.08	-0.007
	Total revenue per pupil	**0.039**	**0.21**	**-0.03**

Source: Author's computations based on NCES data.

Note: boldface estimates are statistically significant at the 5 percent level or less.

Two notable features are evident from the property tax revenue estimates in the table. First, the property tax revenue trend is generally positive for most districts over the period 2002-2016, despite Act 388 implementation in 2008. None of the estimated year trend coefficients are negative and significant. Property tax revenue has risen over the time period 2002-2016 generally in the range of two to four percent per year. The fastest rates of increase are found in Charleston (11.5 percent), Horry (9.5 percent), Richland 2 (9.9 percent), and York 4 (9.5 percent).

Second, the Act 388 interaction terms are generally negative, and many are significantly different from zero.[3] These results indicate that Act 388 had the effect of flattening the slopes of the property tax revenue trends. The largest reductions in slope occurred in Charleston (8.2 percent) and Horry (10.2 percent). For 10 of the districts, the interaction term is not significantly different from zero indicating no change in trend slope with Act 388 implementation (Allendale, Florence 3, Florence 4, Florence 5, Greenville, Orangeburg 4, Sumter, York 1, York 2, and York 4). Hence, Act 388 had the effect of significantly slowing the rate of growth in property tax revenue for half of the districts, doing so substantially in several districts.

These trends in property tax revenue are just one part of the overall public school funding picture. Property tax revenue is one component of public education funding, but it is combined with state and federal funding. Hence, to obtain a comprehensive view of the revenue side of budgets, state and federal funds must also be considered. The trends in total revenue per pupil, including local, state, and federal sources, are also reported in Table 4.2. From those results it is evident that the overall trends are positive over the period 2002-2016. The annual rates of increase are generally in the range of three to five percent. The strongest rates of increases are found in Charleston (8.8 percent) and Richland 1 (6.3 percent). On the other hand, the annual rates of increase are not significantly different from zero for Edgefield, Florence 2, and Florence 4 districts. The Act 388-year interaction coefficients indicate that Act 388 flattened the slope of the total revenue per pupil trends for most districts. The largest reductions in trend slope occurred in Charleston (5.1 percent) and Richland 1 (5.1 percent).

For context, these coefficients indicate the reduction in trend growth starting in the year of Act 388 implementation, relative to the overall trend growth. For example, in the Charleston School District while

[3] Four school districts have a positive interaction term, although the sum of the Act 388 coefficient and the interaction term is negative in these districts.

the overall trend growth over the period 2002-2016 was 8.8 percent, beginning in 2008 with Act 388 implementation the trend growth was reduced by 5.1 percentage points yielding a growth rate of 3.7 percent over the period 2008-2016. Similarly, in the Richland 1 School District, the overall growth rate in total revenue per pupil over the period 2002-2016 was 6.3 percent, but that rate was decreased by 5.1 percentage points starting in 2008, resulting in a post-Act 388 growth rate of 1.2 percent. The Act 388-year interaction terms are not significantly different from zero for nine of the districts indicating that the trend slopes were not significantly different after Act 388 implementation (Allendale, Edgefield, Florence 2, Florence 4, Florence 5, Orangeburg 5, Sumter, York 1, and York 2).

The revenue trends indicate that Act 388 clearly reduced property tax revenue for local public schools in 2008 and subsequently flattened the property tax trajectory for many districts.

School District Expenditure Trends by District

Two expenditure trends that were examined in this study are *instructional expenditure per pupil* and *total expenditure per pupil*. Total expenditure includes both operating and capital expenses.

On the expenditure side of the budget Table 4.3 reports estimates of trends for both instructional expenditure per pupil and total expenditure per pupil. Trends for instructional expenditures indicate that all but two districts experienced increasing trends over the period 2002-2016. The exceptions were Florence 4 and York 2 districts. Otherwise the overall trends in instructional expenditures were generally in the range of two to five percent. Districts with overall rates of growth in instructional spending of at least five percent included Florence 1 (5.0 percent) and Richland 1 (5.5 percent).

The effect of Act 388 on the intercepts of instructional expenditure trends was positive and significantly different from zero for 14 of the districts. In the remaining six districts the intercept effects were not significantly different from zero. Hence, Act 388 generally had the effect of increasing the trend intercepts.

Furthermore, the Act 388-year interaction coefficients are negative and significantly different from zero for all but seven of the districts indicating that Act 388 flattened the trend slopes. The largest reductions occurred in Florence 1 (4.4 percent), Orangeburg 5 (4.8 percent), and Richland 1 (5.0 percent). In these cases, the Act 388 negative effects nearly fully offset the positive growth trends in these districts. For example, in Florence 1 School District, the overall trend in instructional expenditure over the period 2002-2016 was 5.0 percent growth, but the Act 388 effect reduced that growth rate by 4.4 percent in the 2008-2016 period. In Orangeburg 5 School District the Act 388 negative effect resulted in a negative trend.

These results indicate that Act 388 generally reduced the rate of growth in instructional expenditure per pupil, and in some cases effectively resulted in zero or even negative growth.

Trend estimates for total expenditure per pupil are positive and significant for 10 of the districts over the period 2002-16. For half of the districts the trend estimates are effectively zero. Among the other half of the districts with positive trend estimates, growth rates are in the range of two to five percent. Exceptions with stronger growth rates include Greenville (8.3 percent), Richland 1 (10.8 percent), Richland 2 (7.9 percent), and York 3 (5.5 percent).

Table 4.3 Expenditure Trends and Act 388 Impacts

District		Year coefficient	Act 388 coefficient	Act 388-year interaction coefficient
Allendale	Instructional expenditure per pupil	0.013	0.135	-0.004
	Total expenditures per pupil	**0.05**	0.127	-0.029
Charleston	Instructional expenditure per pupil	**0.044**	0.117	**-0.025**
	Total expenditures per pupil	0.034	0.266	-0.015
Edgefield	Instructional expenditure per pupil	**0.022**	**0.156**	-0.011
	Total expenditures per pupil	-0.002	0.05	0.02
Florence 1	Instructional expenditure per pupil	**0.05**	**0.325**	**-0.044**
	Total expenditures per pupil	**0.045**	0.166	-0.019
Florence 2	Instructional expenditure per pupil	**0.039**	**0.208**	**-0.034**
	Total expenditures per pupil	0.024	0.169	-0.026
Florence 3	Instructional expenditure per pupil	**0.029**	**0.166**	-0.018
	Total expenditures per pupil	**0.034**	**0.291**	**-0.028**
Florence 4	Instructional expenditure per pupil	-0.019	-0.192	0.047
	Total expenditures per pupil	-0.004	0.178	0.005
Florence 5	Instructional expenditure per pupil	**0.028**	0.087	-0.013
	Total expenditures per pupil	**0.025**	**0.181**	-0.024
Greenville	Instructional expenditure per pupil	**0.032**	0.124	-0.02
	Total expenditures per pupil	**0.083**	0.203	**-0.078**
Horry	Instructional expenditure per pupil	**0.042**	**0.323**	**-0.035**
	Total expenditures per pupil	**0.049**	0.253	-0.043
Orangeburg 3	Instructional expenditure per pupil	**0.031**	**0.294**	**-0.032**
	Total expenditures per pupil	0.033	0.094	-0.024
Orangeburg 4	Instructional expenditure per pupil	**0.037**	**0.202**	**-0.027**
	Total expenditures per pupil	0.033	0.094	-0.024
Orangeburg 5	Instructional expenditure per pupil	**0.044**	**0.338**	**-0.048**
	Total expenditures per pupil	-0.011	-0.054	**0.023**
Richland 1	Instructional expenditure per pupil	**0.055**	**0.386**	**-0.05**
	Total expenditures per pupil	**0.108**	**0.581**	**-0.109**
Richland 2	Instructional expenditure per pupil	**0.041**	**0.222**	**-0.028**
	Total expenditures per pupil	**0.079**	**0.391**	**-0.07**
Sumter	Instructional expenditure per pupil	**0.039**	**0.275**	**-0.036**
	Total expenditures per pupil	**0.042**	**0.51**	**-0.051**
York 1	Instructional expenditure per pupil	**0.038**	**0.267**	**-0.033**
	Total expenditures per pupil	0.026	**0.921**	-0.061
York 2	Instructional expenditure per pupil	-0.002	-0.079	**0.024**
	Total expenditures per pupil	0.017	0.124	0.013
York 3	Instructional expenditure per pupil	**0.032**	**0.24**	**-0.025**
	Total expenditures per pupil	**0.055**	**0.417**	**-0.065**
York 4	Instructional expenditure per pupil	**0.029**	**0.257**	**-0.026**
	Total expenditures per pupil	0.061	0.418	-0.056

Source: Author's computations based on NCES data.

Note: boldface estimates are statistically significant at the 5 percent level or less.

The Act 388 coefficients for total expenditures per pupil are generally not significantly different from zero for most (13 of the 20) districts, indicating that the act did not shift trend intercepts. For seven of the districts, however, the Act 388 coefficient is positive and significant indicating that the trend intercept increased (Florence 3, Florence 5, Richland 1, Richland 2, Sumter, York 1 and York 3).

The Act 388-year interaction coefficients are negative and significant for six of the 20 districts indicating that the act had the effect of reducing the rate of growth in total expenditures per pupil in those districts (Florence 3, Greenville, Richland 1, Richland 2, Sumter, and York 3). Once again, those Act 388 growth reductions offset the overall growth rates, resulting in zero or even negative rates over the period 2008-16.

The expenditure trends indicate that Act 388 has had the effect of reducing the rate of growth in both instructional expenditure per pupil and total expenditure per pupil. In the hardest-hit districts, the reductions have resulted in zero or even negative growth rates in expenditures.

Appendix A to this chapter provides four charts for each public school district in the 10 counties examined in this study. In each case, the first chart illustrates the time trend of total property tax revenue received by the district. The second chart illustrates the revenue sources per pupil, including state, local, and federal revenues. The third chart illustrates the shares of revenues obtained from state, local, and federal sources. The final chart illustrates total expenditure per pupil over time.

Trends in Pupil-Teacher Ratios

One measure of the potential impact of Act 388 on school districts is the pupil-teacher ratio. Table 4.4 reports estimates of trends in the ratio over the period 2002-2017. The overall trend among districts over that period was a declining ratio (meaning fewer pupils per teacher), as indicated in the first column. In Charleston, Orangeburg 3, Orangeburg 5, and Sumter, the pupil-teacher ratios declined the most from 2002 to 2017.

Once Act 388 was implemented the trend of falling pupil-teacher ratios reversed, and pupil-teacher ratios jumped up as indicated in the second column. For all districts, the trends over the period 2008-2017 increased.[4] The largest increases in the ratio trend are in Charleston (0.824), Orangeburg 5 (0.935), and York 4 (0.842) districts. The estimated increases post-Act 388 in many cases are sufficiently large to undo previous progress in reducing the pupil-teacher ratio, as in Charleston, Orangeburg 5, Richland 2, and York 4. These estimates indicate that since Act 388 was implemented, pupil-teacher ratios have risen. These results indicate that Act 388 increased pupil-teacher ratios.

[4] Although the coefficients are imprecisely estimated, as reflected in the fact that just six of the coefficients are statistically significant at the usual 5 percent level, all of the estimated coefficients are positive. If an estimated relationship is statistically significant, we can be highly confident that it is caused by something other than chance.

Table 4.4 Pupil-Teacher Ratio Trends

District	Year Trend 2002-2017	Act 388 Impact 2008-2017
Allendale	-0.540	0.364
Charleston	**-0.786**	**0.824**
Edgefield	-0.520	0.382
Florence 1	-0.691	0.657
Florence 2	-0.289	0.390
Florence 3	-0.537	0.255
Florence 4	-0.529	0.514
Florence 5	**-0.569**	0.516
Greenville	-0.580	0.666
Horry	-0.477	0.505
Orangeburg 3	**-0.809**	0.792
Orangeburg 4	**-0.560**	**0.558**
Orangeburg 5	**-0.709**	**0.935**
Richland 1	**-0.494**	0.398
Richland 2	**-0.549**	**0.568**
Sumter	**-0.760**	0.632
York 1	-0.514	0.437
York 2	-0.306	0.106
York 3	-0.527	**0.612**
York 4	**-0.677**	**0.842**

Source: National Center for Education Statistics Universe Survey", 2016-17 v.1a.
Note: boldface estimates are statistically significant at the 5 percent level or less.

Trends in State Aid by District

The intent of Act 388 was to reduce reliance on the local property tax and replace that with increased reliance on state revenues. Revenues shares from local, state, and federal sources are illustrated in bar charts for each of the districts in this study in Appendix A. To gauge the extent to which the intended changes of Act 388 occurred, Table 4.5 provides a view of the changes in state revenue shares. The first column reports the average state revenue share of school district budgets over the period 2002 through 2007, prior to implementation of Act 388. The second column reports the state revenue share jump that

occurred in 2008 with the implementation of Act 388. The third column then reports the average state revenue share of school district budgets in the years after the initial year of implementation, 2009 through 2016. The fourth column reports the change in the state revenue share post-Act 388.

Table 4.5 State Revenue Shares

District	State Revenue Share Average 2002-2007 (%)	State Revenue Share Jump in 2008 (%)	State Revenue Share Average 2009-2016 (%)	Change in State Revenue Share Post-Act 388 (%)
Allendale	55.4	0.3	51.2	-4.2
Charleston	34	10.8	29.9	-4.1
Edgefield	55.7	2.2	51.2	-4.5
Florence 1	48.9	8.9	51.7	2.8
Florence 2	52.2	3.3	60.8	8.6
Florence 3	56.6	4	55.6	-1
Florence 4	55.6	3	47.3	-8.3
Florence 5	51.8	3.9	57	5.2
Greenville	44.4	8.8	49.1	4.7
Horry	36.9	3.7	34	-2.9
Orangeburg 3	51.1	0.8	44	-7.1
Orangeburg 4	51.2	0.8	44	-7.2
Orangeburg 5	50.3	2.6	46.3	-4
Richland 1	38.9	0.5	31.9	-7
Richland 2	44.1	11.1	48.6	4.5
Sumter	56	3.9	53.5	-2.5
York 1	53.6	5.4	50.3	-3.3
York 2	26.5	10.9	35.7	9.2
York 3	48.7	8.1	51.4	2.7
York 4	41.2	11.8	48	6.8

Source: Author's computations based on NCES data

Prior to Act 388, state revenue reliance ranged from a low of 26.5 percent in York 2 (Clover) School District to a high of 56.6 in Florence 3 School District. Act 388 implementation increased the state share of revenue for all 20 districts, with the largest increases experienced in York 4 (11.8 percent), Richland 2 (11.1 percent), York 2 (10.9 percent), and Charleston (10.8 percent). These four districts are relatively higher-income districts with smaller percentages of students eligible for free and reduced-price lunches. On the other hand, several districts experienced very little change in their state revenue share—less than one percent: Allendale (0.3 percent), Richland 1 (0.5 percent), Orangeburg 3 (0.8 percent), and Orangeburg 4 (0.8 percent). These districts are relatively low-income with all their students eligible for free and reduced-price lunches.

Following implementation of Act 388, state revenue reliance has increased for eight of the districts but declined for the other 12 districts. Hence, 40 percent of the districts in this study experienced the anticipated shift from local property tax reliance to state funding, but 60 percent of districts did not receive enough state support to offset the loss of local funding.

These data suggest that state aid has not been uniformly helpful across districts in meeting school funding needs. For a majority of the districts in this study, state funding as a share of total funding has been reduced since implementation of Act 388. Even for those districts that have experienced increased support from state aid, the counterfactual of what would have happened in the absence of Act 388 is not obvious. Although state aid increased as a share of the total revenue received in these districts, without Act 388 the property tax increases may have been larger and may have supported even more robust revenue trends. This study has not estimated what would have happened in the absence of Act 388.

Relationship between School Funding and Student Achievement

There have been over 100 studies of the impact of school spending on student achievement, but that research has produced mixed results. Some of those mixed results arise because of the difficulty of conducting empirical work in this area. For example, it is difficult to untangle the impact of school spending from the impact of family background. In addition, resources that impact student achievement play out over a number of years. That is, an excellent first grade teacher can set a student on a better path through high school. Appendix B provides an overview of this literature.

Unfortunately, there is no solid time series that measures student achievement in South Carolina school districts both before and after Act 388. Appendices B, C, and D discuss and present available data from the South Carolina High School Assessment Program, ACT tests, the Palmetto Achievement Challenge Test, and the Palmetto Assessment of State Standards. These achievement indicators present district-by-district measures, but do not provide a time trend for before and after Act 388.

There is one test which enables policy analysts and policy makers to compare educational performance among states: the National Assessment of Educational Progress (NAEP) exam, which is widely known as the *Nation's Report Card*. The NAEP is one of the most commonly cited measures of educational performance. In 2001, when the *No Child Left Behind Act* was reauthorized, the law mandated that every state participate in NAEP reading and mathematics evaluations for grades four and eight every two years. Appendix E presents NAEP scores for South Carolina compared to other states.

Conclusion

This chapter looks at various school district trends before and after implementation of Act 388 to try to determine the impact that act has had on school district budgets. However, because the economy fell into recession about the same time that South Carolina was implementing Act 388, which in turn affected state and federal aid to schools and local property tax receipts, we cannot directly attribute changes in school district budgets to Act 388. Comparing trends from 2008 to 2016 to those from 2002 to 2007 can only provide a broad estimate of the effect of Act 388 on school funding in South Carolina.

Since Act 388 was implemented many of the 20 school districts in our 10 focus counties experienced slower growth in property tax revenue, total revenue per pupil, instructional expenditure per pupil, and total expenditure per pupil.

Half of the 20 school districts experienced slower growth in property tax revenue and 11 school districts experienced slower growth in total revenue per pupil. Thirteen school districts experienced slower growth in instructional expenditure per pupil since 2008, and six districts experienced slower growth in total expenditure per pupil since 2008.

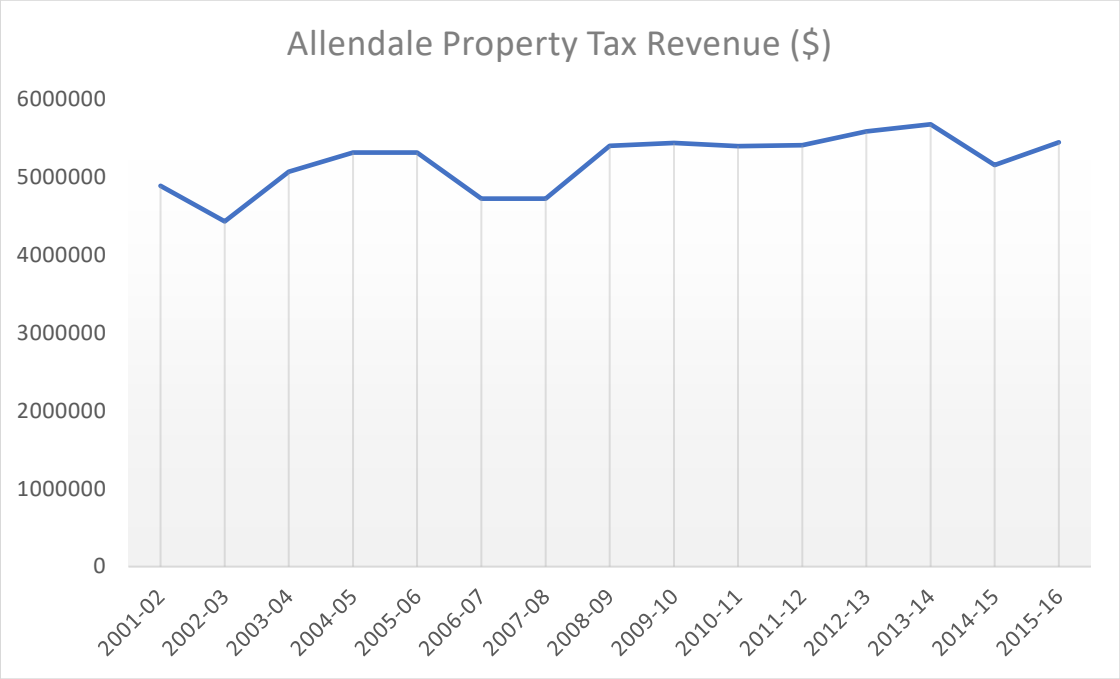
School districts in fast-growing counties were more likely to have a statistically significant decline in their total revenue per pupil after 2008. Richland 1, Richland 2, and York 3 (Rock Hill) all experienced declines in property tax revenue, total revenue per pupil, instructional expenditure per pupil, and total expenditure per pupil growth since 2008.

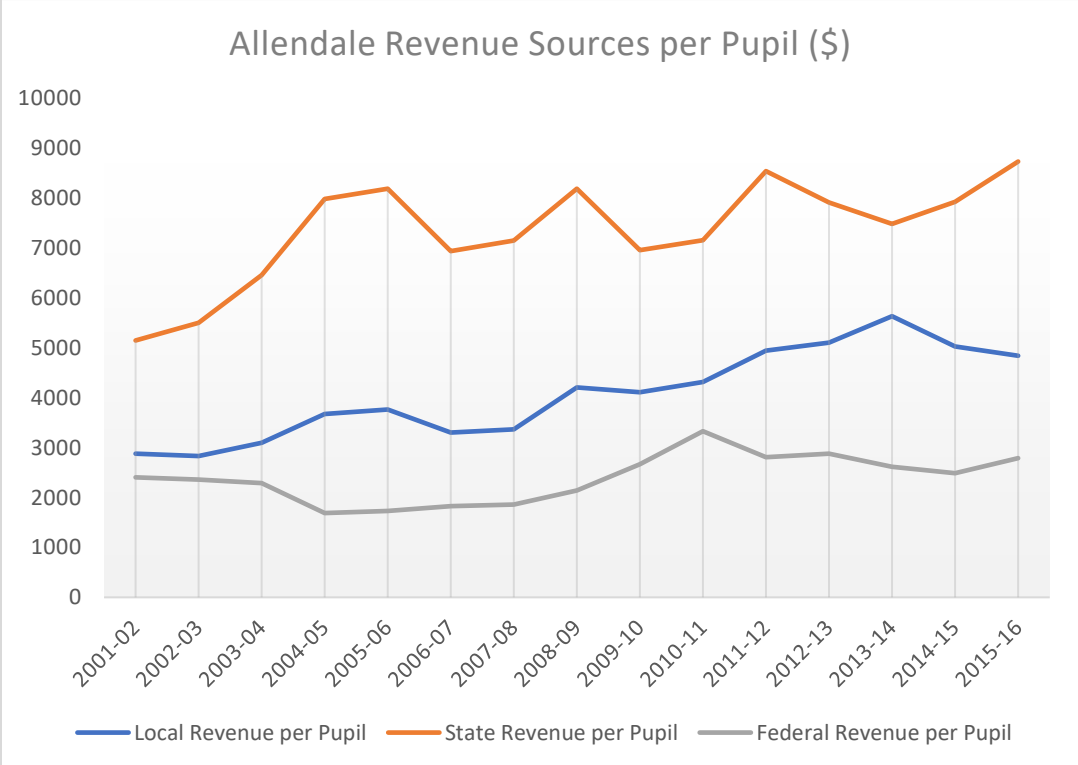
For a majority of the districts in this study, state funding as a share of total funding has declined since implementation of Act 388.

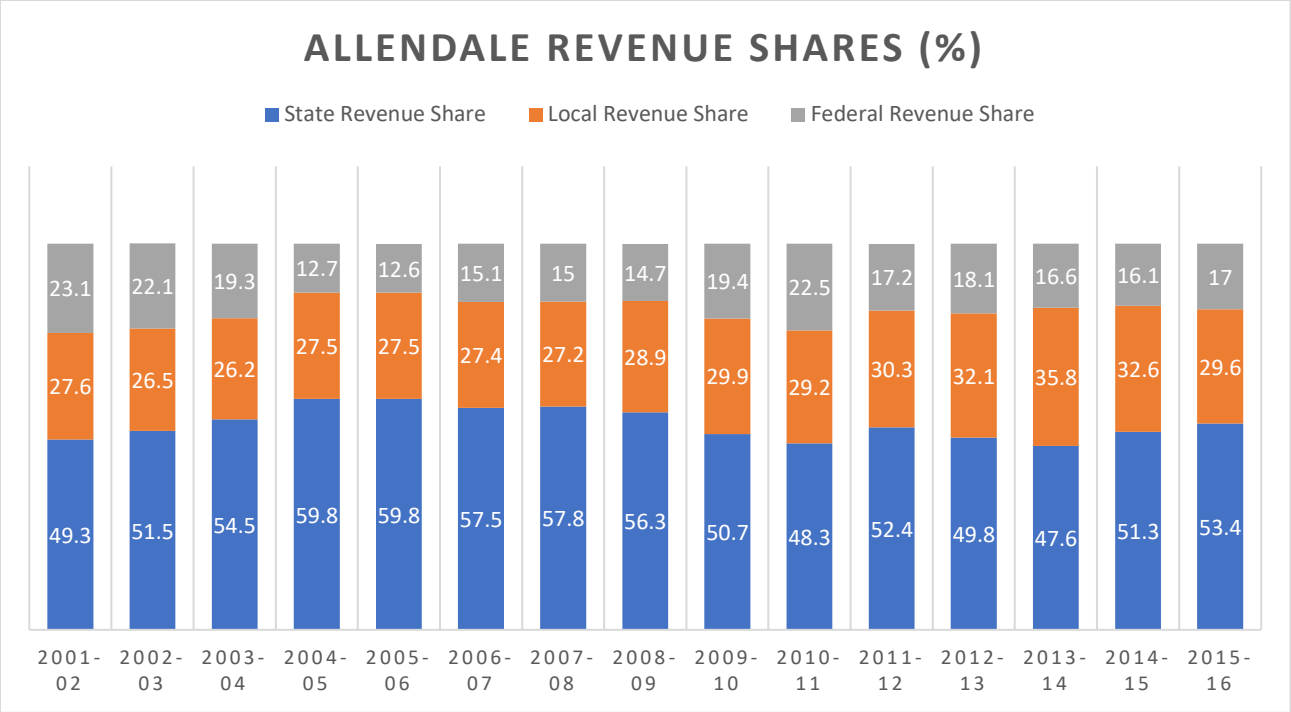
Appendix A
School District Funding

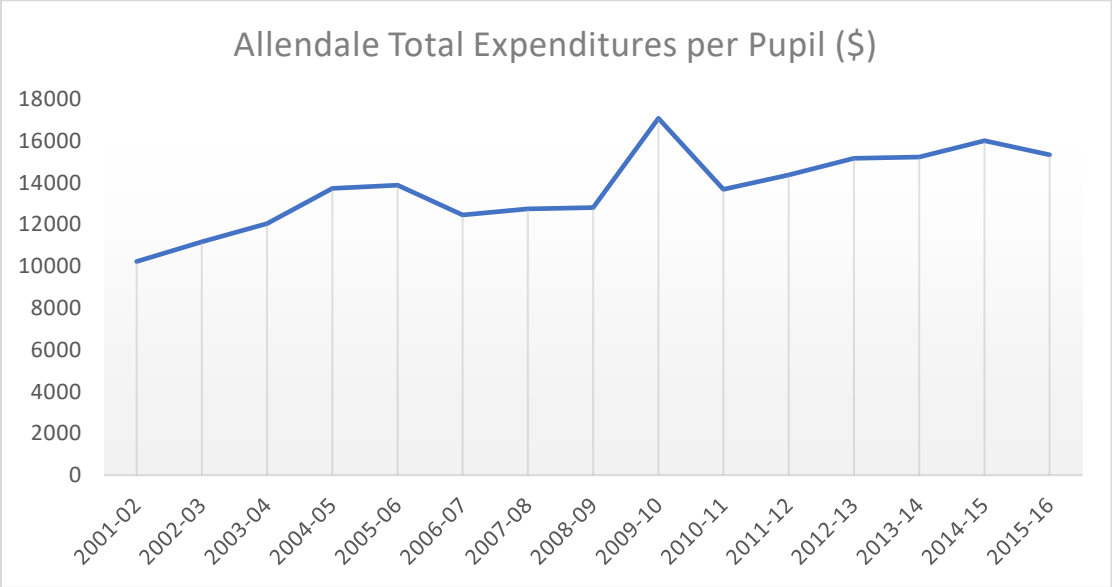
All data in Appendix A come from the National Center for Education Statistics.

Figures A1-A4
Allendale District

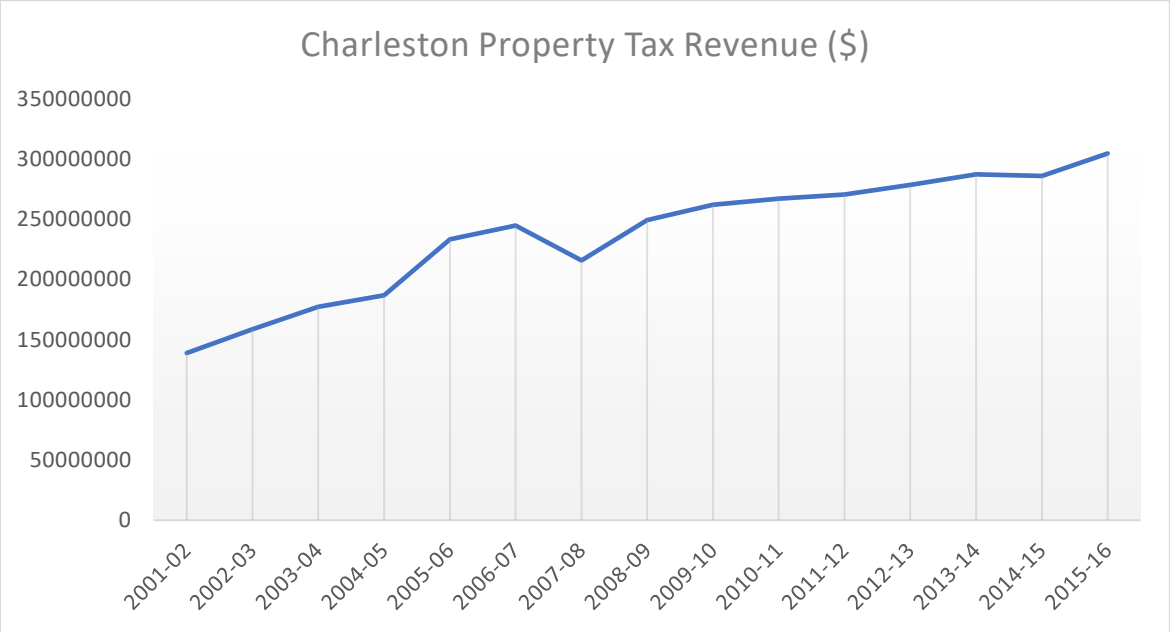


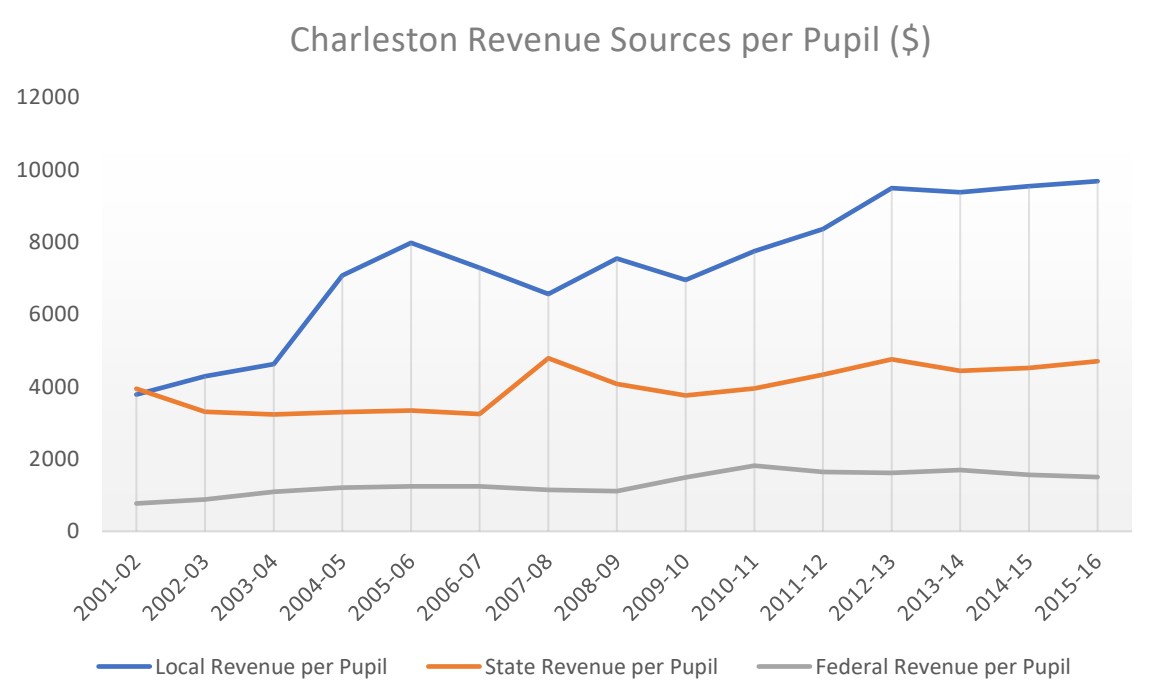


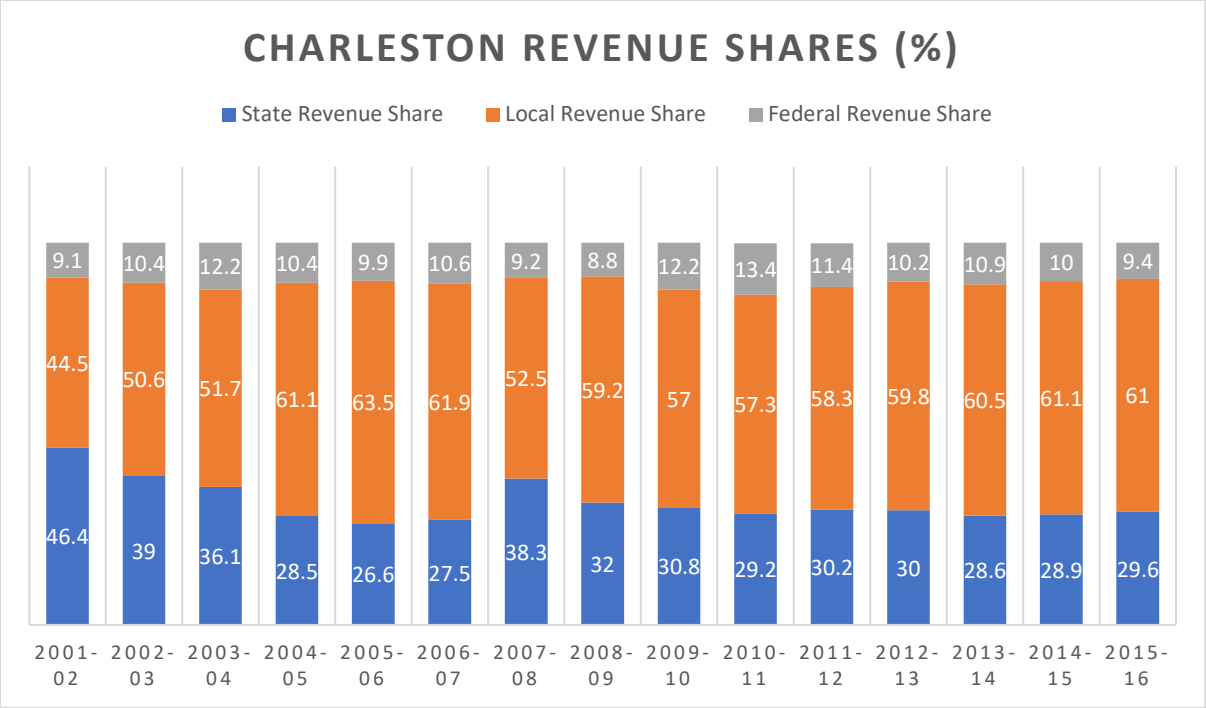

ALLENDALE REVENUE SHARES (%)
State Revenue Share
Local Revenue Share
Federal Revenue Share
23.1
27.6
49.3
22.1
26.5
51.5
19.3
26.2
54.5
12.7
27.5
59.8
12.6
27.5
59.8
15.1
27.4
57.5
15
27.2
57.8
14.7
28.9
56.3
19.4
29.9
50.7
22.5
29.2
48.3
17.2
30.3
52.4
18.1
32.1
49.8
16.6
35.8
47.6
16.1
32.6
51.3
17
29.6
53.4
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16

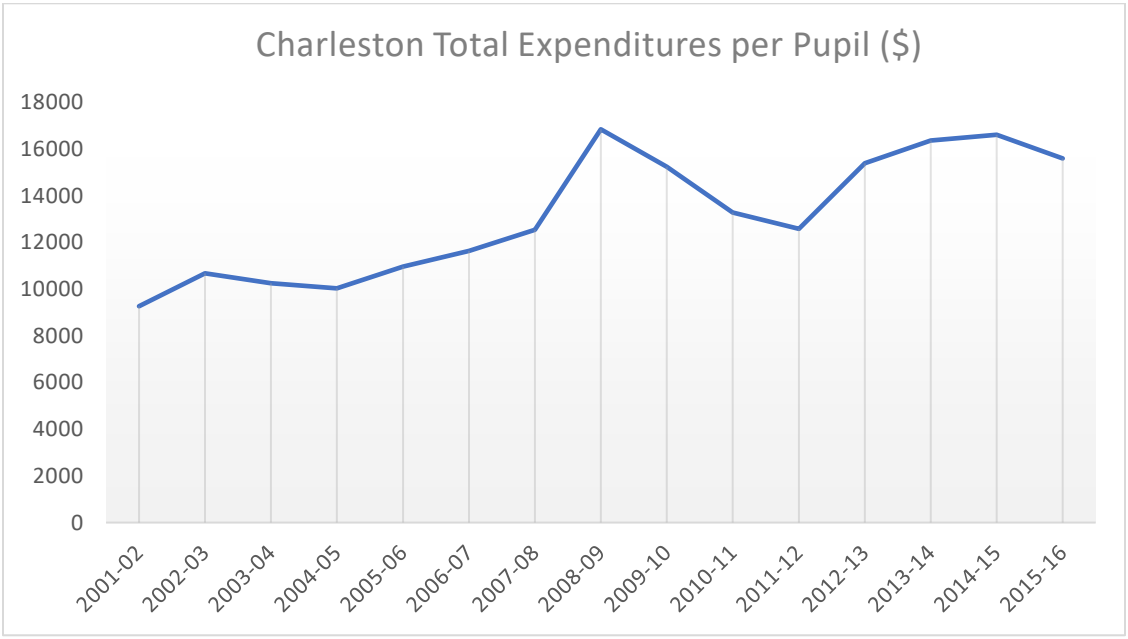

Allendale Total Expenditures per Pupil ($)
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16

Figures A5-A8
Charleston District

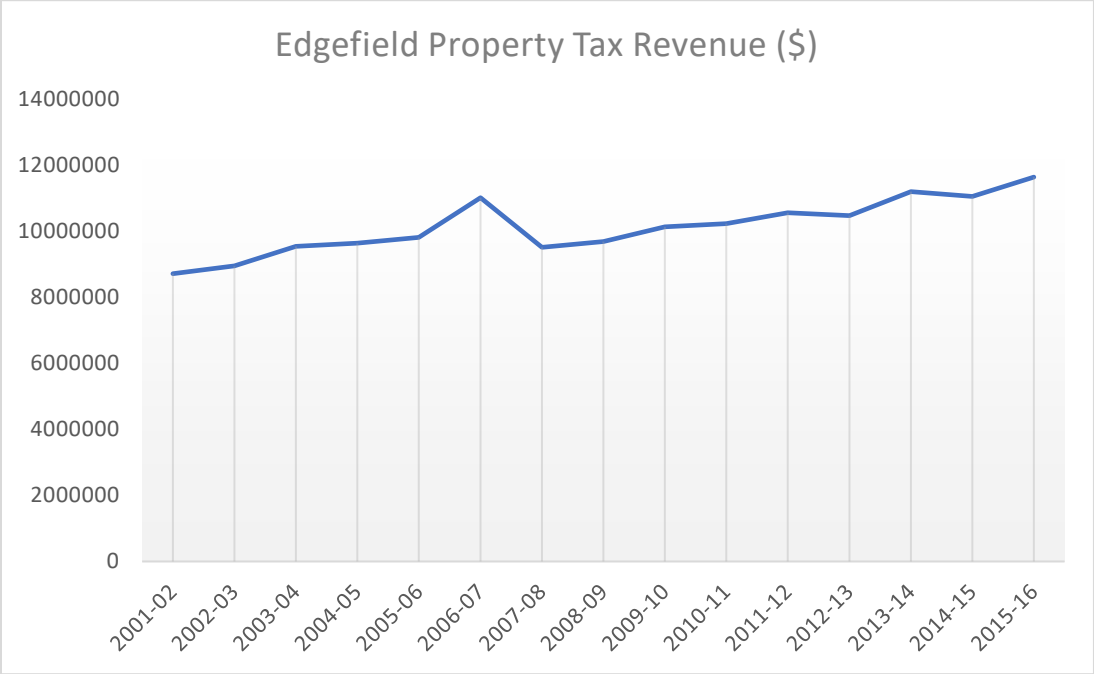


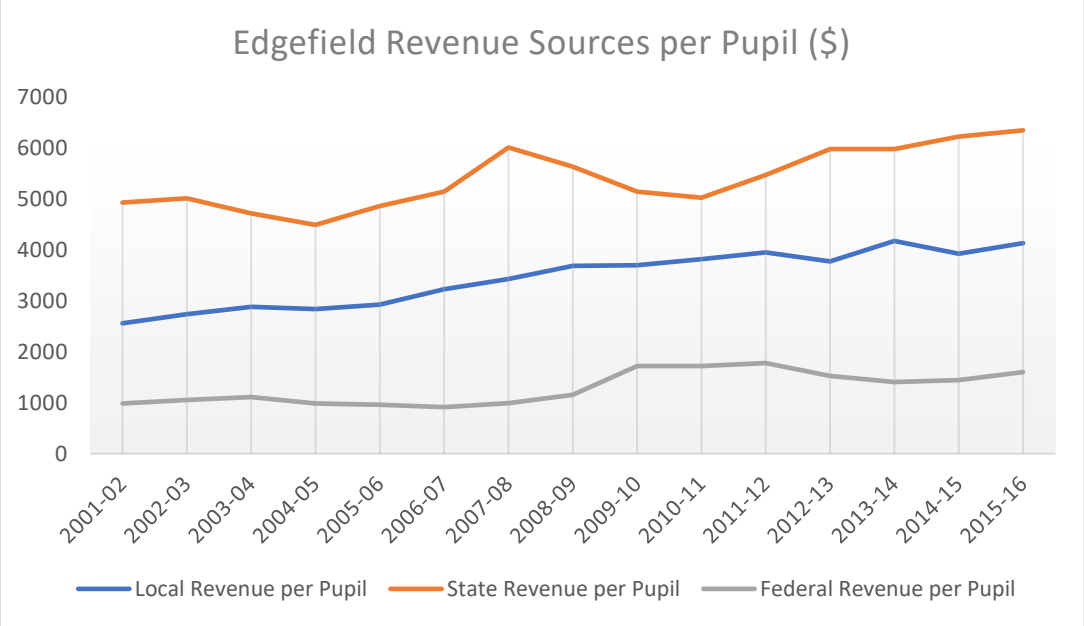


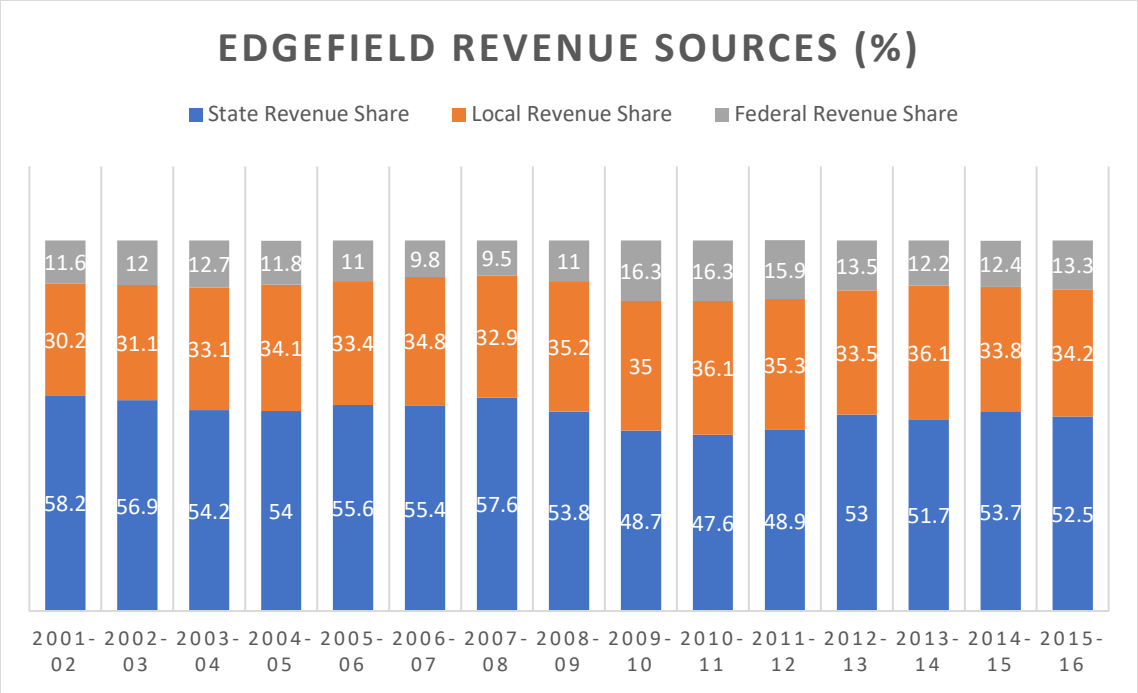

CHARLESTON REVENUE SHARES (%)
State Revenue Share
Local Revenue Share
Federal Revenue Share
9.1
44.5
46.4
10.4
50.6
39
12.2
51.7
36.1
10.4
61.1
28.5
9.9
63.5
26.6
10.6
61.9
27.5
9.2
52.5
38.3
8.8
59.2
32
12.2
57
30.8
13.4
57.3
29.2
11.4
58.3
30.2
10.2
59.8
30
10.9
60.5
28.6
10
61.1
28.9
9.4
61
29.6
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16

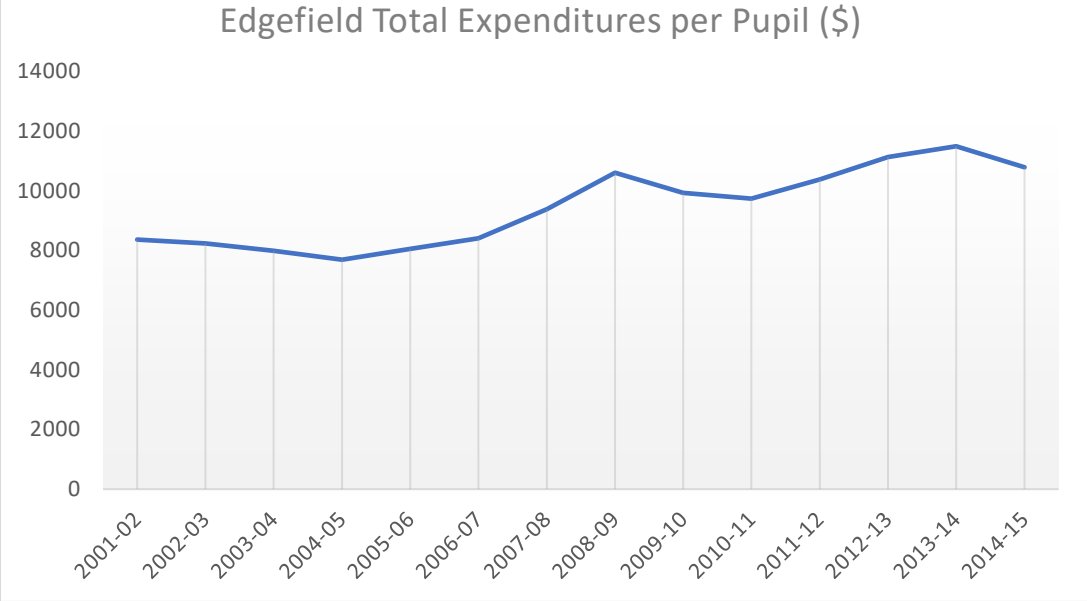

Charleston Total Expenditures per Pupil ($)
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16

Figures A9-A12
Edgefield District

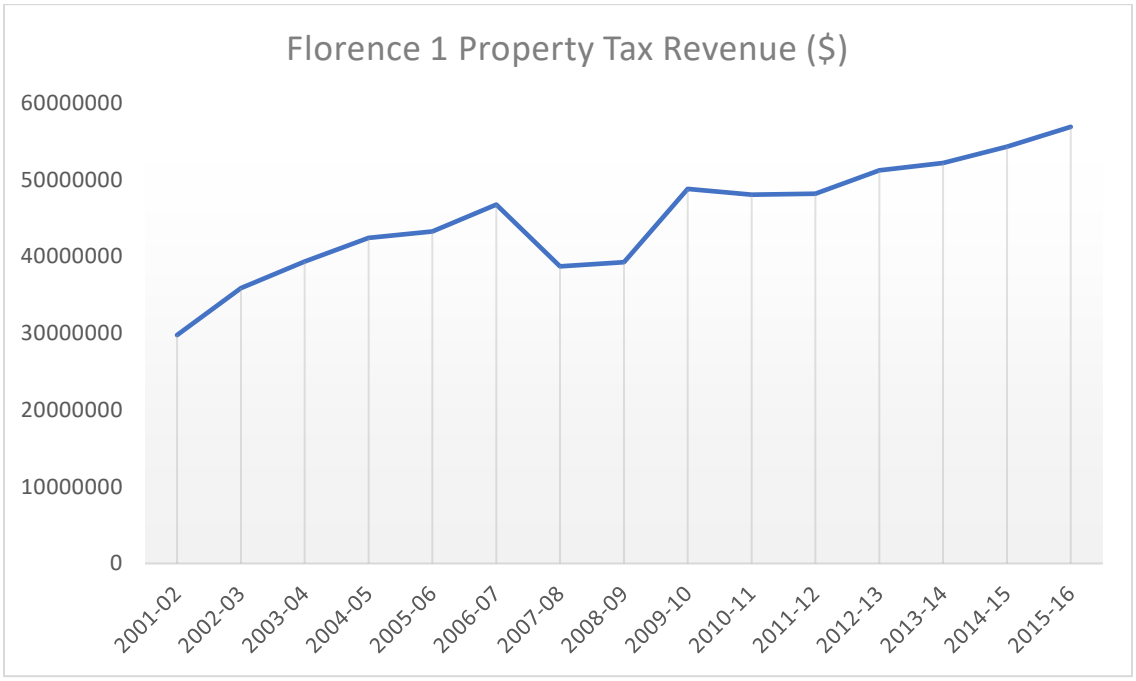


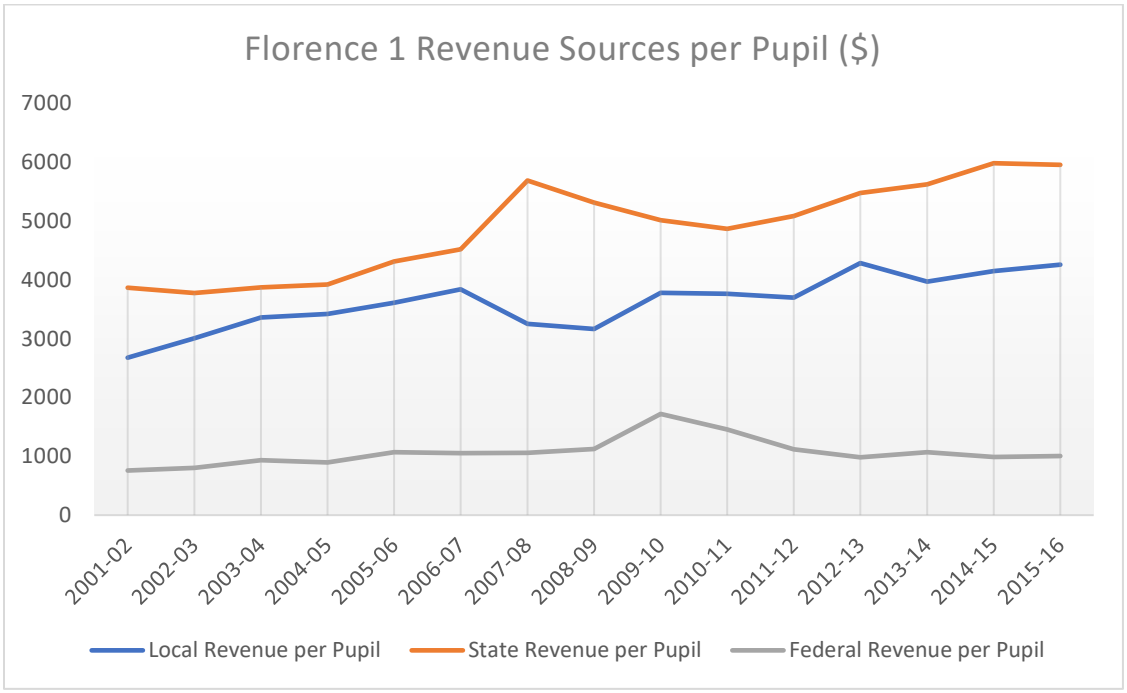


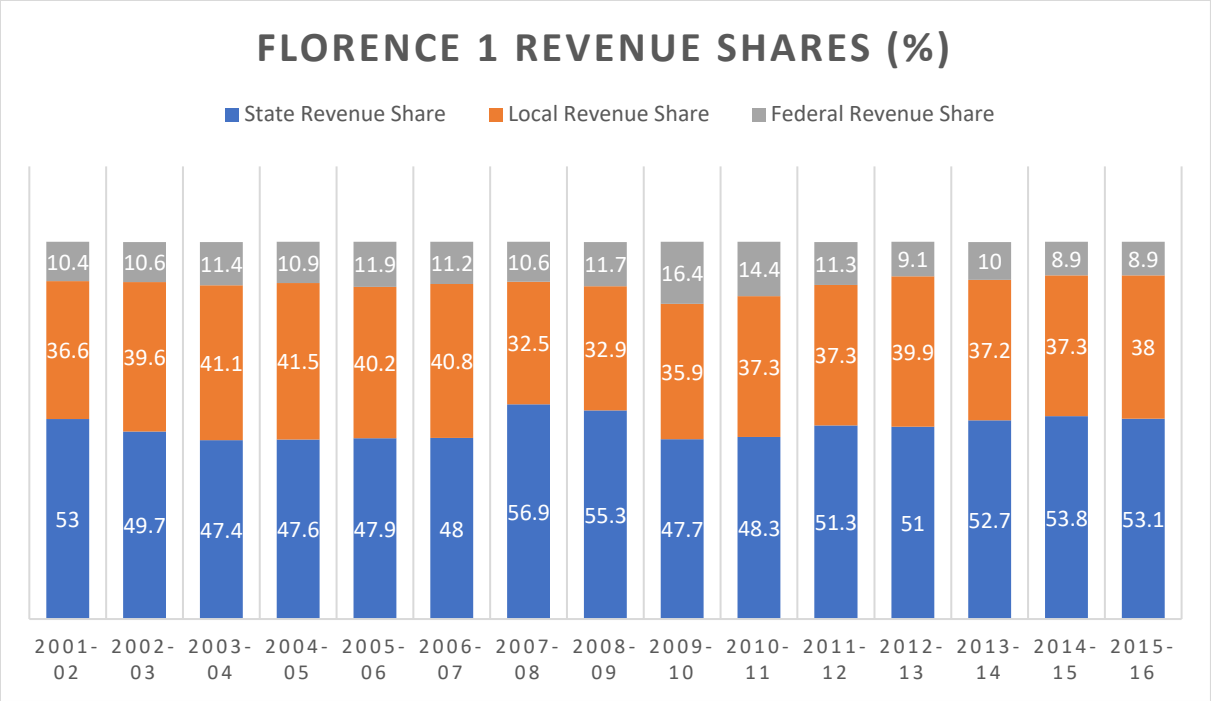

EDGEFIELD REVENUE SOURCES (%)
State Revenue Share
Local Revenue Share
Federal Revenue Share
11.6
30.2
58.2
12
31.1
56.9
12.7
33.1
54.2
11.8
34.1
54
11
33.4
55.6
9.8
34.8
55.4
9.5
32.9
57.6
11
35.2
53.8
16.3
35
48.7
16.3
36.1
47.6
15.9
35.3
48.9
13.5
33.5
53
12.2
36.1
51.7
12.4
33.8
53.7
13.3
34.2
52.5
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15

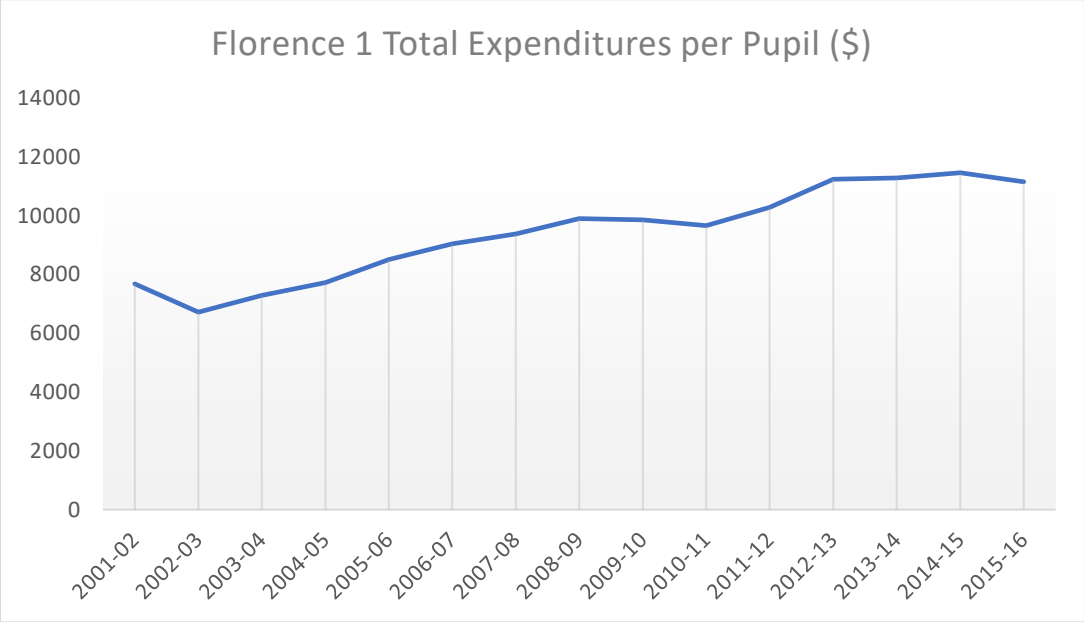

Edgefield Total Expenditures per Pupil ($)
14000
12000
10000
8000
6000
4000
2000
0
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15

Figures A13-A16
Florence 1 District

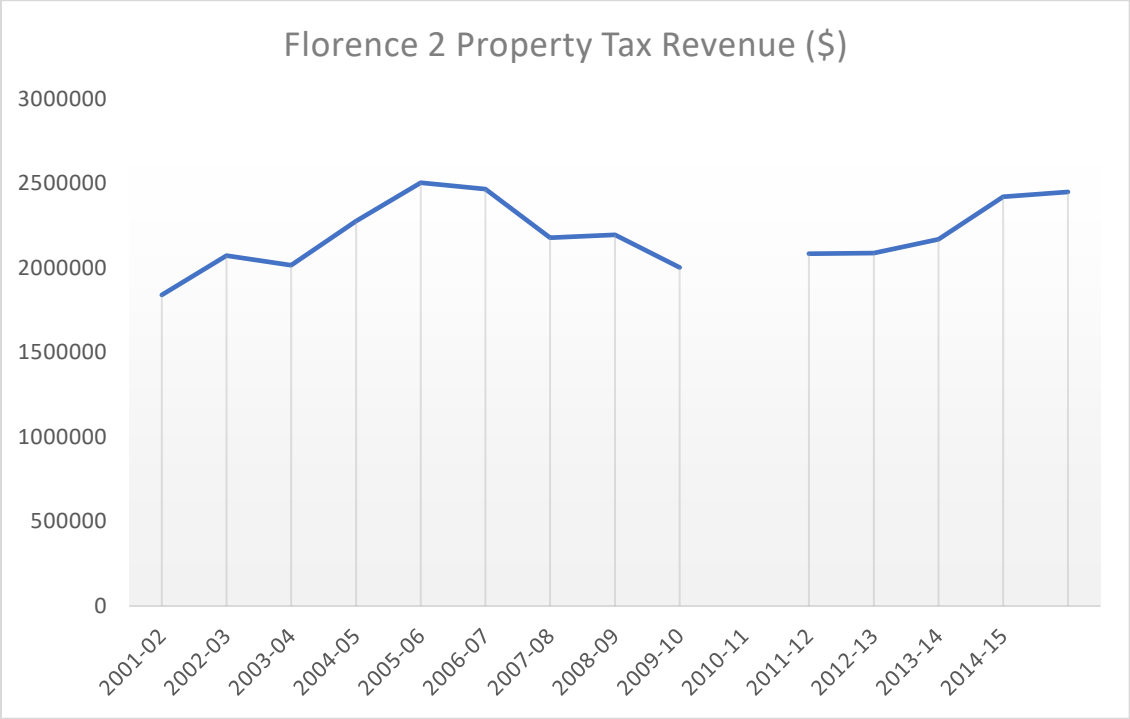




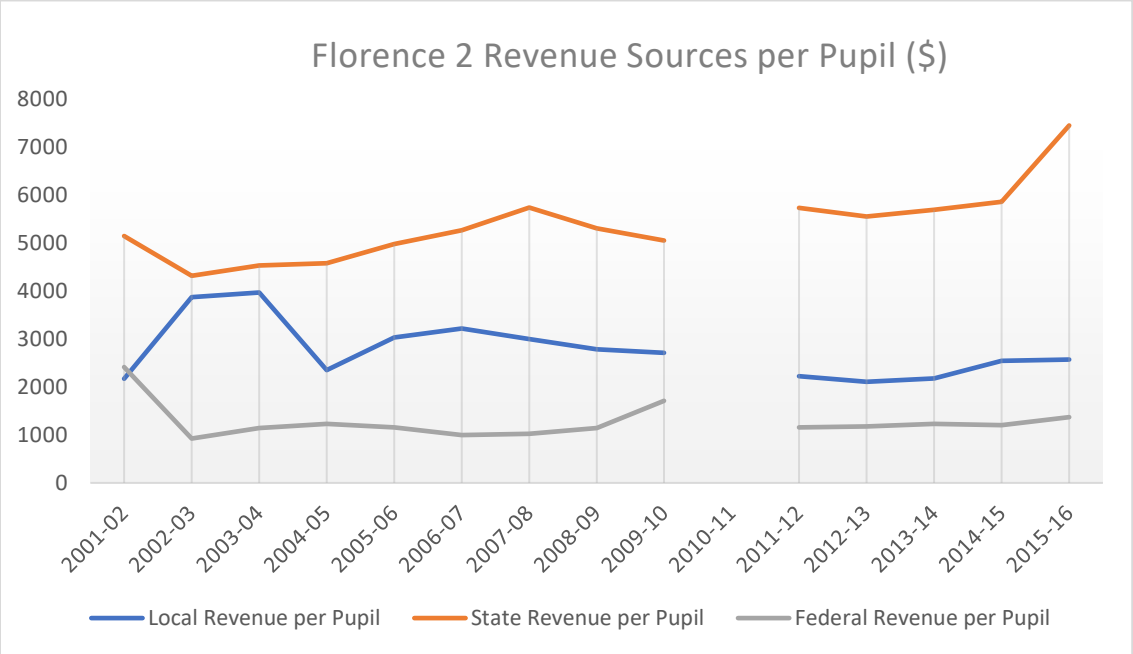

FLORENCE 1 REVENUE SHARES (%)
State Revenue Share
Local Revenue Share
Federal Revenue Share
10.4
36.6
53
10.6
39.6
49.7
11.4
41.1
47.4
10.9
41.5
47.6
11.9
40.2
47.9
11.2
40.8
48
10.6
32.5
56.9
11.7
32.9
55.3
16.4
35.9
47.7
14.4
37.3
48.3
11.3
37.3
51.3
9.1
39.9
51
10
37.2
52.7
8.9
37.3
53.8
8.9
38
53.1
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16

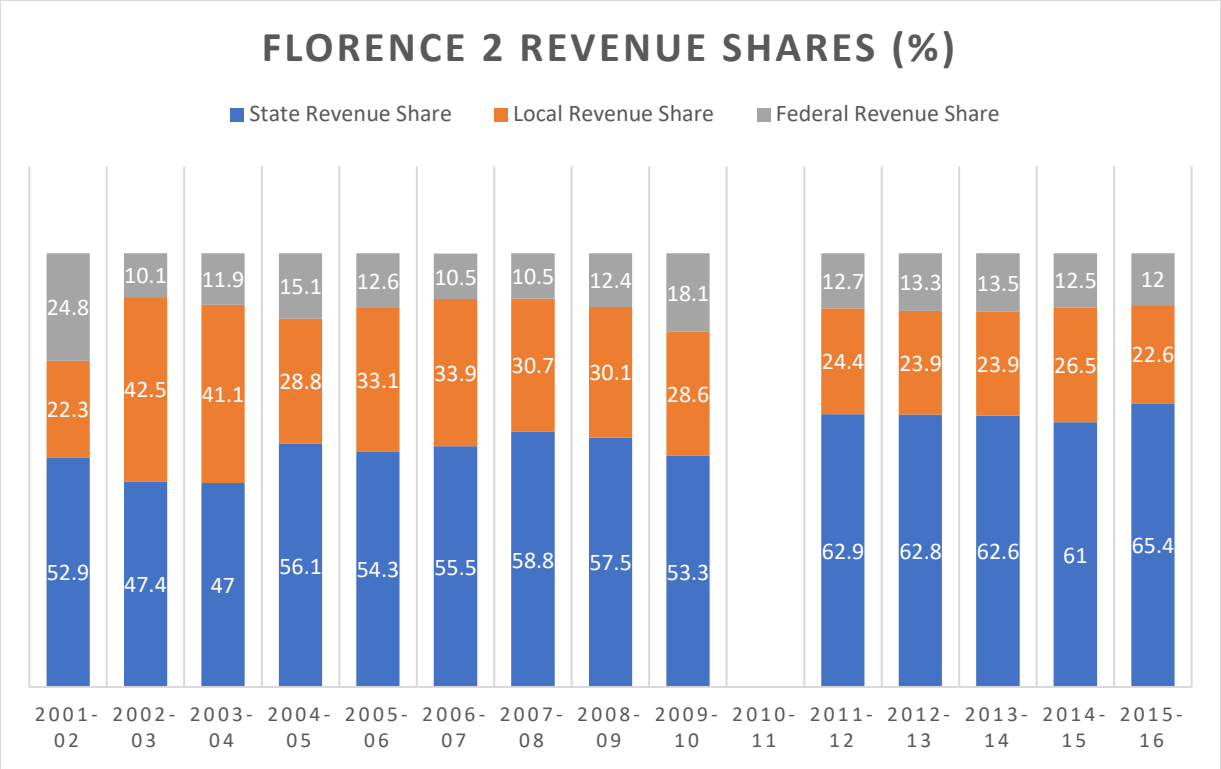

Florence 1 Total Expenditures per Pupil ($)
14000
12000
10000
8000
6000
4000
2000
0
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16

Figures A17-A20
Florence 2 District



Note: Florence 2 data are unavailable for 2010-11




FLORENCE 2 REVENUE SHARES (%)
State Revenue Share
Local Revenue Share
Federal Revenue Share
24.8
22.3
52.9
10.1
42.5
47.4
11.9
41.1
47
15.1
28.8
56.1
12.6
33.1
54.3
10.5
33.9
55.5
10.5
30.7
58.8
12.4
30.1
57.5
18.1
28.6
53.3
12.7
24.4
62.9
13.3
23.9
62.8
13.5
23.9
62.6
12.5
26.5
61
12
22.6
65.4
2001-02
2002-03
2003-04
2004-05
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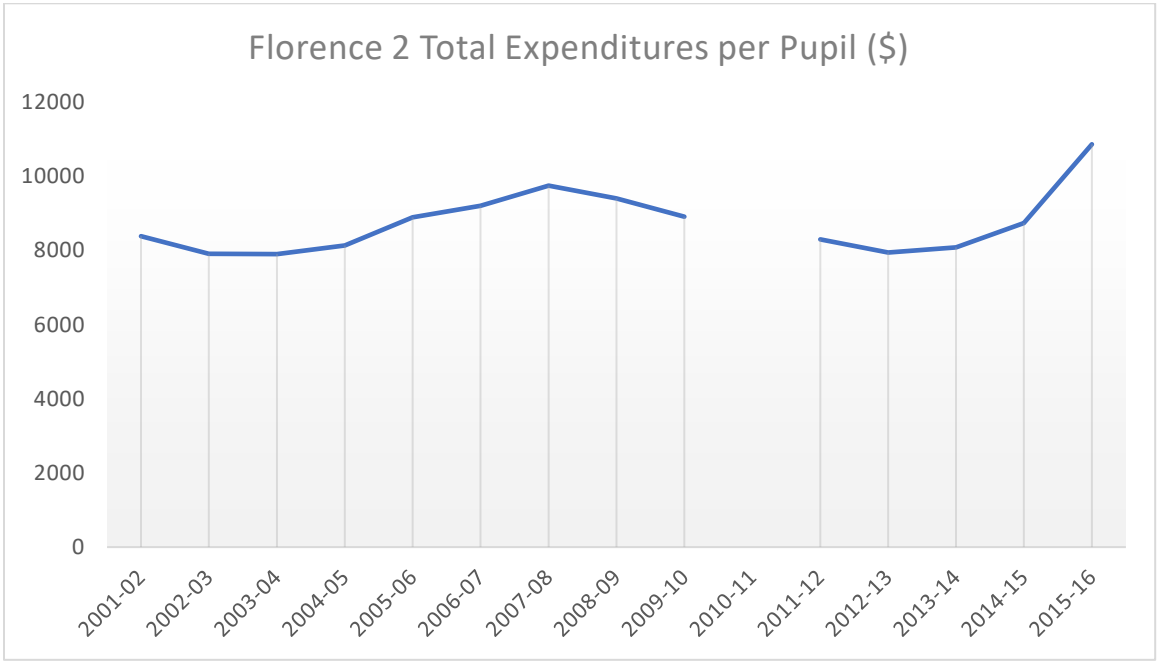
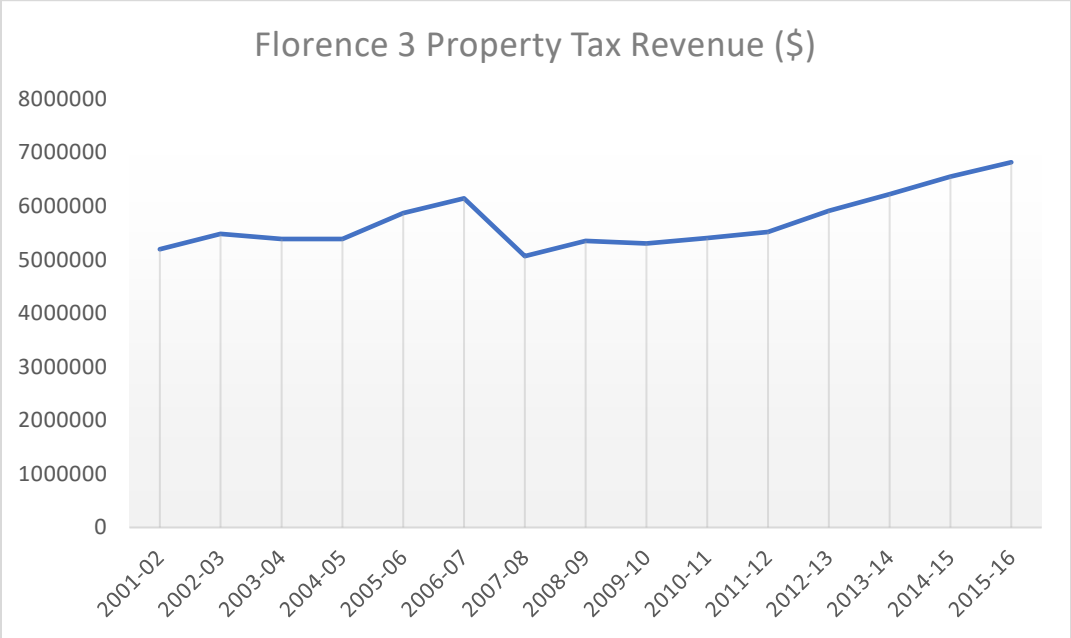
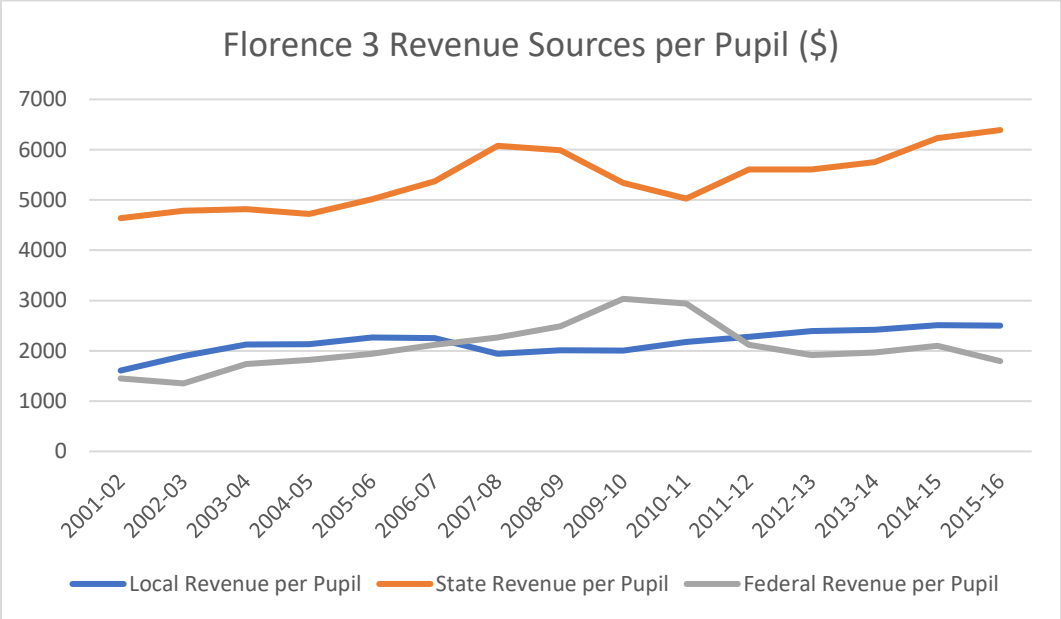
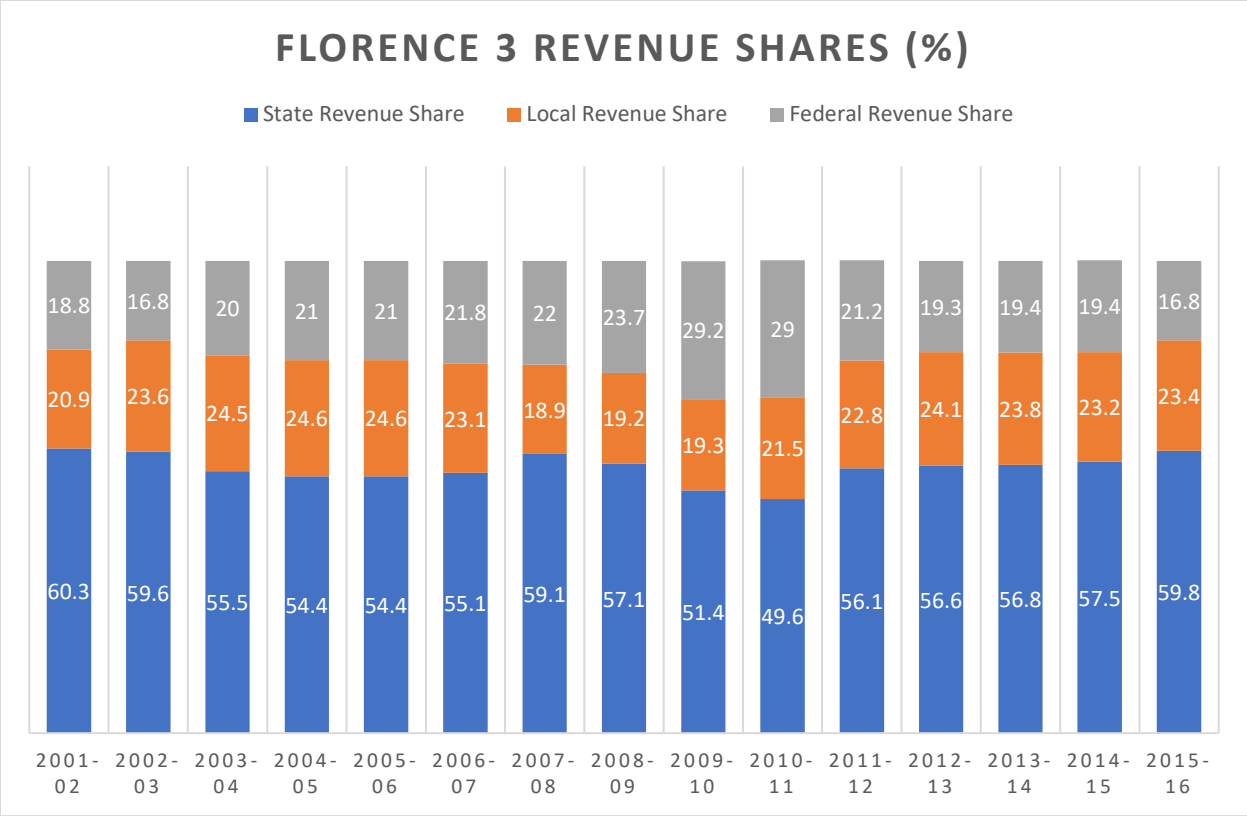
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16


Florence 2 Total Expenditures per Pupil ($)
12000
10000
8000
6000
4000
2000
0
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16

Figures A21-A24
Florence 3 District






FLORENCE 3 REVENUE SHARES (%)
State Revenue Share
Local Revenue Share
Federal Revenue Share
18.8
20.9
60.3
16.8
23.6
59.6
20
24.5
55.5
21
24.6
54.4
21
24.6
54.4
21.8
23.1
55.1
22
18.9
59.1
23.7
19.2
57.1
29.2
19.3
51.4
29
21.5
49.6
21.2
22.8
56.1
19.3
24.1
56.6
19.4
23.8
56.8
19.4
23.2
57.5
16.8
23.4
59.8
2001-02
2002-03
2003-04
2004-05
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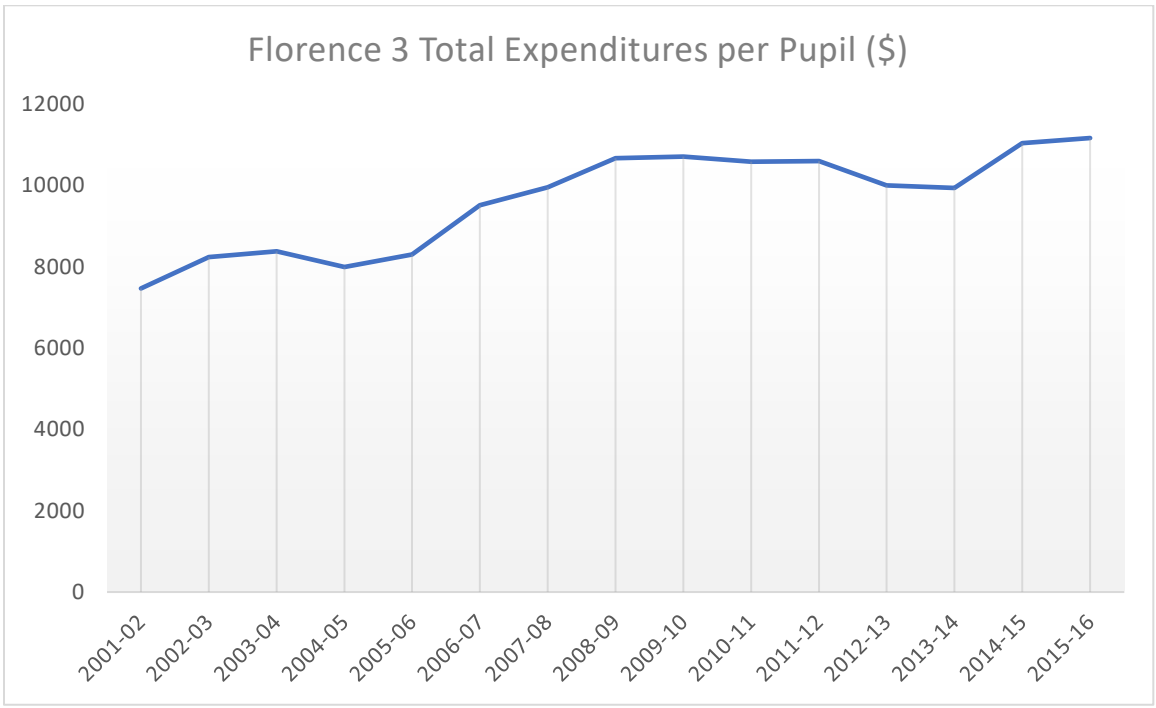
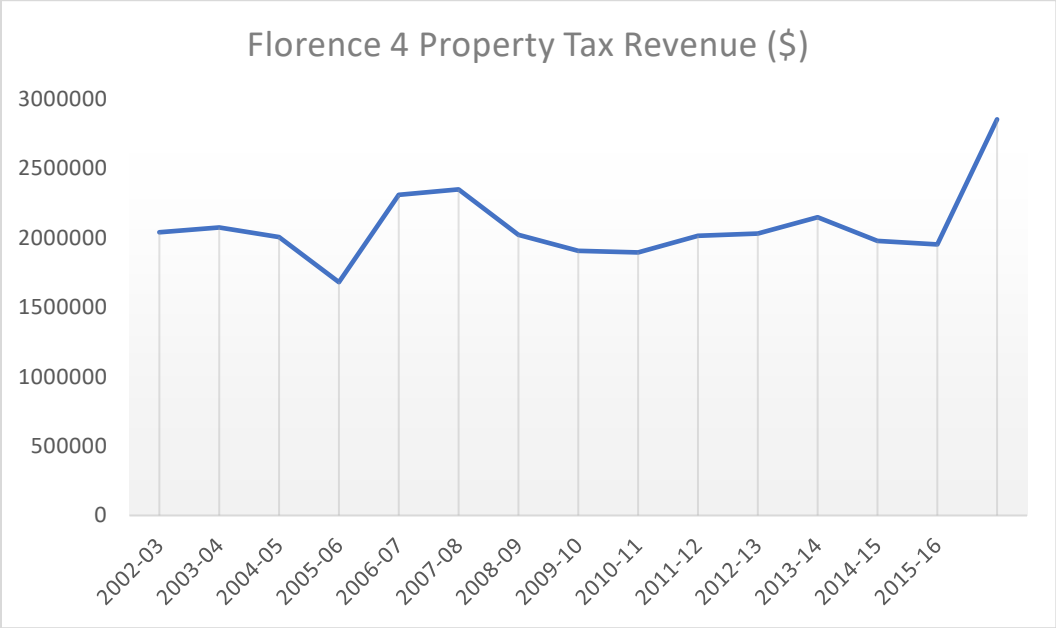
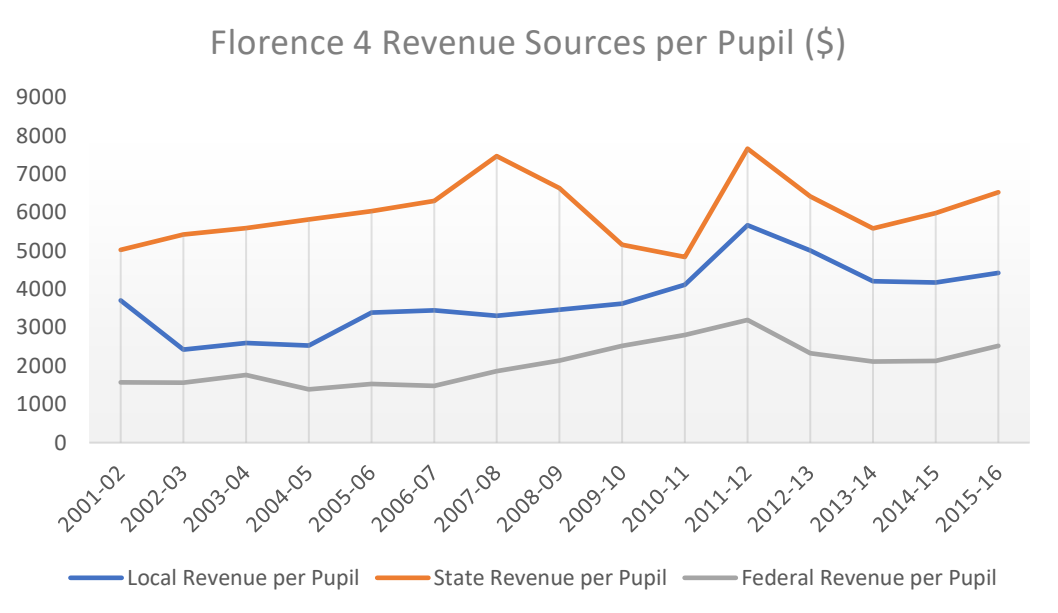
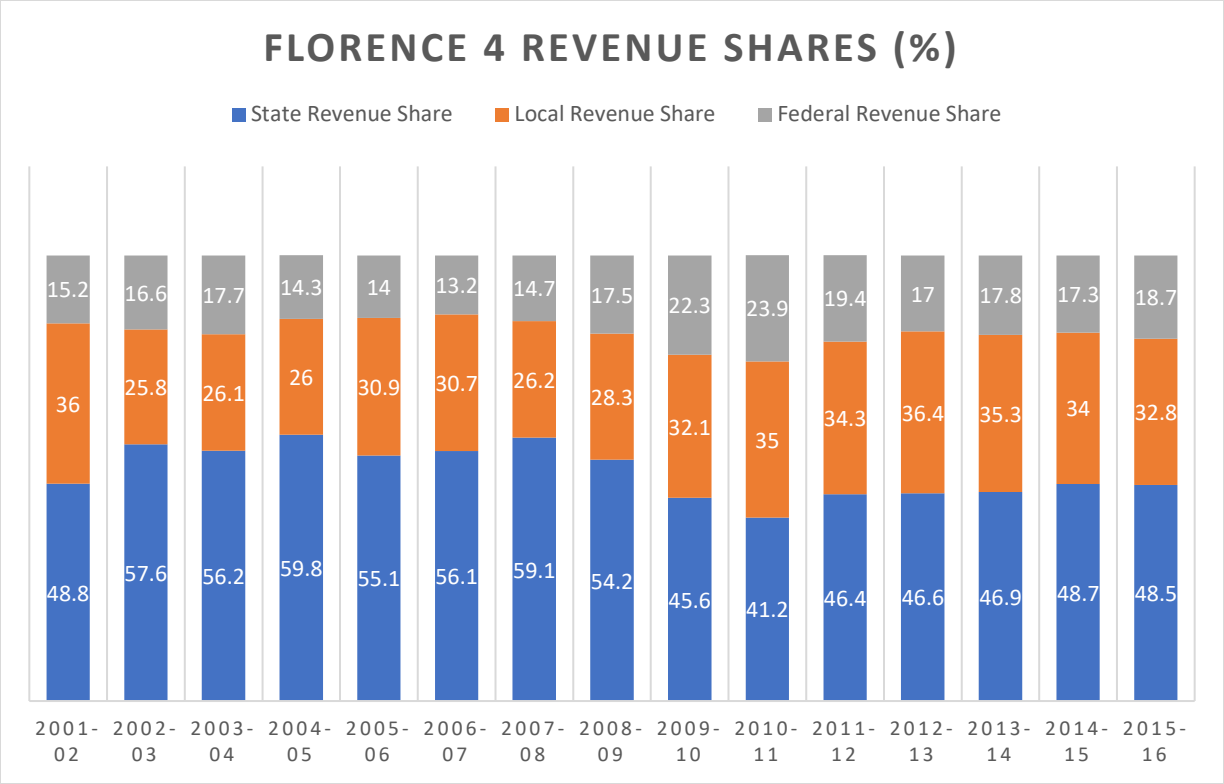
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16

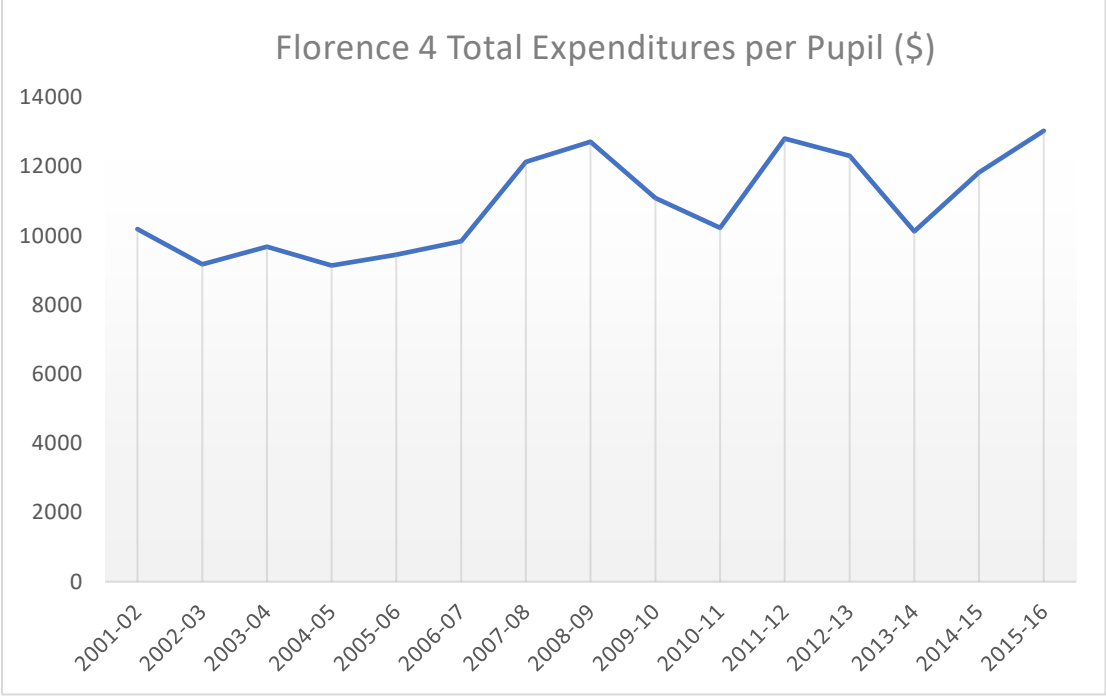

Florence 3 Total Expenditures per Pupil ($)
12000
10000
8000
6000
4000
2000
0
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16

Figures A25-A28
Florence 4 District

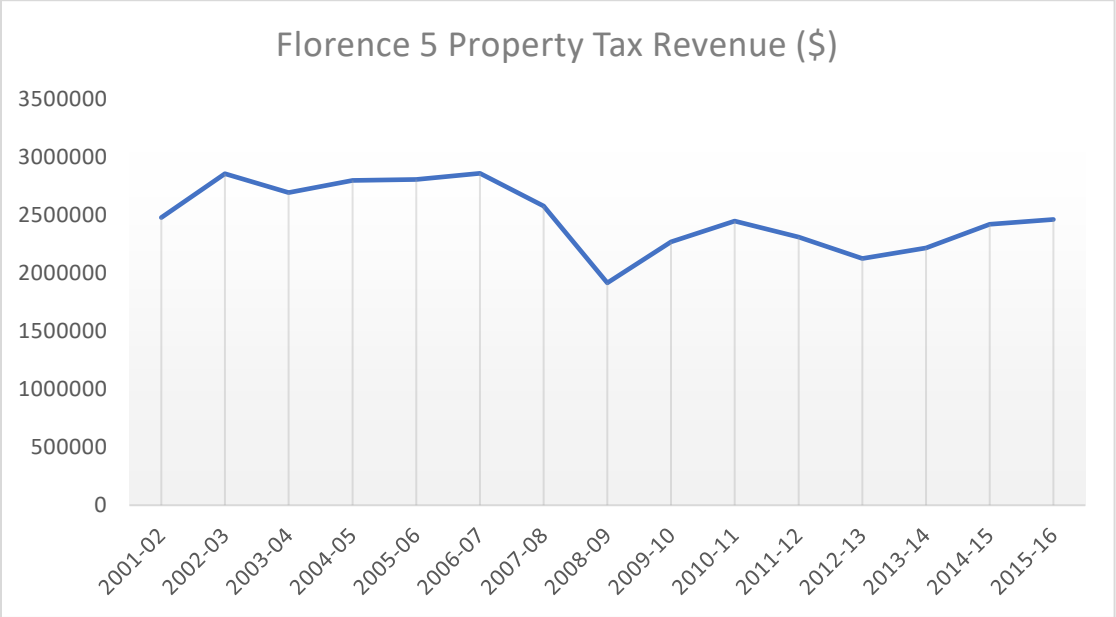


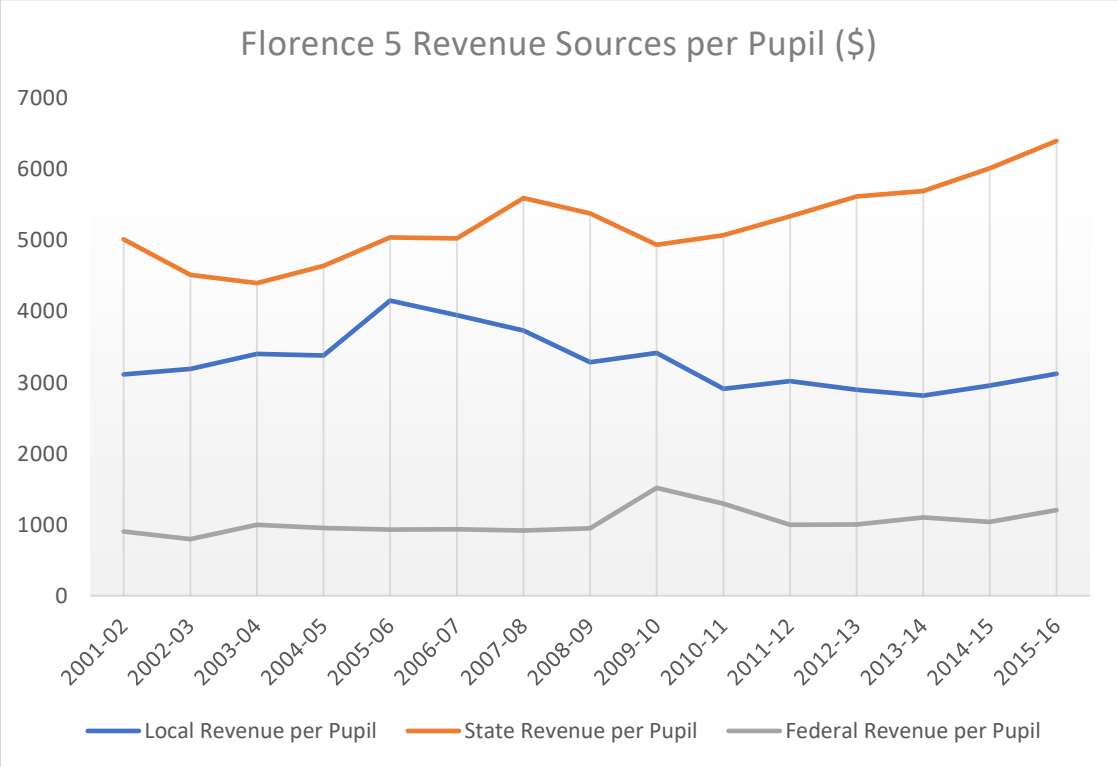


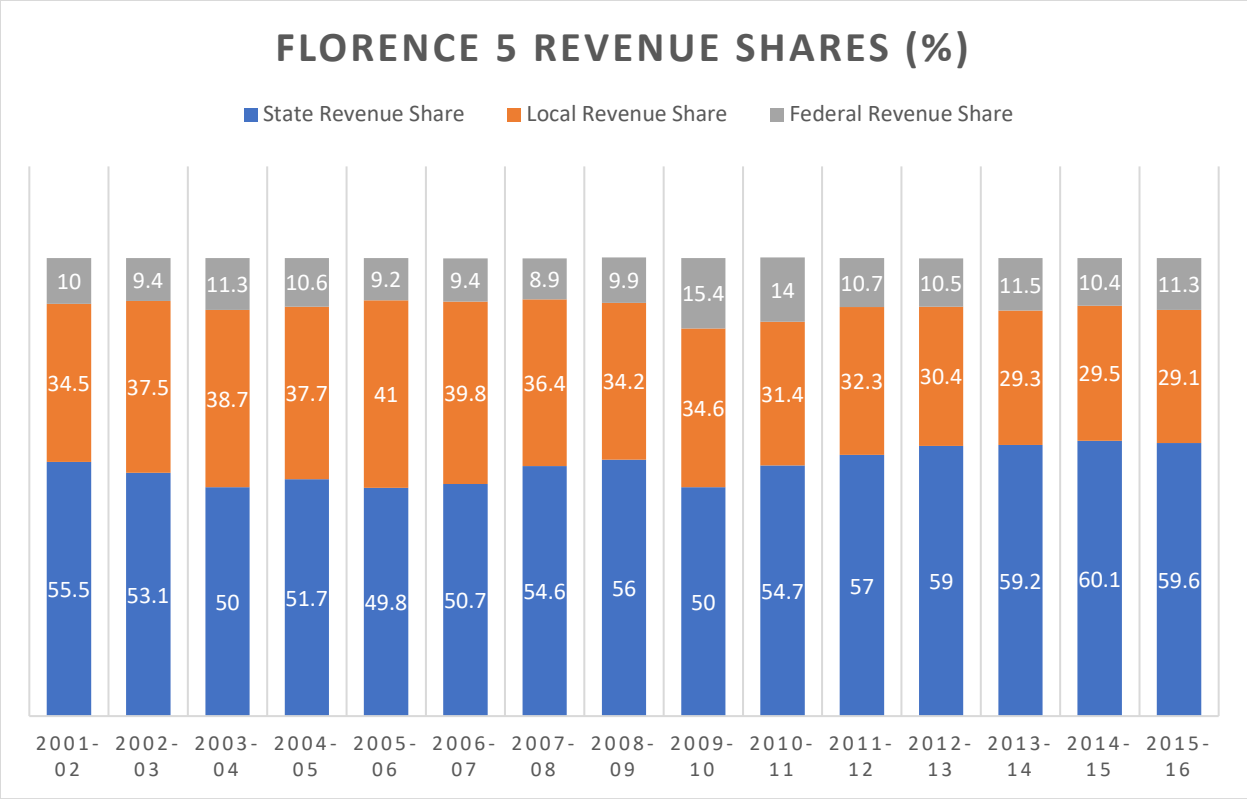

FflorENCE 4 REVENUE SHARES (%)
State Revenue Share
Local Revenue Share
Federal Revenue Share
15.2
36
48.8
16.6
25.8
57.6
17.7
26.1
56.2
14.3
26
59.8
14
30.9
55.1
13.2
30.7
56.1
14.7
26.2
59.1
17.5
28.3
54.2
22.3
32.1
45.6
23.9
35
41.2
19.4
34.3
46.4
17
36.4
46.6
17.8
35.3
46.9
17.3
34
48.7
18.7
32.8
48.5
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16

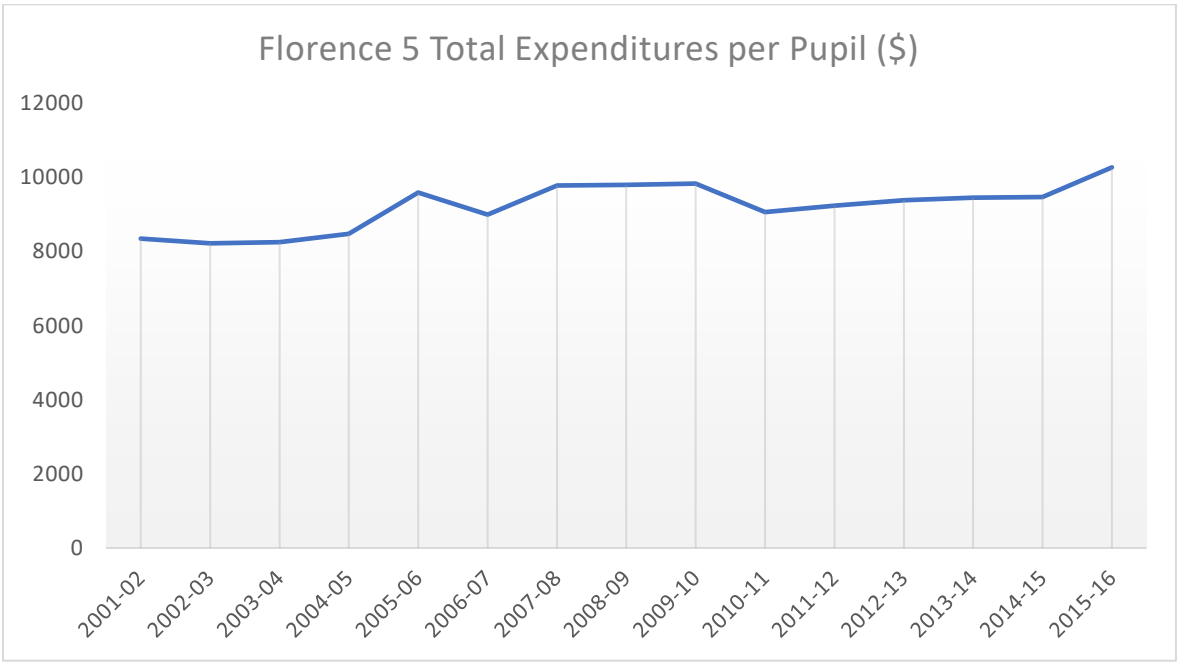

Florence 4 Total Expenditures per Pupil ($)
14000
12000
10000
8000
6000
4000
2000
0
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16

Figures A29-A32
Florence 5 District

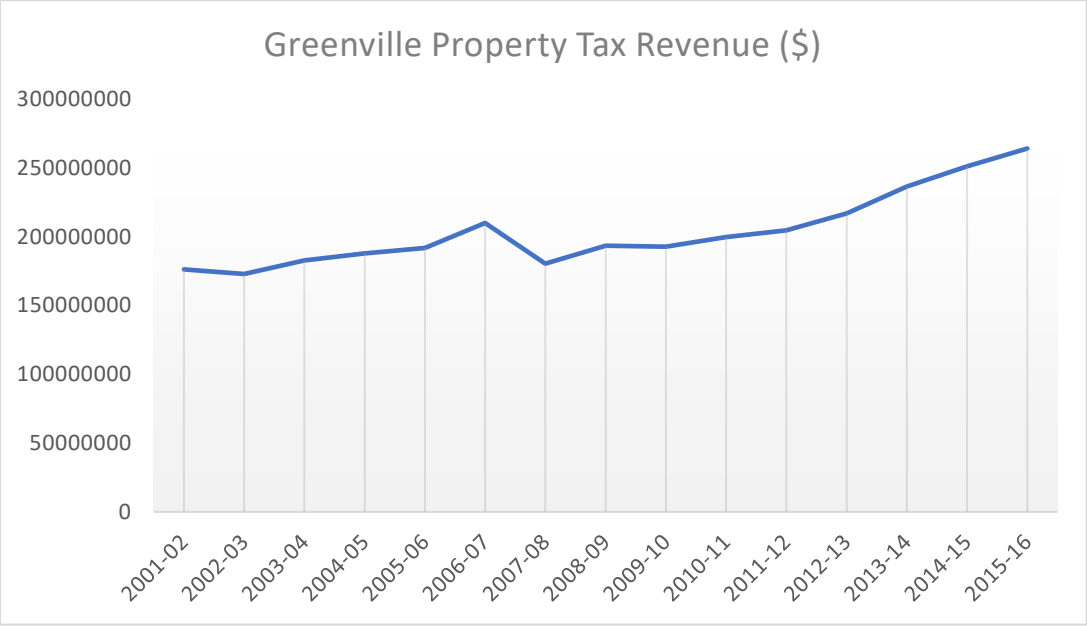


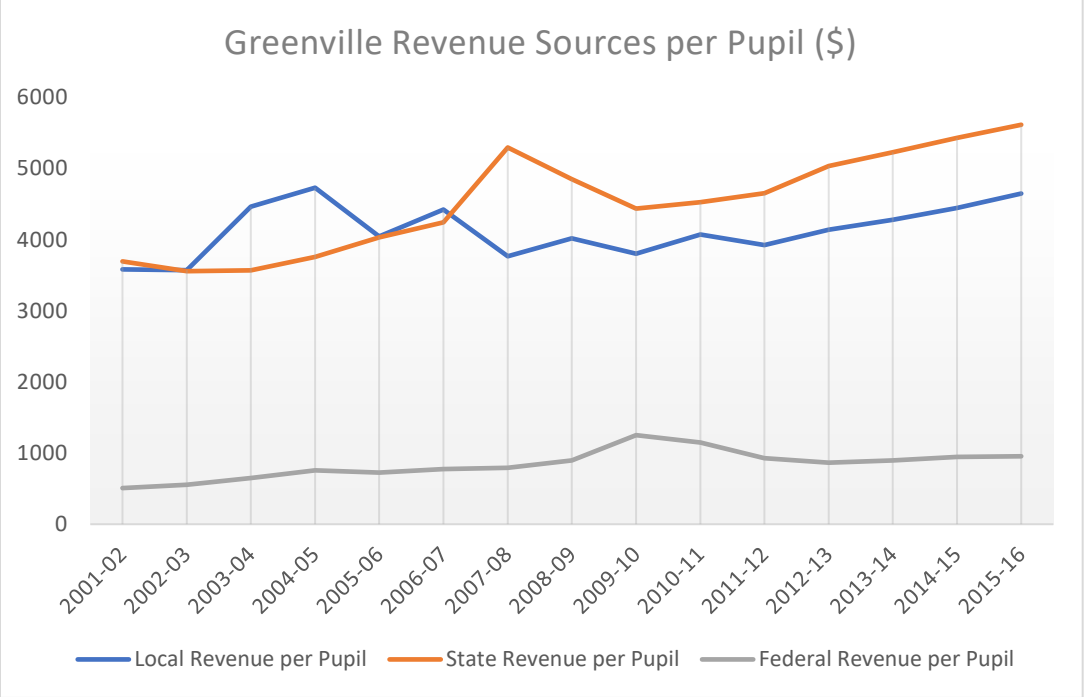


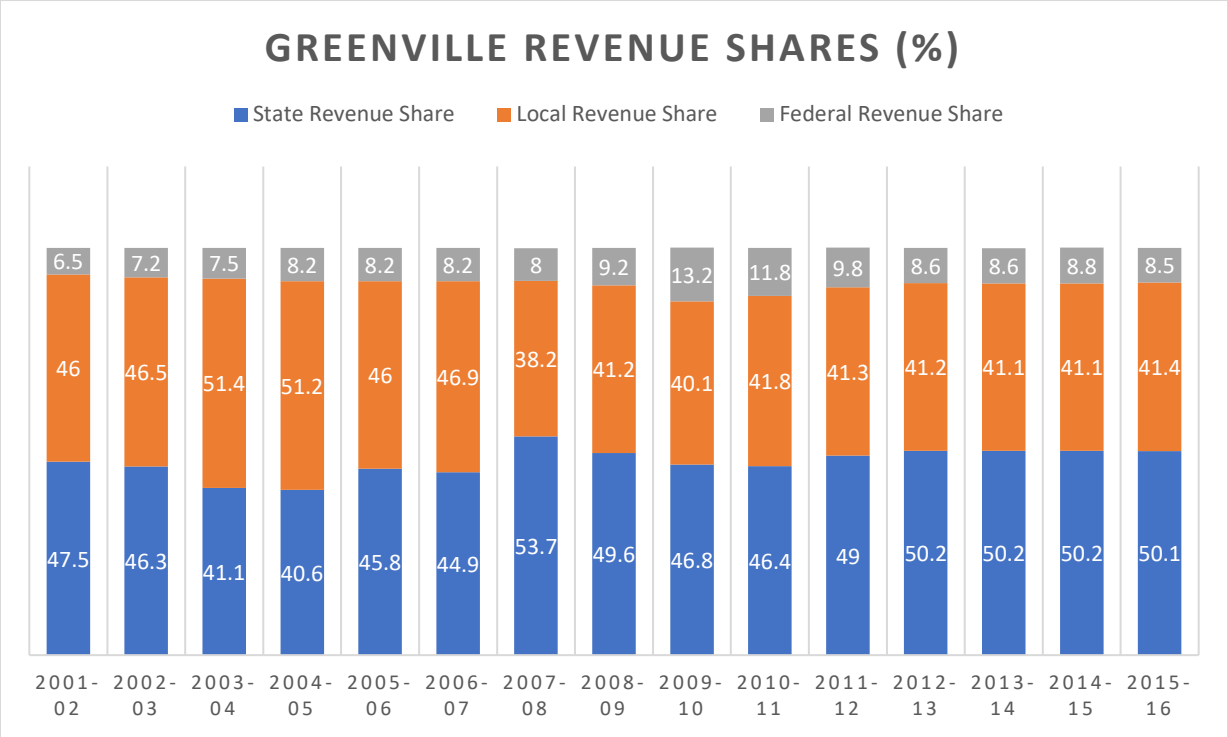

FLORENCE 5 REVENUE SHARES (%)
State Revenue Share
Local Revenue Share
Federal Revenue Share
10
34.5
55.5
9.4
37.5
53.1
11.3
38.7
50
10.6
37.7
51.7
9.2
41
49.8
9.4
39.8
50.7
8.9
36.4
54.6
9.9
34.2
56
15.4
34.6
50
14
31.4
54.7
10.7
32.3
57
10.5
30.4
59
11.5
29.3
59.2
10.4
29.5
60.1
11.3
29.1
59.6
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16

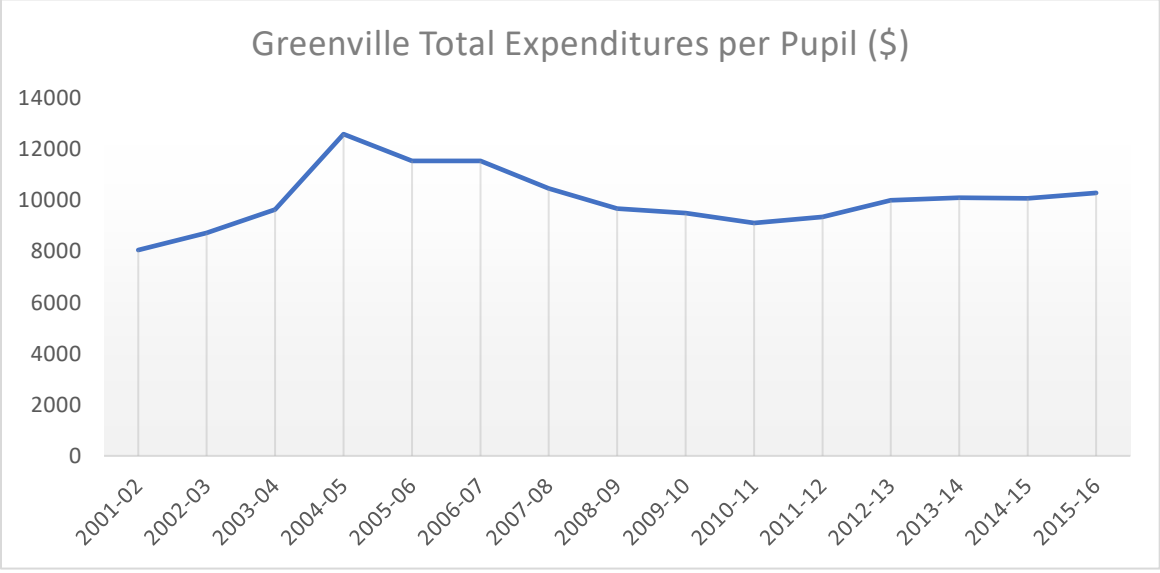

Florence 5 Total Expenditures per Pupil ($)
12000
10000
8000
6000
4000
2000
0
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16

Figures A33-A36
Greenville District

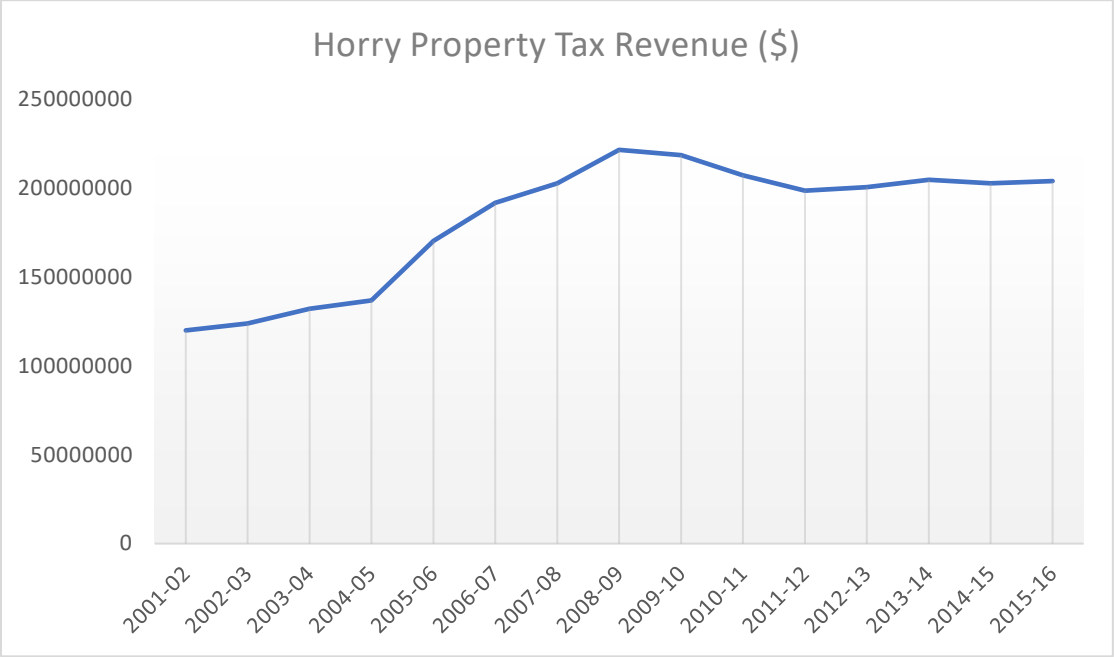


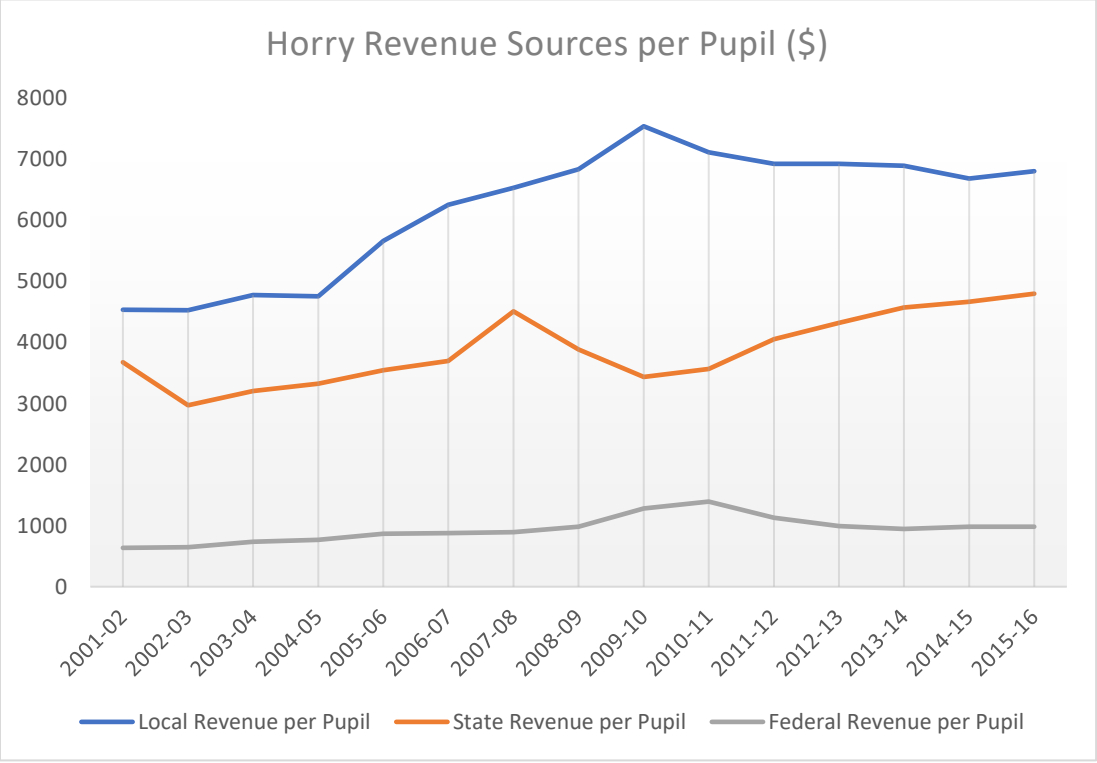


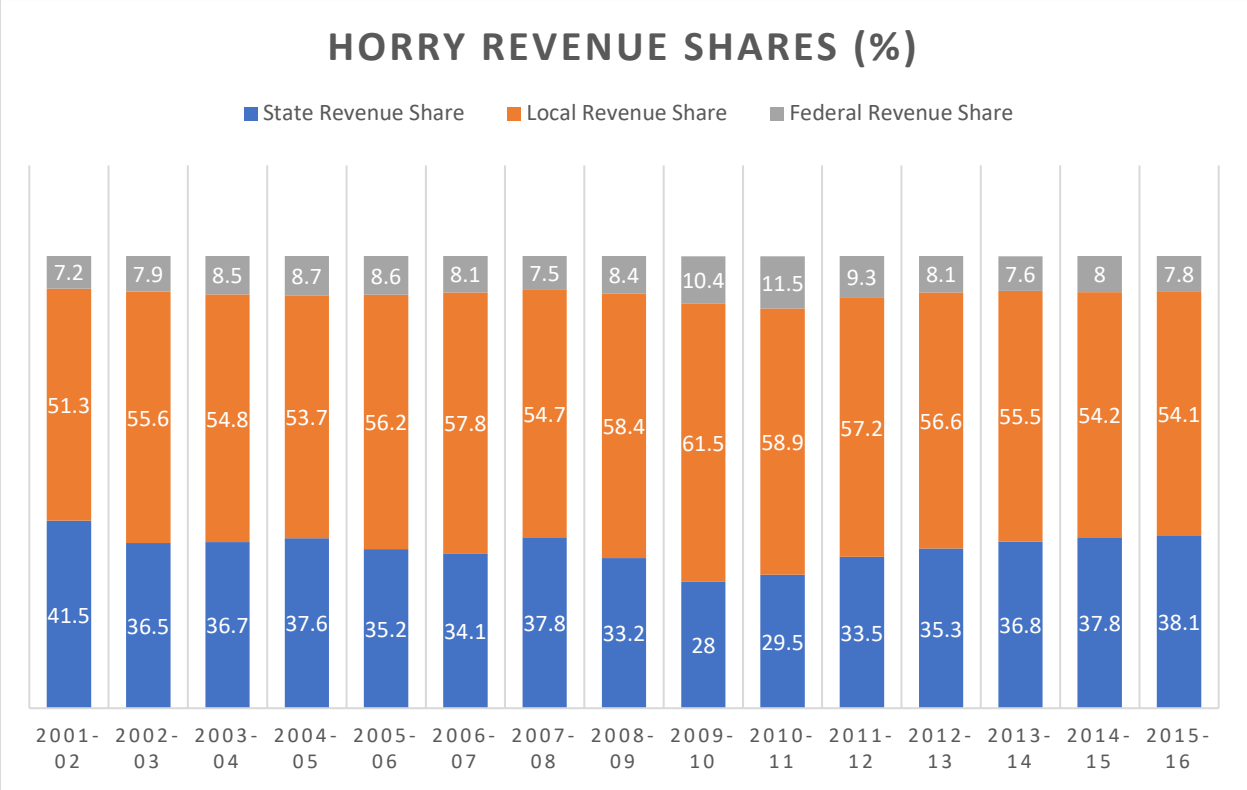

GREENVILLE REVENUE SHARES (%)
State Revenue Share
Local Revenue Share
Federal Revenue Share
6.5
46
47.5
7.2
46.5
46.3
7.5
51.4
41.1
8.2
51.2
40.6
8.2
46
45.8
8.2
46.9
44.9
8
38.2
53.7
9.2
41.2
49.6
13.2
40.1
46.8
11.8
41.8
46.4
9.8
41.3
49
8.6
41.2
50.2
8.6
41.1
50.2
8.8
41.1
50.2
8.5
41.4
50.1
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16

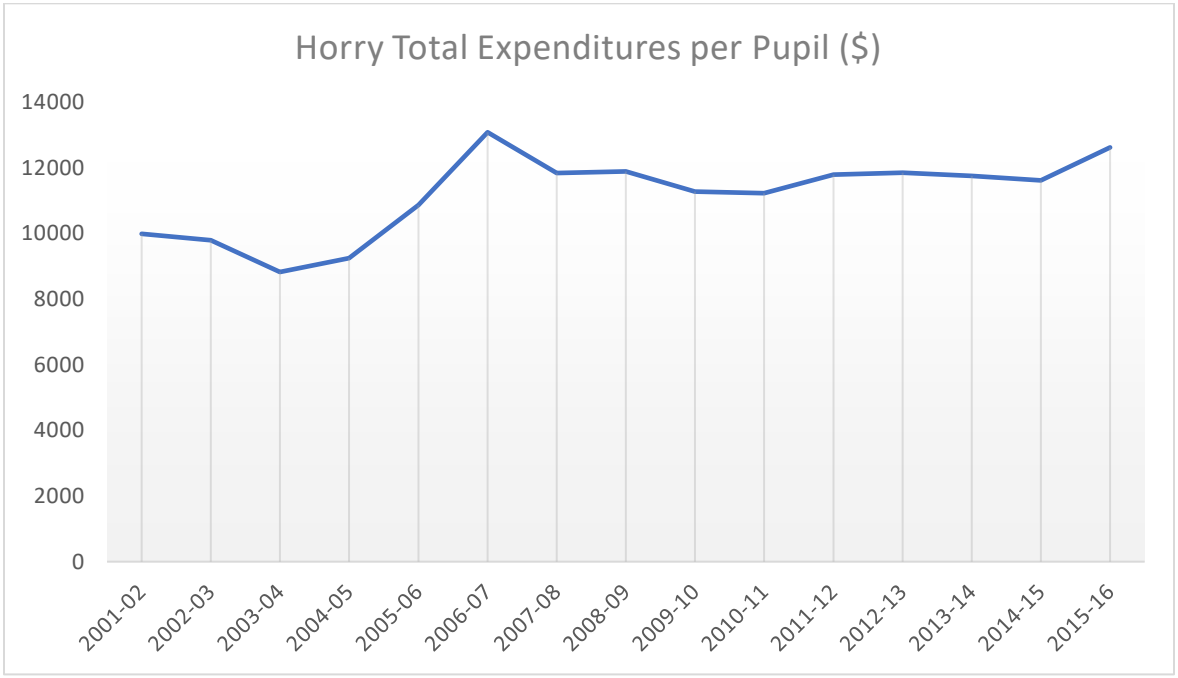

Greenville Total Expenditures per Pupil ($)
14000
12000
10000
8000
6000
4000
2000
0
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16

Figures A37-A40
Horry District

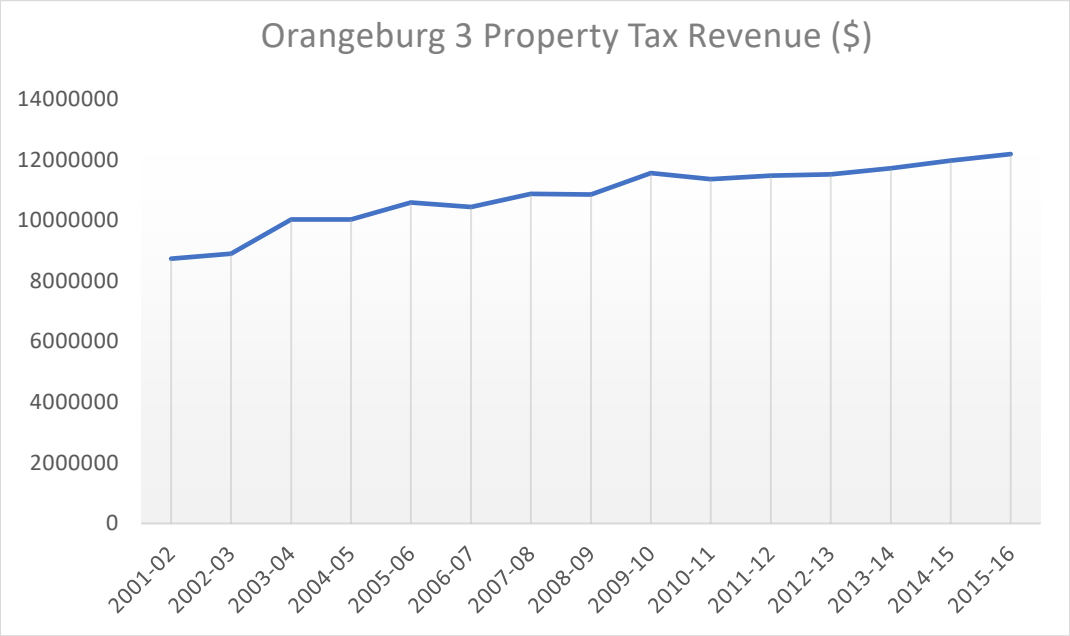


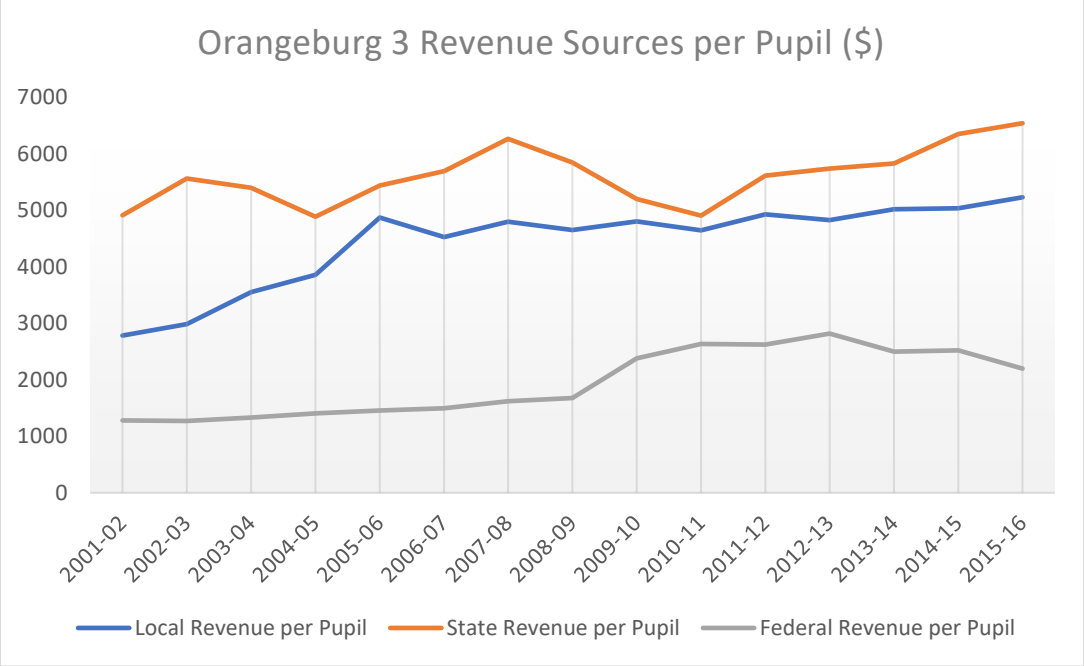


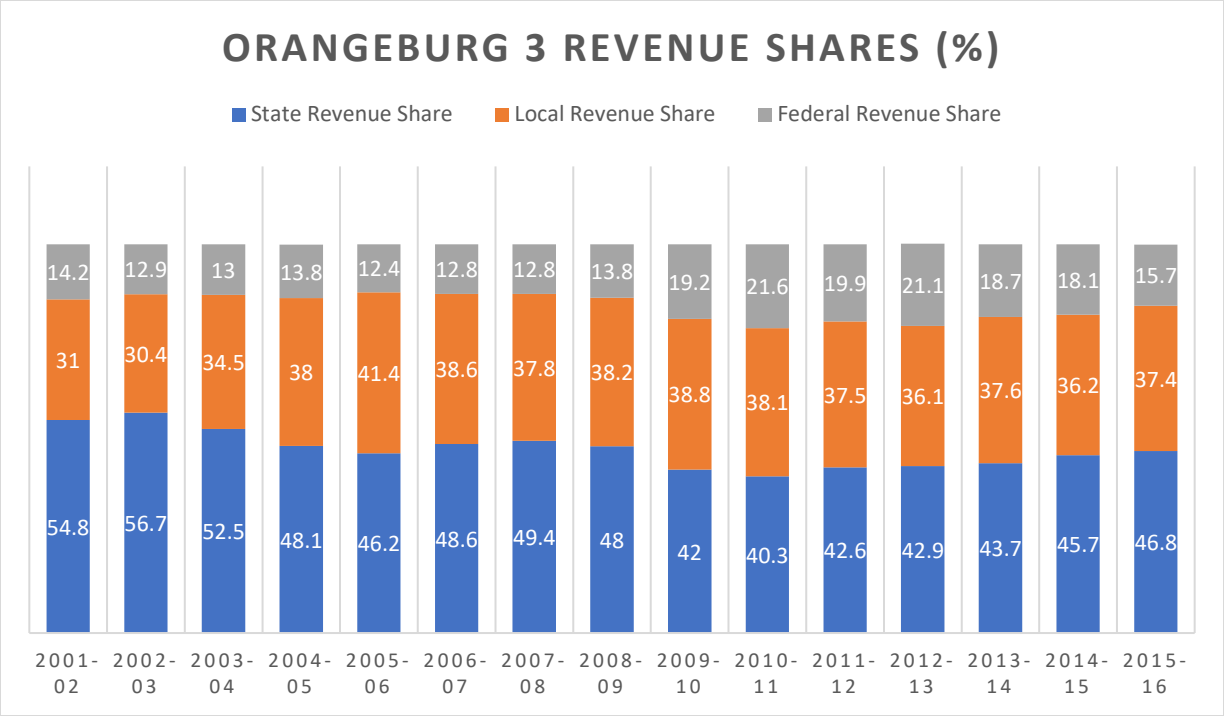

HORRY REVENUE SHARES (%)
State Revenue Share
Local Revenue Share
Federal Revenue Share
7.2
51.3
41.5
7.9
55.6
36.5
8.5
54.8
36.7
8.7
53.7
37.6
8.6
56.2
35.2
8.1
57.8
34.1
7.5
54.7
37.8
8.4
58.4
33.2
10.4
61.5
28
11.5
58.9
29.5
9.3
57.2
33.5
8.1
56.6
35.3
7.6
55.5
36.8
8
54.2
37.8
7.8
54.1
38.1
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16

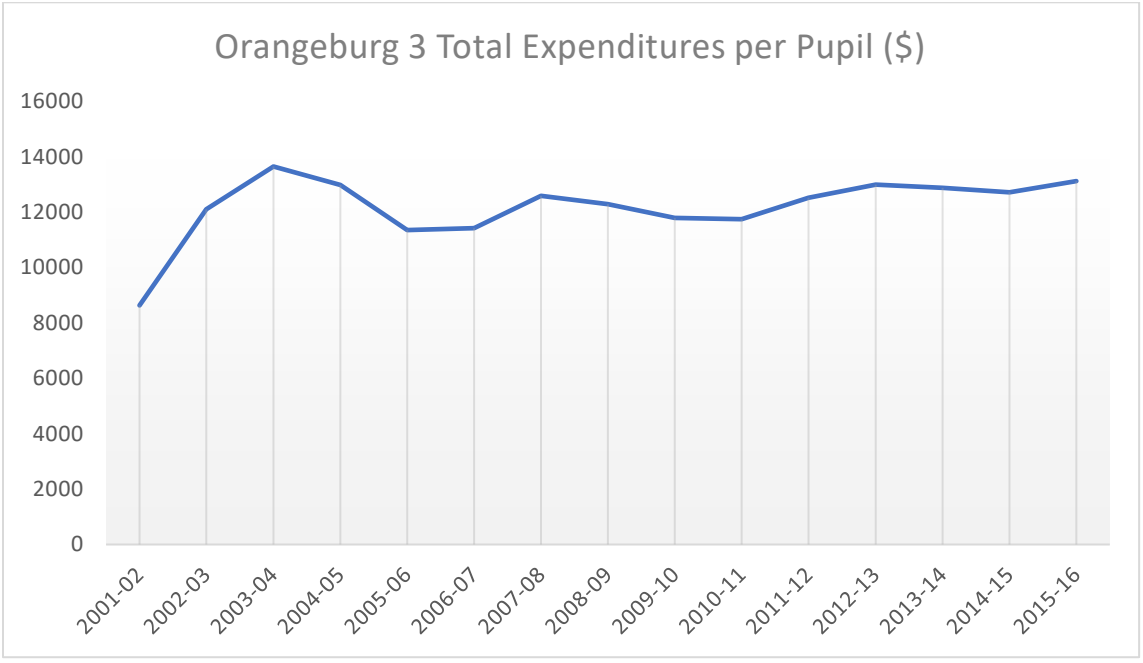

Horry Total Expenditures per Pupil ($)
14000
12000
10000
8000
6000
4000
2000
0
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16

Figures A41-A44
Orangeburg 3 District

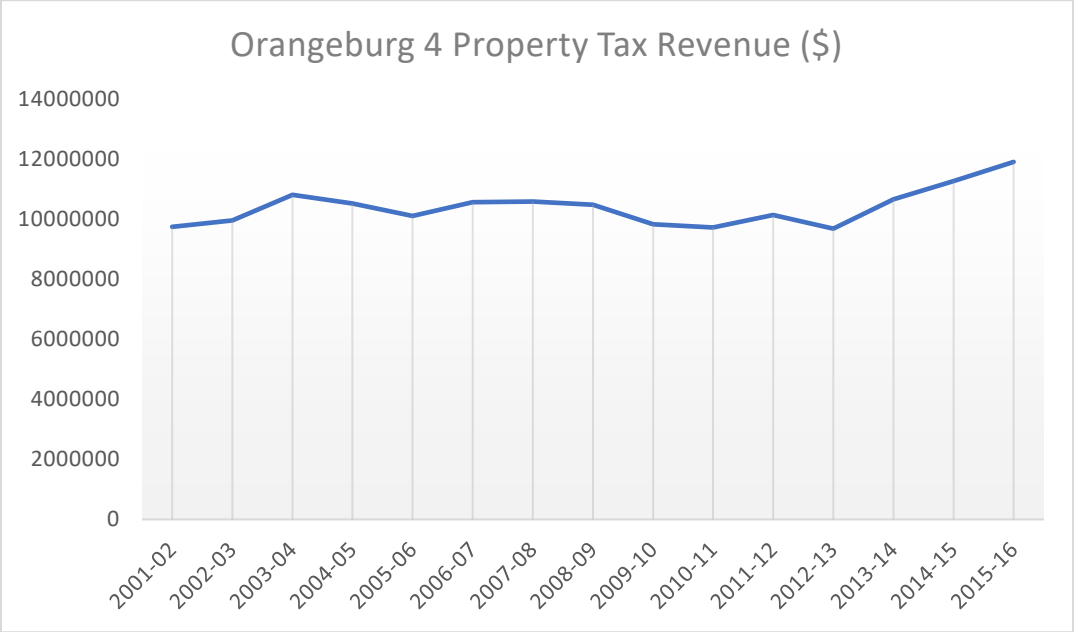


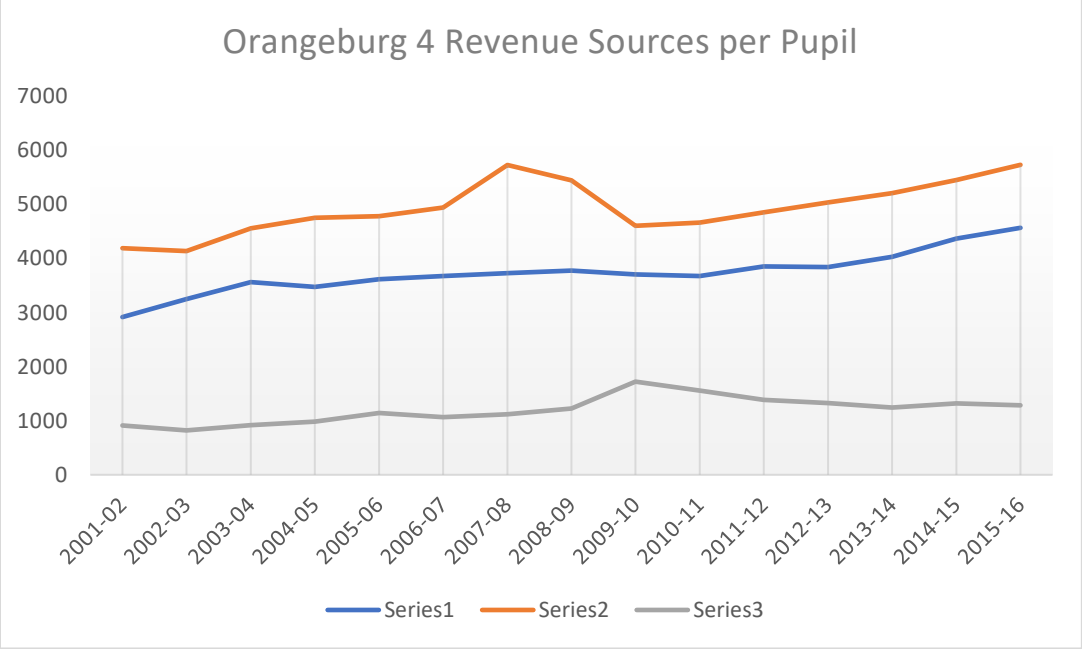


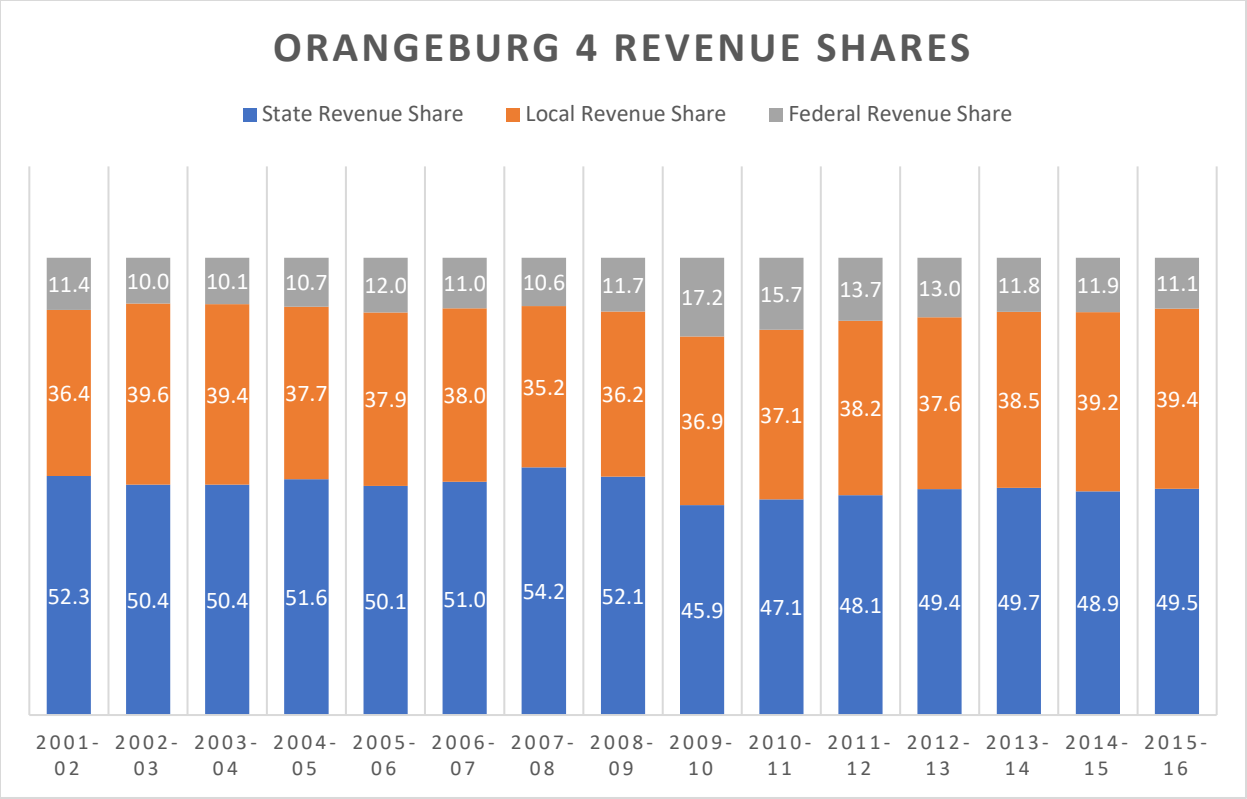

ORANGEBURG 3 REVENUE SHARES (%)
State Revenue Share
Local Revenue Share
Federal Revenue Share
14.2
31
54.8
12.9
30.4
56.7
13
34.5
52.5
13.8
38
48.1
12.4
41.4
46.2
12.8
38.6
48.6
12.8
37.8
49.4
13.8
38.2
48
19.2
38.8
42
21.6
38.1
40.3
19.9
37.5
42.6
21.1
36.1
42.9
18.7
37.6
43.7
18.1
36.2
45.7
15.7
37.4
46.8
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16

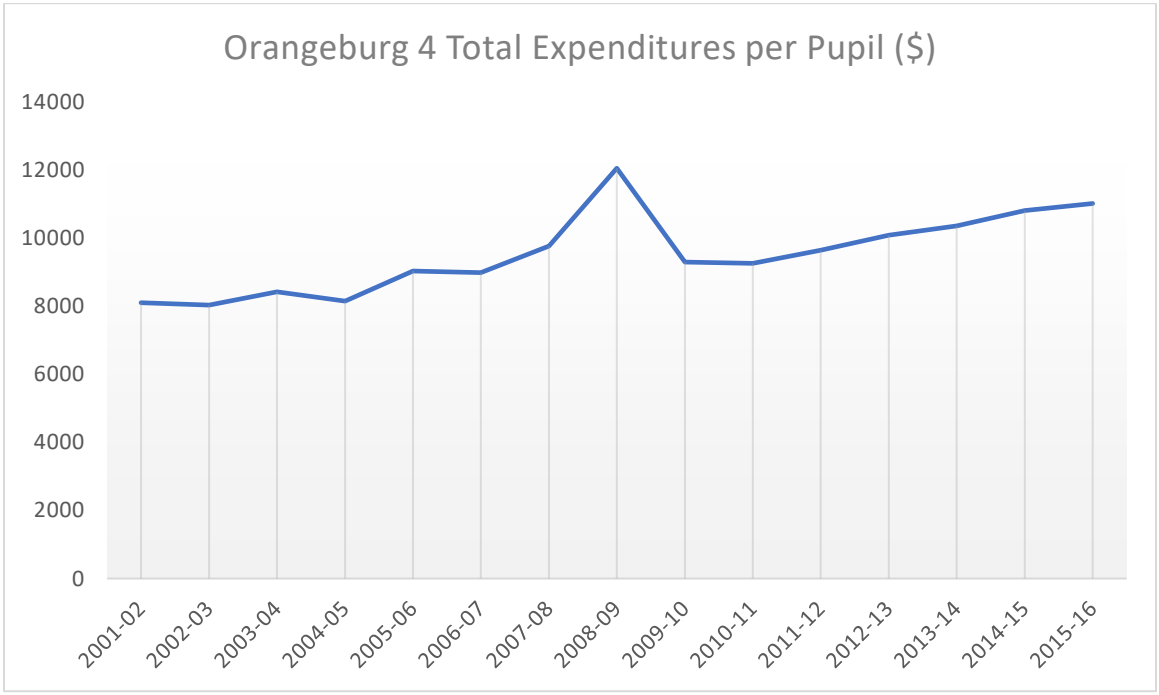

Orangeburg 3 Total Expenditures per Pupil ($)
16000
14000
12000
10000
8000
6000
4000
2000
0
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16

Figures A45-A48
Orangeburg 4 District

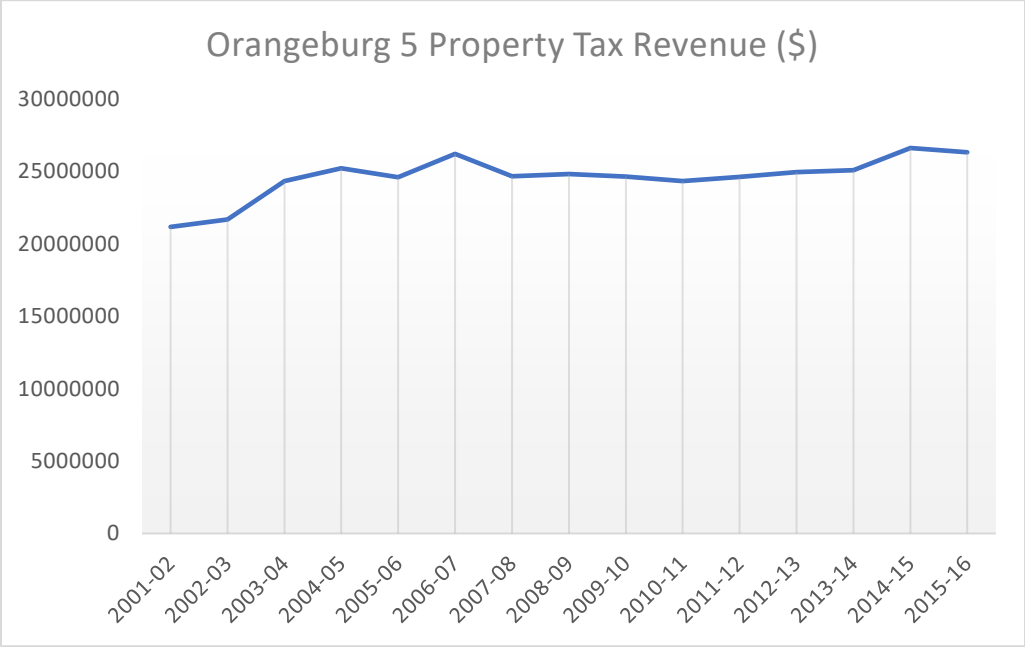


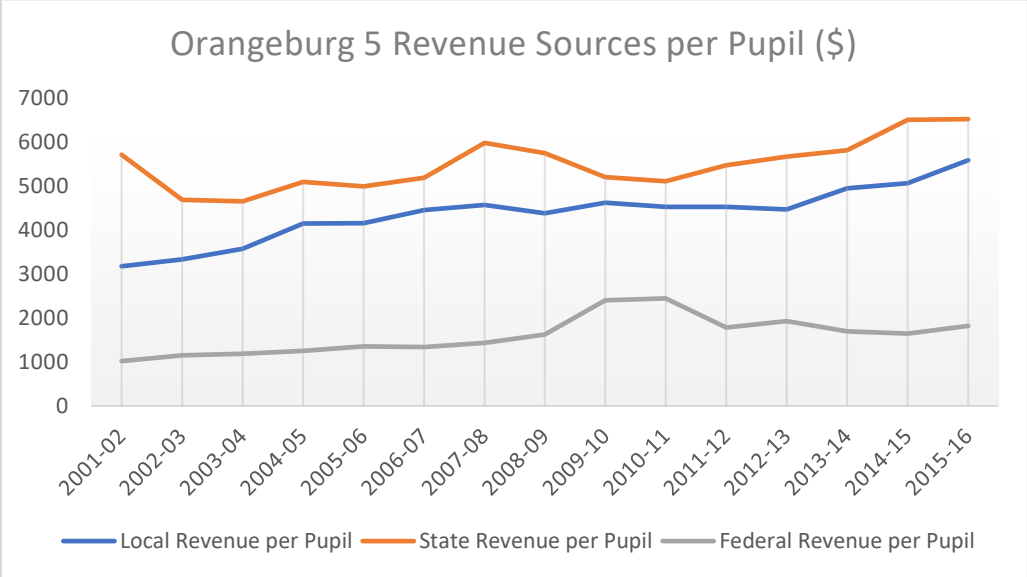


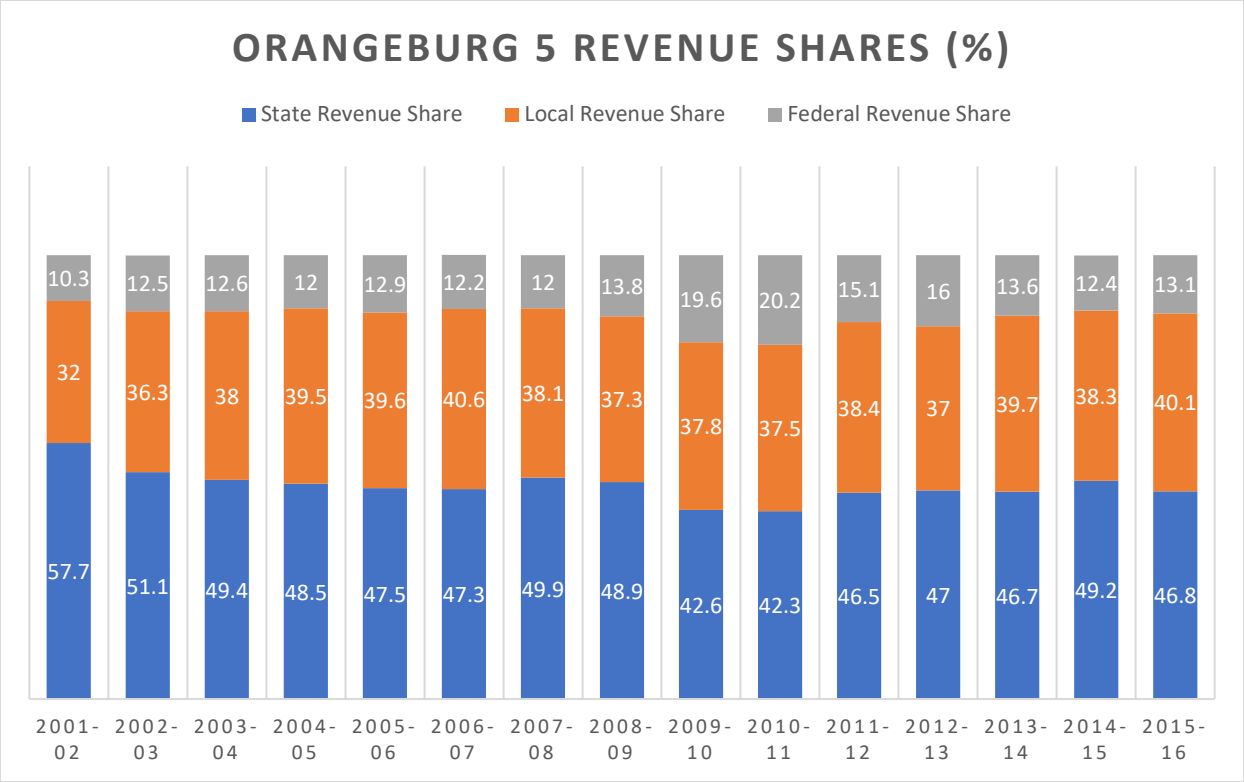

ORANGEBURG 4 REVENUE SHARES
State Revenue Share
Local Revenue Share
Federal Revenue Share
11.4 10.0 10.1 10.7 12.0 11.0 10.6 11.7 17.2 15.7 13.7 13.0 11.8 11.9 11.1
36.4 39.6 39.4 37.7 37.9 38.0 35.2 36.2 36.9 37.1 38.2 37.6 38.5 39.2 39.4
52.3 50.4 50.4 51.6 50.1 51.0 54.2 52.1 45.9 47.1 48.1 49.4 49.7 48.9 49.5
2001-02 2002-03 2003-04 2004-05 2005-06 2006-07 2007-08 2008-09 2009-10 2010-11 2011-12 2012-13 2013-14 2014-15 2015-16

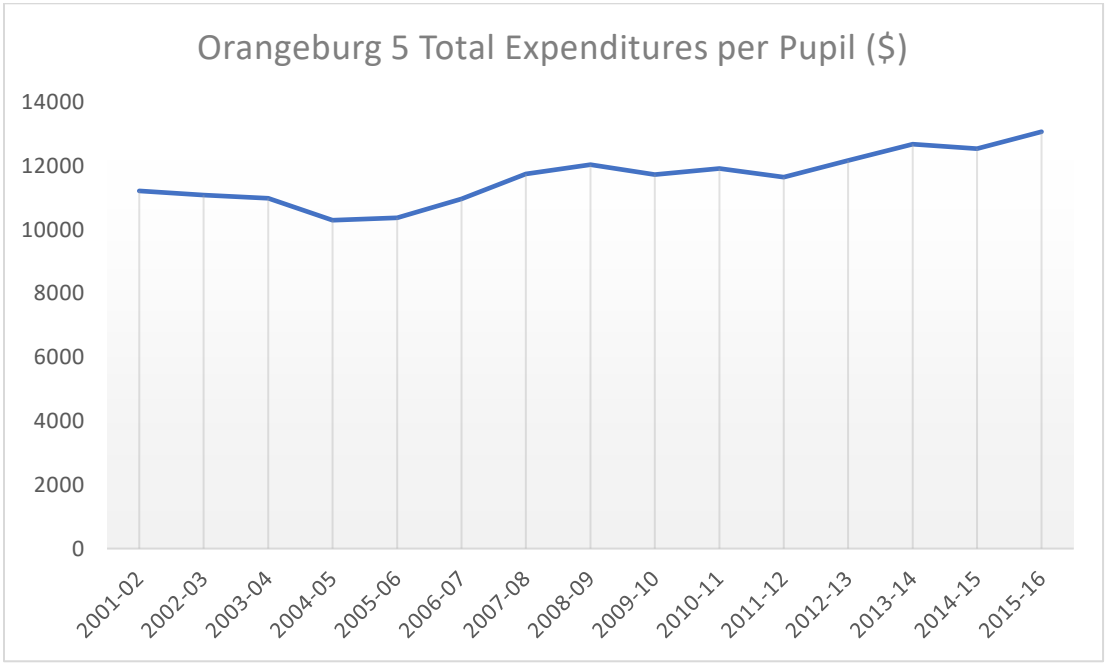

Orangeburg 4 Total Expenditures per Pupil ($)
14000
12000
10000
8000
6000
4000
2000
0
2001-02 2002-03 2003-04 2004-05 2005-06 2006-07 2007-08 2008-09 2009-10 2010-11 2011-12 2012-13 2013-14 2014-15 2015-16

Figures A49-A52
Orangeburg 5 District

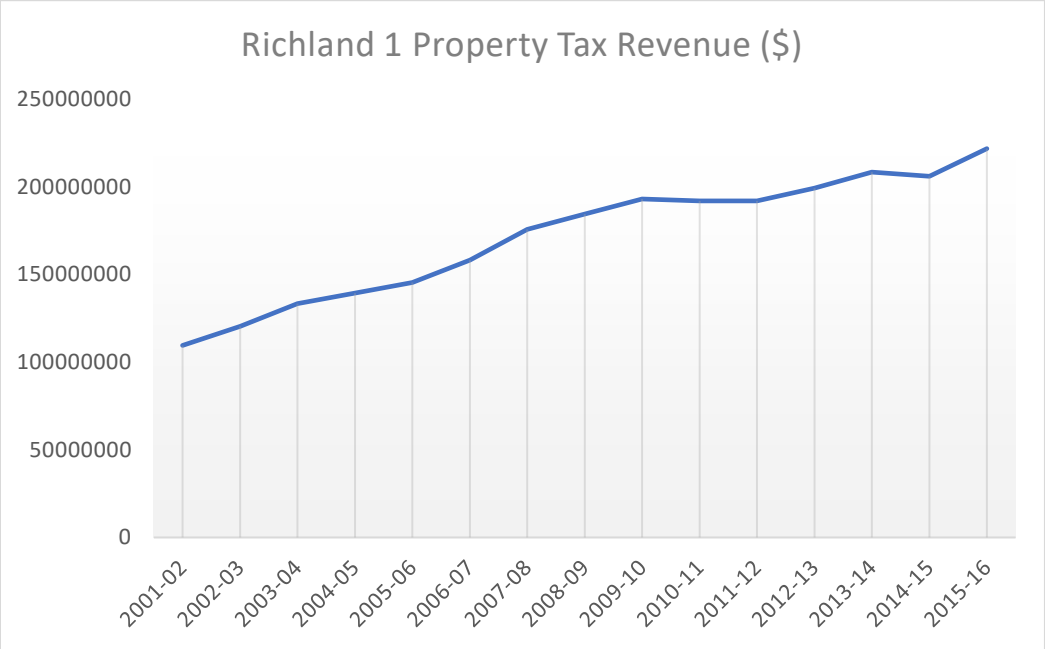


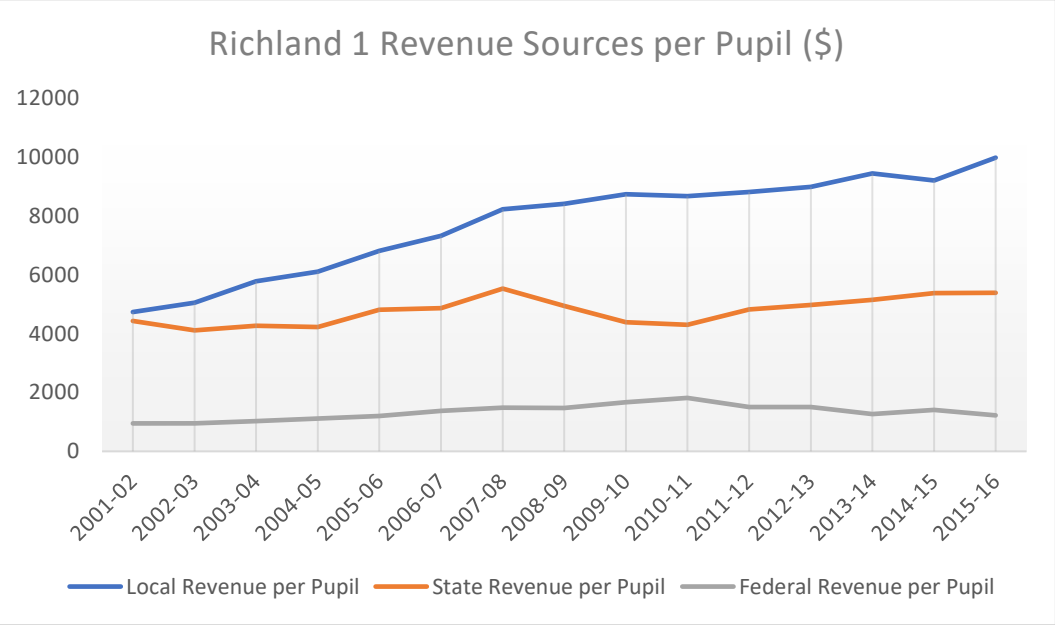


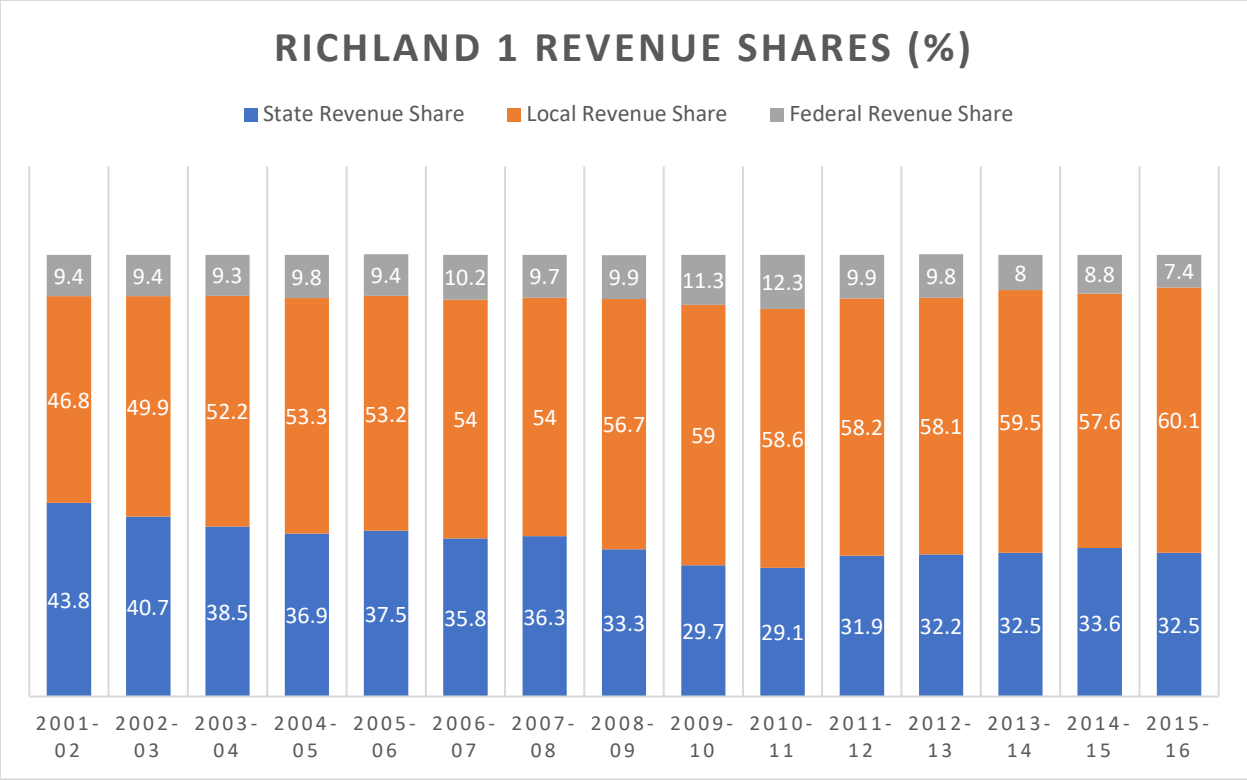

ORANGEBURG 5 REVENUE SHARES (%)
State Revenue Share
Local Revenue Share
Federal Revenue Share
10.3
32
57.7
12.5
36.3
51.1
12.6
38
49.4
12
39.5
48.5
12.9
39.6
47.5
12.2
40.6
47.3
12
38.1
49.9
13.8
37.3
48.9
19.6
37.8
42.6
20.2
37.5
42.3
15.1
38.4
46.5
16
37
47
13.6
39.7
46.7
12.4
38.3
49.2
13.1
40.1
46.8
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16

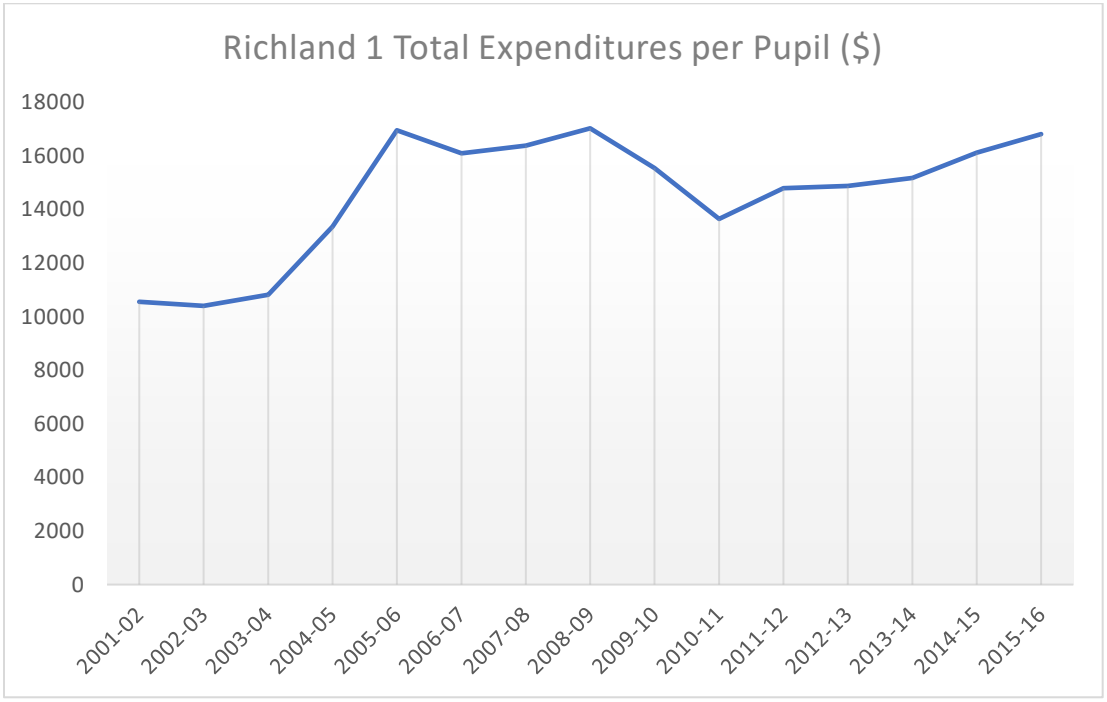

Orangeburg 5 Total Expenditures per Pupil ($)
14000
12000
10000
8000
6000
4000
2000
0
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16

Figures A53-A56
Richland 1 District

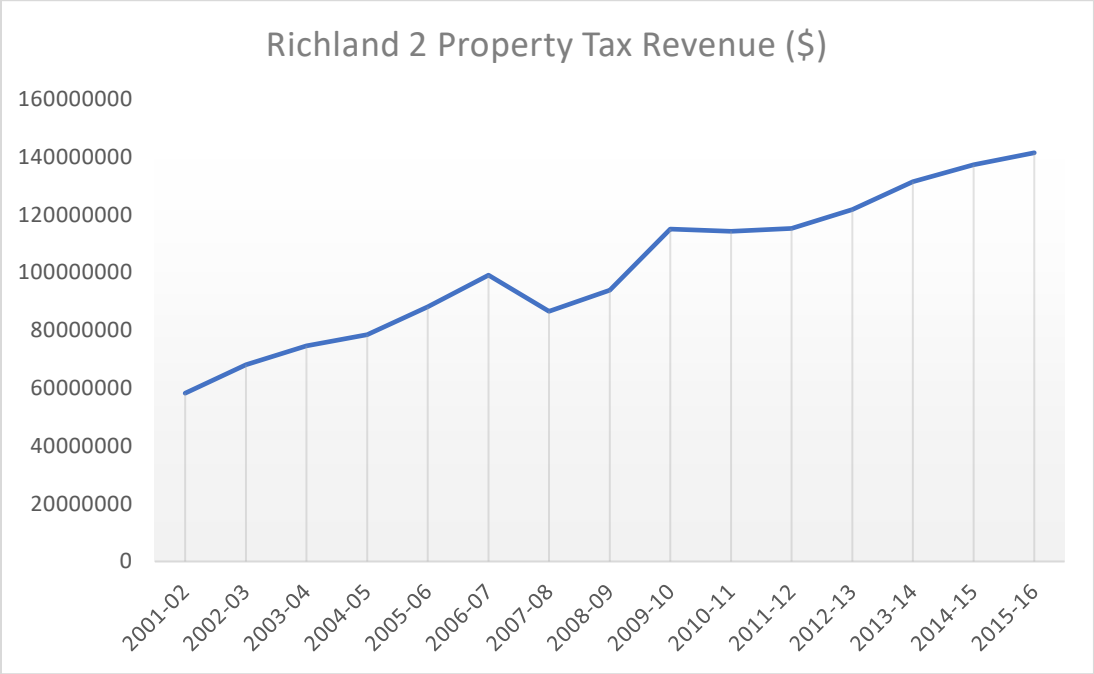


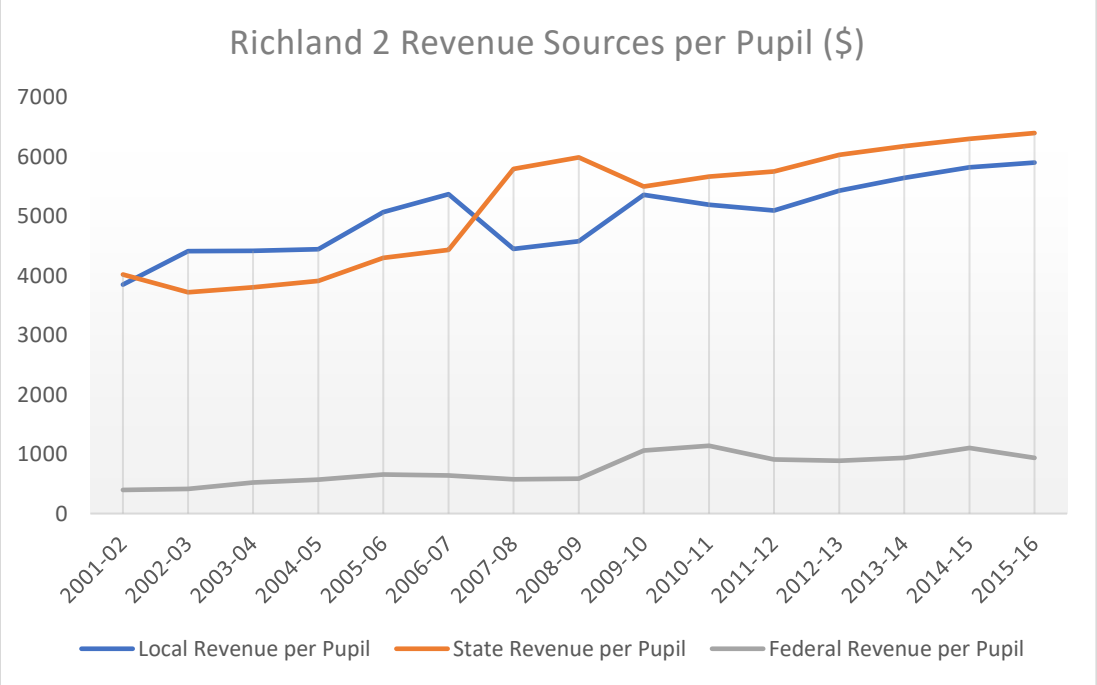


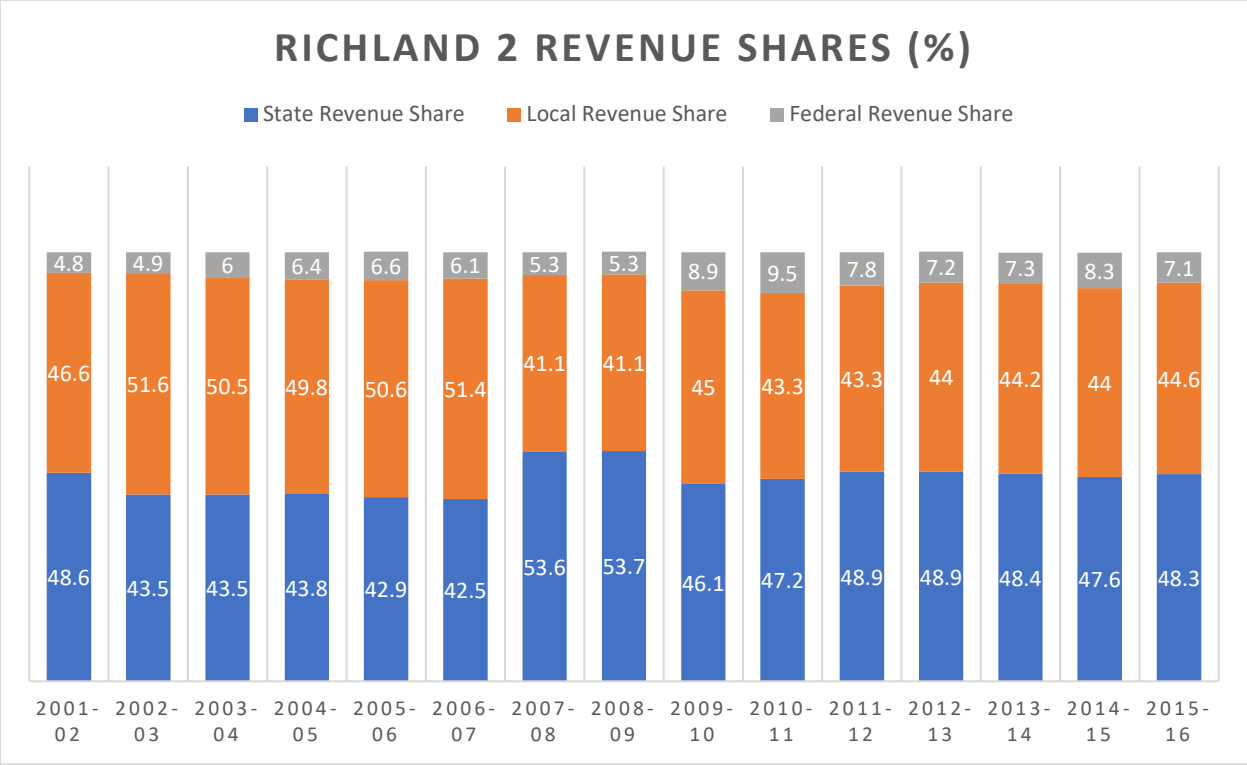

RICHLAND 1 REVENUE SHARES (%)
State Revenue Share
Local Revenue Share
Federal Revenue Share
9.4 9.4 9.3 9.8 9.4 10.2 9.7 9.9 11.3 12.3 9.9 9.8 8 8.8 7.4
46.8 49.9 52.2 53.3 53.2 54 54 56.7 59 58.6 58.2 58.1 59.5 57.6 60.1
43.8 40.7 38.5 36.9 37.5 35.8 36.3 33.3 29.7 29.1 31.9 32.2 32.5 33.6 32.5
2001-02 2002-03 2003-04 2004-05 2005-06 2006-07 2007-08 2008-09 2009-10 2010-11 2011-12 2012-13 2013-14 2014-15 2015-16

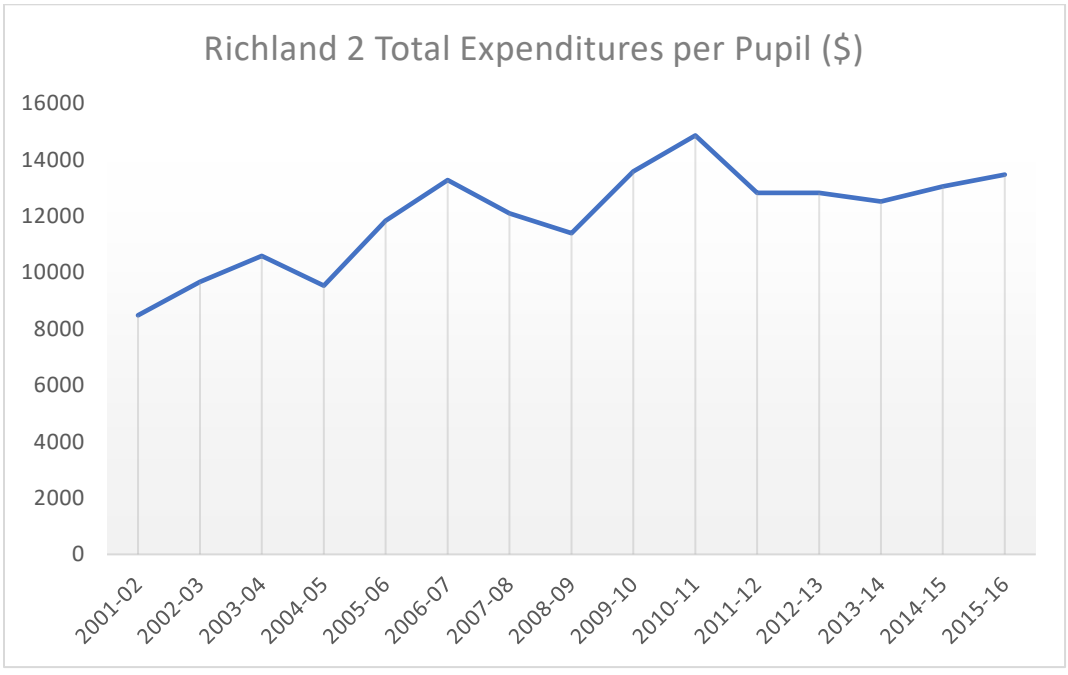

Richland 1 Total Expenditures per Pupil ($)
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
2001-02 2002-03 2003-04 2004-05 2005-06 2006-07 2007-08 2008-09 2009-10 2010-11 2011-12 2012-13 2013-14 2014-15 2015-16

Figures A57-A60
Richland 1 District

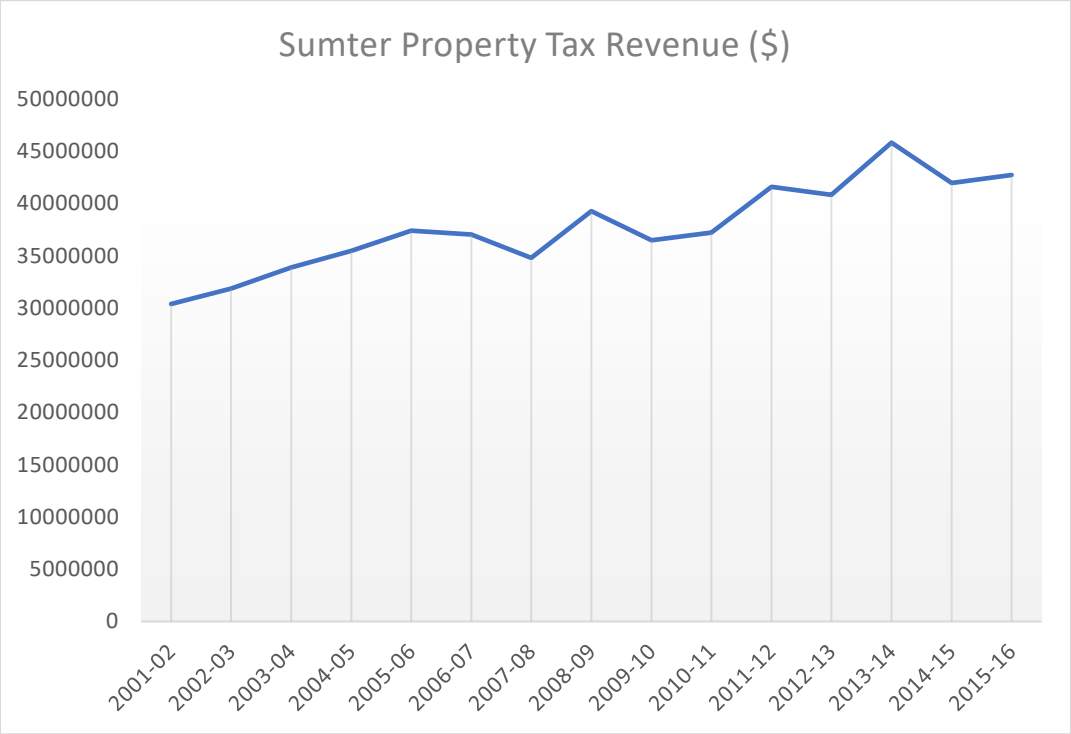


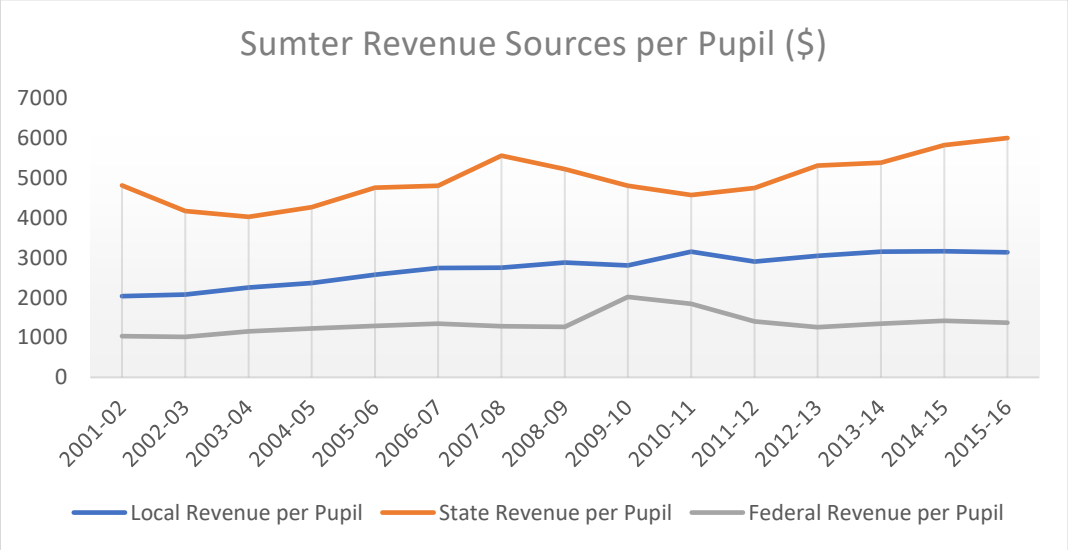


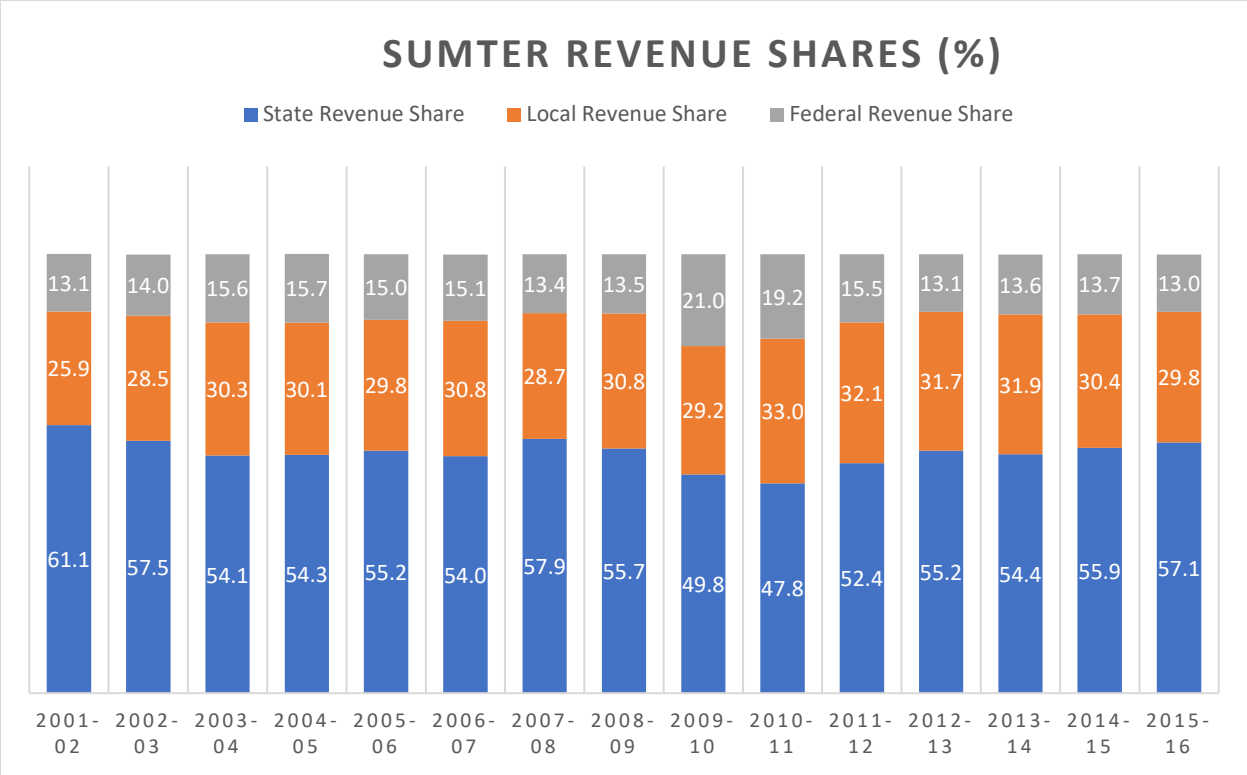

RICHLAND 2 REVENUE SHARES (%)
State Revenue Share
Local Revenue Share
Federal Revenue Share
4.8
46.6
48.6
4.9
51.6
43.5
6
50.5
43.5
6.4
49.8
43.8
6.6
50.6
42.9
6.1
51.4
42.5
5.3
41.1
53.6
5.3
41.1
53.7
8.9
45
46.1
9.5
43.3
47.2
7.8
43.3
48.9
7.2
44
48.9
7.3
44.2
48.4
8.3
44
47.6
7.1
44.6
48.3
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16

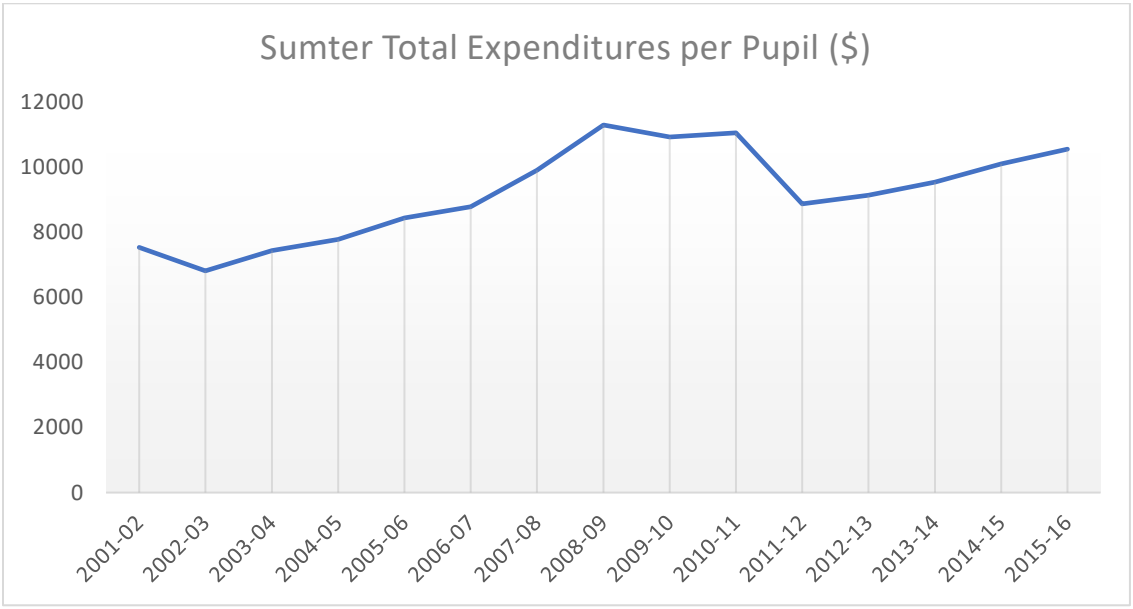

Richland 2 Total Expenditures per Pupil ($)
16000
14000
12000
10000
8000
6000
4000
2000
0
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16

Figures A61-A64
Sumter 1 District

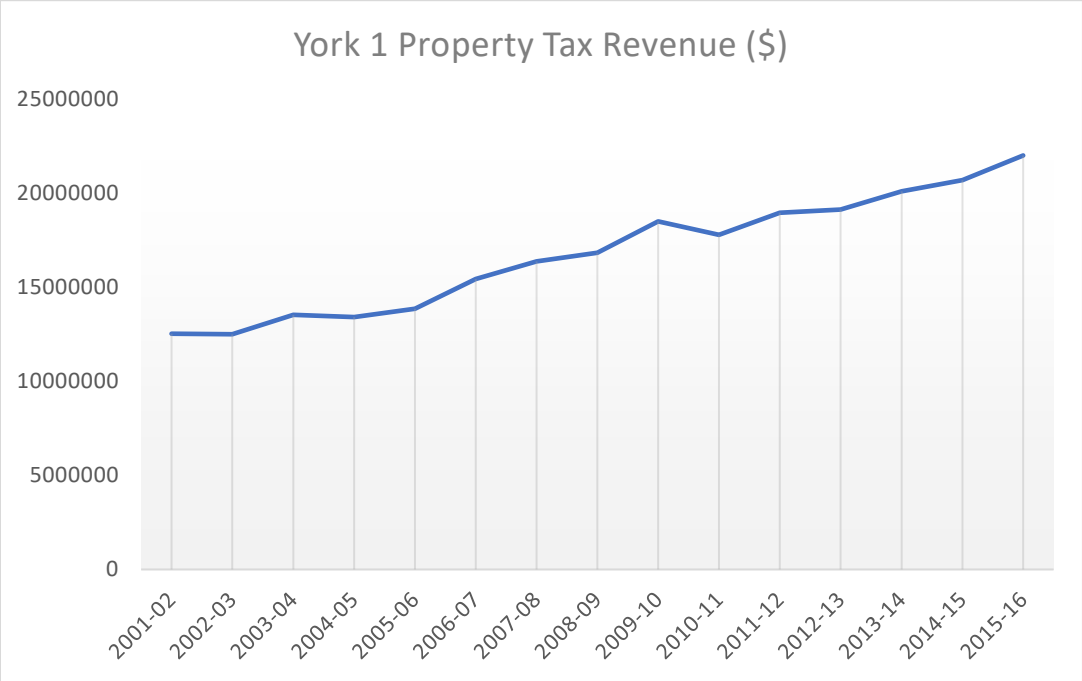


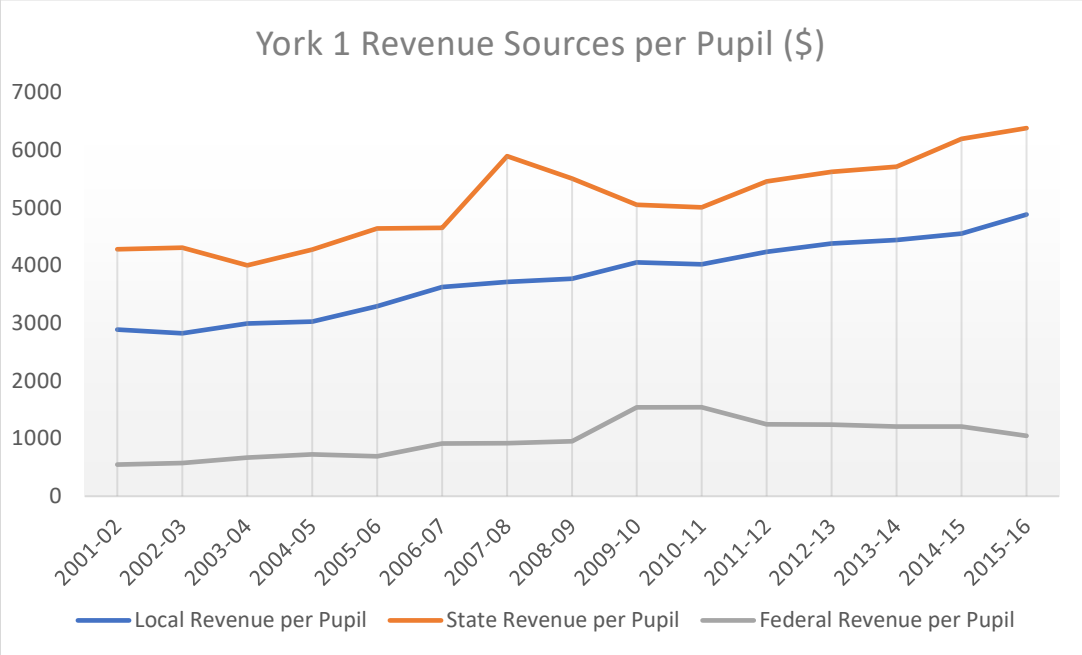


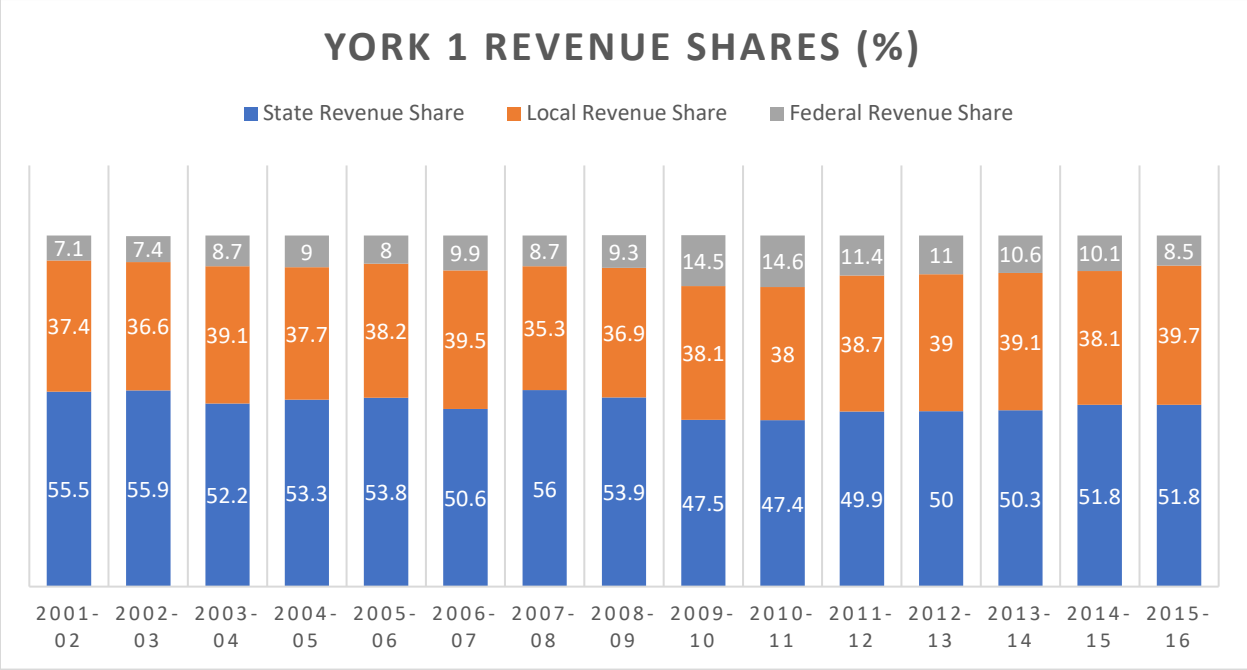

SUMTER REVENUE SHARES (%)
State Revenue Share
Local Revenue Share
Federal Revenue Share
13.1 14.0 15.6 15.7 15.0 15.1 13.4 13.5 21.0 19.2 15.5 13.1 13.6 13.7 13.0
25.9 28.5 30.3 30.1 29.8 30.8 28.7 30.8 29.2 33.0 32.1 31.7 31.9 30.4 29.8
61.1 57.5 54.1 54.3 55.2 54.0 57.9 55.7 49.8 47.8 52.4 55.2 54.4 55.9 57.1
2001-02 2002-03 2003-04 2004-05 2005-06 2006-07 2007-08 2008-09 2009-10 2010-11 2011-12 2012-13 2013-14 2014-15 2015-16

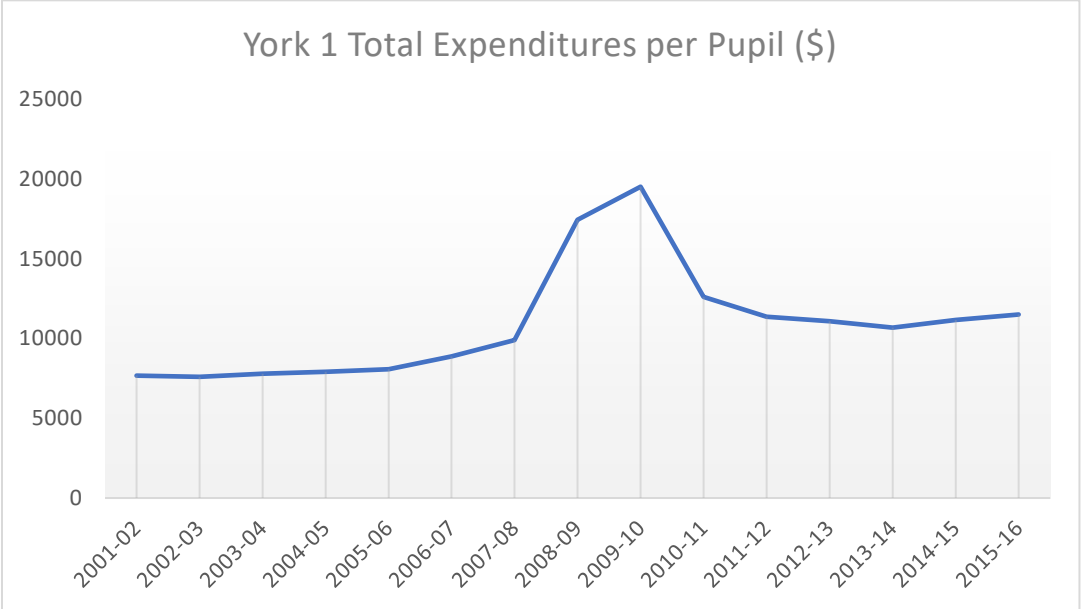

Sumter Total Expenditures per Pupil ($)
12000
10000
8000
6000
4000
2000
0
2001-02 2002-03 2003-04 2004-05 2005-06 2006-07 2007-08 2008-09 2009-10 2010-11 2011-12 2012-13 2013-14 2014-15 2015-16

Figures A65-A68
York 1 District

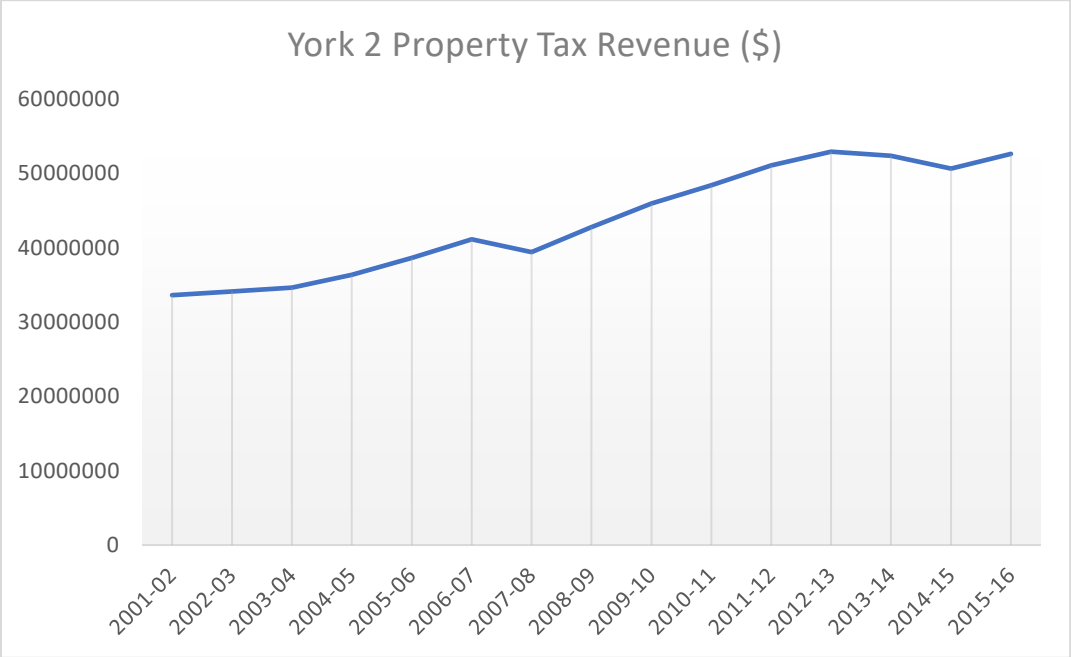


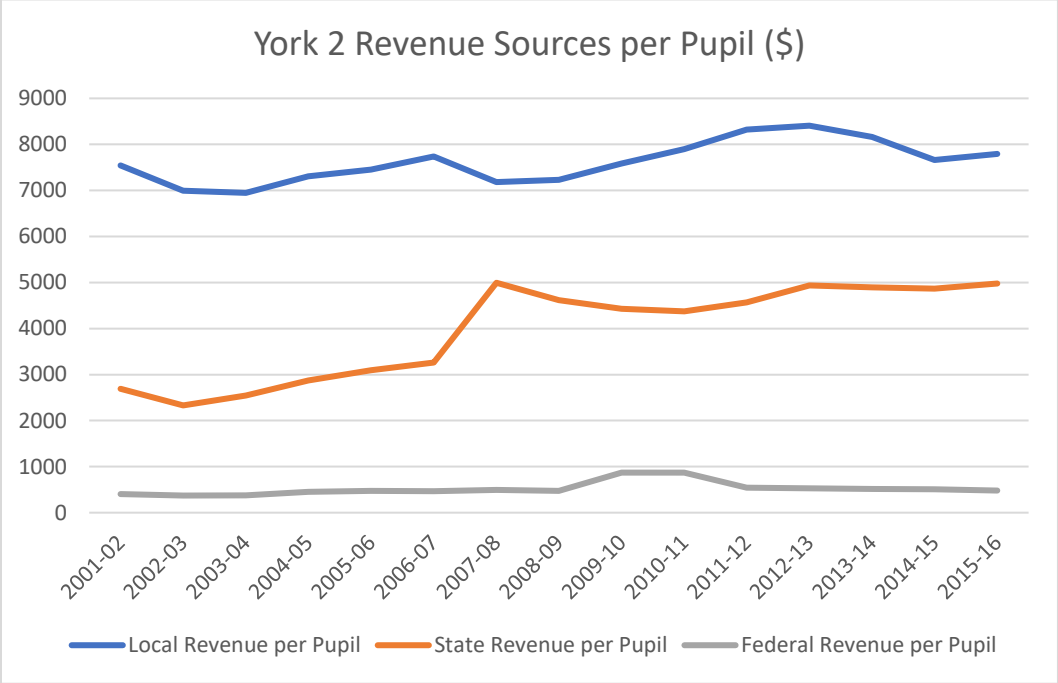


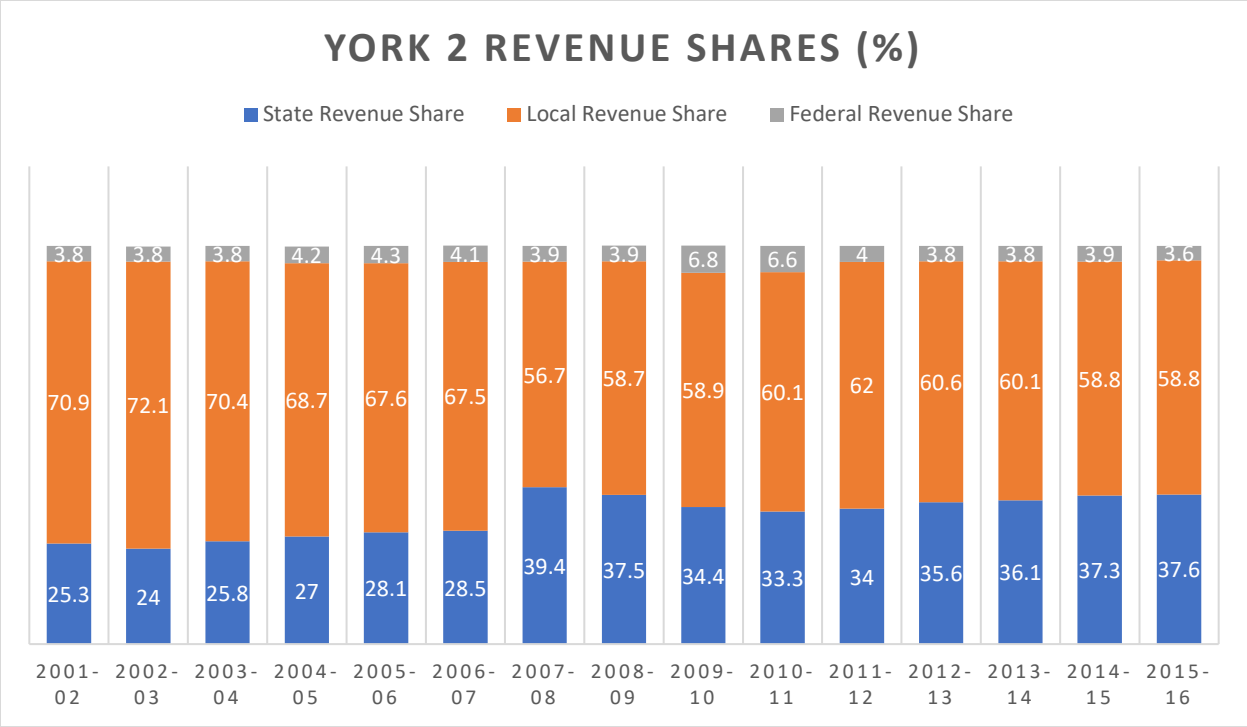

YORK 1 REVENUE SHARES (%)
State Revenue Share
Local Revenue Share
Federal Revenue Share
7.1
37.4
55.5
7.4
36.6
55.9
8.7
39.1
52.2
9
37.7
53.3
8
38.2
53.8
9.9
39.5
50.6
8.7
35.3
56
9.3
36.9
53.9
14.5
38.1
47.5
14.6
38
47.4
11.4
38.7
49.9
11
39
50
10.6
39.1
50.3
10.1
38.1
51.8
8.5
39.7
51.8
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16

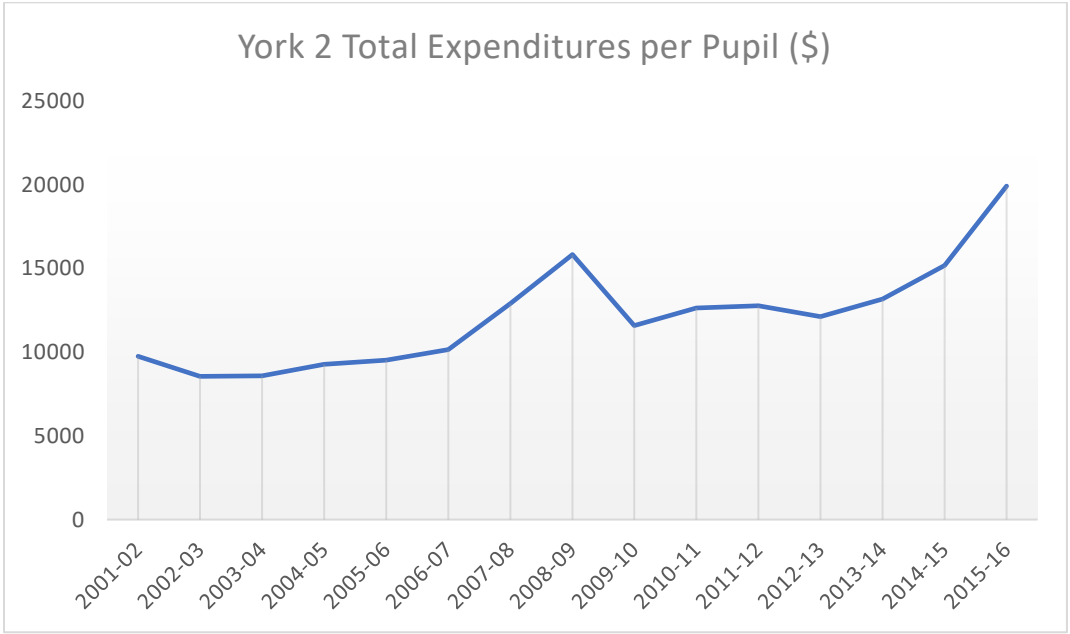

York 1 Total Expenditures per Pupil ($)
25000
20000
15000
10000
5000
0
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16

Figures A69-A72
York 2 District

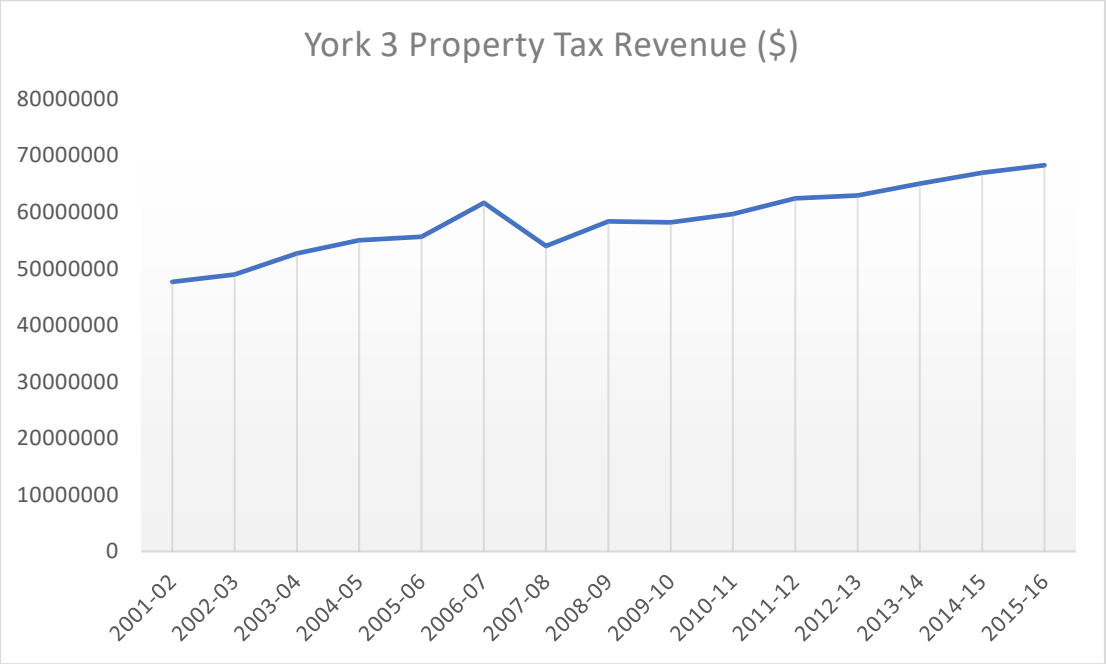


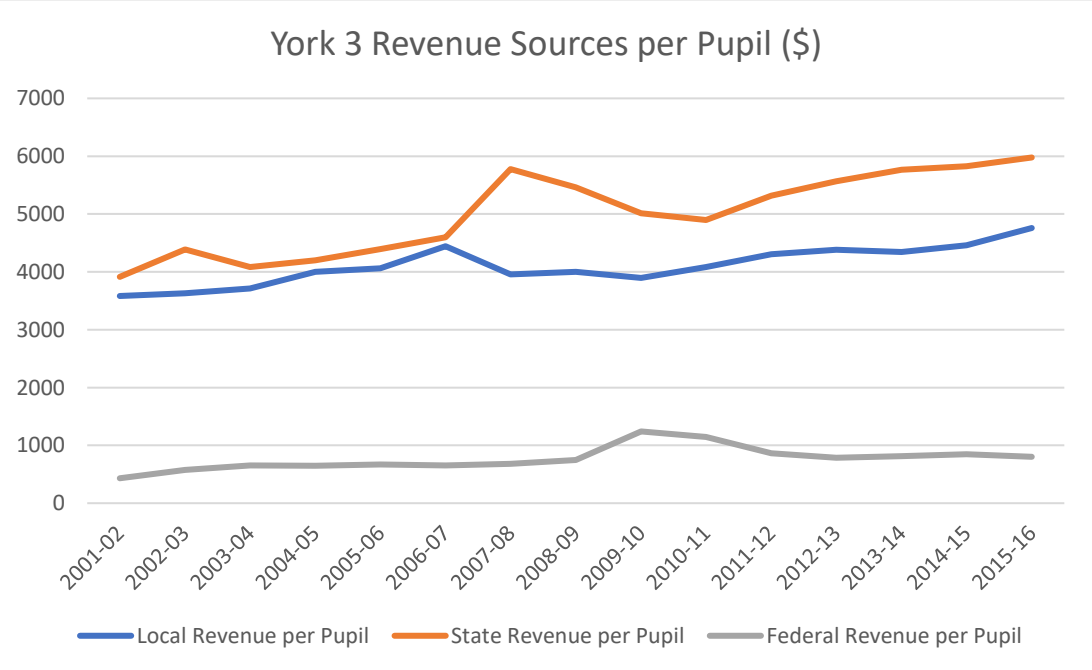


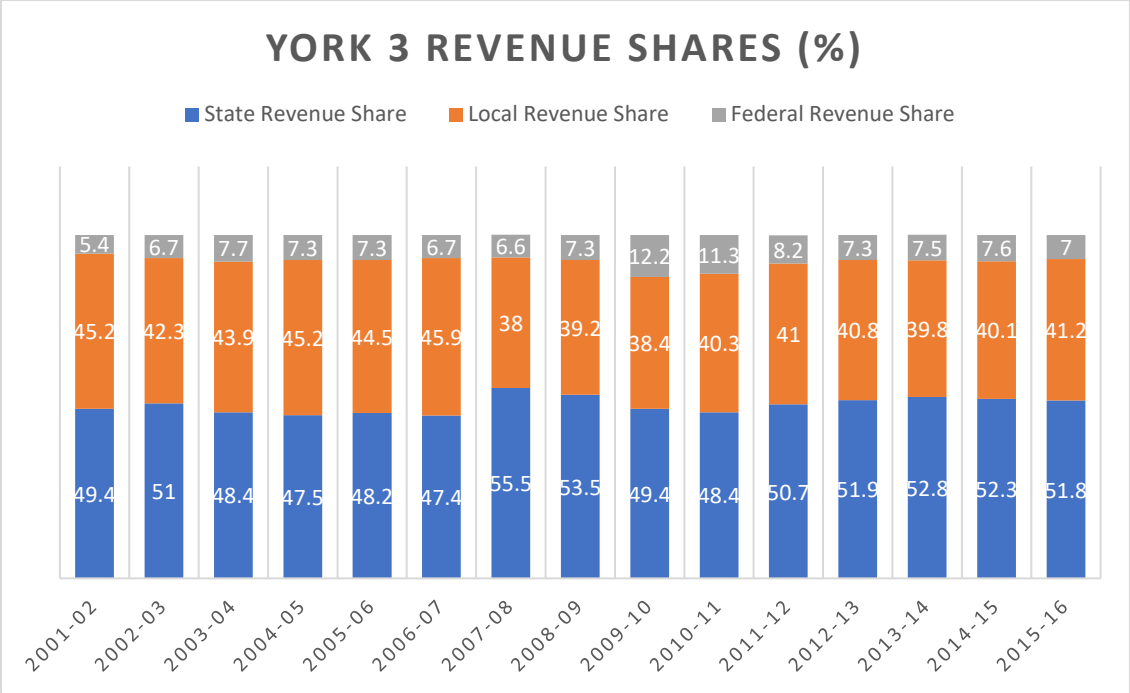

YORK 2 REVENUE SHARES (%)
State Revenue Share
Local Revenue Share
Federal Revenue Share
3.8 3.8 3.8 4.2 4.3 4.1 3.9 3.9 6.8 6.6 4 3.8 3.8 3.9 3.6
70.9 72.1 70.4 68.7 67.6 67.5 56.7 58.7 58.9 60.1 62 60.6 60.1 58.8 58.8
25.3 24 25.8 27 28.1 28.5 39.4 37.5 34.4 33.3 34 35.6 36.1 37.3 37.6
2001-02 2002-03 2003-04 2004-05 2005-06 2006-07 2007-08 2008-09 2009-10 2010-11 2011-12 2012-13 2013-14 2014-15 2015-16


York 2 Total Expenditures per Pupil ($)
25000
20000
15000
10000
5000
0
2001-02 2002-03 2003-04 2004-05 2005-06 2006-07 2007-08 2008-09 2009-10 2010-11 2011-12 2012-13 2013-14 2014-15 2015-16

Figures A73-A76
York 3 District






YORK 3 REVENUE SHARES (%)
State Revenue Share
Local Revenue Share
Federal Revenue Share
5.4
45.2
49.4
6.7
42.3
51
7.7
43.9
48.4
7.3
45.2
47.5
7.3
44.5
48.2
6.7
45.9
47.4
6.6
38
55.5
7.3
39.2
53.5
12.2
38.4
49.4
11.3
40.3
48.4
8.2
41
50.7
7.3
40.8
51.9
7.5
39.8
52.8
7.6
40.1
52.3
7
41.2
51.8
2001-02
2002-03
2003-04
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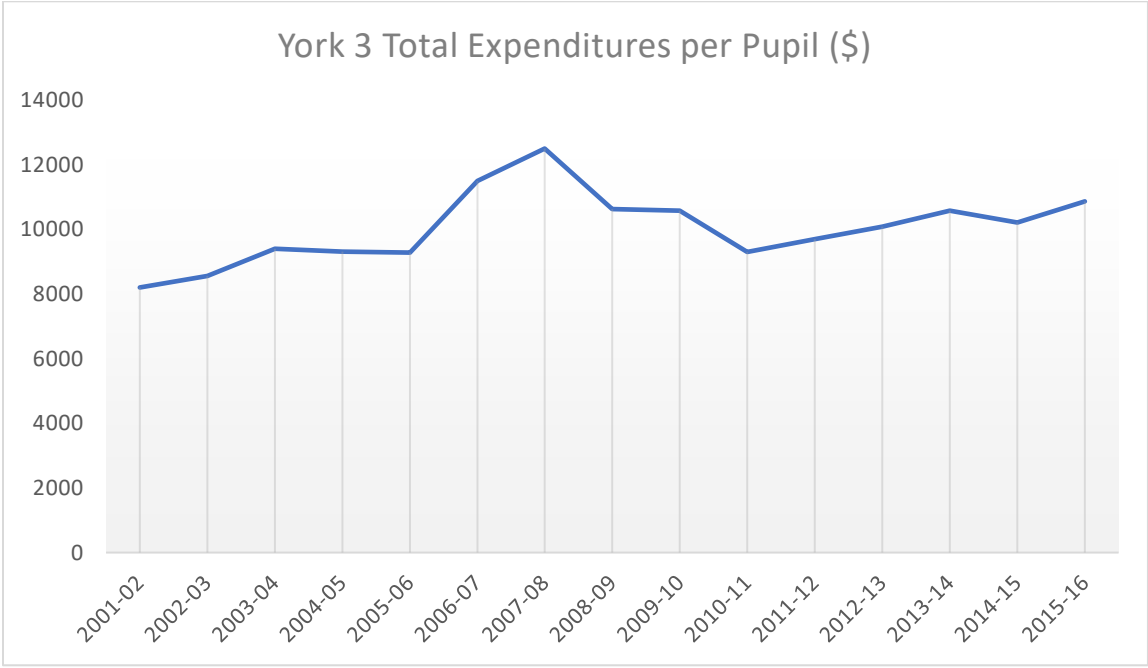
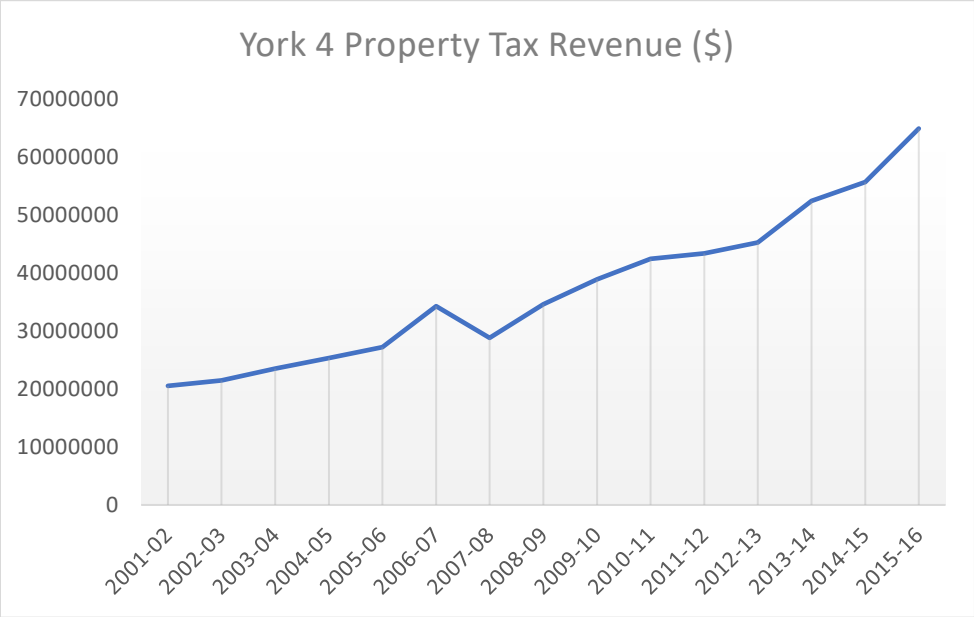
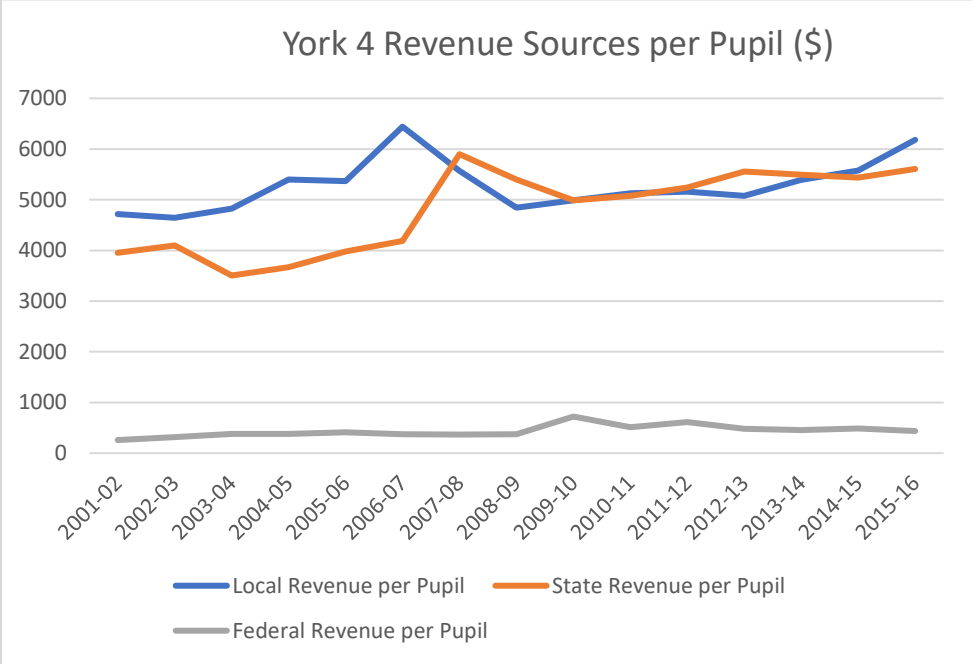
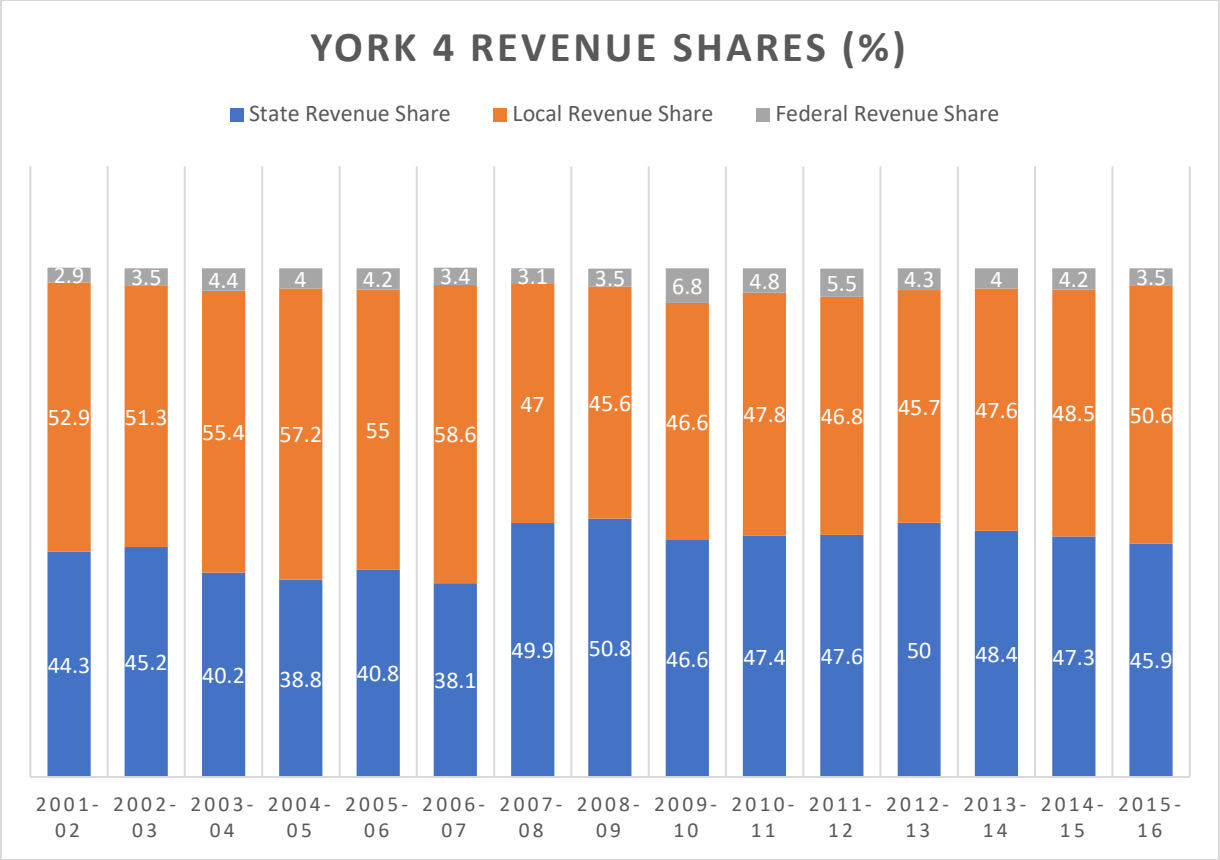
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16


York 3 Total Expenditures per Pupil ($)
14000
12000
10000
8000
6000
4000
2000
0
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16

Figures A77-A80
York 4 District






YORK 4 REVENUE SHARES (%)
State Revenue Share
Local Revenue Share
Federal Revenue Share
2.9
52.9
44.3
3.5
51.3
45.2
4.4
55.4
40.2
4
57.2
38.8
4.2
55
40.8
3.4
58.6
38.1
3.1
47
49.9
3.5
45.6
50.8
6.8
46.6
46.6
4.8
47.8
47.4
5.5
46.8
47.6
4.3
45.7
50
4
47.6
48.4
4.2
48.5
47.3
3.5
50.6
45.9
2001-02
2002-03
2003-04
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2007-08
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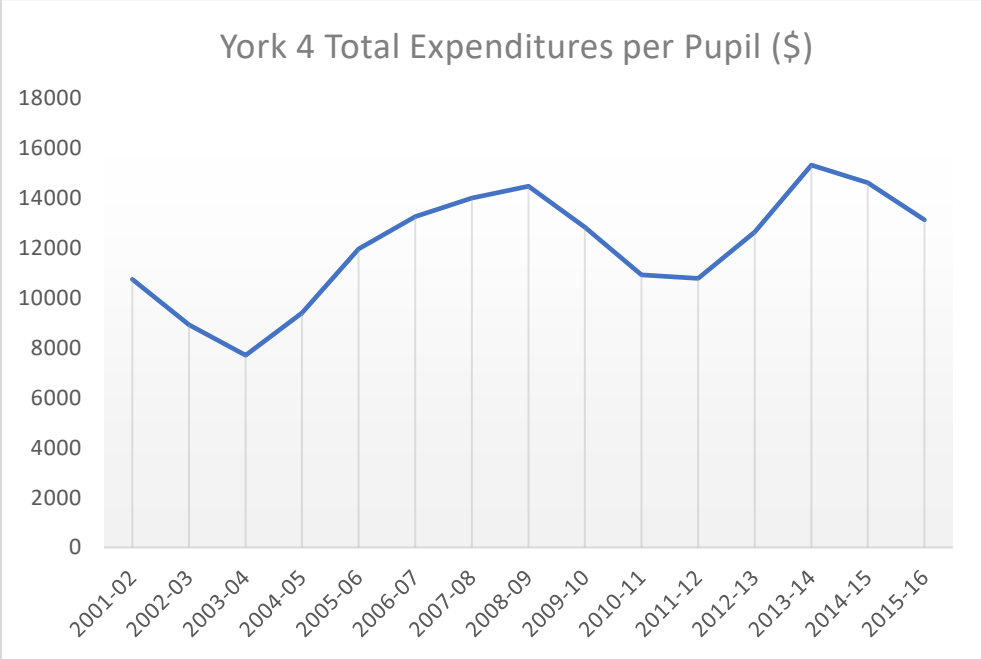
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16


York 4 Total Expenditures per Pupil ($)
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
2001-02
2002-03
2003-04
2004-05
2005-06
2006-07
2007-08
2008-09
2009-10
2010-11
2011-12
2012-13
2013-14
2014-15
2015-16

Appendix B

District-Level Indicators of Student Achievement

Several sources of district-level data have been analyzed.

At the high school level, we analyze the South Carolina High School Assessment Program (HSAP) scores.

HSAP scores were used up until 2015 in the calculation of various ratings of South Carolina high schools, including absolute ratings, growth ratings, and Federal Accountability status (South Carolina Department of Education). The HSAP tests were developed following the South Carolina Education Accountability Act (EAA) of 1998, which required students to pass an exit examination to earn a high school diploma. Further, the Federal No Child Left Behind Act (NCLB) of 2001 included a mandate to assess high school student performance in the areas of reading, language arts, and mathematics. HSAP tests were developed in South Carolina to meet both of these mandates[5], and test results are available for the years 2007 through 2014. Starting in 2015, HSAP was no longer required. (Act 155 eliminated this requirement, making the 2014 HSAP scores the last available.)

In this analysis, we have examined HSAP tests that were composed of two subsets of questions: mathematics, and English language arts. The percentage of students who passed both subsets of HSAP is used as a measure of achievement in this analysis.

Table B1 reports the 2007 HSAP scores for each district along with the average HSAP scores for the years 2009 through 2014. Of the 20 districts, 13 experienced increases in their average HSAP score relative to the 2007 score. For four districts, the increase in HSAP scores was substantial (at least five points). Those districts were Florence 3, Greenville, Orangeburg 3, and York 3. Greenville School District is the largest district in the study; and while it has the largest proportion of limited English language proficiency students, it also has the fourth lowest proportion of students eligible for free and reduced-cost lunches, reflecting relatively higher-income families in the district. Florence 3 School District is a relatively small and low-income district with all of its predominantly Black students eligible for free and reduced-cost lunches. Orangeburg 3 School District is a small district with all of its students eligible for free and reduced-cost lunches. York 3 (Rock Hill) School District is an intermediate-sized district with approximately 60 percent of students eligible for free and reduced-price lunches.

Seven districts experienced reductions in their average score relative to 2007. Four of those districts had reductions that were substantial (at least five points). Allendale School District HSAP scores fell nearly nine points. That district is very small, nearly all Black, with 100 percent of students eligible for free and reduced-price lunches. Florence 2, Florence 4, and Florence 5 districts also had substantial reductions in HSAP scores. They are similarly small and low-income districts, with nearly all of their students eligible for free and reduced-price lunches.

Appendix C provides graphic illustrations of the HSAP scores for all districts over the full period 2007 through 2014.

[5] Further description of HSAP is available in annual technical reports, as in the 2013-2014 report https://ed.sc.gov/tests/tests-files/assessment-information/2013-14-hsap-technical-report/

Table B1 HSAP Scores by District (percent)

District	2007 HSAP Score	Average HSAP Score 2009-2014
Allendale	63.1	54.0
Charleston	77.8	79.6
Edgefield	76.1	78.0
Florence 1	72.8	75.3
Florence 2	81.6	70.0
Florence 3	58.7	72.3
Florence 4	73.9	58.7
Florence 5	84.2	78.9
Greenville	75.3	80.6
Horry	81.8	82.4
Orangeburg 3	62.8	68.4
Orangeburg 4	67.3	68.8
Orangeburg 5	68.7	71.7
Richland 1	66.0	69.9
Richland 2	81.1	80.1
Sumter	70.5	67.4
York 1	83.6	81.4
York 2	84.0	87.3
York 3	74.7	80.1
York 4	92.3	94.8

Source: South Carolina Department of Education
Note: HSAP scores here measure the percent of students in each district that passed both subsets of questions on the HSAP test.

This analysis also examines a second measure of student achievement at the high school level: district average ACT scores measuring student readiness for success after high school.[6] The ACT test is designed to measure essential skills and knowledge needed for college and career options after high school.

Table B2 reports 2007 district ACT scores, along with average district ACT scores over the period 2009 through 2014, after implementation of Act 388. Eight of the districts experienced increases in their average ACT scores after implementation of Act 388, while the remaining 12 experienced declines.

[6] For a description of the ACT test, its design, and intent for measuring high school student readiness for success, see: https://www.act.org/content/act/en/products-and-services/the-act-educator/the-act-test.html

Table B2 also reports 2007 district ACT scores relative to the national average, as a percent, and the average district ACT score relative to the national average over the period 2009 through 2014, also as a percent. The relative scores are quite revealing. In 2007, six districts were above the national average (Edgefield, Greenville, Richland 2, York 2, York 3, and York 4), with the remaining 14 districts below the national average. Over the period 2009 through 2014, 18 of the districts lost ground relative to the national average (exceptions were Florence 2 and Florence 4), leaving only two districts above the national average (York 2 and York 4).[7]

Appendix C illustrates district ACT scores relative to the national score for each year from 2007 through 2014. Although ACT scores rose for eight districts after Act 388, relative to the nation, most of the districts in this analysis lost ground.

[7] Unlike some states that began requiring all high school student to take the ACT exam in recent years, South Carolina does not make the ACT or SAT a requirement. Hence, we do not expect changes in ACT scores to be affected by a sample selection bias due to implementation of mandatory testing. For a description of the South Carolina ACT testing program, see: https://ed.sc.gov/tests/high/the-act-2018-19/

Table B2 ACT Scores by District and District Scores Relative to National Scores

District	2007 District ACT Score	2009-2014 Average District ACT Score	2007 District ACT Score Relative to National Average (%)	2009-2014 Average District ACT Score Relative to National Average (%)
Allendale	14.8	14.7	75.5	70.0
Charleston	19.5	20.4	99.5	96.9
Edgefield	20.0	19.5	102.0	92.6
Florence 1	18.9	17.9	96.4	85.0
Florence 2	16.9	18.9	86.2	89.8
Florence 3	16.1	16.6	82.1	78.8
Florence 4	14.2	15.9	72.4	75.8
Florence 5	19.2	17.8	98.0	84.6
Greenville	21.3	20.9	108.7	99.5
Horry	19.5	20.4	99.5	97.0
Orangeburg 3	16.8	16.6	85.7	78.9
Orangeburg 4	18.1	17.5	92.3	83.4
Orangeburg 5	16.7	16.6	85.2	78.8
Richland 1	17.7	18.3	90.3	87.0
Richland 2	20.7	20.2	105.6	96.1
Sumter	17.8	17.7	90.8	84.3
York 1	19.1	19.4	97.4	92.1
York 2	21.8	21.7	111.2	103.3
York 3	20.2	19.9	103.1	94.8
York 4	21.7	22.9	110.7	109.0

Source: South Carolina Department of Education, ACT

In recent years, South Carolina used several assessment tools at the elementary level. The Palmetto Achievement Challenge Test (PACT) was used for report cards until it was replaced by the Palmetto Assessment of State Standards (PASS), which tests students in grades 4, 6, and 8 in science and students in grades 5 and 7 in social studies. Given the discontinuity in assessment methods, however, there is no sufficiently consistent set of scores to analyze student achievement at the elementary level.

Nevertheless, South Carolina school district report card summaries are provided in Appendix D. In those report cards, absolute ratings measure overall proficiency of students in the district. Growth ratings measure student improvement over the previous year. In both cases, five rating categories are provided: Excellent, Good, Average, Below Average, and At-Risk.

Table B3 summarizes report card ratings. The first column reports numerical values for the 2007 absolute rating for each school district using a 5-point Likert scale, where 5 is excellent and 1 is at-risk. The average rating was 2.72, just below average (average = 3). The second column reports the average absolute rating over the period 2009 through 2012, following Act 388 implementation.

Those ratings indicate that 10 districts improved after Act 388 implementation, while three declined and five saw no change. The average absolute rating over the 2009-2012 period was 3.22. The third column reports the average growth rating over the period 2009 through 2012. Those ratings are intended to indicate improvement over the previous year. In this case, five districts had average growth ratings above their absolute average during the same time period, and 12 districts had average growth ratings below their average absolute ratings. By these measures, district absolute ratings generally improved after Act 388 implementation, although the rate of improvement was not strong.

Comparing scores in Table B2 with report card data in Table B3, we see that four districts have consistent results. Charleston, Florence 3, Horry, and York 4 all had increasing ACT scores (comparing 2007 district score to the average district score over 2009-2014) and increasing absolute report card ratings. For five districts, however, the results in the two tables are inconsistent. Florence 1, Florence 5, Richland 2, York 2, and York 3 all had falling ACT scores in Table B2 but higher report card ratings in Table B3.

Table B3 District Report Card Data

District	2007 Absolute Rating	2009-2012 average absolute	2009-2012 average growth
Allendale	1	1.00	3.50
Charleston	2	3.50	3.00
Edgefield	3	2.75	2.25
Florence 1	3	3.25	3.50
Florence 2	3	3.00	2.50
Florence 3	2	3.25	3.50
Florence 4	2	1.75	1.75
Florence 5	3	3.75	2.75
Greenville	3	3.50	3.00
Horry	3	3.75	2.75
Orangeburg 3	na	Na	na
Orangeburg 4	na	Na	na
Orangeburg 5	na	Na	na
Richland 1	2	2.00	3.25
Richland 2	3	4.00	3.00
Sumter	na	4.00	2.00
Sumter 2	3	3.00	2.00
Sumter 17	3	2.67	2.67
York 1	3	3.00	3.25
York 2	4	4.50	3.75
York 3	2	3.50	3.00
York 4	4	5.00	4.25

Source: South Carolina Department of Education

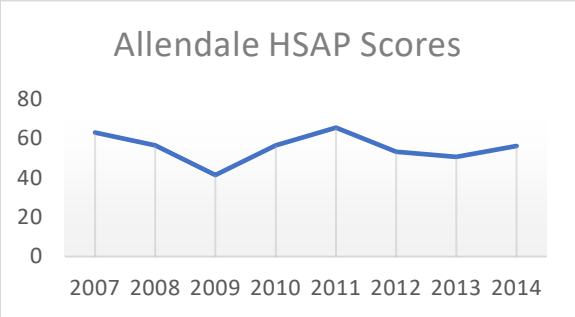
Notes: Report card ratings are converted into numerical scale as follows: Excellent = 5, Good = 4, Average = 3, Below Average = 2, and At-risk = 1.

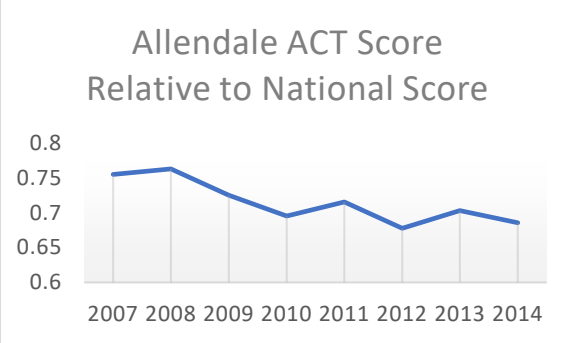
Sumter 2 and Sumter 17 districts were consolidated as Sumter in 2011.

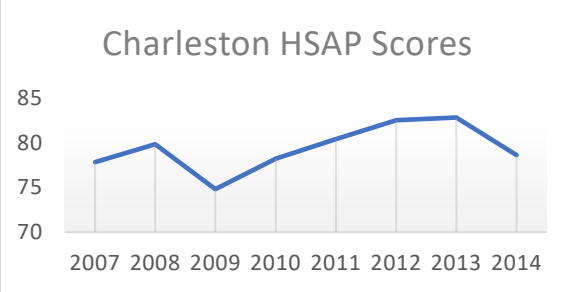
Appendix C

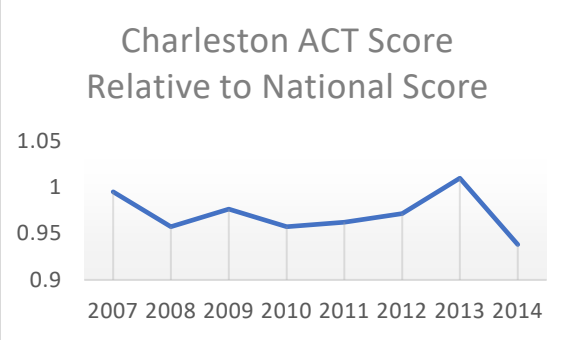
District HSAP Scores and ACT Scores Relative to National Scores

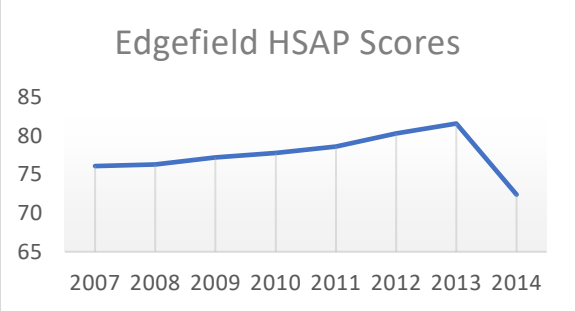
All data in Appendix C come from the South Carolina Department of Education.

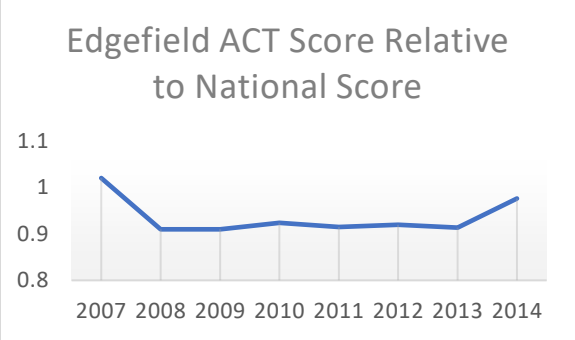


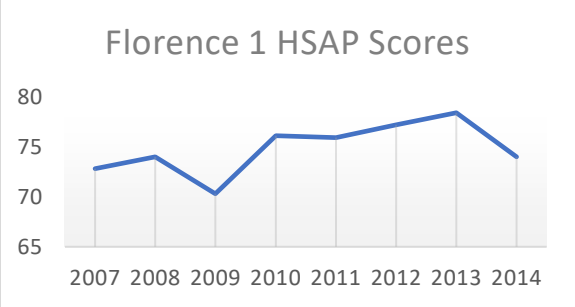


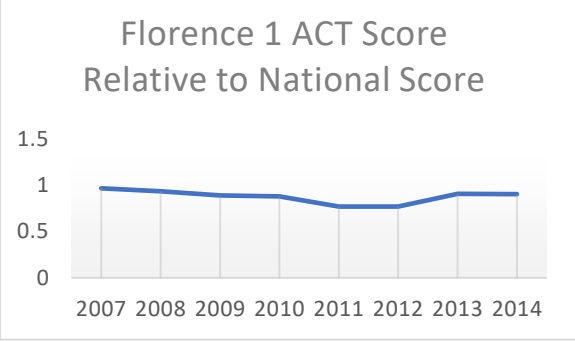


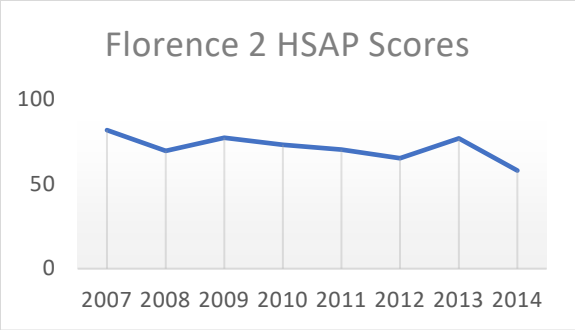


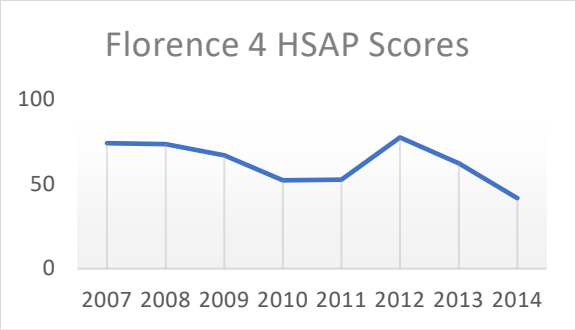


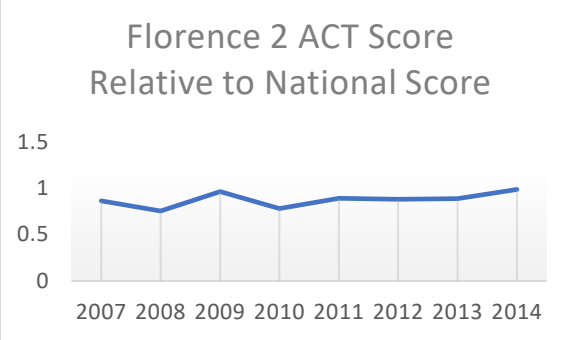


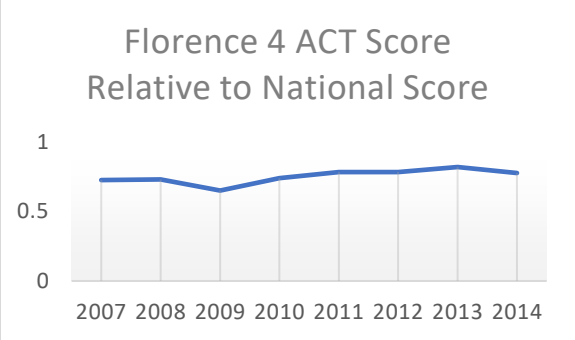


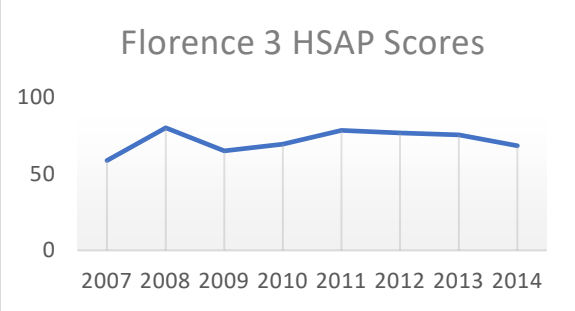


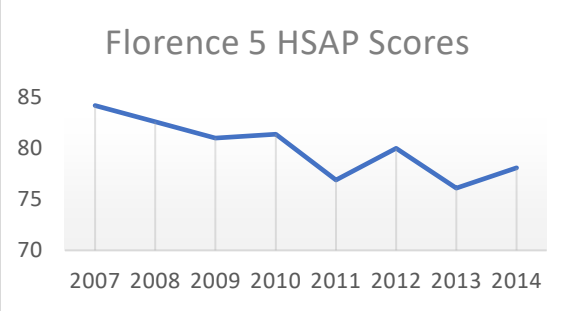

Florence 2 HSAP Scores
100
50
0
2007 2008 2009 2010 2011 2012 2013 2014

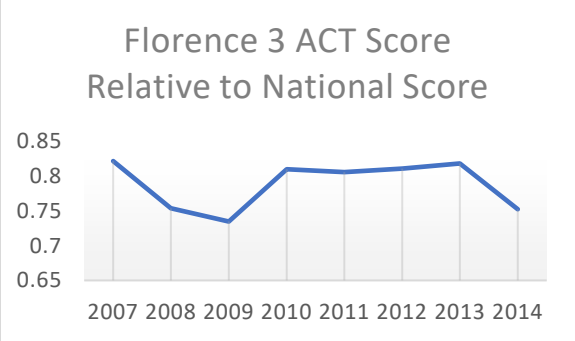

Florence 4 HSAP Scores
100
50
0
2007 2008 2009 2010 2011 2012 2013 2014

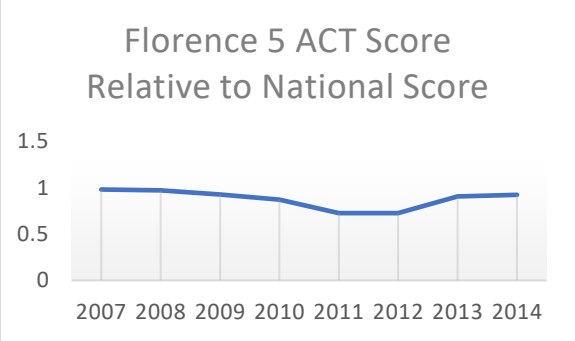

Florence 2 ACT Score
Relative to National Score
1.5
1
0.5
0
2007 2008 2009 2010 2011 2012 2013 2014

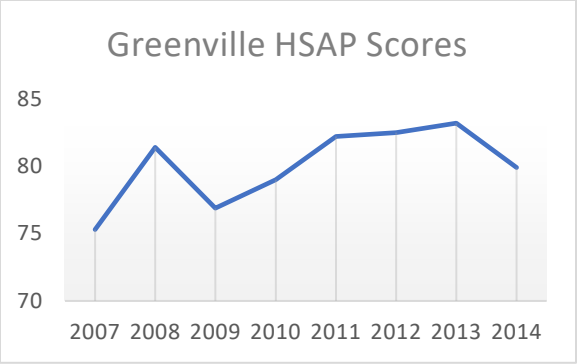

Florence 4 ACT Score
Relative to National Score
1
0.5
0
2007 2008 2009 2010 2011 2012 2013 2014

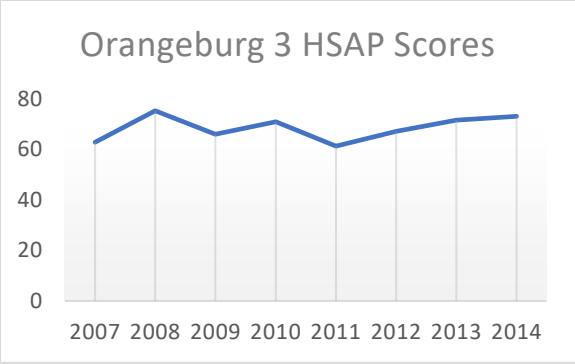

Florence 3 HSAP Scores
100
50
0
2007 2008 2009 2010 2011 2012 2013 2014

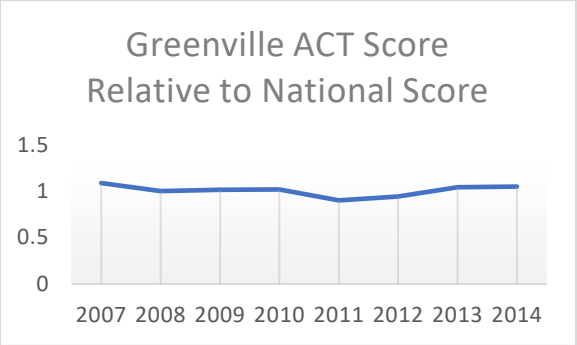

Florence 5 HSAP Scores
85
80
75
70
2007 2008 2009 2010 2011 2012 2013 2014

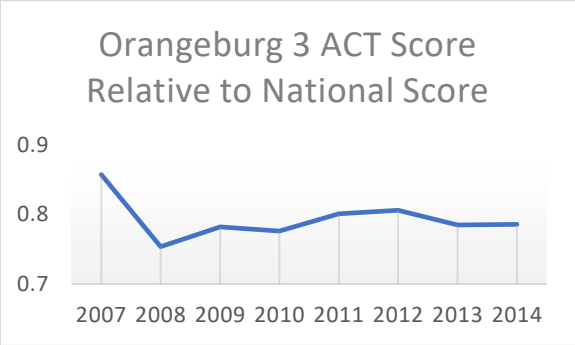

Florence 3 ACT Score
Relative to National Score
0.85
0.8
0.75
0.7
0.65
2007 2008 2009 2010 2011 2012 2013 2014

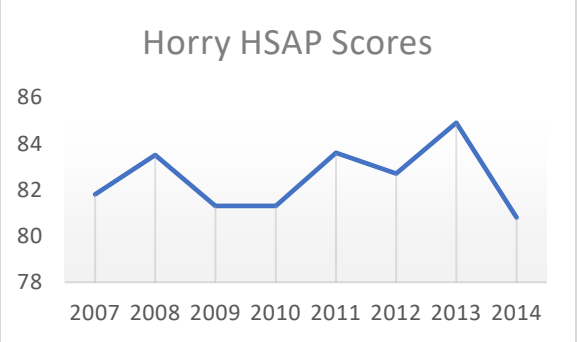

Florence 5 ACT Score
Relative to National Score
1.5
1
0.5
0
2007 2008 2009 2010 2011 2012 2013 2014

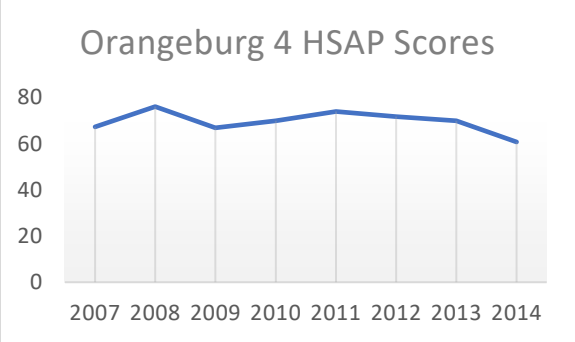

Greenville HSAP Scores
85
80
75
70
2007 2008 2009 2010 2011 2012 2013 2014

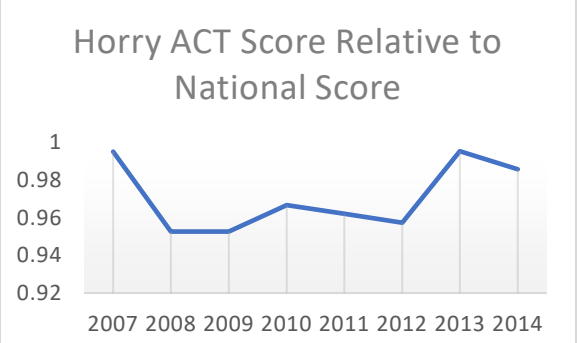

Orangeburg 3 HSAP Scores
80
60
40
20
0
2007 2008 2009 2010 2011 2012 2013 2014

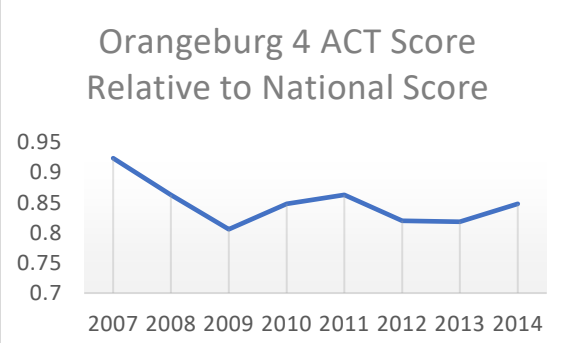

Greenville ACT Score Relative to National Score
1.5
1
0.5
0
2007 2008 2009 2010 2011 2012 2013 2014

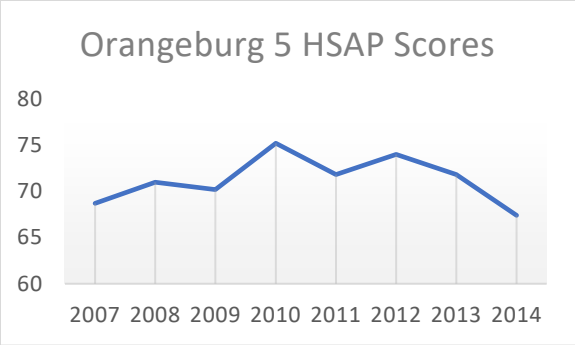

Orangeburg 3 ACT Score Relative to National Score
0.9
0.8
0.7
2007 2008 2009 2010 2011 2012 2013 2014

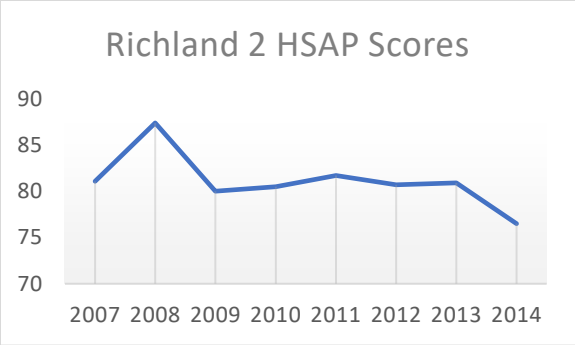

Horry HSAP Scores
86
84
82
80
78
2007 2008 2009 2010 2011 2012 2013 2014

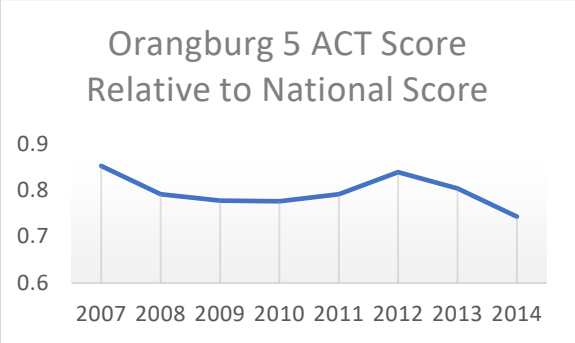

Orangeburg 4 HSAP Scores
80
60
40
20
0
2007 2008 2009 2010 2011 2012 2013 2014

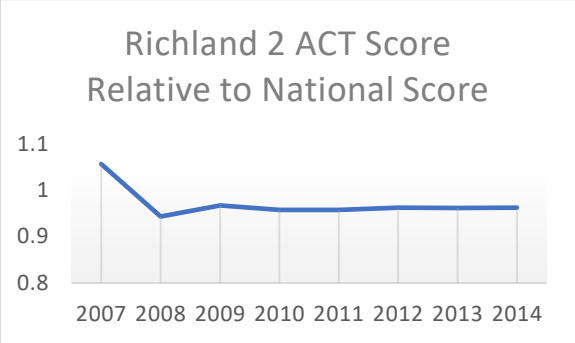

Horry ACT Score Relative to National Score
1
0.98
0.96
0.94
0.92
2007 2008 2009 2010 2011 2012 2013 2014

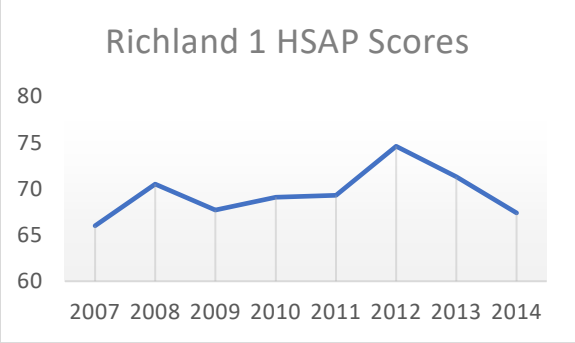

Orangeburg 4 ACT Score Relative to National Score
0.95
0.9
0.85
0.8
0.75
0.7
2007 2008 2009 2010 2011 2012 2013 2014

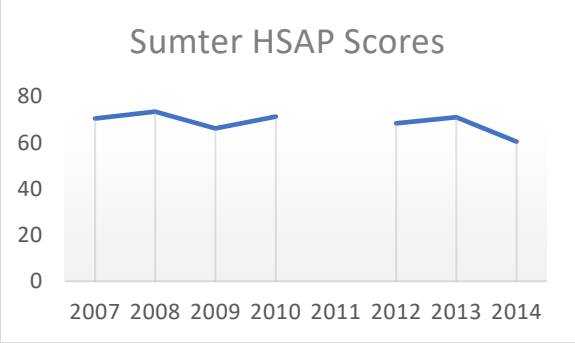

Orangeburg 5 HSAP Scores
80
75
70
65
60
2007 2008 2009 2010 2011 2012 2013 2014

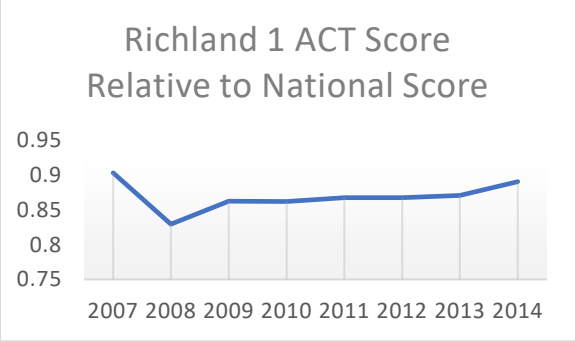

Richland 2 HSAP Scores
90
85
80
75
70
2007 2008 2009 2010 2011 2012 2013 2014

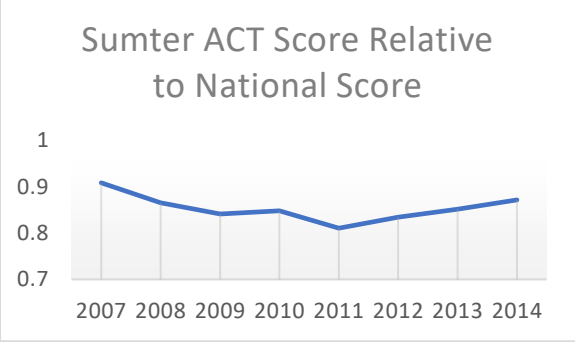

Orangburg 5 ACT Score
Relative to National Score
0.9
0.8
0.7
0.6
2007 2008 2009 2010 2011 2012 2013 2014

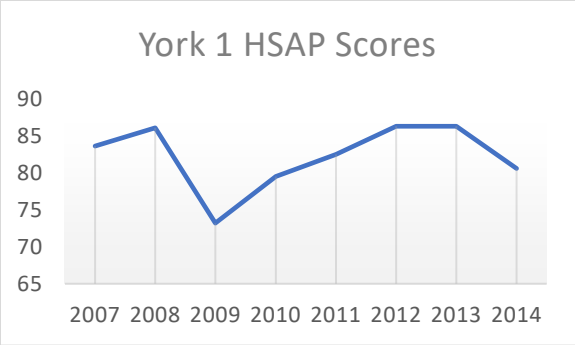

Richland 2 ACT Score
Relative to National Score
1.1
1
0.9
0.8
2007 2008 2009 2010 2011 2012 2013 2014

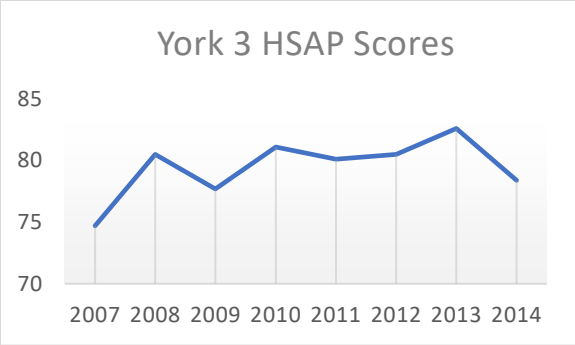

Richland 1 HSAP Scores
80
75
70
65
60
2007 2008 2009 2010 2011 2012 2013 2014

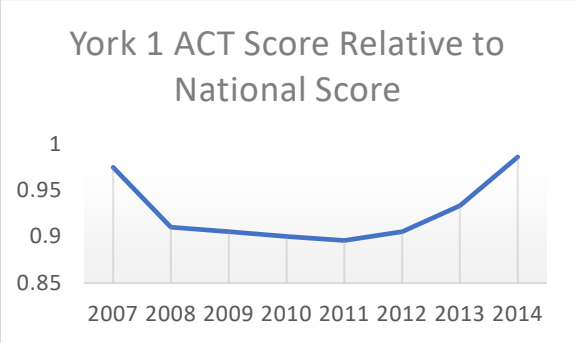

Sumter HSAP Scores
80
60
40
20
0
2007 2008 2009 2010 2011 2012 2013 2014

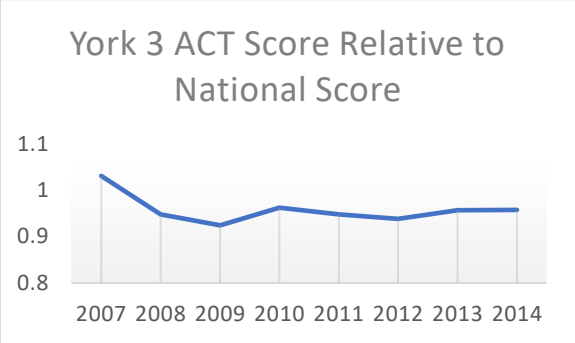

Richland 1 ACT Score
Relative to National Score
0.95
0.9
0.85
0.8
0.75
2007 2008 2009 2010 2011 2012 2013 2014

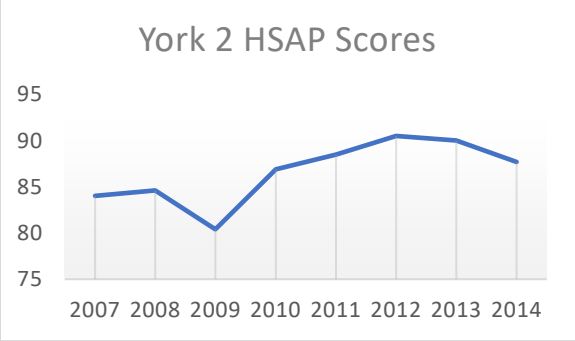

Sumter ACT Score Relative
to National Score
1
0.9
0.8
0.7
2007 2008 2009 2010 2011 2012 2013 2014

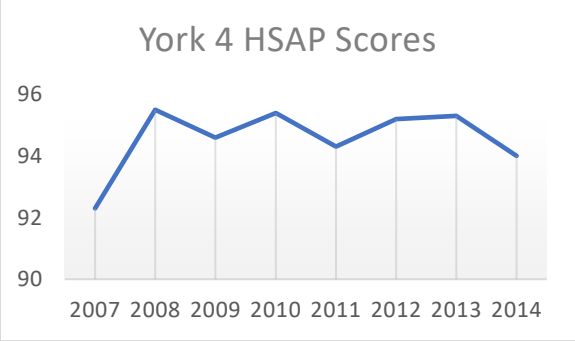

York 1 HSAP Scores
90
85
80
75
70
65
2007 2008 2009 2010 2011 2012 2013 2014

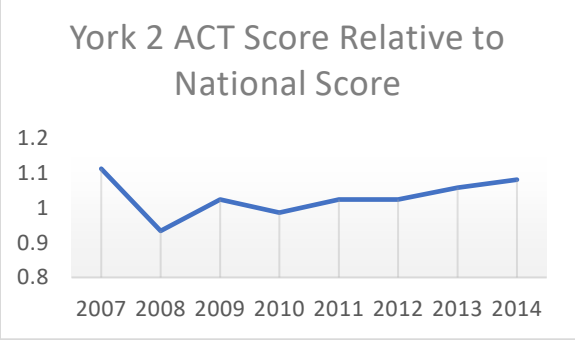

York 3 HSAP Scores
85
80
75
70
2007 2008 2009 2010 2011 2012 2013 2014

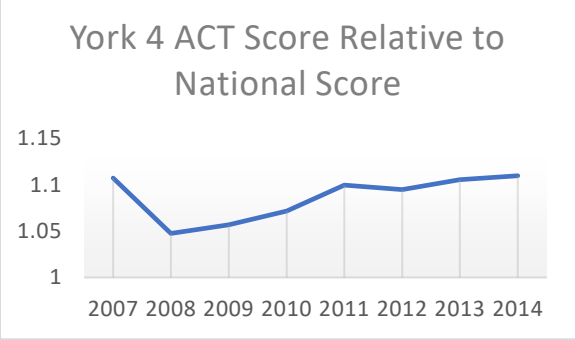

York 1 ACT Score Relative to National Score
1
0.95
0.9
0.85
2007 2008 2009 2010 2011 2012 2013 2014


York 3 ACT Score Relative to National Score
1.1
1
0.9
0.8
2007 2008 2009 2010 2011 2012 2013 2014


York 2 HSAP Scores
95
90
85
80
75
2007 2008 2009 2010 2011 2012 2013 2014


York 4 HSAP Scores
96
94
92
90
2007 2008 2009 2010 2011 2012 2013 2014


York 2 ACT Score Relative to National Score
1.2
1.1
1
0.9
0.8
2007 2008 2009 2010 2011 2012 2013 2014


York 4 ACT Score Relative to National Score
1.15
1.1
1.05
1
2007 2008 2009 2010 2011 2012 2013 2014

Appendix D: South Carolina School District Report Card Summary

Table D1 School District Report Card Absolute Rating

	Absolute Rating						
District	2006	2007	2008	2009	2010	2011	2012
Allendale	At-risk	At-risk	At-risk	At-risk	At-risk	At-risk	At-risk
Charleston	At-risk	Below Average	Average	Average	Average	Good	Good
Edgefield	Average	Average	Average	Below Average	Average	Average	Average
Florence 1	Below Average	Average	Average	Below Average	Average	Average	Excellent
Florence 2	Average	Average	Below Average	Below Average	Average	Average	Good
Florence 3	At-risk	Below Average	Below Average	Below Average	Average	Good	Good
Florence 4	Below Average	Below Average	At-risk	At-risk	Below Average	Average	At-risk
Florence 5	Average	Average	Average	Below Average	Average	Excellent	Excellent
Greenville	Average	Average	Average	Average	Average	Good	Good
Horry	Average	Average	Average	Average	Good	Good	Good
Orangeburg 3	na	na	na	na	na	na	na
Orangeburg 4	na	na	na	na	na	na	na
Orangeburg 5	na	na	na	na	na	na	na
Richland 1	Below Average	Below Average	Below Average	Below Average	Below Average	Below Average	Below Average
Richland 2	Average	Average	Average	Average	Good	Good	Excellent
Sumter	na	na	na	na	na	na	Good
Sumter 2	Average	Average	Below Average	Below Average	Average	good	na
Sumter 17	Average	Average	Below Average	Below Average	Average	Average	na
York 1	Average	Average	Average	Below Average	Average	Average	Good

York 2	Good	Good	Good	Average	Excellent	Excellent	Excellent
York 3	Average	Below Average	Below Average	Average	Average	Good	Good
York 4	Excellent	Good	Excellent	Excellent	Excellent	Excellent	Excellent

Source: South Carolina Department of Education, School District Report Cards

Table D2 School District Report Card Growth Rating

	Growth Rating						
District	2006	2007	2008	2009	2010	2011	2012
Allendale	At-risk	At-risk	Below Average	Good	At-risk	Good	Excellent
Charleston	At-rsk	Average	Excellent	At-risk	Below Average	Excellent	Good
Edgefield	Below Average	Below Average	Average	At-risk	Excellent	Below Average	At-Risk
Florence 1	At-risk	Excellent	Average	At-risk	Excellent	Average	Excellent
Florence 2	At-risk	At-risk	At-risk	At-risk	Average	Below Average	Good
Florence 3	At-risk	Excellent	Below Average	At-risk	Good	Excellent	Good
Florence 4	Good	Below Average	Below Average	At-risk	Average	Below Average	At-risk
Florence 5	Average	Below Average	Good	Below Average	Average	Below Average	Good
Greenville	Average	Average	Average	Below Average	Average	Average	Good
Horry	Average	Below Average	Average	At-risk	Good	Average	Average
Orangeburg 3	na	na	na	na	na	na	na
Orangeburg 4	na	na	na	na	na	na	na
Orangeburg 5	na	na	na	na	na	na	na
Richland 1	At-risk	Average	Excellent	Average	At-risk	Excellent	Good
Richland 2	Below Average	Good	Average	At-risk	Good	Average	Good
Sumter	na	na	na	na	na	na	Below Average
Sumter 2	At-risk	Below Average	Below Average	At-risk	Average	Below Average	na
Sumter 17	At-risk	Average	Below Average	Below Average	Average	Average	na
York 1	At-risk	Average	Below Average	At-risk	Good	Good	Good
York 2	Below Average	Average	Average	At-risk	Excellent	Good	Excellent

York 3	At-risk	At-risk	Average	Average	Average	Average	Average
York 4	Good	At-risk	Excellent	Good	Excellent	Good	Good

Source: South Carolina Department of Education, School District Report Cards

Appendix E

South Carolina NAEP Scores

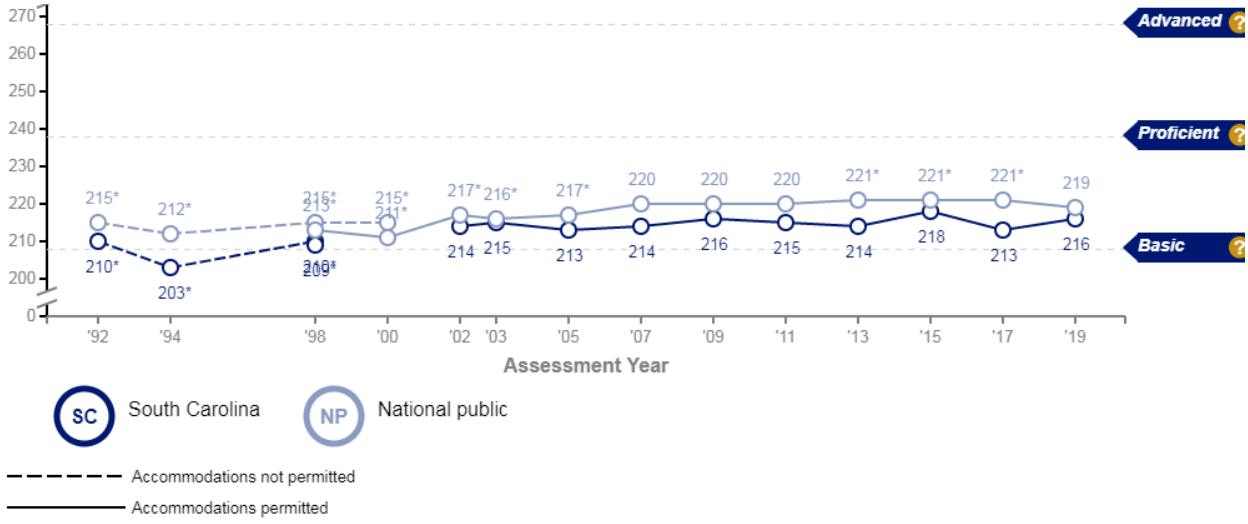
In this appendix we review the National Assessment of Educational Progress (NAEP) data for South Carolina in order to provide context on the educational achievements of the state system. For both reading and mathematics we present NAEP scores for fourth and eighth grade students in South Carolina, with comparisons to the nation as a whole for the time period from 1992 or 1998 (depending on data) through 2019.

Reading

In 2019, fourth-grade students in South Carolina scored an average of 216 on the reading examination, which was lower than the average of 219 scored by students across the nation. The South Carolina score is significantly lower than that in 24 states[8] and significantly higher than that of four states (not significantly different from the scores in 22 states). Thirty-two percent of South Carolina students are considered reading proficient and 8 percent are considered advanced. For Black students, the average score was 31 points below that for White students in 2019, which was not significantly different than the 29-point difference in 1998.

As illustrated in figure E1, South Carolina fourth graders scored six points below the national average in 2007. Subsequently, South Carolina scores have fluctuated from three points below in 2015 and 2019, to eight points below in 2017.

Figure E1 NAEP Grade 4 Reading Average Scale Scores, South Carolina and National Public, Selected Years, 1992 to 2019



* Significantly different ($p < .05$) from 2019.

NOTE: The NAEP Reading scale ranges from 0 to 500. Some apparent differences between estimates may not be statistically significant. Results are not shown for data points where the sample sizes are insufficient to permit reliable estimates or where data are not available.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1992, 1994, 1998, 2000, 2002, 2003, 2005, 2007, 2009, 2011, 2013, 2015, 2017, and 2019 Reading Assessments.

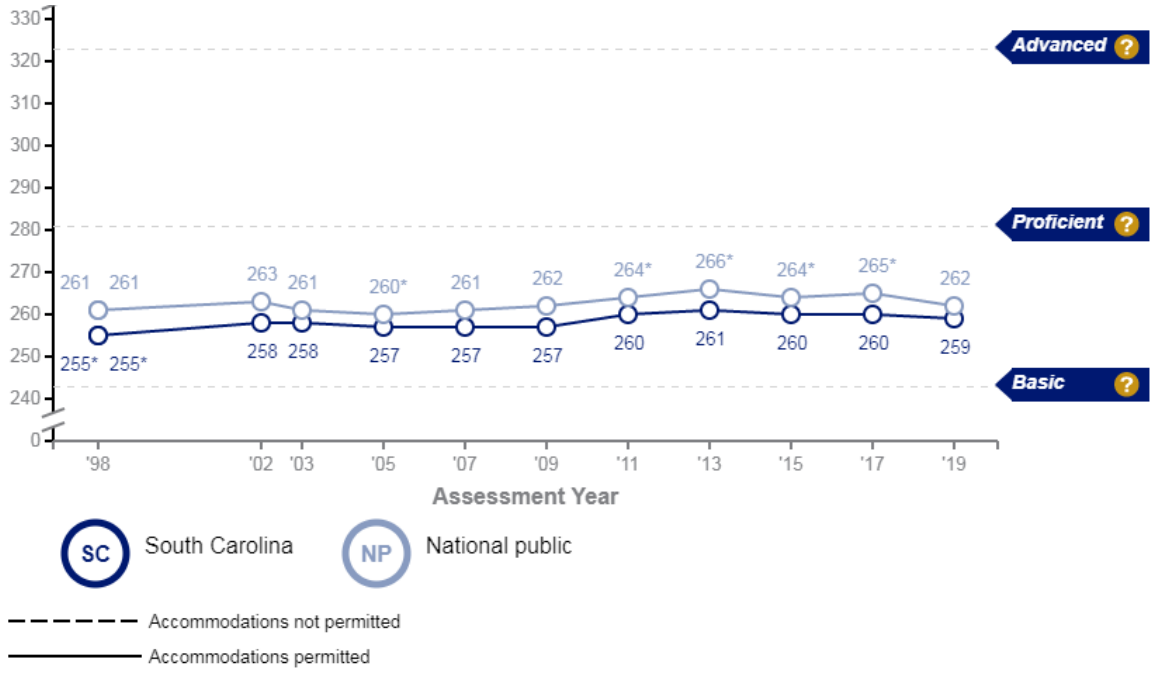
Source: National Center for Education Statistics, Nation's Report Card

[8] We have included the District of Columbia as a state in this appendix.

At the eighth-grade level in 2019, South Carolina students scored 259 on the reading examination, which is below the national average of 262. The South Carolina score is significantly lower than that in 33 states and significantly higher than that of five states (not significantly different from the scores in 12 states). At the eighth-grade level, 29 percent of South Carolina students are considered reading proficient and three percent are considered advanced. For Black students, the average score was 28 points below that for White students in 2019, which was not significantly different than the 25-point difference in 1998.

As shown in figure E2, South Carolina students scored four points below the national average in 2007. Subsequently, the gap between South Carolina and the nation as a whole has not narrowed, fluctuating between three to six points depending on the year.

Figure E2 NAEP Grade 8 Reading Average Scale Scores, South Carolina and National Public, Selected Years, 1998 to 2019



* Significantly different ($p < .05$) from 2019.

NOTE: The NAEP Reading scale ranges from 0 to 500. Some apparent differences between estimates may not be statistically significant.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1998, 2002, 2003, 2005, 2007, 2009, 2011, 2013, 2015, 2017, and 2019 Reading Assessments.

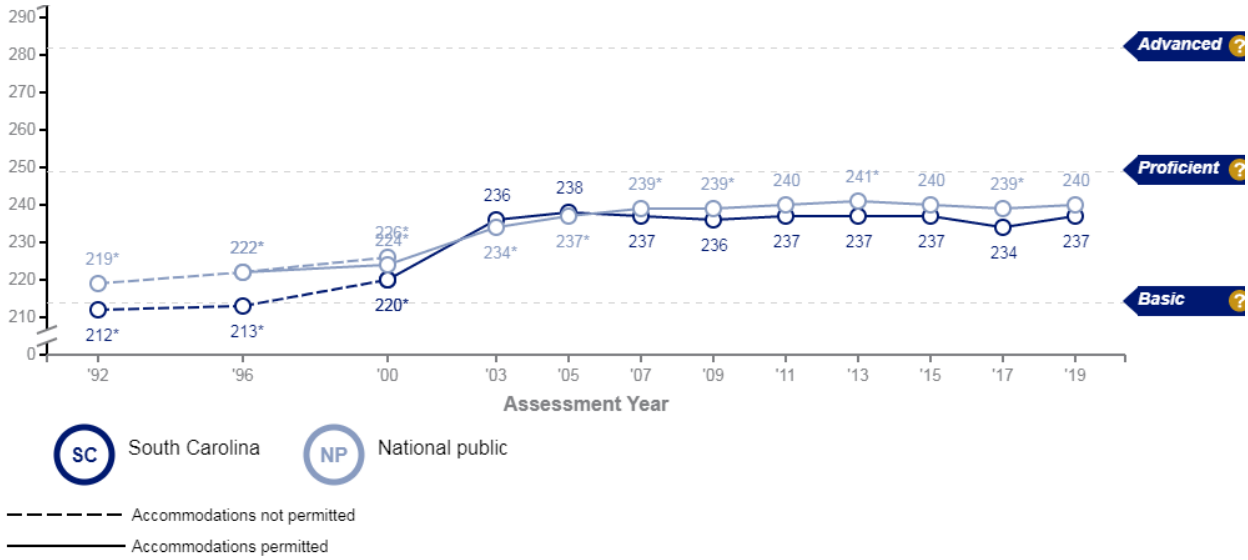
Source: National Center for Education Statistics, Nation's Report Card

Mathematics

In 2019 fourth-grade students in South Carolina scored an average of 237 on the mathematics examination, which was lower than the average score of 240 for students across the nation. The South Carolina score is significantly lower than that in 24 states and significantly higher than that of six states (not significantly different from the scores in 20 states). Thirty-six percent of South Carolina students are considered math proficient and 7 percent are considered advanced. For Black students, the average score was 29 points below that for White students in 2019, which was not significantly different from the 30-point difference in 2000.

As shown in Figure E3, South Carolina fourth graders scored just below the national average in 2007. Subsequently, South Carolina scores have fluctuated from three points below in 2009 and 2015, to five points below in 2017.

Figure E3 NAEP Grade 4 Mathematics Average Scale Scores, South Carolina and National Public, Selected Years, 1992 to 2019



* Significantly different (p < .05) from 2019.

NOTE: The NAEP Mathematics scale ranges from 0 to 500. Some apparent differences between estimates may not be statistically significant. Results are not shown for data points where the sample sizes are insufficient to permit reliable estimates or where data are not available.

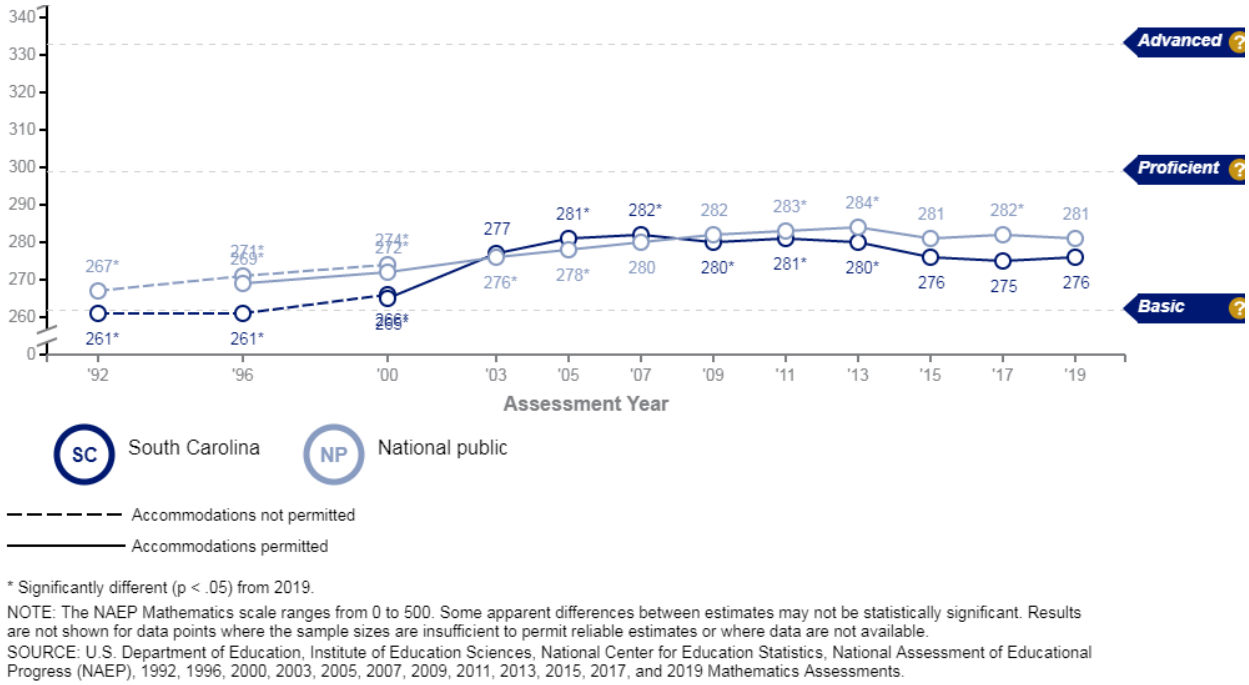
SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1992, 1996, 2000, 2003, 2005, 2007, 2009, 2011, 2013, 2015, 2017, and 2019 Mathematics Assessments.

Source: National Center for Education Statistics, Nation's Report Card

In 2019, eighth grade students in South Carolina scored an average of 276 on the mathematics examination, which was lower than the average score of 281 for students across the nation. The South Carolina score is significantly lower than that in 33 states and significantly higher than that of five states (not significantly different from the scores in 12 states). Twenty-nine percent of South Carolina students are considered math proficient and 8 percent are considered advanced. For Black students, the average score was 34 points below that for White students in 2019, which was not significantly different from the 30-point difference in 2000.

As shown in Figure E4, South Carolina eighth graders scored two points above the national average in 2007. Subsequently, South Carolina scores have lagged the nation, with the scores in 2019 five points lower.

Figure E4 NAEP Grade 8 Mathematics Average Scale Scores, South Carolina and National Public, Selected Years, 1992 to 2019



* Significantly different ($p < .05$) from 2019.

NOTE: The NAEP Mathematics scale ranges from 0 to 500. Some apparent differences between estimates may not be statistically significant. Results are not shown for data points where the sample sizes are insufficient to permit reliable estimates or where data are not available.

SOURCE: U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1992, 1996, 2000, 2003, 2005, 2007, 2009, 2011, 2013, 2015, 2017, and 2019 Mathematics Assessments.

Source: National Center for Education Statistics, Nation's Report Card

Appendix F

An Overview of Literature Related to School Funding and Student Achievement

The Coleman Report cited family as the key determinant of educational outcomes and concluded that school expenditures have an insignificant impact on student performance (Coleman, et al. 1966). Since then, research about whether giving public schools more resources will improve student achievement has produced mixed results. This initially led to a focus on the quality of resources over the quantity, but recent literature has again focused on quantity of resources. One of the primary areas of interest in both old and new literature is teachers. This memo provides a brief overview of the literature and methodologies used.

Measuring Student Achievement

Some of the most frequently used measures of educational outputs are test scores, dropout rates, lifetime earnings, and poverty rates. Scholars use these measures to determine the impact of the quantity and the quality of educational inputs. Many studies measure inputs including classroom resources (such as teachers) and financial aggregates (such as expenditure per pupil).

Researchers have conducted studies using student-level data, district-level data, and state-level data, over both short and extended periods of time. Since the mid-1990s, however, scholars have favored data on student achievement that is measured over an extended period because of the cumulative nature of the educational process (Hanushek 2015). Student achievement is a reflection of the resources provided to students in both the past and present. By analyzing student achievement over time, scholars are able to see how resources, such as spending, at different stages influence student performance.

Additionally, there have been significant advances in econometrics. Frequently used methods include instrumental variables and regression discontinuity (Meghir and Rivkin 2010).

Quantity of Resources

A recent report includes information about 90 studies prior to 1995 that use 377 production function estimates to determine the effect of key resources on student performance (Hanushek 2015). There are varying results, but many are not statistically significant, and a handful suggest that student outcomes are worse with more inputs. However, frequently cited studies are those that have found a connection between resources and student outcomes:

- Hedges and Stock (1983) find that class size has a significant impact on pupil achievement and the only way to reduce class size is to properly fund schools.
- McGiverin, Gilman, and Tillitski (1989) perform a meta-analysis of the relation between class size and achievement to confirm that smaller class sizes are linked to better educational outcomes.
- Card and Krueger (1992) published two highly publicized reports that conclude smaller class sizes and other resource inputs have a significantly positive impact on wages later in life.
- Hedges, Laine, and Greenwald (1994) reanalyze data from earlier reviews on the relationship between resource inputs and school outcomes and find that there is a positive relationship between the two.
- Loeb and Page (2000) investigate the relationship between student outcomes and teacher wages to find that increases in teacher salaries have a negative impact on dropout rates.

Eric Hanushek, one of the most notable scholars researching the economics of education, has concluded that the literature on the topic indicates that "there is no clear, systemic relationship between resources and student outcomes" (Hanushek 2015). Yet one of the most recent studies in the field finds that in Texas, increasing per-pupil expenditure has a statistically significant impact on test scores, dropout rates, graduation rates, and college enrollment (Kreisman and Steinberg 2019).

Quality of Resources

After it was generally accepted that studying the quantity of resources will produce mixed results, many scholars shifted their focus. For example, rather than looking at the number of teachers, they studied the quality of teachers. Teacher quality can be linked to qualifications, characteristics such as attitude and expectations, practices, and effectiveness (Goe and Stickler 2008).

A policy brief that compiled literature related to teacher quality concluded that "with the exception of teachers' experience during the first five years of teaching and teachers' mathematics knowledge," scholars have not found a clear relationship between teacher quality and student achievement (Goe and Stickler 2008). The authors claim that this is largely due to the tools, measurements, and data sources available. However, some studies have indicated that there is a relationship between teacher quality and student achievement:

- Hanushek finds that effective teachers generate higher incomes for students and that replacing the worst teachers with just average teachers could dramatically improve U.S. math and science rankings (Hanushek 2011).
- Rice (2003) examines the extent to which teacher characteristics impact teacher effectiveness by analyzing empirical studies. Her major finding is that the research suggests teacher quality, including both experience and preparation, does matter.
- Aaronson, Barrow, and Sander (2007) estimate the importance of teachers in Chicago public high schools and find that improvements in math teacher quality increase student test scores.

Appendix G

The Impact of South Carolina's Property Tax Swap

South Carolina's Act 388 was passed in 2006, but its various parts, including a state-for-local tax swap, were not implemented until the following year. This tax swap removed school operation and maintenance (O&M) taxes from primary residential properties and replaced those taxes with a one-cent sales tax increase. Property taxes due for the 2007 tax year were subject to the changes made by Act 388, while the statewide sales tax increased from 5 to 6 cents on June 1, 2007. This memo describes the impact of the Act 388 tax swap.

The Swap

As mentioned above, primary residential property owners were exempt from paying any O&M taxes for schools when Act 388 was implemented in 2007. This significantly cut property taxes for primary residential homeowners since over half of all property tax revenue in South Carolina goes to schools. State-funded school property tax relief for primary residences increased by more than $500 million (table G1). The statewide sales tax was increased by just a penny in order to make up for the new exemption. Additionally, the sales tax on groceries was decreased to three percent. Local option sales taxes were not affected.

Table G1 Act 388 Tax Swap, First Year Changes

	Before	After
State-Funded Primary Residential Property Tax Relief	$333.7 million	$895.0 million
State Sales Tax	5 percent	6 percent
Sales Tax on Groceries	5 percent	3 percent

Source: Saltzman and Ulbrich 2012

Unfortunately, the sales tax is a less stable source of revenue than the property tax since it is heavily influenced by economic conditions. While property tax revenue may fluctuate slightly depending on home values, land is immobile and unaffected by changes in taxpayer behavior (Youngman 2016).

When the legislature passed Act 388 in 2006, it was unlikely that lawmakers expected the Great Recession that would shortly follow. However, the nation fell into a recession in December of 2007 and didn't emerge from it until June of 2009. This recession caused sales tax revenue to fall short of what the legislature expected when it passed the act. The first year of implementation was expected to generate an additional $84 million in sales tax revenue (Ullrich 2012). In 2008, the sales tax revenue shortfall was more than $34 million. Year-to-year sales tax receipts decreased by 11.7 percent from 2007 to 2008 and another 8.7 percent in from 2008 to 2009 (South Carolina Board of Economic Advisors).

Other states that have executed or contemplated a tax swap did so in a less ambitious fashion. Michigan, for example, removed the local school operations tax on homesteads (owner-occupied homes) when they passed Public Act 145 in 1993. Shortly thereafter, Proposal A replaced the tax with a two-cent sales tax increase. However, they also created a State Education Tax, increased the tax on cigarettes, and implemented a new Real Estate Transfer Tax (Michigan Department of Treasury 2002). While this is an example of a state-for-local tax swap, Michigan improved the stability of their revenue stream by including a statewide property tax in addition to the sales tax.

Pennsylvania has considered, but not yet passed, a bill that would eliminate school property taxes and replace them with increased income and sales taxes (Pennsylvania General Assembly). Texas and Nebraska both considered partial state-for-local tax swaps but failed to pass them.

Impact on Primary Residential Homeowners

Primary residential homeowners were the main beneficiaries of this tax swap. As noted above, the tax swap eliminated more than $500 million in property taxes. However, those who benefit the most from this tax swap are those who own homes with a market value greater than $100,000. Prior to Act 388, there was an exemption in place that eliminated O&M taxes for primary residential homeowners whose homes were valued below $100,000 (Saltzman and Ulbrich 2012). If someone owned a home under $100,000 at the time that the tax swap occurred, they received no additional benefit from the new exemption. In 2005, the median housing value of owner-occupied housing units in South Carolina was $113,100 (U.S. Census). The average home value of owner-occupied houses in our focus counties ranges from $74,000 in Orangeburg to $199,600 in Charleston (Table G2). Our three focus counties that had a median owner-occupied home value below $100,000 also had median incomes below the state average of $39,316.

Table G2 Median Owner-Occupied Home Values in South Carolina Focus Counties, 2005

County	Median Owner-Occupied Home Value ($)	Median Income ($)
Allendale	NA	NA
Charleston	199,600	43,213
Edgefield	NA	NA
Florence	93,100	37,066
Greenville	130,000	42,449
Horry	135,100	38,789
Orangeburg	74,000	30,195
Richland	130,500	43,463
Sumter	86,100	33,696
York	143,500	46,680
State Average	113,100	39,316

Source: U.S. Census Bureau

Impact on the State Budget

As mentioned above, the state budget was impacted by the Great Recession. The state's Board of Economic Advisors forecasted revenue for the 2008-2009 fiscal year, but the actual revenue fell short. General Fund revenue was nearly $130 million less than what they had anticipated, with sales tax revenue accounting for about $34 million of the shortfall (Table G3).

Table G3 State Tax Revenue, 2008-2009

	Estimated Revenue	Actual Revenue	Revenue Shortfall
Sales Tax	2,282,353,185	2,247,876,029	34,477,156
Sales and Income Tax	5,425,400,977	5,309,462,760	115,938,217
Total General Fund	6,171,251,608	6,041,464,093	129,787,515

Source: South Carolina Board of Economic Advisors

The additional sales tax revenue from the one-cent increase was diverted to the Homestead Exemption Fund, but the revenue fell short the first year, and has every year since then (Table G4). With a

commitment to reimburse school districts, the state has to make up for the revenue shortfall by dipping into General Fund revenue. This was especially difficult to do during the recession since General Fund revenue fell short of expectations. In the 2009-2010 fiscal year alone, $123 million of General Fund revenue had to be used for the Homestead Exemption Fund.

Table G4 Homestead Exemption Fund Shortfall, 2007-2019

Year	Revenue Shortfall ($)
2007-2008	14,545,708
2008-2009	58,810,827
2009-2010	123,710,826
2010-2011	91,935,792
2011-2012	107,462,098
2012-2013	116,908,662
2013-2014	110,397,500
2014-2015	90,710,964
2015-2016	75,783,000
2016-2017	47,986,000
2017-2018	32,557,000
2018-2019	17,322,000

Source: South Carolina Board of Economic Advisors

Impact on School District Budgets

State-for-local tax swaps are complex because the collection and distribution of revenue changes. In this case, the state must distribute the additional revenue generated from the increased sales tax. The state made a promise to maintain the same level of school funding for the 2007-2008 school year as the previous year using the additional sales tax revenue. Through a tiered system, the state provided a dollar-for-dollar reimbursement to school districts (Ullrich 2012). This was difficult without the expected revenue increase, but they kept their promise. However, the state did not make any agreements about state aid that was provided to localities that usually went to schools. After an initial increase in funding, the state actually cut K-12 funding by $365 million in the 2009 fiscal year (Ullrich 2012). It is not unusual for state governments to reduce aid during economic downturns, but the timing of Act 388 made the cut in state aid more severe.

In 2012, Saltzman and Ulbrich analyzed the impact of Act 388 on school district funding and found that the tax swap has had a significant impact on school funding across the state. Revenue from all sources increased at an average rate of 2.6 percent between the 2006-2007 and 2009-2010 school years, offsetting inflation and growth in student enrollment. The primary reason that funding increased at all was because of the American Recovery and Reinvestment Act of 2009. This federal aid package provided South Carolina schools with additional funding for the 2010 and 2011 fiscal years. Funding from state and local sources per pupil declined in 40 school districts between 2006 and 2010, while 45 school districts saw an increase. Of the districts that saw a decline in state and local revenue per pupil, 16 were classified as poor. Of the districts that saw an increase, 10 were classified as poor. (Saltzman and Ulbrich 2012)

Beaufort County School District also conducted a study on the impact of Act 388. The district found that before Act 388, local property taxes accounted for nearly 88 percent of the school district's General Fund and after Act 388, this dropped to 67 percent. State-funded school operating tax relief in Beaufort made up about 30 percent of General Fund revenue after the Act 388 (Salazar and Saltzman 2013).

While not always credited, consequences of the tax swap are likely still impacting school budgets years later. Charleston County School District anticipated a $43.5 million budget deficit for the 2021 fiscal year (Bowers 2018). Last year, Sumter School District was declared to have a "fiscal emergency" (WIS News 10 2019). The state had to take over Williamsburg County School District in 2018 due to financial and programmatic issues, as well as poor student academic performance (Brown 2018). Allendale County Schools were taken over by the state in 2017 for similar issues and are still being managed by the state today.

Impact on Businesses, Renters, and Second Homeowners

Act 388 increased the sales tax from 5 to 6 percent at the state level, but there are also 8 different local option sales taxes. The average local sales tax is 1.37 percent, making the combined average 7.37 percent. South Carolina has the 16th highest state sales tax rate, and the 18th highest combined state and local rate. South Carolina's neighbors, Georgia and North Carolina, rank 40th and 36th in state sales tax rates, respectively. For state and local sales taxes combined, Georgia ranks 20th and North Carolina ranks 24th. (Walczak 2018)

The sales tax is regressive because it takes a higher percentage of income from low-income taxpayers than it does from high-income taxpayers (Fisher 2016). By the end of 2007, however, the state eliminated the sales tax on groceries, which is one way of addressing the regressivity of the sales tax.

In addition to bearing a greater property tax burden due to the tax swap, businesses also have a greater sales tax burden. Businesses pay nearly 50 percent of all sales tax revenue in South Carolina. The estimated increase in sales taxes paid by businesses in 2008 was about $250 million (Ullrich 2012). The other groups of taxpayers with a greater burden are non-primary residential property owners and renters. While gaining no benefit from the new property tax exemption, they face a higher sales tax.