

# **2005 School Finance Report**

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## **Research Report No. 335**

### **Legislative Research Commission**

Frankfort, Kentucky  
[lrc.ky.gov](http://lrc.ky.gov)

Accepted December 5, 2006, by  
Education Assessment and Accountability Review Subcommittee



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## Preface

The Office of Education Accountability (OEA) is created in KRS 7.410. Section (2)(c)(2) of the statute directs OEA to conduct an ongoing review of the elementary and secondary public education finance system and to report annually OEA's finance staff's research and activities. The finance staff also contributes to OEA's investigative role, described in section (2)(c)(4), when these investigations involve finance issues.

This preface reports on activities of OEA's finance staff and links those activities to OEA's broader mandates, outlined in sections (2)(c)(1, and 3-8), to monitor and review the implementation and performance of education policy. Following this review, subsequent chapters discuss the equity level achieved through the Support Education Excellence in Kentucky funding system and analyze the issues that impact the equity of education funding.

### Investigations

In compliance with KRS 7.410(2)(c)(3-4), OEA's finance staff has assisted in investigations involving school finance issues. Below are two representative examples of recent cases.

The finance staff assisted in the investigation of a school district regarding complaints about a particular activity fund account at the high school and the lack of timely reports. The complaints focused on the bookkeeping practices, but the investigation was broadened when inappropriate procedures were discovered. Staff recommended that the district provide ongoing training for school employees involved in budgeting and finance activities. OEA also recommended that the school principal develop a growth plan and a detailed plan for monitoring the financial activities of the school, and provide school activity fund training.

Staff headed the investigation of a school district regarding complaints on a laptop initiative piloted by the district at four of its lowest-performing schools. Staff is monitoring the district to ensure report recommendations are implemented, such as providing a detailed budget to the board, refunding fees improperly charged to fee-waiver students, and refunding excess fees charged to students and faculty.

### Verifying Accuracy of Reports

Consistent with the requirements of KRS 7.410(2)(c)(3), OEA's responsibilities include periodic assessment of the accuracy of school, district, and state reports. While conducting research for the 2005 School Finance Report, staff discovered a discrepancy in tax rates levied by two districts and brought the issue to the attention of the Kentucky Department of Education (KDE). In response, KDE is planning to expand its tax program to review tax rates electronically rather than manually.

As part of its ongoing review activities, OEA discovered that KDE had never complied with KRS 157.061, which requires that an annual audit of school districts be submitted to the Legislative Research Commission, the governor, and the Kentucky Board of Education (KBE). Districts' financial audits had been reviewed on an annual basis, but KDE had never reported its findings officially as required by the statute. Upon discussions with OEA, KDE submitted the report to the Legislative Research Commission on October 17, 2005.

OEA's assessment of state reports includes efforts to verify the accuracy of financial data submitted to KDE by local districts. These financial data are used to make funding decisions by the General Assembly, as well as by policy makers within KDE and the federal government. The data are also used in government and private education finance research. OEA's data integrity work began as a part of a mandated study on the efficiency and effectiveness of education spending, described below, and will be an ongoing monitoring activity.

Currently KDE's Division of School Finance has responsibility for data accuracy. The division holds data integrity meetings across the state with district finance officers. As a result of OEA's examination of KDE financial reports, discrepancies in the treatment of various expenditures were identified and discussed with the department. Through a newsletter sent to finance officers in April 2006, KDE has directed districts on necessary corrective action in some of these areas and is considering how to address other data issues identified by OEA. The department plans to continue its data integrity enhancements with periodic newsletters to district finance officers. In addition, KDE plans to post district data on the department Web site and will encourage districts to review the accuracy of the reports.

### **Directed Studies**

Under the direction of the Education Assessment and Accountability Review Subcommittee (EAARS), OEA conducts studies analyzing the implementation of various components of the education system. The finance staff is an integral resource in this research. As part of its regular duties, staff attends educational cooperative meetings, KBE and KDE meetings, and training sponsored by KDE for finance officers to stay apprised of finance issues facing school districts.

In compliance with reporting requirements of KRS 7.410(2)(c)(2) and (5-8), OEA's finance staff assisted in the following Legislative Research Commission research reports.

**Report No. 328, An Analysis of the Commonwealth Accountability Testing System (2005).** Staff analyzed and reported on the cost of implementing CATS per Senate Joint Resolution 156. The cost section identified both the state-level and local-level expenditures related to CATS. The local-level expenditures were captured through surveys and identified both district-level and school-level expenditures.

**Report No. 328, A Review of the School Facilities Construction Commission (February 2006).** Staff collected and analyzed data for the study on SFCC as directed in budget language during the 2005 Session. The SFCC study has been accepted by EAARS. Through budget language, the 2006 General Assembly directed KDE and SFCC to address some of the concerns raised by the report. Their response is expected by September 2006.

**Indicators of Efficiency and Effectiveness in Primary and Secondary Education Spending.** In compliance with KRS 7.410 (2)(c)(5) and as directed by budget language during the 2005 Session, staff presented a draft report to the Education Assessment and Accountability Review Subcommittee in August 2006. This report lists school district efficiency and effectiveness indicators and reviewed national and state efforts to define and address the efficient use of education funding. The report included an analysis of how funds are currently expended, which is a prerequisite to the study of funding adequacy and efficiency.





## Summary

The policy rationale for the Kentucky Education Reform Act (KERA) of 1990 and the Support Education Excellence in Kentucky (SEEK) funding system was to acknowledge the gap in education funding based on variations in local wealth and to provide a means to compensate poorer school districts through a funding formula that would provide these districts with relatively greater state funding. For the purpose of funding education through the SEEK formula, school district “wealth” has been defined as property wealth.

The Office of Education Accountability (OEA) is statutorily mandated through KRS 7.410 to analyze the level of equity achieved by the SEEK funding system and whether adequate funds are available to all school districts. Since 1990, OEA has conducted reviews of school finance issues, primarily focusing on the level of equity achieved by the funding system.

OEA has monitored the “equity gap” between the property-rich districts and the property-poor districts by analyzing per-pupil revenues in wealth quintiles. The wealth quintiles are determined by ranking school districts’ per-pupil property assessments from lowest to highest and using funded average daily attendance (ADA) to separate the school districts into groups, each containing approximately one-fifth of the state’s students. Quintile 1 represents the districts with the lowest property wealth per pupil. Quintile 5 represents the districts with the highest property wealth per pupil. The report covers revenue from FY 1990, which is the baseline year, to FY 2005. The report also includes two other equity measures, which show similar results as the quintile analysis.

The report initially focuses on the revenue gap by looking at local and state revenue combined. The gap narrowed most quickly in the first year of KERA, as a huge effort was made to allocate more state dollars into the new school funding system. The gap decreased further through FY 1997 but then increased from FY 1998 to FY 2002. The widest gap occurred in FY 2002. The gap has slightly narrowed in the last three fiscal years. This report illustrates the impact of the relatively larger amounts of state per-pupil revenue received by districts in the lower wealth quintiles in post-KERA years. When local and state revenue sources are shown together, the state revenue received by districts in the lower wealth quintiles can result in those districts receiving close to the same amount of combined local and state revenue as the districts in the higher wealth quintiles.

To analyze the revenue gap in further detail, it is necessary to separate local revenue from state revenue. Local revenue grew the most in the highest wealth quintile, increasing \$2,781 per pupil from \$2,103 in FY 1990 to \$4,884 in FY 2005. Local revenue grew the least in the lowest wealth quintile, increasing \$969 per pupil from \$355 to \$1,324 for the same time period.

The following factors affect the equity of education resources among school districts in Kentucky. They impact districts differently, allowing some to raise additional local revenue, while limiting the ability of other school districts to raise local revenue.

- Intertwining Tax Laws - House Bill 940 was enacted in 1990. In the early years of KERA, House Bill 940 gave school districts an opportunity to raise property tax rates. House Bill 44, which was enacted in 1979, has allowed them to maintain the higher property revenues.
- Permissive Tax - School districts may levy these taxes under KRS 160.593. The taxes consist of utility taxes, occupational taxes, and excise taxes.
- Property Assessment Growth and SEEK - As property assessments increase, some school districts lose more in SEEK funds than they are able to collect in local taxes.
- Districts Unable to Levy 4 Percent Tax Rate - Prior to recent legislative actions, districts could not levy the 4 percent increase rate if it exceeded the subsection (1) rate. The General Assembly removed this limitation through budget language in 2003 and 2005 and permanently removed the limitation as part of the tax modernization plan under House Bill 272 in 2005.
- Tier II Revenues - School districts are allowed to increase revenue up to 30 percent of the revenue generated by the adjusted SEEK base plus Tier I. The additional revenue produced within Tier II is not equalized by the state and creates additional disparities among revenue available to school districts.
- In Lieu of Taxes - Voluntary payments are made to school districts by corporate or governmental entities for property that is not subject to taxation.
- Growth Nickel - School districts meeting the criteria in KRS 157.621 can levy an additional nickel for building fund needs.
- Second Growth Nickel - Through budget language in 2003 and 2005, the General Assembly provided those districts that continued to meet the growth criteria the option to levy a second growth nickel.
- Recallable Nickel - Through budget language in 2003 and 2005, the General Assembly allowed all districts the opportunity to levy a nickel—subject to recall—for building needs.

State revenue grew the most in the lowest wealth quintile, increasing \$2,919 per pupil from \$2,310 in FY 1990 to \$5,229 in FY 2005. State revenue grew the least in the highest wealth quintile, increasing \$709 per pupil from \$2,120 to \$2,829 for the same time period. While the current SEEK formula has allowed for an increase in state funding to property-poor districts, which has contributed to a reduction in the funding gap, various legislative actions have permitted selective funding, which impacts the ability to reach equity:

- Hold Harmless - A provision of the SEEK statute guarantees that a school district will not receive less state SEEK funding per pupil than it did in FY 1992. This funding is made without regard to the local wealth of the school district.
- Growth Nickel Equalization - The General Assembly, through budget language during the 2003 and 2005 Sessions, appropriated funds to equalize the first growth nickel for those districts that also levied the second growth nickel.
- Special Legislative Projects - Funds for special legislative projects are appropriated to school districts outside the SEEK formula.
- State Funds Outside SEEK - Kentucky Education Reform Act requirements, state grants, and on-behalf-of payments are appropriated outside the SEEK formula. On-behalf-of payments are expenditures the Kentucky Department of Education makes with general fund appropriations. This spending covers expenses that might otherwise be paid for directly by school districts, such as vocational schools, teacher retirement, health insurance, and life insurance.

Although this report focuses primarily on local and state education funding because those are the funding sources that can be impacted through state policymaking, analysis of education funding would be incomplete without some discussion of the federal funds received by school districts. Federal revenue grew the most in Quintile 1, increasing \$939 per pupil from \$540 in FY 1990 to \$1,479 in FY 2005. Federal revenue grew the least in Quintile 4, increasing \$411 per pupil from \$292 to \$703 for the same time period.

The report illustrates how the addition of federal funds helps reduce the equity gap between Quintile 5 and Quintiles 1 through 3. However, the gap is wider between Quintile 5 and 4 when federal revenue is included because of the relatively lower amount of federal funds received by districts in Quintile 4.

In summary, while there have been variations in the equity gap since 1990, including a widening of the gap from FY 1998 through FY 2002, the gap has steadily decreased in the past three years. Comparing FY 2005 local and state per-pupil revenue to the pre-KERA FY 1990 baseline, the equity gap has decreased 21 percent. This report illustrates the specific factors that enable some school districts to collect more local or state revenue than others. Although federal revenue is beyond the control of the General Assembly, the equity gap between Quintile 5 and Quintiles 1 through 3 narrows when federal revenue is considered. That is, the difference in the amount of revenue per pupil available to wealthy districts and the amount available to poorer districts has decreased.



## Chapter 1

### Introduction

In *Rose vs. The Council for Better Education*, Chief Justice Robert Stephens wrote: “Each child, every child, in this Commonwealth must be provided with an equal opportunity to have an adequate education. Equality is the key word here. The children of the poor and the children of the rich, the children who live in the poor districts and the children who live in the rich districts must be given the same opportunity and access to an adequate education....”

The policy rationale for the Kentucky Education Reform Act (KERA) and the Support Education Excellence in Kentucky (SEEK) funding system was to acknowledge the gap in education funding based on variations in local wealth and to provide a means to compensate poorer school districts through a funding formula that would provide these districts with relatively greater state funding. For the purpose of funding education through the SEEK formula, school district “wealth” has been defined as property wealth.

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The education funding system under the Kentucky Education Reform Act (KERA) consists of the following components: guaranteed base; add-ons for at risk, exceptional students, home and hospital, and transportation; required local effort; Tier I; and Tier II. Appendix A contains an example of a district’s SEEK calculation.

The education funding system under KERA consists of the following components (Kentucky Department of Education 8-9):

- A guaranteed base amount of per-pupil funding through SEEK established by the General Assembly for each budget cycle.
- SEEK add-on adjustments reflecting the increased costs associated with educating at-risk and exceptional students, home and hospital instruction, and transportation needs.<sup>1</sup>
- Required local effort: KERA mandates a minimum equivalent tax rate of 30 cents per \$100 in assessed value of property and motor vehicles in the district. The adjusted guaranteed SEEK base is reduced by the amount of the minimum local effort.
- Tier I: local school boards may increase revenue up to 15 percent of the adjusted SEEK base (those funds received through the guaranteed base plus any add-ons). The state equalizes the increase at 150 percent of the statewide average per-pupil property tax assessment.
- Tier II: local school boards are permitted to increase revenue—subject to voter referendum—up to 30 percent of revenue

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<sup>1</sup> The 2005 General Assembly provided funding in the second year of the biennium for school districts serving students with Limited English Proficiency. This funding is not reflected in this report or the SEEK example in Appendix A.

generated through the adjusted SEEK base plus Tier I. These funds are not equalized by the state.

Appendix A contains an example of a district's SEEK calculation and an illustration detailing the formulas for each of its components.

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Since 1990, OEA has conducted reviews of school finance issues, primarily focusing on the level of equity achieved by the funding system.

The Office of Education Accountability (OEA) was created in 1990 by the General Assembly in response to the Kentucky Supreme Court's opinion in *Rose vs. The Council for Better Education*. OEA is statutorily mandated through Kentucky Revised Statute 7.410 to analyze the level of equity achieved by SEEK funding system and determine whether adequate funds are available to all school districts. Since 1990, OEA has conducted reviews of school finance issues, primarily focusing on the level of equity achieved by the funding system.

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OEA monitors the "equity gap" between the property-rich and property-poor districts by analyzing per-pupil revenues in wealth quintiles.

OEA has monitored the "equity gap" between the property-rich districts and the property-poor districts by analyzing per-pupil revenues in wealth quintiles. Per-pupil revenues include local and state revenues received by school districts. These funds include grants, tax receipts, and other sources of revenue from the local and state level.

OEA's past equity reviews have not focused on sources of funds that are not controlled by the General Assembly, such as federal revenue, activity fund accounts, textbook and classroom fees charged by School-Based Decision Making councils, or other sources of revenue from private organizations such as foundations and boosters. For the present analysis, OEA continues the practice of emphasizing local and state revenue sources; however, for illustrative purposes, OEA reports the impact on equity of federal revenue received by school districts. For the first time, this analysis also includes payments made by the state on behalf of local districts in FY 2004 and FY 2005 for expenditures such as life and health insurance and retirement benefits. Prior to FY 2004, districts were not required to record on-behalf-of payments, so these payments have not been reflected in the wealth quintile analysis. In future reports, OEA will consider the appropriateness of including a broader range of revenue sources in the equity analysis.

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Quintile 1 includes the districts with the lowest property wealth per pupil and represents more than one-third of all districts.

Equity is reviewed by dividing the school districts into five groups, or wealth quintiles. The wealth quintiles are determined by ranking school districts' per-pupil property assessments from lowest to highest and using funded average daily attendance (ADA) to separate school districts into groups, each containing

approximately one-fifth of the state’s students. Quintile 1, which includes approximately 66 school districts, or more than one-third of the districts in the state, represents the districts with the lowest property wealth per pupil. Quintile 5, which usually includes Jefferson County, Anchorage Independent, Fayette County, and Boone County, represents the districts with the highest property wealth per pupil. In fiscal year 2003, Campbell County and Southgate Independent moved into Quintile 5 and remained there in FY 2004 and FY 2005. The quintiles are not static, as school districts move from one quintile to another from year to year due to changes in the per-pupil assessments or changes in student ADA in relation to the other school districts. Table 1.1 contains a list of school districts by wealth quintile for FY 2005.<sup>2</sup>

**Table 1.1  
FY 2005 Wealth Quintiles**

Quintile 1	Quintile 2	Quintile 3	Quintile 4	Quintile 5
Adair Co.	Ashland Ind.	Anderson Co.	Bardstown Ind.	Anchorage Ind.
Allen Co.	Bowling Green Ind.	Ballard Co.	Beechwood Ind.	Boone Co.
Augusta Ind.	Bracken Co.	Barren Co.	Bullitt Co.	Campbell Co.
Barbourville Ind.	Caldwell Co.	Bellevue Ind.	Burgin Ind.	Fayette Co.
Bath Co.	Carlisle Co.	Bourbon Co.	Calloway Co.	Jefferson Co.
Bell Co.	Clinton Co.	Boyd Co.	Carroll Co.	Southgate Ind.
Berea Ind.	Crittenden Co.	Boyle Co.	Clark Co.	
Breathitt Co.	Cumberland Co.	Breckinridge Co.	Danville Ind.	
Butler Co.	Elizabethtown Ind.	Campbellsville Ind.	Erlanger-Elsmere Ind.	
Carter Co.	Eminence Ind.	Caverna Ind.	Fort Thomas Ind.	
Casey Co.	Frankfort Ind.	Christian Co.	Franklin Co.	
Clay Co.	Fulton Co.	Covington Ind.	Jessamine Co.	
Cloverport Ind.	Garrard Co.	Daviess Co.	Kenton Co.	
Corbin Ind.	Grant Co.	Gallatin Co.	Livingston Co.	
Dawson Springs Ind.	Graves Co.	Glasgow Ind.	Lyon Co.	
Dayton Ind.	Grayson Co.	Hancock Co.	Marshall Co.	
East Bernstadt Ind.	Greenup Co.	Hardin Co.	McCracken Co.	
Edmonson Co.	Harrison Co.	Henderson Co.	Oldham Co.	
Elliott Co.	Harrodsburg Ind.	Madison Co.	Scott Co.	
Estill Co.	Hazard Ind.	Marion Co.	Shelby Co.	
Fairview Ind.	Henry Co.	Mason Co.	Somerset Ind.	
Fleming Co.	Hickman Co.	Mercer Co.	Warren Co.	
Floyd Co.	Hopkins Co.	Nelson Co.	Woodford Co.	
Fulton Ind.	Knott Co.	Newport Ind.		
Green Co.	LaRue Co.	Owensboro Ind.		

<sup>2</sup> Wealth quintiles are available for prior years upon request.

**Table 1.1 Continued  
FY 2005 Wealth Quintiles**

Harlan Co.	Laurel Co.	Paducah Ind.		
Harlan Ind.	Logan Co.	Pikeville Ind.		
Hart Co.	McLean Co.	Pulaski Co.		
Jackson Co.	Middlesboro Ind.	Rowan Co.		
Jackson Ind.	Montgomery Co.	Russell Ind.		
Jenkins Ind.	Muhlenberg Co.	Simpson Co.		
Johnson Co.	Murray Ind.	Spencer Co.		
Knox Co.	Ohio Co.	Trigg Co.		
Lawrence Co.	Owen Co.	Union Co.		
Lee Co.	Paintsville Ind.			
Leslie Co.	Paris Ind.			
Letcher Co.	Pendleton Co.			
Lewis Co.	Perry Co.			
Lincoln Co.	Pike Co.			
Ludlow Ind.	Russell Co.			
Magoffin Co.	Silver Grove Ind.			
Martin Co.	Taylor Co.			
Mayfield Ind.	Trimble Co.			
McCreary Co.	Walton Verona Ind.			
Meade Co.	Washington Co.			
Menifee Co.	Wayne Co.			
Metcalfe Co.	Webster Co.			
Monroe Co.				
Monticello Ind.				
Morgan Co.				
Nicholas Co.				
Owsley Co.				
Pineville Ind.				
Powell Co.				
Providence Ind.				
Raceland Ind.				
Robertson Co.				
Rockcastle Co.				
Russellville Ind.				
Science Hill Ind.				
Todd Co.				
West Point Ind.				
Whitley Co.				
Williamsburg Ind.				
Williamstown Ind.				
Wolfe Co.				

Source: Staff calculations based on data provided by the Kentucky Department of Education, Division of School Finance.



## Other Measures of Equity in Education

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As many studies have noted, the concept of educational equity is difficult to measure and to implement. OEA continues to use wealth quintiles based on local property assessments because the link between education funding and local wealth was one of the primary policy issues that led to education reform in Kentucky.

As many studies have noted, the concept of educational equity is difficult to measure and to implement (Augenblick, Myers, and Anderson 63; Berne and Stiefel 7). OEA Finance Reports have compared per-pupil funding by source based on local districts' property assessments. Wealth quintiles provide a transparent method of examining differences in per-pupil funding across groups of districts with varying levels of local property wealth, as well as examining changes in the quintiles' per-pupil funding over time. This method continues to be the most appropriate way of addressing the question policy makers posed when KERA was enacted: how do the resources received by children in poor districts compare to those received by children in wealthy districts?

A widely cited publication on the measurement of equity in school finance lists 11 measures of horizontal equity (Berne and Stiefel 19).<sup>3</sup> Each method has strengths and weaknesses, as is true concerning the wealth quintile approach adopted by OEA. For example, one can question whether districts should be placed in five wealth groups or quintiles, or whether three or four or six groups is more appropriate. Similarly, some analysts believe that revenue and expenditure measures should be weighted in a manner that accounts for the number of students in a school district or the number of low-income students. They believe the adjustments are needed because the cost of providing educational services is not the same across districts with varying characteristics (Konanc 5; Carey 6; Education Trust 2005b). Others have argued that differences in per-pupil funding between wealthy and poor school districts should be determined by grouping districts according to how much total funding they receive, and not by local property assessments (Bassett). OEA has continued to use wealth quintiles based on local property assessments because the link between education funding and local wealth was one of the primary policy issues that led to education reform in Kentucky. Nonetheless, it is important to note that there are other measures of equity cited in the research and used in education finance studies.

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The McLoone index measures how close low-spending school districts are to the state median, and the coefficient of variation (CV) measures how much variation exists in districts' per-pupil spending.

In rating the states on resource equity, Education Week's Quality Counts rankings use a composite equity index. It consists of a wealth-neutrality score that measures the association between education revenue and property wealth; the McLoone index, which measures how close low-spending school districts are to the state

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<sup>3</sup> Horizontal equity is the principal that equals should be treated equally, and with perfect horizontal equity, all pupils in the state receive the same resource distribution.

median; and the coefficient of variation (CV), which is a measure of how much variation exists in districts' per-pupil spending (Education Week).

In a review of equity and adequacy in school funding, Augenblick and others recommend the use of the wealth-neutrality score and the CV. Education Trust is a national advocacy group devoted to closing achievement gaps between students with varying characteristics. It publishes annual equity rankings using an indicator that measures the difference in adjusted per-pupil revenue between districts with the highest 25 percent of low-income students and those with the lowest 25 percent of low-income students (Education Trust. *Technical Appendix*).<sup>4</sup>

Education finance research offers five properties of a “good” measure of equity:

1. The measure is clear and intuitive.
2. District per-pupil revenues or expenditures are weighted by the number of pupils in the district.
3. The measure is scale invariant, which means it will not reflect proportional increases or decreases to across-the-board changes in revenues or expenditures.
4. Changes over time in which revenues or expenditures for wealthier districts increase while decreasing for poor districts should result in a measurable increase in inequity.
5. The measure should use all the data and not just the ‘top’ and ‘bottom’ districts (Konanc 5).<sup>5</sup>

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The Gini Coefficient measures the difference between the actual distribution of per-pupil revenue and a perfectly equitable revenue distribution.

Konanc advocates the use of the Gini Coefficient in equity studies because it satisfies all five properties. Gini measures the difference between the actual distribution of per-pupil revenue and a perfectly equitable revenue distribution. For example, if all students receive an equal amount of revenue, then 20 percent of students in Kentucky should receive 20 percent of the funding and 40 percent of students should receive 40 percent of the funding. The coefficient ranges between 0 and 1; the closer the value is to 0, the more equitably the revenue is distributed.

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<sup>4</sup> State and local revenues are adjusted for districts' Cost of Education Index. This index estimates varying costs for teacher salary and benefits. Revenues are also adjusted by weighting pupil counts for additional costs of serving students living in poverty and students with disabilities.

<sup>5</sup> The equity analysis used in OEA's Finance Reports meets all criteria except number 2. Per-pupil revenue for the wealth quintiles is not weighted to reflect the number of students in the district.

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Because there is no consensus on the best way to define or measure equity, it is prudent to include and compare the results of more than one analysis.

Because there is no consensus on the best way to define or measure equity, it is prudent to include and compare the results of more than one analysis (Costrell 6-7). In addition to analyzing changes in per-pupil revenue by examining wealth quintiles, the chapters that follow will include two other equity measures. For combined local and state per-pupil revenue and total (local, state, and federal) revenue, changes in equity as measured by the CV and Gini also are included.<sup>6</sup> Appendix B presents the methodology for calculating the CV and Gini.

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The CV and Gini present overall measures of equity among districts, while the wealth quintiles analyze equity between groups of districts. Thus, the measures should show similar trends but should not be expected to be precisely the same.

The advantage of reporting multiple measures of equity is that study findings are more robust and clear when all measures show similar results. However, the CV and Gini present overall measures of equity among districts, while the wealth quintiles analyze equity between groups of districts. Thus, the measures should show similar trends but should not be expected to be precisely the same. In addition, like most equity measures, the CV and Gini do not distinguish between equity gaps that result when states spend relatively more in poor districts—known as ‘progressive’ disparities—and gaps that are created by increased funding for wealthier districts—known as ‘regressive’ disparities (Costrell 5).

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<sup>6</sup> These measures are not calculated for local and state per-pupil revenue because considered by themselves, these revenue sources are inherently inequitable.

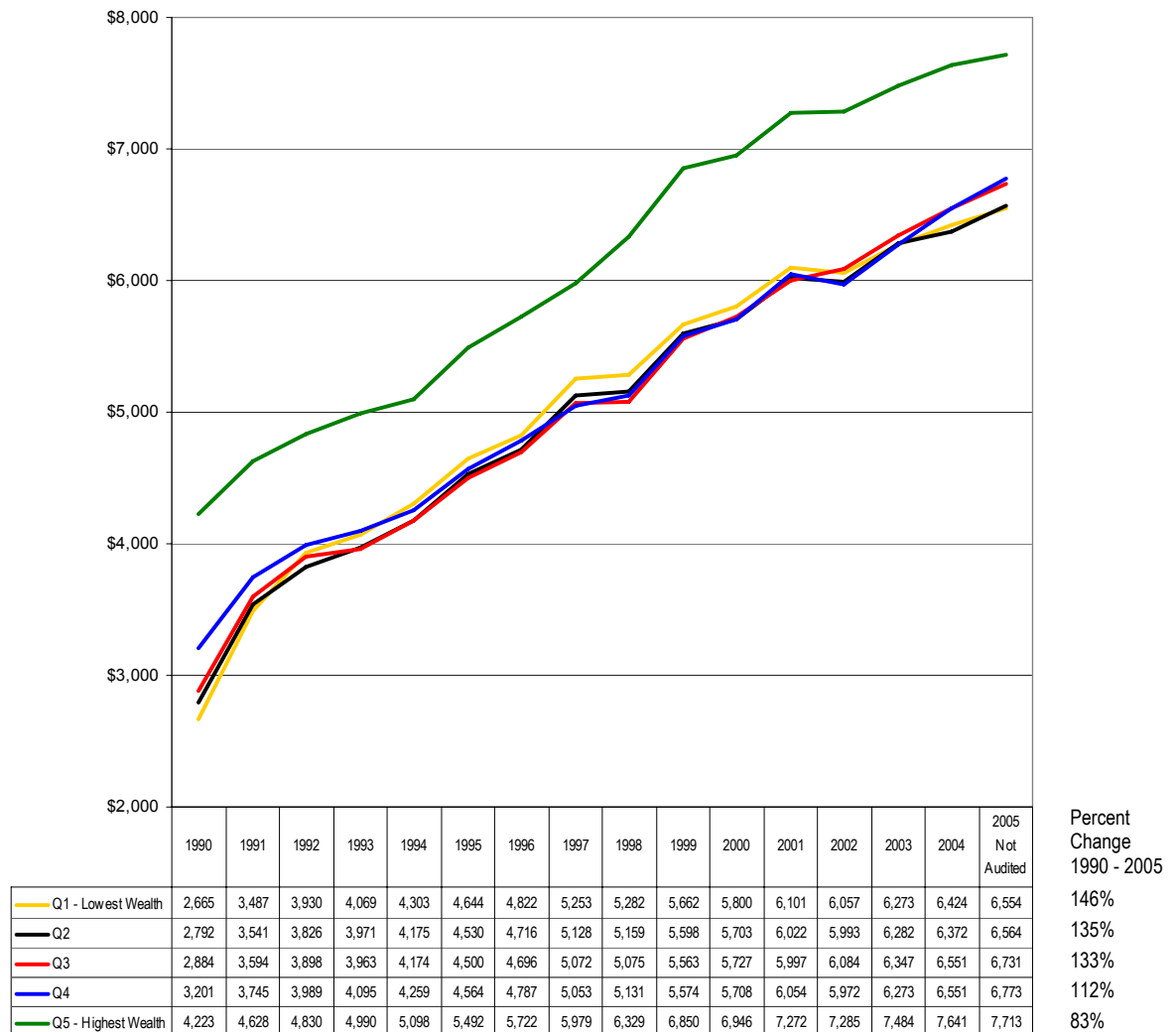


## Chapter 2

### Analysis of Local and State Revenues

The gap in local and state per-pupil revenue between the highest wealth quintile and the other wealth quintiles from FY 1990 through FY 2005 is shown in Figure 2.A, along with the percent change in revenues during the 15-year period. The gap narrowed substantially the first year of reform as a huge effort was made to allocate more state dollars into the new school funding system.

**Figure 2.A**  
**Local and State Per-pupil Revenue by Property Wealth Quintile**  
**FY 1990-FY 2005\***



\*FY 2005 figures are not audited. Appendix C contains Average Per-pupil Revenues by Wealth Quintile. Source: Staff compilation of Final SEEK Calculations and Annual Financial Reports provided by the Kentucky Department of Education, Division of School Finance.

Progress in reducing the funding gap continued through FY 1997 when the funding gap narrowed the most. This progress was most likely attributed to the Revenue Cabinet's efforts to get the collection of unmined coal tax on schedule, as three years of unmined coal tax bills were issued in FY 1997. Since most of the school districts receiving the unmined coal tax were in the lowest two wealth quintiles, the influx of tax revenue temporarily reduced the funding gap between the quintiles.

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From FY 1998 through FY 2002, the gap continued to widen, with the widest gap occurring in FY 2002.

From FY 1998 through FY 2002, the gap between the highest wealth quintile and the other wealth quintiles widened, with the biggest difference in FY 2002. During this fiscal year, state revenue decreased statewide, and Governor Patton's Budget Reduction Order sought to combat the revenue shortfall. At times, funds appropriated for SEEK exceeded the amount actually required when final SEEK calculations were made. The Kentucky Department of Education reallocated these undistributed dollars to school districts based on criteria set by the General Assembly. The Budget Reduction Order did not intend to reduce SEEK funds to school districts but rather to recoup the undistributed dollars. However, final SEEK calculations in FY 2002 contained higher transportation costs and greater student growth than originally estimated, which meant that about half the funding returned to the General Fund through the Budget Reduction Order was actually needed to fully fund SEEK. This resulted in a reduction of state funds to school districts. When state funding declines, the equity gap increases because the property-poor districts' pro rata share of the reduction is greater than the property-rich districts' share.<sup>7</sup>

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The equity gap narrowed in FY 2003 as state revenue increased due to a one-time pro rata distribution provided in the 2002-2004 biennial budget. The equity gap continued to narrow in FY 2004 and FY 2005.

The adopted 2002-2004 biennial budget contained a one-time pro rata distribution of \$14.7 million above districts' SEEK funds. As state revenue increased, the equity gap narrowed in FY 2003.

The equity gap continued to narrow in FY 2004 and FY 2005. Through budget language, the 2003 General Assembly provided the opportunity for a second growth nickel to those districts that continued to meet the growth criteria. The budget language also provided state equalization of the first growth nickel for those districts that levied the second growth nickel. All but one of the

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<sup>7</sup> SEEK calculations are made throughout the year based on estimated data in order to determine monthly payments to school districts. The final SEEK calculations use actual data.

districts that levied the second growth nickel were in Quintiles 2, 3, and 4.<sup>8</sup>

Figure 2.A also shows that the greatest rate of growth in local and state revenues occurred in the lowest wealth quintile. From FY 1990 to FY 2005, local and state revenues increased 146 percent, from \$2,665 to \$6,554, in Quintile 1. During this period, local and state revenues grew by 83 percent, from \$4,223 to \$7,713 in Quintile 5. When adjusted for inflation using the Bureau of Labor Statistic's Consumer Price Index, local and state revenues increased 63 percent in Quintile 1 and 21 percent in Quintile 5 over the 15-year period. Appendix D reports the results of per-pupil revenues in constant 1990 dollars.

While Figure 2.A illustrates variations in the amount of local and state revenues and reports the amount of revenues received by each quintile over time, Table 2.1 converts these data to a measure of equity among the wealth quintiles. Figure 2.A shows that local and state per-pupil revenue in FY 1990 was \$4,223 in Quintile 5, compared to \$2,665 in Quintile 1, for a difference of \$1,558. Table 2.1 reports the differences in funding between Quintile 5 and each of the other quintiles from FY 1990 to FY 2005. Adding Quintile 5's and 1's difference of \$1,558 to the corresponding differences between Quintile 5 and Quintiles 2 through 4 results in an aggregate difference of \$5,352. As equity improves, the sum of differences between Quintile 5 and Quintiles 1 through 4 will narrow. The FY 1990 figure is the pre-reform baseline against which the FY 1991 through FY 2005 data will be compared.

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Local and state education funding inequity has been reduced by 21 percent from pre-KERA FY 1990 levels to FY 2005.

Table 2.1 reports both unadjusted and constant dollar amounts. Panel 1 of the table shows that for unadjusted (nominal) revenue, the equity gap has been narrower in all years since KERA was enacted than it was in FY 1990. The gap was most narrow in FY 1997, when it reached a low of \$3,410, which was a 36 percent reduction from FY 1990 levels. As noted above, the gap widened during the next five years and reached a high of \$5,034 in FY 2002, just 6 percent below the gap in FY 1990. However, the past three years have seen steady improvement. In FY 2005 the equity gap was \$4,231, which is a 21 percent decrease from the pre-KERA baseline. As shown in Panel 2, the inflation-adjusted gap was \$2,802 in FY 2005, a decrease of 48 percent from FY 1990.

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<sup>8</sup> The growth nickel is a 5-cent equivalent tax that eligible districts may levy for building needs. Growth criteria include growth of at least 150 students and 3 percent overall growth in the last five years; debt service of at least 80 percent of capital outlay and local and state Facilities Support Program of Kentucky; current enrollment greater than available classroom space; and a certified district facility plan.

**Table 2.1**  
**Local and State Revenues: Difference in Quintiles 1-4 Per-pupil Revenue**  
**Compared to Quintile 5 Per-pupil Revenue for FY 1990-FY 2005\***

**Panel 1: Unadjusted Dollars**

Fiscal Year	Quintile 5 Per-pupil Revenue Minus Lower Quintiles' Revenue				Q1-4 Aggregate Difference: Equity Gap	% Difference Compared to 1990
	Quintile 1	Quintile 2	Quintile 3	Quintile 4		
1990	\$1,558	\$1,432	\$1,340	\$1,022	\$5,352	
1991	\$1,142	\$1,087	\$1,034	\$883	\$4,147	-23%
1992	\$901	\$1,005	\$932	\$842	\$3,679	-31%
1993	\$921	\$1,019	\$1,027	\$895	\$3,862	-28%
1994	\$795	\$923	\$924	\$839	\$3,480	-35%
1995	\$847	\$962	\$992	\$928	\$3,729	-30%
1996	\$900	\$1,006	\$1,026	\$935	\$3,867	-28%
1997	\$726	\$851	\$907	\$926	\$3,410	-36%
1998	\$1,047	\$1,170	\$1,253	\$1,198	\$4,669	-13%
1999	\$1,188	\$1,253	\$1,287	\$1,276	\$5,004	-6%
2000	\$1,146	\$1,244	\$1,219	\$1,238	\$4,847	-9%
2001	\$1,171	\$1,250	\$1,275	\$1,219	\$4,915	-8%
2002	\$1,228	\$1,292	\$1,201	\$1,313	\$5,034	-6%
2003	\$1,212	\$1,203	\$1,137	\$1,211	\$4,763	-11%
2004	\$1,217	\$1,269	\$1,090	\$1,090	\$4,666	-13%
2005*	\$1,159	\$1,149	\$982	\$940	\$4,231	-21%

**Panel 2: FY 1990 Constant Dollars**

Fiscal Year	Quintile 5 Per-pupil Revenue Minus Lower Quintiles' Revenue				Q1-4 Aggregate Difference: Equity Gap	% Difference Compared to 1990
	Quintile 1	Quintile 2	Quintile 3	Quintile 4		
1990	\$1,558	\$1,432	\$1,340	\$1,022	\$5,352	
1991	\$1,082	\$1,031	\$981	\$838	\$3,932	-27%
1992	\$827	\$923	\$857	\$773	\$3,380	-37%
1993	\$821	\$908	\$915	\$798	\$3,441	-36%
1994	\$690	\$801	\$802	\$728	\$3,022	-44%
1995	\$715	\$812	\$837	\$783	\$3,148	-41%
1996	\$739	\$827	\$843	\$769	\$3,178	-41%
1997	\$580	\$680	\$725	\$740	\$2,725	-49%
1998	\$822	\$919	\$984	\$940	\$3,665	-32%
1999	\$917	\$967	\$994	\$985	\$3,862	-28%
2000	\$860	\$933	\$915	\$928	\$3,635	-32%
2001	\$849	\$907	\$925	\$884	\$3,564	-33%
2002	\$875	\$921	\$856	\$936	\$3,587	-33%
2003	\$845	\$839	\$793	\$845	\$3,321	-38%
2004	\$830	\$866	\$744	\$743	\$3,184	-41%
2005*	\$768	\$761	\$650	\$623	\$2,802	-48%

\*04-05 figures are not audited.

Source: Staff compilation of Final SEEK Calculations and Annual Financial Reports provided by the Kentucky Department of Education, Division of School Finance; Bureau of Labor Statistics.



The inflation-adjusted equity gap reported in Panel 2 is narrower than that shown in Panel 1 for unadjusted dollars. In addition, the year-to-year variations in the gap are smaller in the constant dollar analysis than is evident in Panel 1.

In FY 2005 Quintiles 1 through 4 received approximately 85 percent to 88 percent of the local and state revenue received by Quintile 5.

Prior to the reform in 1990, the equity gap was apparent between the property-poor and property-rich districts. As reflected in Table 2.2, Quintiles 1 through 4 received between 63 percent and 76 percent of the local and state revenues received by the highest wealth quintile in FY 1990. After the reform, Quintiles 1 through 4 received between 82 percent to 85 percent in FY 1995, 82 percent to 83 percent in FY 2000, and 85 percent to 88 percent in FY 2005. As noted above, the gap has slightly narrowed in the last three fiscal years.

As explained earlier, the wealth quintiles are based on local property assessments. Figure 2.B also illustrates that when local and state revenue sources are shown together, the relatively greater amount of state per-pupil revenue received by districts in the lower wealth quintiles in post-KERA time periods can result in those districts receiving slightly more total local and state revenues than did the districts in the higher wealth quintiles.

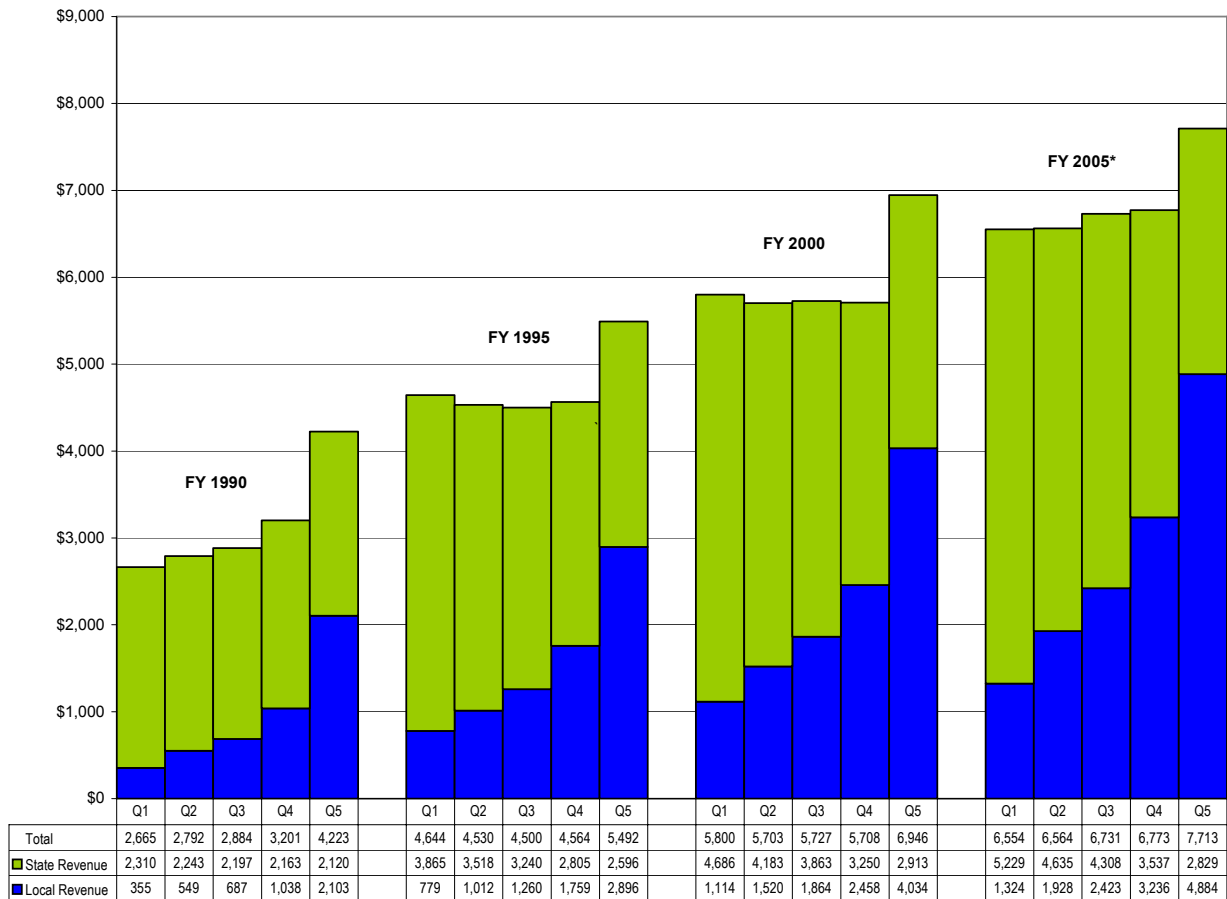
**Table 2.2**  
**Local and State Per-pupil Revenue by Property Wealth Quintile as Percent of Quintile 5 for Select Years**

Quintile	FY 1990	% of Q5	FY 1995	% of Q5	FY 2000	% of Q5	FY 2005*	% of Q5
Q1 - Lowest Wealth	\$2,665	63%	\$4,644	85%	\$5,800	83%	\$6,554	85%
Q2	\$2,792	66%	\$4,530	82%	\$5,703	82%	\$6,564	85%
Q3	\$2,884	68%	\$4,500	82%	\$5,727	82%	\$6,731	87%
Q4	\$3,201	76%	\$4,564	83%	\$5,708	82%	\$6,773	88%
Q5 - Highest Wealth	\$4,223	100%	\$5,492	100%	\$6,946	100%	\$7,713	100%

\*FY 2005 figures are not audited.

Source: Staff compilation of Final SEEK Calculations and Annual Financial Reports provided by the Kentucky Department of Education, Division of School Finance.

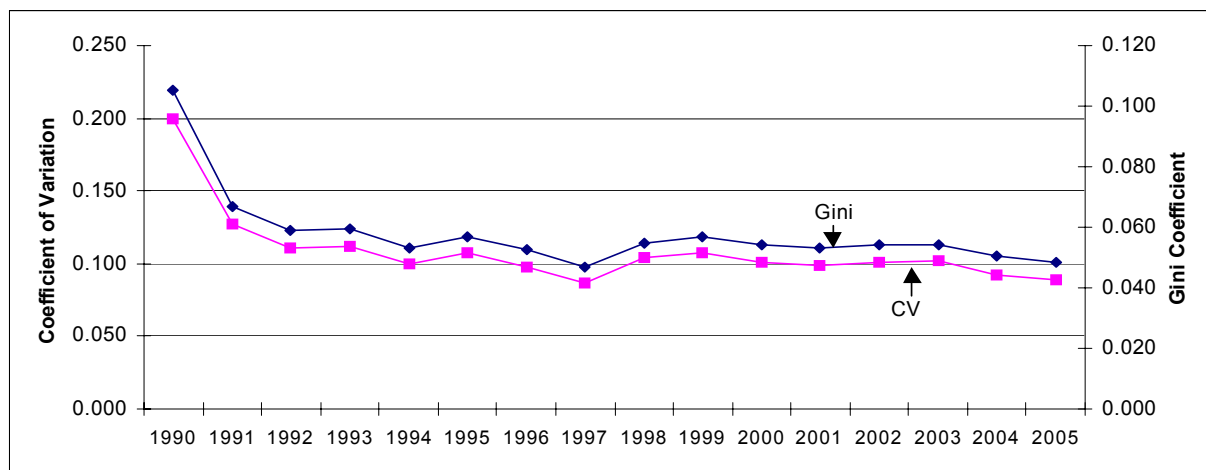
**Figure 2.B**  
**Local and State Per-pupil Revenue by Property Wealth Quintile**  
**for Select Years**



\*FY 2005 figures are not audited. Appendix C contains Average Per-pupil Revenues by Wealth Quintile.  
Source: Staff compilation of Final SEEK Calculations and Annual Financial Reports provided by the Kentucky Department of Education, Division of School Finance.

Figure 2.C reports changes in per-pupil revenue equity as measured by the CV and Gini. Values closer to zero show greater equity. Differences between the two methods should not be interpreted as one showing more equity because they are based on different units of measurement. However, the relationship between the two is very similar, and a comparison of Figure 2.C with the last column of Table 2.1 shows that all methods of examining equity reveal similar patterns.

**Figure 2.C**  
**Equity Measures for Local and State Per-pupil Revenue FY 1990-FY 2005\***



\*FY 2005 figures are not audited. See Appendix B for technical explanations of the CV and Gini measures.  
Source: Staff compilation of Final SEEK Calculations and Annual Financial Reports provided by the Kentucky Department of Education, Division of School Finance.

As was also shown in earlier calculations using wealth quintiles, the CV and Gini indicate that equity improved significantly in the first year after KERA was enacted. Equity continued to improve until FY 1997. Following a few years in which equity worsens, improvements begin again in FY 2004 and continue in FY 2005.<sup>9</sup>

<sup>9</sup> A comparison of Table 2.1, which presents the equity gap as measured by the wealth quintiles, and Figure 2.C shows two years in which the results of the CV and Gini differ slightly from the quintile analysis. In FY 1996, Table 2.1 shows that equity between Quintile 5 and the other quintiles worsened, while Figure 2.C shows equity improving. The reason for this disparity in results is that while per-pupil revenue *among* Quintiles 1 through 4 moved further from that of Quintile 5, the variation in per-pupil revenue *within* the quintiles decreased. In FY 2003, Figure 2.C shows equity is slightly worse than it was the year before. Table 2.1 shows that equity between Quintile 5 and the other quintiles improved. FY 2003 per-pupil revenue *among* Quintiles 1 through 4 moved closer to that of Quintile 5, but the variation in per-pupil revenue *within* the quintiles increased. An analysis of variance (ANOVA) examines the level of variation within and between quintiles (Levine, Berenson, and Stephan 605). The analysis shows that variation within quintiles was less in FY 1996 than it was in the preceding year or the following year, while in FY 2003 within-quintile variation was greater than it was in the preceding year or the two following years. Since the CV and Gini are measuring total variation among the districts' revenue, these equity measures reflect the decrease in FY 1996 and the increase in FY 2003. Appendix B presents the results of the ANOVA calculation for local and state per-pupil revenue for FY 1995-FY 1997 and FY 2002-FY 2005.

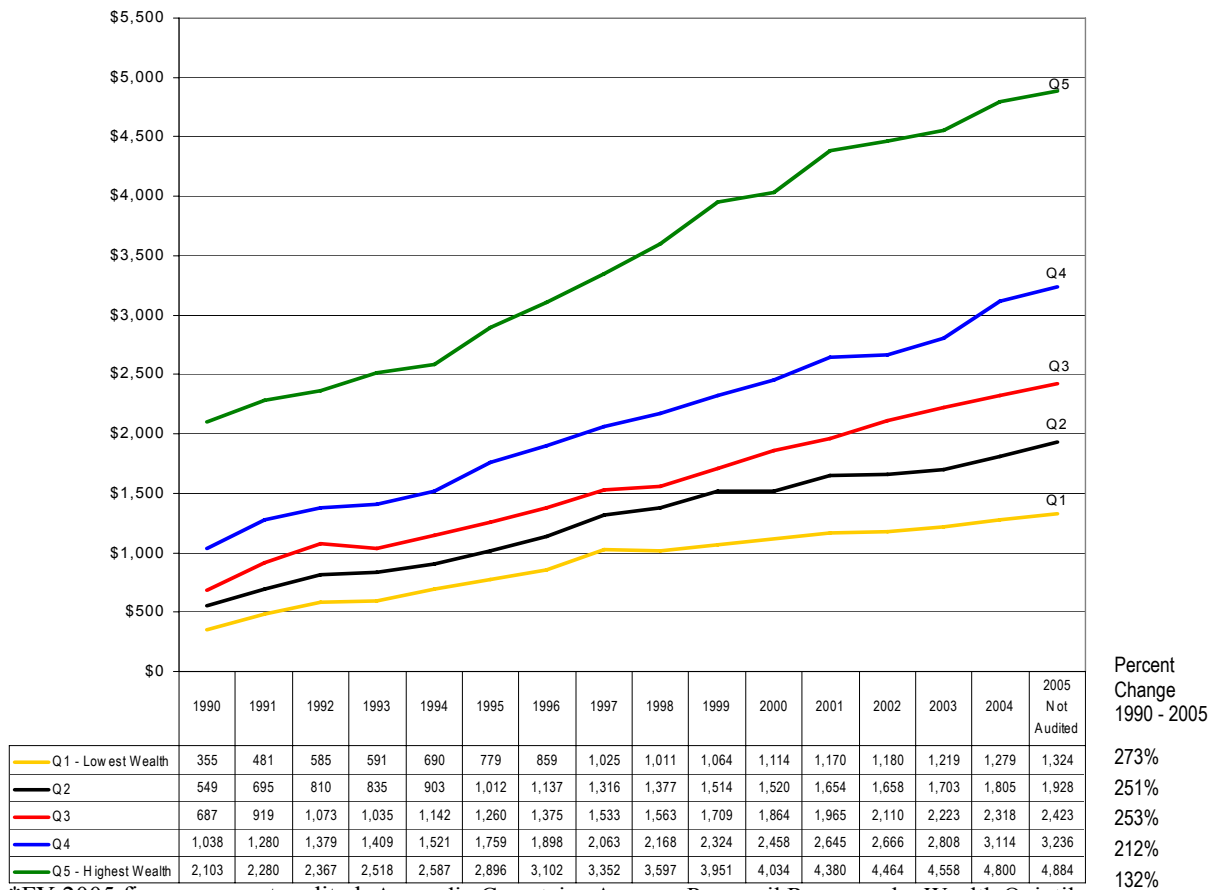


## Chapter 3

### Analysis of Local Revenue

To analyze the revenue gap in further detail, local revenue is analyzed separately from state revenue. As shown in Figure 3.A, in absolute terms, local revenue grew the most in the highest wealth quintile, increasing \$2,781 per pupil from \$2,103 in FY 1990 to \$4,884 in FY 2005. Local revenue grew the least in the lowest wealth quintile, increasing \$969 per pupil from \$355 to \$1,324 for the same time period; however, the lowest wealth quintile experienced the greatest rate of change, increasing 273 percent over the 15-year period.

**Figure 3.A**  
**Local Per-pupil Revenue by Property Wealth Quintile**  
**FY 1990-FY 2005\***



\*FY 2005 figures are not audited. Appendix C contains Average Per-pupil Revenues by Wealth Quintile. Source: Staff compilation of Final SEEK Calculations and Annual Financial Reports provided by the Kentucky Department of Education, Division of School Finance.

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When adjusted for inflation, the patterns of growth in local revenue are identical to those reported in Figure 3.A, except that the adjusted dollar gains and rates of growth are flatter than those shown for unadjusted data are. See Appendix D for constant dollar calculations.

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KERA requires school districts to levy a minimum equivalent tax of 30 cents per \$100 of assessed property to participate in the SEEK program. School districts have the flexibility to make up their local effort through any combination of real estate property taxes, tangible property taxes, motor vehicle taxes, and permissive taxes.

When adjusted for inflation, the patterns of growth in local revenue are identical to those reported in Figure 3.A, except that the adjusted dollar gains and rates of growth are flatter than those shown for unadjusted data are. As reported in Appendix D, in constant 1990 dollars, Quintile 1 grew by \$522, or 147 percent; and Quintile 5 grew by \$1,132, for a 54 percent increase over the 15-year period.

Most of the school districts' local revenue comes from taxes. KERA requires school districts to levy a minimum equivalent tax of 30 cents per \$100 of assessed property to participate in the SEEK program. School districts have the flexibility to make up their local effort through any combination of property taxes, motor vehicle taxes, and permissive taxes.

Property taxes are levied on both real property and tangible personal property. Real property consists of land, buildings, and improvements thereon, including real property of public service corporations. Tangible property consists of equipment or inventory used in the operation of a business, including tangible property of public service corporations. Motor vehicles taxes are levied on motor vehicles, watercraft, and aircraft. Permissive taxes are levied under KRS 160.593 and consist of utility taxes, occupational taxes, and excise taxes (Kentucky Department of Education 4-6).

The Kentucky Department of Education calculates and certifies tax rates to each local school district. There are four tax rates calculated for real and tangible property. These include three rates calculated under pre-KERA provisions of House Bill 44 per KRS 160.470 and one rate under KERA authorization legislation House Bill 940 implemented in KRS 157.440. The local board of education determines which tax rate it wishes to adopt. Appendix E contains an example of a district's tax rate certification including the calculations for each tax rate.

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House Bill 44, which is solely dependent on property valuation, has three possible levies: the Compensating Tax Rate; Subsection (1) Tax Rate; and 4 Percent Increase Tax Rate.

House Bill 44, which is solely dependent on property valuation, has three possible levies: the Compensating Tax Rate; Subsection (1) Tax Rate; and 4 Percent Increase Tax Rate.

**Compensating Tax Rate.** This is the rate that, when applied to the current year's property assessment, excluding new property, produces an amount of revenue equal to that produced in the preceding year. This rate may be levied without hearing or recall.

**Subsection (1) Tax Rate.** Referring to subsection (1) of KRS 160.470, this rate restricts local school boards to a tax rate

that will produce no more revenue than the previous year's maximum rate. This rate is subject to the hearing and recall provisions in KRS 160.470(7)(8). A school district may exceed the subsection (1) rate with the approval of a majority of the qualified voters.

**4 Percent Increase Tax Rate.** This tax rate is the rate that will produce 4 percent over the amount of revenue produced by the compensating rate. Prior to recent legislative actions, districts could not levy the 4 percent increase rate if it exceeded the subsection (1) rate, but current statute removes this restriction. The 4 percent increase rate is subject to the hearing provisions in KRS 160.470(7).

House Bill 940 implements KERA and specifies local tax provisions in support of education.

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House Bill 940, which is dependent on the mix of taxes levied by a district, including real estate, tangible, motor vehicle, and permissive taxes, provides the fourth possible tax levy.

**Tier I Tax Rate.** House Bill 940, which is dependent on the mix of taxes levied by a district, including real estate, tangible, motor vehicle, and permissive taxes, provides the fourth possible tax levy. Often referred to as the House Bill 940 Tax Rate, this rate qualifies districts for maximum Tier I equalization and can be levied without hearing and recall.

All school districts complied with the required minimum effort and, under House Bill 940, were allowed to increase their local tax effort above the minimum 30 cents to qualify for additional state funds through equalization. In FY 1995, there were 34 districts that did not qualify for full Tier I equalization because their local tax effort was insufficient. By FY 2005, all but three districts qualified for full Tier I equalization.

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Since school districts' local tax effort consists of various types of taxes and the rates at which these revenue sources are taxed can vary, the funding system uses a "levied equivalent rate" to convert districts' local tax efforts to a comparable basis.

Since school districts' local tax effort consists of various types of taxes and the rates at which these revenue sources are taxed can vary, the funding system uses a "levied equivalent rate" to convert districts' local tax efforts to a comparable basis. The levied equivalent rate, in simple terms, is a district's total tax revenue divided by its assessments.

As shown in Table 3.1, districts in each quintile increased their local effort from FY 1990 to FY 1995, resulting in higher levied equivalent rates. During the next five years, the levied equivalent rates remained relatively stable for all quintiles, with little progress in closing the gap between the taxing efforts of property-rich and property-poor districts. However, the levied equivalent rates in FY 2005, reflecting the levy of the second growth nickels by districts

in Quintiles 2, 3, and 4, show slight progress in narrowing the difference between the taxing efforts of these quintiles.

**Table 3.1**  
**Levied Equivalent Tax Rates by Property Wealth Quintile**  
**for Select Years**

FY 1990							
Quintile Characteristics	Q1 - Lowest Wealth	Q2	Q3	Q4	Q5 - Highest Wealth	Statewide	Ratio: Richest to Poorest
Number of Districts	53	45	39	33	6	176	
Funded ADA	115,074	114,190	118,119	106,632	121,119	575,134	
Property Wealth Per Pupil	\$71,665	\$105,467	\$138,954	\$179,713	\$280,727	\$156,255	3.9
Average Levied Equivalent Tax Rates	32.5¢	37.7¢	34.3¢	44.1¢	68.2¢	49.5¢	

FY 1995							
Quintile Characteristics	Q1 - Lowest Wealth	Q2	Q3	Q4	Q5 - Highest Wealth	Statewide	
Number of Districts	55	49	36	32	4	176	
Funded ADA	115,477	114,974	117,044	112,117	121,110	580,722	
Property Wealth Per Pupil	\$104,767	\$146,018	\$185,496	\$249,159	\$360,085	\$210,329	3.4
Average Levied Equivalent Tax Rates	55.7¢	55.0¢	55.5¢	56.6¢	74.7¢	62.6¢	

FY 2000							
Quintile Characteristics	Q1 - Lowest Wealth	Q2	Q3	Q4	Q5 - Highest Wealth	Statewide	
Number of Districts	60	51	32	29	4	176	
Funded ADA	114,448	113,317	112,430	108,383	122,455	571,034	
Property Wealth Per Pupil	\$143,590	\$208,156	\$260,192	\$352,757	\$486,063	\$292,502	3.4
Average Levied Equivalent Tax Rates	55.3¢	54.6¢	57.0¢	56.5¢	75.4¢	62.9¢	

FY 2005							
Quintile Characteristics	Q1 - Lowest Wealth	Q2	Q3	Q4	Q5 - Highest Wealth	Statewide	
Number of Districts	66	47	34	23	6	176	
Funded ADA	117,487	111,624	116,500	99,773	131,921	577,306	
Property Wealth Per Pupil	\$187,290	\$268,348	\$336,898	\$445,536	\$622,859	\$377,318	3.3
Average Levied Equivalent Tax Rates	55.6¢	57.3¢	60.4¢	61.4¢	72.4¢	64.2¢	

Source: Staff compilation of Final SEEK Calculations and Tax Rates provided by the Kentucky Department of Education, Division of School Finance.

The per-pupil property assessment in the highest property wealth quintile is still 3.3 times that of lowest property wealth quintile.

In 1990, there were also new statutory provisions that required a review every four years of all the property in the Commonwealth, mandated that all properties be assessed at 100 percent of fair market value, and imposed rigid performance standards for local Property Valuation Administrators. In FY 1990, the average



per-pupil property assessment was \$71,665 in the lowest wealth quintile and \$280,727 in the highest wealth quintile. Thus, as shown in Table 3.1, the per-pupil property assessment in the highest wealth quintile was 3.9 times greater than that in the lowest wealth quintile. The per-pupil property assessments have increased in all quintiles since FY 1990. However, the difference between quintiles has remained relatively stable. For example, in FY 2005, the per-pupil property assessment was \$187,290 in the lowest wealth quintile and \$622,589 in the highest wealth quintile. The per-pupil property assessment in the highest wealth quintile is still 3.3 times greater than that of the lowest wealth quintile.

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Some school districts have not taken full advantage of the property tax rates certified to them.

About half of Kentucky’s school districts do not take full advantage of the property tax rates certified to them. When school districts levy less than the maximum allowable rate not subject to recall, the result is a loss of potential revenue not only in the current year but in subsequent years as well. As illustrated in Table 3.2, school districts have foregone approximately \$44.7 million in revenue from FY 1998 to FY 2005, an average of \$5.6 million a year. This amount includes only the loss in a given year and does not consider the cumulative effect. Average rates forgone range from 1.6 cents to 2.3 cents, while actual rates forgone vary from 0.1 to 26.3 cents.

**Table 3.2**  
**Estimated Revenue Forgone by Districts Levying**  
**Less Than the Maximum Rate Not Subject To Recall**  
**FY 1998-FY 2005**

Fiscal Year	Districts Levying Less than the Maximum Rate	Average Levy Below Maximum Rate	Median of Levy Below Maximum Rate	Estimated Revenue Lost
1998	90	2.1¢	1.6¢	\$5,706,894
1999	88	2.3¢	1.6¢	\$6,885,802
2000	84	2.2¢	1.6¢	\$5,634,207
2001	89	2.1¢	1.6¢	\$6,213,229
2002	70	2.1¢	1.5¢	\$3,979,495
2003	79	2.0¢	1.4¢	\$4,677,198
2004	98	1.7¢	1.5¢	\$6,379,317
2005	94	1.6¢	1.4¢	\$5,214,338
Total				\$44,690,480

Source: Staff compilation of tax rates and assessment data provided by the Kentucky Department of Education, Division of School Finance.

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It appears potential revenue forgone by school districts would have narrowed the equity gap slightly.

It appears the potential revenue forgone by school districts would have narrowed the equity gap slightly. Districts in the lowest wealth quintile lost an average per-pupil revenue of \$19, while districts in Quintile 2 lost \$15, districts in Quintile 3 lost \$7, and

districts in Quintile 4 lost \$9. On average, school districts in the highest wealth quintile levied the maximum rate not subject to recall and therefore maximized their revenue.

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Several factors affect the equity of education resources among school districts in Kentucky.

The following factors affect the equity of education resources among school districts in Kentucky. They impact districts differently, allowing some to raise additional local revenue, while limiting the ability of others to do so.

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House Bill 44 and House Bill 940 are intertwining tax laws.

**Intertwining Tax Laws.** In the early years of the reform, districts could choose to increase their local tax effort under the provisions of House Bill 940 by raising property taxes. House Bill 44 has allowed districts to maintain the higher property revenues.

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Permissive taxes are levied under KRS 160.593 and consist of utility taxes, occupational taxes, and excise taxes.

**Permissive Tax.** These taxes are levied under KRS 160.593 and consist of utility taxes, occupational taxes, and excise taxes. In FY 1991, 57 districts adopted a utility tax and 2 districts adopted an occupational tax to increase their local tax effort and qualify for Tier I equalization. By doing so, these districts were able to increase their local tax effort without raising their property taxes. By FY 2005, 159 districts had levied a utility tax, 8 districts had levied an occupational tax, and no districts levied an excise tax. These taxes generate substantially more revenue in some school districts than in others. Appendix F reports per-pupil permissive taxes collected by district from FY 1998 through FY 2005.

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As property assessments increase, some school districts lose more in SEEK funds than they are able to collect in local taxes.

**Property Assessment Growth and SEEK.** Some school districts' property assessments grow by more than 4 percent per year, but their property tax collections are limited to 4 percent growth under House Bill 44. The school districts' SEEK calculations are based on their property assessments without considering this limitation. Table 3.3 illustrates the impact on local and state revenues when assessments grow more than 4 percent, less than 4 percent, or exactly 4 percent, and local revenue is limited to 4 percent growth.<sup>10</sup>

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<sup>10</sup> Per KRS 160.470 (3c), the 4 percent limitation applies to real property only. However, for simplicity, the discussion and illustration apply the 4 percent to the total property assessment, which includes real property, tangible property, and motor vehicles.

**Table 3.3**  
**Impact of 4 Percent Increase Tax Rate**  
**on Local and State Revenues**

Scenario 1 illustrates that if districts' property assessments increase 4 percent, districts can collect the same amount in local funds as their state funds are offset.

Scenario 1

The following occurs with a 4% increase in property assessment and no other changes in SEEK:

	Prior Year Revenue	Change in Revenue	Current Year Revenue
Local	\$100,000	\$4,000	\$104,000
State	\$1,000,000	-\$4,000	\$996,000
Total	\$1,100,000	\$0	\$1,100,000

Scenario 2 illustrates that if districts' property assessments grow by more than 4 percent per year and their local revenue is limited to 4 percent growth under House Bill 44, districts can lose more in state funds than they are allowed to gain in local funds.

Scenario 2

The following occurs when property assessments grow more than 4% (10% used below) and local revenue is limited to a 4% increase:

	Prior Year Revenue	Change in Revenue	Current Year Revenue
Local	\$100,000	\$4,000	\$104,000
State	\$1,000,000	-\$10,000	\$990,000
Total	\$1,100,000	-\$6,000	\$1,094,000

Scenario 3 illustrates that if districts' property assessments grow less than 4 percent per year and they are able to collect 4 percent more in local taxes, districts can collect more in local funds than their state funds are offset.

Scenario 3

The following occurs when property assessments grow less than 4% (2% used below) and local revenue is increased by 4%:

	Prior Year Revenue	Change in Revenue	Current Year Revenue
Local	\$100,000	\$4,000	\$104,000
State	\$1,000,000	-\$2,000	\$998,000
Total	\$1,100,000	\$2,000	\$1,102,000

Note: In theory, under the Kentucky Education Reform Act, changes in wealth would have no effect on total funds available to school districts. As districts collect more in local taxes, their state funds would be offset by an equal amount. However, districts' state SEEK calculations are based on their property assessments without considering the 4 percent limitation on local revenue. There are other factors that determine actual total revenue. Permissive taxes, new property, and motor vehicle taxes may offset these differences.

Source: Goins.

Also, as local property assessments increase, school districts with property tax rates above their maximum Tier I equivalent rate collect more in local taxes than their state SEEK funds will decrease. In contrast, school districts with property tax rates lower than their maximum Tier I equivalent rate will lose more in SEEK funds than they collect in local taxes. Appendix G illustrates the impact on local and state revenues when property tax rates are above or below the maximum Tier I equivalent rate.

Prior to recent legislative actions, districts could not levy the 4 percent increase rate if it exceeded the subsection (1) rate. The General Assembly removed this limitation through budget language in 2003 and 2005 and permanently removed the limitation as part of the tax modernization plan in House Bill 272 in 2005.

**Districts Unable to Levy 4 Percent Tax Rate.** Prior to recent legislative actions, districts could not levy the 4 percent increase rate if it exceeded the subsection (1) rate, which limited districts to a tax rate that would produce no more revenue than the previous year's maximum rate. In FY 1998, 22 school districts were limited to the subsection (1) rate per KRS 160.470 and were not legally able to levy the 4 percent increase tax rate. In FY 2005, 39 school districts were limited. As reported in Table 3.4, these school districts could have collected approximately \$14.8 million in additional revenue since FY 1998. This does not consider the cumulative effect of the lost tax revenue. The General Assembly, through budget language in 2003 and 2005, removed this limitation and allowed all districts the opportunity to levy the 4 percent tax rate. Since local boards had already adopted tax rates for the current year, this change went into effect the following fiscal year. For FY 2004, this meant approximately \$5.1 million more revenue for the 31 districts that would have otherwise been capped at the subsection (1) tax rate. Of the 31 districts, 22 districts took full advantage of the opportunity and collected approximately \$4.1 million in additional revenue. No budget was passed in 2004, so the limitation remained in effect for the FY 2005 tax rates. The limitation was again removed through budget language for the FY 2006 tax rates, although this is not reflected in this report. In 2005 the General Assembly permanently removed the limitation as part of the tax modernization plan in House Bill 272 in 2005.

**Table 3.4**  
**Revenue Loss Due to Subsection (1) Limitation**

Fiscal Year	Revenue Loss	No. of Districts Affected	Average Loss Per District
1998	\$708,683	22	\$32,213
1999	\$1,425,007	22	\$64,773
2000	\$1,893,246	23	\$82,315
2001	\$2,775,457	22	\$126,157
2002	\$1,698,202	29	\$58,559
2003	\$3,178,450	33	\$96,317
2004	Limitation removed through budget language		
2005	\$3,136,980	39	\$80,435

Source: Staff calculations based on tax rates and assessment data provided by the Kentucky Department of Education, Division of School Finance.

The additional revenue produced within Tier II is not equalized by the state and creates additional disparities among revenue available to school districts.

**Tier II Revenues.** As explained in Chapter 1, Tier II allows school districts to levy an equivalent tax rate that will raise revenue up to 30 percent above the adjusted SEEK base and Tier I. The additional revenue produced within Tier II is not equalized by the state and creates additional disparities among revenue available to

school districts. Appendix H reflects districts' per-pupil Tier II revenue from FY 1995 through FY 2005.

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In lieu of taxes are voluntary payments made to school districts by corporate or governmental entities for property that is not subject to taxation.

**In Lieu of Taxes.** Not all property in a district is subject to taxation. This can result when property is owned by state or federal agencies, which are exempt from taxation, or by private businesses that have been given tax waivers as part of an economic development package. In some instances, these corporate or governmental entities make voluntary payments, referred to as in lieu of taxes, to a school district. These payments are reported in Appendix I. Some school districts collect substantial amounts from in lieu of taxes while others collect none or very little. Due to the voluntary nature these payments, the timing and amounts are not guaranteed. These properties are not on the tax roll and are not included in the property assessment for the purpose of calculating districts' SEEK allocations.

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School districts meeting the criteria in KRS 157.621 can levy an additional nickel, referred to as the growth nickel, for building fund needs.

**Growth Nickel.** School districts meeting the criteria in KRS 157.621 can levy an additional nickel for building fund needs. This additional tax is subject to a hearing. The General Assembly enacted KRS 157.621 in 1994 and included a sunset provision upon full funding of the Facilities Support Program of Kentucky (FSPK). This program requires districts to levy a 5-cent equivalent tax for facilities, and state funds equalize local tax revenues at 150 percent of the statewide average per-pupil property assessment. Although the FSPK has been fully funded since FY 1996, the General Assembly continued to allow for the growth nickel through budget language. By FY 2005, 26 districts levied a growth nickel. This levy generated \$29.5 million in FY 2005 for those districts to use for building needs.

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Through budget language in 2003 and 2005, the General Assembly provided those districts that continued to meet the growth criteria the option to levy a second growth nickel.

**Second Growth Nickel.** Through budget language in 2003 and 2005, the General Assembly provided those districts that continued to meet the growth criteria the option to levy a second growth nickel. In FY 2005, 18 districts levied the second growth nickel, which generated \$23.4 million for those districts to use for building needs.

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Through budget language in 2003 and 2005, the General Assembly allowed all districts the opportunity to levy a nickel for building needs, which was subject to recall.

**Recallable Nickel.** Through budget language in 2003 and 2005, the General Assembly allowed all districts the opportunity to levy a nickel for building needs that was subject to recall. In FY 2005, six districts levied the recallable nickel, which generated \$4.3 million for those districts to use for building needs.



## Chapter 4

### Analysis of State Revenue

Per-pupil state revenue by wealth quintile from FY 1990 to FY 2005 is depicted in Figure 4.A. In FY 1990, the last year that state funds were distributed under the Foundation Program Fund, there was little difference in the amount of state funds received by school districts. The foundation formula used a classroom unit method of allocating funds and did not take into consideration the property wealth of school districts or their ability to raise local revenue. Under SEEK, which considered the wealth of school districts, more state funds were distributed to property-poor districts. A comparison of revenue received by districts prior to and after implementation of SEEK clearly shows this difference.

State revenue grew the most in the lowest wealth quintile, increasing \$2,919 per pupil from \$2,310 in FY 1990 to \$5,229 in FY 2005. State revenue grew the least in the highest wealth quintile, increasing \$709 per pupil from \$2,120 to \$2,829 for the same time period.<sup>11</sup>

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The SEEK formula has allowed for a substantial increase in state funding to property-poor districts.

While the current SEEK formula has allowed for an increase in state funding to property-poor districts, which has contributed to a reduction in the funding gap, various legislative actions have permitted selective funding, which impacts the ability to reach equity. Some of these actions are listed below.

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Hold harmless is a provision of the SEEK statute that guarantees a school district will not receive less state SEEK funding per pupil than it did in FY 1992. This funding is made without regard to the local wealth of the school district.

**Hold Harmless.** A provision of the SEEK statute guarantees that a school district will not receive less state SEEK funding per pupil than it did in FY 1992. This funding is made without regard to the local wealth of the school district. As shown in Appendix J, in FY 1993, 49 school districts received approximately \$29 million in additional revenue under this provision. In FY 2005, three school districts received approximately \$2.5 million.

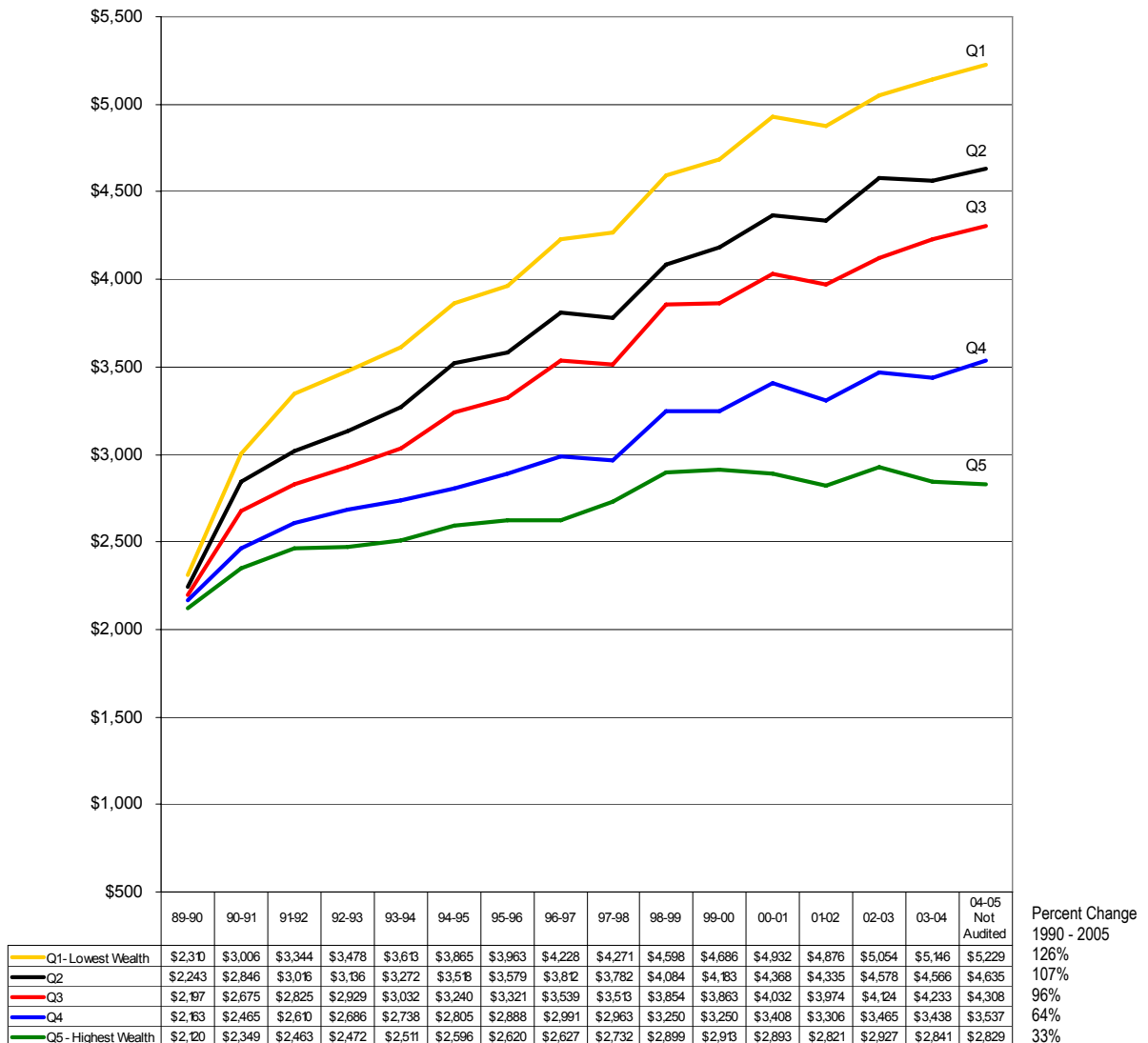
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<sup>11</sup> This relationship is also evident when the data are adjusted for inflation; although, the magnitude of dollar gains is less. As Appendix D reports, in constant 1990 dollars, state revenue for Quintile 1 grew 50 percent from 1990 to 2005, while Quintile 5 state revenue fell by 12 percent, from \$2,120 to \$1,874 during this period.

Through budget language in 2003 and 2005, the General Assembly appropriated funds to equalize the first growth nickel for those districts that also levied the second growth nickel.

**Growth Nickel Equalization.** The General Assembly, through budget language during the 2003 and 2005 Sessions, appropriated \$3 million in FY 2004 and \$8.6 million in FY 2005 as equalization of the first growth nickel for those districts that levied the second growth nickel.

**Figure 4.A**  
**State Per-pupil Revenue by Property Wealth Quintile**  
**FY 1990-FY 2005\***



\*FY 2005 figures are not audited. Appendix C contains Average Per-pupil Revenues by Wealth Quintile.  
Source: Staff compilation of Final SEEK Calculations and Annual Financial Reports provided by the Kentucky Department of Education, Division of School Finance.



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Funds for special legislative projects are appropriated to school districts outside the SEEK formula.

**Special Legislative Projects.** Special legislative projects are funds appropriated to school districts outside the SEEK formula for special projects. In recent years, the General Assembly has made efforts to assist school districts in funding projects to renovate or replace schools in the poorest condition as rated by KDE. Revenue received through special legislative projects for construction has not been reflected in OEA's funding analysis.

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KERA requirements, state grants, and on-behalf-of payments are appropriated outside the SEEK formula.

**State Funds Outside SEEK.** Consultants advising the Task Force on Education Reform in 1990 envisioned that more state aid would be distributed inside the SEEK formula and thus be subject to equalization than aid available to school districts outside the SEEK formula (Augenblick 46). The following items remain funded outside the SEEK formula:

- Kentucky Education Reform Act requirements of Extended School Services, Family Resource and Youth Service Centers, Professional Development, Preschool, and Technology.
- State grants that are given to school districts to fund certain projects, such as textbooks.
- Funds appropriated by the General Assembly to KDE for expenditures the department makes on behalf of school districts. These items include vocational schools, teacher retirement, health insurance, and life insurance. These payments have not been reflected in OEA's funding analysis thus far because school districts were not required to account for these funds until FY 2004. Table 4.1 reflects changes to district revenue when on-behalf-of payments are included for FY 2004 and 2005.

**Table 4.1**  
**State Per-pupil Revenue by Property Wealth Quintile**  
**Adjusted for State On-Behalf-Of Payments FY 2004 and FY 2005\***

FY 2004				
Quintile	Unadjusted	With On-Behalf-Of Payments	Difference	% Change
Q1 - Lowest Wealth	\$5,146	\$6,196	1,050	20%
Q2	\$4,566	\$5,522	956	21%
Q3	\$4,233	\$5,208	975	23%
Q4	\$3,438	\$4,375	937	27%
Q5 - Highest Wealth	\$2,841	\$3,963	1,122	39%

FY 2005*				
Quintile	Unadjusted	With On-Behalf-Of Payments	Difference	% Change
Q1 - Lowest Wealth	\$5,229	\$6,448	1,219	23%
Q2	\$4,635	\$5,784	1,149	25%
Q3	\$4,308	\$5,439	1,130	26%
Q4	\$3,537	\$4,583	1,046	30%
Q5 - Highest Wealth	\$2,829	\$3,988	1,160	41%

\*FY 2005 figures are not audited.

Note: On-behalf-of payments are expenditures the Kentucky Department of Education makes with general fund appropriations. This spending covers expenses that might otherwise be paid for directly by school districts such as vocational schools, teacher retirement, health insurance, and life insurance.

Source: Staff calculations based on data provided by the Kentucky Department of Education, Division of School Finance.

Quintiles 1 through 4 received between 20-27 percent more revenue per-pupil in FY 2004 when on-behalf-of payments are accounted for, while Quintile 5 received an additional 39 percent. In FY 2005, Quintiles 1 through 4 received between 23-30 percent more from on-behalf-of payments, and Quintile 5 received 41 percent more revenue than seen in unadjusted revenues. In absolute terms, Quintile 5 received the most on-behalf-of payments in FY 2004; and the second most, behind Quintile 1, in FY 2005.

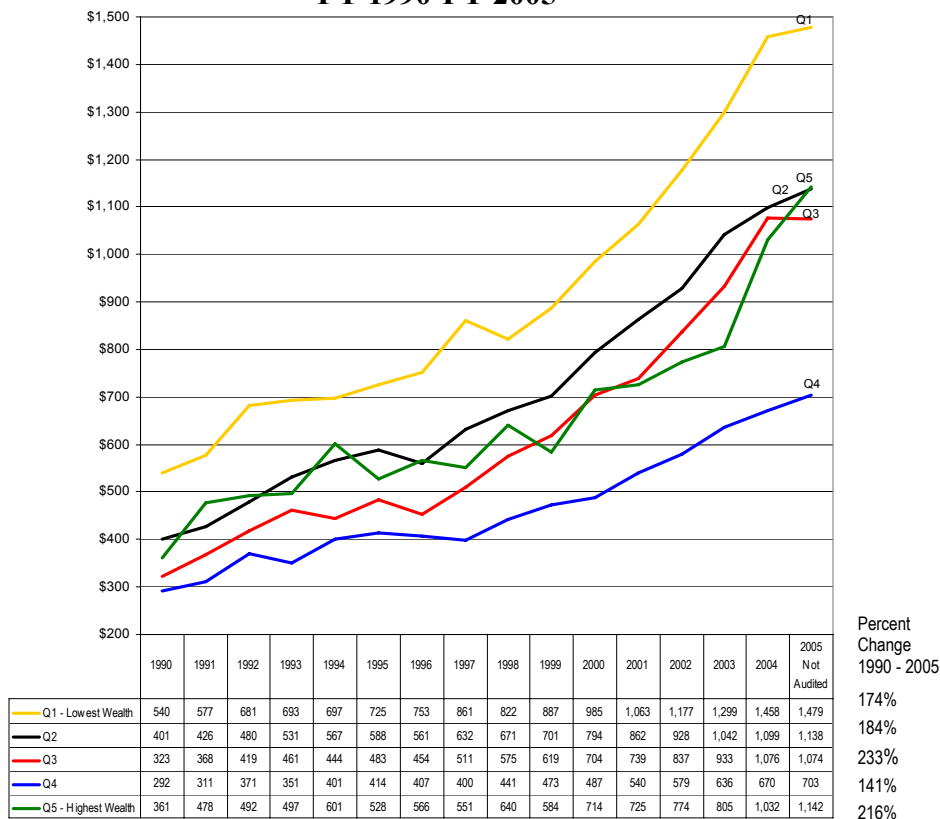
## Chapter 5

### Analysis of Total Revenue

The gap is actually wider between Quintiles 5 and 4 when federal revenue is included.

Although this analysis focuses primarily on local and state education funding because those are the funding sources that can be impacted through state policymaking, analysis of education funding is incomplete without discussion of the federal funds received by school districts. Figure 5.A depicts the federal funds received by quintiles from FY 1990 through FY 2005.<sup>12</sup> Federal revenue grew the most in Quintile 1, increasing \$939 per pupil from \$540 in FY 1990 to \$1,479 in FY 2005. Federal revenue grew the least in Quintile 4, increasing \$411 per pupil from \$292 to \$703 for the same time period.

**Figure 5.A**  
**Federal Per-pupil Revenue by Property Wealth Quintile**  
**FY 1990-FY 2005\***



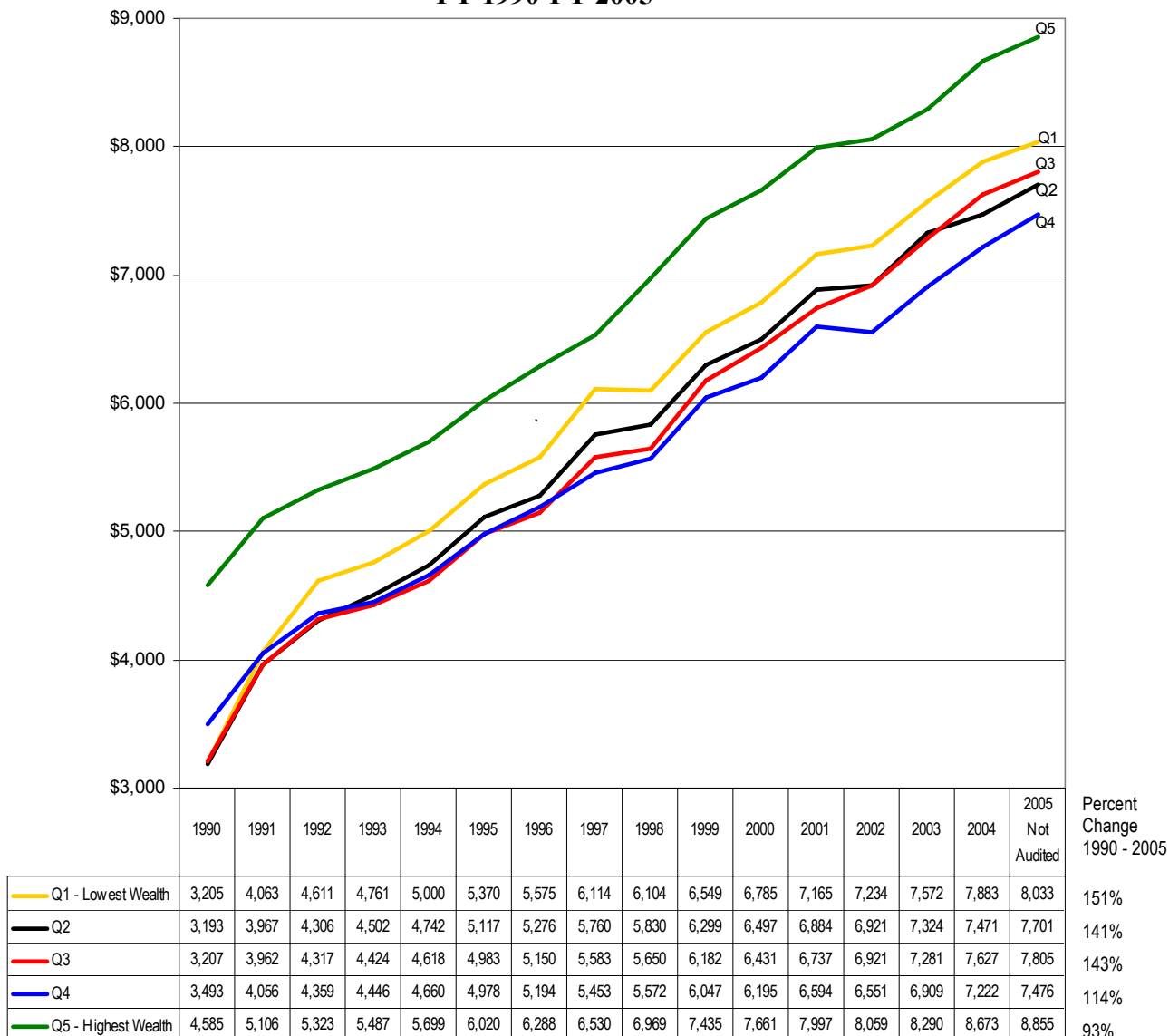
\*FY 2005 figures are not audited. Appendix C contains Average Per-pupil Revenues by Wealth Quintile.

Source: Staff compilation of Final SEEK Calculations and Annual Financial Reports provided by the Kentucky Department of Education, Division of School Finance.

<sup>12</sup> Appendix D reports federal funds in inflation-adjusted constant 1990 dollars.

Figure 5.B reflects total revenue and illustrates how the addition of federal funds helps reduce the equity gap between Quintile 5 and Quintiles 1 through 3. The gap is wider between Quintiles 5 and 4 when federal revenue is included because of the relatively lower amount of federal funds received by districts in Quintile 4.

**Figure 5.B**  
**Total Per-pupil Revenue by Property Wealth Quintile**  
**FY 1990-FY 2005\***



\*FY 2005 figures are not audited. Appendix C contains Average Per-pupil Revenues by Wealth Quintile.

Source: Staff compilation of Final SEEK Calculations and Annual Financial Reports provided by the Kentucky Department of Education, Division of School Finance.

In an analysis similar to that presented in Chapter 2 for local and state revenue, Table 5.1 converts the total per-pupil revenue data presented in Figure 5.B to a measure of equity among the wealth quintiles and repeats both nominal and inflation-adjusted revenue amounts. As shown in Figure 5.B, total per-pupil revenue for Quintile 5 was \$4,585 in 1990, compared to \$3,205 in Quintile 1, for a difference of \$1,380. Table 5.1 reports differences in total per-pupil funding between Quintile 5 and each of the other quintiles from FY 1990 through FY 2005. Adding Quintile 5's and 1's difference of \$1,380 to the corresponding differences in funding between Quintile 5 and Quintiles 2 through 4 results in an aggregate difference of \$5,241 in FY 1990. As equity improves, the sum of differences between Quintile 5 and Quintiles 1 through 4—the equity gap—will narrow. The FY 1990 figure is the pre-reform baseline against which the FY 1991 through FY 2005 equity gap data will be compared.

As is the case when just local and state revenue is considered (see Table 2.1), the equity gap in total revenue has been narrower in all years since education reform was enacted in FY 1990. The gap reduced the most in FY 1997, increased in FY 1998, and remained fairly steady until FY 2003, when it narrowed again. In FY 2004, the gap widened a bit and improved slightly in FY 2005.

The constant dollar equity gap calculated in Panel 2 of Table 5.1 shows greater success in reaching equity and a more consistent narrowing of the gap over time than is evident in the unadjusted dollar analysis presented in Panel 1 of Table 5.1.

**Table 5.1**  
**Total Revenue: Difference in Quintiles 1-4 Per-pupil Revenue**  
**Compared to Quintile 5 Per-pupil Revenue for FY 1990-FY 2005\***

**Panel 1: Unadjusted Dollars**

Fiscal Year	Quintile 5 Per-pupil Revenue Minus Lower Quintiles' Revenue				Q1-4 Aggregate Difference: Equity Gap	% Difference Compared to 1990
	Quintile 1	Quintile 2	Quintile 3	Quintile 4		
1990	\$1,380	\$1,391	\$1,378	\$1,092	\$5,241	
1991	\$1,043	\$1,139	\$1,144	\$1,050	\$4,376	-16%
1992	\$711	\$1,017	\$1,006	\$963	\$3,697	-29%
1993	\$726	\$985	\$1,063	\$1,041	\$3,816	-27%
1994	\$699	\$957	\$1,081	\$1,039	\$3,776	-28%
1995	\$650	\$902	\$1,037	\$1,042	\$3,631	-31%
1996	\$712	\$1,011	\$1,138	\$1,094	\$3,956	-25%
1997	\$416	\$771	\$948	\$1,078	\$3,212	-39%
1998	\$865	\$1,139	\$1,318	\$1,397	\$4,719	-10%
1999	\$885	\$1,136	\$1,253	\$1,388	\$4,661	-11%
2000	\$875	\$1,164	\$1,230	\$1,465	\$4,734	-10%
2001	\$833	\$1,113	\$1,261	\$1,403	\$4,610	-12%
2002	\$825	\$1,138	\$1,138	\$1,508	\$4,609	-12%
2003	\$718	\$966	\$1,009	\$1,380	\$4,074	-22%
2004	\$790	\$1,202	\$1,046	\$1,451	\$4,490	-14%
2005*	\$823	\$1,154	\$1,050	\$1,379	\$4,406	-16%

**Panel 2: FY 1990 Constant Dollars**

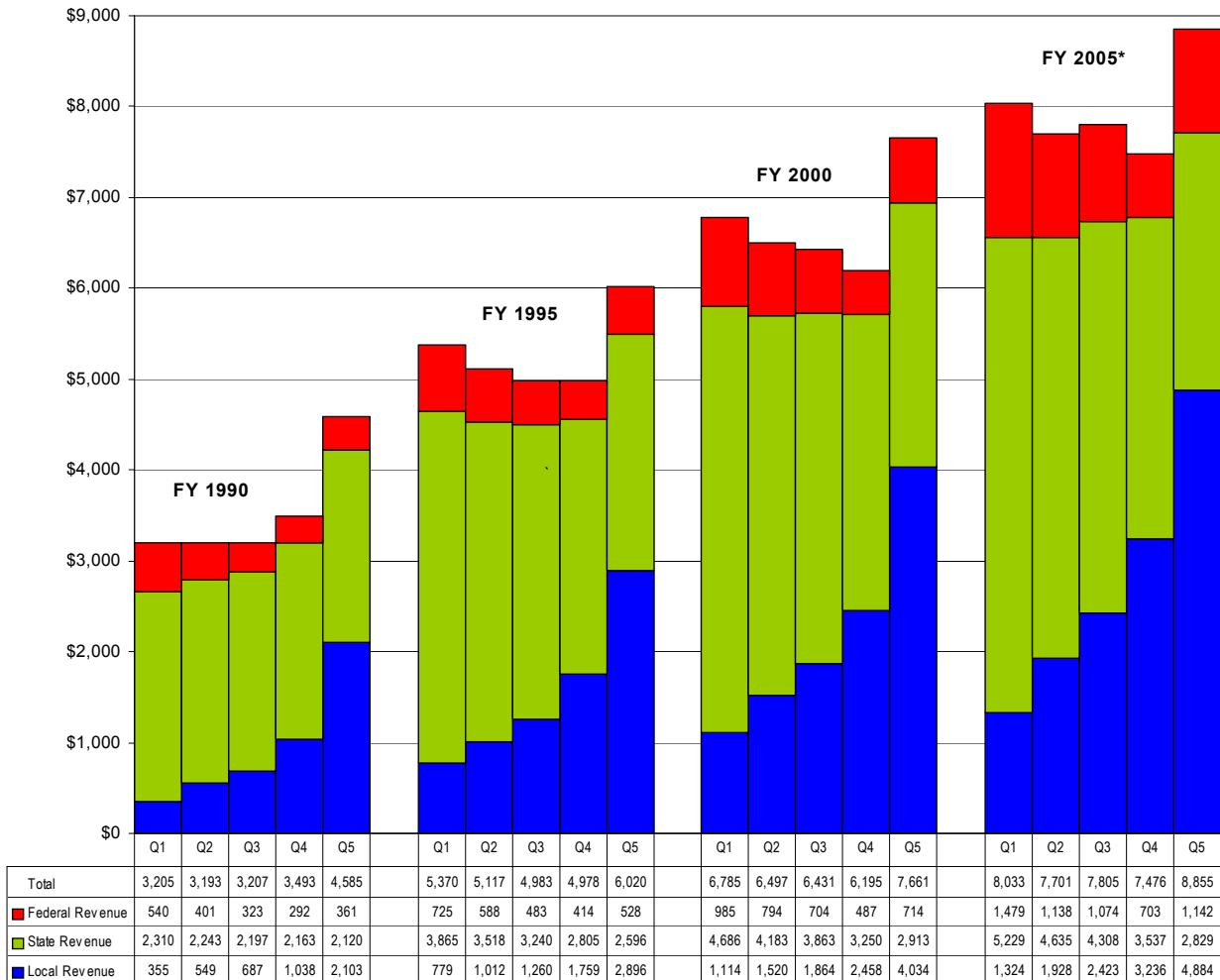
Fiscal Year	Quintile 5 Per-pupil Revenue Minus Lower Quintiles' Revenue				Q1-4 Aggregate Difference: Equity Gap	% Difference Compared to 1990
	Quintile 1	Quintile 2	Quintile 3	Quintile 4		
1990	\$1,380	\$1,391	\$1,378	\$1,092	\$5,241	
1991	\$989	\$1,080	\$1,085	\$996	\$4,149	-21%
1992	\$654	\$934	\$924	\$885	\$3,397	-35%
1993	\$647	\$878	\$947	\$928	\$3,399	-35%
1994	\$607	\$831	\$939	\$902	\$3,279	-37%
1995	\$549	\$762	\$875	\$880	\$3,065	-42%
1996	\$586	\$831	\$935	\$899	\$3,251	-38%
1997	\$333	\$616	\$757	\$861	\$2,567	-51%
1998	\$679	\$894	\$1,035	\$1,096	\$3,705	-29%
1999	\$683	\$876	\$967	\$1,071	\$3,597	-31%
2000	\$656	\$873	\$922	\$1,099	\$3,551	-32%
2001	\$604	\$807	\$914	\$1,018	\$3,343	-36%
2002	\$588	\$811	\$811	\$1,075	\$3,284	-37%
2003	\$501	\$674	\$704	\$963	\$2,840	-46%
2004	\$539	\$820	\$714	\$990	\$3,064	-42%
2005*	\$545	\$764	\$695	\$913	\$2,918	-44%

\*FY 2005 figures are not audited.

Source: Staff compilation of Final SEEK calculations and Annual Financial Reports provided by the Kentucky Department of Education, Division of School Finance; Bureau of Labor Statistics.

Figure 5.C also illustrates that when local, state, and federal revenue sources are shown together, the relatively greater amount of state and federal per-pupil revenue received by districts in the lower wealth quintiles in post-KERA time periods can result in those districts receiving more in total funding than did the districts in the higher wealth quintiles.

**Figure 5.C**  
**Total Per-pupil Revenue by Property Wealth Quintile for Select Years**



\*FY 2005 figures are not audited. Appendix C contains Average Per-pupil Revenues by Wealth Quintile.  
Source: Staff compilation of Final SEEK Calculations and Annual Financial Reports provided by the Kentucky Department of Education, Division of School Finance.

As reflected in Table 5.2, Quintiles 1 through 3 received approximately 70 percent of the total revenue received by Quintile 5 in FY 1990. Quintile 4 received approximately 76 percent of the total revenue received by Quintile 5. By FY 2005, Quintiles 1 through 4 received between 84 percent and 91 percent

of the total revenue received by Quintile 5. Quintile 4 receives slightly less revenue than the other quintiles because it receives less federal revenue. As previously reflected in Figure 2.A, when considering local and state revenues, Quintile 4 aligns closely with the less wealthy quintiles. From FY 2004 through FY 2005, Quintile 4 aligns very closely with Quintile 3.

**Table 5.2**  
**Total Per-pupil Revenue by Property Wealth Quintile**  
**as Percent of Quintile 5 for Select Years**

Quintile	FY 1990	% of Q5	FY 1995	% of Q5	FY 2000	% of Q5	FY 2005*	% of Q5
Q1 - Lowest Wealth	\$3,205	70%	\$5,370	89%	\$6,785	89%	\$8,033	91%
Q2	\$3,193	70%	\$5,117	85%	\$6,497	85%	\$7,701	87%
Q3	\$3,207	70%	\$4,983	83%	\$6,431	84%	\$7,805	88%
Q4	\$3,493	76%	\$4,978	83%	\$6,195	81%	\$7,476	84%
Q5 - Highest Wealth	\$4,585	100%	\$6,020	100%	\$7,661	100%	\$8,855	100%

\*FY 2005 figures are not audited.

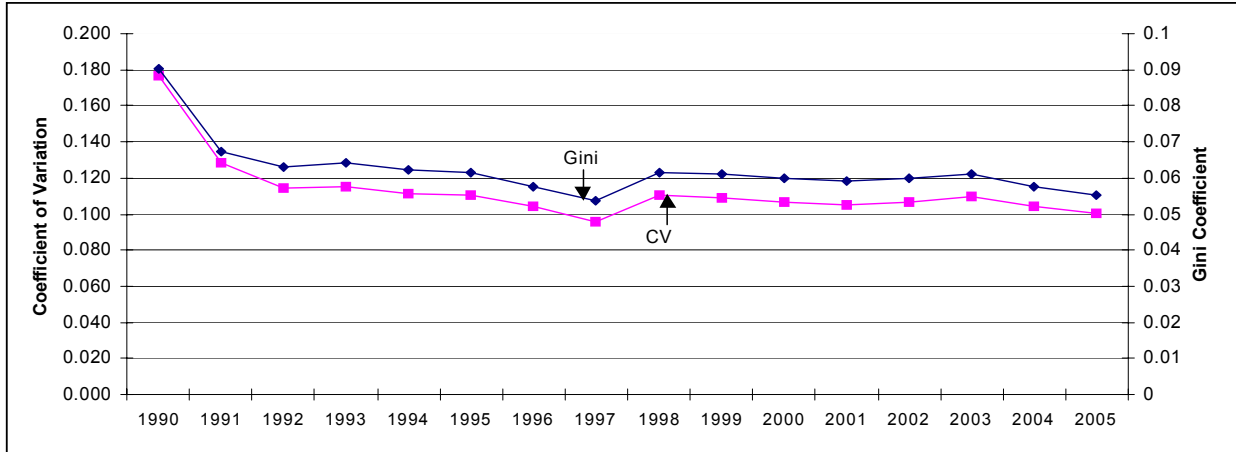
Source: Staff compilation of Final SEEK Calculations and Annual Financial Reports provided by the Kentucky of Education, Division of School Finance.

Figure 5.D reports changes in per-pupil revenue equity as measured by the CV and Gini. As noted in Chapter 2, differences between the two methods should not be interpreted as one showing more equity because they are based on different units of measurement. The relationship between the two measures is similar, and a comparison of Figure 5.D with the last column of Table 5.1 shows that all methods of examining equity reveal similar patterns. Similar to the analysis shown in Table 5.1 using wealth quintile calculations, the CV and Gini indicate that equity improved significantly in the first year after KERA was enacted. Equity continued to improve until FY 1997. From FY 1998-FY 2001 the equity measures show small improvements. Equity worsens slightly in FY 2002 and FY 2003, and improves in FY 2004-2005.<sup>13</sup>

<sup>13</sup>Similar to the local and state revenue analysis in Chapter 2, there are two years in which the results of the CV and Gini differ from the quintile analysis. The quintile analysis shows equity worsening in FY 1996, while the CV and Gini show equity improving. In FY 2003, the quintile analysis shows improvement, while the other two measures show equity worsening. Appendix B presents the results of the ANOVA calculation for total per-pupil revenue for FY 1995-1997 and FY 2002-FY 2005.



**Figure 5.D**  
**Equity Measures for Total Per-pupil Revenue FY 1990-FY 2005\***



\*FY 2005 figures are not audited. See Appendix B for technical explanations of the CV and Gini measures.  
Source: Staff compilation of Final SEEK Calculations and Annual Financial Reports provided by the Kentucky Department of Education, Division of School Finance.



## Chapter 6

### Conclusion

This report analyzes disparities in equity among school districts by examining the amount of per-pupil funding received by districts through local tax effort and state SEEK payments, as well as other sources of local and state revenue. The analysis focuses on local and state revenues because those are subject to state legislative and regulatory policy, but federal revenues are also reported to provide a more complete picture of education finance in the Commonwealth. Since the review of previous research on equity in education finance concluded that there is no consensus on the best way to measure equity, this analysis employs several equity measures and shows both nominal and inflation-adjusted revenues.

In all analyses, the equity gap between property-rich school districts and property-poor districts was greater in the year before KERA was enacted than it has been since. While there have been variations in equity since 1990, including a widening of the gap from FY 1998 through FY 2002, the gap has steadily decreased in the past three years.

The improvement in the equitable distribution of education revenues among districts is primarily due to the SEEK funding system, which compensates property-poorer districts with relatively greater state aid than that distributed to districts with greater property wealth. In nominal (unadjusted) dollars, the FY 2005 equity gap in local and state revenue between districts with the most local property wealth—Quintile 5—and all other district quintiles has been reduced by 21 percent over pre-KERA FY 1990 levels. In constant (inflation-adjusted) dollars, the equity gap has been reduced by 48 percent from FY 1990 to FY 2005. Although federal revenue is beyond the control of the General Assembly, the equity gap between Quintile 5 and Quintiles 1 through 3 narrows when federal revenue is considered.

As illustrated in this report, there are specific factors that impact districts differently, and these factors affect equity because they enable some school districts to collect more revenue than other, similar districts are able to collect. Some of these factors relate to local revenue, and some relate to state revenue.

Some of the factors impacting the equitable distribution of local education revenues are listed below.

**Intertwining Tax Laws.** Districts may levy property taxes under provisions of House Bill 940 (the KERA statute) or under House Bill 44. The tax provisions adopted by districts, as well as the timing of the adoption, impacts property rates and tax receipts.

**Permissive Taxes.** Districts are permitted to collect utility, occupational, and excise taxes. Permissive taxes generate substantially more revenue in some school districts than in others.

**Property Assessment Growth and Seek.** Under House Bill 44, districts' property tax *collections* may not grow by more than 4 percent a year. However, some school districts' *property assessments* grow by more than 4 percent a year. SEEK calculations are based on property assessments, without regard to the 4 percent limit on collections. When local property assessments increase, the amount of state aid is reduced. For some districts where property assessments have grown by more than 4 percent, this has meant that their state aid has been reduced by a greater amount than they have been able to collect in local tax receipts. Permissive taxes, new property, and motor vehicle taxes may offset these differences.

**Districts Unable to Levy 4 Percent Tax Rate.** Prior to recent legislative actions, districts could not levy the 4 percent increase rate if it exceeded the subsection (1) rate, which limited districts to a tax rate that would produce no more revenue than the previous year's maximum rate. The General Assembly removed this limitation through budget language in 2003 and 2005 and permanently removed the limitation as part of the tax modernization plan under House Bill 272 in 2005.

**Tier II Revenues.** School districts are allowed to increase revenue up to 30 percent of the revenue generated by the adjusted SEEK base plus Tier I. The additional revenue produced within Tier II is not equalized by the state, which creates additional disparities among revenue available to school districts.

**In Lieu of Taxes.** Voluntary payments are made to some school districts by corporate or governmental entities for property that is not subject to taxation.

**Growth Nickel.** School districts meeting the criteria in KRS 157.621 can levy an additional nickel for building fund needs.

**Second Growth Nickel.** Through budget language in 2003 and 2005, the General Assembly provided those districts that continued to meet the growth criteria the option to levy a second growth nickel.

**Recallable Nickel.** Through budget language in 2003 and 2005, the General Assembly allowed all districts the opportunity to levy a nickel—subject to recall—for building needs.

Factors that impact the equitable distribution of state education revenue include provisions of the reform act itself and other legislative actions. Some of these factors are listed below.

**Hold Harmless.** The SEEK statute guarantees that a school district will not receive less state SEEK funding than it received in FY 1992, regardless of the wealth of the district.

**Growth Nickel Equalization.** Since FY 1994, some districts have been eligible to levy a growth tax because of increases in the number of pupils in the district, as well as meeting other growth criteria. In FY 2003, districts that remained eligible were permitted to levy a second growth tax. These districts were eligible to receive state equalization funding at 150 percent of the statewide average per-pupil property assessment.

**Special Legislative Projects.** Funds have been appropriated to school districts outside the SEEK formula to address specific legislative concerns, such as renovating or replacing school buildings in poor condition. These revenues are not reflected in this analysis.

**Education Projects Outside SEEK.** State funding for a number of education projects is distributed outside the SEEK formula and as a result, the funds are not subject to state equalization. These projects include KERA requirements (such as extended school services and professional development), state grants (such as textbook funding) and on-behalf-of payments (expenses paid by the department for school districts such as retirement, health insurance, and life insurance).

It should be noted that on-behalf-of payments have not been reflected in the wealth quintile analysis presented in this report or prior OEA finance reports because school districts were not required to account for these funds prior to FY 2004. A separate illustration was presented in Chapter 4, Table 4.1 to show the

impact to district revenue when on-behalf-of payments are included for FY 2004 and 2005.

As this report has demonstrated, while there are factors the General Assembly may wish to consider because they serve to reduce education-funding equity, in general, equity has substantially improved since education reform was enacted.

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## Appendix A

### Example of Support Education Excellence in Kentucky (SEEK) Calculation for FY 2005

Following is an adaptation of data provided by the Kentucky Department of Education, Division of School Finance. This example shows the specific calculations used to determine a selected district's Final SEEK Calculation.

#### Sample County District Data

A. Current Year Total Assessment of Property and Motor Vehicle	\$ 539,292,572
B. Prior Year Adjusted Average Daily Attendance (PY AADA)	2,362.0
C. Current Year Second Month Growth Factor	0.8%
D. Equivalent Tax Rate	54.0
E. Prior Year Free Lunch Applications (8 Month Average Excluding December)	1,489.4
F. Prior Year December 1 Exceptional Child Count	
Severely Handicapped	83
Moderately Handicapped	229
Speech	86
G. Prior Year Home and Hospital ADA	8.9
H. Graph Adjusted Cost of Transportation Plus Growth (Unprorated)	\$ 1,023,668
I. Hold Harmless Per Pupil (1991-92 State SEEK Funding)	\$ 2,915.83

#### State Data

1. State Equalization Level (150% of Statewide Average Per-pupil Assessment)	\$ 587,000
2. Current Year Guaranteed Base Funding Per Pupil	\$ 3,240
3. At Risk Weight	0.15
4. Exceptional Children Weights	
Severely Handicapped	2.35
Moderately Handicapped	1.17
Speech	0.24
5. Add-on Funding Level	
At Risk	100%
Exceptional Children	100%
Home and Hospital	100%
Transportation	95.7%

**Base SEEK Calculation**

PY AADA Plus Growth (B + (B x C))		2,380.9
Base SEEK (PY AADA Plus Growth x \$3,240)	\$	7,714,116
Plus At Risk Funds (E x .15 x \$3,240)	\$	723,848
Plus Home & Hospital Funds (G x (\$3,240-\$100))	\$	27,946
Plus Exceptional Children Funds		
Severely Handicapped ADA x 2.35 x \$3,240 +	\$	631,962
Moderately Handicapped ADA x 1.17 x \$3,240 +	\$	868,093
Speech ADA x 0.24 x \$3,240	\$	66,874
	\$	1,566,929
Plus Transportation Funds (H x Add-on Funding Level)	\$	979,818
Equals Calculated Base Funding	\$	11,012,657
Less: Local 30¢ Effort (A X .0030)	\$	1,617,878
Equals Calculated State Portion	\$	9,394,779

Note: Above calculation reflects add-on funding level adjustment for Transportation only since all other add-ons were funded at 100%.

**Tier I Calculation**

Full Calculated Base Funding (Calculated Base Not Adjusted For Funding Levels)	\$	11,056,507
Maximum Tier I Revenue Per Pupil		
(Full Calculated Base x 15% / PY AADA Plus Growth)	\$	696.58
Times Percent Local Tier I (Local Assessment Per Pupil /470,000)		38.6%
Equals Local Tier I	\$	268.79
Maximum Less Local Equals State Tier I Per Pupil	\$	427.79
State Tier I (Per Pupil x PY AADA Plus Growth)	\$	1,018,514

**Hold Harmless**

Hold Harmless Funding (Hold Harmless Per Pupil x PY AADA Plus Growth)	\$	6,942,300
Less: State SEEK Base + State Tier I	\$	10,413,293
Equals Hold Harmless Amount-If Positive	\$	-3,470,993

### Facility Support Program of Kentucky (FSPK)

1. Total Assessment	\$ 539,292,572
2. Adjusted Average Daily Attendance Plus Growth	2,380.9
3. Per-pupil Assessment	\$ 226,508
4. State Equalization Level (150% of Statewide Average Per-pupil Assessment)	\$ 587,000
5. Debt Service as of 10/1/03	\$ 759,865

#### Eligibility Calculation - as of 10/1/03

A. Amount Generated by Local FSPK 5¢ Equivalent Building Fund Tax (1 x .0005)	\$ 269,646
B. Less Debt Service (5)	\$ 1,960,363
C. Debt Service Needed for Equalization (A - B) If positive, bonds must be sold by October 1 of the odd numbered years to qualify for equalization the following biennium.	\$ -1,690,717

#### Equalization Calculation

a. Maximum Funding Per Pupil (4 x .0005)	\$ 293.50
b. Local Effort Per Pupil (3 x .0005)	\$ 113.25
c. State Equalization Per Pupil (a - b)	\$ 180.25
d. Total Local Effort (b x 2)	\$ 269,646
e. Total State Equalization (c x 2)	\$ 429,148

## Support Education Excellence in Kentucky

2004 - 2005 School Year  
10/28/2005

04_05 Final with py adj.xls-Free Conference		2003 - 2004 End of Year AADA	2,362.0
		Growth	18.9
		2003 - 2004 AADA Plus Growth	2,380.9
Assessment	\$539,292,572	Levied Equivalent Rate	54.0
Per Pupil Assessment	\$226,508	Maximum Tier I Rate	46.9
91-92 State Per Pupil Funding	\$2,915.83		
SEEK CALCULATION:		<u>Per Pupil</u>	<u>Total</u>
Guaranteed Base *		3,240.00	7,714,116
At Risk		304.02	723,848
Home & Hospital		11.74	27,946
Exceptional Child		658.12	1,566,929
Transportation		411.53	979,818
LEP		0.00	0
		<hr/>	<hr/>
Calculated Base Funding		4,625.41	11,012,657
Less 30 Cent Local Effort		679.52	1,617,878.00
		<hr/>	<hr/>
Calculated STATE Portion		3,945.89	9,394,779
State Tier I		427.79	1,018,514
Hold Harmless		0.00	0
Adjustment to Appropriation		0.00	0
		<hr/>	<hr/>
Total State SEEK *		4,373.68	10,413,293
Prior Year Adjustment		0.00	0
		<hr/>	<hr/>
Total State Funds		4,373.68	10,413,293
		<hr/>	<hr/>
Less Capital Outlay			238,090
Net General Fund SEEK			10,175,203
Local FSPK			269,646
State FSPK			429,148
Local Growth Nickel			0
State Growth Nickel Equalization			0
Local Equalized Growth Nickel			0
Local Recallable Nickel			0

\* CAPITAL OUTLAY in the amount of \$ 238,090 is included in the total guaranteed base.

**Support Education Excellence in Kentucky**

**2004 - 2005 School Year  
10/28/2005**

Base Year Levied Equivalent Rate :	55.80
Current Year Levied Equivalent Rate :	54.00
Assessment :	\$539,292,572
Prior Year End of Year Adjusted ADA :	2,362.0
Prior Year 8 Month Average Free Lunch :	1,489.4
Prior Year December 1 Child Count :	
Severe :	83.00
Moderate :	229.00
Speech :	86.00
Prior Year Home & Hospital :	8.9
Base Year Debt Service :	\$759,865
Current Year Second Month Growth Factor Percentage :	0.8
Transportation (Unprorated) :	\$1,023,668



## Appendix B

### Coefficient of Variation, Gini Coefficient,<sup>1</sup> and Analysis of Variance (ANOVA)<sup>2</sup>

Both the coefficient of variation (CV) and the Gini Coefficient (Gini) measure how much variation there is in a distribution relative to the average (mean) of the distribution. These measures can be used to compare the variability of one data set to another or from the same data set across time. Both statistics range from 0 to 1, and values closer to zero indicate greater equity.

The CV reports the standard deviation (the most basic statistic of variation or dispersion around the mean) as a percentage of the mean. It is calculated as the standard deviation divided by the mean in the following formula:

$$CV = \frac{(\sum_{i=1}^n (x_i - \bar{x}_w)^2 s_i)^{1/2}}{\bar{x}_w (P-1)^{1/2}}$$

The Gini is often used in economic studies to analyze the income disparity within or between countries; however, in education research, it is often used to measure the disparity in per-pupil revenue between school districts. The statistic relates the percentages of revenue with the percentage of students that receive the revenue. If revenue were equally distributed, then each percentage of students would receive an equal percentage of revenue. The Gini measures deviations from this relationship to determine the degree by which resources are inequitable distributed. The Gini is calculated as follows:

$$Gini = \frac{\sum_{i=1}^n \sum_{j=1}^n |x_i - x_j| p_i p_j}{2P^2 \bar{x}}$$

Where:

$x_i$  = Total per-pupil revenue for school district  $i$ .

$x_j$  = Total per-pupil revenue for school district  $j$ .

$s_i$  = Number of students in school district  $i$ .

$\bar{x}$  = Mean of total per-pupil revenue.

$\bar{x}_w$  = Weighted mean of total per-pupil revenue.

$p_i$  = The proportion of the students going to school in district  $i$ .

$p_j$  = The proportion of the students going to school in district  $j$

$P$  = Total student population.

$n$  = The number of school districts.

<sup>1</sup> This material is based on Hussar and Sonnenberg 13-14.

<sup>2</sup> This material is based on Levine, Berenson, and Stephan 605.





































































































